

# SERVICE MANUAL

# BA-5 CHASSIS

| <u>MODEL NAME</u> | <u>REMOTE COMMANDER</u> | <u>DESTINATION</u> | <u>CHASSIS NO.</u> |
|-------------------|-------------------------|--------------------|--------------------|
| <b>KV-27FS13</b>  | RM-Y180                 | USA                | SCC-S40NA          |
| <b>KV-27FS13</b>  | RM-Y180                 | CND                | SCC-S41LA          |
| <b>KV-27FS17</b>  | RM-Y181                 | USA                | SCC-S40PA          |
| <b>KV-27FV17</b>  | RM-Y181                 | USA                | SCC-S40MA          |
| <b>KV-27FV17</b>  | RM-Y181                 | CND                | SCC-S41KA          |
| <b>KV-29FV17</b>  | RM-Y181                 | E                  | SCC-S38XA          |
| <b>KV-29FV17C</b> | RM-Y181                 | E                  | SCC-S38YA          |
| <b>KV-32FS13</b>  | RM-Y180                 | USA                | SCC-S40QA          |
| <b>KV-32FS13</b>  | RM-Y180                 | CND                | SCC-S41MA          |
| <b>KV-32FS17</b>  | RM-Y181                 | USA                | SCC-S40RA          |
| <b>KV-34FS13C</b> | RM-Y180                 | E                  | SCC-S56DA          |
| <b>KV-34FS17</b>  | RM-Y181                 | E                  | SCC-S56JA          |



KV-27FV17



KV-27FS17




RM-Y181

TRINITRON® COLOR TELEVISION

**SONY®**

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## SPECIFICATIONS

|  | KV-27FV17/<br>29FV17                           | KV-29FV17C                                     | KV-27FS13                                      | KV-27FS17                                      | KV-32FS13                                      | KV-34FS13C                                     | KV-32FS17/<br>34FS17                           |
|--|--|--|--|--|--|--|--|
| <b>Power requirements</b>                        | 120V, 60 Hz                                    | 220V, 50 Hz                                    | 120V, 60 Hz                                    | 120V, 60 Hz                                    | 120V, 60 Hz                                    | 220V, 50 Hz                                    | 120V, 60 Hz                                    |
| <b>Number of inputs/outputs</b>                  |  |  |  |  |  |  |  |
| Video <sup>1)</sup>                              | 3  | 3  | 3  | 3  | 3  | 3  | 3  |
| S Video <sup>2)</sup>                            | 2  | 2  | 1  | 1  | 1  | 1  | 1  |
| Audio <sup>3)</sup>                              | 3  | 3  | 3  | 3  | 3  | 3  | 3  |
| Audio Out <sup>4)</sup>                          | 1  | 1  | 1  | 1  | 1  | 1  | 1  |
| Y, P <sub>B</sub> , P <sub>R</sub> <sup>5)</sup> | 1  | 1  | 1  | 1  | 1  | 1  | 1  |
| Monitor Out                                      | 1  | 1  | --   | --   | --   | --   | --   |
| <b>Speaker output(W)</b>                         | 15W x 2  | 15W x 2  | 7.5W x 2                                       | 7.5W x 2                                       | 10W x 2  | 10W x 2  | 10W x 2  |
| <b>Power Consumption(W)</b>                      |  |  |  |  |  |  |  |
| In use(Max)                                      | 220W   | 210W   | 170W   | 180W   | 195W   | 195W   | 205W   |
| In standby                                       | 1W   | 1W   | 1W   | 1W   | 1W   | 1W   | 1W   |
| <b>Dimensions(W/H/D)</b>                         |  |  |  |  |  |  |  |
| (mm)   | 762 x 604 x 519 mm                             | 762 x 604 x 519 mm                             | 700 x 632 x 512 mm                             | 762 x 604 x 519 mm                             | 800 x 704 x 582 mm                             | 700 x 632 x 512 mm                             | 762 x 604 x 519 mm                             |
| (in)   | 30 x 23 <sup>7/8</sup> x 20 <sup>1/2</sup> in. | 30 x 23 <sup>7/8</sup> x 20 <sup>1/2</sup> in. | 27 <sup>5/8</sup> x 25 x 20 <sup>1/4</sup> in. | 30 x 23 <sup>7/8</sup> x 20 <sup>1/2</sup> in. | 31 <sup>1/2</sup> x 27 <sup>3/4</sup> x 23 in. | 27 <sup>5/8</sup> x 25 x 20 <sup>1/4</sup> in. | 30 x 23 <sup>7/8</sup> x 20 <sup>1/2</sup> in. |
| <b>Mass</b>                                      |  |  |  |  |  |  |  |
| (kg)   | 49 kg.   | 49 kg.   | 47 kg.   | 49 kg.   | 75 kg.   | 75 kg.   | 75 kg.   |
| (lbs)  | 108 lbs.                                       | 108 lbs.                                       | 103 lbs. 10 oz.                                | 108 lbs.                                       | 163 lbs.                                       | 163 lbs.                                       | 163 lbs.                                       |

### Television system

American TV Standard/NTSC

### Channel coverage

VHF: 2-13/ VHF: 14-69/ CATV: 1-125

### Picture tube

Flat Trinitron<sup>®</sup> tube

### Visible screen size

27-inch picture measured diagonally (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY)

32-inch picture measured diagonally (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)

### Actual screen size

29-inch measured diagonally (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY)

34-inch measured diagonally (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)

### Antenna

75 ohm external terminal for VHF/UHF

### Supplied Accessories

Remote Commander RM-Y180 (KV-27FS13/32FS13/34FS13C ONLY)

Remote Commander RM-Y181 (KV-27FS17/27FV17/29FV17/29FV17C/32FS17/34FS17 ONLY)

Size AA (R6) batteries (2)

### Optional Accessories

Connecting cables: VMC-810S/820S, VMC-720M,

YC-15V/30V, RK74A

U/V mixer EAC-66

TV Stand: SU-27FD4 (KV-27FS13/ 27FS17/ 27FV17 ONLY)

TV Stand: SU-27FD3 (KV-29FV17/ 29FV17C ONLY)

TV Stand: SU-32FD3 (KV-34FS17/34FS13C ONLY)

TV Stand: SU-32FD4 (KV-32FS13/ 32FS17 ONLY)

### (●) SRS (SOUND RETRIEVAL SYSTEM)

The (●) SRS (SOUND RETRIEVAL SYSTEM) is manufactured by Sony Corporation under license from SRS Labs, Inc. It is covered by U.S. Patent No. 4,748,669. Other U.S. and foreign patents pending.

The word 'SRS' and the SRS symbol (●) are registered trademarks of SRS Labs, Inc. BBE and BBE symbol are trademarks of BBE Sound, Inc. and are licensed by BBE Sound, Inc. under U.S. Patent No. 4,638,258.

## WARNINGS AND CAUTIONS

### CAUTION


Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield, or carbon painted on the CRT, after removing the anode.

### WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis. The chassis of this receiver is directly connected to the AC power line.



### SAFETY-RELATED COMPONENT WARNING!!

Components identified by shading and  mark on the schematic diagrams, exploded views, and in the parts list are critical for safe operation. Replace these components with Sony parts whose part numbers appear as shown in this manual or in supplements published by Sony. Circuit adjustments that are critical for safe operation are identified in this manual. Follow these procedures whenever critical components are replaced or improper operation is suspected.


### ATTENTION!!

Après avoir déconnecté le cap de l'anode, court-circuiter l'anode du tube cathodique et celui de l'anode du cap au châssis métallique de l'appareil, ou la couche de carbone peinte sur le tube cathodique ou au blindage du tube cathodique.

Afin d'éviter tout risque d'électrocution provenant d'un châssis sous tension, un transformateur d'isolement doit être utilisé lors de tout dépannage. Le châssis de ce récepteur est directement raccordé à l'alimentation du secteur.



### ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

Les composants identifiés par une trame et par une marque  sur les schémas de principe, les vues explosées et les listes de pièces sont d'une importance critique pour la sécurité du fonctionnement. Ne les remplacer que par des composants Sony dont le numéro de pièce est indiqué dans le présent manuel ou dans des suppléments publiés par Sony. Les réglages de circuit dont l'importance est critique pour la sécurité du fonctionnement sont identifiés dans le présent manuel. Suivre ces procédures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement suspecte.



## SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or touching high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

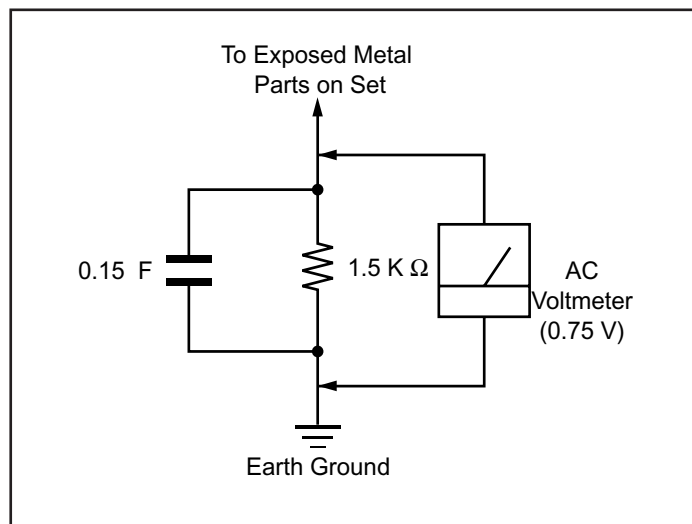


Figure A. Using an AC voltmeter to check AC leakage.

### Leakage Test

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63TRD are examples of passive VOMs that are suitable. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable (see Figure A).

### How to Find a Good Earth Ground

A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.

If a cold-water pipe is not accessible, connect a 60- to 100-watt trouble-light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

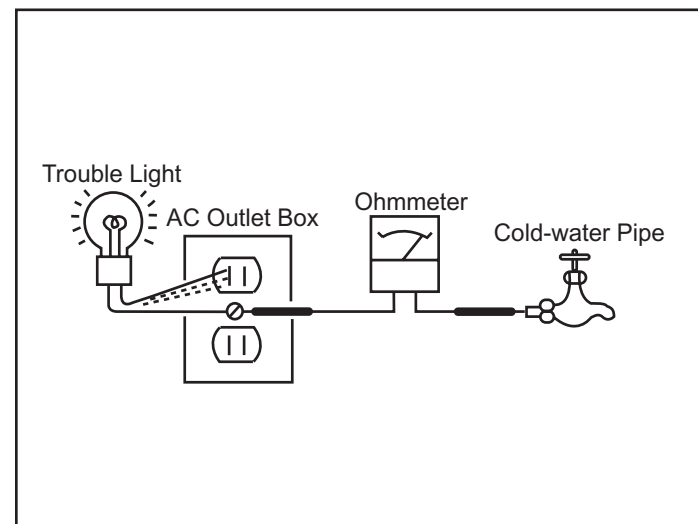


Figure B. Checking for earth ground.

## SELF-DIAGNOSTIC FUNCTION



The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER LED will automatically begin to flash. The number of times the LED flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER LED flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the Remote Commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

### Diagnostic Test Indicators

When an error occurs, the STANDBY/TIMER LED will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the LED will identify the first of the problem areas.

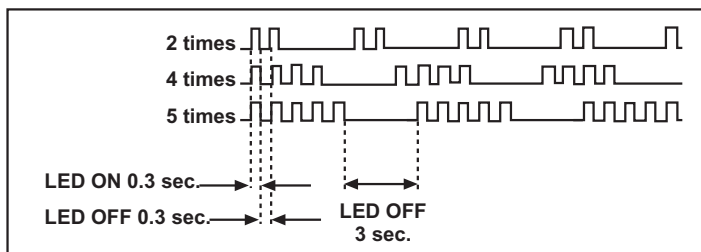
Results for all of the following diagnostic items are displayed on screen. No error has occurred if the screen displays "0".

| Diagnostic Item Description | No. of times STANDBY/ TIMER lamp flashes | Self-Diagnostic Display/ Diagnostic Result | Probable Cause Location  | Detected Symptoms  |
|-----------------------------|--|--|--|--|
| Power does not turn on      | Does not light                           | —————                                      | <ul style="list-style-type: none"> <li>Power cord is not plugged in.</li> <li>Fuse is burned out (F601). (A Board)</li> </ul>  | <ul style="list-style-type: none"> <li>Power does not come on.</li> <li>No power is supplied to the TV.</li> <li>AC Power supply is faulty.</li> </ul>   |
| +B overcurrent (OCP)*       | 2 times                                  | 2:0 or 2:1                                 | <ul style="list-style-type: none"> <li>H.OUT (Q502) is shorted. (A Board)</li> <li>IC702 is shorted. (CA Board)</li> </ul>   | <ul style="list-style-type: none"> <li>Power does not come on.</li> <li>Load on power line is shorted.</li> </ul>  |
| I-Prot                      | 4 times                                  | 4:0 or 4:1                                 | <ul style="list-style-type: none"> <li>+13V is not supplied. (A Board)</li> <li>IC502 is faulty. (A Board)</li> </ul>  | <ul style="list-style-type: none"> <li>Has entered standby state after horizontal raster.</li> <li>Vertical deflection pulse is stopped.</li> <li>Power line is shorted or power supply is stopped.</li> </ul> |
| IK (AKB)                    | 5 times                                  | 5:0 or 5:1                                 | <ul style="list-style-type: none"> <li>Viedo OUT (IC502) is faulty. (A Board)</li> <li>IC301 is faulty. (MA Board)</li> <li>Screen (G2) is improperly adjusted.**</li> </ul> | <ul style="list-style-type: none"> <li>No raster is generated.</li> <li>CRT Cathode current detection reference pulse output is small.</li> </ul>  |

\*If a +B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously. The symptom that is diagnosed first by the microcontroller is displayed on the screen.

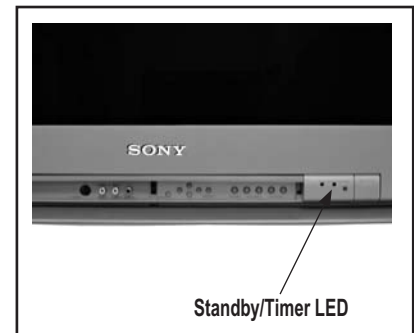
\*\*Refer to Screen (G2) Adjustments in Section 2-4. of this manual.

### Display of Standby/Timer LED Flash Count



| Diagnostic Item | Flash Count* |
|-----------------|--------------|
| +B Overcurrent  | 2 times      |
| I-Prot          | 4 times      |
| IK (AKB)        | 5 times      |

\*One flash count is not used for self-diagnostic.



### Stopping the Standby/Timer LED Flash

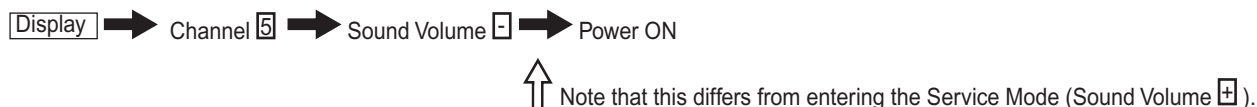
Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER LAMP from flashing.

### Self-Diagnostic Screen Display

For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes out” that cannot be confirmed, it is possible to bring up past occurrences of failure on the screen for confirmation.

#### To Bring Up Screen Test

In standby mode, press buttons on the Remote Commander sequentially, in rapid succession, as shown below:



### Self-Diagnostic Screen Display

| SELF DIAGNOSTIC |
|-----------------|
| 2: 000          |
| 3: N/A          |
| 4: 000          |
| 5: 001          |
| 101: N/A        |

Numeral “0” means that no fault was detected.  
Numerical “1” means a fault was detected one time only.

### Handling of Self-Diagnostic Screen Display

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to “0”.

Unless the result display is cleared to “0”, the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

#### Clearing the Result Display

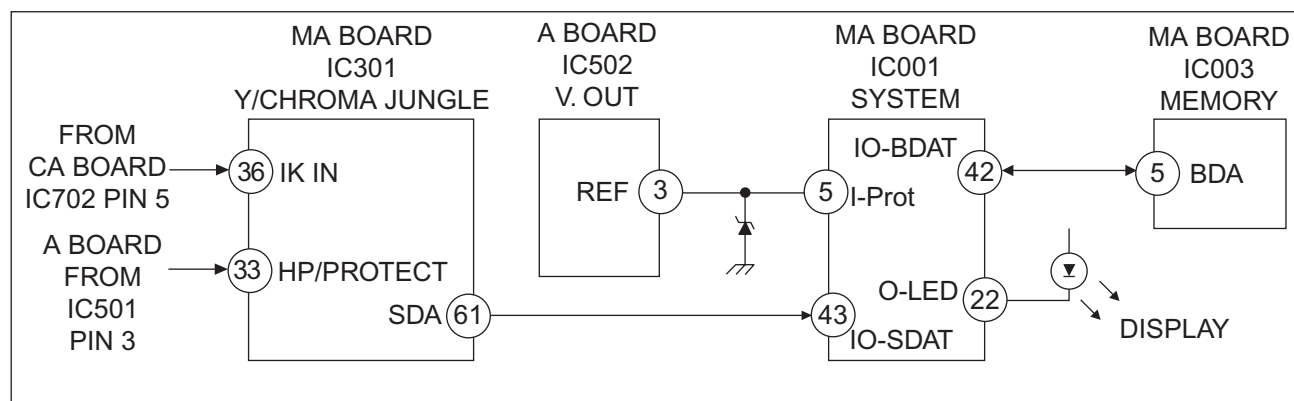
To clear the result display to “0”, press buttons on the Remote Commander sequentially when the diagnostic screen is displayed, as shown below:



#### Quitting the Self-Diagnostic Screen

To quit the entire self-diagnostic screen, turn off the power switch on the Remote Commander or the main unit.

### Self-Diagnostic Circuit



#### +B overcurrent (OCP)

Occurs when an overcurrent on the +B (135V) line is detected by pin 33 of IC301 (MA Board). If the voltage of pin 33 of IC301 (MA Board) is less than 1V when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.

#### I-Prot

Occurs when an absence of the vertical deflection pulse is detected by pin 5 of IC001 (MA Board). Power supply will shut down when waveform interval exceeds 2 seconds.

#### IK (AKB)

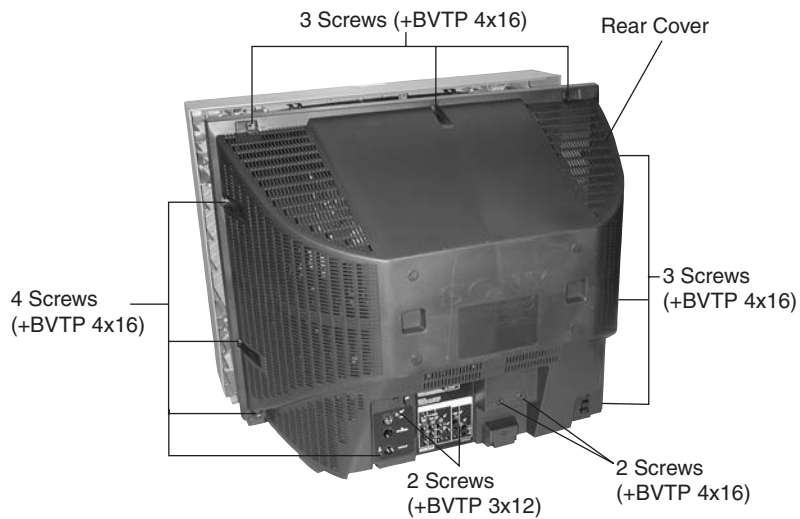
If the RGB levels\* do not balance within 2 seconds after the power is turned on, this error will be detected by IC301 (MA Board). TV will stay on, but there will be no picture.

\*(Refers to the RGB levels of the AKB detection Ref pulse that detects 1K).

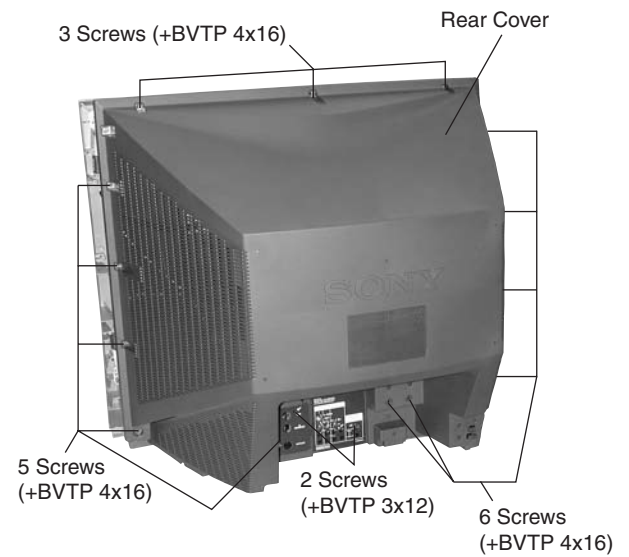
## SECTION 1: DISASSEMBLY

### 1-1. REAR COVER REMOVAL

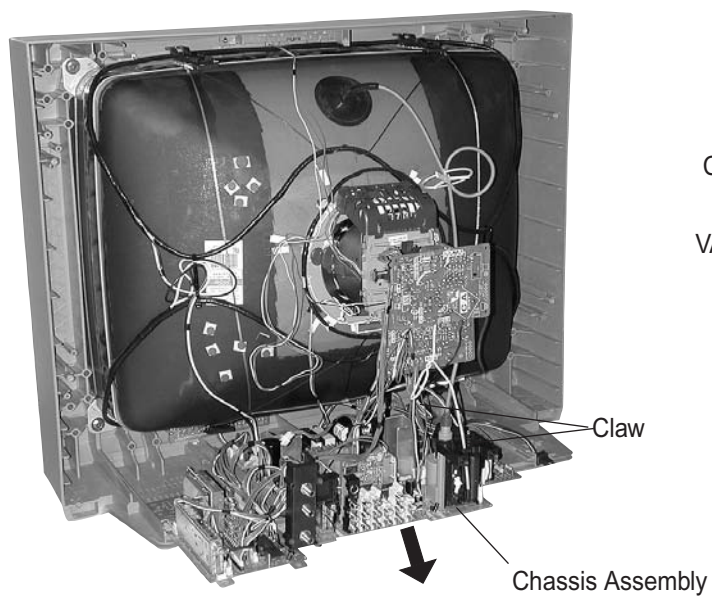
#### KV-27FS13/27FS17/27FV17/29FV17/29FV17C



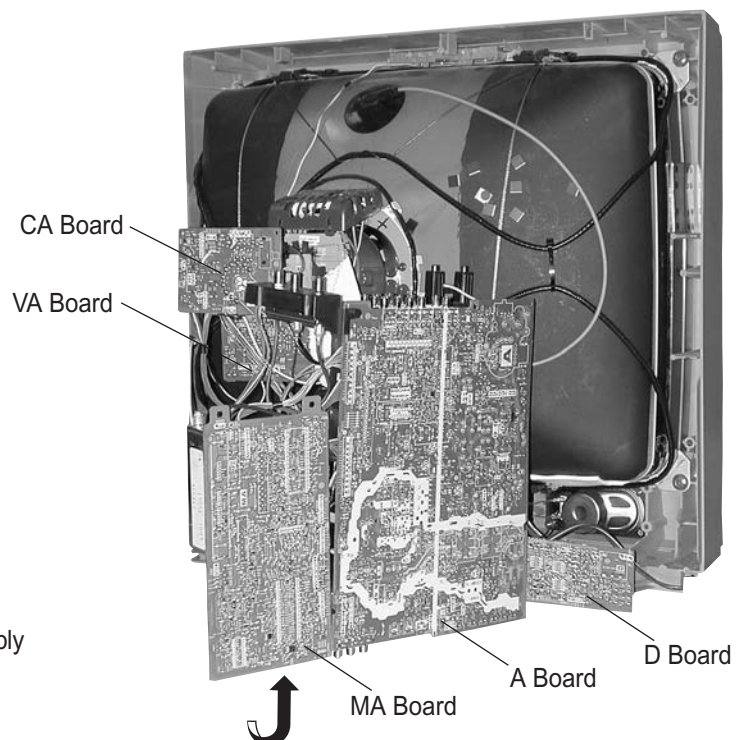
#### KV-32FS13/32FS17/34FS13C/34FS17 ONLY



### 1-2. CHASSIS ASSEMBLY REMOVAL



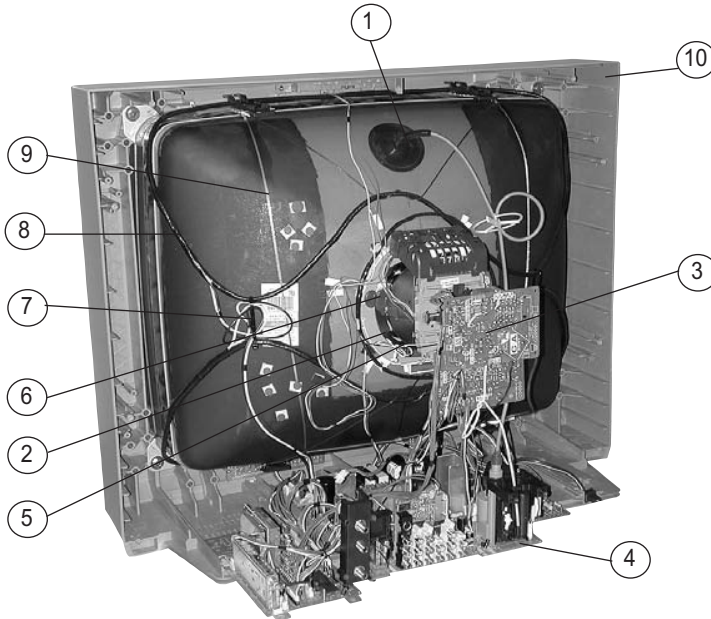
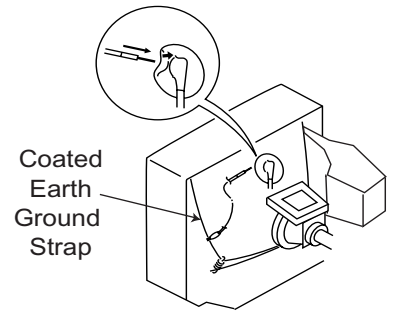
### 1-3. SERVICE POSITION



## 1-4. PICTURE TUBE REMOVAL

### WARNING: BEFORE REMOVING THE ANODE CAP

High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT before attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.

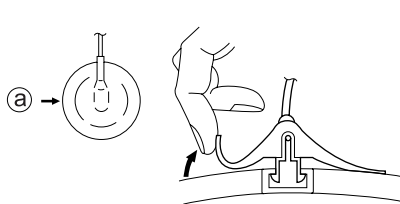


1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the deflection yoke, neck assembly, degaussing coils and CRT grounding strap.
3. Remove the CA and VA Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the neck assembly fixing screw and remove.
6. Loosen the deflection yoke fixing screw and remove.
7. Place the set with the CRT face down on a cushion and remove the degaussing coil holders.
8. Remove the degaussing coils.
9. Remove the CRT grounding strap and spring tension devices.
10. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT [Take care not to handle the CRT by the neck].

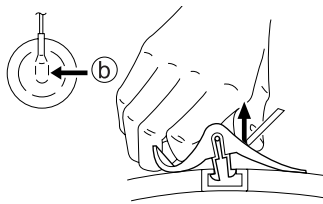
## ANODE CAP REMOVAL PROCEDURE

**WARNING:** High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT **before** attempting to remove the anode cap. Short between anode and coated earth ground strap of CRT.

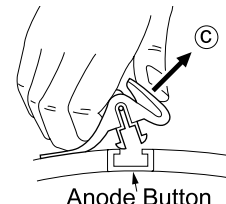
**NOTE:** After removing the anode cap, short circuit the anode of the picture tube and the anode cap to either the metal chassis, CRT shield, or carbon painted on the CRT.



- ① Turn up one side of the rubber cap in the direction indicated by arrow (a) .



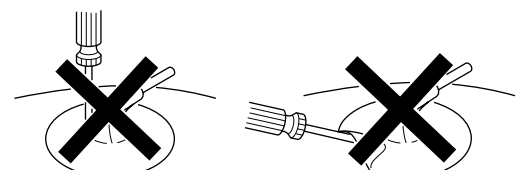
- ② Use your thumb to pull the rubber cap firmly in the direction indicated by arrow (b) .



- ③ When one side of the rubber cap separates from the anode button, the anode cap can be removed by turning the rubber cap and pulling it in the direction of arrow (c) .

## HOW TO HANDLE AN ANODE CAP

1. Do not use sharp objects which may cause damage to the surface of the anode cap.
2. To avoid damaging the anode cap, do not squeeze the rubber covering too hard. A material fitting called a shatter-hook terminal is built into the rubber.
3. Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.





## SECTION 2: SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

These adjustments should be performed with rated power supply voltage unless otherwise noted.

Set the controls as follows unless otherwise noted:

VIDEO MODE: Standard

PICTURE CONTROL: Normal

BRIGHTNESS CONTROL: Normal

**Perform the adjustments in order as follows:**

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G2)
5. White Balance

**Note Test Equipment Required:**

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter

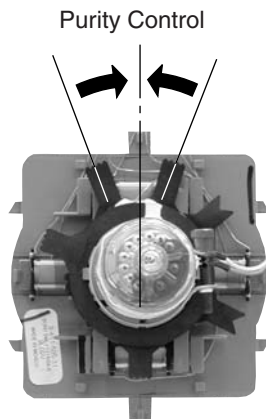
### 2-1. BEAM LANDING

Before beginning adjustment procedure:

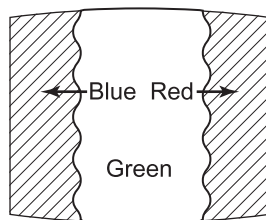
1. Degauss the entire screen.
2. Feed in the white pattern signal.

#### ADJUSTMENT PROCEDURE

1. Input a raster signal with the pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown below:

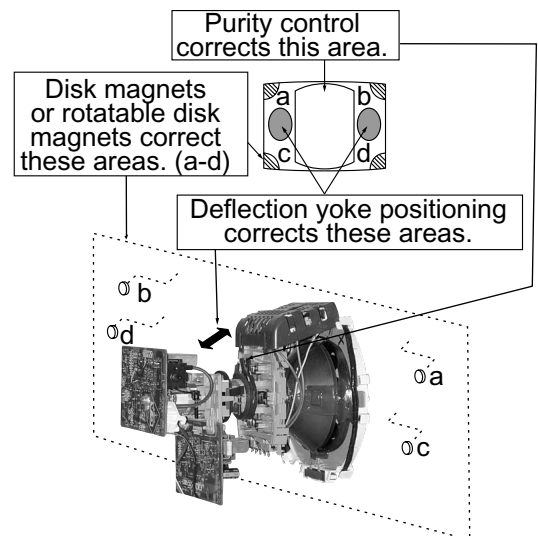
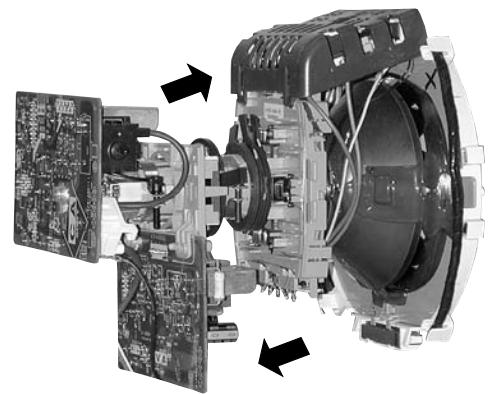


3. Turn the raster signal of the pattern generator to green.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are even on both sides.



5. Move the deflection yoke forward, and adjust so that the entire screen becomes green.

6. Switch over the raster signal to red and blue and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
8. If landing at the corner is not right, adjust by using the disk magnets.



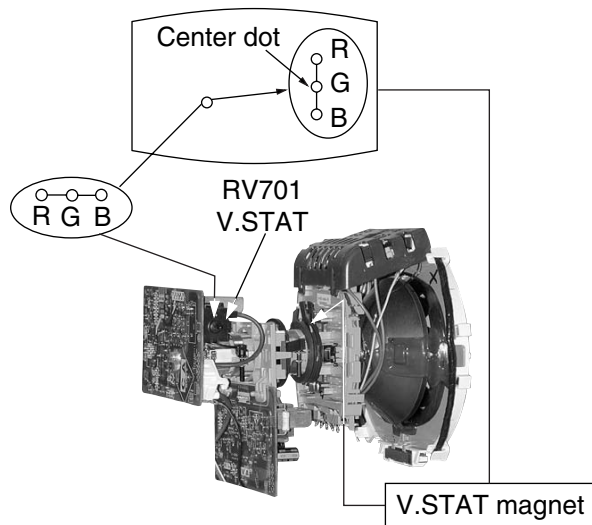
## 2-2. CONVERGENCE

Before starting convergence adjustments:

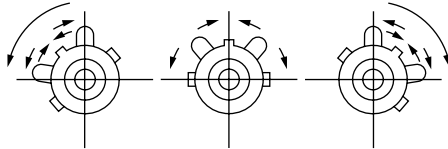
1. Perform FOCUS, VLIN and VSIZE adjustments.
2. Set BRIGHTNESS control to minimum.
3. Feed in dot pattern.

### VERTICAL STATIC CONVERGENCE

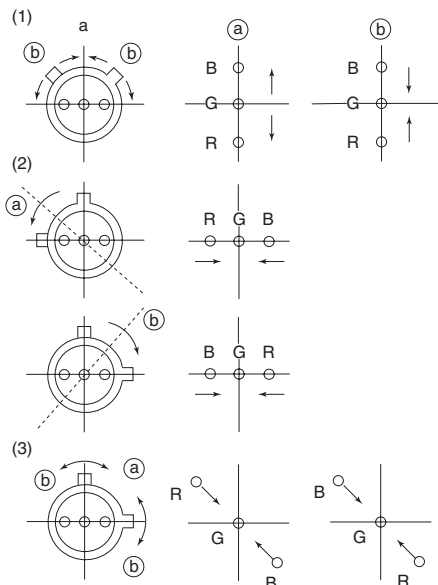
1. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen (Vertical movement adjusts V.STAT RV701 to converge).



2. Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



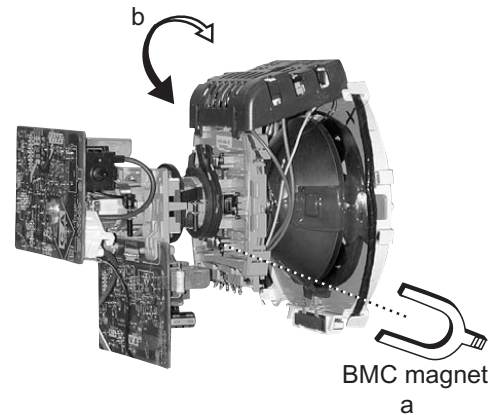
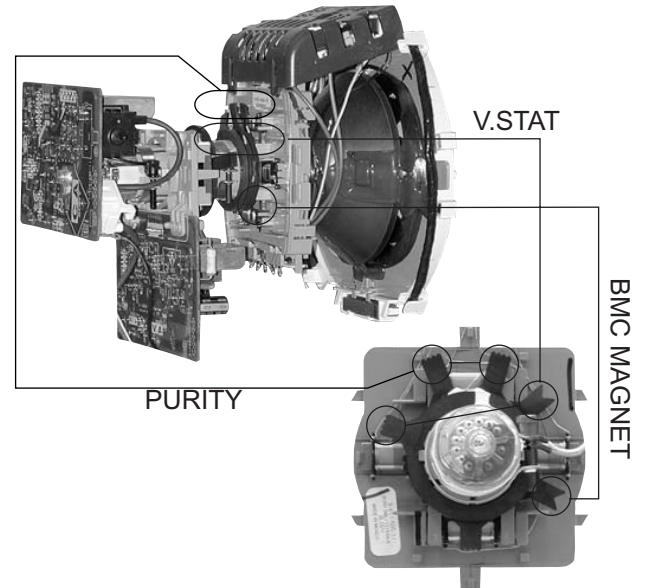
When the V. STAT magnet is moved in the direction of arrow a and b, red, green, and blue dots move as shown below:



### HORIZONTAL STATIC CONVERGENCE

If the blue dot does not converge with the red and green dots, perform the following:

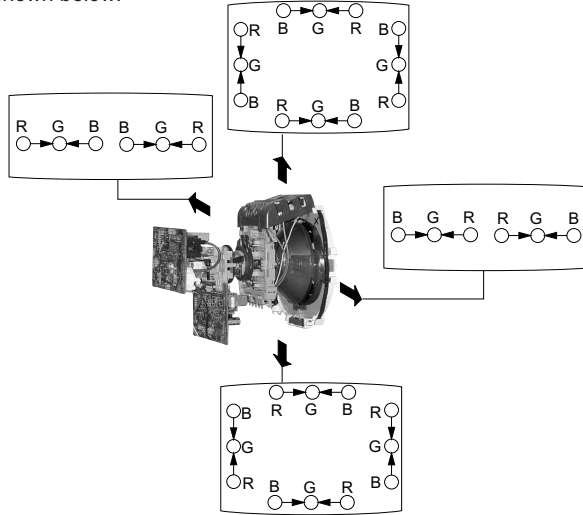
1. Move BMC magnet (a) to correct insufficient H.Static convergence.
2. Rotate BMC magnet (b) to correct insufficient V.Static convergence.
3. After adjusting the BMC magnet, repeat Beam Landing Adjustment.



## DYNAMIC CONVERGENCE ADJUSTMENT

Before performing this adjustment, perform Horizontal and Vertical Static Convergence Adjustment.

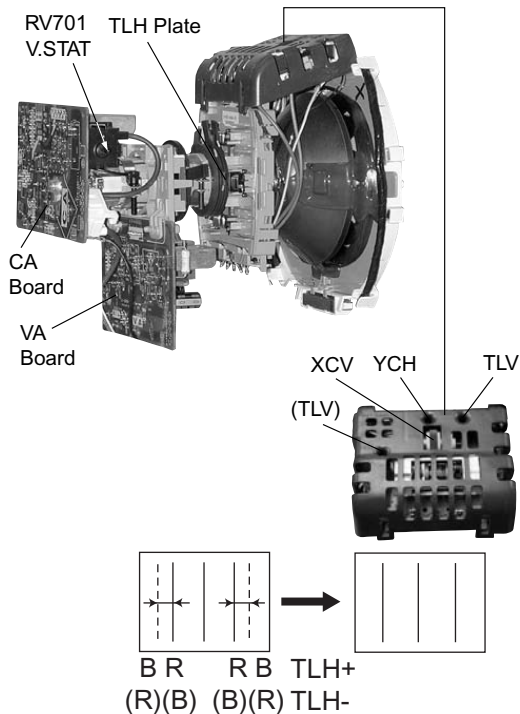
1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below:



4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

## TLH PLATE ADJUSTMENT

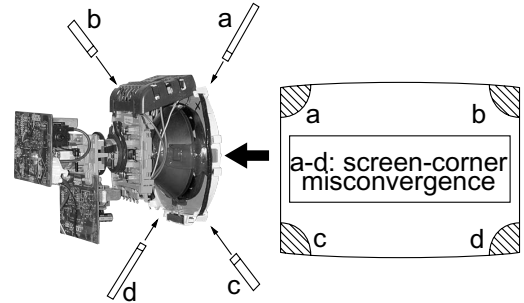
1. Input crosshatch pattern.
2. Adjust PICTURE QUALITY to standard, PICTURE and BRIGHTNESS to 50%, and OTHER to standard.
3. Adjust the Horizontal Convergence of red and blue dots by tilting the TLH plate on the deflection yoke.



4. Adjust XCV core to balance X axis.
  5. Adjust YCH VR to balance Y axis.
  6. Adjust vertical red and blue convergence with V.TILT (TLV VR).
- Note: Perform adjustment 3-6 while tracking items 1 and 2.

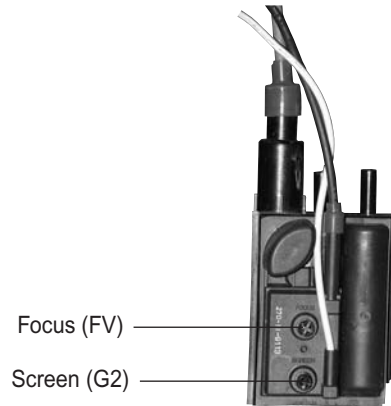
## SCREEN-CORNER CONVERGENCE

1. Affix a permalloy assembly corresponding to the misconverged areas:



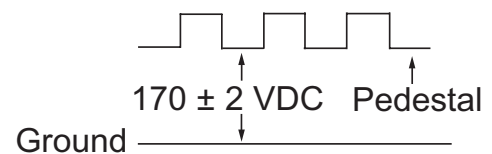
## 2-3. FOCUS

1. Adjust FOCUS control for best pictures.



## 2-4. SCREEN (G2)

1. Input a dot pattern.
2. Set the PICTURE and BRIGHTNESS controls at minimum and COLOR control at normal.
3. Adjust SBRT, GCUT, BCUT in service mode with an oscilloscope as shown below so that voltages on the red, green, and blue cathodes are  $170 \pm 2\text{VDC}$ .





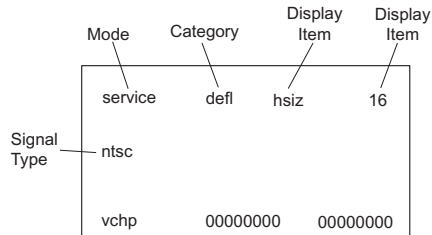
## 2-5. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

### SERVICE MODE PROCEDURE

1. Standby mode (power off).
2. Press **[Display]** → Channel **[5]** → Sound Volume **[+]** → Power on the Remote Commander (press each button within a second).

### SERVICE ADJUSTMENT MODE ON

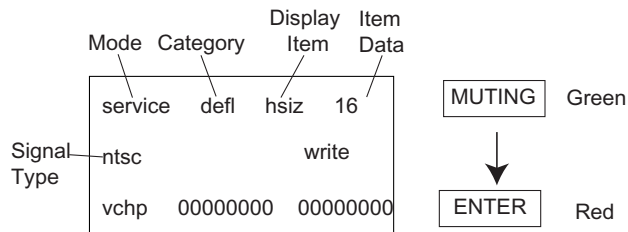
1. The CRT displays the time being adjusted.



2. Press **[1]** or **[4]** on the Remote Commander to select the time.
3. Press **[3]** or **[6]** on the Remote Commander to change the data.
4. Press **[MUTING]** then **[ENTER]** to save into the memory.

### SERVICE ADJUSTMENT MODE MEMORY

Turn the set off then on to exit Service Adjustment Mode.






## 2-6. WHITE BALANCE ADJUSTMENTS

1. Input an entire white signal with burst.
2. Set to Service Adjustment Mode.
3. Set the PICTURE and BRIGHTNESS to minimum.
4. Adjust with SBRT if necessary.
5. Select GCUT and BCUT with **[1]** and **[4]**.
6. Adjust with **[3]** and **[6]** for the best white balance.
7. Set the PICTURE and BRIGHTNESS to maximum.
8. Select GDRV and BDRV with **[1]** and **[4]**.
9. Adjust with **[3]** and **[6]** for the best white balance.
10. To write into memory, press **[MUTING]** then **[ENTER]**.

## SECTION 3: SAFETY RELATED ADJUSTMENTS

### 3-1. R564 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components which are marked with  on the schematic diagram:

| Part Replaced (  )   | Adjustment (  ) |
|---|--|
| DY, T505, CRT, IC501 C507, C520, C505, C509, C515, T504, T503, C551, L510, C546, C537, C547, D517, D518, D519, R560, R561, R562, R563, R565, R566, R567, R525.....A Board<br><br>IC301.....MA Board | HV HOLD-DOWN R564  |


### PREPARATION BEFORE CONFIRMATION

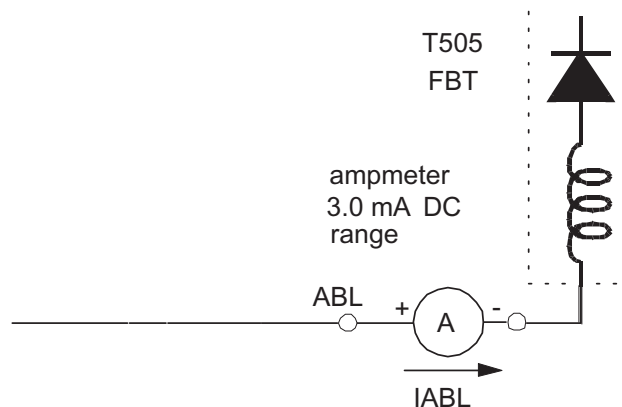
- Using a Variac, apply AC input voltage:  $120 \pm 2$  VAC.
- Turn the POWER switch ON.
- Input a white signal and set the PICTURE and BRIGHTNESS controls to maximum.
- Confirm that the voltage between C546 (+) or TP503 and ground is more than 21.0 VDC (27/29 inch) or 23.0 VDC (32/34 inch).

### HOLD-DOWN OPERATION CONFIRMATION


- Connect the current meter between Pin 11 of the FBT (T505) and the PWB land where Pin 11 would normally attach (See Figure 1 on the next page).
- Input a dot signal and set PICTURE and BRIGHTNESS to minimum: IABL =  $1730 \pm 100\mu\text{A}$  (27/29 inch) or  $2175 +100 - 325\mu\text{A}$  (32/34inch).
- Confirm the voltage of A Board TP-600 is  $135 \pm 1.5$  VDC.
- Connect the digital voltmeter and the DC power supply via Diode 1SS119 to C546 (+) and ground (See Figure 1 on next page).
- Increase the DC power voltage gradually until the picture blanks out.
- Turn DC power source off immediately.
- Read the digital voltmeter indication (standard  $24.78 +0/-0.1$  VDC [27/29 inch] or  $27.24 +0/-0.1$  VDC [32/34 inch]).
- Input a white signal and set PICTURE and BRIGHTNESS to maximum: IABL =  $1730 \pm 100\mu\text{A}$  (27/29 inch) or  $2175 +100/-325 \mu\text{A}$  (32/34 inch).
- Repeat steps 4 to 7.

### HOLD-DOWN READJUSTMENT

If the setting indicated in Step 2 of Hold-Down Operation Confirmation cannot be met, readjustment should be performed by altering the resistance value of R564 component marked with .



### 3-2. B+ VOLTAGE CONFIRMATION AND ADJUSTMENT

Note: The following adjustments should always be performed when replacing the following components, which are marked with  on the schematic diagram on the A Board:

|                 |              |
|-----------------|--------------|
| <b>A BOARD:</b> | IC601, PH601 |
|-----------------|--------------|

- Using a Variac, apply AC input voltage:  $130 + 2.0/-0.0$  VAC
- Input a monoscope pattern.
- Set the PICTURE and the BRIGHTNESS controls to minimum.
- Confirm the voltage of A Board TP-600 is  $<136.5$  VDC.
- If step 4 is not satisfied, replace the components listed above, then repeat Steps 1 – 3.

1SS119

C546



— 15 —

## SECTION 4: CIRCUIT ADJUSTMENTS

### ELECTRICAL ADJUSTMENTS BY REMOTE COMMANDER

Use the Remote Commander (RM-Y180, RM-Y181) to perform the circuit adjustments in this section.

**Test Equipment Required:** 1. Pattern generator 2. Frequency counter 3. Digital multimeter 4. Audio oscillator

#### 4-1. SETTING THE SERVICE ADJUSTMENT MODE

- Standby mode (Power off).
- Press the following buttons on the remote commander within a second of each other:

**Display** → **Channel 5** → **Sound Volume +** → **Power**

#### SERVICE ADJUSTMENT MODE ON

- The CRT displays the item being adjusted.

|             | Mode    | Category | Display Item | Item Data |
|-------------|---------|----------|--------------|-----------|
| Signal Type | service | defl     | hsiz         | 16        |
|             | ntsc    |          |              |           |
|             | vchp    | 00000000 | 00000000     |           |

- Press **1** or **4** on the Remote Commander to select the item.
- Press **3** or **6** on the Remote Commander to change the data.
- Press **MUTING** then **ENTER** to write into memory.

#### SERVICE ADJUSTMENT MODE MEMORY

|             | Mode    | Category | Display Item | Item Data |
|-------------|---------|----------|--------------|-----------|
| Signal Type | service | defl     | hsiz         | 16        |
|             | ntsc    |          |              |           |
|             | vchp    | 00000000 | 00000000     |           |

MUTING

Green

↓

ENTER

Red

- Press **8** then **ENTER** on the Remote Commander to initialize.

|             | Mode    | Category | Display Item | Item Data |
|-------------|---------|----------|--------------|-----------|
| Signal Type | service | defl     | hsiz         | 16        |
|             | ntsc    |          |              |           |
|             | vchp    | 00000000 | 00000000     |           |

MUTING

Green

↓

ENTER

Red

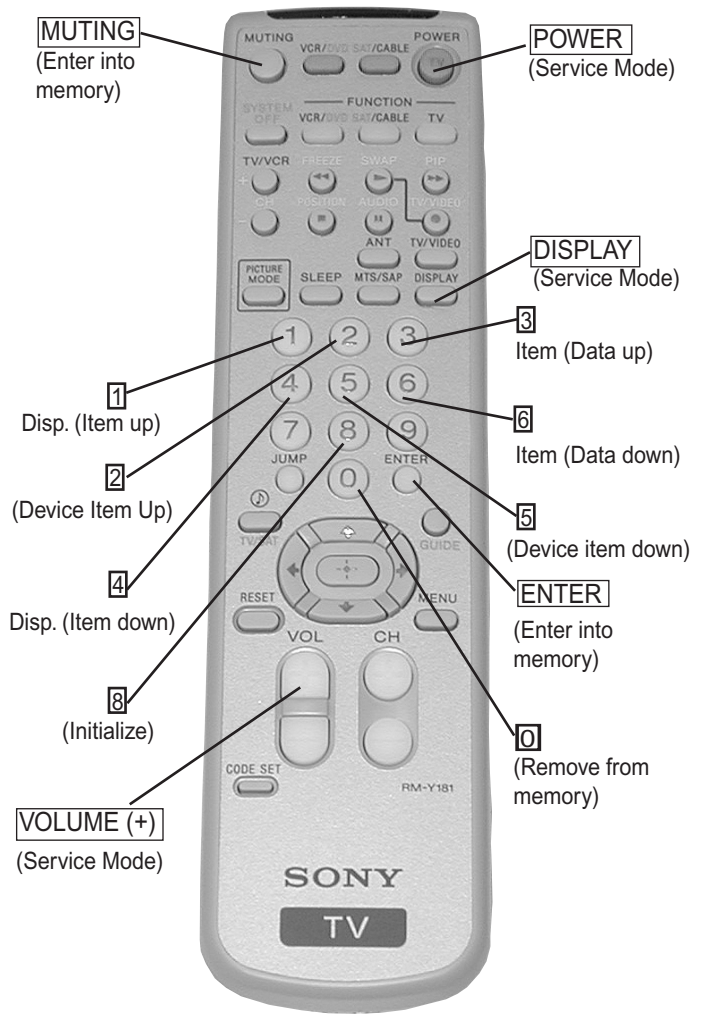
Carry out Step 1 when adjusting IDs 0-6 and when replacing and adjusting IC003

- Turn set off then on to exit service adjustment mode.

#### 4-2. MEMORY WRITE CONFIRMATION METHOD

- After adjustment, pull out the plug from the AC outlet, then replace the plug in the AC outlet again.
- Turn the power switch ON and set to Service Mode.
- Call the adjusted items again to confirm they were adjusted.

#### 4-3. REMOTE ADJUSTMENT BUTTONS AND INDICATORS



RM-Y181

**ADJUSTMENT ITEMS (1 OF 4)**

| Reg # | ITEM | FUNCTION                            | RANGE | FIX DATA | NTSC 27 | VIDEO | NTSC 32 | RF | AVERAGE DATA 27 | AVERAGE DATA 32 |
|-------|------|-------------------------------------|-------|----------|---------|-------|---------|----|-----------------|-----------------|
| 1     | HSIZ | Horizontal Size Adjustment          | 0-63  |          | 0       |       | 18      |    | 11              | 22              |
| 2     | HPOS | Horizontal Position Adjustment      | 0-63  |          | 13      |       | 13      |    | 20              | 22              |
| 3     | VBOW | Vertical Line Bowing Adj.           | 0-15  |          | 9       |       | 9       |    | 7               | 9               |
| 4     | VANG | Vertical Line Bowing Slant Adj.     | 0-15  |          | 8       |       | 3       |    | 9               | 7               |
| 5     | VTRP | TRAPEZIUM                           | 0-31  |          | 19      |       | 18      |    | 21              | 17              |
| 6     | HTRP | Horiz. Trapezoid                    | 0-15  |          | 6       |       | 6       |    | 0               | 2               |
| 7     | TROT | Tilt Correction                     | 0-63  |          | 31      |       | 31      |    | 31              | 31              |
| 8     | PAMP | Horizontal PIN distortion Adj.      | 0-63  |          | 19      |       | 27      |    | 20              | 27              |
| 9     | UPIN | Upper PIN Distortion Adj.           | 0-63  |          | 34      |       | 41      |    | 37              | 38              |
| 10    | LPIN | Lower PIN Distortion Adj.           | 0-63  |          | 32      |       | 39      |    | 33              | 35              |
| 11    | VSIZ | Vertical Size Adjustment            | 0-63  |          | 32      |       | 51      |    | 33              | 51              |
| 12    | VPOS | Vertical Position Adj.              | 0-63  |          | 30      |       | 42      |    | 36              | 39              |
| 13    | VLIN | Vertical Lineality Adj.             | 0-15  |          | 3       |       | 5       |    | 3               | 4               |
| 14    | SCOR | Vertical "S" Correction Adjustment  | 0-15  |          | 6       |       | 8       |    | 8               | 8               |
| 15    | VZOM | 16:9 CRT Z Mode on/off              | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 16    | EHT  | Vertical High-Voltage Compensation  | 0-15  | 5        |         |       |         |    | 5               | 5               |
| 17    | ASP  | Aspect Ratio Control                | 0-63  | 47       |         |       |         |    | 47              | 47              |
| 18    | SCRL | 16:9 CRT Z Mode Trans. Scroll       | 0-63  | 31       |         |       |         |    | 31              | 31              |
| 19    | HBLK | Horizontal Blanking on/off          | 0-1   | 1        |         |       |         |    | 1               | 1               |
| 20    | LBLK | Left Blanking Adjustment            | 0-15  | ****     |         |       |         |    | 13              | 13              |
| 21    | RBLK | Righth Blanking Adjustment          | 0-15  | *****    |         |       |         |    | 7               | 8               |
| 22    | HDW  | Horizontal Drive Pulse Width        | 0-1   | 1        |         |       |         |    | 1               | 1               |
| 23    | EWDC | "Parabola" EW, D.C. Adjustment      | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 24    | LVLN | Lower Screen BTM Vertical Line Adj. | 0-15  | 0        |         |       |         |    | 0               | 0               |
| 25    | UVLN | Upper Screen BTM Vertical Line Adj. | 0-15  | 0        |         |       |         |    | 0               | 0               |
| 26    | INTL | INTERLACE                           | 0-3   | 0        |         |       |         |    | 0               | 0               |
| 27    | G2SW |                                     | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 28    | G2LV |                                     | 0-7   | 0        |         |       |         |    | 0               | 0               |
| 29    | HOSC | Horizontal VCO Oscillation Freq.    | 0-15  | 12       |         |       |         |    | 7               | 7               |
| 30    | VSS  | Vertical Sync Slice Level           | 0-3   | 0        |         |       |         |    | 0               | 0               |
| 31    | HSS  | Horizontal Sync Slice Level         | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 32    | HMSK | For Macro Vision                    | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 33    | VTMS | Select Signal VTIM Pin              | 0-3   | 0        |         |       |         |    | 0               | 0               |
| 34    | CDMD | Vertical Count Down Mode Switching  | 0-3   |          |         | 3     |         | *  | 3               | 3               |
| 35    | AFC  | AFC Loop Gain Switching             | 0-3   | 0        |         |       |         |    | 0               | 0               |
| 36    | FIFR | Field Frequency                     | 0-3   | 3        |         |       |         |    | 3               | 3               |
| 37    | VBLK | VBLKW                               | 0-3   | 0        |         |       |         |    | 0               | 0               |
| 38    | REFP | REFP                                | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 39    | JPSW | JUMPSW                              | 0-1   | MENU     |         |       |         |    | 0               | 0               |
| 40    | RDRV | R Output Drive control              | 0-63  | ***      |         |       |         |    | 31              | 40              |
| 41    | GDRV | G Output Drive control              | 0-63  | 25       |         |       |         |    | 22              | 42              |
| 42    | BDRV | B Output Drive control              | 0-63  | 25       |         |       |         |    | 21              | 31              |
| 43    | RCUT | R Output Cutoff control             | 0-63  | 31       |         |       |         |    | 31              | 31              |
| 44    | GCUT | G Output Cutoff control             | 0-63  | 15       |         |       |         |    | 13              | 12              |
| 45    | BCUT | B Output Cutoff control             | 0-63  | 12       |         |       |         |    | 14              | 15              |
| 46    | SCON | SUB CONT                            | 0-15  | 8        |         |       |         |    | 11              | 11              |
| 47    | SHUE | Sub HUE adjustment                  | 0-15  | 16       |         |       |         |    | 17              | 16              |
| 48    | SCOL | Sub COLOR adjustment                | 0-15  |          | 18      |       |         |    | 17              | 18              |
| 49    | SBRT | Sub BRIGHTNESS adjustment           | 0-31  | 16       |         |       |         |    | 15              | 16              |
| 50    | CHUE | SUB COLOR (RF)                      | 0-31  | 7        |         |       |         |    | 6               | 6               |
| 51    | CCOL | SUB COLOR (RF)                      | 0-31  |          | 7       |       |         |    | 7               | 4               |
| 52    | UOFS | YUV U OFFSET                        | 0-15  | 7        |         |       |         |    | 7               | 7               |
| 53    | VOFS | YUV V OFFSET                        | 0-15  | 7        |         |       |         |    | 7               | 7               |
| 54    | RON  | R Output on/off                     | 0-1   | 1        |         |       |         |    | 1               | 1               |

\* CDMD = 3 for US &amp; CND, CDMD = 0 for Other

\*\*\* RDRV = 41 for 27FS/32FS families, 31 for 27FV family

\*\*\*\*LBLK = 0 for 27FV/29FV/32FS/34FS family, 5 FOR 27FS family

\*\*\*\*\* RBLK = 3 for 27FV/29FV/32FS/34FS family, 2 for 27FS family

## ADJUSTMENT ITEMS (2 OF 4)

| Reg # | ITEM | FUNCTION                        | RANGE | FIX DATA                            | NTSC 27 | VIDEO | NTSC 32 | RF | AVERAGE DATA 27 | AVERAGE DATA 32 |
|-------|------|---------------------------------|-------|-------------------------------------|---------|-------|---------|----|-----------------|-----------------|
| 55    | GON  | G Output on/off                 | 0-1   | 1                                   |         |       |         |    | 1               | 1               |
| 56    | BON  | B Output on/off                 | 0-1   | 1                                   |         |       |         |    | 1               | 1               |
| 57    | AXPL | Axis PAL                        | 0-1   | 0                                   |         |       |         |    | 0               | 0               |
| 58    | AXNT | Axis NTSC                       | 0-1   | 1                                   |         |       |         |    | 1               | 1               |
| 59    | CBPF | Chroma BPF on/off               | 0-1   | 1                                   |         |       |         |    | 1               | 1               |
| 60    | CTRP | Y TRAP FILTER on/off            | 0-1   | 1                                   |         |       |         |    | 1               | 1               |
| 61    | COFF | Color On/off                    | 0-1   | 0                                   |         |       |         |    | 0               | 0               |
| 62    | KOFF | Set Color Killer                | 0-1   | 0                                   |         |       |         |    | 0               | 0               |
| 63    | SSHP | Sub SHARPNESS                   | 0-15  | 5                                   |         |       |         |    | 5               | 5               |
| 64    | SHPF | SHARPNESS Circuit Fo            | 0-3   | Palette Mode Controls This Register |         |       |         |    | 2               | 2               |
| 65    | PREL | Pre-Shoot/ Over-Shoot           | 0-1   | 1                                   |         |       |         |    | 0               | 0               |
| 66    | Y-DC | DC transmission Ratio Switching | 0-3   | Palette Mode Controls This Register |         |       |         |    | 2               | 2               |
| 67    | GAMM | Gamma Correction                | 0-3   | Palette Mode Controls This Register |         |       |         |    | 2               | 2               |
| 68    | ABLM | ABL Mode Switch                 | 0-1   | 1                                   |         |       |         |    | 1               | 1               |
| 69    | VTH  | ABL CD VHT Switching            | 0-1   | 1                                   |         |       |         |    | 1               | 1               |
| 70    | YDEL | Y Delay Time Control            | 0-15  | 7                                   |         |       |         |    | 7               | 7               |
| 71    | NCOL | No Color ID                     | 0-1   | 1                                   |         |       |         |    | 1               | 1               |
| 72    | FSC  | FSC Out on/off                  | 0-1   | 1                                   |         |       |         |    | 1               | 1               |
| 73    | K-ID | Killer ID Control on/off        | 0-1   | 0                                   |         |       |         |    | 0               | 0               |
| 74    | GDOF |                                 | 0-31  | 3                                   |         |       |         |    | 3               | 3               |
| 75    | BDOF |                                 | 0-31  | 16                                  |         |       |         |    | 16              | 16              |
| 76    | GCOF |                                 | 0-31  | 16                                  |         |       |         |    | 16              | 16              |
| 77    | BCOF |                                 | 0-31  | 7                                   |         |       |         |    | 7               | 7               |
| 78    | SYSC | Color System                    | 0-7   | 4                                   |         |       |         |    | 4               | 4               |
| 79    | VENH | Vertical Enhancement            | 0-7   | Palette Mode Controls This Register |         |       |         |    | 5               | 3               |
| 80    | PDSO | PDS OFF                         | 0-1   | 0                                   |         |       |         |    | 0               | 0               |
| 81    | CK   | CK                              | 0-1   | 0                                   |         |       |         |    | 0               | 0               |
| 82    | VNL  | VNL                             | 0-15  | 3                                   |         |       |         |    | 3               | 3               |
| 83    | HPK  | HPK                             | 0-1   | 0                                   |         |       |         |    | 0               | 0               |
| 84    | HPKO | HPK OFF                         | 0-1   | Palette Mode Controls This Register |         |       |         |    | 0               | 0               |
| 85    | CORE | CORE                            | 0-3   | 2                                   |         |       |         |    | 1               | 1               |
| 86    | TRAP | TRAP                            | 0-1   | 1                                   |         |       |         |    | 1               | 1               |
| 87    | CHTR | CH TRAP                         | 0-1   | 0                                   |         |       |         |    | 0               | 0               |
| 88    | CBPF | CBPF                            | 0-1   | 1                                   |         |       |         |    | 1               | 1               |
| 89    | ENHO | ENH OFF                         | 0-1   | 0                                   |         |       |         |    | 0               | 0               |
| 90    | NMRD | NMRD                            | 0-3   | 0                                   |         |       |         |    | 0               | 0               |
| 91    | YAPS | YAPS                            | 0-3   | 3                                   |         |       |         |    | 3               | 3               |
| 92    | CLKS | CLKS                            | 0-3   | 0                                   |         |       |         |    | 0               | 0               |
| 93    | NSTD | NSTD                            | 0-3   | 0                                   |         |       |         |    | 0               | 0               |
| 94    | MSS  | MSS                             | 0-3   | 0                                   |         |       |         |    | 0               | 0               |
| 95    | KILS | KILS                            | 0-3   | 1                                   |         |       |         |    | 1               | 1               |
| 96    | ADIN | ADIN                            | 0-1   | 0                                   |         |       |         |    | 0               | 0               |
| 97    | EXCS | EXCSS                           | 0-3   | 1                                   |         |       |         |    | 1               | 1               |
| 98    | CPP  | CPP                             | 0-3   | 2                                   |         |       |         |    | 2               | 2               |
| 99    | HDP  | HDP                             | 0-7   | 4                                   |         |       |         |    | 4               | 4               |
| 100   | CDL  | CDL                             | 0-7   | 4                                   |         |       |         |    | 4               | 4               |
| 101   | DYCR | DYCOR                           | 0-15  | 2                                   |         |       |         |    | 2               | 2               |
| 102   | DYGN | DYGAIN                          | 0-15  | 10                                  |         |       |         |    | 10              | 10              |
| 103   | DCCR | DCCOR                           | 0-15  | 3                                   |         |       |         |    | 3               | 3               |
| 104   | DCGN | DCGAIN                          | 0-15  | 6                                   |         |       |         |    | 6               | 6               |
| 105   | YNRL | YNRLIM                          | 0-3   | 1                                   |         |       |         |    | 1               | 1               |
| 106   | CNRL | CNRLIM                          | 0-3   | 1                                   |         |       |         |    | 1               | 1               |
| 107   | WSC  | WSC                             | 0-3   | 1                                   |         |       |         |    | 1               | 1               |
| 108   | VTRH | VTRH                            | 0-3   | 1                                   |         |       |         |    | 1               | 1               |



## ADJUSTMENT ITEMS (3 OF 4)

| Reg # | ITEM | FUNCTION                     | RANGE | FIX DATA | NTSC 27 | VIDEO | NTSC 32 | RF | AVERAGE DATA 27 | AVERAGE DATA 32 |
|-------|------|------------------------------|-------|----------|---------|-------|---------|----|-----------------|-----------------|
| 109   | VTRR | VTRR                         | 0-3   | 1        |         |       |         |    | 1               | 1               |
| 110   | LDSR | LDSR                         | 0-3   | 2        |         |       |         |    | 2               | 2               |
| 111   | VAPG | VAPGAIN                      | 0-7   | 3        |         |       |         |    | 3               | 3               |
| 112   | VAPI | VAPINV                       | 0-31  | 6        |         |       |         |    | 6               | 6               |
| 113   | TEST | TEST                         | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 114   | YPFT | YPFT                         | 0-3   | 3        |         |       |         |    | 3               | 3               |
| 115   | YPFG | YPFG                         | 0-15  | 7        |         |       |         |    | 7               | 7               |
| 116   | CC3N | CC3N                         | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 117   | SELD |                              | 0-1   | 1        |         |       |         |    | 1               | 1               |
| 118   | D2GN | D2GAIN                       | 0-7   | 4        |         |       |         |    | 5               | 5               |
| 119   | YHCR | YHCOR                        | 0-3   | 0        |         |       |         |    | 0               | 0               |
| 120   | YPFC | YPFCOR                       | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 121   | SHT  | SHT                          | 0-3   | 0        |         |       |         |    | 0               | 0               |
| 122   | MVT  | MVT                          | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 123   | OTT  | OTT                          | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 124   | CL2D | CL2D                         | 0-1   | 1        |         |       |         |    | 1               | 1               |
| 125   | CLKG | CLKGGT                       | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 126   | HPLL | HPLLFS                       | 0-1   | 1        |         |       |         |    | 1               | 1               |
| 127   | BPLL | BPLLFS                       | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 128   | FSCF | FSCFG                        | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 129   | PLLS | PLLS                         | 0-1   | 1        |         |       |         |    | 1               | 1               |
| 130   | KILR | KILR                         | 0-15  | 3        |         |       |         |    | 3               | 3               |
| 131   | HSSL | HSSL                         | 0-15  | 12       |         |       |         |    | 12              | 12              |
| 132   | VSSL | VSSL                         | 0-15  | 8        |         |       |         |    | 8               | 8               |
| 133   | BGPS | BGPS                         | 0-15  | 4        |         |       |         |    | 4               | 4               |
| 134   | BGPW | BGPW                         | 0-15  | 10       |         |       |         |    | 10              | 10              |
| 135   | ADCK | ADCLKS                       | 0-3   | 3        |         |       |         |    | 3               | 3               |
| 136   | NSDW | NSDSW                        | 0-1   | 1        |         |       |         |    | 1               | 1               |
| 137   | PFRN | FREE_RUN                     | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 138   | PRVS | RVS                          | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 139   | PCON | CONTRAST                     | 0-127 | 97       |         |       |         |    | 45              | 45              |
| 140   | PUCO | U-DAC                        | 0-127 | 5        |         |       |         |    | 16              | 16              |
| 141   | PVCO | V-DAC                        | 0-127 | 5        |         |       |         |    | 24              | 24              |
| 142   | PHUE |                              | 0-31  | 12       |         |       |         |    | 15              | 15              |
| 143   | PKIL | KILLER                       | 1     | 0        |         |       |         |    | 0               | 0               |
| 144   | PSEP | EXT_SC_SEL                   | 0-3   | 1        |         |       |         |    | 2               | 2               |
| 145   | PHIM |                              | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 146   | PSUB |                              | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 147   | PBGS | BG_START                     | 0-63  | 14       |         |       |         |    | 14              | 14              |
| 148   | PDL0 |                              | 0-15  | 10       |         |       |         |    | 6               | 6               |
| 149   | PDL1 |                              | 0-15  | 13       |         |       |         |    | 13              | 13              |
| 150   | PBRT | Y_OFFSET                     | 0-31  | 25       |         |       |         |    | 25              | 25              |
| 151   | PVP1 |                              |       | 0        |         |       |         |    | 0               | 0               |
| 152   | PUP1 |                              |       | 0        |         |       |         |    | 0               | 0               |
| 153   | PVP2 |                              |       | 0        |         |       |         |    | 0               | 0               |
| 154   | PUP2 |                              |       | 0        |         |       |         |    | 0               | 0               |
| 155   | PVP3 |                              |       | 0        |         |       |         |    | 0               | 0               |
| 156   | PUP3 |                              |       | 0        |         |       |         |    | 0               | 0               |
| 157   | PACS | SET_ACC                      | 0-1   | 1        |         |       |         |    | 1               | 1               |
| 158   | PSDL | YUV_Color (More Significant) | 0-3   | 2        |         |       |         |    | 0               | 0               |
| 159   | PDCO | YUV_Color (Less Significant) | 0-3   | 2        |         |       |         |    | 0               | 0               |

## ADJUSTMENT ITEMS (4 OF 4)

| Reg # | ITEM | FUNCTION                     | RANGE | FIX DATA | NTSC 27 | VIDEO | NTSC 32 | RF | AVERAGE DATA 27 | AVERAGE DATA 32 |
|-------|------|------------------------------|-------|----------|---------|-------|---------|----|-----------------|-----------------|
| 160   | PCGA | C_GAIN                       | 0-1   | 1        |         |       |         |    | 1               | 1               |
| 161   | PAAF |                              | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 162   | PSU2 |                              | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 163   | PCVF |                              | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 164   | PBIT | BITSEL                       | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 165   | PAFC | AFCBITSEL                    | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 166   | PACC | ACC_LEVEL                    | 0-63  | 21       |         |       |         |    | 22              | 22              |
| 167   | PBUR | BURST_CLK                    | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 168   | PEVE | EVENUPRA                     | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 169   | PINW | INV_WFF                      | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 170   | PINR | INV_REF                      | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 171   | PREF | RFF_FIX                      | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 172   | PARE | AUTO_REF                     | 0-1   | 1        |         |       |         |    | 1               | 1               |
| 173   | PAVE | AVERAGE                      | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 174   | PFRA | FREE_RUN_ADJ                 | 0-15  | 0        |         |       |         |    | 0               | 0               |
| 175   | PPAL | SUB_PALM_JUDGE               | 0-255 | 0        |         |       |         |    | 0               | 0               |
| 176   | PHPO |                              | 0-31  | 9        |         |       |         |    | 7               | 6               |
| 177   | PVPO |                              | 0-31  | 22       |         |       |         |    | 22              | 22              |
| 178   | PHTI | HT                           | 0-15  | 5        |         |       |         |    | 9               | 9               |
| 179   | PHAJ | ADJ                          | 0-15  | 1        |         |       |         |    | 1               | 1               |
| 180   | PBGY | BGY                          | 0-15  | 0        |         |       |         |    | 0               | 0               |
| 181   | PCRO | CROSS_SEL                    | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 182   | PPAR | PALRY                        | 0-63  | 2        |         |       |         |    | 2               | 2               |
| 183   | PHPF | HPFOFF                       | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 184   | PFSC | FSC_OUTPUT                   | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 185   | PVCH | SET_VCHIP                    | 0-1   | 0        |         |       |         |    | 0               | 0               |
| 186   | PVON | VCHIP_ONLY                   | 0-1   | 1        |         |       |         |    | 1               | 1               |
| 187   | PVLN | LINE_NUM                     | 0-31  | 17       |         |       |         |    | 17              | 17              |
| 188   | PVSB | STB_DLY                      | 0-255 | 64       |         |       |         |    | 64              | 64              |
| 189   | PVLV | L_LEVEL                      | 0-255 | 130      |         |       |         |    | 130             | 130             |
| 190   | SBAL | Sub Balance                  | 0-7   | 5        |         |       |         |    | 5               | 5               |
| 191   | SBAS | Sub Bass                     | 0-7   |          | ****    |       |         |    | 0               | 0               |
| 192   | STRE | Sub Treble                   | 0-7   |          | *****   |       |         |    | 3               | 3               |
| 193   | BBEL | BBE Low                      | 0-15  | *****    |         |       |         |    | 0               | 0               |
| 194   | BBEH | BBE High                     | 0-15  | *****    |         |       |         |    | 0               | 0               |
| 195   | BBE  | BBE                          | 0-1   | *****    |         |       |         |    | 0               | 0               |
| 196   | AUX  | SRS, Simulated               | 0-3   | 0        |         |       |         |    | 0               | 0               |
| 197   | DISP | O.S.D Display position       | 0-127 | 20       |         |       |         |    | 32              | 34              |
| 198   | HCLW | Horizontal Count Lower limit | 0-255 | 16       |         | 16    |         |    | 16              | 16              |
| 199   | HCHG | Horizontal Count High limit  | 0-255 | 64       |         | 64    |         |    | 64              | 64              |
| 200   | ID0  |                              | 0-255 | 25       |         |       |         |    | See ID Map      |                 |
| 201   | ID1  |                              | 0-255 | 3        |         |       |         |    | See ID Map      |                 |
| 202   | ID2  |                              | 0-255 | 91       |         |       |         |    | See ID Map      |                 |
| 203   | ID3  |                              | 0-255 | 2        |         |       |         |    | See ID Map      |                 |
| 204   | ID4  |                              | 0-255 | 233      |         |       |         |    | See ID Map      |                 |
| 205   | ID5  |                              | 0-255 | 17       |         |       |         |    | See ID Map      |                 |
| 206   | ID6  |                              | 0-255 | 0        |         |       |         |    | See ID Map      |                 |

\*\*\*\*SBAS = 0 for 27FV/29FV/32FS/34FS family, 5 for 27FS family

\*\*\*\*\* STRE = 3 for 27FV/29FV/32FS/34FS family, 2 for 27FS family

\*\*\*\*\* BBEL = 5 for 27FV family; 6 for 29FV family and 0 for 27FS/29FS/32FS family

\*\*\*\*\* BBEH = 5 for 27FV family; 7 for 29FV family and 0 for 27FS/29FS/32FS family

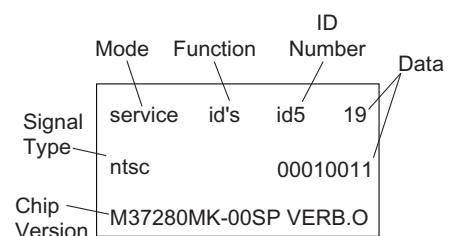
\*\*\*\*\* BBE = 1 for 27FV/29FV families and 0 for 27FS/29FS/32FS family

## Notes:

No. 1-206 show the order that each adjustment mode may be selected while in Service Mode.

Data Range shows the range of possible settings for each Adjustment Mode.

Initial Data shows the standard settings for each Adjustment Mode.





## FEATURE ID MAP

| Model      | Destination | ID-0 | ID-1 | ID-2 | ID-3 | ID-4 | ID-5 | ID-6 |
|------------|-------------|------|------|------|------|------|------|------|
| KV-27FS13  | US          | 89   | 31   | 79   | 146  | 137  | 19   | 0    |
| KV-27FS13  | CND         | 89   | 31   | 79   | 178  | 137  | 19   | 0    |
| KV-27FS17  | US          | 89   | 31   | 79   | 146  | 137  | 19   | 7    |
| KV-27FV17  | US          | 89   | 63   | 239  | 146  | 133  | 19   | 7    |
| KV-27FV17  | CND         | 89   | 63   | 239  | 178  | 133  | 19   | 7    |
| KV-29FV17  | E           | 17   | 63   | 255  | 130  | 229  | 19   | 7    |
| KV-29FV17C | E           | 17   | 63   | 255  | 130  | 229  | 19   | 7    |
| KV-32FS13  | US          | 89   | 31   | 79   | 146  | 137  | 19   | 0    |
| KV-32FS13  | CND         | 89   | 31   | 79   | 178  | 137  | 19   | 0    |
| KV-32FS17  | US          | 89   | 31   | 79   | 146  | 137  | 19   | 7    |
| KV-34FS13C | E           | 17   | 31   | 223  | 130  | 233  | 19   | 0    |
| KV-34FS17  | E           | 17   | 31   | 223  | 130  | 233  | 19   | 7    |

## 4-4. MA BOARD ADJUSTMENTS

### H. FREQUENCY (FREE RUN) CHECK

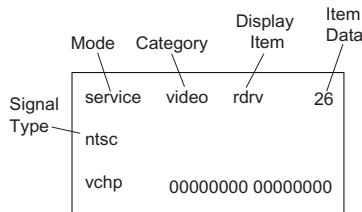
1. Input a TV mode (RF) with no signal.
2. Connect a frequency counter to base of Q501 (TP-500 H. DRIVE) on the A Board.
3. Check H. Frequency for  $15735 \pm 200$  Hz.

### V. FREQUENCY (FREE RUN) CHECK

1. Select video 1 with no signal input.
2. Set the conditions for a standard setting.
3. Connect the frequency counter to TP-508 (V OUT) or CN501 pin ⑥ (V DY+) and ground on the A Board.
4. Check that V. Frequency shows  $60 \pm 4$  Hz.

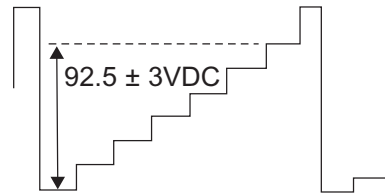
### DRIVE (RDRV)

1. Input a color-bar signal and set the level to 75%.
2. Set in Standard Mode.
3. Activate the Service Adjustment Mode.
4. Set both GON and BON items. Using ③ and ⑥ set each to the following values. Leave RON set to "1".



R ON: ON (1)  
G ON: OFF (0)  
B ON: OFF (0)

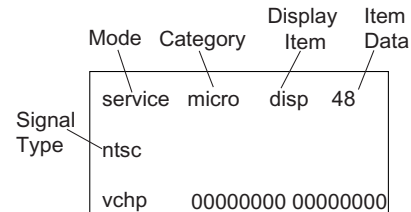
5. Connect an oscilloscope probe to CB Board, J701 Pin 12 (KR) (Red Out).
6. Select RDRV with ① and ④.
7. Adjust the value of RDRV with ③ and ⑥ for  $92.5 \pm 3$  VDC.



8. Reset GON and BON values to "1".  
R ON: ON (1)  
G ON: ON (1)  
B ON: ON (1)
9. Press **MUTING** then **ENTER** to save into the memory.

### Display Position Adjustment (DISP)

1. Input a color-bar signal.
2. Set to Service Adjustment Mode.
3. Select DISP with ① and ④.
4. Adjust values of DISP with ③ and ⑥ to adjust characters to the center.
5. Write to memory by pressing **MUTING** then **ENTER**.
6. Check to see if the text is displayed on the screen.

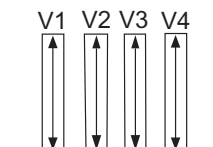


### SUB BRIGHT ADJUSTMENT (SBRT)

1. Input a monoscope signal.
2. Activate the Service Adjustment Mode.
3. Set the PICTURE and BRIGHTNESS to minimum.
4. Select the SBRT item with ① and ④.
5. Adjust the values of SBRT with ③ and ⑥ to obtain a faintly visible crosshatch.
6. Press **MUTING** then **ENTER** to save into the memory.

### SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

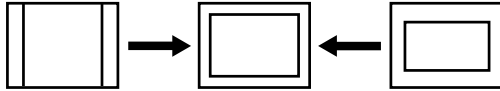
1. Input a color-bar signal.
2. Activate the Service Adjustment Mode.
3. Connect an oscilloscope probe to CB Board, CN705 Pin ④ Blue Out.
4. Select the SHUE and SCOL item with ① and ④.
5. While showing the SHUE item, adjust the waveform with ① and ④ until the second and third bars show the same level ( $V2 = V3 < 0.1$  Vp-p).
6. While showing the SCOL item, adjust the waveform with ③ and ⑥ until the first and fourth bars show the same level ( $V1 = V4 < 0.1$  Vp-p).



7. Press **MUTING** then **ENTER** to save into the memory.

## V. SIZE ADJUSTMENT (VSIZ)

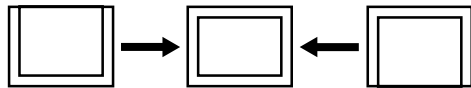
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the VSIZ item with **[1]** and **[4]**.
4. Adjust value of VPOS with **[1]** and **[4]** for the best vertical center.
5. Press **[MUTING]** then **[ENTER]** to save into the memory.



## V. CENTER ADJUSTMENT (VPOS)

Perform this adjustment after performing H. Frequency (Free Run) Check.

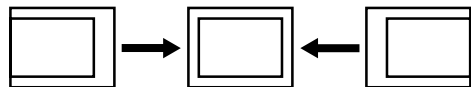
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the VPOS item with **[1]** and **[4]**.
4. Adjust value of VPOS with **[3]** and **[6]** for the best vertical center.
5. Press **[MUTING]** then **[ENTER]** to save into the memory.



## H. CENTER ADJUSTMENT (HPOS)

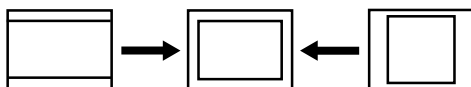
Perform this adjustment after performing H. Frequency (Free Run) Check.

1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the HPOS item with **[1]** and **[4]**.
4. Adjust the value of HPOS with **[3]** and **[6]** for the best horizontal center.
5. Press **[MUTING]** then **[ENTER]** to save into the memory.



## H. SIZE ADJUSTMENT (HSIZ)

1. Input a monoscope signal.
2. Activate the Service Adjustment Mode.
3. Select HSIZ with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the best horizontal size.
5. Press **[MUTING]** then **[ENTER]** to save into the memory.

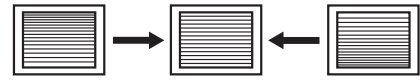


## V. LINEARITY (VLIN), V. CORRECTION (SCOR), PIN AMP (PAMP), AND HORIZONTAL TRAPEZOID (HTRP) ADJUSTMENTS

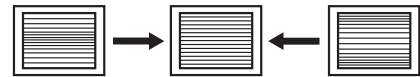
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select VLIN, SCOR, PAMP, and HTRP with **[1]** and **[4]**.

4. Adjust with **[3]** and **[6]** for the best horizontal size.
5. Press **[MUTING]** then **[ENTER]** to save into the memory.

V LINEARITY (VLIN)



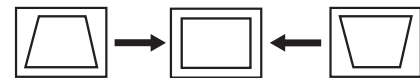
V CORRECTION (SCOR)



PIN AMP (PAMP)



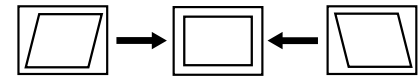
HORIZONTAL TRAPEZOID (HTRP)



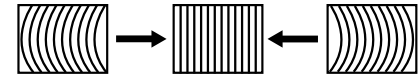
## V. ANGLE (VANG), V. BOW (VBOW), UPPER PIN (UPIN) AND LOW PIN (LPIN) ADJUSTMENTS

1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select VANG, VBOW, UPIN, and LPIN with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the best picture.
5. Press **[MUTING]** then **[ENTER]** to save into the memory.

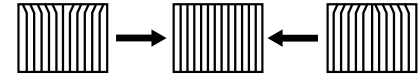
V ANGLE (VANG)



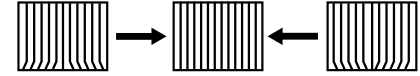
V BOW (VBOW)



UPPER PIN (UPIN)



LOW PIN (LPIN)



## SERVICE ADJUSTMENT MODE MEMORY

1. After completing all adjustments, press **[0]** then **[ENTER]**.

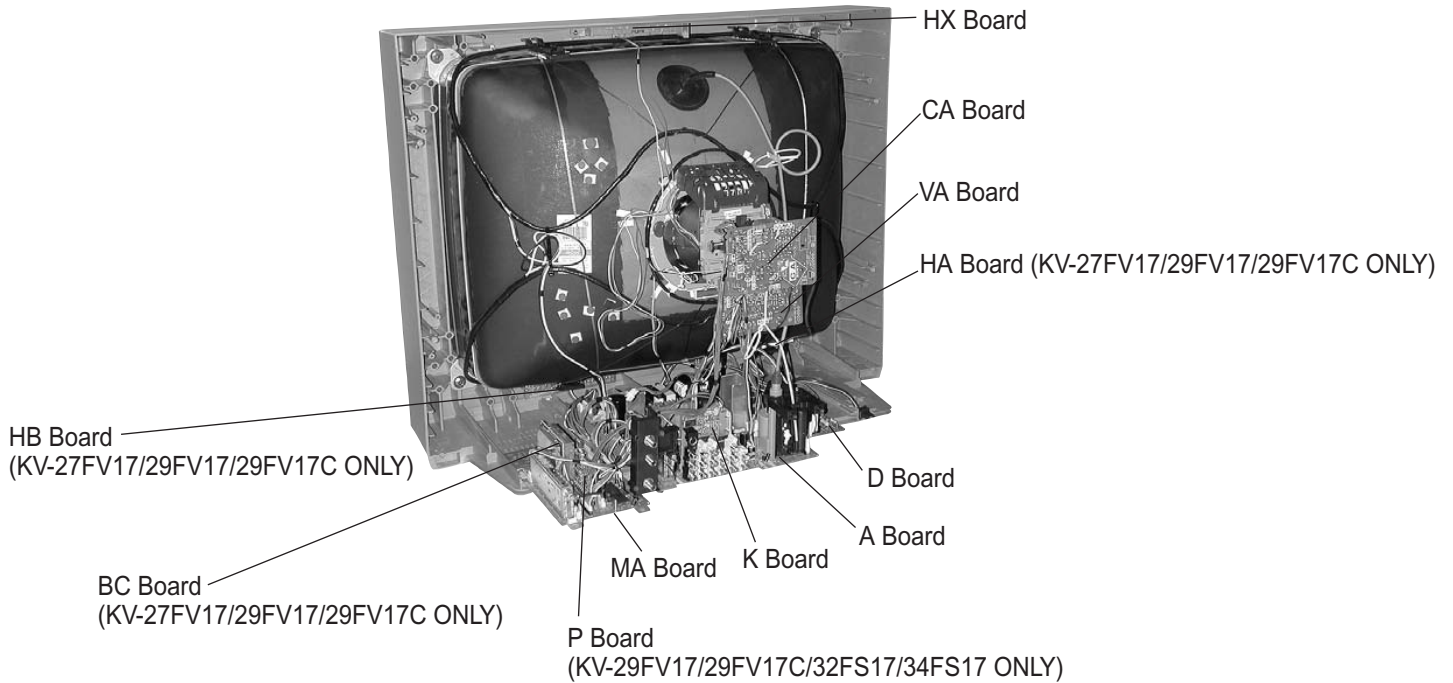
Read From Memory

| Mode    | Category | Display Item | Item Data |                |
|---------|----------|--------------|-----------|----------------|
| service | defl     | vbow         | 7         | Green          |
| ntsc    |          |              |           | <b>[0]</b>     |
| vchp    | 00000000 | 00000000     |           | Red            |
|         |          |              |           | <b>[ENTER]</b> |

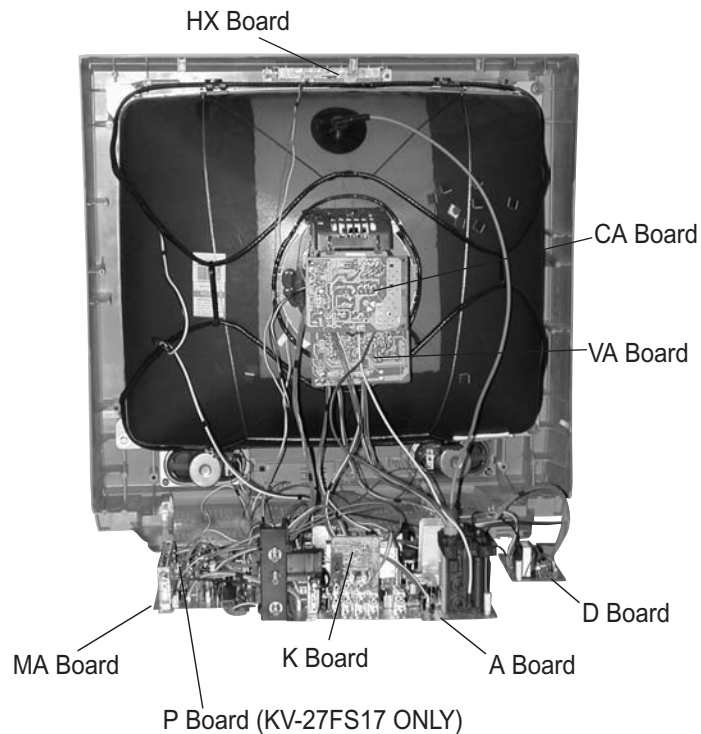
## SECTION 5: DIAGRAMS

### 5-1. CIRCUIT BOARDS LOCATION

**(KV-27FV17/29FV17/29FV17C/32FS13/32FS17/34FS13C/34FS17 ONLY)**



**(KV-27FS13/27FS17 ONLY)**



## 5-2. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM INFORMATION

All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.

All electrolytics are in 50V unless otherwise specified.

All resistors are in ohms. K=1000, M=1000k

Indication of resistance, which does not have one for rating electrical power, is as follows:


Pitch : 5mm


Rating electrical power :  $\frac{1}{4}$  W

$\frac{1}{4}$  W in resistance,  $\frac{1}{10}$  W and  $\frac{1}{8}$  W in chip resistance.

 : nonflammable resistor.

 : fusible resistor.

 : internal component.

 : panel designation and adjustment for repair.

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

Readings are taken with a color-bar signal input.

Readings are taken with a 10M digital multimeter.

Voltages are DC with respect to ground unless otherwise noted.

Voltage variations may be noted due to normal production tolerances.

All voltages are in V.


S : Measurement impossibility.



 : B+line.

 : B-line. (Actual measured value may be different).



 : signal path. (RF)

Circled numbers are waveform references.

The components identified by  in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be necessary, replace only with the value originally used.


When replacing components identified by , make the necessary adjustments as indicated. If the results do not meet the specified value, change the component identified by  and repeat the adjustment until the specified value is achieved. (Refer to Safety Related Adjustments on Page 14.)

When replacing the parts listed in the table below, it is important to perform the related adjustments.

| Part Replaced (  )   | Adjustment (  ) |
|---|--|
| DY, T505, CRT, IC501 C507, C520, C505, C509, C515, T504, T503, C551, L510, C546, C537, C547, D517, D518, D519, R560, R561, R562, R563, R565, R566, R567, R525.....A Board<br><br>IC301.....MA Board | HV HOLD-DOWN R564  |

## REFERENCE INFORMATION

### RESISTOR

: RN METAL FILM  
: RC SOLID  
: FRPD NONFLAMMABLE CARBON  
: FUSE NONFLAMMABLE FUSIBLE  
: RW NONFLAMMABLE WIREWOUND  
: RS NONFLAMMABLE METAL OXIDE  
: RB NONFLAMMABLE CEMENT  
:  ADJUSTMENT RESISTOR


### COIL


: LF-8L MICRO INDUCTOR


### CAPACITOR

: TATANTALUM  
: PS STYROL  
: PP POLYPROPYLENE  
: PT MYLAR  
: MPS METALIZED POLYESTER  
: MPP METALIZED POLYPROPYLENE  
: ALB BIPOLAR  
: ALT HIGH TEMPERATURE  
: ALR HIGH RIPPLE

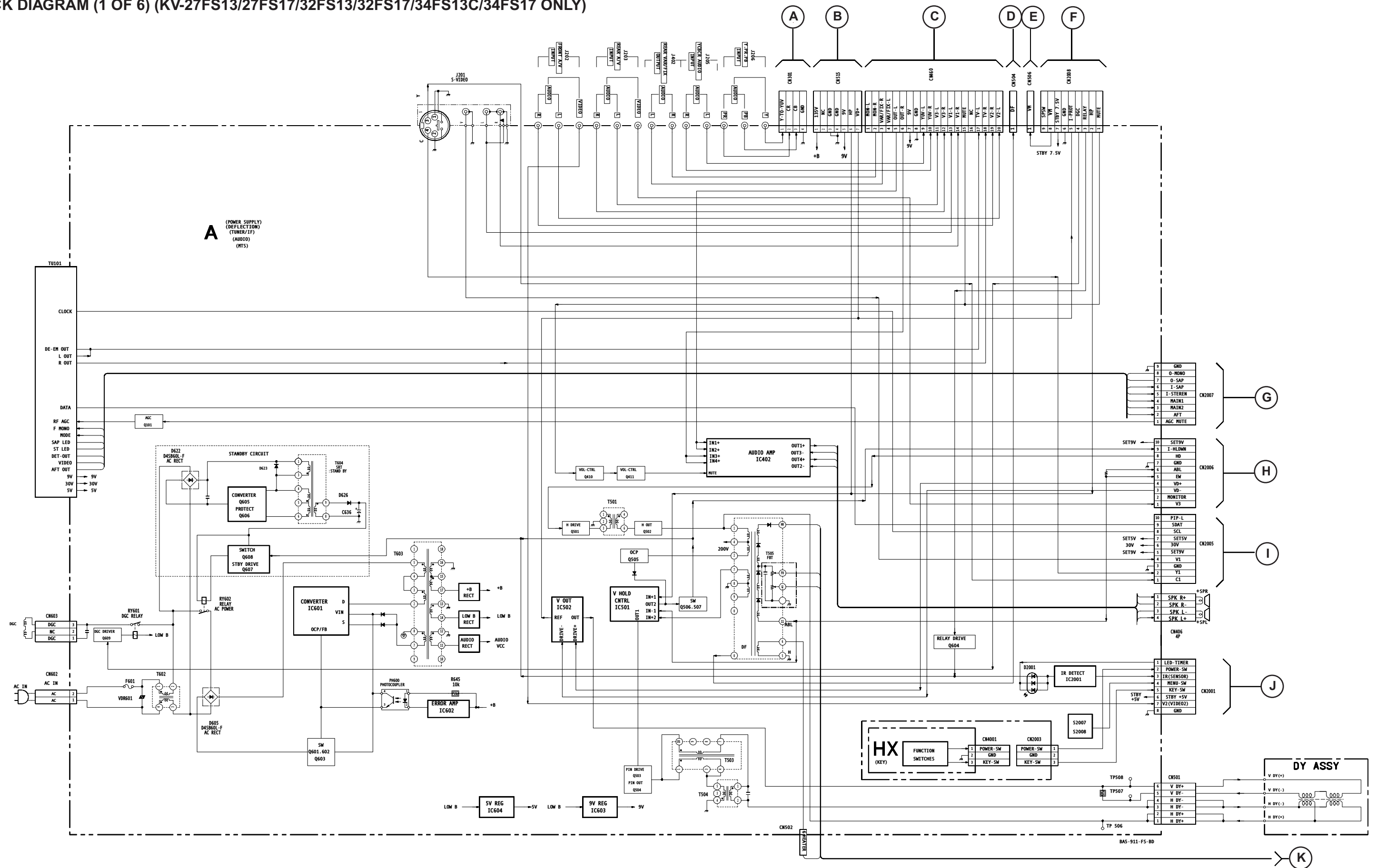
The components identified by shading and  symbol are critical for safety. Replace only with part number specified.

The symbol  indicates a fast operating fuse and is displayed on the component side of the board. Replace only with fuse of the same rating as marked.

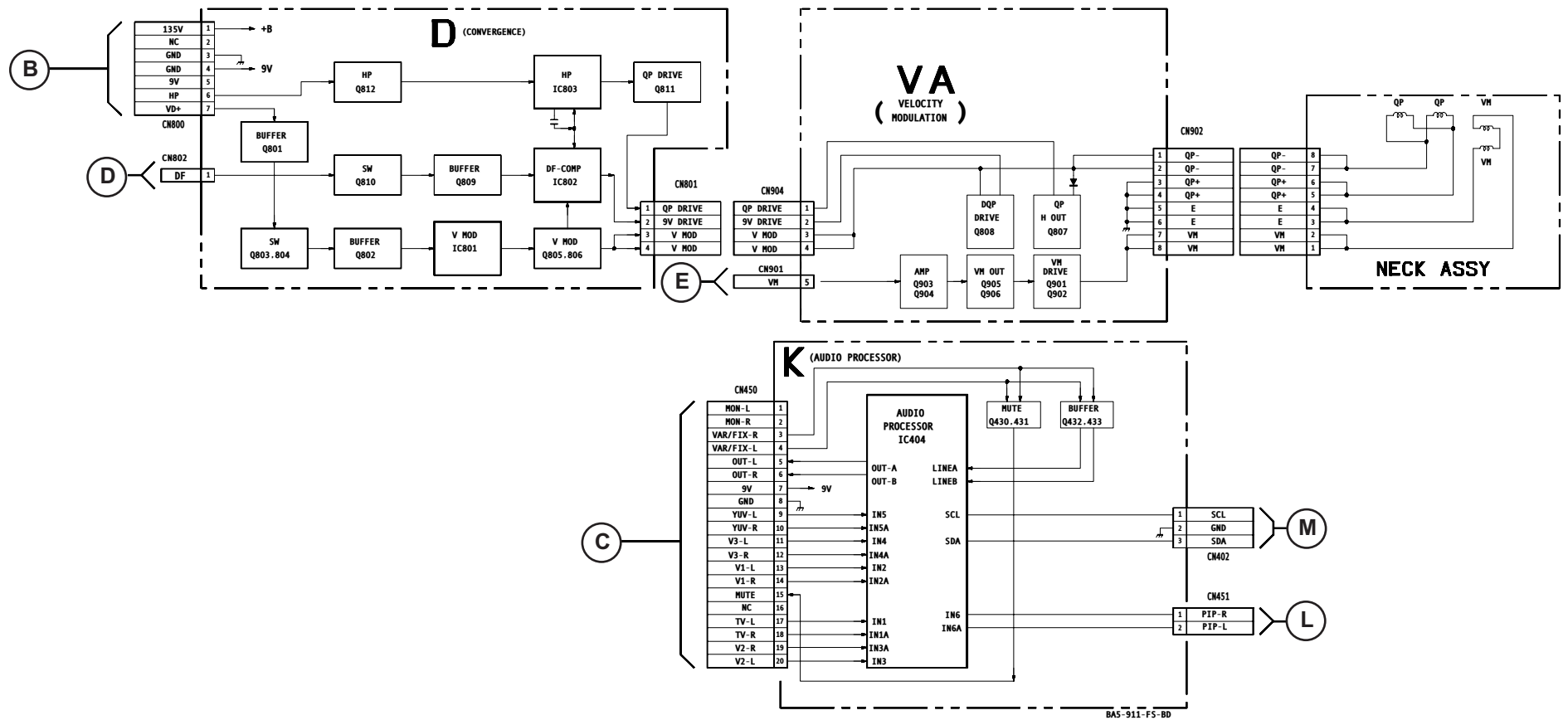
Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Le symbole  indique une fusible à action rapide. Doit être remplacé par une fusible de même valeur, comme marqué.

### BLOCK DIAGRAM (1 OF 6) (KV-27FS13/27FS17/32FS13/32FS17/34FS13C/34FS17 ONLY)

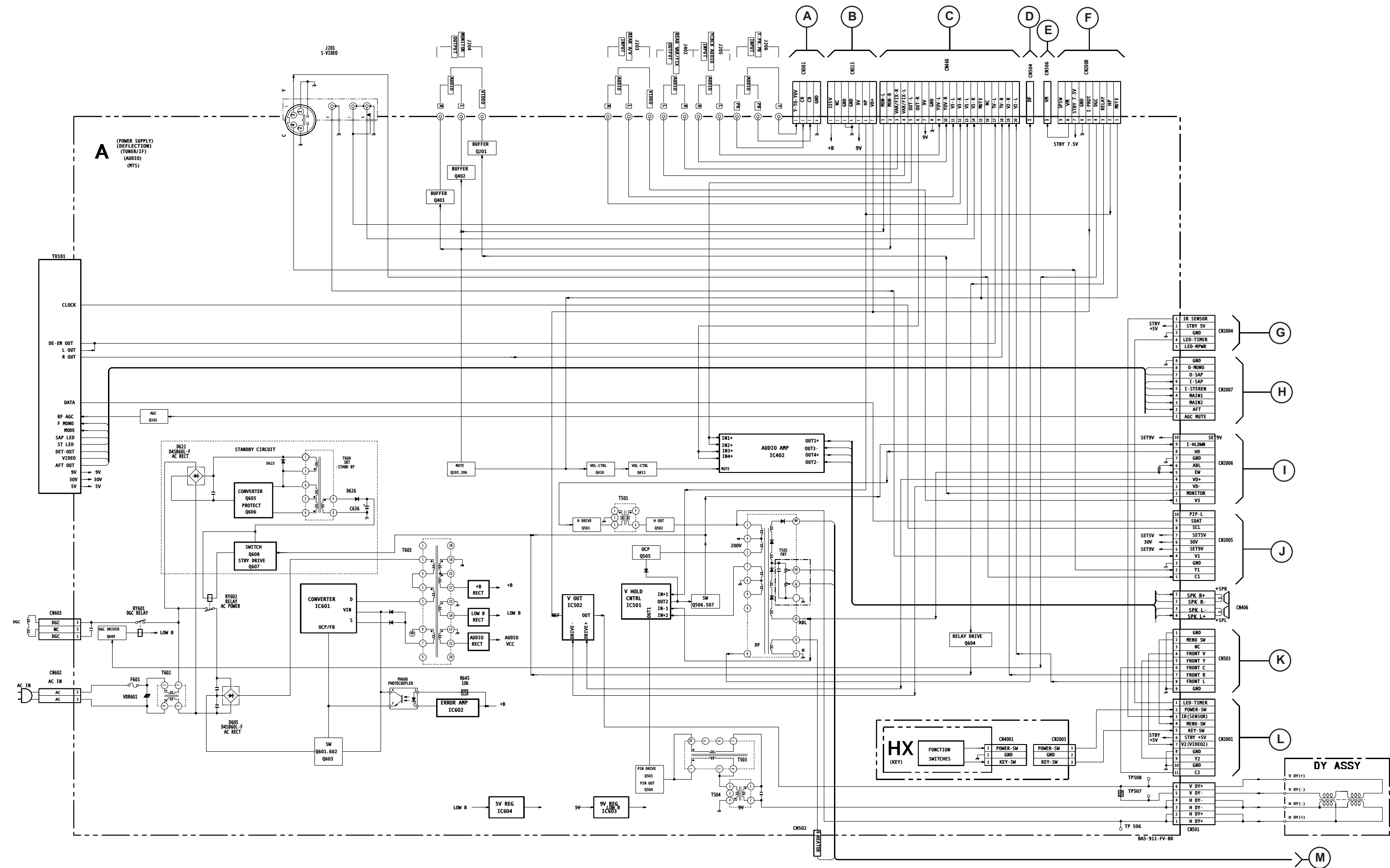


## BLOCK DIAGRAM (2 OF 6) (KV-27FS13/27FS17/32FS13/32FS17/34FS13C/34FS17 ONLY)



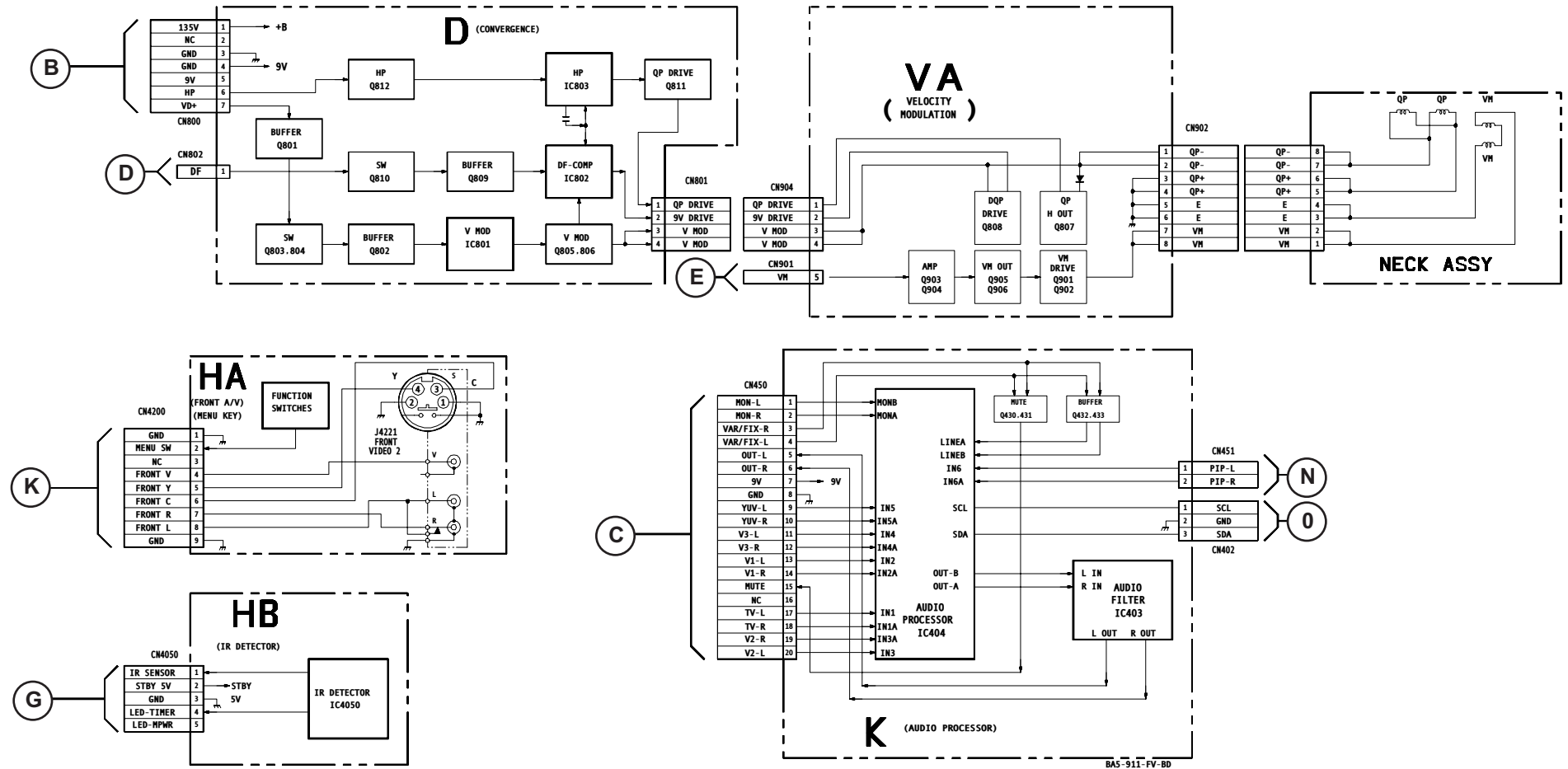






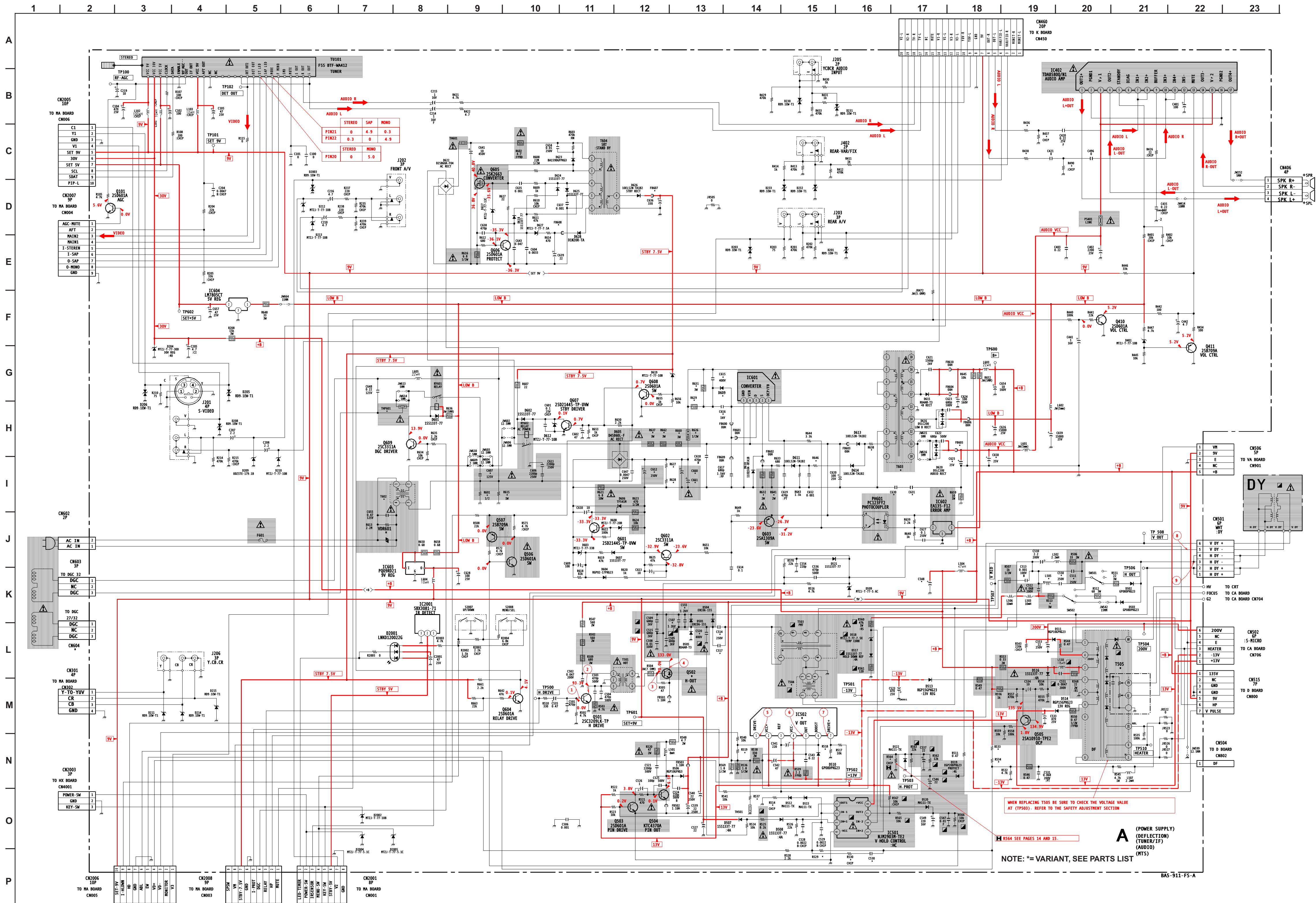


## BLOCK DIAGRAM (5 OF 6) (KV-27FV17/29FV17/29FV17C ONLY)

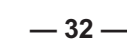




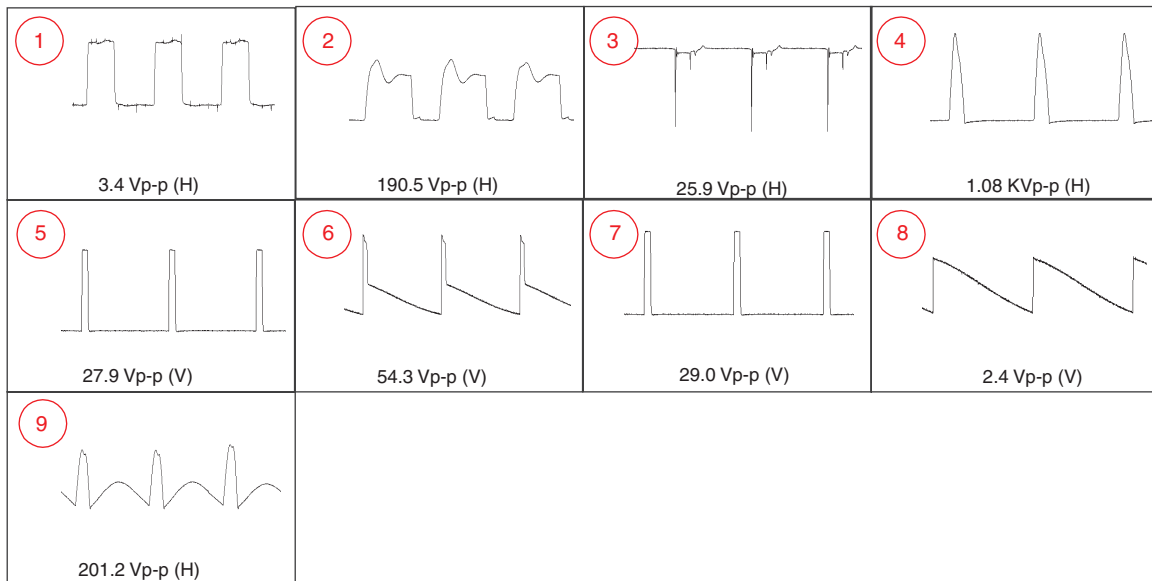
## A BOARD SCHEMATIC DIAGRAM (KV-27FS13/27FS17/32FS13/32FS17/34FS13C/34FS17 ONLY)







## A BOARD WAVEFORMS



## A BOARD IC VOLTAGE LIST

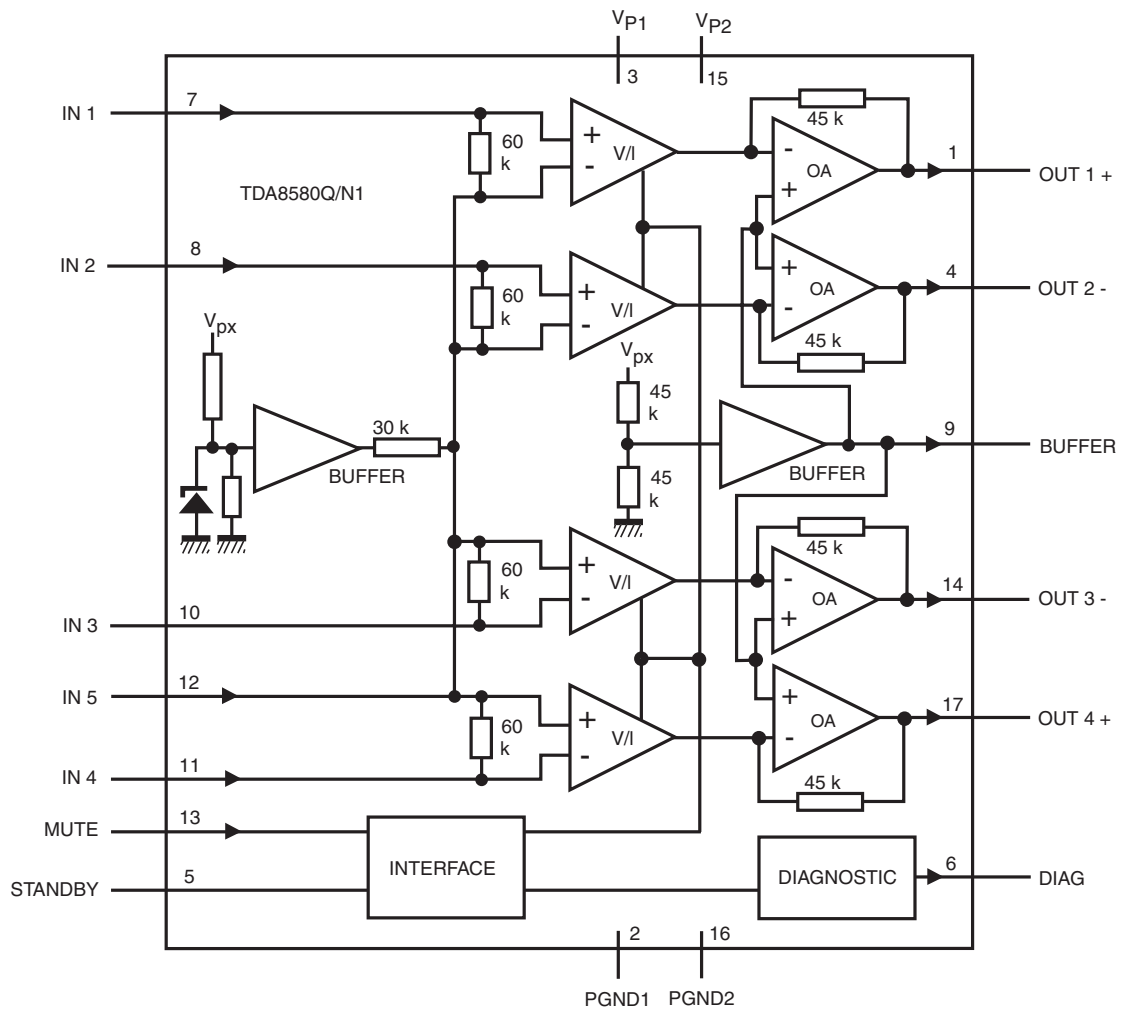
| IC402 |      | 14    | 6.8  | IC502 |       | 4     | -23.8 | IC604  |      | 2  | 30.7 | 15 | N/C |
|-------|------|-------|------|-------|-------|-------|-------|--------|------|----|------|----|-----|
| PIN   | VOLT | 15    | 14.1 | PIN   | VOLT  | 5     | -32.7 | PIN    | VOLT | 3  | 5.1  | 16 | 4.5 |
| 1     | 6.8  | 16    | GND  | 1     | 2.1   | IC602 |       | 1      | 13.3 | 4  | 4.9  | 17 | 4.7 |
| 2     | GND  | 17    | 6.8  | 2     | 14.0  | PIN   | VOLT  | 2      | 5.0  | 5  | 4.9  | 18 | 4.4 |
| 3     | 14.1 | IC501 |      | 3     | -12.6 | 1     | 135.9 | 3      | GND  | 6  | GND  | 19 | 5.0 |
| 4     | 6.8  | PIN   | VOLT | 4     | -13.9 | 2     | 123.4 | IC2001 |      | 7  | N/C  | 20 | 5.0 |
| 5     | 4.3  | 1     | 0.2  | 5     | 0.2   | 3     | GND   | PIN    | VOLT | 8  | 2.1  | 21 | 0.3 |
| 6     | N/C  | 2     | 3.7  | 6     | 14.3  | IC603 |       | 1      | 5    | 9  | 8.9  | 22 | 0.0 |
| 7     | 4.1  | 3     | 2.5  | 7     | 2.1   | PIN   | VOLT  | 2      | 5    | 10 | 4.1  | 23 | N/C |
| 8     | 4.1  | 4     | GND  | IC601 |       | I     | 13.3  | 3      | GND  | 11 | GND  | 24 | 0.0 |
| 9     | 6.8  | 5     | 9.5  | PIN   | VOLT  | O     | 8.9   | TU101  |      | 12 | N/C  | 25 | N/C |
| 10    | 4.1  | 6     | 10.1 | 1     | -31.8 | G     | GND   | PIN    | VOLT | 13 | N/C  | 26 | 4.5 |
| 11    | 4.1  | 7     | 0.1  | 2     | -32.7 | 4     | 13.3  | 1      | 8.6  | 14 | N/C  | 27 | 4.5 |
| 12    | 4.1  | 8     | 14.0 | 3     | 53.2  |       |       |        |      |    |      |    |     |
| 13    | 5.2  |       |      |       |       |       |       |        |      |    |      |    |     |

All Voltages are in V

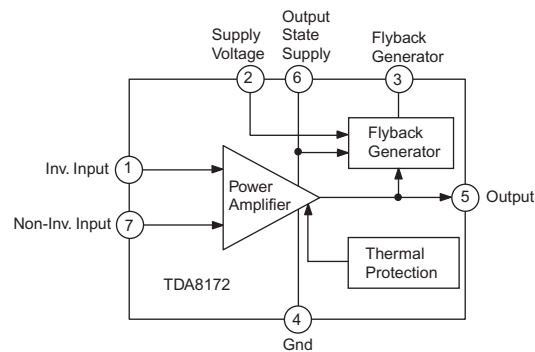
All Voltages are in V

## A BOARD IC BLOCK DIAGRAMS

## IC402 TDA8580Q/N1



## IC502 TDA8172

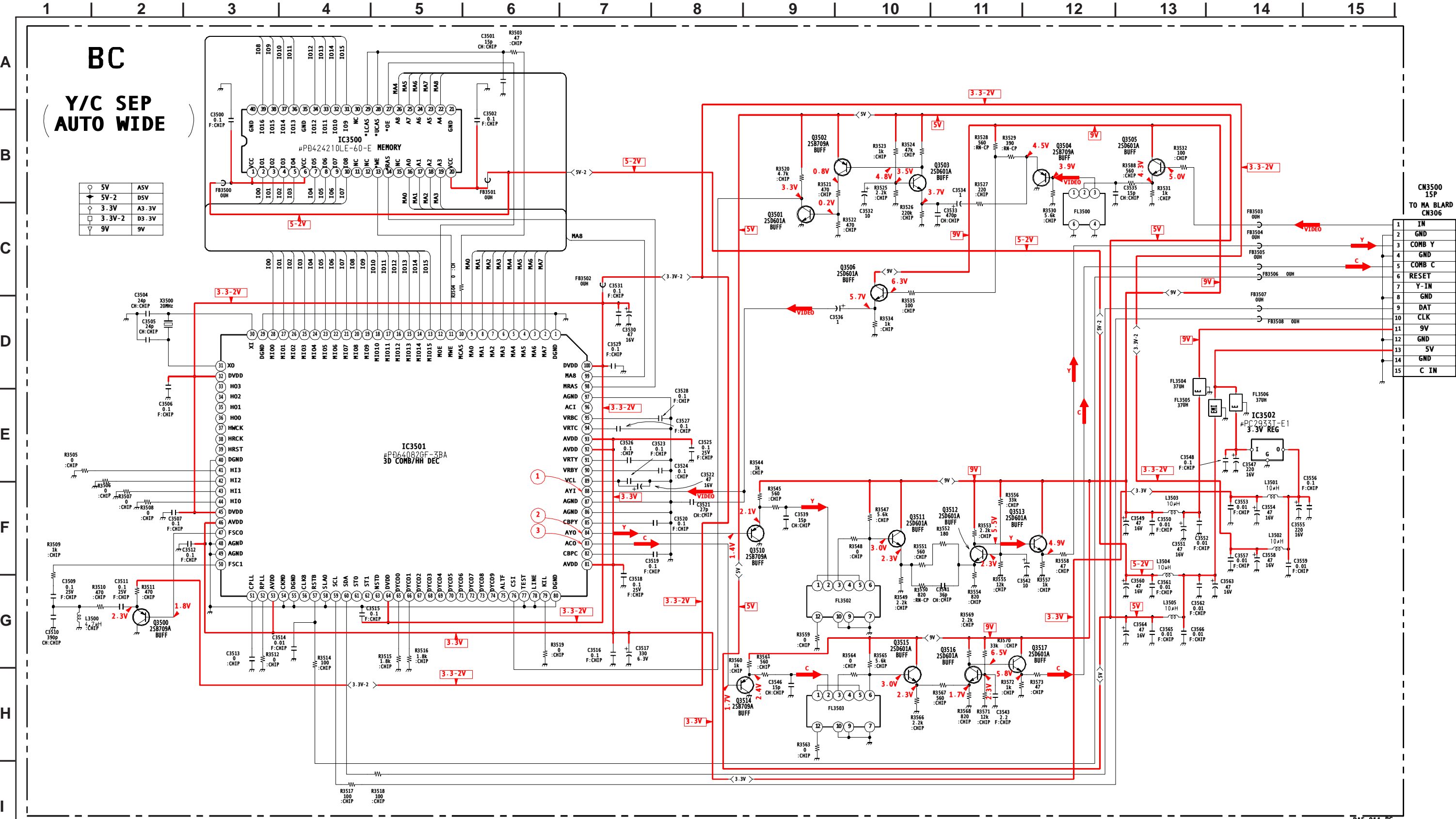






| DIODE |      | D612       | D-2  |
|-------|------|------------|------|
| D201  | C-11 | D613       | C-6  |
| D203  | C-11 | D614       | C-6  |
| D204  | B-10 | D615       | F-5  |
| D205  | A-11 | D616       | F-6  |
| D206  | A-11 | D617       | H-2  |
| D208  | A-11 | D618       | H-2  |
| D209  | C-11 | D619       | D-2  |
| D210  | B-11 | D620       | D-7  |
| D211  | C-11 | D622       | F-3  |
| D212  | B-1  | D623       | G-2  |
| D213  | B-1  | D624       | G-5  |
| D214  | D-11 | D625       | H-2  |
| D215  | C-11 | D626       | G-1  |
| D230  | D-11 | D627       | H-2  |
| D231  | D-11 | D628       | H-2  |
| D232  | E-11 | D2001      | E-2  |
| D233  | E-11 | D2002      | F-1  |
| D401  | D-8  | D2003      | B-1  |
| D501  | H-8  | D2004      | A-2  |
| D502  | G-9  | D2005      | A2   |
| D503  | G-9  | IC         |      |
| D504  | H-8  | IC402      | B-9  |
| D505  | G-7  | IC501      | D-9  |
| D506  | F-8  | IC502      | F-10 |
| D507  | E-8  | IC601      | B-5  |
| D508  | D-9  | IC602      | C-7  |
| D509  | H-5  | IC603      | D-7  |
| D510  | E-10 | IC604      | C-8  |
| D511  | G-10 | IC2001     | E-1  |
| D512  | E-9  | TRANSISTOR |      |
| D513  | F-10 | Q101       | A-9  |
| D514  | F-11 | Q410       | B-7  |
| D515  | E-9  | Q411       | D-8  |
| D516  | G-11 | Q501       | H-7  |
| D517  | F-11 | Q502       | H-7  |
| D518  | F-11 | Q503       | D-9  |
| D519  | D-10 | Q504       | E-9  |
| D520  | F-12 | Q505       | G-12 |
| D521  | I-5  | Q506       | A-6  |
| D522  | E-9  | Q507       | A-6  |
| D601  | D-2  | Q601       | B-3  |
| D602  | E-2  | Q602       | A-3  |
| D603  | B-3  | Q603       | C-6  |
| D604  | B-3  | Q604       | A-5  |
| D605  | D-4  | Q605       | G-3  |
| D606  | C-3  | Q606       | H-3  |
| D607  | B-4  | Q607       | D-2  |
| D608  | B-3  | Q608       | D-2  |
| D609  | C-4  | Q609       | A-4  |
| D610  | B-4  |            |      |
| D611  | C-6  |            |      |

BC BOARD SCHEMATIC DIAGRAM

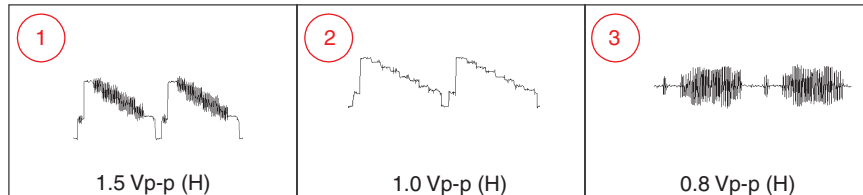


BA5-911-BC



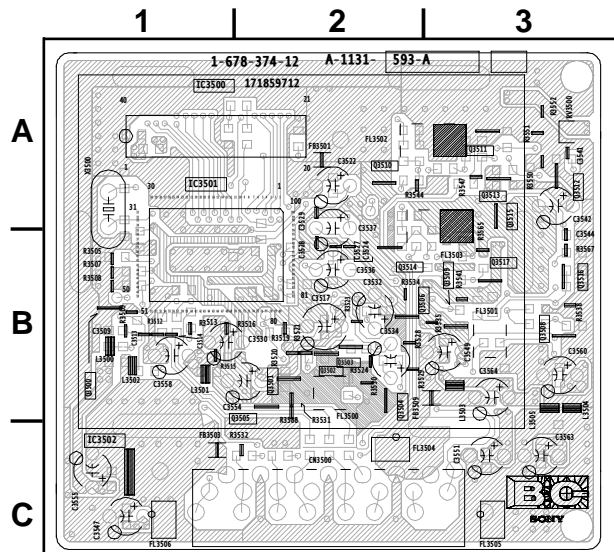
**BC BOARD IC VOLTAGE LIST**

| IC3500 |      | 29     | 1.1  | 17 | 1.1 | 47 | 1.8 | 77                    | GND  |
|--------|------|--------|------|----|-----|----|-----|-----------------------|------|
| PIN    | VOLT | 30     | N/C  | 18 | 1.1 | 48 | GND | 78                    | GND  |
| 1      | 5.0  | 31     | 0.3  | 19 | 1.0 | 49 | GND | 79                    | 0.0  |
| 2      | 0.8  | 32     | 1.1  | 20 | 0.1 | 50 | 1.5 | 80                    | GND  |
| 3      | 0.9  | 33     | 1.1  | 21 | 1.1 | 51 | 0.0 | 81                    | 3.3  |
| 4      | 0.9  | 34     | 1.1  | 22 | 1.4 | 52 | 0.0 | 82                    | 1.1  |
| 5      | 0.9  | 35     | N/C  | 23 | 0.7 | 53 | 3.3 | 83                    | 1.7  |
| 6      | 5.0  | 36     | 1.1  | 24 | 0.8 | 54 | GND | 84                    | 1.4  |
| 7      | 0.8  | 37     | 1.1  | 25 | 0.9 | 55 | GND | 85                    | 1.1  |
| 8      | 0.7  | 38     | 1.0  | 26 | 0.9 | 56 | N/C | 86                    | GND  |
| 9      | 1.4  | 39     | 0.1  | 27 | 0.9 | 57 | 3.3 | 87                    | GND  |
| 10     | 1.1  | 40     | N/C  | 28 | 0.8 | 58 | GND | 88                    | 0.9  |
| 11     | N/C  | IC3501 |      | 29 | GND | 59 | 4.8 | 89                    | 0.9  |
| 12     | N/C  | PIN    | VOLT | 30 | 1.5 | 60 | 4.8 | 90                    | 1.0  |
| 13     | 2.9  | 1      | GND  | 31 | 1.6 | 61 | N/C | 91                    | 1.6  |
| 14     | 0.5  | 2      | 1.5  | 32 | 3.3 | 62 | N/C | 92                    | 3.3  |
| 15     | N/C  | 3      | 1.5  | 33 | N/C | 63 | N/C | 93                    | 3.3  |
| 16     | 1.5  | 4      | 1.5  | 34 | N/C | 64 | 3.3 | 94                    | 3.3  |
| 17     | 1.5  | 5      | 1.5  | 35 | N/C | 65 | 0.7 | 95                    | 2.0  |
| 18     | 1.5  | 6      | 1.5  | 36 | N/C | 66 | 1.5 | 96                    | N/C  |
| 19     | 1.5  | 7      | 1.5  | 37 | N/C | 67 | N/C | 97                    | GND  |
| 20     | 5.0  | 8      | 1.5  | 38 | N/C | 68 | N/C | 98                    | 0.5  |
| 21     | N/C  | 9      | 1.5  | 39 | N/C | 69 | N/C | 99                    | 1.6  |
| 22     | 1.6  | 10     | 1.0  | 40 | GND | 70 | N/C | 100                   | 3.3  |
| 23     | 1.5  | 11     | 2.9  | 41 | 0.0 | 71 | N/C | IC3502                |      |
| 24     | 1.5  | 12     | 2.4  | 42 | 0.0 | 72 | N/C | PIN                   | VOLT |
| 25     | 1.5  | 13     | 0.3  | 43 | 0.0 | 73 | N/C | G                     | GND  |
| 26     | 1.5  | 14     | 1.1  | 44 | 0.0 | 74 | N/C | I                     | 5.0  |
| 27     | 2.4  | 15     | 1.1  | 45 | 3.3 | 75 | N/C | O                     | 3.3  |
| 28     | 1.1  | 16     | 1.1  | 46 | 3.3 | 76 | 3.3 | All Voltages are in V |      |

**BC BOARD WAVEFORMS**



### COMPONENT SIDE (KV-27FV17/29FV17/29FV17C ONLY)

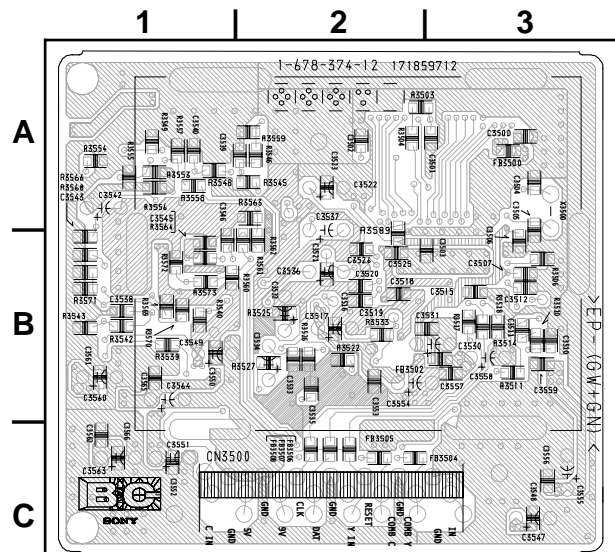


## BC BOARD LOCATOR LIST

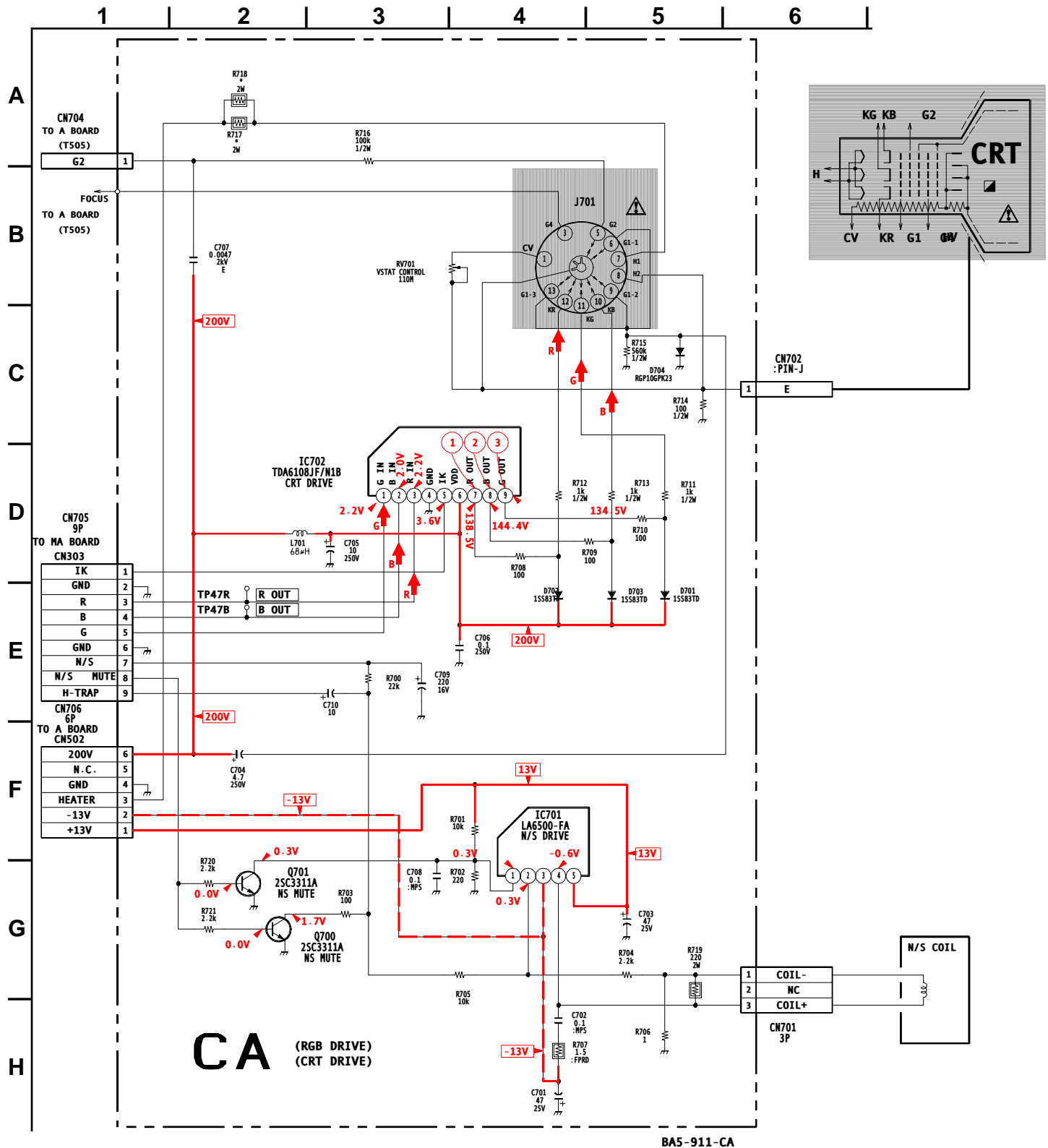
|                   |     |              |            |
|-------------------|-----|--------------|------------|
| <b>IC</b>         |     | <b>Q3506</b> | <b>B-3</b> |
| IC3500            | A-1 | Q3510        | A-2        |
| IC3501            | A-1 | Q3511        | A-3        |
| IC3502            | C-1 | Q3512        | A-3        |
| <b>TRANSISTOR</b> |     | <b>Q3513</b> | <b>A-3</b> |
| Q3500             | B-1 | Q3514        | B-2        |
| Q3501             | B-2 | Q3515        | A-3        |
| Q3502             | B-2 | Q3516        | B-3        |
| Q3503             | B-2 | Q3517        | B-3        |
| Q3504             | B-2 |              |            |
| Q3505             | C-2 |              |            |



### CONDUCTOR SIDE (KV-27FV17/29FV17/29FV17C ONLY)



## CA BOARD SCHEMATIC DIAGRAM

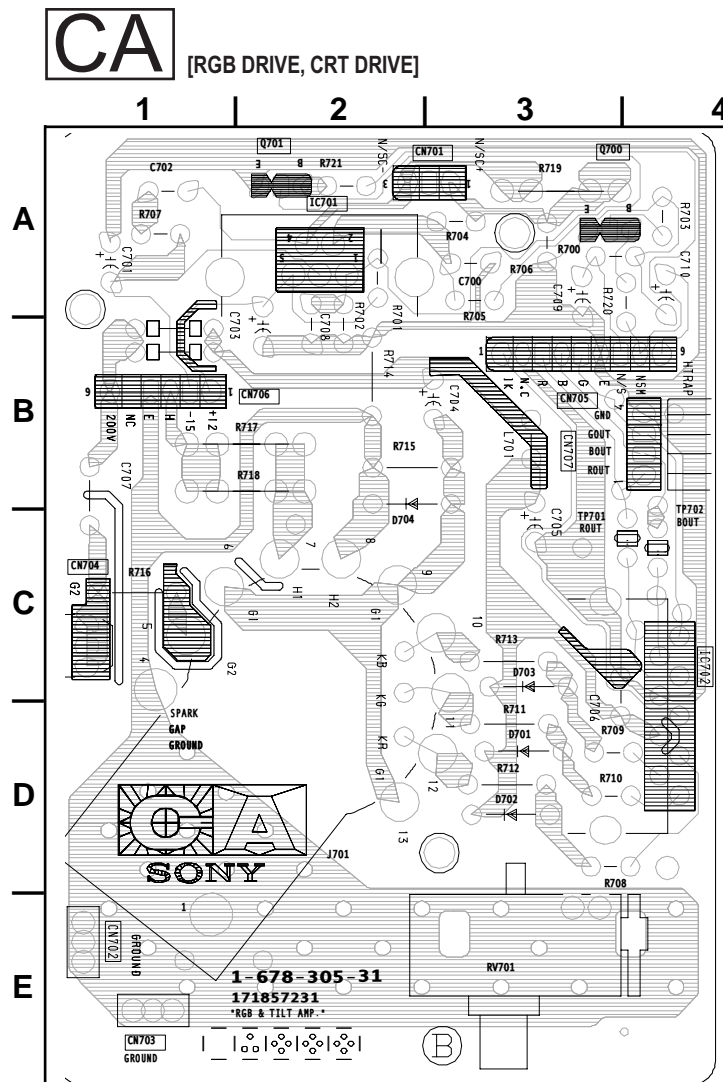
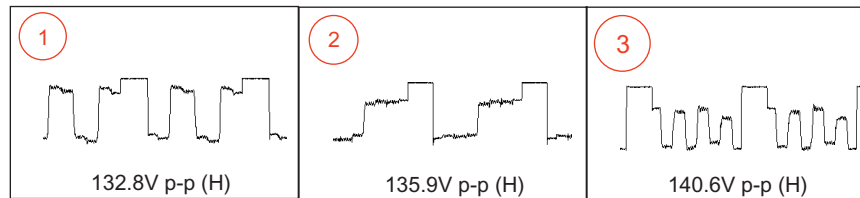


## (\*) CA BOARD VARIANT MODEL LIST

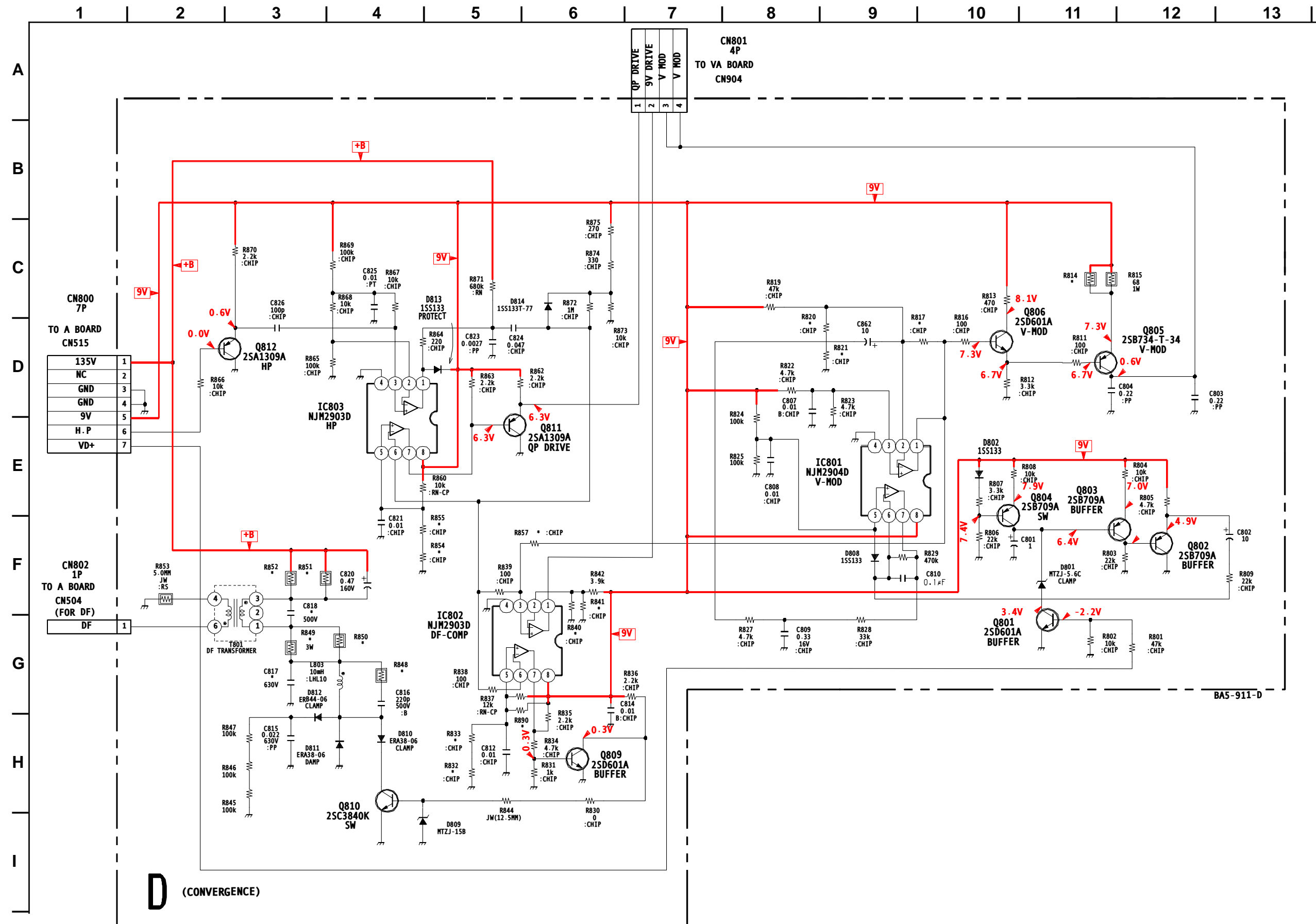
| REF NO. | LOC. | KV-27FS13<br>KV-27FS17<br>KV-27FV17<br>KV-29FV17<br>KV-29FV17C | KV-32FS13<br>KV-32FS17<br>KV-34FS13C<br>KV-34FS17 |
|---------|------|--|---|
| R717    | B-2  | 2.2 2W   | #   |
| R718    | B-2  | #  | 2.2 2W  |

NOTE: #= Not Mounted

## CA BOARD WAVEFORMS



### D BOARD SCHEMATIC DIAGRAM



## (\*) D BOARD VARIANT MODEL LIST

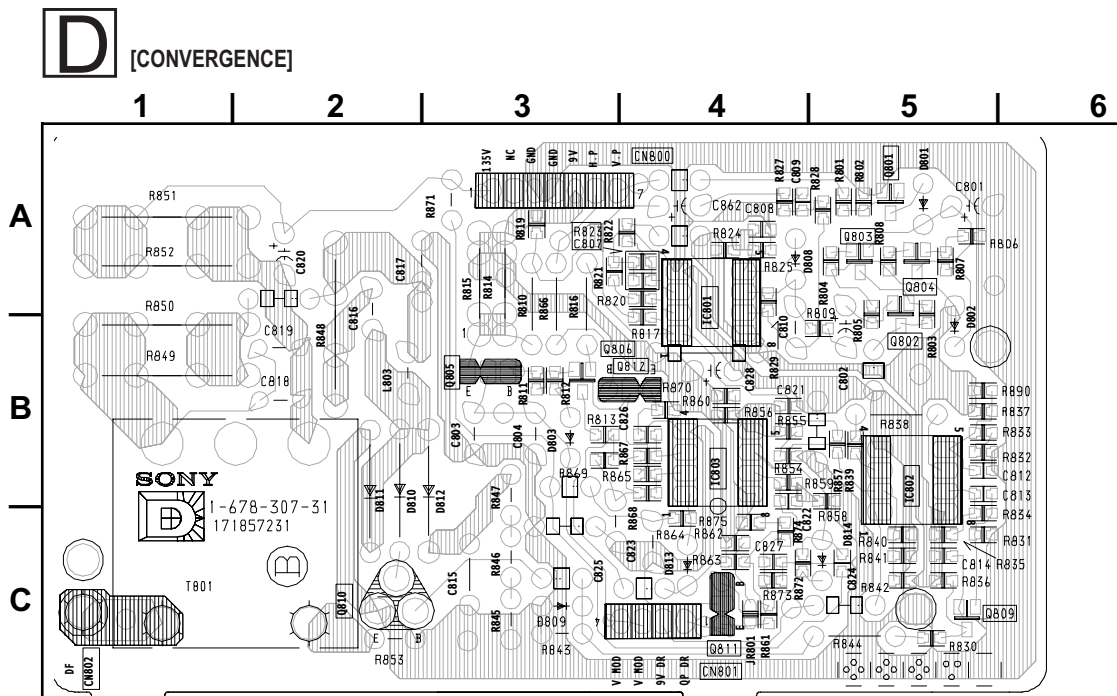
| REF NO. | LOC. | KV-27FS13<br>KV-27FS17<br>KV-27FV17<br>KV-29FV17<br>KV-29FV17C | KV-32FS13<br>KV-32FS17<br>KV-34FS13C<br>KV-34FS17 |
|---------|------|--|---|
| C817    | G-3  | 0.0039 $\mu$ F 630V  | 0.0027 $\mu$ F 630V                               |
| C818    | F-3  | 0.0015 $\mu$ F 500V  | 680pF 500V  |
| R814    | C-11 | #  | 68 1W   |
| R817    | D-10 | 56K  | 47K   |
| R820    | D-8  | 22K  | 33K   |
| R821    | D-9  | 15K  | 3.3K  |
| R832    | H-5  | 5.6K   | 3.3K  |
| R833    | H-5  | 33K  | 39K   |
| R840    | G-6  | 68K  | #   |
| R841    | F-6  | 6.8K   | 10K   |
| R848    | C-11 | 15K 1W   | 2.2K 2W   |
| R849    | G-3  | 3.3K 3W  | 8.2K 3W   |
| R850    | G-4  | #  | 8.2K 3W   |
| R851    | F-3  | 2.2K 2W  | 6.8K 3W   |
| R852    | F-3  | #  | 6.8K 3W   |
| R854    | F-5  | 6.8K   | 5.6K  |
| R855    | F-5  | 47K  | 56K   |
| R857    | F-6  | #  | 33K   |
| R890    | H-5  | #  | 100K  |

NOTE: # = Not Mounted

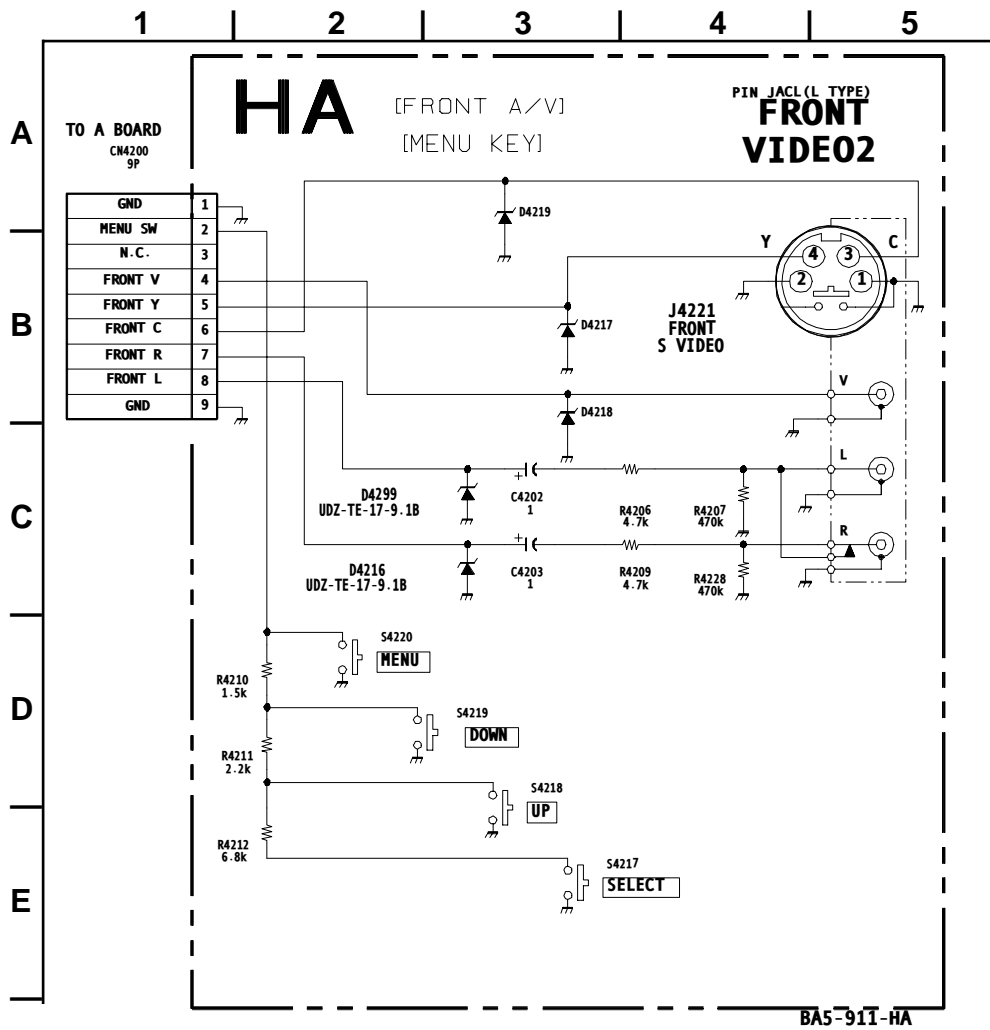
## D BOARD IC VOLTAGE LIST

| IC801 |      | IC802 |      | IC803 |      |
|-------|------|-------|------|-------|------|
| PIN   | VOLT | PIN   | VOLT | PIN   | VOLT |
| 1     | 7.3  | 1     | 6.8  | 1     | 2.3  |
| 2     | 4.4  | 2     | 5.7  | 2     | 4.3  |
| 3     | 4.5  | 3     | 0.0  | 3     | 4.7  |
| 4     | GND  | 4     | GND  | 4     | GND  |
| 5     | 4.5  | 5     | 6.8  | 5     | 7.6  |
| 6     | 4.5  | 6     | 6.7  | 6     | 6.7  |
| 7     | 4.5  | 7     | 3.2  | 7     | 6.0  |
| 8     | 9.0  | 8     | 9.0  | 8     | 9.0  |

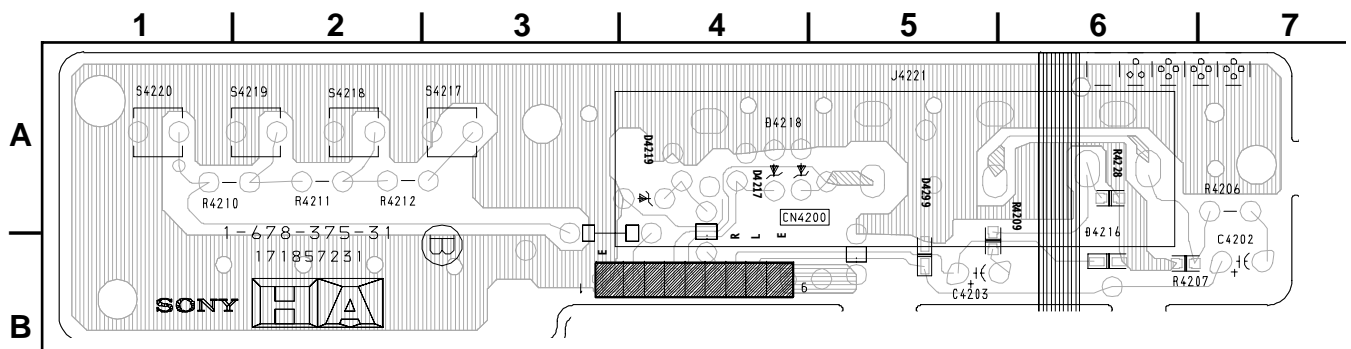
All Voltages are in V



## HA BOARD SCHEMATIC DIAGRAM (KV-27FV17/29FV17/29FV17C ONLY)

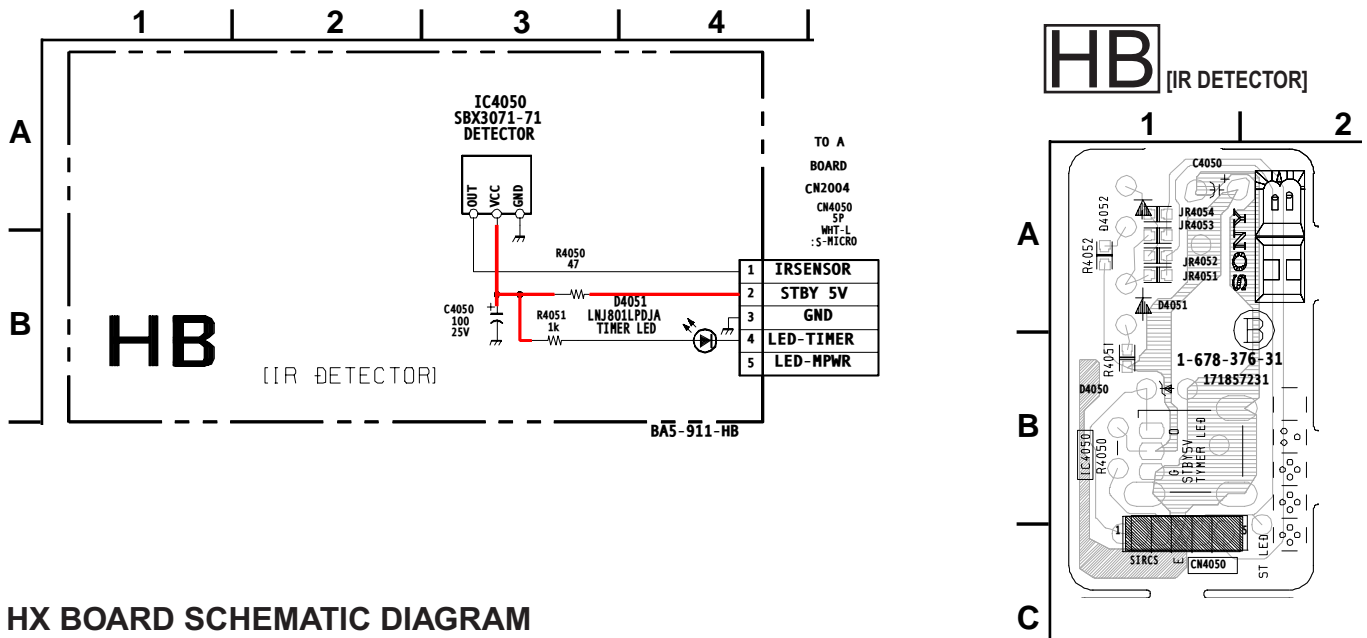


**HA** [FRONT/AV, MENU KEY]

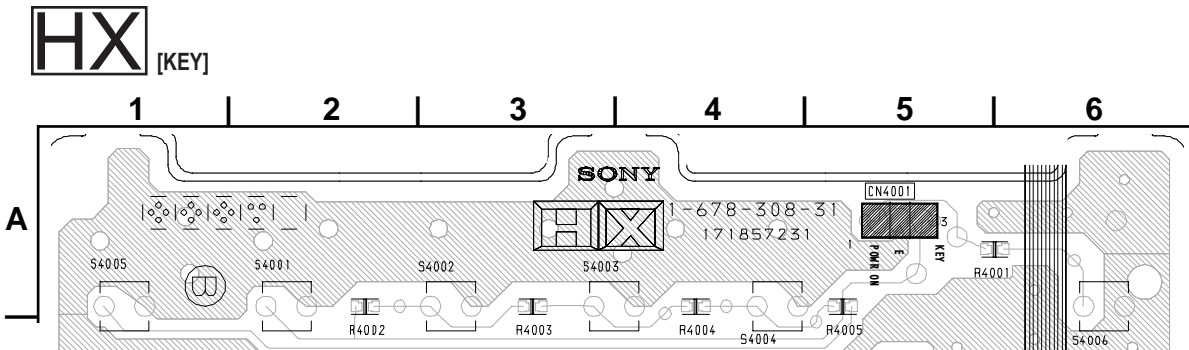
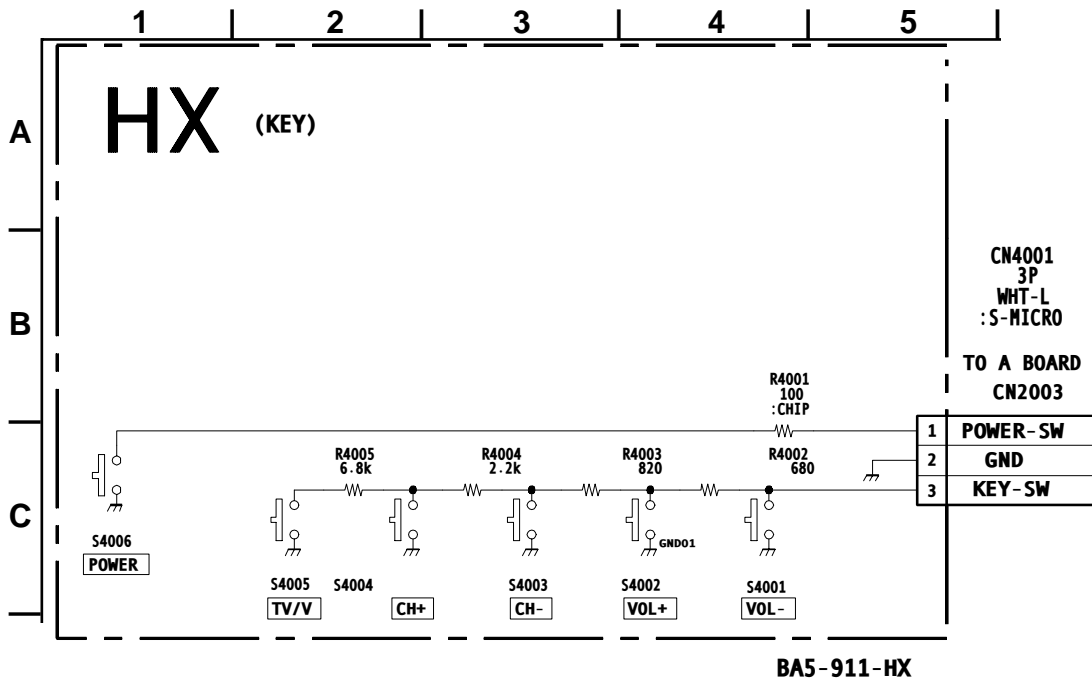




## HB BOARD SCHEMATIC DIAGRAM (KV-27FV17/9FV17/29FV17C ONLY)

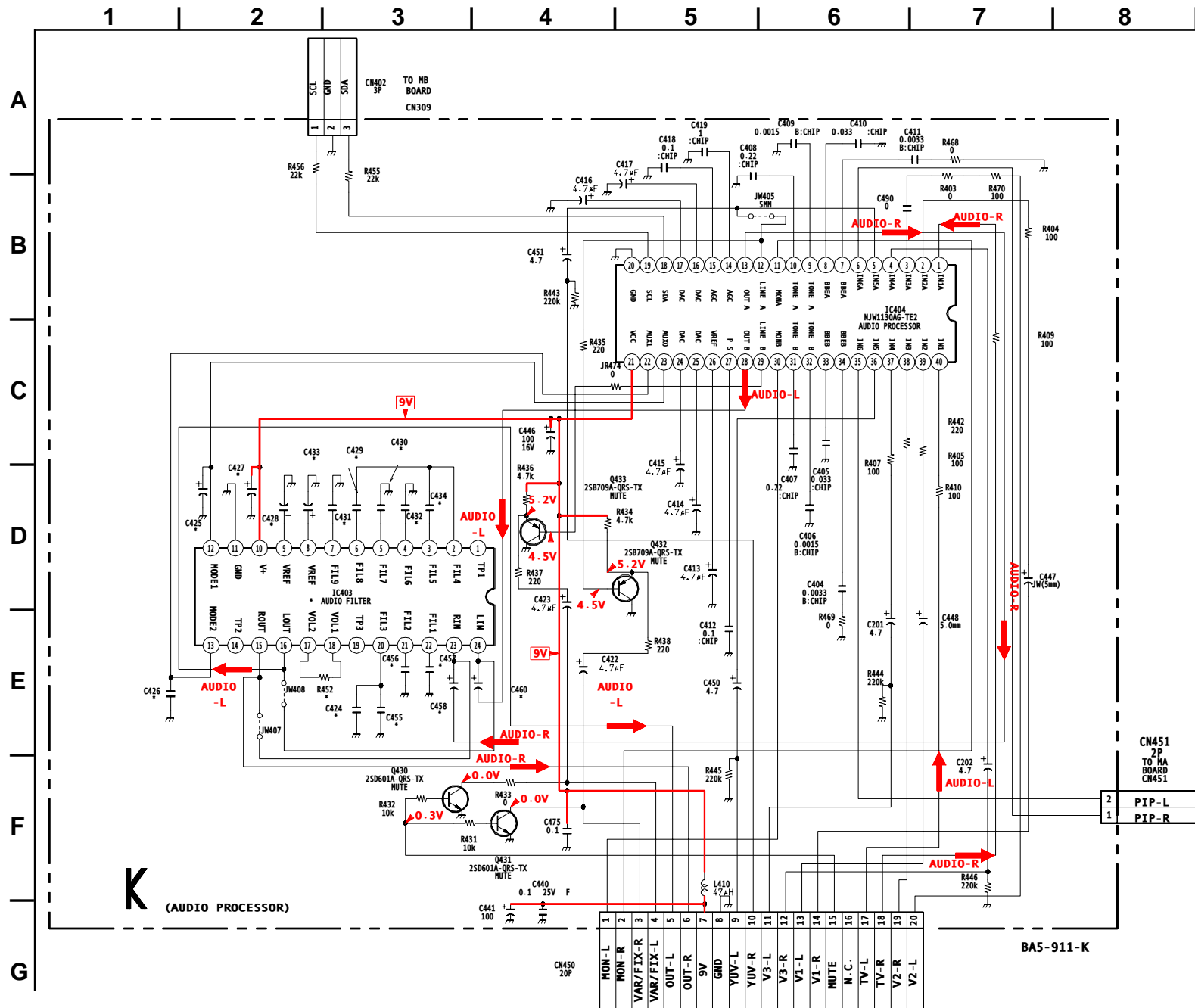


## HX BOARD SCHEMATIC DIAGRAM



# K BOARD SCHEMATIC DIAGRAM

KV-27FS13/ 27FS17/ 27FV17/ 29FV17/ 29FV17C/ 32FS13/ 32FS17/ 34FS13C/ 34FS17



**K BOARD IC VOLTAGE LIST**

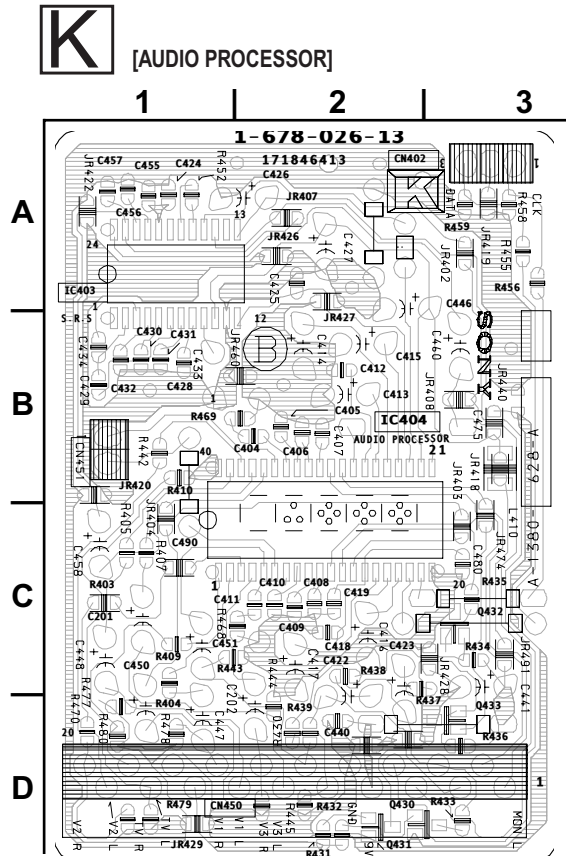
| IC403 |      | 16    | 4.5  | 7  | 4.7 | 24 | 1.3 |
|-------|------|-------|------|----|-----|----|-----|
| PIN   | VOLT | 17    | 4.5  | 8  | 4.5 | 25 | 1.3 |
| 1     | N/C  | 18    | 4.5  | 9  | 4.5 | 26 | 4.4 |
| 2     | 4.5  | 19    | N/C  | 10 | 4.5 | 27 | 3.9 |
| 3     | 4.5  | 20    | 4.5  | 11 | 4.5 | 28 | 4.5 |
| 4     | 4.5  | 21    | 4.5  | 12 | 4.5 | 29 | 4.5 |
| 5     | 4.5  | 22    | 4.5  | 13 | 4.5 | 30 | 4.5 |
| 6     | 4.5  | 23    | 4.5  | 14 | 1.0 | 31 | 4.5 |
| 7     | 4.5  | 24    | 4.5  | 15 | 4.5 | 32 | 4.5 |
| 8     | 4.5  | IC404 |      | 16 | 0.9 | 33 | 4.5 |
| 9     | 4.5  | PIN   | VOLT | 17 | 0.9 | 34 | 4.5 |
| 10    | 9.0  | 1     | 4.5  | 18 | 4.8 | 35 | 4.5 |
| 11    | GND  | 2     | 4.5  | 19 | 4.9 | 36 | 4.5 |
| 12    | 0.0  | 3     | 4.5  | 20 | GND | 37 | 4.5 |
| 13    | 0.0  | 4     | 4.5  | 21 | 8.9 | 38 | 4.5 |
| 14    | N/C  | 5     | 4.5  | 22 | 0.0 | 39 | 4.5 |
| 15    | 4.5  | 6     | 4.5  | 23 | 0.0 | 40 | 4.5 |

All voltages are in V

**(\*) K BOARD VARIANT MODEL LIST**

| REF NO. | LOC. | KV-27FS13<br>KV-27FS17<br>KV-32FS13<br>KV-32FS17<br>KV-34FS13C<br>KV-34FS17 | KV-27FV17<br>KV-29FV17<br>KV-29FV17C |
|---------|------|---|--------------------------------------|
| C424    | E-3  | #   | 0.47 $\mu$ F 25V                     |
| C425    | D-2  | #   | 1 $\mu$ F 16V                        |
| C426    | E-2  | #   | 1 $\mu$ F                            |
| C427    | D-1  | #   | 100 $\mu$ F                          |
| C428    | D-1  | #   | 100 $\mu$ F                          |
| C429    | C-3  | #   | 0.0047 $\mu$ F                       |
| C430    | D-3  | #   | 0.22 $\mu$ F 25V                     |
| C431    | D-3  | #   | 0.1 $\mu$ F 25V                      |
| C432    | D-3  | #   | 0.01 $\mu$ F                         |
| C433    | D-3  | #   | 1 $\mu$ F 16V                        |
| C434    | D-3  | #   | 0.1 $\mu$ F 25V                      |
| C455    | E-3  | #   | 0.47 $\mu$ F 25V                     |
| C456    | E-3  | #   | 0.01 $\mu$ F                         |
| C457    | E-4  | #   | 0.033 $\mu$ F                        |
| C458    | E-3  | #   | 4.7 $\mu$ F                          |
| C460    | E-4  | #   | 4.7 $\mu$ F                          |
| IC403   | D-2  | #   | NJM2198-TE2                          |
| R452    | E-2  | #   | 10K                                  |

NOTE: # = Not Mounted





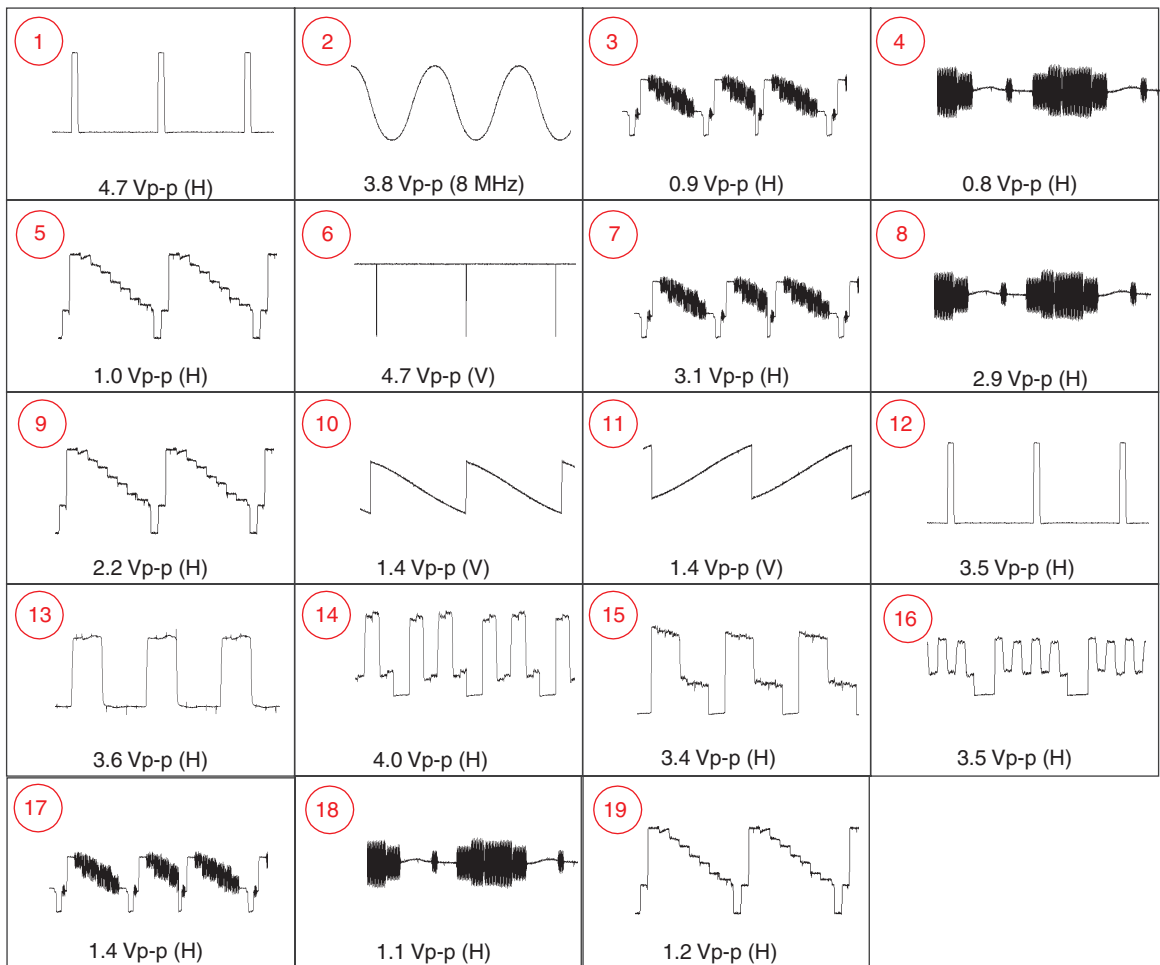




## MA BOARD IC VOLTAGE LIST

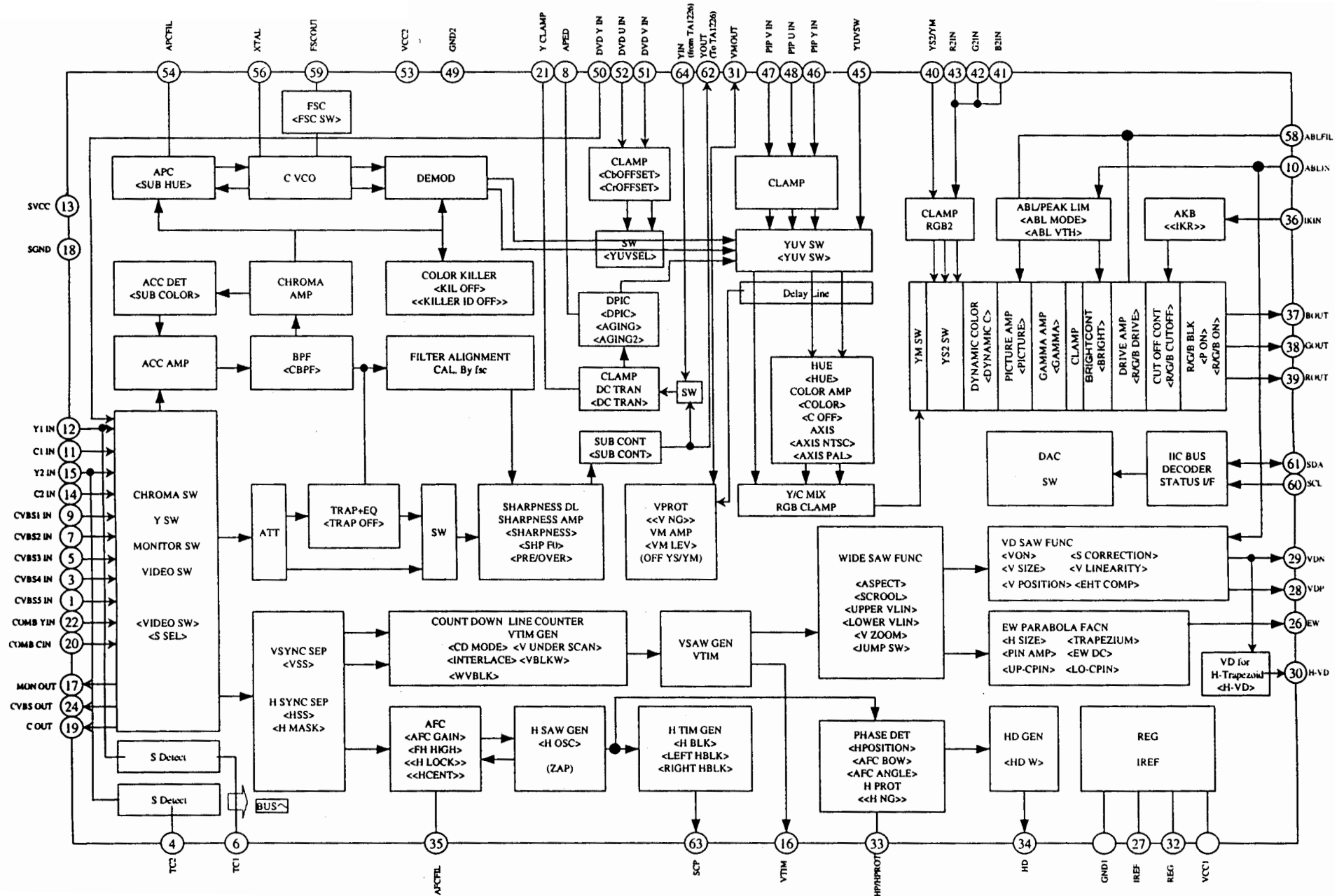
| IC001 |      | 23 | N/C | 47    | 4.8  | 5     | 5.0  | 9  | N/C | 33 | 3.6 | 57    | N/C  | 15    | 5.0  | 17                    | GND |
|-------|------|----|-----|-------|------|-------|------|----|-----|----|-----|-------|------|-------|------|-----------------------|-----|
| PIN   | VOLT | 24 | 5.0 | 48    | 0.1  | 6     | GND  | 10 | N/C | 34 | 2.3 | 58    | 7.2  | 16    | 0.0  | 18                    | N/C |
| 1     | 0.5  | 25 | 2.1 | 49    | 0.1  | 7     | GND  | 11 | 0.0 | 35 | 2.3 | 59    | 4.8  | 17    | 2.5  | 19                    | N/C |
| 2     | 4.8  | 26 | N/C | 50    | 5.0  | 8     | N/C  | 12 | N/C | 36 | 3.9 | 60    | 4.8  | 18    | 3.2  | 20                    | 2.0 |
| 3     | N/C  | 27 | 0.3 | 51    | 5.0  | IC003 |      | 13 | 8.9 | 37 | 1.9 | 61    | 4.8  | 19    | 1.9  | 21                    | 0.3 |
| 4     | 5.0  | 28 | 2.2 | 52    | N/C  | PIN   | VOLT | 14 | N/C | 38 | 1.9 | 62    | N/C  | 20    | 2.4  | 22                    | 4.0 |
| 5     | 0.0  | 29 | GND | 53    | 1.0  | 1     | GND  | 15 | N/C | 39 | 2.0 | 63    | N/C  | TU150 |      | All Voltages are in V |     |
| 6     | 0.0  | 30 | 2.2 | 54    | 0.1  | 2     | GND  | 16 | 4.8 | 40 | 0.0 | 64    | N/C  | PIN   | VOLT |                       |     |
| 7     | 2.4  | 31 | 2.3 | 55    | N/C  | 3     | GND  | 17 | 4.4 | 41 | 4.6 | IC302 |      | 1     | 9.0  |                       |     |
| 8     | 4.4  | 32 | GND | 56    | 1.0  | 4     | GND  | 18 | GND | 42 | 4.6 | PIN   | VOLT | 2     | 3.0  |                       |     |
| 9     | N/C  | 33 | 5.0 | 57    | N/C  | 5     | 4.8  | 19 | N/C | 43 | 4.6 | 1     | 5.0  | 3     | 5.0  |                       |     |
| 10    | N/C  | 34 | 2.5 | 58    | 0.1  | 6     | 4.8  | 20 | 6.4 | 44 | 8.9 | 2     | 1.4  | 4     | 4.8  |                       |     |
| 11    | 0.1  | 35 | 2.5 | 59    | N/C  | 7     | GND  | 21 | 3.9 | 45 | 0.2 | 3     | 3.2  | 5     | 4.8  |                       |     |
| 12    | N/C  | 36 | 5.0 | 60    | N/C  | 8     | 5.0  | 22 | 5.6 | 46 | 4.3 | 4     | 2.4  | 6     | 5.1  |                       |     |
| 13    | 0.5  | 37 | 3.1 | 61    | 0.1  | IC301 |      | 23 | 8.9 | 47 | 5.2 | 5     | 1.9  | 7     | N/C  |                       |     |
| 14    | N/C  | 38 | 5.0 | 62    | 0.1  | PIN   | VOLT | 24 | 5.7 | 48 | 5.2 | 6     | 5.0  | 8     | N/C  |                       |     |
| 15    | 0.1  | 39 | N/C | 63    | 0.1  | 1     | 5.9  | 25 | GND | 49 | GND | 7     | 0.0  | 9     | N/C  |                       |     |
| 16    | 0.1  | 40 | N/C | 64    | 0.1  | 2     | 5.2  | 26 | 3.5 | 50 | 4.8 | 8     | 5.0  | 10    | N/C  |                       |     |
| 17    | 0.0  | 41 | N/C | IC002 |      | 3     | N/C  | 27 | 2.4 | 51 | 5.2 | 9     | 4.9  | 11    | 7.5  |                       |     |
| 18    | 0.1  | 42 | 4.8 | PIN   | VOLT | 4     | 5.0  | 28 | 3.5 | 52 | 5.2 | 10    | 4.9  | 12    | N/C  |                       |     |
| 19    | 4.3  | 43 | 4.8 | 1     | GND  | 5     | 4.8  | 29 | 3.5 | 53 | 9.0 | 11    | 0.0  | 13    | 9.0  |                       |     |
| 20    | 0.1  | 44 | N/C | 2     | 5.0  | 6     | 5.0  | 30 | 5.9 | 54 | 5.3 | 12    | 0.0  | 14    | 5.3  |                       |     |
| 21    | N/C  | 45 | 4.8 | 3     | 4.9  | 7     | 4.8  | 31 | 5.5 | 55 | N/C | 13    | 2.5  | 15    | GND  |                       |     |
| 22    | 5.0  | 46 | N/C | 4     | 7.2  | 8     | 3.4  | 32 | 7.6 | 56 | 1.7 | 14    | 2.1  | 16    | N/C  |                       |     |

## MA BOARD WAVEFORMS

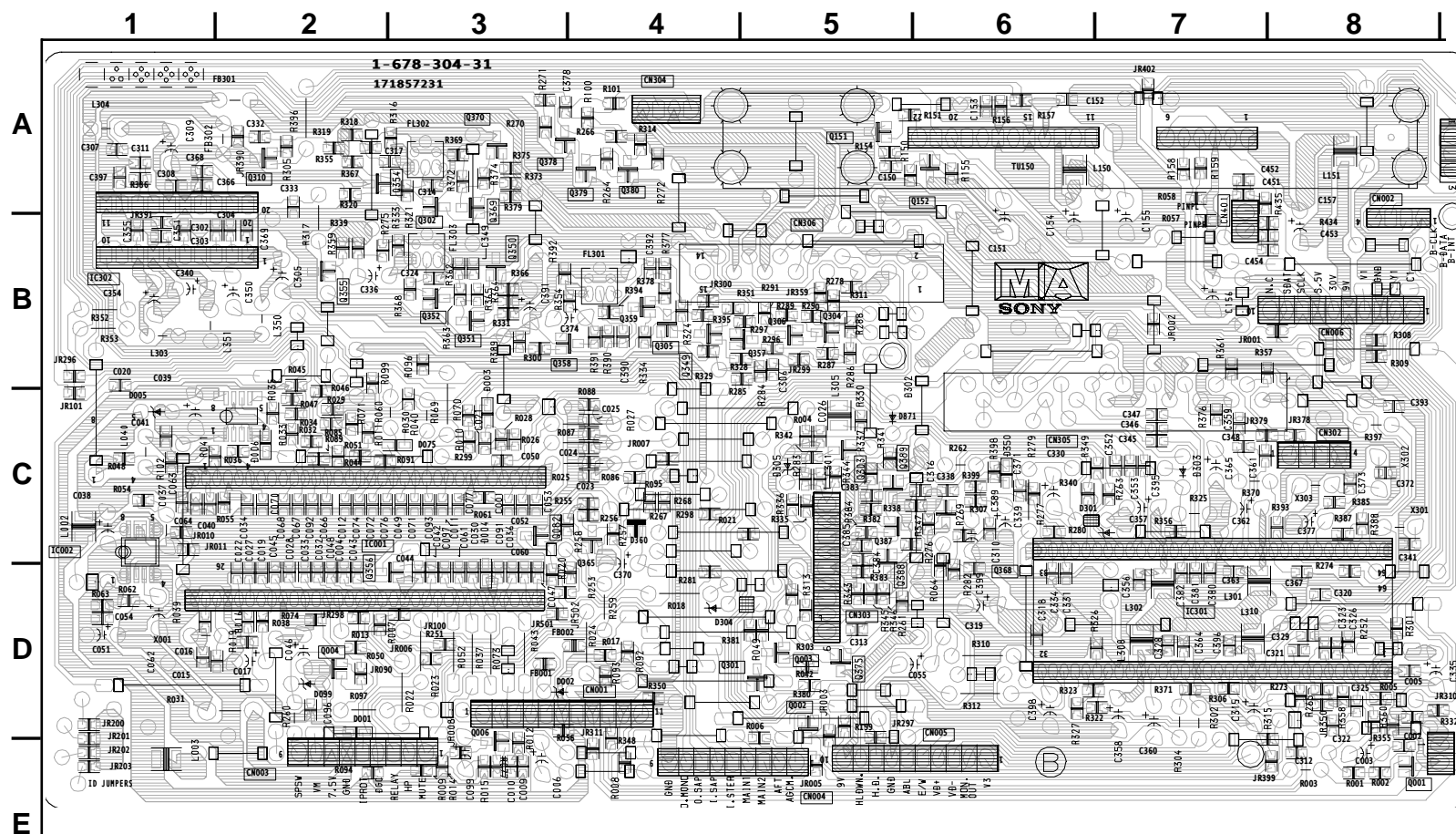


## MA BOARD IC BLOCK DIAGRAM

## IC301 CXA2154AS



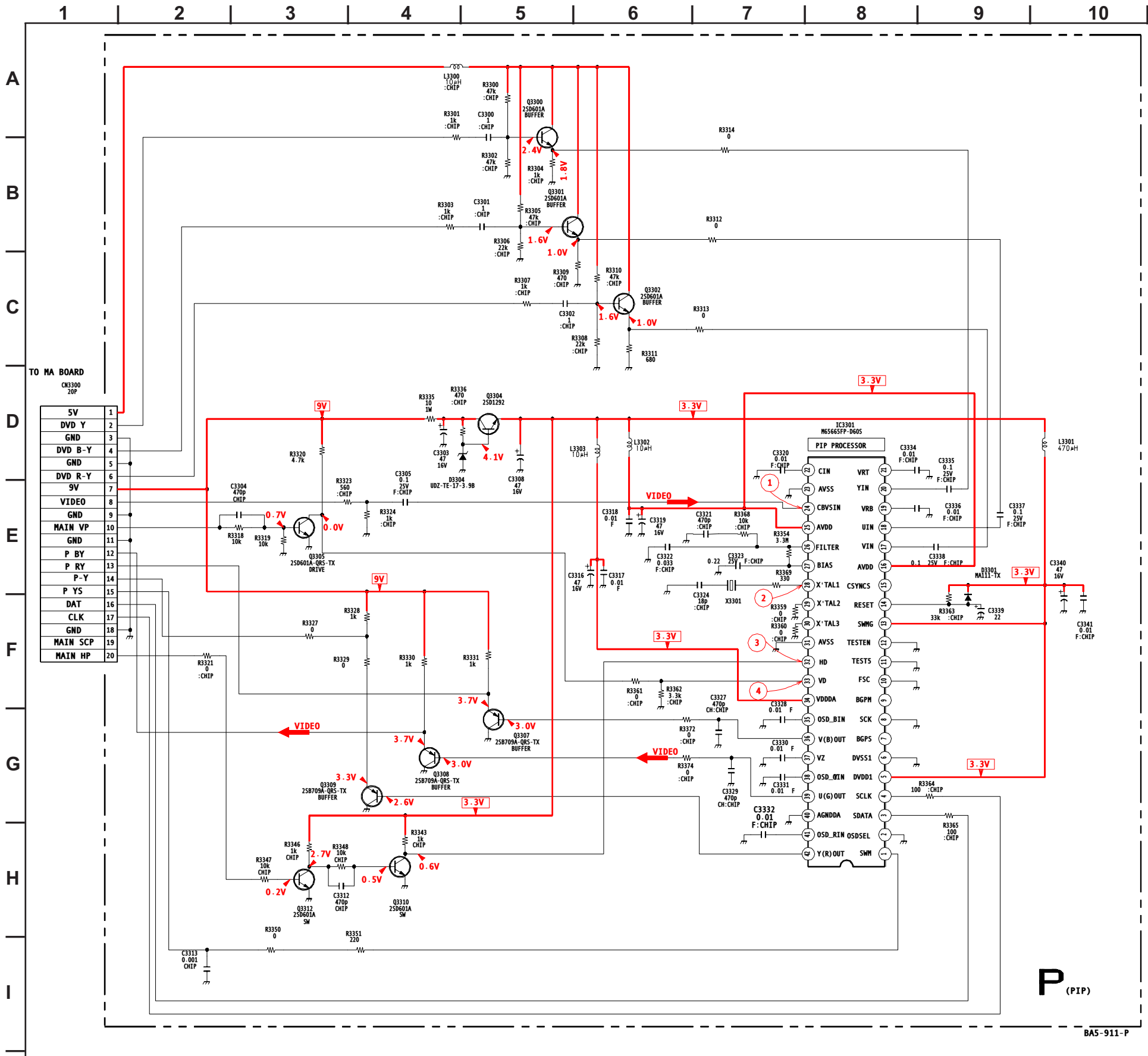




**MA BOARD LOCATOR LIST**

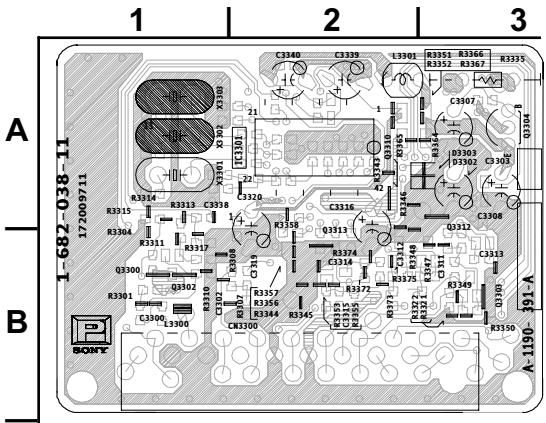
| DIODE |     | IC         |     | Q151 | A-5 | Q358 | B-4 | CRYSTAL |     |
|-------|-----|------------|-----|------|-----|------|-----|---------|-----|
| D001  | D-2 | IC001      | C-2 | Q152 | A-6 | Q359 | B-4 | X001    | D-1 |
| D002  | D-4 | IC002      | C-1 | Q302 | A-3 | Q365 | C-4 | X301    | C-8 |
| D003  | C-3 | IC003      | C-2 | Q303 | C-5 | Q368 | C-6 |         |     |
| D004  | D-3 | IC301      | D-7 | Q305 | B-4 | Q369 | B-3 |         |     |
| D005  | C-1 | IC302      | B-1 | Q310 | B-3 | Q370 | A-3 |         |     |
| D006  | C-2 | TRANSISTOR |     | Q349 | C-4 | Q375 | B-5 |         |     |
| D075  | C-3 | Q001       | D-8 | Q350 | B-3 | Q378 | A-3 |         |     |
| D301  | C-7 | Q002       | D-5 | Q351 | B-3 | Q379 | A-4 |         |     |
| D302  | C-5 | Q003       | D-5 | Q352 | B-3 | Q380 | A-4 |         |     |
| D303  | C-7 | Q004       | D-2 | Q354 | A-3 | Q387 | C-5 |         |     |
| D305  | B-5 | Q006       | D-3 | Q355 | B-2 | Q388 | B-5 |         |     |
| D360  | B-4 | Q082       | B-3 | Q356 | D-3 | Q389 | C-5 |         |     |

P BOARD SCHEMATIC DIAGRAM (KV-27FS17/27FV17/29FV17/29FV17C/32FS17/34FS17 ONLY)

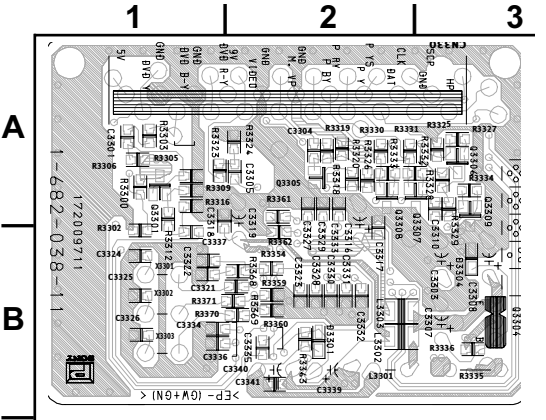


P [PIP]

COMPONENT SIDE



CONDUCTOR SIDE

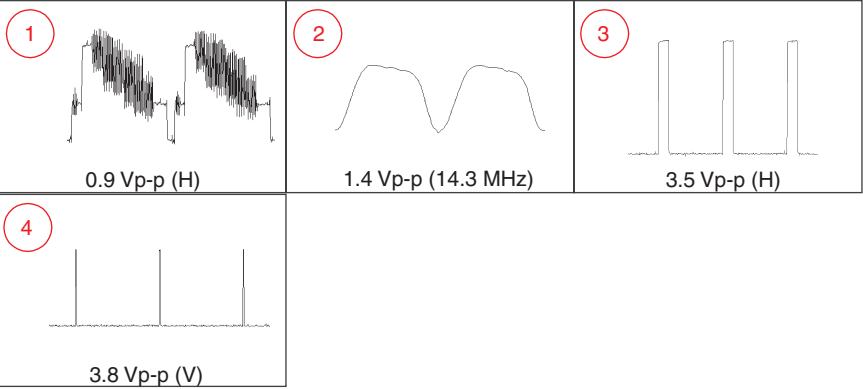


P BOARD IC VOLTAGE LIST

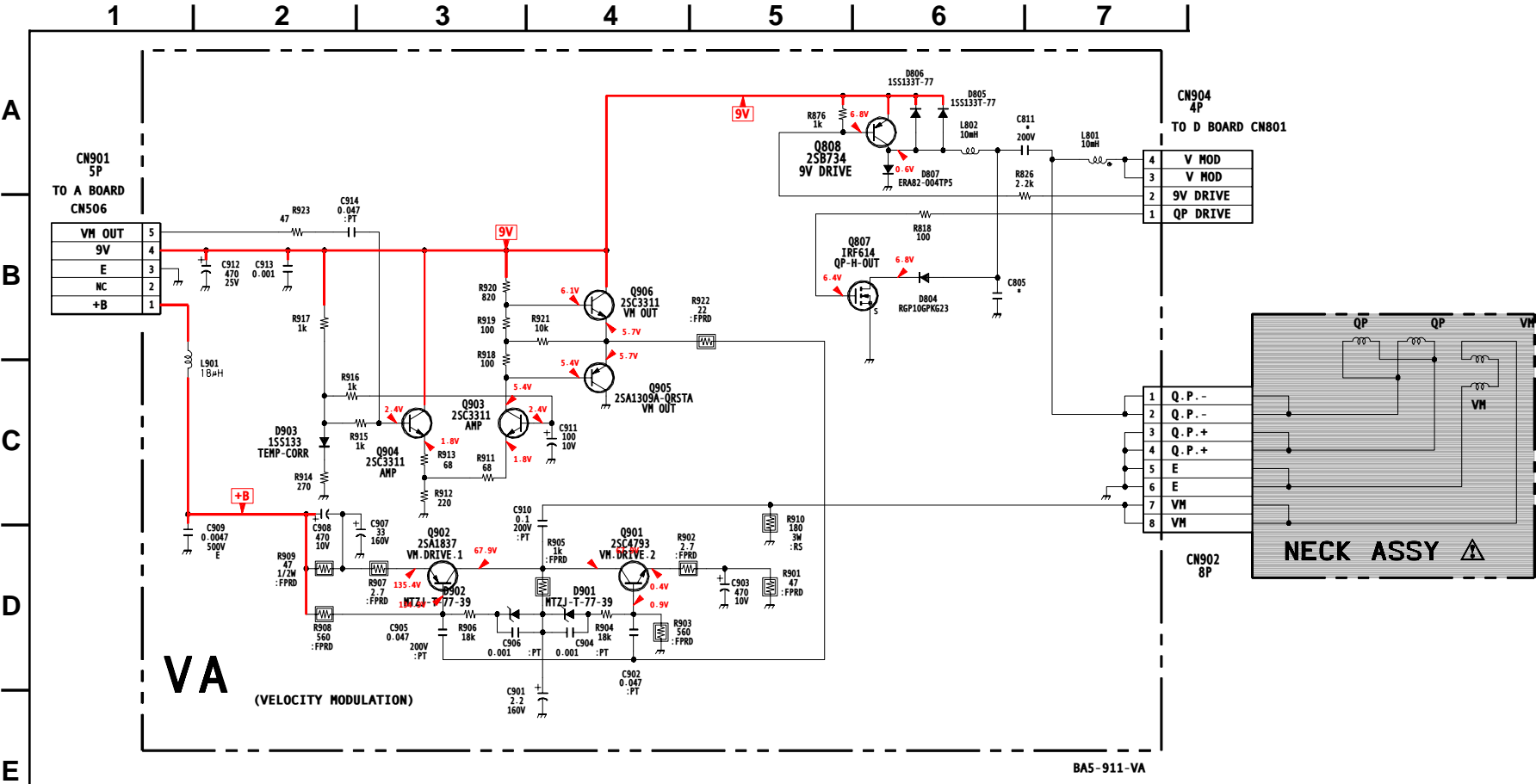
| IC3301 |      | 24 | 3.4 |
|--------|------|----|-----|
| PIN    | VOLT | 25 | 3.4 |
| 1      | 0.2  | 26 | 1.4 |
| 2      | GND  | 27 | 1.7 |
| 3      | 4.7  | 28 | 2.0 |
| 4      | 4.8  | 29 | 0.0 |
| 5      | 3.2  | 30 | 0.0 |
| 6      | GND  | 31 | 0.0 |
| 7      | 0.0  | 32 | 0.5 |
| 8      | GND  | 33 | 0.0 |
| 9      | N/C  | 34 | GND |
| 10     | N/C  | 35 | 3.1 |
| 11     | GND  | 36 | 1.1 |
| 12     | GND  | 37 | 3.0 |
| 13     | 3.2  | 38 | 1.2 |
| 14     | 3.2  | 39 | 2.6 |
| 15     | 3.2  | 40 | 3.5 |
| 16     | GND  | 41 | 1.0 |
| 17     | GND  | 42 | GND |
| 18     | 0.3  |    |     |
| 19     | GND  |    |     |
| 20     | 0.5  |    |     |
| 21     | 1.6  |    |     |
| 22     | 1.0  |    |     |
| 23     | 0.6  |    |     |

All voltages are in V

P BOARD WAVEFORMS



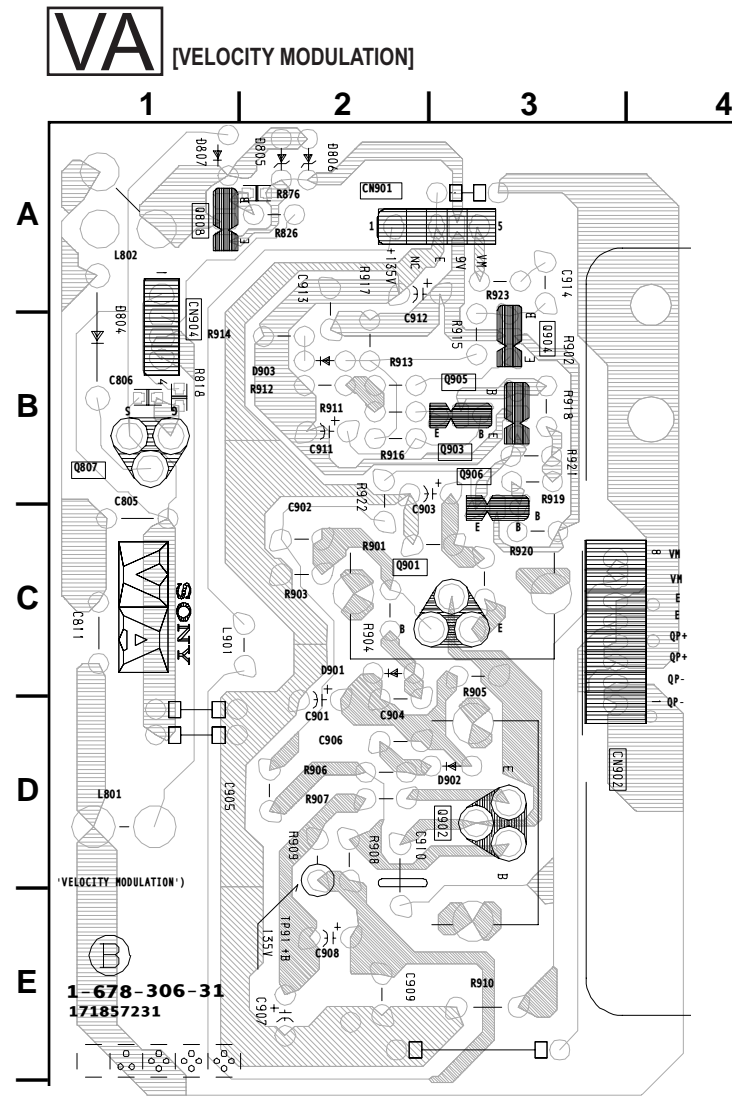
VA BOARD SCHEMATIC DIAGRAM



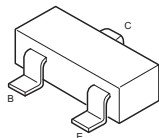

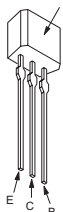
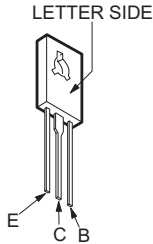
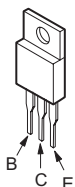
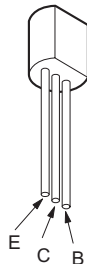

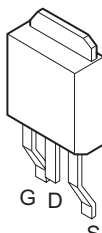
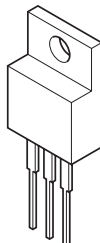
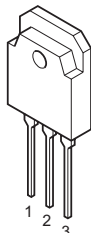
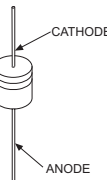
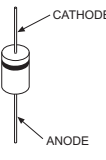
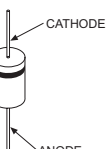
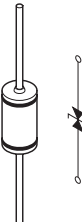
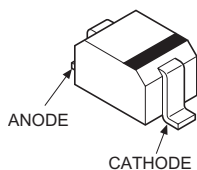
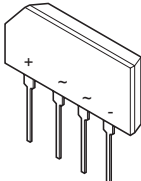
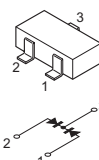
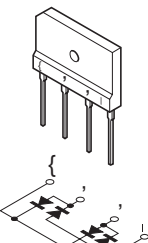
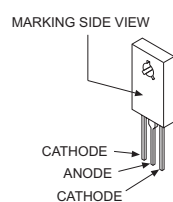
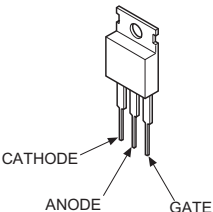
(\*) VA BOARD VARIANT MODEL LIST

| REF NO. | LOC. | KV-27FS13<br>KV-27FS17<br>KV-27FV17<br>KV-29FV17<br>KV-29FV17C | KV-32FS13<br>KV-32FS17<br>KV-34FS13C<br>KV-34FS17 |
|---------|------|--|---|
| C805    | B-6  | 0.033μF 200V   | 0.01μF 630V                                       |
| C811    | A-6  | 0.047μF 200V   | 0.082μF 200V                                      |

NOTE: #= Not Mounted



## 5-4. SEMICONDUCTORS

|  |  |   |  |   |
|--|--|---|--|---|
| <div>2SB709A-QRS-TX<br/>2SD601A-QRS-TX</div> <div></div>  | <div>2SB734-T-34<br/>2SC3209LK-TP</div> <div></div>   | <div>2SA1309A-QRSTA<br/>2SC3311A-QRSTA<br/>2SD2144S-TP-UVV</div> <div></div>                 | <div>2SC3840K</div> <div></div>     | <div>2SA1837</div> <div></div>   |
| <div>2SA10910-TPE2</div> <div></div>  | <div>IRF614</div> <div></div>   | <div>2SK2663</div> <div></div>   | <div>2SC4793</div> <div></div>      | <div>2SD2578-YB</div> <div></div>                                      |
| <div>ERA38-06TP1<br/>ERA82-004TP5<br/>1SS133T-77<br/>D1NS0R-TA<br/>MTZJ-T-77-12C<br/>MTZJ-T-77-15B<br/>MTZJ-T-77-33B<br/>MTZJ-T-77-39</div> <div></div> | <div>RU-1P<br/>ERC06-15S<br/>EGP20DPKG23<br/>MTZJ-T-77-5.1C<br/>MTZJ-T-77-5.6C<br/>MTZJ-T-77-7.5A<br/>MTZJ-T-77-10B<br/>MTZJ-T-77-30D<br/>RGP10-GPKG3<br/>RGP02-17PKG23<br/>RGP15GPKG23</div> <div></div> | <div>ERB44-06TP1<br/>1SS83TD<br/>GP08DPKG23<br/>RGP10GPKG23<br/>RU4AM-T3</div> <div></div> | <div>RD9.1EW-T1</div> <div></div> | <div>MA111-TX<br/>UDZ-TE-17.5.1B<br/>UDZ-TE-17.91B</div> <div></div> |
| <div>D2SB60A-F04</div> <div></div>  | <div>DAP202K-T-146</div> <div></div>  | <div>D4SB60L-F</div> <div></div>   |  |   |
| <div>D5LC20U</div> <div></div>  | <div>TF541M</div> <div></div>   |   |  |   |



## SECTION 6: EXPLODED VIEWS

Components not identified by a part number or description are not stocked because they are seldom required for routine service.

The component parts of an assembly are indicated by the reference numbers in the far right column of the parts list and within the dotted lines of the diagram.

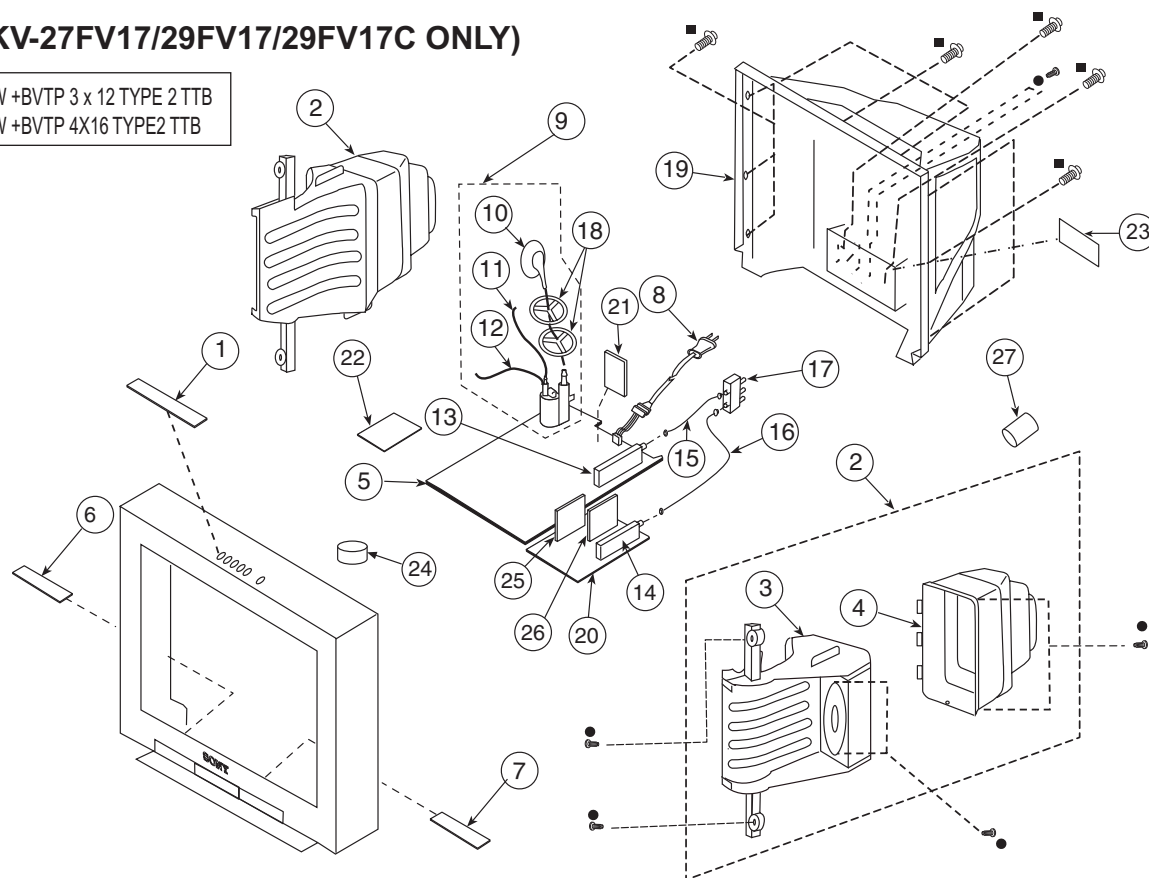
\* Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.

**NOTE:** The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

**NOTE:** Les composants identifiés par un trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

### 6-1. CHASSIS (KV-27FV17/29FV17/29FV17C ONLY)

- 7-685-648-91 SCREW +BVTP 3 x 12 TYPE 2 TTB
- 7-685-663-91 SCREW +BVTP 4X16 TYPE2 TTB



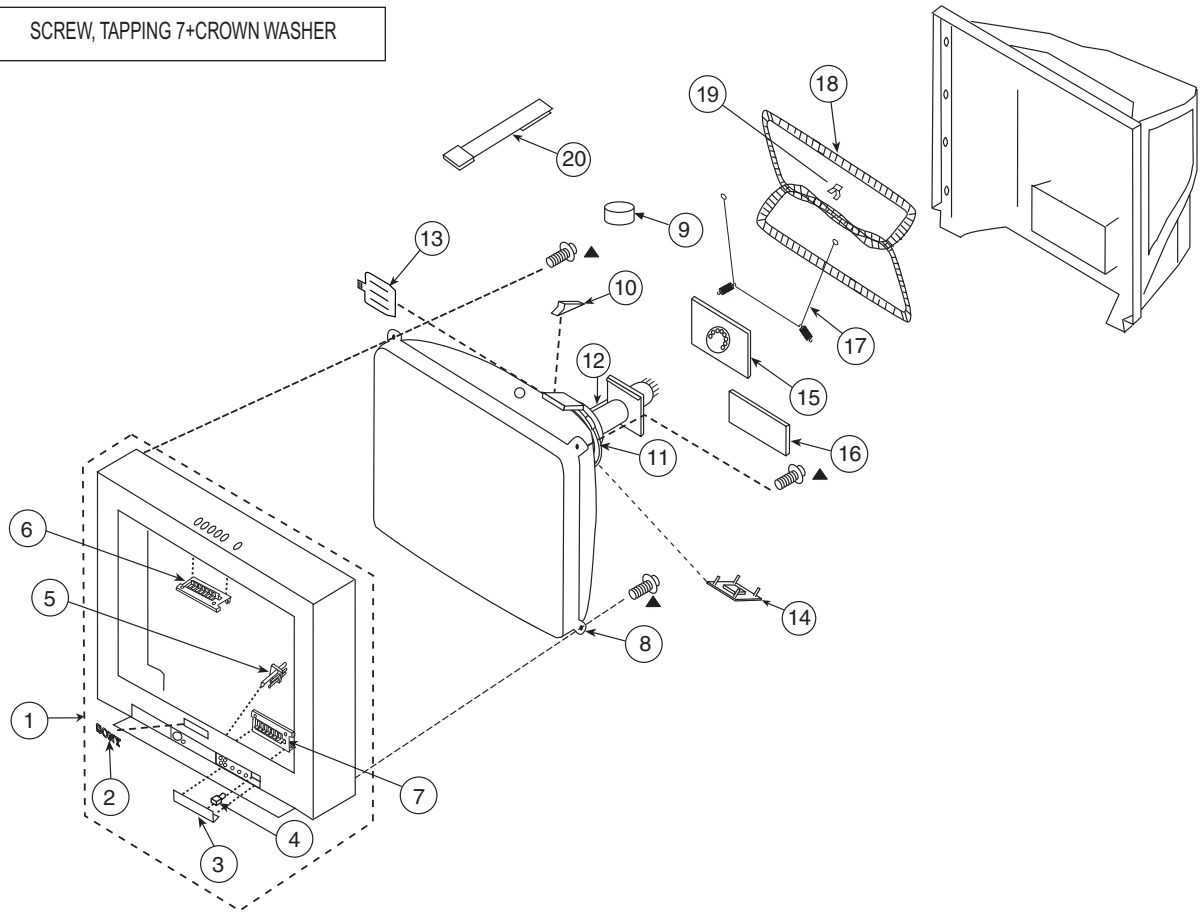
| REF. NO.  | PART NO.     | DESCRIPTION                           | [Assembly Includes] | REF. NO.  | PART NO.     | DESCRIPTION                  |
|---|--------------|---------------------------------------|---------------------|---|--------------|------------------------------|
| * 1   | A-1372-817-A | HX MOUNTED PC BOARD                   |                     | ⚠ 12  | 1-900-803-22 | G2 LEAD                      |
| * 2   | 1-544-780-11 | SPEAKER, BOX TYPE (5.10CM)            | [3-4]               | ⚠ 13  | 8-598-542-20 | TUNER, FSS BTF-WA412         |
| 3   | 4-068-988-01 | BAFFLE, SPEAKER                       |                     | ⚠ 14  | 8-598-501-30 | TUNER, FSS BTF-FA402         |
| * 4   | 4-068-987-01 | COVER, SPEAKER                        |                     | * 15  | 1-557-056-31 | CABLE, P-P                   |
| * 5   | A-1299-243-A | A COMPLETE PC BOARD (KV-27FV17 ONLY)  |                     | * 16  | 1-783-800-11 | CABLE, PIN                   |
| 5   | A-1299-498-A | A COMPLETE PC BOARD (KV-29FV17 ONLY)  |                     | 17  | 8-598-414-20 | CHANGER, ANTENNA AS-2F       |
| 5   | A-1299-244-A | A COMPLETE PC BOARD (KV-29FV17C ONLY) |                     | 18  | 3-704-372-71 | HOLDER, HV CABLE             |
| The high-voltage leads associated with the FBT on this board are not included and must be ordered separately (See 10-12). |              |                                       |                     | 19  | 4-076-875-01 | COVER, REAR                  |
| * 6   | A-1372-825-A | HA MOUNTED PC BOARD                   |                     | The labels associated with the rear cover are not included and must be ordered separately (See 23). |              |                              |
| * 7   | A-1372-826-A | HB (VAR) MOUNTED PC BOARD             |                     | * 20  | A-1304-202-A | MA (VAR) MOUNTED PC BOARD    |
| ⚠ 8   | 1-769-796-31 | CORD, POWER (WITH CONNECTOR)          |                     | * 21  | A-1380-633-A | K (VAR) MOUNTED PC BOARD     |
| ⚠ 8   | 1-792-874-11 | CORD, AC POWER(WITH CONNECTOR)        |                     | * 22  | A-1343-875-A | D (VAR) MOUNTED PC BOARD     |
|   |              |                                       |                     | 23  | 4-075-666-01 | LABEL, 2-TUNER ANTENNA       |
| ⚠ 9   | 1-453-310-11 | FBT ASSY NX-4521//X4J4                | [10-12]             | 24  | 1-452-094-00 | CIRCULAR DISC MAGNET B       |
| ⚠ 10  | 1-251-374-13 | HV CAP ASSY                           |                     | 25  | A-1190-391A  | P MOUNTED PC BOARD           |
| ⚠ 11  | 1-900-800-82 | FOCUS LEAD                            |                     | * 26  | A-1131-593-A | BC MOUNTED PC BOARD          |
|   |              |                                       |                     | 27  | 1-500-586-11 | FILTER, CLAMP (FERRITE CORE) |
|   |              |                                       |                     | (KV-27FV17/29FV17 ONLY)   |              |                              |

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## 6-2. PICTURE TUBE REMOVAL (KV-27FV17/29FV17/29FV17C ONLY)

▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER



| REF. NO. | PART NO.     | DESCRIPTION                                | [Assembly Includes] | REF. NO. | PART NO.     | DESCRIPTION                                 |
|----------|--------------|--|---------------------|----------|--------------|---|
| 1        | X-4038-944-1 | BEZNET ASSY<br>(KV-27FV17 ONLY)            | [2-4]               | * 15     | A-1332-063-A | CA (VAR) MOUNTED PC BOARD                   |
| 1        | X-4037-842-2 | BEZNET ASSY<br>(KV-29FV17/29FV17C ONLY)    | [2-4]               | * 16     | A-1342-550-A | VA (VAR) MOUNTED PC BOARD                   |
| 2        | 3-704-179-31 | EMBLEM (NO.9), SONY                        |                     | 17       | 4-036-329-01 | SPRING (B), TENSION                         |
| 3        | X-4037-631-3 | DOOR                                       |                     | ⚠ 18     | 1-419-156-21 | COIL, DEGAUSSING<br>(KV-27FV17/29FV17 ONLY) |
| 4        | 3-703-574-00 | RETAINER, DOOR                             |                     | ⚠ 18     | 1-419-523-21 | COIL, DEGAUSSING<br>(KV-29FV17C ONLY)       |
| 5        | 4-068-986-11 | GUIDE, LED                                 |                     | * 19     | 4-062-970-12 | CLIP (29RSN), DGC                           |
| 6        | 4-068-982-11 | MULTI-BUTTON (TOP)                         |                     | 20       | 4-062-047-02 | PIECE A(110), CONV CORRECT                  |
| 7        | 4-068-984-01 | MULTI-BUTTON (BOTTOM)                      |                     |          |              |   |
| ⚠ 8      | 8-735-082-05 | CRT 29RSN(SDP)<br>(KV-27FV17/29FV17 ONLY)  |                     |          |              |   |
| ⚠ 8      | 8-735-083-05 | CRT 29RSN(SDP)(SOUTH)<br>(KV-29FV17C ONLY) |                     |          |              |   |
| 9        | 1-452-032-00 | MAGNET, DISC                               |                     |          |              |   |
| 10       | 4-053-005-01 | SPACER, DY                                 |                     |          |              |   |
| ⚠ 11     | 8-451-494-41 | DY Y29RSA-V                                |                     |          |              |   |
| ⚠ 12     | 8-453-011-11 | NA299-M (NECK ASSEMBLY)                    |                     |          |              |   |
| 13       | 4-081-170-01 | PLATE, TLH CORRECTION                      |                     |          |              |   |
| 14       | 1-452-896-11 | COIL, NA ROTATION (RT200)                  |                     |          |              |   |

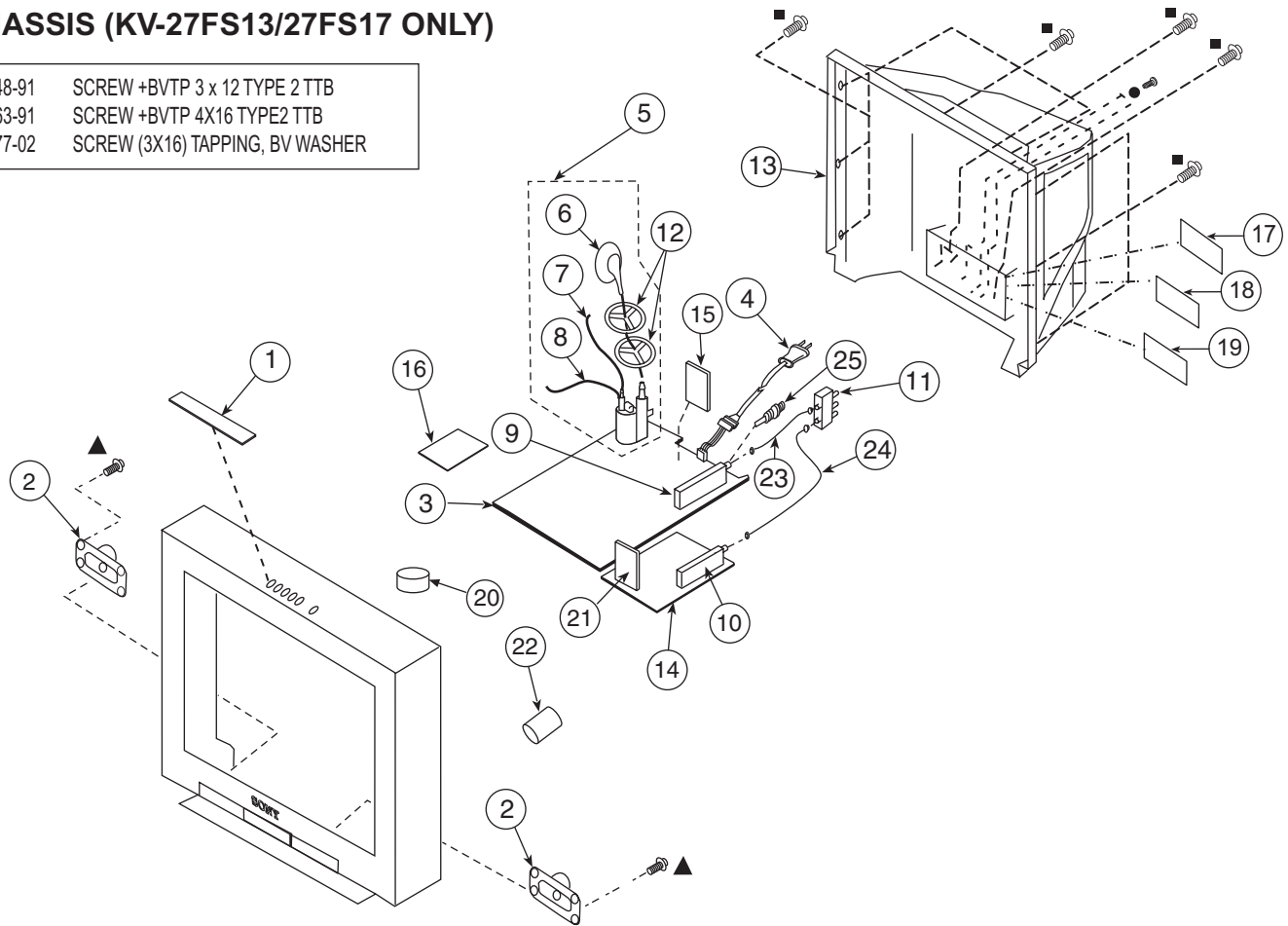


**NOTE:** The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

**NOTE:** Les composants identifiés par un trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

### 6-3. CHASSIS (KV-27FS13/27FS17 ONLY)

- 7-685-648-91 SCREW +BVTP 3 x 12 TYPE 2 TTB
- 7-685-663-91 SCREW +BVTP 4X16 TYPE2 TTB
- ▲ 4-388-477-02 SCREW (3X16) TAPPING, BV WASHER



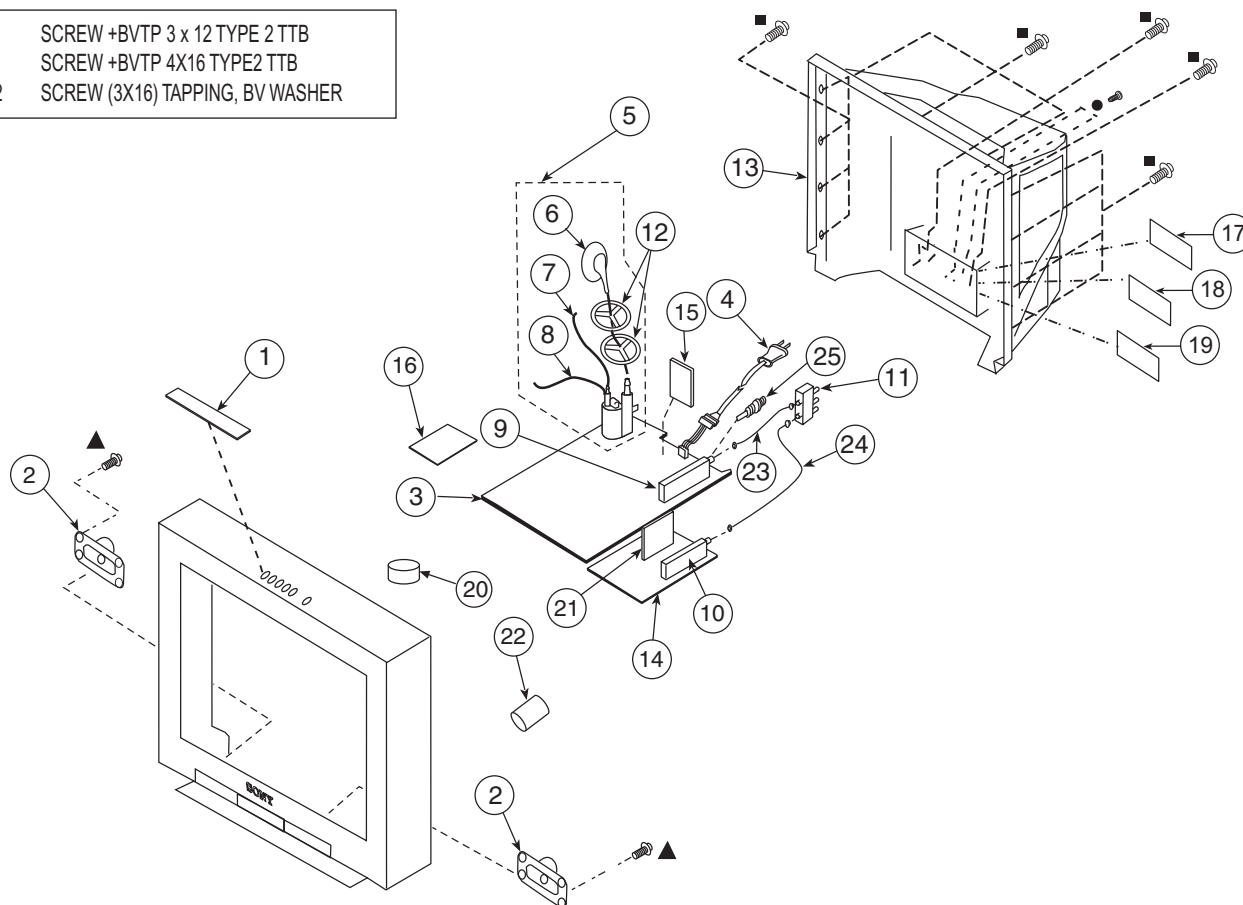
| REF. NO. | PART NO.     | DESCRIPTION  | [Assembly Includes] | REF. NO. | PART NO.     | DESCRIPTION                                |
|----------|--------------|--|---------------------|----------|--------------|--|
| * 1      | A-1372-817-A | HX MOUNTED PC BOARD  |                     | * 14     | A-1304-198-A | MA (VAR) MOUNTED PC BOARD (KV-27FS17 ONLY) |
| 2        | 1-529-638-11 | SPEAKER (6X12CM)   |                     | * 15     | A-1380-632-A | K (VAR) MOUNTED PC BOARD                   |
| * 3      | A-1299-502-A | A COMPLETE PC BOARD (KV-27FS13 ONLY)   |                     | * 16     | A-1343-875-A | D (VAR) MOUNTED PC BOARD                   |
| * 3      | A-1299-503-A | A COMPLETE PC BOARD (KV-27FS17 ONLY)   |                     | 17       | 4-075-666-01 | LABEL, 2-TUNER ANTENNA (KV-27FS17 ONLY)    |
|          |              | The high-voltage leads associated with the FBT on this board are not included and must be ordered separately. (See 6-8.) |                     | 18       | 4-075-664-01 | LABEL, 1-TUNER ANTENNA (KV-27FS13 ONLY)    |
| ⚠ 4      | 1-792-874-11 | CORD, AC POWER (WITH CONNECTOR)  |                     | 19       | 4-075-665-01 | LABEL, TERMINAL                            |
| ⚠ 5      | 1-453-310-11 | FBT ASSY NX-4521//X4J4   | [6-8]               | 20       | 1-452-094-00 | CIRCULAR DISC MAGNET B                     |
| ⚠ 6      | 1-251-374-13 | HV CAP ASSY  |                     | * 21     | A-1190-391-A | P MOUNTED PC BOARD (KV-27FS17 ONLY)        |
| ⚠ 7      | 1-900-800-82 | FOCUS LEAD   |                     | 22       | 1-500-586-11 | FILTER, CLAMP (FERRITE CORE)               |
| ⚠ 8      | 1-900-803-22 | G2 LEAD  |                     | 23       | 1-557-056-31 | CABLE, P-P (KV-27FS17 ONLY)                |
| ⚠ 9      | 8-598-542-20 | TUNER, FSS BTF-WA412   |                     | 24       | 1-783-800-11 | CABLE, PIN (KV-27FS17 ONLY)                |
| ⚠ 10     | 8-598-501-30 | TUNER, FSS BTF-FA402 (KV-27FS17 ONLY)  |                     | 25       | 1-766-374-11 | PLUG, F-PIN (KV-27FS13 ONLY)               |
| 11       | 8-598-414-20 | CHANGER, ANTENNA AS-2F (KV-27FS17 ONLY)  |                     |          |              |  |
| 12       | 3-704-372-71 | HOLDER, HV CABLE   |                     |          |              |  |
| 13       | 4-075-652-11 | COVER, REAR  |                     |          |              |  |
|          |              | The labels associated with the rear cover are not included and must be ordered separately (See 17-19).                   |                     |          |              |  |
| * 14     | A-1304-200-A | MA (VAR) MOUNTED PC BOARD (KV-27FS13 ONLY)   |                     |          |              |  |

**NOTE:** The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

**NOTE:** Les composants identifiés par un trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## 6-4. CHASSIS (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)

- 7-685-648-91 SCREW +BVTP 3 x 12 TYPE 2 TTB
- 7-685-663-91 SCREW +BVTP 4X16 TYPE2 TTB
- ▲ 4-388-477-02 SCREW (3X16) TAPPING, BV WASHER



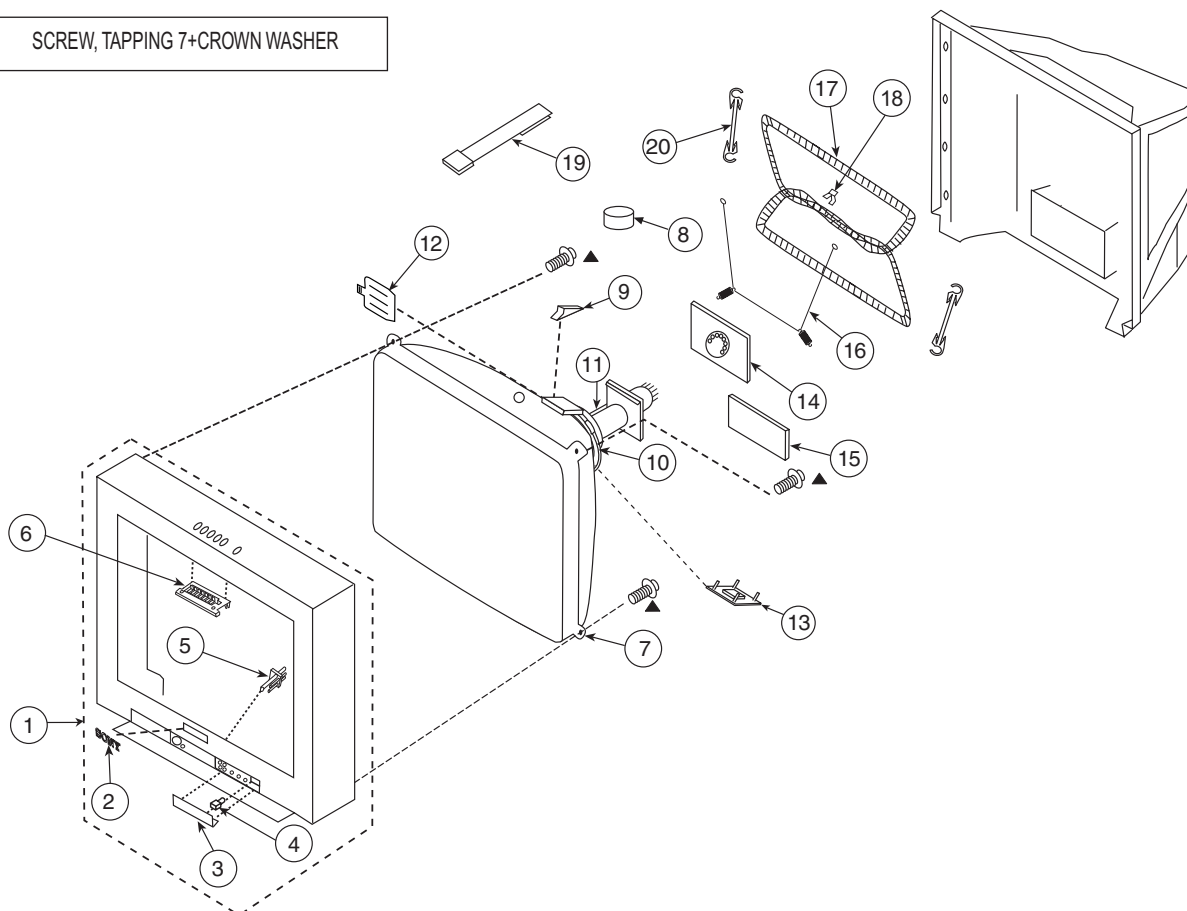
| REF. NO.  | PART NO.     | DESCRIPTION  | [Assembly Includes] | REF. NO.   | PART NO.     | DESCRIPTION  |
|---|--------------|--|---------------------|--|--------------|--|
| * 1   | A-1372-817-A | HX MOUNTED PC BOARD  |                     | 13   | 4-075-654-01 | COVER, REAR  |
| 2   | 1-529-638-11 | SPEAKER (6X12CM)   |                     | The labels associated with the rear cover are not included and must be ordered separately (See 17-19). |              |  |
| * 3   | A-1299-516-A | A COMPLETE PC BOARD (KV-32FS13 ONLY)                           |                     | * 14   | A-1304-196-A | MA (VAR) MOUNTED PC BOARD (KV-32FS17/34FS17 ONLY)    |
| * 3   | A-1299-504-A | A COMPLETE PC BOARD (KV-32FS17/34FS17 ONLY)                    |                     | * 14   | A-1304-203-A | MA (VAR) MOUNTED PC BOARD (KV-32FS13/34FS13C ONLY)   |
| * 3   | A-1299-506-A | A COMPLETE PC BOARD (KV-34FS13C ONLY)                          |                     | * 15   | A-1380-632-A | K (VAR) MOUNTED PC BOARD                             |
| The high-voltage leads associated with the FBT on this board are not included and must be ordered separately (See 6-8). |              |  |                     | * 16   | A-1343-874-A | D (VAR) MOUNTED PC BOARD                             |
| ⚠ 4   | 1-792-874-11 | CORD, AC POWER (WITH CONNECTOR) (KV-32FS13/32FS17/34FS17 ONLY) |                     | 17   | 4-075-666-01 | LABEL, 2-TUNER ANTENNA (KV-32FS17/34FS17 ONLY)       |
| ⚠ 4   | 1-769-796-31 | CORD, POWER (WITH CONNECTOR) (KV-34FS13C ONLY)                 |                     | 18   | 4-075-664-01 | LABEL, 1-TUNER ANTENNA (KV-32FS13/34FS13C ONLY)      |
| ⚠ 5   | 1-453-338-11 | FBT ASSY NX-4600//X4J4   | [6-8]               | 19   | 4-075-665-01 | LABEL, TERMINAL                                      |
| ⚠ 6   | 1-251-374-13 | HV CAP ASSY  |                     | 20   | 1-452-094-00 | CIRCULAR DISC MAGNET B                               |
| ⚠ 7   | 1-900-800-82 | FOCUS LEAD   |                     | * 21   | A-1190-391-A | P MOUNTED PC BOARD (KV-32FS17/34FS17 ONLY)           |
| ⚠ 8   | 1-900-803-50 | G2 LEAD  |                     | 22   | 1-500-586-11 | FILTER, CLAMP (FERRITE CORE) (KV-32FS13/32FS17 ONLY) |
| ⚠ 9   | 8-598-542-20 | TUNER, FSS BTF-WA412   |                     | 23   | 1-557-056-31 | CABLE, P-P (KV-32FS17/34FS17 ONLY)                   |
| ⚠ 10  | 8-598-501-30 | TUNER, FSS BTF-FA402 (KV-32FS17/34FS17 ONLY)                   |                     | 24   | 1-783-800-11 | CABLE, PIN (KV-32FS17/34FS17 ONLY)                   |
| 11  | 8-598-414-20 | CHANGER, ANTENNA AS-2F (KV-32FS17/34FS17 ONLY)                 |                     | 25   | 1-766-374-11 | PLUG, F-PIN (KV-32FS13/34FS13C ONLY)                 |
| 12  | 3-704-372-71 | HOLDER, HV CABLE   |                     |  |              |  |

**NOTE:** The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

**NOTE:** Les composants identifiés par un trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## 6-5. PICTURE TUBE REMOVAL (KV-27FS13/27FS17/32FS13/32FS17/34FS13C/34FS17 ONLY)

▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER



| REF. NO. | PART NO.     | DESCRIPTION   | [Assembly Includes] | REF. NO. | PART NO.     | DESCRIPTION   |
|----------|--------------|---|---------------------|----------|--------------|---|
| 1        | X-4038-955-1 | BEZNET ASSY<br>(KV-27FS13/27FS17 ONLY)                | [2-5]               | ⚠ 11     | 8-453-011-11 | NA299-M (NECK ASSEMBLY)<br>(KV-27FS13/27FS17 ONLY)                  |
| 1        | X-4039-003-1 | BEZNET ASSY<br>(KV-32FS13/32FS17 ONLY)                | [2-5]               | ⚠ 11     | 8-453-007-41 | NA324-M4 (NECK ASSEMBLY)<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY)  |
| 1        | X-4037-664-3 | BEZNET ASSY<br>(KV-34FS13/34FS17 ONLY)                | [2-5]               | 12       | 4-081-170-01 | PLATE, TLH CORRECTION   |
| 2        | 3-704-179-31 | EMBLEM (NO.9), SONY                                   |                     | 13       | 1-452-896-11 | COIL, NA ROTATION (RT200)   |
| 3        | 4-075-658-21 | DOOR (KV-34FS13C/34FS17 ONLY)                         |                     | * 14     | A-1332-063-A | CA (VAR) MOUNTED PC BOARD<br>(KV-27FS13/27FS17 ONLY)                |
| 3        | 4-075-658-31 | DOOR (KV-27FS13/27FS17/32FS13/32FS17 ONLY)            |                     | * 14     | A-1332-061-A | CA (VAR) MOUNTED PC BOARD<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY) |
| 4        | 4-047-464-01 | CATCHER, PUSH   |                     | * 15     | A-1342-550-A | VA (VAR) MOUNTED PC BOARD<br>(KV-27FS13/27FS17 ONLY)                |
| 5        | 4-075-657-01 | GUIDE, LED  |                     | * 15     | A-1342-549-A | VA (VAR) MOUNTED PC BOARD<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY) |
| 6        | 4-068-982-11 | MULTI-BUTTON (TOP)                                    |                     | 16       | 4-036-329-01 | SPRING (B), TENSION   |
| ⚠ 7      | 8-735-082-05 | CRT 29RSN(SDP) (KV-27FS13/27FS17 ONLY)                |                     | ⚠ 17     | 1-419-156-21 | COIL, DEGAUSSING (KV-27FS13/27FS17 ONLY)                            |
| ⚠ 7      | 8-735-066-05 | CRT 34RSN(SDP)<br>(KV-32FS13/32FS17/34FS17 ONLY)      |                     | ⚠ 17     | 1-416-827-21 | COIL, DEGAUSSING<br>(KV-32FS13/32FS17/34FS17 ONLY)                  |
| ⚠ 7      | 8-735-084-05 | CRT 34RSN(SDP)(SOUTH) (KV-34FS13C ONLY)               |                     | ⚠ 17     | 1-416-866-11 | COIL, DEGAUSSING (KV-34FS13C ONLY)                                  |
| 8        | 1-452-032-00 | MAGNET, DISC  |                     | * 18     | 4-062-970-12 | CLIP (29RSN), DGC (KV-27FS13/27FS17 ONLY)                           |
| 9        | 4-053-005-01 | SPACER, DY  |                     | 19       | 4-062-047-02 | PIECE A(110), CONV CORRECT  |
| ⚠ 10     | 8-451-494-41 | DY Y29RSA-V (KV-27FS13/27FS17 ONLY)                   |                     | 20       | 4-065-895-11 | HOLDER, DGC<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY)               |
| ⚠ 10     | 8-451-499-41 | DY Y34RSA-V<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY) |                     |          |              |   |

## SECTION 7: ELECTRICAL PARTS LIST

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
Refer to the designated variant parts list when seeking a part indicated by an asterick (\*) on the MA Board Schematic or by the phrase "VARIANT (SEE VARIANT PARTS LIST)" on the Common Parts Listing


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## COMMON PARTS LISTING FS SERIES



NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components in this manual identified by the following symbol:  indicate parts that have been carefully factory-selected to satisfy regulations regarding X-ray radiation for each set.











Should replacement be required for one of these components, replace only with the value originally used.

\* Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.

## RESISTORS

- All resistors are in ohms
- F : nonflammable
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

When ordering parts by reference number, please include the board name.

| REF. NO.   | PART NO.     | DESCRIPTION                                     | VALUES           | REF. NO.  | PART NO.     | DESCRIPTION                      | VALUES                 |
|--|--------------|---|------------------|---|--------------|----------------------------------|------------------------|
| <b>A BOARD COMMON PARTS LISTING FS SERIES</b>  |              |   |                  |   |              |                                  |                        |
|   |              |   |                  |   |              |                                  |                        |
| *  | A-1299-502-A | A COMPLETE PC BOARD (KV-27FS13 ONLY)            |                  | C219  | 1-126-964-11 | ELECT                            | 10µF 20% 50V           |
| *  | A-1299-503-A | A COMPLETE PC BOARD (KV-27FS17 ONLY)            |                  | C401  | 1-126-968-11 | ELECT                            | 100µF 20% 50V          |
| *  | A-1299-516-A | A COMPLETE PC BOARD (KV-32FS13 ONLY)            |                  | C402  | 1-126-943-11 | ELECT                            | 2200µF 20% 25V         |
| *  | A-1299-504-A | A COMPLETE PC BOARD (KV-32FS17/34FS17 ONLY)     |                  | C403  | 1-126-957-11 | ELECT                            | 0.22µF 20% 50V         |
| *  | A-1299-506-A | A COMPLETE PC BOARD (KV-34FS13C ONLY)           |                  | C420  | 1-164-222-91 | CERAMIC                          | 0.22µF 25V             |
| The high-voltage leads associated with the FBT on the A board are not included and must be ordered separately. Order the following leads when requesting this A board: |              |   |                  | C421  | 1-216-295-91 | SHORT                            |                        |
|   | 1-251-374-13 | HV CAP ASSY                                     |                  | C435  | 1-164-222-91 | CERAMIC                          | 0.22µF 25V             |
|   | 1-900-800-82 | FOCUS LEAD                                      |                  | C441  | 1-164-346-11 | CERAMIC                          | 1µF 16V                |
|   | 1-900-803-22 | G2 LEAD (KV-27FS13/ 27FS17 ONLY)                |                  | C442  | 1-126-963-11 | ELECT                            | 4.7µF 20% 50V          |
|   | 1-900-803-50 | G2 LEAD (KV-32FS13/32FS17/34FS17/ 34FS13C ONLY) |                  | C496  | 1-216-295-91 | SHORT                            |                        |
| *  | 1-508-784-21 | PIN, CONNECTOR (5MM PITCH) 1P                   |                  | C501  | 1-102-114-00 | CERAMIC                          | 470pF 10% 50V          |
|  | 1-533-223-11 | HOLDER, FUSE                                    |                  | C502  | 1-106-383-00 | MYLAR                            | 0.047µF 10% 200V       |
| *  | 4-374-846-11 | COVER, CAPACITOR, CAP TYPE                      |                  | C503  | 1-102-228-00 | CERAMIC                          | 470pF 10% 500V         |
|  | 4-382-854-11 | SCREW (M3X10), P, SW (+)                        |                  | C504  | 1-102-228-00 | CERAMIC                          | 470pF 10% 500V         |
| <b>CAPACITOR</b>   |              |   |                  |  | C505         | 1-162-116-00                     | CERAMIC 680pF 10% 2KV  |
| C100   | 1-216-295-91 | SHORT   |                  | C506  | 1-162-318-11 | CERAMIC                          | 0.001µF 10% 500V       |
| C101   | 1-216-295-91 | SHORT   |                  | C507  |              | VARIANT (SEE VARIANT PARTS LIST) |                        |
| C102   | 1-126-933-11 | ELECT   | 100µF 20% 16V    |  | C508         | 1-137-150-11                     | MYLAR 0.01µF 10% 100V  |
| C104   | 1-126-941-11 | ELECT   | 470µF 20% 25V    |  | C509         | 1-162-116-00                     | CERAMIC 680pF 10% 2KV  |
| C105   | 1-104-664-11 | ELECT   | 47µF 20% 25V     | C510  | 1-107-649-11 | ELECT                            | 2.2µF 20% 250V         |
| C204   | 1-163-017-00 | CERAMIC   | 0.0047µF 10% 50V | C511  |              | VARIANT (SEE VARIANT PARTS LIST) |                        |
| C205   | 1-126-963-11 | ELECT   | 4.7µF 20% 50V    |  | C512         | 1-106-387-00                     | MYLAR 0.068µF 10% 200V |
| C207   | 1-126-961-11 | ELECT   | 2.2µF 20% 50V    | C513  | 1-104-987-11 | MYLAR                            | 0.001µF 10% 100V       |
| C208   | 1-126-961-11 | ELECT   | 2.2µF 20% 50V    | C514  |              | VARIANT (SEE VARIANT PARTS LIST) |                        |
| C210   | 1-126-963-11 | ELECT   | 4.7µF 20% 50V    |  | C515         | 1-162-116-00                     | CERAMIC 680pF 10% 2KV  |
| C214   | 1-164-346-11 | CERAMIC   | 1µF 16V          | C517  |              | VARIANT (SEE VARIANT PARTS LIST) |                        |
| C215   | 1-164-346-11 | CERAMIC   | 1µF 16V          | C520  |              | VARIANT (SEE VARIANT PARTS LIST) |                        |
| C216   | 1-126-963-11 | ELECT   | 4.7µF 20% 50V    | C521  | 1-164-646-11 | CERAMIC                          | 2200pF 10% 500V        |
|  |              |   |                  | C523  | 1-126-941-11 | ELECT                            | 470µF 20% 25V          |
|  |              |   |                  | C524  | 1-102-244-00 | CERAMIC                          | 220pF 10% 500V         |
|  |              |   |                  | C525  | 1-107-612-11 | CERAMIC                          | 100pF 5% 500V          |
|  |              |   |                  | C526  | 1-126-960-11 | ELECT                            | 1µF 20% 50V            |
|  |              |   |                  | C527  | 1-126-965-91 | ELECT                            | 22µF 20% 50V           |
|  |              |   |                  | C528  | 1-164-161-11 | CERAMIC                          | 0.0022µF 10% 50V       |
|  |              |   |                  | C529  | 1-164-161-11 | CERAMIC                          | 0.0022µF 10% 50V       |
|  |              |   |                  | C530  |              | VARIANT (SEE VARIANT PARTS LIST) |                        |
|  |              |   |                  | C531  | 1-106-387-00 | MYLAR                            | 0.068µF 10% 200V       |
|  |              |   |                  | C533  | 1-126-941-11 | ELECT                            | 470µF 20% 25V          |

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## COMMON PARTS LISTING FS SERIES

| REF. NO. | PART NO.     | DESCRIPTION                      | VALUES   |     |       | REF. NO.         | PART NO.     | DESCRIPTION                      | VALUES   |     |      |
|----------|--------------|----------------------------------|----------|-----|-------|------------------|--------------|----------------------------------|----------|-----|------|
| ⚠ C534   | 1-126-964-11 | ELECT                            | 10μF     | 20% | 50V   | C636             | 1-126-970-11 | ELECT                            | 330μF    | 20% | 50V  |
| C535     | 1-126-959-11 | ELECT                            | 0.47μF   | 20% | 50V   | C637             | 1-163-009-91 | CERAMIC                          | 0.001μF  | 10% | 50V  |
| C536     | 1-102-228-00 | CERAMIC                          | 470pF    | 10% | 500V  | C638             | 1-163-005-91 | CERAMIC                          | 470pF    | 10% | 50V  |
| ⚠ C537   | 1-126-965-91 | ELECT                            | 22μF     | 20% | 50V   | C639             | 1-126-965-91 | ELECT                            | 22μF     | 20% | 50V  |
| C539     | 1-107-662-11 | ELECT                            | 22μF     | 20% | 250V  | C641             | 1-107-679-91 | ELECT                            | 10μF     | 20% | 450V |
| C540     | 1-107-645-11 | ELECT                            | 22μF     | 20% | 160V  | C643             | 1-104-760-11 | CERAMIC                          | 0.047μF  | 10% | 50V  |
| C541     | 1-126-969-11 | ELECT                            | 220μF    | 20% | 50V   | C647             | 1-161-964-91 | CERAMIC                          | 0.0047μF |     | 250V |
| C542     | 1-126-967-11 | ELECT                            | 47μF     | 20% | 50V   | C648             | 1-136-346-21 | MYLAR                            | 0.22μF   | 20% | 125V |
| C543     | 1-136-169-00 | FILM                             | 0.22μF   | 5%  | 50V   | C652             | 1-130-471-00 | MYLAR                            | 0.001μF  | 5%  | 50V  |
| ⚠ C546   | 1-126-965-91 | ELECT                            | 22μF     | 20% | 50V   | C654             | 1-107-636-11 | ELECT                            | 10μF     | 20% | 160V |
| ⚠ C547   | 1-163-031-91 | CERAMIC                          | 0.01μF   |     | 50V   | ⚠ C655           | 1-136-311-11 | MYLAR                            | 0.47μF   | 20% | 125V |
| C548     |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |       | C657             | 1-104-664-11 | ELECT                            | 47μF     | 20% | 25V  |
| C549     | 1-126-934-11 | ELECT                            | 220μF    | 20% | 16V   | C658             |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |      |
| C550     |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |       | C659             | 1-135-573-51 | ELECT                            | 15000μF  | 20% | 25V  |
| ⚠ C551   | 1-137-417-11 | MYLAR                            | 0.0047μF | 10% | 200V  | C660             |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |      |
| C553     | 1-107-662-11 | ELECT                            | 22μF     | 20% | 250V  | C661             |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |      |
| C554     | 1-102-110-00 | CERAMIC                          | 220pF    | 10% | 50V   | C2001            | 1-104-664-11 | ELECT                            | 47μF     | 20% | 25V  |
| C555     |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |       | <b>CONNECTOR</b> |              |                                  |          |     |      |
| C601     | 1-164-004-11 | CERAMIC                          | 0.1μF    | 10% | 25V   | * CN301          | 1-564-507-11 | PLUG,CONNECTOR 4P                |          |     |      |
| C602     | 1-126-967-11 | ELECT                            | 47μF     | 20% | 50V   | * CN406          | 1-564-507-11 | PLUG,CONNECTOR 4P                |          |     |      |
| C604     | 1-164-182-11 | CERAMIC                          | 0.0033μF | 10% | 50V   | CN460            | 1-573-298-21 | CONNECTOR, BOARD TO BOARD 20P    |          |     |      |
| ⚠ C606   | 1-127-793-51 | CERAMIC                          | 2200pF   | 20% | 250V  | * CN501          | 1-580-798-11 | CONNECTOR PIN (DY) 6P            |          |     |      |
| C607     |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |       | CN502            | 1-564-509-11 | PLUG,CONNECTOR 6P                |          |     |      |
| C609     | 1-126-968-11 | ELECT                            | 100μF    | 20% | 50V   | * CN504          | 1-508-784-21 | PIN,CONNECTOR (5MM PITCH) 1P     |          |     |      |
| C610     | 1-126-964-11 | ELECT                            | 10μF     | 20% | 50V   | * CN506          | 1-564-508-11 | PLUG,CONNECTOR 5P                |          |     |      |
| ⚠ C611   | 1-164-182-11 | CERAMIC                          | 2200pF   | 20% | 250V  | * CN515          | 1-564-510-11 | PLUG,CONNECTOR 7P                |          |     |      |
| C612     |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |       | CN602            | 1-580-843-11 | PIN,CONNECTOR (POWER)            |          |     |      |
| C613     | 1-126-964-11 | ELECT                            | 10μF     | 20% | 50V   | * CN603          | 1-573-963-11 | PIN,CONNECTOR (PC BOARD) 3P      |          |     |      |
| C614     | 1-130-495-00 | MYLAR                            | 0.1μF    | 5%  | 50V   | * CN604          |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |      |
| C615     |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |       | * CN2001         | 1-564-511-11 | PLUG,CONNECTOR 8P                |          |     |      |
| C616     |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |       | * CN2003         | 1-564-506-11 | PLUG,CONNECTOR 3P                |          |     |      |
| C617     | 1-125-893-11 | FILM                             | 680pF    | 3%  | 1.5KV | * CN2005         | 1-764-333-11 | PLUG,CONNECTOR 10P               |          |     |      |
| C618     | 1-164-081-11 | CERAMIC                          | 470pF    | 10% | 50V   | * CN2006         | 1-764-333-11 | PLUG,CONNECTOR 10P               |          |     |      |
| C619     | 1-136-356-11 | MYLAR                            | 470pF    | 5%  | 50V   | * CN2007         | 1-564-512-11 | PLUG,CONNECTOR 9P                |          |     |      |
| C620     | 1-104-665-11 | ELECT                            | 100μF    | 20% | 25V   | * CN2008         | 1-564-512-11 | PLUG,CONNECTOR 9P                |          |     |      |
| C621     | 1-125-772-91 | CERAMIC                          | 1500pF   | 10% | 2KV   | <b>DIODE</b>     |              |                                  |          |     |      |
| C622     | 1-164-625-11 | CERAMIC                          | 680pF    | 10% | 500V  | D201             | 8-719-108-12 | DIODE RD9.1EW-T1                 |          |     |      |
| C623     | 1-164-625-11 | CERAMIC                          | 680pF    | 10% | 500V  | D203             | 8-719-108-12 | DIODE RD9.1EW-T1                 |          |     |      |
| C624     | 1-131-867-51 | ELECT                            | 100μF    |     | 160V  | D204             | 8-719-982-22 | DIODE MTZJ-T-77-30D              |          |     |      |
| C625     |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |       | D205             | 8-719-108-12 | DIODE RD9.1EW-T1                 |          |     |      |
| C626     | 1-135-573-51 | ELECT                            | 15000μF  | 20% | 25V   | D206             | 8-719-108-12 | DIODE RD9.1EW-T1                 |          |     |      |
| C627     | 1-136-189-00 | MYLAR                            | 0.1μF    | 10% | 250V  | D208             | 8-719-108-12 | DIODE RD9.1EW-T1                 |          |     |      |
| C628     | 1-104-665-11 | ELECT                            | 100μF    | 20% | 25V   | D209             | 8-719-069-60 | DIODE UDZSTE-179.1B              |          |     |      |
| C630     |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |       | D210             | 8-719-110-17 | DIODE MTZJ-T-77-10B              |          |     |      |
| C631     |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |       | D211             | 8-719-108-12 | DIODE RD9.1EW-T1                 |          |     |      |
| C634     | 1-137-605-11 | MYLAR                            | 0.01μF   | 10% | 250V  | D212             | 8-719-110-17 | DIODE MTZJ-T-77-10B              |          |     |      |
| C635     | 1-163-009-91 | CERAMIC                          | 0.001μF  | 10% | 50V   | D213             | 8-719-110-17 | DIODE MTZJ-T-77-10B              |          |     |      |



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## COMMON PARTS LISTING FS SERIES











| REF. NO. | PART NO.     | DESCRIPTION                      | VALUES | REF. NO.            | PART NO.     | DESCRIPTION                      | VALUES |
|----------|--------------|----------------------------------|--------|---------------------|--------------|----------------------------------|--------|
| D214     | 8-719-108-12 | DIODE RD9.1EW-T1                 |        | D620                | 8-719-510-37 | DIODE D5LC20U                    |        |
| D215     | 8-719-108-12 | DIODE RD9.1EW-T1                 |        | D622                | 8-719-077-76 | DIODE D2SB60A-F04                |        |
| D230     | 8-719-108-12 | DIODE RD9.1EW-T1                 |        | D623                | 8-719-081-70 | DIODE BA159DGPPKG3               |        |
| D231     | 8-719-108-12 | DIODE RD9.1EW-T1                 |        | D624                | 8-719-991-33 | DIODE 1SS133T-77                 |        |
| D232     | 8-719-108-12 | DIODE RD9.1EW-T1                 |        | D625                | 8-719-991-33 | DIODE 1SS133T-77                 |        |
| D233     | 8-719-108-12 | DIODE RD9.1EW-T1                 |        | D626                | 8-719-046-74 | DIODE 10ELS2N-TA1B2              |        |
| D401     | 8-719-110-17 | DIODE MTZJ-T-77-10B              |        | D627                | 8-719-110-03 | DIODE MTZJ-T-77-7.5A             |        |
| ⚠ D501   | 8-719-945-80 | DIODE ERC06-15S                  |        | D628                | 8-719-510-48 | DIODE D1N20R-TA                  |        |
| D502     | 8-719-908-03 | DIODE GP08DPKG23                 |        | D2001               | 8-719-070-80 | DIODE LNK0120022G                |        |
| D503     | 8-719-908-03 | DIODE GP08DPKG23                 |        | D2002               | 8-719-110-17 | DIODE MTZJ-T-77-10B              |        |
| ⚠ D504   | 8-719-945-80 | DIODE ERC06-15S                  |        | D2003               | 8-719-108-12 | DIODE RD9.1EW-T1                 |        |
| D505     | 8-719-312-10 | DIODE RU4AM-T3                   |        | D2004               | 8-719-921-44 | DIODE MTZJ-T-77-5.1C             |        |
| D506     | 8-719-302-43 | DIODE RGP10GPKG3                 |        | D2005               | 8-719-921-44 | DIODE MTZJ-T-77-5.1C             |        |
| D507     | 8-719-991-33 | DIODE 1SS133T-77                 |        | <b>FUSE</b>         |              |                                  |        |
| D508     | 8-719-991-33 | DIODE 1SS133T-77                 |        | ⚠ F601              | 1-576-193-11 | FUSE 6.3A/125V                   |        |
| D509     | 8-719-109-89 | DIODE MTZJ-T-77-5.6C             |        | <b>FERRITE BEAD</b> |              |                                  |        |
| D510     | 8-719-908-03 | DIODE GP08DPKG23                 |        | FB501               | 1-410-397-21 | FERRITE                          | 1.1μH  |
| D511     | 8-719-302-43 | DIODE RGP10GPKG23                |        | FB502               | 1-410-397-21 | FERRITE                          | 1.1μH  |
| D512     | 8-719-404-50 | DIODE MA111-TX                   |        | FB503               | 1-410-397-21 | FERRITE                          | 1.1μH  |
| D513     | 8-719-979-85 | DIODE RGP15GPKG23                |        | FB600               | 1-412-911-11 | FERRITE                          | 0μH    |
| D514     | 8-719-979-85 | DIODE RGP15GPKG23                |        | FB601               | 1-412-911-11 | FERRITE                          | 0μH    |
| D515     | 8-719-404-50 | DIODE MA111-TX                   |        | FB602               | 1-412-911-11 | FERRITE                          | 0μH    |
| ⚠ D516   | 8-719-991-33 | DIODE 1SS133T-77                 |        | FB603               | 1-412-911-11 | FERRITE                          | 0μH    |
| ⚠ D517   | 8-719-991-33 | DIODE 1SS133T-77                 |        | FB604               | 1-412-911-11 | FERRITE                          | 0μH    |
| ⚠ D518   | 8-719-921-63 | DIODE MTZJ-T-77-7.5X             |        | FB605               |              | VARIANT (SEE VARIANT PARTS LIST) |        |
| ⚠ D519   | 8-719-979-84 | DIODE EGP20DPKG23                |        | FB606               | 1-412-911-11 | FERRITE                          | 0μH    |
| ⚠ D520   | 8-719-404-50 | DIODE MA111-TX                   |        | FB607               |              | VARIANT (SEE VARIANT PARTS LIST) |        |
| D521     | 8-719-991-33 | DIODE 1SS133T-77                 |        | FB608               |              | VARIANT (SEE VARIANT PARTS LIST) |        |
| D522     | 8-719-404-50 | DIODE MA111-TX                   |        | FB609               | 1-412-911-11 | FERRITE                          | 0μH    |
| D601     | 8-719-991-33 | DIODE 1SS133T-77                 |        | FB610               | 1-412-911-11 | FERRITE                          | 0μH    |
| D602     | 8-719-991-33 | DIODE 1SS133T-77                 |        | <b>IC</b>           |              |                                  |        |
| D603     | 8-719-982-26 | DIODE MTZJ-T-77-33B              |        | ⚠ IC402             | 8-759-573-40 | IC TDA8580Q/N1                   |        |
| D604     | 8-719-028-72 | DIODE RGP02-17PKG23              |        | ⚠ IC501             | 8-759-700-07 | IC NJM2903M-TE2                  |        |
| ⚠ D605   | 8-719-510-53 | DIODE D4SB60L-F                  |        | IC502               |              | VARIANT (SEE VARIANT PARTS LIST) |        |
| ⚠ D606   | 8-719-108-18 | DIODE TF541M                     |        | IC601               |              | VARIANT (SEE VARIANT PARTS LIST) |        |
| D607     | 8-719-991-33 | DIODE 1SS133T-77                 |        | ⚠ IC602             | 8-749-016-47 | IC EA135-F12                     |        |
| D608     | 8-719-110-53 | DIODE MTZJ-T-77-20B              |        | IC603               | 8-759-653-07 | IC PQ09RD21                      |        |
| D609     |              | VARIANT (SEE VARIANT PARTS LIST) |        | IC604               | 8-759-924-12 | IC LM7805CT                      |        |
| D610     | 8-719-210-21 | DIODE 11EQS04-NTA1B              |        | IC2001              | 8-742-212-20 | HYB IC SBX3081-71                |        |
| D611     | 8-719-046-74 | DIODE 10ELS2N-TA1B2              |        | <b>JACK</b>         |              |                                  |        |
| D612     | 8-719-110-17 | DIODE MTZJ-T-77-10B              |        | J201                | 1-794-119-11 | TERMINAL BLOCK, S 4P             |        |
| D613     | 8-719-046-74 | DIODE 10ELS2N-TA1B2              |        | J202                | 1-794-267-11 | JACK, PIN 3P                     |        |
| D614     | 8-719-046-74 | DIODE 10ELS2N-TA1B2              |        | J203                | 1-794-118-11 | JACK BLOCK, PIN 3P               |        |
| D615     | 8-719-312-10 | DIODE RU4AM-T3                   |        | J205                | 1-794-116-11 | JACK BLOCK, PIN 2P               |        |
| D616     | 8-719-510-37 | DIODE D5LC20U                    |        |                     |              |                                  |        |
| D617     | 8-719-110-31 | DIODE MTZJ-T-77-12C              |        |                     |              |                                  |        |
| D618     | 8-719-991-33 | DIODE 1SS133T-77                 |        |                     |              |                                  |        |
| D619     | 8-719-110-17 | DIODE MTZJ-T-77-10B              |        |                     |              |                                  |        |

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## COMMON PARTS LISTING FS SERIES

| REF. NO.  | PART NO.     | DESCRIPTION                      | VALUES | REF. NO.   | PART NO.     | DESCRIPTION                      | VALUES           |
|---|--------------|----------------------------------|--------|--|--------------|----------------------------------|------------------|
| J206  | 1-794-117-11 | JACK BLOCK, PIN 3P               |        | Q502   |              | VARIANT (SEE VARIANT PARTS LIST) |                  |
| J402  | 1-794-116-11 | JACK BLOCK, PIN 2P               |        |  Q503 | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX        |                  |
| <b>CHIP CONDUCTOR</b>   |              |                                  |        |  Q504 | 8-729-053-87 | TRANSISTOR KTC4370A              |                  |
| JR001   | 1-216-295-91 | SHORT                            |        |  Q505 | 8-729-200-17 | TRANSISTOR 2SA1091O-TPE2         |                  |
| JR002   | 1-216-295-91 | SHORT                            |        |  Q506 | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX        |                  |
| JR402   | 1-216-295-91 | SHORT                            |        |  Q507 | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX        |                  |
| JR403   | 1-216-295-91 | SHORT                            |        | Q601   | 8-729-922-37 | TRANSISTOR 2SD2144S-TP-UVW       |                  |
| JR404   | 1-216-295-91 | SHORT                            |        | Q602   | 8-729-423-33 | TRANSISTOR 2SC3311A-QRSTA        |                  |
| JR405   | 1-216-295-91 | SHORT                            |        |  Q603 | 8-729-119-76 | TRANSISTOR 2SA1309A-QRSTA        |                  |
| JR410   | 1-216-295-91 | SHORT                            |        | Q604   | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX        |                  |
| JR411   | 1-216-295-91 | SHORT                            |        |  Q605 | 8-729-046-40 | TRANSISTOR 2SK2663               |                  |
| JR471   | 1-164-222-91 | CERAMIC                          | 0.22μF | Q606   | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX        |                  |
| JR472   | 1-216-295-91 | SHORT                            |        | Q607   | 8-729-922-37 | TRANSISTOR 2SD2144S-TP-UVW       |                  |
| JR501   | 1-216-295-91 | SHORT                            |        | Q608   | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX        |                  |
| JR502   | 1-216-295-91 | SHORT                            |        | Q609   | 8-729-423-33 | TRANSISTOR 2SC3311A-QRSTA        |                  |
| JR503   | 1-216-295-91 | SHORT                            |        | <b>RESISTOR</b>  |              |                                  |                  |
| JR505   | 1-216-295-91 | SHORT                            |        | R105   | 1-208-798-11 | METAL                            | 4.7K 0.50% 1/10W |
| JR522   | 1-216-295-91 | SHORT                            |        | R107   | 1-216-025-11 | RES-CHIP                         | 100 5% 1/10W     |
| JR523   | 1-216-295-91 | SHORT                            |        | R108   | 1-216-025-11 | RES-CHIP                         | 100 5% 1/10W     |
| JR526   | 1-216-295-91 | SHORT                            |        | R115   | 1-216-295-91 | SHORT                            |                  |
| JR527   | 1-216-295-91 | SHORT                            |        | R201   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
| JR2003  | 1-216-295-91 | SHORT                            |        | R202   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
| <b>COIL</b>   |              |                                  |        | R203   | 1-216-022-00 | RES-CHIP                         | 75 5% 1/10W      |
| L101  | 1-412-029-11 | INDUCTOR                         | 10μH   | R204   | 1-216-081-00 | RES-CHIP                         | 22K 5% 1/10W     |
| L102  | 1-412-032-11 | INDUCTOR                         | 100μH  | R205   | 1-216-085-91 | RES-CHIP                         | 33K 5% 1/10W     |
| L103  | 1-412-029-11 | INDUCTOR                         | 10μH   | R208   | 1-215-924-00 | METAL                            | 15K 5% 3W        |
| L501  | 1-409-955-11 | INDUCTOR                         | 8mH    | R210   | 1-216-022-00 | RES-CHIP                         | 75 5% 1/10W      |
| L502  | 1-412-552-11 | INDUCTOR                         | 2.2mH  | R214   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
| L503  | 1-406-677-11 | INDUCTOR                         | 10mH   | R215   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
| L504  | 1-412-533-21 | INDUCTOR                         | 47μH   | R235   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
| L505  |              | VARIANT (SEE VARIANT PARTS LIST) |        | R237   | 1-216-033-00 | RES-CHIP                         | 220 5% 1/10W     |
| L506  | 1-406-677-11 | INDUCTOR                         | 10mH   | R238   | 1-216-033-00 | RES-CHIP                         | 220 5% 1/10W     |
| L507  | 1-412-552-11 | INDUCTOR                         | 2.2mH  | R239   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
|  L510  | 1-412-528-11 | INDUCTOR                         | 18μH   | R401   | 1-216-080-00 | RES-CHIP                         | 20K 5% 1/10W     |
| L603  | 1-412-529-11 | INDUCTOR                         | 22μH   | R402   | 1-216-073-91 | RES-CHIP                         | 10K 5% 1/10W     |
| L604  | 1-412-525-31 | INDUCTOR                         | 10μH   | R411   | 1-249-417-11 | CARBON                           | 1K 5% 1/4W       |
| L605  | 1-412-529-11 | INDUCTOR                         | 22μH   | R412   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
| <b>PHOTO COUPLER</b>  |              |                                  |        | R413   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
|  PH601 | 8-749-010-64 | PHOTO COUPLER PC123FY2           |        | R414   | 1-249-417-11 | CARBON                           | 1K 5% 1/4W       |
| <b>IC LINK</b>  |              |                                  |        | R421   | 1-249-425-11 | CARBON                           | 4.7K 5% 1/4W     |
|  PS401 | 1-532-686-21 | LINK, IC 2.7A/150V               |        | R422   | 1-249-389-11 | CARBON                           | 4.7 5% 1/4W      |
| <b>TRANSISTOR</b>   |              |                                  |        | R426   | 1-216-009-91 | RES-CHIP                         | 22 5% 1/10W      |
| Q101  | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX        |        | R429   | 1-216-113-00 | RES-CHIP                         | 470K 5%          |


NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.


NOTE: Les composants identifiés par un trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



## COMMON PARTS LISTING FS SERIES





| REF. NO. | PART NO.     | DESCRIPTION                      | VALUES |       |       |  | REF. NO. | PART NO.     | DESCRIPTION                      | VALUES |       |       |  |
|----------|--------------|----------------------------------|--------|-------|-------|--|----------|--------------|----------------------------------|--------|-------|-------|--|
| R438     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  | ⚠ R544   | 1-249-377-11 | CARBON                           | 0.47   | 5%    | 1/4W  |  |
| R440     | 1-216-097-11 | RES-CHIP                         | 100K   | 5%    | 1/10W |  | R545     | 1-215-873-00 | METAL                            | 4.7K   | 5%    | 1W    |  |
| R441     | 1-216-081-00 | RES-CHIP                         | 22K    | 5%    | 1/10W |  | ⚠ R546   | 1-249-377-11 | CARBON                           | 0.47   | 5%    | 1/4W  |  |
| R442     | 1-208-758-11 | METAL                            | 100    | 0.50% | 1/10W |  | R547     | 1-216-455-21 | METAL                            | 560    | 5%    | 2W    |  |
| R445     | 1-216-073-91 | RES-CHIP                         | 10K    | 5%    | 1/10W |  | R548     | 1-216-377-11 | METAL                            | 4.7    | 5%    | 2W    |  |
| R446     | 1-215-457-00 | METAL                            | 33K    | 1%    | 1/4W  |  | ⚠ R549   | 1-260-288-11 | CARBON                           | 0.47   | 5%    | 1/2W  |  |
| R447     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W |  | ⚠ R550   | 1-260-288-11 | CARBON                           | 0.47   | 5%    | 1/2W  |  |
| R454     | 1-216-025-11 | RES-CHIP                         | 100    | 5%    | 1/10W |  | R551     | 1-215-907-11 | METAL                            | 22     | 5%    | 3W    |  |
| R490     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  | ⚠ R553   | 1-216-363-00 | METAL                            | 0.33   | 5%    | 2W    |  |
| R501     | 1-249-425-11 | CARBON                           | 4.7K   | 5%    | 1/4W  |  | ⚠ R554   | 1-249-429-11 | CARBON                           | 10K    | 5%    | 1/4W  |  |
| ⚠ R502   | 1-216-455-21 | METAL                            | 560    | 5%    | 2W    |  | ⚠ R555   | 1-247-895-91 | CARBON                           | 470K   | 5%    | 1/4W  |  |
| ⚠ R503   | 1-249-425-11 | CARBON                           | 4.7K   | 5%    | 1/4W  |  | ⚠ R556   | 1-249-417-11 | CARBON                           | 1K     | 5%    | 1/4W  |  |
| R505     | 1-249-401-11 | CARBON                           | 47     | 5%    | 1/4W  |  | ⚠ R557   | 1-247-895-91 | CARBON                           | 470K   | 5%    | 1/4W  |  |
| ⚠ R506   | 1-215-883-11 | METAL                            | 33     | 5%    | 2W    |  | ⚠ R558   | 1-216-097-11 | RES-CHIP                         | 100K   | 5%    | 1/10W |  |
| ⚠ R507   | 1-260-328-11 | CARBON                           | 1K     | 5%    | 1/2W  |  | ⚠ R559   | 1-216-073-91 | RES-CHIP                         | 10K    | 5%    | 1/10W |  |
| R508     | 1-249-433-11 | CARBON                           | 22K    | 5%    | 1/4W  |  | ⚠ R560   | 1-215-879-11 | METAL                            | 47K    | 5%    | 1W    |  |
| ⚠ R509   | 1-215-891-11 | METAL                            | 680    | 5%    | 2W    |  | ⚠ R561   | 1-249-406-11 | CARBON                           | 120    | 5%    | 1/4W  |  |
| R510     | 1-249-411-11 | CARBON                           | 330    | 5%    | 1/4W  |  | ⚠ R562   | 1-208-808-11 | METAL                            | 12K    | 0.50% | 1/10W |  |
| R511     | 1-249-377-11 | CARBON                           | 0.47   | 5%    | 1/4W  |  | ⚠ R563   | 1-249-433-11 | CARBON                           | 22K    | 5%    | 1/4W  |  |
| R512     | 1-215-910-00 | METAL                            | 68     | 5%    | 3W    |  | R564     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  |
| R513     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  | ⚠ R565   | 1-249-429-11 | CARBON                           | 10K    | 5%    | 1/4W  |  |
| R514     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  | ⚠ R566   | 1-216-073-91 | RES-CHIP                         | 10K    | 5%    | 1/10W |  |
| R516     | 1-249-425-11 | CARBON                           | 4.7K   | 5%    | 1/4W  |  | ⚠ R567   | 1-216-073-91 | RES-CHIP                         | 10K    | 5%    | 1/10W |  |
| R517     | 1-215-445-00 | METAL                            | 10K    | 1%    | 1/4W  |  | ⚠ R568   | 1-215-882-00 | METAL                            | 22     | 5%    | 2W    |  |
| R518     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  | R569     | 1-214-798-21 | METAL                            | 1.8    | 1%    | 1/2W  |  |
| R519     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  | R570     | 1-249-433-11 | CARBON                           | 22K    | 5%    | 1/4W  |  |
| ⚠ R520   | 1-215-884-11 | METAL                            | 47     | 5%    | 2W    |  | R571     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W |  |
| ⚠ R521   | 1-249-413-11 | CARBON                           | 470    | 5%    | 1/4W  |  | R572     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W |  |
| R522     | 1-249-417-11 | CARBON                           | 1K     | 5%    | 1/4W  |  | R601     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  |
| R523     | 1-216-073-91 | RES-CHIP                         | 10K    | 5%    | 1/10W |  | ⚠ R602   | 1-249-389-11 | CARBON                           | 4.7    | 5%    | 1/4W  |  |
| R524     | 1-249-429-11 | CARBON                           | 10K    | 5%    | 1/4W  |  | R603     | 1-215-485-00 | METAL                            | 470K   | 1%    | 1/4W  |  |
| ⚠ R525   | 1-208-804-11 | METAL                            | 8.2K   | 0.50% | 1/10W |  | R607     | 1-215-859-00 | METAL                            | 22     | 5%    | 1W    |  |
| R526     | 1-208-814-91 | METAL                            | 22K    | 0.50% | 1/10W |  | R608     | 1-240-205-11 | CARBON                           | 22M    | 5%    | 1/2W  |  |
| R528     | 1-215-429-00 | METAL                            | 2.2K   | 1%    | 1/4W  |  | R609     | 1-216-049-11 | RES-CHIP                         | 1K     | 5%    | 1/10W |  |
| R529     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  | R610     | 1-216-073-91 | RES-CHIP                         | 10K    | 5%    | 1/10W |  |
| R530     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  | R611     | 1-216-089-91 | RES-CHIP                         | 47K    | 5%    | 1/10W |  |
| R532     | 1-215-437-00 | METAL                            | 4.7K   | 1%    | 1/4W  |  | R612     | 1-216-045-00 | RES-CHIP                         | 680    | 5%    | 1/10W |  |
| R533     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  | ⚠ R613   | 1-219-512-11 | CARBON                           | 2.2M   | 5%    | 1/2W  |  |
| R534     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  | R614     | 1-249-413-11 | CARBON                           | 470    | 5%    | 1/4W  |  |
| R535     | 1-249-441-11 | CARBON                           | 100K   | 5%    | 1/4W  |  | R615     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  |
| ⚠ R536   | 1-214-798-21 | METAL                            | 1.8    | 1%    | 1/2W  |  | ⚠ R616   | 1-260-302-51 | CARBON                           | 6.8    | 5%    | 1/2W  |  |
| R537     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |  | R617     | 1-216-009-91 | RES-CHIP                         | 22     | 5%    | 1/10W |  |
| ⚠ R538   | 1-215-889-00 | METAL                            | 330    | 5%    | 2W    |  | R618     | 1-249-440-11 | CARBON                           | 82K    | 5%    | 1/4W  |  |
| ⚠ R539   | 1-249-385-11 | CARBON                           | 2.2    | 5%    | 1/4W  |  | R619     | 1-249-437-11 | CARBON                           | 47K    | 5%    | 1/4W  |  |
| R540     | 1-215-445-00 | METAL                            | 10K    | 1%    | 1/4W  |  | R620     | 1-249-417-11 | CARBON                           | 1K     | 5%    | 1/4W  |  |
| R541     | 1-249-429-11 | CARBON                           | 10K    | 5%    | 1/4W  |  | ⚠ R621   | 1-240-251-11 | CEMENTED                         | 6.8    | 5%    | 10W   |  |
| R543     | 1-247-887-00 | CARBON                           | 220K   | 5%    | 1/4W  |  | R622     | 1-249-441-11 | CARBON                           | 100K   | 5%    | 1/4W  |  |






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## COMMON PARTS LISTING FS SERIES

| REF. NO.  | PART NO. | DESCRIPTION                      | VALUES          |      |          |
|---|----------|----------------------------------|-----------------|------|----------|
|    | R623     | 1-260-324-11                     | CARBON          | 470  | 5% 1/2W  |
|    | R624     | 1-249-429-11                     | CARBON          | 10K  | 5% 1/4W  |
|   | R625     | 1-249-437-11                     | CARBON          | 47K  | 5% 1/4W  |
|   | R626     | VARIANT (SEE VARIANT PARTS LIST) |                 |      |          |
|   | R627     | VARIANT (SEE VARIANT PARTS LIST) |                 |      |          |
|   | R628     | VARIANT (SEE VARIANT PARTS LIST) |                 |      |          |
|   | R629     | VARIANT (SEE VARIANT PARTS LIST) |                 |      |          |
|   | R630     | 1-249-421-11                     | CARBON          | 2.2K | 5% 1/4W  |
|   | R631     | VARIANT (SEE VARIANT PARTS LIST) |                 |      |          |
|   | R632     | VARIANT (SEE VARIANT PARTS LIST) |                 |      |          |
|   | R633     | 1-249-415-11                     | CARBON          | 680  | 5% 1/4W  |
|   | R634     | 1-216-073-91                     | RES-CHIP        | 10K  | 5% 1/10W |
|   | R635     | 1-216-057-00                     | RES-CHIP        | 2.2K | 5% 1/10W |
|   | R637     | VARIANT (SEE VARIANT PARTS LIST) |                 |      |          |
|   | R638     | VARIANT (SEE VARIANT PARTS LIST) |                 |      |          |
|   | R639     | 1-249-421-11                     | CARBON          | 2.2K | 5% 1/4W  |
|   | R640     | 1-249-417-11                     | CARBON          | 1K   | 5% 1/4W  |
|   | R641     | VARIANT (SEE VARIANT PARTS LIST) |                 |      |          |
|   | R642     | 1-216-089-91                     | RES-CHIP        | 47K  | 5% 1/10W |
|   | R643     | 1-249-419-11                     | CARBON          | 1.5K | 5% 1/4W  |
|   | R644     | 1-247-843-11                     | CARBON          | 3.3K | 5% 1/4W  |
|   | R645     | 1-215-898-11                     | METAL           | 10K  | 5% 2W    |
|   | R646     | VARIANT (SEE VARIANT PARTS LIST) |                 |      |          |
|   | R648     | 1-215-908-00                     | METAL           | 33   | 5% 3W    |
|   | R649     | 1-249-417-11                     | CARBON          | 1K   | 5% 1/4W  |
|   | R650     | 1-216-387-11                     | METAL           | 0.68 | 5% 3W    |
|   | R651     | 1-249-429-11                     | CARBON          | 10K  | 5% 1/4W  |
|   | R653     | 1-216-049-11                     | RES-CHIP        | 1K   | 5% 1/10W |
|   | R655     | 1-216-049-11                     | RES-CHIP        | 1K   | 5% 1/10W |
|   | R656     | 1-249-429-11                     | CARBON          | 10K  | 5% 1/4W  |
|   | R658     | 1-216-387-11                     | METAL           | 0.68 | 5% 3W    |
|   | R659     | 1-215-857-71                     | METAL           | 10   | 5% 1W    |
|   | R660     | VARIANT (SEE VARIANT PARTS LIST) |                 |      |          |
|   | R661     | 1-216-057-00                     | RES-CHIP        | 2.2K | 5% 1/10W |
|   | R662     | VARIANT (SEE VARIANT PARTS LIST) |                 |      |          |
|   | R663     | 1-216-081-00                     | RES-CHIP        | 22K  | 5% 1/10W |
|   | R2001    | 1-216-057-00                     | RES-CHIP        | 2.2K | 5% 1/10W |
|   | R2002    | 1-216-053-00                     | RES-CHIP        | 1.5K | 5% 1/10W |
|   | R2003    | 1-249-425-11                     | CARBON          | 4.7K | 5% 1/4W  |
|   | R2004    | 1-216-069-00                     | RES-CHIP        | 6.8K | 5% 1/10W |
|   | R2005    | 1-216-295-91                     | SHORT           |      |          |
| RELAY   |          |                                  |                 |      |          |
|  | RY601    | 1-755-198-11                     | RELAY           |      |          |
|  | RY602    | 1-755-266-11                     | RELAY, AC POWER |      |          |
| SWITCH  |          |                                  |                 |      |          |
|   | S2007    | 1-762-816-11                     | SWITCH TACTILE  |      |          |
|   | S2008    | 1-762-816-11                     | SWITCH TACTILE  |      |          |

| REF. NO.  | PART NO.     | DESCRIPTION                      | VALUES                        |
|---|--------------|----------------------------------|-------------------------------|
| SWITCH  |              |                                  |                               |
| SW501   | 1-572-707-11 | SWITCH LEVER                     |                               |
| SW502   | 1-572-707-11 | SWITCH LEVER                     |                               |
| TRANSFORMER   |              |                                  |                               |
|    | T501         | 1-437-195-11                     | TRANSFORMER, HORIZONTAL DRIVE |
|    | T503         | 1-426-981-11                     | TRANSFORMER, FERRITE (PMT)    |
|   | T504         | VARIANT (SEE VARIANT PARTS LIST) |                               |
|   | T505         | VARIANT (SEE VARIANT PARTS LIST) |                               |
|   | T602         | VARIANT (SEE VARIANT PARTS LIST) |                               |
|   | T603         | VARIANT (SEE VARIANT PARTS LIST) |                               |
|    | T604         | 1-431-852-11                     | TRANSFORMER, CONVERTER (SRT)  |
| THERMISTOR  |              |                                  |                               |
|   | TH501        | 1-800-193-00                     | THERMISTOR                    |
|    | TH601        | 1-803-586-11                     | THERMISTOR, NTC               |
| THERMISTOR  |              |                                  |                               |
|   | THP601       | VARIANT (SEE VARIANT PARTS LIST) |                               |
| TUNER   |              |                                  |                               |
|  | TU101        | 8-598-542-20                     | TUNER, FSS BTF-WA412          |
| VARISTOR  |              |                                  |                               |
|   | VDR601       | VARIANT (SEE VARIANT PARTS LIST) |                               |

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NOTE: Les composants identifiés par un trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



## COMMON PARTS LISTING FV SERIES

### A BOARD COMMON PARTS LISTING FV SERIES



- \* A-1299-243-A A COMPLETE PC BOARD (KV-27FV17 ONLY)
- \* A-1299-498-A A COMPLETE PC BOARD (KV-29FV17 ONLY)
- \* A-1299-244-A A COMPLETE PC BOARD (KV-27FV17C ONLY)

The high-voltage leads associated with the FBT on the A board are not included and must be ordered separately. Order the following leads when requesting this A board:

|   |              |             |
|---|--------------|-------------|
| ⚠ | 1-251-374-13 | HV CAP ASSY |
| ⚠ | 1-900-800-82 | FOCUS LEAD  |
| ⚠ | 1-900-803-22 | G2 LEAD     |

- \* 1-508-784-21 PIN, CONNECTOR (5MM PITCH) 1P
- \* 1-533-223-11 HOLDER, FUSE
- \* 4-374-846-11 COVER, CAPACITOR, CAP TYPE
- 4-382-854-11 SCREW (M3X10), P, SW (+)

#### CAPACITOR

|      |              |              |          |     |      |
|------|--------------|--------------|----------|-----|------|
| C100 | 1-216-295-91 | SHORT        |          |     |      |
| C101 | 1-216-295-91 | SHORT        |          |     |      |
| C102 | 1-126-933-11 | ELECT        | 100μF    | 20% | 16V  |
| C104 | 1-126-941-11 | ELECT        | 470μF    | 20% | 25V  |
| C105 | 1-104-664-11 | ELECT        | 47μF     | 20% | 25V  |
| C204 | 1-163-017-00 | CERAMIC CHIP | 0.0047μF | 10% | 50V  |
| C205 | 1-126-963-11 | ELECT        | 4.7μF    | 20% | 50V  |
| C207 | 1-126-961-11 | ELECT        | 2.2μF    | 20% | 50V  |
| C208 | 1-126-961-11 | ELECT        | 2.2μF    | 20% | 50V  |
| C211 | 1-126-935-11 | ELECT        | 470μF    | 20% | 16V  |
| C212 | 1-126-963-11 | ELECT        | 4.7μF    | 20% | 50V  |
| C213 | 1-126-963-11 | ELECT        | 4.7μF    | 20% | 50V  |
| C214 | 1-164-346-11 | CERAMIC CHIP | 1μF      |     | 16V  |
| C215 | 1-164-346-11 | CERAMIC CHIP | 1μF      |     | 16V  |
| C219 | 1-126-964-11 | ELECT        | 10μF     | 20% | 50V  |
| C401 | 1-126-968-11 | ELECT        | 100μF    | 20% | 50V  |
| C402 | 1-126-972-11 | ELECT        | 1000μF   | 20% | 50V  |
| C403 | 1-126-957-11 | ELECT        | 0.22μF   | 20% | 50V  |
| C420 | 1-164-222-91 | CERAMIC CHIP | 0.22μF   |     | 25V  |
| C421 | 1-216-295-91 | SHORT        |          |     |      |
| C435 | 1-164-222-91 | CERAMIC CHIP | 0.22μF   |     | 25V  |
| C441 | 1-164-346-11 | CERAMIC CHIP | 1μF      |     | 16V  |
| C442 | 1-126-963-11 | ELECT        | 4.7μF    | 20% | 50V  |
| C496 | 1-216-295-91 | SHORT        |          |     |      |
| C501 | 1-102-114-00 | CERAMIC      | 470pF    | 10% | 50V  |
| C502 | 1-106-383-00 | MYLAR        | 0.047μF  | 10% | 200V |
| C503 | 1-102-228-00 | CERAMIC      | 470pF    | 10% | 500V |

|        |              |                                  |          |     |       |
|--------|--------------|----------------------------------|----------|-----|-------|
| C504   | 1-102-228-00 | CERAMIC                          | 470pF    | 10% | 500V  |
| ⚠ C505 | 1-162-116-00 | CERAMIC                          | 680pF    | 10% | 2KV   |
| C506   | 1-162-318-11 | CERAMIC                          | 0.001μF  | 10% | 500V  |
| ⚠ C507 | 1-117-717-11 | FILM                             | 17000pF  | 3%  | 1.2KV |
| ⚠ C508 | 1-137-150-11 | MYLAR                            | 0.01μF   | 10% | 100V  |
| ⚠ C509 | 1-162-116-00 | CERAMIC                          | 680pF    | 10% | 2KV   |
| C510   | 1-107-649-11 | ELECT                            | 2.2μF    | 20% | 250V  |
| ⚠ C511 | 1-115-522-11 | FILM                             | 1μF      | 5%  | 250V  |
| ⚠ C512 | 1-106-387-00 | MYLAR                            | 0.068μF  | 10% | 200V  |
| C513   | 1-104-987-11 | MYLAR                            | 0.001μF  | 10% | 100V  |
| C514   | 1-109-844-11 | FILM                             | 0.68μF   | 5%  | 250V  |
| ⚠ C515 | 1-162-116-00 | CERAMIC                          | 680pF    | 10% | 2KV   |
| ⚠ C520 | 1-129-722-00 | FILM                             | 0.047μF  | 5%  | 630V  |
| C521   | 1-164-646-11 | CERAMIC                          | 2200pF   | 10% | 500V  |
| C523   | 1-126-941-11 | ELECT                            | 470μF    | 20% | 25V   |
| C524   | 1-102-244-00 | CERAMIC                          | 220pF    | 10% | 500V  |
| C525   | 1-107-612-11 | CERAMIC                          | 100pF    | 5%  | 500V  |
| C526   | 1-126-960-11 | ELECT                            | 1μF      | 20% | 50V   |
| C527   | 1-126-965-91 | ELECT                            | 22μF     | 20% | 50V   |
| C528   | 1-164-161-11 | CERAMIC CHIP                     | 0.0022μF | 10% | 50V   |
| C529   | 1-164-161-11 | CERAMIC CHIP                     | 0.0022μF | 10% | 50V   |
| C530   | 1-164-161-11 | CERAMIC CHIP                     | 0.0022μF | 10% | 50V   |
| C531   | 1-106-387-00 | MYLAR                            | 0.068μF  | 10% | 200V  |
| C533   | 1-126-941-11 | ELECT                            | 470μF    | 20% | 25V   |
| ⚠ C534 | 1-126-964-11 | ELECT                            | 10μF     | 20% | 50V   |
| C535   | 1-126-959-11 | ELECT                            | 0.47μF   | 20% | 50V   |
| C536   | 1-102-228-00 | CERAMIC                          | 470pF    | 10% | 500V  |
| ⚠ C537 | 1-126-965-91 | ELECT                            | 22μF     | 20% | 50V   |
| C539   | 1-107-662-11 | ELECT                            | 22μF     | 20% | 250V  |
| C540   | 1-107-645-11 | ELECT                            | 22μF     | 20% | 160V  |
| C541   | 1-126-969-11 | ELECT                            | 220μF    | 20% | 50V   |
| C542   | 1-126-967-11 | ELECT                            | 47μF     | 20% | 50V   |
| C543   | 1-136-169-00 | FILM                             | 0.22μF   | 5%  | 50V   |
| ⚠ C546 | 1-126-965-91 | ELECT                            | 22μF     | 20% | 50V   |
| ⚠ C547 | 1-163-031-91 | CERAMIC CHIP                     | 0.01μF   |     | 50V   |
| C548   | 1-104-710-11 | ELECT                            | 22μF     |     | 160V  |
| C549   | 1-126-934-11 | ELECT                            | 220μF    | 20% | 16V   |
| C550   | 1-107-846-11 | FILM                             | 0.1μF    | 5%  | 250V  |
| ⚠ C551 | 1-137-417-11 | MYLAR                            | 0.0047μF | 10% | 200V  |
| C553   | 1-107-662-11 | ELECT                            | 22μF     | 20% | 250V  |
| C554   | 1-102-110-00 | CERAMIC                          | 220pF    | 10% | 50V   |
| ⚠ C555 | 1-117-629-11 | FILM                             | 2700pF   | 3%  | 1.2KV |
| C601   | 1-164-004-11 | CERAMIC CHIP                     | 0.1μF    | 10% | 25V   |
| C602   | 1-126-967-11 | ELECT                            | 47μF     | 20% | 50V   |
| C604   | 1-164-182-11 | CERAMIC CHIP                     | 0.0033μF | 10% | 50V   |
| ⚠ C606 | 1-113-920-11 | CERAMIC                          | 0.0022μF | 20% | 250V  |
| C607   |              | VARIANT (SEE VARIANT PARTS LIST) |          |     |       |
| C609   | 1-126-968-11 | ELECT                            | 100μF    | 20% | 50V   |



**NOTE:** The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

**NOTE:** Les composants identifiés par un trame et une marque  sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.



## COMMON PARTS LISTING FV SERIES

| REF. NO. | PART NO. | DESCRIPTION                      | VALUES       |          |     | REF. NO. | PART NO. | DESCRIPTION  | VALUES                |                             |
|----------|----------|----------------------------------|--------------|----------|-----|----------|----------|--------------|-----------------------|-----------------------------|
|          | C610     | 1-126-964-11                     | ELECT        | 10μF     | 20% | 50V      | *        | CN506        | 1-564-508-11          | PLUG,CONNECTOR 5P           |
| ⚠        | C611     | 1-113-920-11                     | CERAMIC      | 0.0022μF | 20% | 250V     | *        | CN515        | 1-564-510-11          | PLUG,CONNECTOR 7P           |
|          | C612     | VARIANT (SEE VARIANT PARTS LIST) |              |          |     |          | CN602    | 1-580-843-11 | PIN,CONNECTOR (POWER) |                             |
|          | C613     | 1-126-964-11                     | ELECT        | 10μF     | 20% | 50V      | *        | CN603        | 1-573-963-11          | PIN,CONNECTOR (PC BOARD) 3P |
|          | C614     | 1-130-495-00                     | MYLAR        | 0.1μF    | 5%  | 50V      |          | CN2001       | 1-764-334-11          | PLUG,CONNECTOR 11P          |
|          |          |                                  |              |          |     |          | *        | CN2003       | 1-564-506-11          | PLUG,CONNECTOR 3P           |
|          | C615     | 1-130-202-00                     | FILM         | 0.022μF  | 10% | 400V     |          |              |                       |                             |
|          | C616     | 1-107-824-11                     | CERAMIC      | 220pF    | 5%  | 1KV      | *        | CN2004       | 1-564-508-11          | PLUG,CONNECTOR 5P           |
|          | C617     | 1-125-893-11                     | FILM         | 680pF    | 3%  | 1.5KV    | *        | CN2005       | 1-764-333-11          | PLUG,CONNECTOR 10P          |
|          |          |                                  |              |          |     |          | *        | CN2006       | 1-764-333-11          | PLUG,CONNECTOR 10P          |
|          | C618     | 1-164-081-11                     | CERAMIC      | 470pF    | 10% | 50V      | *        | CN2007       | 1-564-512-11          | PLUG,CONNECTOR 9P           |
|          | C619     | 1-136-356-11                     | MYLAR        | 470pF    | 5%  | 50V      | *        | CN2008       | 1-564-512-11          | PLUG,CONNECTOR 9P           |
|          | C620     | 1-104-665-11                     | ELECT        | 100μF    | 20% | 25V      |          |              |                       |                             |
|          | C621     | 1-125-772-91                     | CERAMIC      | 1500pF   | 10% | 2KV      |          |              |                       |                             |
|          | C622     | 1-164-625-11                     | CERAMIC      | 680pF    | 10% | 500V     |          |              |                       |                             |
|          |          |                                  |              |          |     |          |          |              |                       |                             |
|          | C623     | 1-164-625-11                     | CERAMIC      | 680pF    | 10% | 500V     |          | D201         | 8-719-108-12          | DIODE RD9.1EW-T1            |
|          | C624     | 1-131-867-51                     | ELECT        | 100μF    |     | 160V     |          | D202         | 8-719-108-12          | DIODE RD9.1EW-T1            |
|          | C625     | 1-135-572-51                     | ELECT        | 1000μF   | 20% | 50V      |          | D203         | 8-719-108-12          | DIODE RD9.1EW-T1            |
|          | C626     | 1-135-573-51                     | ELECT        | 15000μF  | 20% | 25V      |          | D204         | 8-719-982-22          | DIODE MTZJ-T-77-30D         |
|          | C627     | 1-136-189-00                     | MYLAR        | 0.1μF    | 10% | 250V     |          | D205         | 8-719-108-12          | DIODE RD9.1EW-T1            |
|          |          |                                  |              |          |     |          |          |              |                       |                             |
|          | C628     | 1-104-665-11                     | ELECT        | 100μF    | 20% | 25V      |          | D206         | 8-719-108-12          | DIODE RD9.1EW-T1            |
|          | C630     | VARIANT (SEE VARIANT PARTS LIST) |              |          |     |          | D208     | 8-719-108-12 | DIODE RD9.1EW-T1      |                             |
|          | C631     | VARIANT (SEE VARIANT PARTS LIST) |              |          |     |          | D209     | 8-719-069-60 | DIODE UDZSTE-179.1B   |                             |
|          | C634     | 1-137-605-11                     | MYLAR        | 0.01μF   | 10% | 250V     |          | D210         | 8-719-110-17          | DIODE MTZJ-T-77-10B         |
|          | C635     | 1-163-009-91                     | CERAMIC CHIP | 0.001μF  | 10% | 50V      |          | D211         | 8-719-108-12          | DIODE RD9.1EW-T1            |
|          | C636     | 1-126-970-11                     | ELECT        | 330μF    | 20% | 50V      |          | D214         | 8-719-108-12          | DIODE RD9.1EW-T1            |
|          | C637     | 1-163-009-91                     | CERAMIC CHIP | 0.001μF  | 10% | 50V      |          | D215         | 8-719-108-12          | DIODE RD9.1EW-T1            |
|          |          |                                  |              |          |     |          |          | D230         | 8-719-108-12          | DIODE RD9.1EW-T1            |
|          | C638     | 1-163-005-91                     | CERAMIC CHIP | 470pF    | 10% | 50V      |          | D231         | 8-719-108-12          | DIODE RD9.1EW-T1            |
|          | C639     | 1-126-965-91                     | ELECT        | 22μF     | 20% | 50V      |          | D232         | 8-719-108-12          | DIODE RD9.1EW-T1            |
|          | C641     | 1-107-679-91                     | ELECT        | 10μF     | 20% | 450V     |          |              |                       |                             |
|          | C643     | 1-104-760-11                     | CERAMIC CHIP | 0.047μF  | 10% | 50V      |          | D233         | 8-719-108-12          | DIODE RD9.1EW-T1            |
|          | C647     | 1-161-964-91                     | CERAMIC      | 0.0047μF |     | 250V     |          | D234         | 8-719-069-60          | DIODE UDZSTE-179.1B         |
|          |          |                                  |              |          |     |          |          | D235         | 8-719-069-60          | DIODE UDZSTE-179.1B         |
|          | C648     | 1-136-346-21                     | MYLAR        | 0.22μF   | 20% | 125V     |          | D236         | 8-719-069-60          | DIODE UDZSTE-179.1B         |
|          | C652     | 1-130-471-00                     | MYLAR        | 0.001μF  | 5%  | 50V      |          | D401         | 8-719-110-17          | DIODE MTZJ-T-77-10B         |
|          | C654     | 1-107-636-11                     | ELECT        | 10μF     | 20% | 160V     |          |              |                       |                             |
| ⚠        | C655     | 1-136-311-11                     | MYLAR        | 0.47μF   | 20% | 125V     | ⚠        | D501         | 8-719-945-80          | DIODE ERC06-15S             |
|          | C657     | 1-104-664-11                     | ELECT        | 47μF     | 20% | 25V      |          | D502         | 8-719-908-03          | DIODE GP08DPKG23            |
|          |          |                                  |              |          |     |          |          | D503         | 8-719-908-03          | DIODE GP08DPKG23            |
|          | C658     | 1-135-572-51                     | ELECT        | 1000μF   | 20% | 50V      | ⚠        | D504         | 8-719-945-80          | DIODE ERC06-15S             |
|          | C659     | 1-135-573-51                     | ELECT        | 15000μF  | 20% | 25V      |          | D505         | 8-719-312-10          | DIODE RU4AM-T3              |
|          | C660     | VARIANT (SEE VARIANT PARTS LIST) |              |          |     |          |          |              |                       |                             |
|          | C661     | VARIANT (SEE VARIANT PARTS LIST) |              |          |     |          | D506     | 8-719-302-43 | DIODE RGP10GPKG3      |                             |
|          | C2001    | 1-104-664-11                     | ELECT        | 47μF     | 20% | 25V      |          | D507         | 8-719-991-33          | DIODE 1SS133T-77            |
|          |          |                                  |              |          |     |          |          | D508         | 8-719-991-33          | DIODE 1SS133T-77            |
|          |          |                                  |              |          |     |          |          | D509         | 8-719-109-89          | DIODE MTZJ-T-77-5.6C        |
|          |          |                                  |              |          |     |          |          | D510         | 8-719-908-03          | DIODE GP08DPKG23            |
|          |          |                                  |              |          |     |          |          |              |                       |                             |
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|          |          |                                  |              |          |     |          |          |              |                       |                             |
|          |          |                                  |              |          |     |          |          |              |                       |                             |
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|          |          |                                  |              |          |     |          |          |              |                       |                             |
|          |          |                                  |              |          |     |          |          |              |                       |                             |




NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.


NOTE: Les composants identifiés par un trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



## COMMON PARTS LISTING FV SERIES














| REF. NO.            | PART NO.     | DESCRIPTION                      | VALUES | REF. NO.              | PART NO.     | DESCRIPTION                      | VALUES     |
|---------------------|--------------|----------------------------------|--------|-----------------------|--------------|----------------------------------|------------|
| ⚠ D517              | 8-719-991-33 | DIODE 1SS133T-77                 |        | FB605                 | 1-412-911-11 | FERRITE                          | 0μH        |
| ⚠ D518              | 8-719-921-63 | DIODE MTZJ-T-77-7.5X             |        | FB606                 | 1-412-911-11 | FERRITE                          | 0μH        |
| ⚠ D519              | 8-719-979-84 | DIODE EGP20DPKG23                |        | FB607                 | 1-412-911-11 | FERRITE                          | 0μH        |
| ⚠ D520              | 8-719-404-50 | DIODE MA111-TX                   |        | FB608                 | 1-412-911-11 | FERRITE                          | 0μH        |
| D521                | 8-719-991-33 | DIODE 1SS133T-77                 |        | FB609                 | 1-412-911-11 | FERRITE                          | 0μH        |
|                     |              |                                  |        | FB610                 | 1-412-911-11 | FERRITE                          | 0μH        |
| D522                | 8-719-404-50 | DIODE MA111-TX                   |        | <b>IC</b>             |              |                                  |            |
| D601                | 8-719-991-33 | DIODE 1SS133T-77                 |        | ⚠ IC402               | 8-759-573-40 | IC TDA8580Q/N1                   |            |
| D602                | 8-719-991-33 | DIODE 1SS133T-77                 |        | ⚠ IC501               | 8-759-700-07 | IC NJM2903M-TE2                  |            |
| D603                | 8-719-982-26 | DIODE MTZJ-T-77-33B              |        | IC502                 | 8-759-980-58 | IC TDA8172                       |            |
| D604                | 8-719-028-72 | DIODE RGP02-17PKG23              |        | IC601                 |              | VARIANT (SEE VARIANT PARTS LIST) |            |
| ⚠ D605              | 8-719-510-53 | DIODE D4SB60L-F                  |        | ⚠ IC602               | 8-749-016-47 | IC EA135-F12                     |            |
| ⚠ D606              | 8-719-108-18 | DIODE TF541M                     |        | IC603                 | 8-759-653-07 | IC PQ09RD21                      |            |
| D607                | 8-719-991-33 | DIODE 1SS133T-77                 |        | IC604                 | 8-759-924-12 | IC LM7805CT                      |            |
| D608                | 8-719-110-53 | DIODE MTZJ-T-77-20B              |        | <b>JACK</b>           |              |                                  |            |
| D609                | 8-719-311-31 | DIODE RU-1P                      |        | J201                  | 1-794-119-11 | TERMINAL BLOCK, S 4P             |            |
| D610                | 8-719-210-21 | DIODE 11EQS04-NTA1B              |        | J203                  | 1-794-118-11 | JACK BLOCK, PIN 3P               |            |
| D611                | 8-719-046-74 | DIODE 10ELS2N-TA1B2              |        | J204                  | 1-794-118-11 | JACK BLOCK, PIN 3P               |            |
| D612                | 8-719-110-17 | DIODE MTZJ-T-77-10B              |        | J205                  | 1-794-116-11 | JACK BLOCK, PIN 2P               |            |
| D613                | 8-719-046-74 | DIODE 10ELS2N-TA1B2              |        | J206                  | 1-794-117-11 | JACK BLOCK, PIN 3P               |            |
| D614                | 8-719-046-74 | DIODE 10ELS2N-TA1B2              |        | J402                  | 1-794-116-11 | JACK BLOCK, PIN 2P               |            |
| D615                | 8-719-312-10 | DIODE RU4AM-T3                   |        | <b>CHIP CONDUCTOR</b> |              |                                  |            |
| D616                | 8-719-510-37 | DIODE D5LC20U                    |        | JR001                 | 1-216-295-91 | SHORT                            |            |
| D617                | 8-719-110-31 | DIODE MTZJ-T-77-12C              |        | JR002                 | 1-216-295-91 | SHORT                            |            |
| D618                | 8-719-991-33 | DIODE 1SS133T-77                 |        | JR402                 | 1-216-295-91 | SHORT                            |            |
| D619                | 8-719-110-17 | DIODE MTZJ-T-77-10B              |        | JR403                 | 1-216-295-91 | SHORT                            |            |
| D620                | 8-719-510-37 | DIODE D5LC20U                    |        | JR404                 | 1-216-295-91 | SHORT                            |            |
| D622                | 8-719-077-76 | DIODE D2SB60A-F04                |        | JR405                 | 1-216-295-91 | SHORT                            |            |
| D623                | 8-719-081-70 | DIODE BA159DGPCKG3               |        | JR410                 | 1-216-295-91 | SHORT                            |            |
| D624                | 8-719-991-33 | DIODE 1SS133T-77                 |        | JR411                 | 1-216-295-91 | SHORT                            |            |
| D625                | 8-719-991-33 | DIODE 1SS133T-77                 |        | JR471                 | 1-164-222-91 | CERAMIC CHIP                     | 0.22μF 25V |
| D626                | 8-719-046-74 | DIODE 10ELS2N-TA1B2              |        | JR472                 | 1-216-295-91 | SHORT                            |            |
| D627                | 8-719-110-03 | DIODE MTZJ-T-77-7.5A             |        | JR501                 | 1-216-295-91 | SHORT                            |            |
| D628                | 8-719-510-48 | DIODE D1N20R-TA                  |        | JR502                 | 1-216-295-91 | SHORT                            |            |
| D2002               | 8-719-110-17 | DIODE MTZJ-T-77-10B              |        | JR503                 | 1-216-295-91 | SHORT                            |            |
| D2004               | 8-719-921-44 | DIODE MTZJ-T-77-5.1C             |        | JR505                 | 1-216-295-91 | SHORT                            |            |
| D2005               | 8-719-921-44 | DIODE MTZJ-T-77-5.1C             |        | JR522                 | 1-216-295-91 | SHORT                            |            |
| <b>FUSE</b>         |              |                                  |        | JR523                 | 1-216-295-91 | SHORT                            |            |
| F601                |              | VARIANT (SEE VARIANT PARTS LIST) |        | JR526                 | 1-216-295-91 | SHORT                            |            |
| <b>FERRITE BEAD</b> |              |                                  |        | JR527                 | 1-216-295-91 | SHORT                            |            |
| FB501               | 1-410-397-21 | FERRITE                          | 1.1μH  | JR2003                | 1-216-295-91 | SHORT                            |            |
| FB502               | 1-410-397-21 | FERRITE                          | 1.1μH  | <b>COIL</b>           |              |                                  |            |
| FB503               | 1-410-397-21 | FERRITE                          | 1.1μH  | L101                  | 1-412-029-11 | INDUCTOR                         | 10μH       |
| FB600               | 1-412-911-11 | FERRITE                          | 0μH    | L102                  | 1-412-032-11 | INDUCTOR                         | 100μH      |
| FB601               | 1-412-911-11 | FERRITE                          | 0μH    | L103                  | 1-412-029-11 | INDUCTOR                         | 10μH       |
| FB602               | 1-412-911-11 | FERRITE                          | 0μH    | L501                  | 1-409-955-11 | INDUCTOR                         | 8mH        |
| FB603               | 1-412-911-11 | FERRITE                          | 0μH    | L502                  | 1-412-552-11 | INDUCTOR                         | 2.2mH      |
| FB604               | 1-412-911-11 | FERRITE                          | 0μH    |                       |              |                                  |            |


NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.


NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



## COMMON PARTS LISTING FV SERIES






















| REF. NO.   | PART NO.     | DESCRIPTION                | VALUES           | REF. NO.   | PART NO.     | DESCRIPTION                      | VALUES           |
|--|--------------|----------------------------|------------------|--|--------------|----------------------------------|------------------|
| L503   | 1-406-677-11 | INDUCTOR                   | 10mH             | R204   | 1-216-081-00 | RES-CHIP                         | 22K 5% 1/10W     |
| L504   | 1-412-533-21 | INDUCTOR                   | 47μH             | R205   | 1-216-085-91 | RES-CHIP                         | 33K 5% 1/10W     |
| L505   | 1-406-978-11 | INDUCTOR                   | 150μH            | R208   | 1-215-924-00 | METAL OXIDE                      | 15K 5% 3W        |
| L506   | 1-406-677-11 | INDUCTOR                   | 10mH             | R210   | 1-216-022-00 | RES-CHIP                         | 75 5% 1/10W      |
| L507   | 1-412-552-11 | INDUCTOR                   | 2.2mH            | R214   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
|  L510   | 1-412-528-11 | INDUCTOR                   | 18μH             | R215   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
| L603   | 1-412-529-11 | INDUCTOR                   | 22μH             | R218   |              | VARIANT (SEE VARIANT PARTS LIST) |                  |
| L604   | 1-412-525-31 | INDUCTOR                   | 10μH             | R221   | 1-216-033-00 | RES-CHIP                         | 220 5% 1/10W     |
| L605   | 1-412-529-11 | INDUCTOR                   | 22μH             | R224   | 1-208-798-11 | METAL CHIP                       | 4.7K 0.50% 1/10W |
| <b>PHOTO COUPLER</b>   |              |                            |                  | R225   | 1-208-798-11 | METAL CHIP                       | 4.7K 0.50% 1/10W |
|  PH601  | 8-749-010-64 | PHOTO COUPLER PC123FY2     |                  | R226   | 1-216-022-00 | RES-CHIP                         | 75 5% 1/10W      |
| <b>IC LINK</b>   |              |                            |                  | R227   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
|  PS401  | 1-532-686-21 | LINK, IC 2.7A/150V         |                  | R228   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
| <b>TRANSISTOR</b>  |              |                            |                  | R229   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
| Q101   | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX  |                  | R231   | 1-216-069-00 | RES-CHIP                         | 6.8K 5% 1/10W    |
| Q201   | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX  |                  | R232   | 1-216-069-00 | RES-CHIP                         | 6.8K 5% 1/10W    |
| Q205   | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX  |                  | R401   | 1-216-080-00 | RES-CHIP                         | 20K 5% 1/10W     |
| Q206   | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX  |                  | R402   | 1-216-073-91 | RES-CHIP                         | 10K 5% 1/10W     |
| Q401   | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX  |                  | R403   | 1-208-798-11 | METAL CHIP                       | 4.7K 0.50% 1/10W |
| Q402   | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX  |                  | R404   | 1-208-798-11 | METAL CHIP                       | 4.7K 0.50% 1/10W |
| Q410   | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX  |                  | R407   | 1-208-758-11 | METAL CHIP                       | 100 0.50% 1/10W  |
| Q411   | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX  |                  | R408   | 1-208-758-11 | METAL CHIP                       | 100 0.50% 1/10W  |
| Q501   | 8-729-140-50 | TRANSISTOR 2SC3209LK-TP    |                  | R411   | 1-249-417-11 | CARBON                           | 1K 5% 1/4W       |
|  Q502 | 8-729-046-07 | TRANSISTOR 2SD2578-YB      |                  | R412   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
|  Q503 | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX  |                  | R413   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
|  Q504 | 8-729-053-87 | TRANSISTOR KTC4370A        |                  | R414   | 1-249-417-11 | CARBON                           | 1K 5% 1/4W       |
|  Q505 | 8-729-200-17 | TRANSISTOR 2SA10910-TPE2   |                  | R421   | 1-249-425-11 | CARBON                           | 4.7K 5% 1/4W     |
|  Q506 | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX  |                  | R422   | 1-249-389-11 | CARBON                           | 4.7 5% 1/4W      |
|  Q507 | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX  |                  | R426   | 1-216-009-91 | RES-CHIP                         | 22 5% 1/10W      |
| Q601   | 8-729-922-37 | TRANSISTOR 2SD2144S-TP-UVW |                  | R429   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
| Q602   | 8-729-423-33 | TRANSISTOR 2SC3311A-QRSTA  |                  | R430   | 1-216-049-11 | RES-CHIP                         | 1K 5% 1/10W      |
|  Q603 | 8-729-119-76 | TRANSISTOR 2SA1309A-QRSTA  |                  | R431   | 1-216-049-11 | RES-CHIP                         | 1K 5% 1/10W      |
| Q604   | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX  |                  | R433   | 1-216-113-00 | RES-CHIP                         | 470K 5% 1/10W    |
|  Q605 | 8-729-046-40 | TRANSISTOR 2SK2663         |                  | R436   | 1-208-798-11 | METAL CHIP                       | 4.7K 0.50% 1/10W |
| Q606   | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX  |                  | R437   | 1-216-073-91 | RES-CHIP                         | 10K 5% 1/10W     |
| Q607   | 8-729-922-37 | TRANSISTOR 2SD2144S-TP-UVW |                  | R438   | 1-208-798-11 | METAL CHIP                       | 4.7K 0.50% 1/10W |
| Q608   | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX  |                  | R440   | 1-216-097-11 | RES-CHIP                         | 100K 5% 1/10W    |
| Q609   | 8-729-423-33 | TRANSISTOR 2SC3311A-QRSTA  |                  | R441   | 1-216-081-00 | RES-CHIP                         | 22K 5% 1/10W     |
| <b>RESISTOR</b>  |              |                            |                  | R442   | 1-208-758-11 | METAL CHIP                       | 100 0.50% 1/10W  |
| R105   | 1-208-798-11 | METAL CHIP                 | 4.7K 0.50% 1/10W | R445   | 1-216-073-91 | RES-CHIP                         | 10K 5% 1/10W     |
| R107   | 1-216-025-11 | RES-CHIP                   | 100 5% 1/10W     | R446   | 1-215-457-00 | METAL                            | 33K 1% 1/4W      |
| R108   | 1-216-025-11 | RES-CHIP                   | 100 5% 1/10W     | R447   | 1-216-065-91 | RES-CHIP                         | 4.7K 5% 1/10W    |
| R115   | 1-216-295-91 | SHORT                      |                  | R454   | 1-216-025-11 | RES-CHIP                         | 100 5% 1/10W     |
| R201   | 1-216-113-00 | RES-CHIP                   | 470K 5% 1/10W    | R490   | 1-216-073-91 | RES-CHIP                         | 10K 5% 1/10W     |
| R202   | 1-216-113-00 | RES-CHIP                   | 470K 5% 1/10W    | R501   | 1-249-425-11 | CARBON                           | 4.7K 5% 1/4W     |
| R203   | 1-216-022-00 | RES-CHIP                   | 75 5% 1/10W      |  R502 | 1-216-455-21 | METAL OXIDE                      | 560 5% 2W        |
|  |              |                            |                  |  R503 | 1-249-425-11 | CARBON                           | 4.7K 5% 1/4W     |



















NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

A component identified by this  symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.



## COMMON PARTS LISTING FV SERIES

| REF. NO.  | PART NO. | DESCRIPTION  | VALUES      |      |             |
|---|----------|--------------|-------------|------|-------------|
|   | R505     | 1-249-401-11 | CARBON      | 47   | 5% 1/4W     |
|    | R506     | 1-215-883-11 | METAL OXIDE | 33   | 5% 2W       |
|    | R507     | 1-260-328-11 | CARBON      | 1K   | 5% 1/2W     |
|   | R508     | 1-249-433-11 | CARBON      | 22K  | 5% 1/4W     |
|    | R509     | 1-215-891-11 | METAL OXIDE | 680  | 5% 2W       |
|   | R510     | 1-249-411-11 | CARBON      | 330  | 5% 1/4W     |
|   | R511     | 1-249-377-11 | CARBON      | 0.47 | 5% 1/4W     |
|   | R512     | 1-215-910-00 | METAL OXIDE | 68   | 5% 3W       |
|    | R513     | 1-215-907-11 | METAL OXIDE | 22   | 5% 3W       |
|   | R514     | 1-216-683-11 | METAL CHIP  | 22K  | 0.50% 1/10W |
|   | R516     | 1-249-425-11 | CARBON      | 4.7K | 5% 1/4W     |
|   | R517     | 1-215-445-00 | METAL       | 10K  | 1% 1/4W     |
|   | R518     | 1-249-427-11 | CARBON      | 6.8K | 5% 1/4W     |
|   | R519     | 1-249-427-11 | CARBON      | 6.8K | 5% 1/4W     |
|    | R520     | 1-215-884-11 | METAL OXIDE | 47   | 5% 2W       |
|    | R521     | 1-249-413-11 | CARBON      | 470  | 5% 1/4W     |
|   | R522     | 1-249-417-11 | CARBON      | 1K   | 5% 1/4W     |
|   | R523     | 1-216-073-91 | RES-CHIP    | 10K  | 5% 1/10W    |
|   | R524     | 1-249-429-11 | CARBON      | 10K  | 5% 1/4W     |
|   | R525     | 1-208-804-11 | METAL CHIP  | 8.2K | 0.50% 1/10W |
|   | R526     | 1-208-814-91 | METAL CHIP  | 22K  | 0.50% 1/10W |
|   | R528     | 1-215-429-00 | METAL       | 2.2K | 1% 1/4W     |
|   | R529     | 1-216-109-00 | RES-CHIP    | 330K | 5% 1/10W    |
|   | R530     | 1-216-077-91 | RES-CHIP    | 15K  | 5% 1/10W    |
|   | R532     | 1-215-437-00 | METAL       | 4.7K | 1% 1/4W     |
|   | R533     | 1-215-457-00 | METAL       | 33K  | 1% 1/4W     |
|   | R534     | 1-215-458-00 | METAL       | 36K  | 1% 1/4W     |
|   | R535     | 1-249-441-11 | CARBON      | 100K | 5% 1/4W     |
|  | R536     | 1-214-798-21 | METAL       | 1.8  | 1% 1/2W     |
|  | R538     | 1-215-889-00 | METAL OXIDE | 330  | 5% 2W       |
|  | R539     | 1-249-385-11 | CARBON      | 2.2  | 5% 1/4W     |
|   | R540     | 1-215-445-00 | METAL       | 10K  | 1% 1/4W     |
|   | R541     | 1-249-429-11 | CARBON      | 10K  | 5% 1/4W     |
|   | R543     | 1-247-887-00 | CARBON      | 220K | 5% 1/4W     |
|  | R544     | 1-249-377-11 | CARBON      | 0.47 | 5% 1/4W     |
|   | R545     | 1-215-873-00 | METAL OXIDE | 4.7K | 5% 1W       |
|  | R546     | 1-249-377-11 | CARBON      | 0.47 | 5% 1/4W     |
|   | R547     | 1-216-455-21 | METAL OXIDE | 560  | 5% 2W       |
|   | R548     | 1-216-377-11 | METAL OXIDE | 4.7  | 5% 2W       |
|  | R549     | 1-260-288-11 | CARBON      | 0.47 | 5% 1/2W     |
|  | R550     | 1-260-288-11 | CARBON      | 0.47 | 5% 1/2W     |
|   | R551     | 1-215-907-11 | METAL OXIDE | 22   | 5% 3W       |
|  | R553     | 1-216-363-00 | METAL OXIDE | 0.33 | 5% 2W       |
|  | R554     | 1-249-429-11 | CARBON      | 10K  | 5% 1/4W     |
|  | R555     | 1-247-895-91 | CARBON      | 470K | 5% 1/4W     |
|  | R556     | 1-249-417-11 | CARBON      | 1K   | 5% 1/4W     |
|  | R557     | 1-247-895-91 | CARBON      | 470K | 5% 1/4W     |
|  | R558     | 1-216-097-11 | RES-CHIP    | 100K | 5% 1/10W    |
|  | R559     | 1-216-073-91 | RES-CHIP    | 10K  | 5% 1/10W    |

| REF. NO.  | PART NO.   | DESCRIPTION                      | VALUES      |      |             |
|---|--|----------------------------------|-------------|------|-------------|
|    | R560   | 1-215-879-11                     | METAL OXIDE | 47K  | 5% 1W       |
|    | R561   | 1-249-406-11                     | CARBON      | 120  | 5% 1/4W     |
|    | R562   | 1-208-808-11                     | METAL CHIP  | 12K  | 0.50% 1/10W |
|    | R563   | 1-249-433-11                     | CARBON      | 22K  | 5% 1/4W     |
|    |  R564 | 1-208-836-11                     | METAL CHIP  | 180K | 0.50% 1/10W |
|    | R565   | 1-249-429-11                     | CARBON      | 10K  | 5% 1/4W     |
|    | R566   | 1-216-073-91                     | RES-CHIP    | 10K  | 5% 1/10W    |
|    | R567   | 1-216-073-91                     | RES-CHIP    | 10K  | 5% 1/10W    |
|    | R568   | 1-215-882-00                     | METAL OXIDE | 22   | 5% 2W       |
|   | R569   | 1-214-798-21                     | METAL       | 1.8  | 1% 1/2W     |
|   | R570   | 1-249-433-11                     | CARBON      | 22K  | 5% 1/4W     |
|   | R571   | 1-216-065-91                     | RES-CHIP    | 4.7K | 5% 1/10W    |
|   | R572   | 1-216-065-91                     | RES-CHIP    | 4.7K | 5% 1/10W    |
|   | R601   | VARIANT (SEE VARIANT PARTS LIST) |             |      |             |
|    | R602   | 1-249-389-11                     | CARBON      | 4.7  | 5% 1/4W     |
|   | R603   | 1-215-485-00                     | METAL       | 470K | 1% 1/4W     |
|   | R607   | 1-215-859-00                     | METAL OXIDE | 22   | 5% 1W       |
|   | R608   | 1-240-205-11                     | CARBON      | 22M  | 5% 1/2W     |
|   | R609   | 1-216-049-11                     | RES-CHIP    | 1K   | 5% 1/10W    |
|   | R610   | 1-216-073-91                     | RES-CHIP    | 10K  | 5% 1/10W    |
|   | R611   | 1-216-089-91                     | RES-CHIP    | 47K  | 5% 1/10W    |
|   | R612   | 1-216-045-00                     | RES-CHIP    | 680  | 5% 1/10W    |
|  | R613   | 1-219-512-11                     | CARBON      | 2.2M | 5% 1/2W     |
|   | R614   | 1-249-413-11                     | CARBON      | 470  | 5% 1/4W     |
|   | R615   | VARIANT (SEE VARIANT PARTS LIST) |             |      |             |
|  | R616   | 1-260-302-51                     | CARBON      | 6.8  | 5% 1/2W     |
|   | R617   | 1-216-009-91                     | RES-CHIP    | 22   | 5% 1/10W    |
|   | R618   | 1-249-440-11                     | CARBON      | 82K  | 5% 1/4W     |
|   | R619   | 1-249-437-11                     | CARBON      | 47K  | 5% 1/4W     |
|   | R620   | 1-249-417-11                     | CARBON      | 1K   | 5% 1/4W     |
|  | R621   | 1-240-251-11                     | CEMENTED    | 6.8  | 5% 10W      |
|   | R622   | 1-249-441-11                     | CARBON      | 100K | 5% 1/4W     |
|  | R623   | 1-260-324-11                     | CARBON      | 470  | 5% 1/2W     |
|  | R624   | 1-249-429-11                     | CARBON      | 10K  | 5% 1/4W     |
|   | R625   | 1-249-437-11                     | CARBON      | 47K  | 5% 1/4W     |
|  | R626   | 1-202-933-61                     | FUSIBLE     | 0.1  | 10% 1/2W    |
|   | R627   | VARIANT (SEE VARIANT PARTS LIST) |             |      |             |
|   | R628   | VARIANT (SEE VARIANT PARTS LIST) |             |      |             |
|   | R629   | VARIANT (SEE VARIANT PARTS LIST) |             |      |             |
|   | R630   | 1-249-421-11                     | CARBON      | 2.2K | 5% 1/4W     |
|   | R631   | VARIANT (SEE VARIANT PARTS LIST) |             |      |             |
|  | R632   | 1-217-611-00                     | METAL       | 0.1  | 10% 2W      |
|   | R633   | 1-249-415-11                     | CARBON      | 680  | 5% 1/4W     |
|   | R634   | 1-216-073-91                     | RES-CHIP    | 10K  | 5% 1/10W    |
|   | R635   | 1-216-057-00                     | RES-CHIP    | 2.2K | 5% 1/10W    |
|   | R637   | VARIANT (SEE VARIANT PARTS LIST) |             |      |             |
|   | R638   | VARIANT (SEE VARIANT PARTS LIST) |             |      |             |


NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.


NOTE: Les composants identifiés par un trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



## COMMON PARTS LISTING FV SERIES

| REF. NO. | PART NO.           | DESCRIPTION  | VALUES                           |      |    | REF. NO. | PART NO.        | DESCRIPTION                      | VALUES |
|----------|--------------------|--------------|----------------------------------|------|----|----------|-----------------|----------------------------------|--------|
|          | R639               | 1-249-421-11 | CARBON                           | 2.2K | 5% | 1/4W     | <u>VARISTOR</u> |                                  |        |
|          | R640               | 1-249-417-11 | CARBON                           | 1K   | 5% | 1/4W     | VDR601          | VARIANT (SEE VARIANT PARTS LIST) |        |
| ⚠        | R641               | 1-216-369-00 | METAL OXIDE                      | 1    | 5% | 2W       |                 |                                  |        |
|          | R642               | 1-216-089-91 | RES-CHIP                         | 47K  | 5% | 1/10W    |                 |                                  |        |
|          | R643               | 1-249-419-11 | CARBON                           | 1.5K | 5% | 1/4W     |                 |                                  |        |
|          | R644               | 1-247-843-11 | CARBON                           | 3.3K | 5% | 1/4W     |                 |                                  |        |
|          | R645               | 1-215-898-11 | METAL OXIDE                      | 10K  | 5% | 2W       |                 |                                  |        |
|          | R646               |              | VARIANT (SEE VARIANT PARTS LIST) |      |    |          |                 |                                  |        |
|          | R648               | 1-216-398-11 | METAL OXIDE                      | 5.6  | 5% | 3W       |                 |                                  |        |
|          | R649               | 1-249-417-11 | CARBON                           | 1K   | 5% | 1/4W     |                 |                                  |        |
|          | R650               | 1-216-387-11 | METAL OXIDE                      | 0.68 | 5% | 3W       |                 |                                  |        |
|          | R651               | 1-249-429-11 | CARBON                           | 10K  | 5% | 1/4W     |                 |                                  |        |
|          | R653               | 1-216-049-11 | RES-CHIP                         | 1K   | 5% | 1/10W    |                 |                                  |        |
|          | R655               | 1-216-049-11 | RES-CHIP                         | 1K   | 5% | 1/10W    |                 |                                  |        |
|          | R656               | 1-249-429-11 | CARBON                           | 10K  | 5% | 1/4W     |                 |                                  |        |
|          | R658               | 1-216-387-11 | METAL OXIDE                      | 0.68 | 5% | 3W       |                 |                                  |        |
|          | R659               | 1-215-857-71 | METAL OXIDE                      | 10   | 5% | 1W       |                 |                                  |        |
|          | R660               |              | VARIANT (SEE VARIANT PARTS LIST) |      |    |          |                 |                                  |        |
|          | R661               | 1-216-057-00 | RES-CHIP                         | 2.2K | 5% | 1/10W    |                 |                                  |        |
|          | R662               |              | VARIANT (SEE VARIANT PARTS LIST) |      |    |          |                 |                                  |        |
|          | R663               | 1-216-081-00 | RES-CHIP                         | 22K  | 5% | 1/10W    |                 |                                  |        |
|          | R664               | 1-216-398-11 | METAL OXIDE                      | 5.6  | 5% | 3W       |                 |                                  |        |
|          | R2003              | 1-249-425-11 | CARBON                           | 4.7K | 5% | 1/4W     |                 |                                  |        |
|          | <u>RELAY</u>       |              |                                  |      |    |          |                 |                                  |        |
| ⚠        | RY601              | 1-755-198-11 | RELAY                            |      |    |          |                 |                                  |        |
| ⚠        | RY602              | 1-755-266-11 | RELAY, AC POWER                  |      |    |          |                 |                                  |        |
|          | <u>SWITCH</u>      |              |                                  |      |    |          |                 |                                  |        |
|          | SW501              | 1-572-707-11 | SWITCH LEVER                     |      |    |          |                 |                                  |        |
|          | SW502              | 1-572-707-11 | SWITCH LEVER                     |      |    |          |                 |                                  |        |
|          | <u>TRANSFORMER</u> |              |                                  |      |    |          |                 |                                  |        |
| ⚠        | T501               | 1-437-195-11 | TRANSFORMER, HORIZONTAL DRIVE    |      |    |          |                 |                                  |        |
| ⚠        | T503               | 1-426-981-11 | TRANSFORMER, FERRITE (PMT)       |      |    |          |                 |                                  |        |
| ⚠        | T504               | 1-431-693-11 | TRANSFORMER, HORIZONTAL LINEAR   |      |    |          |                 |                                  |        |
| ⚠        | T505               | 1-453-310-11 | FBT ASSY NX-4521//X4J4           |      |    |          |                 |                                  |        |
|          | T602               |              | VARIANT (SEE VARIANT PARTS LIST) |      |    |          |                 |                                  |        |
|          | T603               |              | VARIANT (SEE VARIANT PARTS LIST) |      |    |          |                 |                                  |        |
| ⚠        | T604               | 1-431-852-11 | TRANSFORMER, CONVERTER (SRT)     |      |    |          |                 |                                  |        |
|          | <u>THERMISTOR</u>  |              |                                  |      |    |          |                 |                                  |        |
|          | TH501              | 1-800-193-00 | THERMISTOR                       |      |    |          |                 |                                  |        |
| ⚠        | TH601              | 1-803-586-11 | THERMISTOR, NTC                  |      |    |          |                 |                                  |        |
|          | <u>THERMISTOR</u>  |              |                                  |      |    |          |                 |                                  |        |
| ⚠        | THP601             | 1-803-540-11 | THERMISTOR                       |      |    |          |                 |                                  |        |
|          | <u>TUNER</u>       |              |                                  |      |    |          |                 |                                  |        |
| ⚠        | TU101              | 8-598-542-20 | TUNER, FSS BTF-WA412             |      |    |          |                 |                                  |        |

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.










A component identified by this  symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

## VARIANT PARTS LISTING





The parts on this page belong to the following model(s) only:  
**KV-27FS13**

| REF. NO.                               | PART NO.     | DESCRIPTION         | VALUES                |          |          |
|--|--------------|---------------------|-----------------------|----------|----------|
| A BOARD VARIANT PARTS LIST (KV-27FS13) |              |                     |                       |          |          |
| *                                      | A-1299-502-A | A COMPLETE PC BOARD |                       |          |          |
| CAPACITOR                              |              |                     |                       |          |          |
| ⚠                                      | C507         | 1-117-717-11        | FILM                  | 17000pF  | 3% 1.2KV |
| ⚠                                      | C511         | 1-115-522-11        | FILM                  | 1μF      | 5% 250V  |
|  | C514         | 1-109-844-11        | FILM                  | 0.68μF   | 5% 250V  |
| ⚠                                      | C520         | 1-129-722-00        | FILM                  | 0.047μF  | 5% 630V  |
|  | C530         | 1-164-161-11        | CERAMIC CHIP          | 0.0022μF | 10% 50V  |
|  | C548         | 1-104-710-11        | ELECT                 | 22μF     | 160V     |
|  | C550         | 1-107-846-11        | FILM                  | 0.1μF    | 5% 250V  |
| ⚠                                      | C555         | 1-117-629-11        | FILM                  | 2700pF   | 3% 1.2KV |
| ⚠                                      | C607         | 1-136-311-11        | MYLAR                 | 0.47μF   | 20% 125V |
| ⚠                                      | C612         | 1-128-717-11        | ELECT                 | 680μF    | 20% 250V |
|  | C625         | 1-135-412-51        | ELECT                 | 1000μF   | 20% 25V  |
|  | C630         | 1-127-795-51        | CERAMIC               | 3300pF   | 20% 250V |
|  | C631         | 1-113-924-11        | CERAMIC               | 4700pF   | 20% 250V |
|  | C658         | 1-135-412-51        | ELECT                 | 1000μF   | 20% 25V  |
| FERRITE BEAD                           |              |                     |                       |          |          |
|  | FB605        | 1-412-911-11        | FERRITE               | 0μH      |          |
| IC                                     |              |                     |                       |          |          |
|  | IC502        | 8-759-980-58        | IC TDA8172            |          |          |
| ⚠                                      | IC601        | 8-749-018-43        | IC STR-F6426          |          |          |
| COIL                                   |              |                     |                       |          |          |
|  | L505         | 1-406-978-11        | INDUCTOR              | 150μH    |          |
| TRANSISTOR                             |              |                     |                       |          |          |
| ⚠                                      | Q502         | 8-729-046-07        | TRANSISTOR 2SD2578-YB |          |          |
| RESISTOR                               |              |                     |                       |          |          |
|  | R436         | 1-216-069-00        | RES-CHIP              | 6.8K     | 5% 1/10W |
|  | R437         | 1-216-065-91        | RES-CHIP              | 4.7K     | 5% 1/10W |
|  | R438         | 1-216-069-00        | RES-CHIP              | 6.8K     | 5% 1/10W |
|  | R490         | 1-208-798-11        | METAL CHIP            | 4.7K     | 1% 1/10W |
| ⚠                                      | R513         | 1-215-907-11        | METAL OXIDE           | 22       | 5% 3W    |
|  | R514         | 1-216-683-11        | METAL CHIP            | 22K      | 1% 1/10W |
|  | R518         | 1-249-427-11        | CARBON                | 6.8K     | 5% 1/4W  |
|  | R519         | 1-249-427-11        | CARBON                | 6.8K     | 5% 1/4W  |
|  | R529         | 1-216-109-00        | RES-CHIP              | 330K     | 5% 1/10W |
|  | R530         | 1-216-077-91        | RES-CHIP              | 15K      | 5% 1/10W |
|  | R533         | 1-215-457-00        | METAL                 | 33K      | 1% 1/4W  |
|  | R534         | 1-215-458-00        | METAL                 | 36K      | 1% 1/4W  |
| ⚠                                      | ■R564        | 1-208-836-11        | METAL CHIP            | 180K     | 1% 1/10W |
| ⚠                                      | R601         | 1-219-513-11        | CARBON                | 4.7M     | 5% 1/2W  |
| ⚠                                      | R626         | 1-220-926-11        | FUSIBLE               | 0.47     | 10% 1/2W |
|  | R627         | 1-215-483-00        | METAL                 | 390K     | 1% 1/4W  |

| REF. NO.  | PART NO. | DESCRIPTION  | VALUES                         |      |         |
|---|----------|--------------|--------------------------------|------|---------|
|  | R632     | 1-216-361-00 | METAL OXIDE                    | 0.22 | 5% 2W   |
|   | R638     | 1-249-399-11 | CARBON                         | 33   | 5% 1/4W |
|  | R641     | 1-216-362-11 | METAL OXIDE                    | 0.27 | 5% 2W   |
|   | R646     | 1-249-419-11 | CARBON                         | 1.5K | 5% 1/4W |
|  | R660     | 1-215-924-00 | METAL OXIDE                    | 15K  | 5% 3W   |
| <b><u>TRANSFORMER</u></b>   |          |              |                                |      |         |
|  | T504     | 1-431-693-11 | TRANSFORMER, HORIZONTAL LINEAR |      |         |
|  | T505     | 1-453-310-11 | FBT ASSY NX-4521//X4J4         |      |         |
|  | T602     | 1-435-617-11 | TRANSFORMER, LINE FILTER       |      |         |
|  | T603     | 1-433-806-21 | TRANSFORMER, REGULAT           |      |         |
| <b><u>THERMISTOR</u></b>  |          |              |                                |      |         |
|  | THP601   | 1-803-540-11 | THERMISTOR                     |      |         |
| <b><u>VARISTOR</u></b>  |          |              |                                |      |         |
|  | VDR601   | 1-803-585-11 | VARISTOR ENE271D-10A           |      |         |



NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.


A component identified by this  symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.


## VARIANT PARTS LISTING



The parts on this page belong to the following model(s) only:  
**KV-27FS17**

| REF. NO.                               | PART NO.     | DESCRIPTION  | VALUES                         |          |       |       | REF. NO. | PART NO. | DESCRIPTION | VALUES |  |  |  |
|--|--------------|--------------|--------------------------------|----------|-------|-------|----------|----------|-------------|--------|--|--|--|
| A BOARD VARIANT PARTS LIST (KV-27FS17) |              |              |                                |          |       |       |          |          |             |        |  |  |  |
| *                                      | A-1299-503-A |              | A COMPLETE PC BOARD            |          |       |       |          |          |             |        |  |  |  |
| CAPACITOR                              |              |              |                                |          |       |       |          |          |             |        |  |  |  |
| ⚠                                      | C507         | 1-117-717-11 | FILM                           | 17000pF  | 3%    | 1.2KV |          |          |             |        |  |  |  |
| ⚠                                      | C511         | 1-115-522-11 | FILM                           | 1μF      | 5%    | 250V  |          |          |             |        |  |  |  |
|  | C514         | 1-109-844-11 | FILM                           | 0.68μF   | 5%    | 250V  |          |          |             |        |  |  |  |
| ⚠                                      | C520         | 1-129-722-00 | FILM                           | 0.047μF  | 5%    | 630V  |          |          |             |        |  |  |  |
|  | C530         | 1-164-161-11 | CERAMIC CHIP                   | 0.0022μF | 10%   | 50V   |          |          |             |        |  |  |  |
|  | C548         | 1-104-710-11 | ELECT                          | 22μF     |       | 160V  |          |          |             |        |  |  |  |
|  | C550         | 1-107-846-11 | FILM                           | 0.1μF    | 5%    | 250V  |          |          |             |        |  |  |  |
| ⚠                                      | C555         | 1-117-629-11 | FILM                           | 2700pF   | 3%    | 1.2KV |          |          |             |        |  |  |  |
| ⚠                                      | C607         | 1-136-311-11 | MYLAR                          | 0.47μF   | 20%   | 125V  |          |          |             |        |  |  |  |
| ⚠                                      | C612         | 1-128-717-11 | ELECT                          | 680μF    | 20%   | 250V  |          |          |             |        |  |  |  |
|  | C615         | 1-130-202-00 | FILM                           | 0.022μF  | 10%   | 400V  |          |          |             |        |  |  |  |
|  | C616         | 1-107-824-11 | CERAMIC                        | 220pF    | 5%    | 1KV   |          |          |             |        |  |  |  |
|  | C625         | 1-135-412-51 | ELECT                          | 1000μF   | 20%   | 25V   |          |          |             |        |  |  |  |
|  | C630         | 1-127-795-51 | CERAMIC                        | 3300pF   | 20%   | 250V  |          |          |             |        |  |  |  |
|  | C631         | 1-113-924-11 | CERAMIC                        | 4700pF   | 20%   | 250V  |          |          |             |        |  |  |  |
|  | C658         | 1-135-412-51 | ELECT                          | 1000μF   | 20%   | 25V   |          |          |             |        |  |  |  |
| DIODE                                  |              |              |                                |          |       |       |          |          |             |        |  |  |  |
|  | D609         | 8-719-311-31 | DIODE RU-1P                    |          |       |       |          |          |             |        |  |  |  |
| FERRITE BEAD                           |              |              |                                |          |       |       |          |          |             |        |  |  |  |
|  | FB605        | 1-412-911-11 | FERRITE                        | 0μH      |       |       |          |          |             |        |  |  |  |
|  | FB607        | 1-412-911-11 | FERRITE                        | 0μH      |       |       |          |          |             |        |  |  |  |
|  | FB608        | 1-412-911-11 | FERRITE                        | 0μH      |       |       |          |          |             |        |  |  |  |
| IC                                     |              |              |                                |          |       |       |          |          |             |        |  |  |  |
|  | IC502        | 8-759-980-58 | IC TDA8172                     |          |       |       |          |          |             |        |  |  |  |
| ⚠                                      | IC601        | 8-749-018-43 | IC STR-F6426                   |          |       |       |          |          |             |        |  |  |  |
| COIL                                   |              |              |                                |          |       |       |          |          |             |        |  |  |  |
|  | L505         | 1-406-978-11 | INDUCTOR                       | 150μH    |       |       |          |          |             |        |  |  |  |
| TRANSISTOR                             |              |              |                                |          |       |       |          |          |             |        |  |  |  |
| ⚠                                      | Q502         | 8-729-046-07 | TRANSISTOR 2SD2578-YB          |          |       |       |          |          |             |        |  |  |  |
| RESISTOR                               |              |              |                                |          |       |       |          |          |             |        |  |  |  |
|  | R436         | 1-216-069-00 | RES-CHIP                       | 6.8K     | 5%    | 1/10W |          |          |             |        |  |  |  |
|  | R437         | 1-216-065-91 | RES-CHIP                       | 4.7K     | 5%    | 1/10W |          |          |             |        |  |  |  |
|  | R438         | 1-216-069-00 | RES-CHIP                       | 6.8K     | 5%    | 1/10W |          |          |             |        |  |  |  |
|  | R490         | 1-208-798-11 | METAL CHIP                     | 4.7K     | 1%    | 1/10W |          |          |             |        |  |  |  |
| ⚠                                      | R513         | 1-215-907-11 | METAL OXIDE                    | 22       | 5%    | 3W    |          |          |             |        |  |  |  |
|  | R514         | 1-216-683-11 | METAL CHIP                     | 22K      | 0.50% | 1/10W |          |          |             |        |  |  |  |
|  | R518         | 1-249-427-11 | CARBON                         | 6.8K     | 5%    | 1/4W  |          |          |             |        |  |  |  |
|  | R519         | 1-249-427-11 | CARBON                         | 6.8K     | 5%    | 1/4W  |          |          |             |        |  |  |  |
|  | R529         | 1-216-109-00 | RES-CHIP                       | 330K     | 5%    | 1/10W |          |          |             |        |  |  |  |
|  | R530         | 1-216-077-91 | RES-CHIP                       | 15K      | 5%    | 1/10W |          |          |             |        |  |  |  |
|  | R533         | 1-215-457-00 | METAL                          | 33K      | 1%    | 1/4W  |          |          |             |        |  |  |  |
|  | R534         | 1-215-458-00 | METAL                          | 36K      | 1%    | 1/4W  |          |          |             |        |  |  |  |
| ⚠                                      | ⚠R564        | 1-208-836-11 | METAL CHIP                     | 180K     | 0.50% | 1/10W |          |          |             |        |  |  |  |
| ⚠                                      | R601         | 1-219-513-11 | CARBON                         | 4.7M     | 5%    | 1/2W  |          |          |             |        |  |  |  |
| ⚠                                      | R626         | 1-220-926-11 | FUSIBLE                        | 0.47     | 10%   | 1/2W  |          |          |             |        |  |  |  |
|  | R627         | 1-215-483-00 | METAL                          | 390K     | 1%    | 1/4W  |          |          |             |        |  |  |  |
|  | R631         | 1-215-929-11 | METAL OXIDE                    | 100K     | 5%    | 3W    |          |          |             |        |  |  |  |
| ⚠                                      | R632         | 1-216-361-00 | METAL OXIDE                    | 0.22     | 5%    | 2W    |          |          |             |        |  |  |  |
|  | R638         | 1-249-399-11 | CARBON                         | 33       | 5%    | 1/4W  |          |          |             |        |  |  |  |
| ⚠                                      | R641         | 1-216-362-11 | METAL OXIDE                    | 0.27     | 5%    | 2W    |          |          |             |        |  |  |  |
|  | R646         | 1-249-419-11 | CARBON                         | 1.5K     | 5%    | 1/4W  |          |          |             |        |  |  |  |
| ⚠                                      | R660         | 1-215-924-00 | METAL OXIDE                    | 15K      | 5%    | 3W    |          |          |             |        |  |  |  |
| TRANSFORMER                            |              |              |                                |          |       |       |          |          |             |        |  |  |  |
| ⚠                                      | T504         | 1-431-693-11 | TRANSFORMER, HORIZONTAL LINEAR |          |       |       |          |          |             |        |  |  |  |
| ⚠                                      | T505         | 1-453-310-11 | FBT ASSY NX-4521//X4J4         |          |       |       |          |          |             |        |  |  |  |
| ⚠                                      | T602         | 1-435-617-11 | TRANSFORMER, LINE FILTER       |          |       |       |          |          |             |        |  |  |  |
| ⚠                                      | T603         | 1-433-806-21 | TRANSFORMER, REGULAT           |          |       |       |          |          |             |        |  |  |  |
| THERMISTOR                             |              |              |                                |          |       |       |          |          |             |        |  |  |  |
| ⚠                                      | THP601       | 1-803-540-11 | THERMISTOR                     |          |       |       |          |          |             |        |  |  |  |
| VARISTOR                               |              |              |                                |          |       |       |          |          |             |        |  |  |  |
| ⚠                                      | VDR601       | 1-803-585-11 | VARISTOR ENE271D-10A           |          |       |       |          |          |             |        |  |  |  |

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.














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## VARIANT PARTS LISTING


**A**

The parts on this page belong to the following model(s) only:  
**KV-32FS13**

| REF. NO.                               | PART NO.     | DESCRIPTION         | VALUES                      |         |             |
|--|--------------|---------------------|-----------------------------|---------|-------------|
| A BOARD VARIANT PARTS LIST (KV-32FS13) |              |                     |                             |         |             |
| *                                      | A-1299-516-A | A COMPLETE PC BOARD |                             |         |             |
| CAPACITOR                              |              |                     |                             |         |             |
| ⚠                                      | C507         | 1-117-652-11        | FILM                        | 22000pF | 3% 1.2KV    |
| ⚠                                      | C511         | 1-115-521-11        | FILM                        | 0.82μF  | 5% 250V     |
|  | C514         | 1-115-521-11        | FILM                        | 0.82μF  | 5% 250V     |
|  | C517         | 1-107-846-11        | FILM                        | 0.1μF   | 5% 250V     |
| ⚠                                      | C520         | 1-130-118-91        | FILM                        | 0.051μF | 5% 400V     |
|  | C530         | 1-163-009-91        | CERAMIC CHIP                | 0.001μF | 10% 50V     |
|  | C548         | 1-107-995-11        | ELECT                       | 100μF   | 160V        |
|  | C550         | 1-117-667-11        | FILM                        | 0.47μF  | 5% 250V     |
| ⚠                                      | C555         | 1-117-635-11        | FILM                        | 4700pF  | 3% 1.2KV    |
| ⚠                                      | C607         | 1-136-311-11        | MYLAR                       | 0.47μF  | 20% 125V    |
| ⚠                                      | C612         | 1-113-611-11        | ELECT(BLOCK)                | 820μF   | 20% 250V    |
|  | C625         | 1-135-412-51        | ELECT                       | 1000μF  | 20% 25V     |
|  | C630         | 1-127-795-51        | CERAMIC                     | 3300pF  | 20% 250V    |
|  | C631         | 1-113-924-11        | CERAMIC                     | 4700pF  | 20% 250V    |
|  | C658         | 1-135-412-51        | ELECT                       | 1000μF  | 20% 25V     |
| CONNECTOR                              |              |                     |                             |         |             |
| *                                      | CN604        | 1-573-963-11        | PIN,CONNECTOR (PC BOARD) 3P |         |             |
| FERRITE BEAD                           |              |                     |                             |         |             |
|  | FB605        | 1-412-911-11        | FERRITE                     | 0μH     |             |
| IC                                     |              |                     |                             |         |             |
|  | IC502        | 8-759-192-71        | IC STV9379                  |         |             |
| ⚠                                      | IC601        | 8-749-018-43        | IC STR-F6426                |         |             |
| COIL                                   |              |                     |                             |         |             |
|  | L505         | 1-406-976-11        | INDUCTOR                    | 68μH    |             |
| TRANSISTOR                             |              |                     |                             |         |             |
| ⚠                                      | Q502         | 8-729-045-26        | TRANSISTOR 2SD2580-YB       |         |             |
| RESISTOR                               |              |                     |                             |         |             |
|  | R436         | 1-216-073-91        | RES-CHIP                    | 10K     | 5% 1/10W    |
|  | R437         | 1-216-073-91        | RES-CHIP                    | 10K     | 5% 1/10W    |
|  | R438         | 1-216-073-91        | RES-CHIP                    | 10K     | 5% 1/10W    |
|  | R490         | 1-216-073-91        | RES-CHIP                    | 10K     | 5% 1/10W    |
| ⚠                                      | R513         | 1-215-905-11        | METAL OXIDE                 | 10      | 5% 3W       |
|  | R514         | 1-216-071-00        | RES-CHIP                    | 8.2K    | 5% 1/10W    |
|  | R518         | 1-215-439-00        | METAL                       | 5.6K    | 1% 1/4W     |
|  | R519         | 1-215-439-00        | METAL                       | 5.6K    | 1% 1/4W     |
|  | R529         | 1-216-107-00        | RES-CHIP                    | 270K    | 5% 1/10W    |
|  | R530         | 1-208-812-11        | METAL CHIP                  | 18K     | 0.50% 1/10W |
|  | R533         | 1-215-453-00        | METAL                       | 22K     | 1% 1/4W     |
|  | R534         | 1-215-457-00        | METAL                       | 33K     | 1% 1/4W     |

| REF. NO.   | PART NO.     | DESCRIPTION                    | VALUES |      |       |      |
|--|--------------|--------------------------------|--------|------|-------|------|
|  | R537         | 1-215-373-31                   | METAL  | 10   | 1%    | 1/4W |
|   R564 | 1-208-824-11 | METAL CHIP                     | 56K    | 1%   | 1/10W |      |
|  R601   | 1-219-513-11 | CARBON                         | 4.7M   | 5%   | 1/2W  |      |
|  R626   | 1-202-933-61 | FUSIBLE                        | 0.1    | 10%  | 1/2W  |      |
|  | R627         | 1-215-483-00                   | METAL  | 390K | 1%    | 1/4W |
|  R632   | 1-217-611-00 | METAL                          | 0.1    | 10%  | 2W    |      |
|  | R638         | 1-249-399-11                   | CARBON | 33   | 5%    | 1/4W |
|  R641   | 1-216-369-00 | METAL OXIDE                    | 1      | 5%   | 2W    |      |
|  | R646         | 1-249-419-11                   | CARBON | 1.5K | 5%    | 1/4W |
|  R660   | 1-215-924-00 | METAL OXIDE                    | 15K    | 5%   | 3W    |      |
| <b><u>TRANSFORMER</u></b>  |              |                                |        |      |       |      |
|  T504   | 1-435-098-11 | TRANSFORMER, HORIZONTAL LINEAR |        |      |       |      |
|  T505   | 1-453-338-11 | FBT ASSY, NX-4600//X4J4        |        |      |       |      |
|  T602   | 1-435-617-11 | TRANSFORMER, LINE FILTER       |        |      |       |      |
|  T603   | 1-435-403-11 | TRANSFORMER, CONVERTER (S.R.T) |        |      |       |      |
| <b><u>THERMISTOR</u></b>   |              |                                |        |      |       |      |
|  THP601   | 1-803-629-11 | THERMISTOR, POSITIVE           |        |      |       |      |
| <b><u>VARISTOR</u></b>   |              |                                |        |      |       |      |
|  VDR601   | 1-803-585-11 | VARISTOR ENE271D-10A           |        |      |       |      |

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

A component identified by this  symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.


## VARIANT PARTS LISTING




The parts on this page belong to the following model(s) only:  
**KV-32FS17/34FS17**

| REF. NO.   | PART NO.     | DESCRIPTION         | VALUES                      |         |       |       |
|--|--------------|---------------------|-----------------------------|---------|-------|-------|
| A BOARD VARIANT PARTS LIST<br>(KV-32FS17/34FS17) |              |                     |                             |         |       |       |
| *  | A-1299-504-A | A COMPLETE PC BOARD |                             |         |       |       |
| CAPACITOR  |              |                     |                             |         |       |       |
| ⚠  | C507         | 1-117-652-11        | FILM                        | 22000pF | 3%    | 1.2KV |
| ⚠  | C511         | 1-115-521-11        | FILM                        | 0.82μF  | 5%    | 250V  |
|  | C514         | 1-115-521-11        | FILM                        | 0.82μF  | 5%    | 250V  |
|  | C517         | 1-107-846-11        | FILM                        | 0.1μF   | 5%    | 250V  |
| ⚠  | C520         | 1-130-118-91        | FILM                        | 0.051μF | 5%    | 400V  |
|  | C530         | 1-163-009-91        | CERAMIC CHIP                | 0.001μF | 10%   | 50V   |
|  | C548         | 1-107-995-11        | ELECT                       | 100μF   |       | 160V  |
|  | C550         | 1-117-667-11        | FILM                        | 0.47μF  | 5%    | 250V  |
| ⚠  | C555         | 1-117-635-11        | FILM                        | 4700pF  | 3%    | 1.2KV |
| ⚠  | C607         | 1-136-311-11        | MYLAR                       | 0.47μF  | 20%   | 125V  |
| ⚠  | C612         | 1-113-611-11        | ELECT(BLOCK)                | 820μF   | 20%   | 250V  |
|  | C625         | 1-135-412-51        | ELECT                       | 1000μF  | 20%   | 25V   |
|  | C630         | 1-127-795-51        | CERAMIC                     | 3300pF  | 20%   | 250V  |
|  | C631         | 1-113-924-11        | CERAMIC                     | 4700pF  | 20%   | 250V  |
|  | C658         | 1-135-412-51        | ELECT                       | 1000μF  | 20%   | 25V   |
| CONNECTOR  |              |                     |                             |         |       |       |
| *  | CN604        | 1-573-963-11        | PIN,CONNECTOR (PC BOARD) 3P |         |       |       |
| FERRITE BEAD                                     |              |                     |                             |         |       |       |
|  | FB605        | 1-412-911-11        | FERRITE                     | 0μH     |       |       |
|  | FB607        | 1-412-911-11        | FERRITE                     | 0μH     |       |       |
|  | FB608        | 1-412-911-11        | FERRITE                     | 0μH     |       |       |
| IC   |              |                     |                             |         |       |       |
|  | IC502        | 8-759-192-71        | IC STV9379                  |         |       |       |
| ⚠  | IC601        | 8-749-018-43        | IC STR-F6426                |         |       |       |
| COIL   |              |                     |                             |         |       |       |
|  | L505         | 1-406-976-11        | INDUCTOR                    | 68μH    |       |       |
| TRANSISTOR                                       |              |                     |                             |         |       |       |
| ⚠  | Q502         | 8-729-045-26        | TRANSISTOR 2SD2580-YB       |         |       |       |
| RESISTOR   |              |                     |                             |         |       |       |
|  | R436         | 1-216-073-91        | RES-CHIP                    | 10K     | 5%    | 1/10W |
|  | R437         | 1-216-073-91        | RES-CHIP                    | 10K     | 5%    | 1/10W |
|  | R438         | 1-216-073-91        | RES-CHIP                    | 10K     | 5%    | 1/10W |
|  | R490         | 1-216-073-91        | RES-CHIP                    | 10K     | 5%    | 1/10W |
| ⚠  | R513         | 1-215-905-11        | METAL OXIDE                 | 10      | 5%    | 3W    |
|  | R514         | 1-216-071-00        | RES-CHIP                    | 8.2K    | 5%    | 1/10W |
|  | R518         | 1-215-439-00        | METAL                       | 5.6K    | 1%    | 1/4W  |
|  | R519         | 1-215-439-00        | METAL                       | 5.6K    | 1%    | 1/4W  |
|  | R529         | 1-216-107-00        | RES-CHIP                    | 270K    | 5%    | 1/10W |
|  | R530         | 1-208-812-11        | METAL CHIP                  | 18K     | 0.50% | 1/10W |

| REF. NO.    | PART NO. | DESCRIPTION  | VALUES                         |      |       |       |
|-------------|----------|--------------|--------------------------------|------|-------|-------|
|             | R533     | 1-215-453-00 | METAL                          | 22K  | 1%    | 1/4W  |
|             | R534     | 1-215-457-00 | METAL                          | 33K  | 1%    | 1/4W  |
|             | R537     | 1-215-373-31 | METAL                          | 10   | 1%    | 1/4W  |
| ⚠           | ⚠R564    | 1-208-824-11 | METAL CHIP                     | 56K  | 0.50% | 1/10W |
| ⚠           | R601     | 1-219-513-11 | CARBON                         | 4.7M | 5%    | 1/2W  |
| ⚠           | R626     | 1-202-933-61 | FUSIBLE                        | 0.1  | 10%   | 1/2W  |
|             | R627     | 1-215-483-00 | METAL                          | 390K | 1%    | 1/4W  |
| ⚠           | R632     | 1-217-611-00 | METAL                          | 0.1  | 10%   | 2W    |
|             | R638     | 1-249-399-11 | CARBON                         | 33   | 5%    | 1/4W  |
| ⚠           | R641     | 1-216-369-00 | METAL OXIDE                    | 1    | 5%    | 2W    |
|             | R646     | 1-249-419-11 | CARBON                         | 1.5K | 5%    | 1/4W  |
| ⚠           | R660     | 1-215-924-00 | METAL OXIDE                    | 15K  | 5%    | 3W    |
| TRANSFORMER |          |              |                                |      |       |       |
| ⚠           | T504     | 1-435-098-11 | TRANSFORMER, HORIZONTAL LINEAR |      |       |       |
| ⚠           | T505     | 1-453-338-11 | FBT ASSY, NX-4600//X4J4        |      |       |       |
| ⚠           | T602     | 1-435-617-11 | TRANSFORMER, LINE FILTER       |      |       |       |
| ⚠           | T603     | 1-435-403-11 | TRANSFORMER, CONVERTER (S.R.T) |      |       |       |
| THERMISTOR  |          |              |                                |      |       |       |
| ⚠           | THP601   | 1-803-629-11 | THERMISTOR, POSITIVE           |      |       |       |
| VARISTOR    |          |              |                                |      |       |       |
| ⚠           | VDR601   | 1-803-585-11 | VARISTOR ENE271D-10A           |      |       |       |

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

A component identified by this  symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

## VARIANT PARTS LISTING



The parts on this page belong to the following model(s) only:  
**KV-34FS13C**

| REF. NO.                                | PART NO.     | DESCRIPTION         | VALUES                         |         |       | REF. NO. | PART NO. | DESCRIPTION | VALUES |  |  |
|---|--------------|---------------------|--------------------------------|---------|-------|----------|----------|-------------|--------|--|--|
| A BOARD VARIANT PARTS LIST (KV-34FS13C) |              |                     |                                |         |       |          |          |             |        |  |  |
| *                                       | A-1299-506-A | A COMPLETE PC BOARD |                                |         |       |          |          |             |        |  |  |
| CAPACITOR                               |              |                     |                                |         |       |          |          |             |        |  |  |
| ⚠                                       | C507         | 1-117-652-11        | FILM                           | 22000pF | 3%    | 1.2KV    |          |             |        |  |  |
| ⚠                                       | C511         | 1-115-521-11        | FILM                           | 0.82μF  | 5%    | 250V     |          |             |        |  |  |
|   | C514         | 1-115-521-11        | FILM                           | 0.82μF  | 5%    | 250V     |          |             |        |  |  |
|   | C517         | 1-107-846-11        | FILM                           | 0.1μF   | 5%    | 250V     |          |             |        |  |  |
| ⚠                                       | C520         | 1-130-118-91        | FILM                           | 0.051μF | 5%    | 400V     |          |             |        |  |  |
|   | C530         | 1-163-009-91        | CERAMIC CHIP                   | 0.001μF | 10%   | 50V      |          |             |        |  |  |
|   | C548         | 1-107-995-11        | ELECT                          | 100μF   |       | 160V     |          |             |        |  |  |
|   | C550         | 1-117-667-11        | FILM                           | 0.47μF  | 5%    | 250V     |          |             |        |  |  |
| ⚠                                       | C555         | 1-117-635-11        | FILM                           | 4700pF  | 3%    | 1.2KV    |          |             |        |  |  |
|   | C615         | 1-130-202-00        | FILM                           | 0.022μF | 10%   | 400V     |          |             |        |  |  |
|   | C616         | 1-107-824-11        | CERAMIC                        | 220pF   | 5%    | 1KV      |          |             |        |  |  |
|   | C625         | 1-135-572-51        | ELECT                          | 1000μF  | 20%   | 50V      |          |             |        |  |  |
|   | C658         | 1-135-572-51        | ELECT                          | 1000μF  | 20%   | 50V      |          |             |        |  |  |
| ⚠                                       | C660         | 1-128-714-11        | ELECT                          | 330μF   | 20%   | 400V     |          |             |        |  |  |
| ⚠                                       | C661         | 1-128-714-11        | ELECT                          | 330μF   | 20%   | 400V     |          |             |        |  |  |
| CONNECTOR                               |              |                     |                                |         |       |          |          |             |        |  |  |
| *                                       | CN604        | 1-573-963-11        | PIN,CONNECTOR (PC BOARD) 3P    |         |       |          |          |             |        |  |  |
| DIODE                                   |              |                     |                                |         |       |          |          |             |        |  |  |
|   | D609         | 8-719-311-31        | DIODE RU-1P                    |         |       |          |          |             |        |  |  |
| FERRITE BEAD                            |              |                     |                                |         |       |          |          |             |        |  |  |
|   | FB605        | 1-410-397-21        | FERRITE                        | 1.1μH   |       |          |          |             |        |  |  |
| IC                                      |              |                     |                                |         |       |          |          |             |        |  |  |
|   | IC502        | 8-759-192-71        | IC STV9379                     |         |       |          |          |             |        |  |  |
| ⚠                                       | IC601        | 8-749-014-48        | IC STR-F6656                   |         |       |          |          |             |        |  |  |
| COIL                                    |              |                     |                                |         |       |          |          |             |        |  |  |
|   | L505         | 1-406-976-11        | INDUCTOR                       | 68μH    |       |          |          |             |        |  |  |
| TRANSISTOR                              |              |                     |                                |         |       |          |          |             |        |  |  |
| ⚠                                       | Q502         | 8-729-045-26        | TRANSISTOR 2SD2580-YB          |         |       |          |          |             |        |  |  |
| RESISTOR                                |              |                     |                                |         |       |          |          |             |        |  |  |
|   | R436         | 1-216-073-91        | RES-CHIP                       | 10K     | 5%    | 1/10W    |          |             |        |  |  |
|   | R437         | 1-216-073-91        | RES-CHIP                       | 10K     | 5%    | 1/10W    |          |             |        |  |  |
|   | R438         | 1-216-073-91        | RES-CHIP                       | 10K     | 5%    | 1/10W    |          |             |        |  |  |
|   | R490         | 1-216-073-91        | RES-CHIP                       | 10K     | 5%    | 1/10W    |          |             |        |  |  |
| ⚠                                       | R513         | 1-215-905-11        | METAL OXIDE                    | 10      | 5%    | 3W       |          |             |        |  |  |
|   | R514         | 1-216-071-00        | RES-CHIP                       | 8.2K    | 5%    | 1/10W    |          |             |        |  |  |
|   | R518         | 1-215-439-00        | METAL                          | 5.6K    | 1%    | 1/4W     |          |             |        |  |  |
|   | R519         | 1-215-439-00        | METAL                          | 5.6K    | 1%    | 1/4W     |          |             |        |  |  |
|   | R529         | 1-216-107-00        | RES-CHIP                       | 270K    | 5%    | 1/10W    |          |             |        |  |  |
|   | R530         | 1-208-812-11        | METAL CHIP                     | 18K     | 0.50% | 1/10W    |          |             |        |  |  |
|   | R533         | 1-215-453-00        | METAL                          | 22K     | 1%    | 1/4W     |          |             |        |  |  |
|   | R534         | 1-215-457-00        | METAL                          | 33K     | 1%    | 1/4W     |          |             |        |  |  |
|   | R537         | 1-215-373-31        | METAL                          | 10      | 1%    | 1/4W     |          |             |        |  |  |
| ⚠                                       | ⚠R564        | 1-208-824-11        | METAL CHIP                     | 56K     | 0.50% | 1/10W    |          |             |        |  |  |
| ⚠                                       | R615         | 1-218-265-11        | METAL                          | 8.2M    | 5%    | 1W       |          |             |        |  |  |
| ⚠                                       | R626         | 1-202-933-61        | FUSIBLE                        | 0.1     | 10%   | 1/2W     |          |             |        |  |  |
|   | R627         | 1-215-479-00        | METAL                          | 270K    | 1%    | 1/4W     |          |             |        |  |  |
|   | R628         | 1-215-479-00        | METAL                          | 270K    | 1%    | 1/4W     |          |             |        |  |  |
|   | R629         | 1-215-929-11        | METAL OXIDE                    | 100K    | 5%    | 3W       |          |             |        |  |  |
| ⚠                                       | R632         | 1-217-611-00        | METAL                          | 0.1     | 10%   | 2W       |          |             |        |  |  |
| ⚠                                       | R637         | 1-216-485-11        | METAL OXIDE                    | 5.6K    | 5%    | 3W       |          |             |        |  |  |
|   | R638         | 1-249-402-11        | CARBON                         | 56      | 5%    | 1/4W     |          |             |        |  |  |
| ⚠                                       | R641         | 1-216-369-00        | METAL OXIDE                    | 1       | 5%    | 2W       |          |             |        |  |  |
|   | R646         | 1-249-418-11        | CARBON                         | 1.2K    | 5%    | 1/4W     |          |             |        |  |  |
| ⚠                                       | R660         | 1-216-485-11        | METAL OXIDE                    | 5.6K    | 5%    | 3W       |          |             |        |  |  |
| ⚠                                       | R662         | 1-216-485-11        | METAL OXIDE                    | 5.6K    | 5%    | 3W       |          |             |        |  |  |
| TRANSFORMER                             |              |                     |                                |         |       |          |          |             |        |  |  |
| ⚠                                       | T504         | 1-435-098-11        | TRANSFORMER, HORIZONTAL LINEAR |         |       |          |          |             |        |  |  |
| ⚠                                       | T505         | 1-453-338-11        | FBT ASSY, NX-4600//X4J4        |         |       |          |          |             |        |  |  |
| ⚠                                       | T602         | 1-426-717-11        | TRANSFORMER, LINE FILTER (LFT) |         |       |          |          |             |        |  |  |
| ⚠                                       | T603         | 1-435-402-11        | TRANSFORMER, CONVERTER (SRT)   |         |       |          |          |             |        |  |  |
| THERMISTOR                              |              |                     |                                |         |       |          |          |             |        |  |  |
| ⚠                                       | THP601       | 1-803-540-11        | THERMISTOR                     |         |       |          |          |             |        |  |  |
| VARISTOR                                |              |                     |                                |         |       |          |          |             |        |  |  |
| ⚠                                       | VDR601       | 1-803-967-11        | VARISTOR (ENE621D-14A)         |         |       |          |          |             |        |  |  |

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## VARIANT PARTS LISTING



The parts on this page belong to the following model(s) only:  
**KV-27FV17**

| REF. NO.                                      | PART NO.           | DESCRIPTION                    | VALUES            | REF. NO. | PART NO. | DESCRIPTION | VALUES |
|---|--------------------|--------------------------------|-------------------|----------|----------|-------------|--------|
| <b>A BOARD VARIANT PARTS LIST (KV-27FV17)</b> |                    |                                |                   |          |          |             |        |
| *   | A-1299-243-A       | A COMPLETE PC BOARD            |                   |          |          |             |        |
|   | <u>CAPACITOR</u>   |                                |                   |          |          |             |        |
| ⚠ C607  | 1-136-311-11       | MYLAR                          | 0.47μF 20% 125V   |          |          |             |        |
| ⚠ C612  | 1-113-611-11       | ELECT(BLOCK)                   | 820μF 20% 250V    |          |          |             |        |
| C630  | 1-113-923-11       | CERAMIC                        | 0.0033μF 20% 250V |          |          |             |        |
| C631  | 1-113-924-11       | CERAMIC                        | 0.0047μF 20% 250V |          |          |             |        |
|   | <u>FUSE</u>        |                                |                   |          |          |             |        |
| ⚠ F601  | 1-576-193-11       | FUSE                           | 6.3A/125V         |          |          |             |        |
|   | <u>IC</u>          |                                |                   |          |          |             |        |
| ⚠ IC601                                       | 8-749-018-43       | IC STR-F6426                   |                   |          |          |             |        |
|   | <u>RESISTOR</u>    |                                |                   |          |          |             |        |
| R218  | 1-216-049-11       | RES-CHIP                       | 1K 5% 1/10W       |          |          |             |        |
| ⚠ R601  | 1-219-513-11       | CARBON                         | 4.7M 5% 1/2W      |          |          |             |        |
| R627  | 1-215-483-00       | METAL                          | 390K 1% 1/4W      |          |          |             |        |
| R631  | 1-215-929-11       | METAL OXIDE                    | 100K 5% 3W        |          |          |             |        |
| R638  | 1-249-399-11       | CARBON                         | 33 5% 1/4W        |          |          |             |        |
| R646  | 1-249-419-11       | CARBON                         | 1.5K 5% 1/4W      |          |          |             |        |
| ⚠ R660  | 1-215-924-00       | METAL OXIDE                    | 15K 5% 3W         |          |          |             |        |
|   | <u>TRANSFORMER</u> |                                |                   |          |          |             |        |
| ⚠ T602  | 1-435-617-11       | TRANSFORMER, LINE FILTER       |                   |          |          |             |        |
| ⚠ T603  | 1-435-403-11       | TRANSFORMER, CONVERTER (S.R.T) |                   |          |          |             |        |
|   | <u>VARISTOR</u>    |                                |                   |          |          |             |        |
| ⚠ VDR601                                      | 1-803-585-11       | VARISTOR ENE271D-10A           |                   |          |          |             |        |



NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## VARIANT PARTS LISTING



The parts on this page belong to the following model(s) only:  
**KV-29FV17**

| REF. NO.                               | PART NO.     | DESCRIPTION         | VALUES                         |        |       |       | REF. NO. | PART NO. | DESCRIPTION | VALUES |  |  |  |  |
|--|--------------|---------------------|--------------------------------|--------|-------|-------|----------|----------|-------------|--------|--|--|--|--|
| A BOARD VARIANT PARTS LIST (KV-29FV17) |              |                     |                                |        |       |       |          |          |             |        |  |  |  |  |
| *                                      | A-1299-498-A | A COMPLETE PC BOARD |                                |        |       |       |          |          |             |        |  |  |  |  |
| CAPACITOR                              |              |                     |                                |        |       |       |          |          |             |        |  |  |  |  |
| ⚠                                      | C607         | 1-136-311-11        | MYLAR                          | 0.47μF | 20%   | 125V  |          |          |             |        |  |  |  |  |
| ⚠                                      | C612         | 1-113-611-11        | ELECT(BLOCK)                   | 820μF  | 20%   | 250V  |          |          |             |        |  |  |  |  |
| FUSE                                   |              |                     |                                |        |       |       |          |          |             |        |  |  |  |  |
| ⚠                                      | F601         | 1-576-193-11        | FUSE 6.3A/125V                 |        |       |       |          |          |             |        |  |  |  |  |
| IC                                     |              |                     |                                |        |       |       |          |          |             |        |  |  |  |  |
| ⚠                                      | IC601        | 8-749-018-43        | IC STR-F6426                   |        |       |       |          |          |             |        |  |  |  |  |
| RESISTOR                               |              |                     |                                |        |       |       |          |          |             |        |  |  |  |  |
|  | R218         | 1-208-758-11        | METAL CHIP                     | 100    | 0.50% | 1/10W |          |          |             |        |  |  |  |  |
| ⚠                                      | R601         | 1-219-513-11        | CARBON                         | 4.7M   | 5%    | 1/2W  |          |          |             |        |  |  |  |  |
|  | R627         | 1-215-483-00        | METAL                          | 390K   | 1%    | 1/4W  |          |          |             |        |  |  |  |  |
|  | R631         | 1-215-929-11        | METAL OXIDE                    | 100K   | 5%    | 3W    |          |          |             |        |  |  |  |  |
|  | R638         | 1-249-399-11        | CARBON                         | 33     | 5%    | 1/4W  |          |          |             |        |  |  |  |  |
|  | R646         | 1-249-419-11        | CARBON                         | 1.5K   | 5%    | 1/4W  |          |          |             |        |  |  |  |  |
| ⚠                                      | R660         | 1-215-924-00        | METAL OXIDE                    | 15K    | 5%    | 3W    |          |          |             |        |  |  |  |  |
| TRANSFORMER                            |              |                     |                                |        |       |       |          |          |             |        |  |  |  |  |
| ⚠                                      | T602         | 1-426-717-11        | TRANSFORMER, LINE FILTER (LFT) |        |       |       |          |          |             |        |  |  |  |  |
| ⚠                                      | T603         | 1-435-403-11        | TRANSFORMER, CONVERTER (S.R.T) |        |       |       |          |          |             |        |  |  |  |  |
| VARISTOR                               |              |                     |                                |        |       |       |          |          |             |        |  |  |  |  |
| ⚠                                      | VDR601       | 1-803-585-11        | VARISTOR ENE271D-10A           |        |       |       |          |          |             |        |  |  |  |  |

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## VARIANT PARTS LISTING



The parts on this page belong to the following model(s) only:  
**KV-29FV17C**

| REF. NO.                                | PART NO.     | DESCRIPTION         | VALUES                         |       |     |       | REF. NO. | PART NO. | DESCRIPTION | VALUES |  |  |  |
|---|--------------|---------------------|--------------------------------|-------|-----|-------|----------|----------|-------------|--------|--|--|--|
| A BOARD VARIANT PARTS LIST (KV-29FV17C) |              |                     |                                |       |     |       |          |          |             |        |  |  |  |
| *                                       | A-1299-244-A | A COMPLETE PC BOARD |                                |       |     |       |          |          |             |        |  |  |  |
| CAPACITOR                               |              |                     |                                |       |     |       |          |          |             |        |  |  |  |
| ⚠                                       | C660         | 1-128-714-11        | ELECT                          | 330μF | 20% | 400V  |          |          |             |        |  |  |  |
| ⚠                                       | C661         | 1-128-714-11        | ELECT                          | 330μF | 20% | 400V  |          |          |             |        |  |  |  |
| FUSE                                    |              |                     |                                |       |     |       |          |          |             |        |  |  |  |
| ⚠                                       | F601         | 1-532-506-51        | FUSE 6.3A/250V                 |       |     |       |          |          |             |        |  |  |  |
| IC                                      |              |                     |                                |       |     |       |          |          |             |        |  |  |  |
| ⚠                                       | IC601        | 8-749-018-44        | IC STR-F6456                   |       |     |       |          |          |             |        |  |  |  |
| RESISTOR                                |              |                     |                                |       |     |       |          |          |             |        |  |  |  |
|   | R218         | 1-216-049-11        | RES-CHIP                       | 1K    | 5%  | 1/10W |          |          |             |        |  |  |  |
| ⚠                                       | R615         | 1-218-265-11        | METAL                          | 8.2M  | 5%  | 1W    |          |          |             |        |  |  |  |
|   | R627         | 1-215-479-00        | METAL                          | 270K  | 1%  | 1/4W  |          |          |             |        |  |  |  |
| ⚠                                       | R637         | 1-216-485-11        | METAL OXIDE                    | 5.6K  | 5%  | 3W    |          |          |             |        |  |  |  |
|   | R638         | 1-249-402-11        | CARBON                         | 56    | 5%  | 1/4W  |          |          |             |        |  |  |  |
|   | R646         | 1-249-418-11        | CARBON                         | 1.2K  | 5%  | 1/4W  |          |          |             |        |  |  |  |
| ⚠                                       | R660         | 1-216-485-11        | METAL OXIDE                    | 5.6K  | 5%  | 3W    |          |          |             |        |  |  |  |
| ⚠                                       | R662         | 1-216-485-11        | METAL OXIDE                    | 5.6K  | 5%  | 3W    |          |          |             |        |  |  |  |
| TRANSFORMER                             |              |                     |                                |       |     |       |          |          |             |        |  |  |  |
| ⚠                                       | T602         | 1-426-717-11        | TRANSFORMER, LINE FILTER (LFT) |       |     |       |          |          |             |        |  |  |  |
| ⚠                                       | T603         | 1-435-402-11        | TRANSFORMER, CONVERTER (SRT)   |       |     |       |          |          |             |        |  |  |  |
| VARISTOR                                |              |                     |                                |       |     |       |          |          |             |        |  |  |  |
| ⚠                                       | VDR601       | 1-803-967-11        | VARISTOR (ENE621D-14A)         |       |     |       |          |          |             |        |  |  |  |



## COMMON PARTS LISTING FS SERIES

| REF. NO.      | PART NO. | DESCRIPTION | VALUES |  |      | REF. NO. | PART NO.                         | DESCRIPTION                      | VALUES   |        |     |
|---------------|----------|-------------|--------|--|------|----------|----------------------------------|----------------------------------|----------|--------|-----|
| <div>MA</div> |          |             |        |  |      | C076     | 1-163-259-91                     | CERAMIC                          | 220pF    | 5%     | 50V |
|               |          |             |        |  |      | C077     | 1-163-259-91                     | CERAMIC                          | 220pF    | 5%     | 50V |
|               |          |             |        |  |      | C091     | 1-115-185-11                     | CERAMIC                          | 0.033μF  | 10%    | 50V |
|               |          |             |        |  |      | C093     | 1-163-259-91                     | CERAMIC                          | 220pF    | 5%     | 50V |
|               |          |             |        |  |      | C097     | 1-163-009-91                     | CERAMIC                          | 0.001μF  | 10%    | 50V |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      | C099     | 1-126-960-11                     | ELECT                            | 1μF      | 20%    | 50V |
|               |          |             |        |  |      | C151     |                                  | VARIANT (SEE VARIANT PARTS LIST) |          |        |     |
|               |          |             |        |  |      | C153     |                                  | VARIANT (SEE VARIANT PARTS LIST) |          |        |     |
|               |          |             |        |  |      | C154     |                                  | VARIANT (SEE VARIANT PARTS LIST) |          |        |     |
|               |          |             |        |  | C155 |          | VARIANT (SEE VARIANT PARTS LIST) |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      | C156     |                                  | VARIANT (SEE VARIANT PARTS LIST) |          |        |     |
|               |          |             |        |  |      | C157     |                                  | VARIANT (SEE VARIANT PARTS LIST) |          |        |     |
|               |          |             |        |  |      | C302     | 1-163-021-91                     | CERAMIC                          | 0.01μF   | 10%    | 50V |
|               |          |             |        |  |      | C303     | 1-163-021-91                     | CERAMIC                          | 0.01μF   | 10%    | 50V |
|               |          |             |        |  |      | C304     | 1-163-021-91                     | CERAMIC                          | 0.01μF   | 10%    | 50V |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      | C305     | 1-126-933-11                     | ELECT                            | 100μF    | 20%    | 16V |
|               |          |             |        |  |      | C307     | 1-163-227-11                     | CERAMIC                          | 10pF     | 0.50pF | 50V |
|               |          |             |        |  |      | C308     | 1-163-021-91                     | CERAMIC                          | 0.01μF   | 10%    | 50V |
|               |          |             |        |  |      | C309     | 1-126-933-11                     | ELECT                            | 100μF    | 20%    | 16V |
|               |          |             |        |  |      | C311     | 1-163-123-00                     | CERAMIC                          | 180pF    | 5%     | 50V |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      | C313     | 1-163-021-91                     | CERAMIC                          | 0.01μF   | 10%    | 50V |
|               |          |             |        |  |      | C314     | 1-163-231-11                     | CERAMIC                          | 15pF     | 5%     | 50V |
|               |          |             |        |  |      | C315     | 1-104-664-11                     | ELECT                            | 47μF     | 20%    | 25V |
|               |          |             |        |  |      | C316     | 1-163-243-11                     | CERAMIC                          | 47pF     | 5%     | 50V |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      | C317     | 1-163-021-91                     | CERAMIC                          | 0.01μF   | 10%    | 50V |
|               |          |             |        |  |      | C318     | 1-163-021-91                     | CERAMIC                          | 0.01μF   | 10%    | 50V |
|               |          |             |        |  |      | C319     | 1-126-767-11                     | ELECT                            | 1000μF   | 20%    | 16V |
|               |          |             |        |  |      | C320     | 1-164-005-11                     | CERAMIC                          | 0.47μF   |        | 25V |
|               |          |             |        |  |      | C321     | 1-164-005-11                     | CERAMIC                          | 0.47μF   |        | 25V |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      | C322     | 1-164-005-11                     | CERAMIC                          | 0.47μF   |        | 25V |
|               |          |             |        |  |      | C323     | 1-164-004-11                     | CERAMIC                          | 0.1μF    | 10%    | 25V |
|               |          |             |        |  |      | C324     | 1-163-231-11                     | CERAMIC                          | 15pF     | 5%     | 50V |
|               |          |             |        |  |      | C325     | 1-164-005-11                     | CERAMIC                          | 0.47μF   |        | 25V |
|               |          |             |        |  |      | C326     | 1-164-004-11                     | CERAMIC                          | 0.1μF    | 10%    | 25V |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      | C328     | 1-164-004-11                     | CERAMIC                          | 0.1μF    | 10%    | 25V |
|               |          |             |        |  |      | C329     | 1-164-004-11                     | CERAMIC                          | 0.1μF    | 10%    | 25V |
|               |          |             |        |  |      | C330     | 1-126-960-11                     | ELECT                            | 1μF      | 20%    | 50V |
|               |          |             |        |  |      | C331     | 1-163-021-91                     | CERAMIC                          | 0.01μF   | 10%    | 50V |
|               |          |             |        |  |      | C332     | 1-163-010-11                     | CERAMIC                          | 0.0012μF | 10%    | 50V |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      | C334     | 1-163-003-11                     | CERAMIC                          | 330pF    | 10%    | 50V |
|               |          |             |        |  |      | C335     | 1-126-963-11                     | ELECT                            | 4.7μF    | 20%    | 50V |
|               |          |             |        |  |      | C336     | 1-104-664-11                     | ELECT                            | 47μF     | 20%    | 25V |
|               |          |             |        |  |      | C338     | 1-164-004-11                     | CERAMIC                          | 0.1μF    | 10%    | 25V |
|               |          |             |        |  |      | C339     | 1-126-960-11                     | ELECT                            | 1μF      | 20%    | 50V |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      | C340     | 1-126-933-11                     | ELECT                            | 100μF    | 20%    | 16V |
|               |          |             |        |  |      | C341     | 1-163-233-91                     | CERAMIC                          | 18pF     | 5%     | 50V |
|               |          |             |        |  |      | C345     |                                  | VARIANT (SEE VARIANT PARTS LIST) |          |        |     |
|               |          |             |        |  |      | C346     |                                  | VARIANT (SEE VARIANT PARTS LIST) |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |
|               |          |             |        |  |      |          |                                  |                                  |          |        |     |

**NOTE:** The components identified by shading and  mark are critical for safety. Replace only with part number specified.

**NOTE:** Les composants identifiés par un trame et une marque  sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.



## COMMON PARTS LISTING FS SERIES

| REF. NO.  | PART NO.     | DESCRIPTION                      | VALUES |     |     |
|-----------|--------------|----------------------------------|--------|-----|-----|
| C347      |              | VARIANT (SEE VARIANT PARTS LIST) |        |     |     |
| C348      | 1-164-005-11 | CERAMIC                          | 0.47μF |     | 25V |
| C350      | 1-126-959-11 | ELECT                            | 0.47μF | 20% | 50V |
| C351      | 1-163-021-91 | CERAMIC                          | 0.01μF | 10% | 50V |
| C352      | 1-163-021-91 | CERAMIC                          | 0.01μF | 10% | 50V |
| C353      | 1-163-021-91 | CERAMIC                          | 0.01μF | 10% | 50V |
| C354      | 1-126-933-11 | ELECT                            | 100μF  | 20% | 16V |
| C355      | 1-163-021-91 | CERAMIC                          | 0.01μF | 10% | 50V |
| C356      | 1-164-004-11 | CERAMIC                          | 0.1μF  | 10% | 25V |
| C357      | 1-104-664-11 | ELECT                            | 47μF   | 20% | 25V |
| C358      | 1-104-664-11 | ELECT                            | 47μF   | 20% | 25V |
| C359      | 1-163-038-91 | CERAMIC                          | 0.1μF  |     | 25V |
| C360      | 1-126-959-11 | ELECT                            | 0.47μF | 20% | 50V |
| C361      | 1-163-038-91 | CERAMIC                          | 0.1μF  |     | 25V |
| C362      | 1-104-664-11 | ELECT                            | 47μF   | 20% | 25V |
| C363      | 1-163-038-91 | CERAMIC                          | 0.1μF  |     | 25V |
| C364      | 1-164-004-11 | CERAMIC CHIP                     | 0.1μF  | 10% | 25V |
| C365      | 1-137-194-81 | FILM                             | 0.47μF | 5%  | 50V |
| C366      | 1-163-021-91 | CERAMIC                          | 0.01μF | 10% | 50V |
| C367      | 1-163-005-91 | CERAMIC                          | 470pF  | 10% | 50V |
| C368      | 1-163-021-91 | CERAMIC                          | 0.01μF | 10% | 50V |
| C369      | 1-163-021-91 | CERAMIC                          | 0.01μF | 10% | 50V |
| C370      | 1-126-933-11 | ELECT                            | 100μF  | 20% | 16V |
| C371      | 1-163-243-11 | CERAMIC                          | 47pF   | 5%  | 50V |
| C377      | 1-126-963-11 | ELECT                            | 4.7μF  | 20% | 50V |
| C380      |              | VARIANT (SEE VARIANT PARTS LIST) |        |     |     |
| C381      |              | VARIANT (SEE VARIANT PARTS LIST) |        |     |     |
| C382      |              | VARIANT (SEE VARIANT PARTS LIST) |        |     |     |
| C389      |              | VARIANT (SEE VARIANT PARTS LIST) |        |     |     |
| C390      | 1-163-231-11 | CERAMIC                          | 15pF   | 5%  | 50V |
| C391      | 1-126-933-11 | ELECT                            | 100μF  | 20% | 16V |
| C395      | 1-163-021-91 | CERAMIC                          | 0.01μF | 10% | 50V |
| C396      | 1-164-004-11 | CERAMIC                          | 0.1μF  | 10% | 25V |
| C397      | 1-163-021-91 | CERAMIC                          | 0.01μF | 10% | 50V |
| C398      | 1-126-964-11 | ELECT                            | 10μF   | 20% | 50V |
| C451      |              | VARIANT (SEE VARIANT PARTS LIST) |        |     |     |
| C452      |              | VARIANT (SEE VARIANT PARTS LIST) |        |     |     |
| C453      |              | VARIANT (SEE VARIANT PARTS LIST) |        |     |     |
| C454      |              | VARIANT (SEE VARIANT PARTS LIST) |        |     |     |
| CONNECTOR |              |                                  |        |     |     |
| * CN001   | 1-564-511-11 | PLUG,CONNECTOR 8P                |        |     |     |
| * CN002   | 1-560-124-00 | PLUG,CONNECTOR (2.5MM) 4P        |        |     |     |
| * CN003   | 1-564-512-11 | PLUG,CONNECTOR 9P                |        |     |     |
| * CN004   | 1-564-512-11 | PLUG,CONNECTOR 9P                |        |     |     |
| * CN005   | 1-764-333-11 | PLUG,CONNECTOR 10P               |        |     |     |
| * CN006   | 1-764-333-11 | PLUG,CONNECTOR 10P               |        |     |     |
| * CN302   | 1-564-507-11 | PLUG,CONNECTOR 4P                |        |     |     |
| * CN304   |              | VARIANT (SEE VARIANT PARTS LIST) |        |     |     |

| REF. NO.     | PART NO.     | DESCRIPTION                      | VALUES |
|--------------|--------------|----------------------------------|--------|
| * CN305      |              | VARIANT (SEE VARIANT PARTS LIST) |        |
| * CN309      | 1-564-506-11 | PLUG,CONNECTOR 3P                |        |
| * CN401      |              | VARIANT (SEE VARIANT PARTS LIST) |        |
| DIODE        |              |                                  |        |
| ⚠ D001       | 8-719-069-54 | DIODE UDZSTE-175.1B              |        |
| D002         | 8-719-110-17 | DIODE MTZJ-T-77-10B              |        |
| D003         | 8-719-404-50 | DIODE MA111-TX                   |        |
| D004         | 8-719-069-54 | DIODE UDZSTE-175.1B              |        |
| D005         | 8-719-109-89 | DIODE MTZJ-T-77-5.6C             |        |
| D006         | 8-719-069-60 | DIODE UDZSTE-179.1B              |        |
| D075         | 8-719-404-50 | DIODE MA111-TX                   |        |
| D301         | 8-719-921-44 | DIODE MTZJ-T-77-5.1C             |        |
| D303         |              | VARIANT (SEE VARIANT PARTS LIST) |        |
| D305         | 8-719-921-44 | DIODE MTZJ-T-77-5.1C             |        |
| D360         | 8-719-914-44 | DIODE DAP202K-T-146              |        |
| FERRITE BEAD |              |                                  |        |
| FB001        | 1-414-234-22 | FERRITE                          | 0μH    |
| FB002        | 1-414-234-22 | FERRITE                          | 0μH    |
| FB301        | 1-412-911-11 | FERRITE                          | 0μH    |
| FILTER       |              |                                  |        |
| FL301        | 1-239-847-11 | FILTER, LOW PASS                 |        |
| FL302        | 1-239-847-11 | FILTER, LOW PASS                 |        |
| FL303        | 1-239-847-11 | FILTER, LOW PASS                 |        |
| IC           |              |                                  |        |
| IC001        | 8-759-827-83 | IC M37280MK-114SP                |        |
| IC002        | 8-759-663-29 | IC MM1476AF(TP)                  |        |
| IC003        | 8-759-699-33 | IC M24C16-MN6T(A)                |        |
| ⚠ IC301      | 8-752-100-49 | IC CXA2154AS                     |        |
| IC302        | 8-759-655-75 | IC TC90A49P                      |        |
| JACK         |              |                                  |        |
| JR001        | 1-216-295-91 | SHORT                            |        |
| JR002        | 1-216-295-91 | SHORT                            |        |
| JR003        | 1-216-295-91 | SHORT                            |        |
| JR005        | 1-216-295-91 | SHORT                            |        |
| JR006        | 1-216-295-91 | SHORT                            |        |
| JR007        | 1-216-295-91 | SHORT                            |        |
| JR008        | 1-216-295-91 | SHORT                            |        |
| JR010        | 1-216-295-91 | SHORT                            |        |
| JR011        | 1-216-295-91 | SHORT                            |        |
| JR090        | 1-216-295-91 | SHORT                            |        |
| JR100        | 1-216-295-91 | SHORT                            |        |
| JR101        | 1-216-295-91 | SHORT                            |        |
| JR296        | 1-216-295-91 | SHORT                            |        |
| JR297        | 1-216-295-91 | SHORT                            |        |
| JR298        | 1-216-295-91 | SHORT                            |        |
| JR310        | 1-216-295-91 | SHORT                            |        |
| JR311        | 1-216-295-91 | SHORT                            |        |



## COMMON PARTS LISTING FS SERIES

| REF. NO. | PART NO.          | DESCRIPTION                      | VALUES | REF. NO. | PART NO.        | DESCRIPTION                      | VALUES           |
|----------|-------------------|----------------------------------|--------|----------|-----------------|----------------------------------|------------------|
| JR355    | 1-216-295-91      | SHORT                            |        | Q369     | 8-729-424-02    | TRANSISTOR 2SB709A-QRS-TX        |                  |
| JR378    | 1-216-295-91      | SHORT                            |        | Q370     | 8-729-424-02    | TRANSISTOR 2SB709A-QRS-TX        |                  |
| JR379    | 1-216-295-91      | SHORT                            |        | Q375     | 8-729-422-27    | TRANSISTOR 2SD601A-QRS-TX        |                  |
| JR391    | 1-216-295-91      | SHORT                            |        | Q378     |                 | VARIANT (SEE VARIANT PARTS LIST) |                  |
| JR399    | 1-216-295-91      | SHORT                            |        | Q379     |                 | VARIANT (SEE VARIANT PARTS LIST) |                  |
| JR402    | 1-216-295-91      | SHORT                            |        | Q380     |                 | VARIANT (SEE VARIANT PARTS LIST) |                  |
| JR501    | 1-216-295-91      | SHORT                            |        | Q387     | 8-729-424-02    | TRANSISTOR 2SB709A-QRS-TX        |                  |
| JR502    | 1-216-295-91      | SHORT                            |        | Q388     | 8-729-424-02    | TRANSISTOR 2SB709A-QRS-TX        |                  |
|          | <b>COIL</b>       |                                  |        | Q389     | 8-729-424-02    | TRANSISTOR 2SB709A-QRS-TX        |                  |
| L002     | 1-412-064-11      | INDUCTOR                         | 100μH  |          | <b>RESISTOR</b> |                                  |                  |
| L003     | 1-412-064-11      | INDUCTOR                         | 100μH  | R001     | 1-216-043-91    | RES-CHIP                         | 560 5% 1/10W     |
| L040     | 1-408-963-11      | INDUCTOR                         | 2.7μH  | R002     | 1-216-041-00    | RES-CHIP                         | 470 5% 1/10W     |
| L150     |                   | VARIANT (SEE VARIANT PARTS LIST) |        | R003     | 1-247-807-31    | CARBON                           | 100 5% 1/4W      |
| L151     |                   | VARIANT (SEE VARIANT PARTS LIST) |        | R004     | 1-216-061-91    | RES-CHIP                         | 3.3K 5% 1/10W    |
| L301     | 1-412-029-11      | INDUCTOR                         | 10μH   | R005     | 1-216-295-91    | SHORT                            |                  |
| L302     | 1-412-031-11      | INDUCTOR                         | 47μH   | R006     | 1-216-025-11    | RES-CHIP                         | 100 5% 1/10W     |
| L303     | 1-414-856-11      | INDUCTOR                         | 10μH   | R007     | 1-216-025-11    | RES-CHIP                         | 100 5% 1/10W     |
| L304     | 1-414-856-11      | INDUCTOR                         | 10μH   | R008     | 1-216-049-11    | RES-CHIP                         | 1K 5% 1/10W      |
| L305     | 1-412-029-11      | INDUCTOR                         | 10μH   | R009     | 1-216-121-11    | RES-CHIP                         | 1M 5% 1/10W      |
| L308     | 1-412-064-11      | INDUCTOR                         | 100μH  | R010     | 1-216-033-00    | RES-CHIP                         | 220 5% 1/10W     |
| L310     | 1-412-064-11      | INDUCTOR                         | 100μH  | R011     | 1-216-033-00    | RES-CHIP                         | 220 5% 1/10W     |
| L350     | 1-414-856-11      | INDUCTOR                         | 10μH   | R012     | 1-216-045-00    | RES-CHIP                         | 680 5% 1/10W     |
| L351     | 1-414-856-11      | INDUCTOR                         | 10μH   | R013     | 1-249-417-11    | CARBON                           | 1K 5% 1/4W       |
|          | <b>TRANSISTOR</b> |                                  |        | R014     | 1-216-073-91    | RES-CHIP                         | 10K 5% 1/10W     |
| Q001     | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX        |        | R015     | 1-216-073-91    | RES-CHIP                         | 10K 5% 1/10W     |
| Q002     | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX        |        | R016     | 1-216-041-00    | RES-CHIP                         | 470 5% 1/10W     |
| Q003     | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX        |        | R017     | 1-208-798-11    | METAL                            | 4.7K 0.50% 1/10W |
| Q004     | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX        |        | R018     | 1-249-409-11    | CARBON                           | 220 5% 1/4W      |
| Q006     | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX        |        | R019     | 1-216-113-00    | RES-CHIP                         | 470K 5% 1/10W    |
| Q082     | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX        |        | R020     | 1-216-033-00    | RES-CHIP                         | 220 5% 1/10W     |
| Q151     |                   | VARIANT (SEE VARIANT PARTS LIST) |        | R021     | 1-216-073-91    | RES-CHIP                         | 10K 5% 1/10W     |
| Q152     |                   | VARIANT (SEE VARIANT PARTS LIST) |        | R022     | 1-249-409-11    | CARBON                           | 220 5% 1/4W      |
| Q302     | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX        |        | R023     | 1-249-429-11    | CARBON                           | 10K 5% 1/4W      |
| Q303     | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX        |        | R024     | 1-249-409-11    | CARBON                           | 220 5% 1/4W      |
| Q305     | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX        |        | R025     | 1-249-426-11    | CARBON                           | 5.6K 5% 1/4W     |
| Q310     | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX        |        | R026     | 1-249-426-11    | CARBON                           | 5.6K 5% 1/4W     |
| Q349     | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX        |        | R027     | 1-249-426-11    | CARBON                           | 5.6K 5% 1/4W     |
| Q350     | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX        |        | R028     | 1-216-049-11    | RES-CHIP                         | 1K 5% 1/10W      |
| Q351     | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX        |        | R029     | 1-216-065-91    | RES-CHIP                         | 4.7K 5% 1/10W    |
| Q352     | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX        |        | R030     | 1-216-065-91    | RES-CHIP                         | 4.7K 5% 1/10W    |
| Q354     | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX        |        | R031     | 1-216-355-11    | METAL                            | 3.3 5% 1W        |
| Q355     | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX        |        | R032     | 1-216-033-00    | RES-CHIP                         | 220 5% 1/10W     |
| Q356     | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX        |        | R033     | 1-216-033-00    | RES-CHIP                         | 220 5% 1/10W     |
| Q358     | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX        |        | R034     | 1-216-033-00    | RES-CHIP                         | 220 5% 1/10W     |
| Q359     | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX        |        | R035     | 1-216-033-00    | RES-CHIP                         | 220 5% 1/10W     |
| Q365     | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX        |        | R036     | 1-216-049-11    | RES-CHIP                         | 1K 5% 1/10W      |
| Q368     | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX        |        | R037     | 1-249-409-11    | CARBON                           | 220 5% 1/4W      |
|          |                   |                                  |        | R038     | 1-216-049-11    | RES-CHIP                         | 1K 5% 1/10W      |





## COMMON PARTS LISTING FS SERIES

| REF. NO. | PART NO.     | DESCRIPTION                      | VALUES |       |       | REF. NO. | PART NO.     | DESCRIPTION                      | VALUES |       |       |
|----------|--------------|----------------------------------|--------|-------|-------|----------|--------------|----------------------------------|--------|-------|-------|
| R039     | 1-216-045-00 | RES-CHIP                         | 680    | 5%    | 1/10W | R159     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |
| R040     | 1-249-409-11 | CARBON                           | 220    | 5%    | 1/4W  | R251     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W |
| R041     | 1-216-045-00 | RES-CHIP                         | 680    | 5%    | 1/10W | R253     | 1-216-049-11 | RES-CHIP                         | 1K     | 5%    | 1/10W |
| R042     | 1-216-071-00 | RES-CHIP                         | 8.2K   | 5%    | 1/10W | R256     | 1-216-073-91 | RES-CHIP                         | 10K    | 5%    | 1/10W |
| R043     | 1-249-417-11 | CARBON                           | 1K     | 5%    | 1/4W  | R257     | 1-216-049-11 | RES-CHIP                         | 1K     | 5%    | 1/10W |
| R044     | 1-216-033-00 | RES-CHIP                         | 220    | 5%    | 1/10W | R258     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W |
| R045     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W | R259     | 1-249-429-11 | CARBON                           | 10K    | 5%    | 1/4W  |
| R046     | 1-216-033-00 | RES-CHIP                         | 220    | 5%    | 1/10W | R260     | 1-249-409-11 | CARBON                           | 220    | 5%    | 1/4W  |
| R047     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W | R261     | 1-216-113-00 | RES-CHIP                         | 470K   | 5%    | 1/10W |
| R048     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       | R262     | 1-247-807-31 | CARBON                           | 100    | 5%    | 1/4W  |
| R050     | 1-216-033-00 | RES-CHIP                         | 220    | 5%    | 1/10W | R263     | 1-216-025-11 | RES-CHIP                         | 100    | 5%    | 1/10W |
| R051     | 1-216-033-00 | RES-CHIP                         | 220    | 5%    | 1/10W | R264     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |
| R052     | 1-249-417-11 | CARBON                           | 1K     | 5%    | 1/4W  | R266     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |
| R054     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W | R267     | 1-216-049-11 | RES-CHIP                         | 1K     | 5%    | 1/10W |
| R055     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W | R268     | 1-216-045-00 | RES-CHIP                         | 680    | 5%    | 1/10W |
| R056     | 1-208-798-11 | METAL                            | 4.7K   | 0.50% | 1/10W | R269     | 1-216-049-11 | RES-CHIP                         | 1K     | 5%    | 1/10W |
| R057     | 1-216-097-11 | RES-CHIP                         | 100K   | 5%    | 1/10W | R270     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |
| R058     | 1-216-097-11 | RES-CHIP                         | 100K   | 5%    | 1/10W | R271     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |
| R060     | 1-249-409-11 | CARBON                           | 220    | 5%    | 1/4W  | R272     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |
| R061     | 1-216-033-00 | RES-CHIP                         | 220    | 5%    | 1/10W | R273     | 1-216-073-91 | RES-CHIP                         | 10K    | 5%    | 1/10W |
| R064     | 1-216-295-91 | SHORT                            |        |       |       | R274     | 1-216-295-91 | SHORT                            |        |       |       |
| R069     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       | R275     | 1-216-081-00 | RES-CHIP                         | 22K    | 5%    | 1/10W |
| R070     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W | R276     | 1-216-085-91 | RES-CHIP                         | 33K    | 5%    | 1/10W |
| R071     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W | R277     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |
| R073     | 1-249-425-11 | CARBON                           | 4.7K   | 5%    | 1/4W  | R279     | 1-247-807-31 | CARBON                           | 100    | 5%    | 1/4W  |
| R074     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W | R280     | 1-216-069-00 | RES-CHIP                         | 6.8K   | 5%    | 1/10W |
| R077     | 1-216-097-11 | RES-CHIP                         | 100K   | 5%    | 1/10W | R281     | 1-208-798-11 | METAL                            | 4.7K   | 0.50% | 1/10W |
| R086     | 1-216-045-00 | RES-CHIP                         | 680    | 5%    | 1/10W | R282     | 1-208-790-11 | METAL                            | 2.2K   | 0.50% | 1/10W |
| R087     | 1-216-045-00 | RES-CHIP                         | 680    | 5%    | 1/10W | R283     | 1-216-689-11 | RES-CHIP                         | 39K    | 5%    | 1/10W |
| R088     | 1-216-045-00 | RES-CHIP                         | 680    | 5%    | 1/10W | R300     | 1-216-295-91 | SHORT                            |        |       |       |
| R091     | 1-216-073-91 | RES-CHIP                         | 10K    | 5%    | 1/10W | R301     | 1-216-022-00 | RES-CHIP                         | 75     | 5%    | 1/10W |
| R092     | 1-208-798-11 | METAL                            | 4.7K   | 0.50% | 1/10W | R303     | 1-216-073-91 | RES-CHIP                         | 10K    | 5%    | 1/10W |
| R093     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W | R304     | 1-247-807-31 | CARBON                           | 100    | 5%    | 1/4W  |
| R094     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W | R305     | 1-216-295-91 | SHORT                            |        |       |       |
| R095     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W | R306     | 1-216-025-11 | RES-CHIP                         | 100    | 5%    | 1/10W |
| R096     | 1-216-065-91 | RES-CHIP                         | 4.7K   | 5%    | 1/10W | R308     | 1-216-022-00 | RES-CHIP                         | 75     | 5%    | 1/10W |
| R097     | 1-249-414-11 | CARBON                           | 560    | 5%    | 1/4W  | R310     | 1-249-417-11 | CARBON                           | 1K     | 5%    | 1/4W  |
| R099     | 1-216-089-91 | RES-CHIP                         | 47K    | 5%    | 1/10W | R311     | 1-216-025-11 | RES-CHIP                         | 100    | 5%    | 1/10W |
| R100     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       | R312     | 1-249-417-11 | CARBON                           | 1K     | 5%    | 1/4W  |
| R101     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       | R313     | 1-216-049-11 | RES-CHIP                         | 1K     | 5%    | 1/10W |
| R150     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       | R314     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       |
| R151     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       | R316     | 1-216-067-00 | RES-CHIP                         | 5.6K   | 5%    | 1/10W |
| R154     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       | R317     | 1-247-807-31 | CARBON                           | 100    | 5%    | 1/4W  |
| R155     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       | R318     | 1-216-091-00 | RES-CHIP                         | 56K    | 5%    | 1/10W |
| R156     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       | R319     | 1-216-081-00 | RES-CHIP                         | 22K    | 5%    | 1/10W |
| R157     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       | R320     | 1-216-025-11 | RES-CHIP                         | 100    | 5%    | 1/10W |
| R158     |              | VARIANT (SEE VARIANT PARTS LIST) |        |       |       | R321     | 1-216-043-91 | RES-CHIP                         | 560    | 5%    | 1/10W |





## VARIANT PARTS LISTING

**MA**

The parts on this page belong to the following model(s) only:  
**KV-27FS13**

| REF. NO.                                | PART NO.     | DESCRIPTION               | VALUES  |     |       | REF. NO. | PART NO. | DESCRIPTION | VALUES |  |  |
|---|--------------|---------------------------|---------|-----|-------|----------|----------|-------------|--------|--|--|
| MA BOARD VARIANT PARTS LIST (KV-27FS13) |              |                           |         |     |       |          |          |             |        |  |  |
| *                                       | A-1304-200-A | MA (VAR) MOUNTED PC BOARD |         |     |       |          |          |             |        |  |  |
| CAPACITOR                               |              |                           |         |     |       |          |          |             |        |  |  |
| C380                                    | 1-163-021-91 | CERAMIC CHIP              | 0.01μF  | 10% | 50V   |          |          |             |        |  |  |
| C381                                    | 1-163-021-91 | CERAMIC CHIP              | 0.01μF  | 10% | 50V   |          |          |             |        |  |  |
| C382                                    | 1-163-021-91 | CERAMIC CHIP              | 0.01μF  | 10% | 50V   |          |          |             |        |  |  |
| C389                                    | 1-115-185-11 | CERAMIC CHIP              | 0.033μF | 10% | 50V   |          |          |             |        |  |  |
| RESISTOR                                |              |                           |         |     |       |          |          |             |        |  |  |
| R277                                    | 1-216-129-00 | RES-CHIP                  | 2.2M    | 5%  | 1/10W |          |          |             |        |  |  |
| R398                                    | 1-216-091-00 | RES-CHIP                  | 56K     | 5%  | 1/10W |          |          |             |        |  |  |
| R399                                    | 1-216-109-00 | RES-CHIP                  | 330K    | 5%  | 1/10W |          |          |             |        |  |  |

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## VARIANT PARTS LISTING

**MA**

The parts on this page belong to the following model(s) only:  
**KV-27FS17**

| REF. NO.                                | PART NO.     | DESCRIPTION               | VALUES     |              |                               | REF. NO. | PART NO.     | DESCRIPTION | VALUES       |                      |       |    |       |  |
|---|--------------|---------------------------|------------|--------------|-------------------------------|----------|--------------|-------------|--------------|----------------------|-------|----|-------|--|
| MA BOARD VARIANT PARTS LIST (KV-27FS17) |              |                           |            |              |                               | R158     | 1-216-025-11 | RES-CHIP    | 100          | 5%                   | 1/10W |    |       |  |
| *                                       | A-1304-198-A | MA (VAR) MOUNTED PC BOARD | CAPACITOR  |              |                               | R159     | 1-216-025-11 | RES-CHIP    | 100          | 5%                   | 1/10W |    |       |  |
|   |              |                           | C005       | 1-164-005-11 | CERAMIC CHIP                  | 0.47μF   | 25V          | R264        | 1-216-081-00 | RES-CHIP             | 22K   | 5% | 1/10W |  |
|   |              |                           | C151       | 1-126-960-11 | ELECT                         | 1μF      | 20% 50V      | R266        | 1-216-081-00 | RES-CHIP             | 22K   | 5% | 1/10W |  |
|   |              |                           | C153       | 1-163-017-00 | CERAMIC CHIP                  | 0.0047μF | 10% 50V      | R270        | 1-216-081-00 | RES-CHIP             | 22K   | 5% | 1/10W |  |
|   |              |                           | C154       | 1-126-967-11 | ELECT                         | 47μF     | 20% 50V      | R271        | 1-216-081-00 | RES-CHIP             | 22K   | 5% | 1/10W |  |
|   |              |                           | C155       | 1-126-964-11 | ELECT                         | 10μF     | 20% 50V      | R272        | 1-216-081-00 | RES-CHIP             | 22K   | 5% | 1/10W |  |
|   |              |                           | C156       | 1-104-664-11 | ELECT                         | 47μF     | 20% 25V      | R277        | 1-216-129-00 | RES-CHIP             | 2.2M  | 5% | 1/10W |  |
|   |              |                           | C157       | 1-126-968-11 | ELECT                         | 100μF    | 20% 50V      | R314        | 1-216-081-00 | RES-CHIP             | 22K   | 5% | 1/10W |  |
|   |              |                           | C345       | 1-163-021-91 | CERAMIC CHIP                  | 0.01μF   | 10% 50V      | R398        | 1-216-091-00 | RES-CHIP             | 56K   | 5% | 1/10W |  |
|   |              |                           | C346       | 1-163-021-91 | CERAMIC CHIP                  | 0.01μF   | 10% 50V      | R399        | 1-216-109-00 | RES-CHIP             | 330K  | 5% | 1/10W |  |
|   |              |                           | C347       | 1-163-021-91 | CERAMIC CHIP                  | 0.01μF   | 10% 50V      | R434        | 1-216-065-91 | RES-CHIP             | 4.7K  | 5% | 1/10W |  |
|   |              |                           | C364       | 1-164-004-11 | CERAMIC CHIP                  | 0.1μF    | 10% 25V      | R435        | 1-216-065-91 | RES-CHIP             | 4.7K  | 5% | 1/10W |  |
|   |              |                           | C389       | 1-115-185-11 | CERAMIC CHIP                  | 0.033μF  | 10% 50V      | TUNER       |              |                      |       |    |       |  |
|   |              |                           | C451       | 1-163-038-91 | CERAMIC CHIP                  | 0.1μF    | 25V          | ⚠ TU150     | 8-598-501-30 | TUNER, FSS BTF-FA402 |       |    |       |  |
|   |              |                           | C452       | 1-163-038-91 | CERAMIC CHIP                  | 0.1μF    | 25V          |             |              |                      |       |    |       |  |
|   |              |                           | C453       | 1-163-038-91 | CERAMIC CHIP                  | 0.1μF    | 25V          |             |              |                      |       |    |       |  |
|   |              |                           | C454       | 1-163-038-91 | CERAMIC CHIP                  | 0.1μF    | 25V          |             |              |                      |       |    |       |  |
|   |              |                           | CONNECTOR  |              |                               |          |              |             |              |                      |       |    |       |  |
|   |              |                           | * CN304    | 1-564-507-11 | PLUG,CONNECTOR 4P             |          |              |             |              |                      |       |    |       |  |
|   |              |                           | * CN305    | 1-573-298-21 | CONNECTOR, BOARD TO BOARD 20P |          |              |             |              |                      |       |    |       |  |
|   |              |                           | * CN401    | 1-564-505-11 | PLUG,CONNECTOR 2P             |          |              |             |              |                      |       |    |       |  |
|   |              |                           | DIODE      |              |                               |          |              |             |              |                      |       |    |       |  |
|   |              |                           | D303       | 8-719-991-33 | DIODE 1SS133T-77              |          |              |             |              |                      |       |    |       |  |
|   |              |                           | COIL       |              |                               |          |              |             |              |                      |       |    |       |  |
|   |              |                           | L150       | 1-412-058-11 | INDUCTOR                      | 10μH     |              |             |              |                      |       |    |       |  |
|   |              |                           | L151       | 1-412-064-11 | INDUCTOR                      | 100μH    |              |             |              |                      |       |    |       |  |
|   |              |                           | TRANSISTOR |              |                               |          |              |             |              |                      |       |    |       |  |
|   |              |                           | Q151       | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX     |          |              |             |              |                      |       |    |       |  |
|   |              |                           | Q152       | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX     |          |              |             |              |                      |       |    |       |  |
|   |              |                           | Q378       | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX     |          |              |             |              |                      |       |    |       |  |
|   |              |                           | Q379       | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX     |          |              |             |              |                      |       |    |       |  |
|   |              |                           | Q380       | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX     |          |              |             |              |                      |       |    |       |  |
|   |              |                           | RESISTOR   |              |                               |          |              |             |              |                      |       |    |       |  |
|   |              |                           | R048       | 1-216-025-11 | RES-CHIP                      | 100      | 5%           | 1/10W       |              |                      |       |    |       |  |
|   |              |                           | R069       | 1-249-409-11 | CARBON                        | 220      | 5%           | 1/4W        |              |                      |       |    |       |  |
|   |              |                           | R100       | 1-216-295-91 | SHORT                         |          |              |             |              |                      |       |    |       |  |
|   |              |                           | R101       | 1-216-295-91 | SHORT                         |          |              |             |              |                      |       |    |       |  |
|   |              |                           | R150       | 1-216-053-00 | RES-CHIP                      | 1.5K     | 5%           | 1/10W       |              |                      |       |    |       |  |
|   |              |                           | R151       | 1-216-025-11 | RES-CHIP                      | 100      | 5%           | 1/10W       |              |                      |       |    |       |  |
|   |              |                           | R154       | 1-216-043-91 | RES-CHIP                      | 560      | 5%           | 1/10W       |              |                      |       |    |       |  |
|   |              |                           | R155       | 1-216-043-91 | RES-CHIP                      | 560      | 5%           | 1/10W       |              |                      |       |    |       |  |
|   |              |                           | R156       | 1-216-085-91 | RES-CHIP                      | 33K      | 5%           | 1/10W       |              |                      |       |    |       |  |
|   |              |                           | R157       | 1-216-081-00 | RES-CHIP                      | 22K      | 5%           | 1/10W       |              |                      |       |    |       |  |

## VARIANT PARTS LISTING


**MA**


The parts on this page belong to the following model(s) only:

**KV-32FS13/34FS13C**

| REF. NO.   | PART NO.     | DESCRIPTION               | VALUES  |     |       | REF. NO. | PART NO. | DESCRIPTION | VALUES |  |  |
|--|--------------|---------------------------|---------|-----|-------|----------|----------|-------------|--------|--|--|
| MA BOARD VARIANT PARTS LIST<br>(KV-32FS13/34FS13C) |              |                           |         |     |       |          |          |             |        |  |  |
| *  | A-1304-203-A | MA (VAR) MOUNTED PC BOARD |         |     |       |          |          |             |        |  |  |
| CAPACITOR  |              |                           |         |     |       |          |          |             |        |  |  |
| C380   | 1-163-021-91 | CERAMIC CHIP              | 0.01μF  | 10% | 50V   |          |          |             |        |  |  |
| C381   | 1-163-021-91 | CERAMIC CHIP              | 0.01μF  | 10% | 50V   |          |          |             |        |  |  |
| C382   | 1-163-021-91 | CERAMIC CHIP              | 0.01μF  | 10% | 50V   |          |          |             |        |  |  |
| C389   | 1-104-760-11 | CERAMIC CHIP              | 0.047μF | 10% | 50V   |          |          |             |        |  |  |
| RESISTOR   |              |                           |         |     |       |          |          |             |        |  |  |
| R277   | 1-216-133-91 | RES-CHIP                  | 3.3M    | 5%  | 1/10W |          |          |             |        |  |  |
| R398   | 1-216-109-00 | RES-CHIP                  | 330K    | 5%  | 1/10W |          |          |             |        |  |  |
| R399   | 1-216-689-11 | RES-CHIP                  | 39K     | 5%  | 1/10W |          |          |             |        |  |  |



NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## VARIANT PARTS LISTING

**MA**

The parts on this page belong to the following model(s) only:  
**KV-32FS17/34FS17**

| REF. NO.  | PART NO.     | DESCRIPTION               | VALUES   |     |     |   | REF. NO. | PART NO.     | DESCRIPTION          | VALUES |    |       |  |
|---|--------------|---------------------------|----------|-----|-----|---|----------|--------------|----------------------|--------|----|-------|--|
| MA BOARD VARIANT PARTS LIST<br>(KV-32FS17/34FS17) |              |                           |          |     |     |   | R157     | 1-216-081-00 | RES-CHIP             | 22K    | 5% | 1/10W |  |
|   |              |                           |          |     |     |   | R158     | 1-216-025-11 | RES-CHIP             | 100    | 5% | 1/10W |  |
|   |              |                           |          |     |     |   | R159     | 1-216-025-11 | RES-CHIP             | 100    | 5% | 1/10W |  |
|   | A-1304-196-A | MA (VAR) MOUNTED PC BOARD |          |     |     |   | R264     | 1-216-081-00 | RES-CHIP             | 22K    | 5% | 1/10W |  |
|   | CAPACITOR    |                           |          |     |     |   | R266     | 1-216-081-00 | RES-CHIP             | 22K    | 5% | 1/10W |  |
| C005  | 1-164-005-11 | CERAMIC CHIP              | 0.47μF   |     | 25V |   | R270     | 1-216-081-00 | RES-CHIP             | 22K    | 5% | 1/10W |  |
| C151  | 1-126-960-11 | ELECT                     | 1μF      | 20% | 50V |   | R271     | 1-216-081-00 | RES-CHIP             | 22K    | 5% | 1/10W |  |
| C153  | 1-163-017-00 | CERAMIC CHIP              | 0.0047μF | 10% | 50V |   | R272     | 1-216-081-00 | RES-CHIP             | 22K    | 5% | 1/10W |  |
| C154  | 1-126-967-11 | ELECT                     | 47μF     | 20% | 50V |   | R277     | 1-216-133-91 | RES-CHIP             | 3.3M   | 5% | 1/10W |  |
| C155  | 1-126-964-11 | ELECT                     | 10μF     | 20% | 50V |   | R314     | 1-216-081-00 | RES-CHIP             | 22K    | 5% | 1/10W |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
| C156  | 1-104-664-11 | ELECT                     | 47μF     | 20% | 25V |   | R398     | 1-216-109-00 | RES-CHIP             | 330K   | 5% | 1/10W |  |
| C157  | 1-126-968-11 | ELECT                     | 100μF    | 20% | 50V |   | R399     | 1-216-689-11 | RES-CHIP             | 39K    | 5% | 1/10W |  |
| C345  | 1-163-021-91 | CERAMIC CHIP              | 0.01μF   | 10% | 50V |   | R434     | 1-216-065-91 | RES-CHIP             | 4.7K   | 5% | 1/10W |  |
| C346  | 1-163-021-91 | CERAMIC CHIP              | 0.01μF   | 10% | 50V |   | R435     | 1-216-065-91 | RES-CHIP             | 4.7K   | 5% | 1/10W |  |
| C347  | 1-163-021-91 | CERAMIC CHIP              | 0.01μF   | 10% | 50V |   | TUNER    |              |                      |        |    |       |  |
|   |              |                           |          |     |     | ⚠ | TU150    | 8-598-501-30 | TUNER, FSS BTF-FA402 |        |    |       |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
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|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
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|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
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|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
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|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
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|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
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|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |
|   |              |                           |          |     |     |   |          |              |                      |        |    |       |  |



## COMPLETE PARTS LISTING FV SERIES

| REF. NO.  | PART NO. | DESCRIPTION | VALUES |  |  | REF. NO. | PART NO. | DESCRIPTION | VALUES |  |  |
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|          |             |        |  |  |          |          |             |        |  |  |



NOTE: The components identified by shading and  $\triangle$  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  $\triangle$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## COMPLETE PARTS LISTING FV SERIES

| REF. NO.              | PART NO.     | DESCRIPTION                   | VALUES                | REF. NO.          | PART NO.     | DESCRIPTION               | VALUES      |
|-----------------------|--------------|-------------------------------|-----------------------|-------------------|--------------|---------------------------|-------------|
| C371                  | 1-163-243-11 | CERAMIC CHIP                  | 47pF 5% 50V           | JR003             | 1-216-295-91 | SHORT                     |             |
| C377                  | 1-126-963-11 | ELECT                         | 4.7 $\mu$ F 20% 50V   | JR005             | 1-216-295-91 | SHORT                     |             |
| C389                  | 1-115-185-11 | CERAMIC CHIP                  | 0.033 $\mu$ F 10% 50V | JR006             | 1-216-295-91 | SHORT                     |             |
| C395                  | 1-163-021-91 | CERAMIC CHIP                  | 0.01 $\mu$ F 10% 50V  | JR007             | 1-216-295-91 | SHORT                     |             |
| C396                  | 1-164-004-11 | CERAMIC CHIP                  | 0.1 $\mu$ F 10% 25V   | JR008             | 1-216-295-91 | SHORT                     |             |
| C398                  | 1-126-964-11 | ELECT                         | 10 $\mu$ F 20% 50V    | JR010             | 1-216-295-91 | SHORT                     |             |
| C451                  | 1-163-038-91 | CERAMIC CHIP                  | 0.1 $\mu$ F 25V       | JR011             | 1-216-295-91 | SHORT                     |             |
| C452                  | 1-163-038-91 | CERAMIC CHIP                  | 0.1 $\mu$ F 25V       | JR090             | 1-216-295-91 | SHORT                     |             |
| C453                  | 1-163-038-91 | CERAMIC CHIP                  | 0.1 $\mu$ F 25V       | JR100             | 1-216-295-91 | SHORT                     |             |
| C454                  | 1-163-038-91 | CERAMIC CHIP                  | 0.1 $\mu$ F 25V       | JR101             | 1-216-295-91 | SHORT                     |             |
| <b>CONNECTOR</b>      |              |                               |                       | JR296             | 1-216-295-91 | SHORT                     |             |
| CN001                 | 1-764-334-11 | PLUG,CONNECTOR 11P            |                       | JR297             | 1-216-295-91 | SHORT                     |             |
| * CN002               | 1-560-124-00 | PLUG,CONNECTOR (2.5MM) 4P     |                       | JR298             | 1-216-295-91 | SHORT                     |             |
| * CN003               | 1-564-512-11 | PLUG,CONNECTOR 9P             |                       | JR299             | 1-216-295-91 | SHORT                     |             |
| * CN004               | 1-564-512-11 | PLUG,CONNECTOR 9P             |                       | JR300             | 1-216-295-91 | SHORT                     |             |
| * CN005               | 1-764-333-11 | PLUG,CONNECTOR 10P            |                       | JR310             | 1-216-295-91 | SHORT                     |             |
| * CN006               | 1-764-333-11 | PLUG,CONNECTOR 10P            |                       | JR311             | 1-216-295-91 | SHORT                     |             |
| * CN302               | 1-564-507-11 | PLUG,CONNECTOR 4P             |                       | JR355             | 1-216-295-91 | SHORT                     |             |
| * CN304               | 1-564-507-11 | PLUG,CONNECTOR 4P             |                       | JR359             | 1-216-295-91 | SHORT                     |             |
| CN305                 | 1-573-298-21 | CONNECTOR, BOARD TO BOARD 20P |                       | JR378             | 1-216-295-91 | SHORT                     |             |
| * CN306               | 1-691-616-21 | CONNECTOR, BOARD TO BOARD 15P |                       | JR379             | 1-216-295-91 | SHORT                     |             |
| * CN309               | 1-564-506-11 | PLUG,CONNECTOR 3P             |                       | JR399             | 1-216-295-91 | SHORT                     |             |
| CN401                 | 1-564-505-11 | PLUG,CONNECTOR 2P             |                       | JR402             | 1-216-295-91 | SHORT                     |             |
| <b>DIODE</b>          |              |                               |                       | JR501             | 1-216-295-91 | SHORT                     |             |
| $\triangle$ D001      | 8-719-069-54 | DIODE UDZSTE-175.1B           |                       | JR502             | 1-216-295-91 | SHORT                     |             |
| D002                  | 8-719-110-17 | DIODE MTZJ-T-77-10B           |                       | <b>COIL</b>       |              |                           |             |
| D003                  | 8-719-404-50 | DIODE MA111-TX                |                       | L002              | 1-412-064-11 | INDUCTOR                  | 100 $\mu$ H |
| D004                  | 8-719-069-54 | DIODE UDZSTE-175.1B           |                       | L003              | 1-412-064-11 | INDUCTOR                  | 100 $\mu$ H |
| D005                  | 8-719-109-89 | DIODE MTZJ-T-77-5.6C          |                       | L040              | 1-408-963-11 | INDUCTOR                  | 2.7 $\mu$ H |
| D006                  | 8-719-069-60 | DIODE UDZSTE-179.1B           |                       | L150              | 1-412-058-11 | INDUCTOR                  | 10 $\mu$ H  |
| D075                  | 8-719-404-50 | DIODE MA111-TX                |                       | L151              | 1-412-064-11 | INDUCTOR                  | 100 $\mu$ H |
| D301                  | 8-719-921-44 | DIODE MTZJ-T-77-5.1C          |                       | L301              | 1-412-029-11 | INDUCTOR                  | 10 $\mu$ H  |
| D303                  | 8-719-991-33 | DIODE 1SS133T-77              |                       | L302              | 1-412-031-11 | INDUCTOR                  | 47 $\mu$ H  |
| D304                  | 8-719-981-99 | DIODE MTZJ-T-77-3.3           |                       | L305              | 1-412-029-11 | INDUCTOR                  | 10 $\mu$ H  |
| D305                  | 8-719-921-44 | DIODE MTZJ-T-77-5.1C          |                       | L308              | 1-412-064-11 | INDUCTOR                  | 100 $\mu$ H |
| D360                  | 8-719-914-44 | DIODE DAP202K-T-146           |                       | L310              | 1-412-064-11 | INDUCTOR                  | 100 $\mu$ H |
| <b>FERRITE BEAD</b>   |              |                               |                       | <b>TRANSISTOR</b> |              |                           |             |
| FB001                 | 1-414-234-22 | FERRITE                       | 0 $\mu$ H             | Q001              | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |             |
| FB002                 | 1-414-234-22 | FERRITE                       | 0 $\mu$ H             | Q002              | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |             |
| <b>IC</b>             |              |                               |                       | Q003              | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |             |
| IC001                 | 8-759-827-83 | IC M37280MK-114SP             |                       | Q004              | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |             |
| IC002                 | 8-759-663-29 | IC MM1476AF(TP)               |                       | Q006              | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |             |
| IC003                 | 8-759-699-33 | IC M24C16-MN6T(A)             |                       | Q082              | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |             |
| $\triangle$ IC301     | 8-752-100-49 | IC CXA2154AS                  |                       | Q151              | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |             |
| <b>CHIP CONDUCTOR</b> |              |                               |                       | Q152              | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |             |
| JR001                 | 1-216-295-91 | SHORT                         |                       | Q301              | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |             |
| JR002                 | 1-216-295-91 | SHORT                         |                       | Q303              | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |             |
|                       |              |                               |                       | Q304              | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |             |



## COMPLETE PARTS LISTING FV SERIES

| REF. NO.        | PART NO.     | DESCRIPTION               | VALUES |       |       | REF. NO. | PART NO.     | DESCRIPTION | VALUES |       |       |
|-----------------|--------------|---------------------------|--------|-------|-------|----------|--------------|-------------|--------|-------|-------|
| Q305            | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |       |       | R035     | 1-216-033-00 | RES-CHIP    | 220    | 5%    | 1/10W |
| Q306            | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |       |       | R036     | 1-216-049-11 | RES-CHIP    | 1K     | 5%    | 1/10W |
| Q356            | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |       |       | R037     | 1-249-409-11 | CARBON      | 220    | 5%    | 1/4W  |
| Q357            | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |       |       | R038     | 1-216-049-11 | RES-CHIP    | 1K     | 5%    | 1/10W |
| Q365            | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |       |       | R039     | 1-216-045-00 | RES-CHIP    | 680    | 5%    | 1/10W |
| Q368            | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |       |       | R040     | 1-249-409-11 | CARBON      | 220    | 5%    | 1/4W  |
| Q375            | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |       |       | R041     | 1-216-045-00 | RES-CHIP    | 680    | 5%    | 1/10W |
| Q378            | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |       |       | R042     | 1-216-071-00 | RES-CHIP    | 8.2K   | 5%    | 1/10W |
| Q379            | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |       |       | R043     | 1-249-417-11 | CARBON      | 1K     | 5%    | 1/4W  |
| Q380            | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |       |       | R044     | 1-216-033-00 | RES-CHIP    | 220    | 5%    | 1/10W |
| Q387            | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |       |       | R045     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| Q388            | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |       |       | R046     | 1-216-033-00 | RES-CHIP    | 220    | 5%    | 1/10W |
| Q389            | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |       |       | R047     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| <b>RESISTOR</b> |              |                           |        |       |       | R048     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |
| R001            | 1-216-043-91 | RES-CHIP                  | 560    | 5%    | 1/10W | R050     | 1-216-033-00 | RES-CHIP    | 220    | 5%    | 1/10W |
| R002            | 1-216-041-00 | RES-CHIP                  | 470    | 5%    | 1/10W | R051     | 1-216-033-00 | RES-CHIP    | 220    | 5%    | 1/10W |
| R003            | 1-247-807-31 | CARBON                    | 100    | 5%    | 1/4W  | R052     | 1-249-417-11 | CARBON      | 1K     | 5%    | 1/4W  |
| R004            | 1-216-061-91 | RES-CHIP                  | 3.3K   | 5%    | 1/10W | R054     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| R005            | 1-216-295-91 | SHORT                     |        |       |       | R055     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| R006            | 1-216-025-11 | RES-CHIP                  | 100    | 5%    | 1/10W | R056     | 1-208-798-11 | METAL CHIP  | 4.7K   | 0.50% | 1/10W |
| R007            | 1-216-025-11 | RES-CHIP                  | 100    | 5%    | 1/10W | R057     | 1-216-097-11 | RES-CHIP    | 100K   | 5%    | 1/10W |
| R008            | 1-216-049-11 | RES-CHIP                  | 1K     | 5%    | 1/10W | R058     | 1-216-097-11 | RES-CHIP    | 100K   | 5%    | 1/10W |
| R009            | 1-216-121-11 | RES-CHIP                  | 1M     | 5%    | 1/10W | R060     | 1-249-409-11 | CARBON      | 220    | 5%    | 1/4W  |
| R010            | 1-216-033-00 | RES-CHIP                  | 220    | 5%    | 1/10W | R061     | 1-216-033-00 | RES-CHIP    | 220    | 5%    | 1/10W |
| R011            | 1-216-033-00 | RES-CHIP                  | 220    | 5%    | 1/10W | R064     | 1-216-295-91 | SHORT       |        |       |       |
| R012            | 1-216-045-00 | RES-CHIP                  | 680    | 5%    | 1/10W | R069     | 1-249-409-11 | CARBON      | 220    | 5%    | 1/4W  |
| R013            | 1-249-417-11 | CARBON                    | 1K     | 5%    | 1/4W  | R070     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| R014            | 1-216-073-91 | RES-CHIP                  | 10K    | 5%    | 1/10W | R071     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| R015            | 1-216-073-91 | RES-CHIP                  | 10K    | 5%    | 1/10W | R073     | 1-249-425-11 | CARBON      | 4.7K   | 5%    | 1/4W  |
| R016            | 1-216-041-00 | RES-CHIP                  | 470    | 5%    | 1/10W | R074     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| R017            | 1-208-798-11 | METAL CHIP                | 4.7K   | 0.50% | 1/10W | R077     | 1-216-097-11 | RES-CHIP    | 100K   | 5%    | 1/10W |
| R018            | 1-249-409-11 | CARBON                    | 220    | 5%    | 1/4W  | R085     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| R019            | 1-216-113-00 | RES-CHIP                  | 470K   | 5%    | 1/10W | R086     | 1-216-045-00 | RES-CHIP    | 680    | 5%    | 1/10W |
| R020            | 1-216-033-00 | RES-CHIP                  | 220    | 5%    | 1/10W | R087     | 1-216-045-00 | RES-CHIP    | 680    | 5%    | 1/10W |
| R021            | 1-216-073-91 | RES-CHIP                  | 10K    | 5%    | 1/10W | R088     | 1-216-045-00 | RES-CHIP    | 680    | 5%    | 1/10W |
| R022            | 1-249-409-11 | CARBON                    | 220    | 5%    | 1/4W  | R089     | 1-216-033-00 | RES-CHIP    | 220    | 5%    | 1/10W |
| R023            | 1-249-429-11 | CARBON                    | 10K    | 5%    | 1/4W  | R091     | 1-216-073-91 | RES-CHIP    | 10K    | 5%    | 1/10W |
| R024            | 1-249-409-11 | CARBON                    | 220    | 5%    | 1/4W  | R092     | 1-208-798-11 | METAL CHIP  | 4.7K   | 0.50% | 1/10W |
| R025            | 1-249-426-11 | CARBON                    | 5.6K   | 5%    | 1/4W  | R093     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| R026            | 1-249-426-11 | CARBON                    | 5.6K   | 5%    | 1/4W  | R094     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| R027            | 1-249-426-11 | CARBON                    | 5.6K   | 5%    | 1/4W  | R095     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| R028            | 1-216-049-11 | RES-CHIP                  | 1K     | 5%    | 1/10W | R096     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| R029            | 1-216-065-91 | RES-CHIP                  | 4.7K   | 5%    | 1/10W | R097     | 1-249-414-11 | CARBON      | 560    | 5%    | 1/4W  |
| R030            | 1-216-065-91 | RES-CHIP                  | 4.7K   | 5%    | 1/10W | R099     | 1-216-089-91 | RES-CHIP    | 47K    | 5%    | 1/10W |
| R031            | 1-216-355-11 | METAL OXIDE               | 3.3    | 5%    | 1W    | R100     | 1-216-295-91 | SHORT       |        |       |       |
| R032            | 1-216-033-00 | RES-CHIP                  | 220    | 5%    | 1/10W | R101     | 1-216-295-91 | SHORT       |        |       |       |
| R033            | 1-216-033-00 | RES-CHIP                  | 220    | 5%    | 1/10W | R150     | 1-216-053-00 | RES-CHIP    | 1.5K   | 5%    | 1/10W |
| R034            | 1-216-033-00 | RES-CHIP                  | 220    | 5%    | 1/10W | R151     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |



## COMPLETE PARTS LISTING FV SERIES

| REF. NO. | PART NO.     | DESCRIPTION | VALUES |       |       | REF. NO. | PART NO.     | DESCRIPTION | VALUES |       |       |
|----------|--------------|-------------|--------|-------|-------|----------|--------------|-------------|--------|-------|-------|
| R154     | 1-216-043-91 | RES-CHIP    | 560    | 5%    | 1/10W | R303     | 1-216-073-91 | RES-CHIP    | 10K    | 5%    | 1/10W |
| R155     | 1-216-043-91 | RES-CHIP    | 560    | 5%    | 1/10W | R304     | 1-247-807-31 | CARBON      | 100    | 5%    | 1/4W  |
| R156     | 1-216-085-91 | RES-CHIP    | 33K    | 5%    | 1/10W | R306     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |
| R157     | 1-216-081-00 | RES-CHIP    | 22K    | 5%    | 1/10W | R308     | 1-216-022-00 | RES-CHIP    | 75     | 5%    | 1/10W |
| R158     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W | R310     | 1-249-417-11 | CARBON      | 1K     | 5%    | 1/4W  |
| R159     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W | R312     | 1-249-417-11 | CARBON      | 1K     | 5%    | 1/4W  |
| R199     | 1-216-295-91 | SHORT       |        |       |       | R313     | 1-216-049-11 | RES-CHIP    | 1K     | 5%    | 1/10W |
| R251     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W | R314     | 1-216-081-00 | RES-CHIP    | 22K    | 5%    | 1/10W |
| R253     | 1-216-049-11 | RES-CHIP    | 1K     | 5%    | 1/10W | R322     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |
| R256     | 1-216-073-91 | RES-CHIP    | 10K    | 5%    | 1/10W | R323     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |
| R257     | 1-216-049-11 | RES-CHIP    | 1K     | 5%    | 1/10W | R324     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| R258     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W | R326     | 1-208-806-11 | METAL CHIP  | 10K    | 0.50% | 1/10W |
| R259     | 1-249-429-11 | CARBON      | 10K    | 5%    | 1/4W  | R327     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |
| R260     | 1-249-409-11 | CARBON      | 220    | 5%    | 1/4W  | R329     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |
| R261     | 1-216-113-00 | RES-CHIP    | 470K   | 5%    | 1/10W | R332     | 1-216-022-00 | RES-CHIP    | 75     | 5%    | 1/10W |
| R262     | 1-247-807-31 | CARBON      | 100    | 5%    | 1/4W  | R335     | 1-216-057-00 | RES-CHIP    | 2.2K   | 5%    | 1/10W |
| R263     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W | R336     | 1-216-057-00 | RES-CHIP    | 2.2K   | 5%    | 1/10W |
| R264     | 1-216-081-00 | RES-CHIP    | 22K    | 5%    | 1/10W | R337     | 1-216-057-00 | RES-CHIP    | 2.2K   | 5%    | 1/10W |
| R266     | 1-216-081-00 | RES-CHIP    | 22K    | 5%    | 1/10W | R338     | 1-216-073-91 | RES-CHIP    | 10K    | 5%    | 1/10W |
| R267     | 1-216-049-11 | RES-CHIP    | 1K     | 5%    | 1/10W | R340     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |
| R268     | 1-216-045-00 | RES-CHIP    | 680    | 5%    | 1/10W | R341     | 1-216-089-91 | RES-CHIP    | 47K    | 5%    | 1/10W |
| R269     | 1-216-049-11 | RES-CHIP    | 1K     | 5%    | 1/10W | R342     | 1-216-049-11 | RES-CHIP    | 1K     | 5%    | 1/10W |
| R270     | 1-216-081-00 | RES-CHIP    | 22K    | 5%    | 1/10W | R343     | 1-216-097-11 | RES-CHIP    | 100K   | 5%    | 1/10W |
| R271     | 1-216-081-00 | RES-CHIP    | 22K    | 5%    | 1/10W | R344     | 1-216-295-91 | SHORT       |        |       |       |
| R272     | 1-216-081-00 | RES-CHIP    | 22K    | 5%    | 1/10W | R345     | 1-216-097-11 | RES-CHIP    | 100K   | 5%    | 1/10W |
| R273     | 1-216-073-91 | RES-CHIP    | 10K    | 5%    | 1/10W | R346     | 1-216-097-11 | RES-CHIP    | 100K   | 5%    | 1/10W |
| R274     | 1-216-295-91 | SHORT       |        |       |       | R347     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |
| R276     | 1-216-085-91 | RES-CHIP    | 33K    | 5%    | 1/10W | R348     | 1-216-022-00 | RES-CHIP    | 75     | 5%    | 1/10W |
| R277     | 1-216-129-00 | RES-CHIP    | 2.2M   | 5%    | 1/10W | R349     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |
| R278     | 1-216-295-91 | SHORT       |        |       |       | R350     | 1-216-022-00 | RES-CHIP    | 75     | 5%    | 1/10W |
| R279     | 1-247-807-31 | CARBON      | 100    | 5%    | 1/4W  | R356     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |
| R280     | 1-216-069-00 | RES-CHIP    | 6.8K   | 5%    | 1/10W | R357     | 1-216-022-00 | RES-CHIP    | 75     | 5%    | 1/10W |
| R281     | 1-208-798-11 | METAL CHIP  | 4.7K   | 0.50% | 1/10W | R358     | 1-216-093-91 | RES-CHIP    | 68K    | 5%    | 1/10W |
| R282     | 1-208-790-11 | METAL CHIP  | 2.2K   | 0.50% | 1/10W | R360     | 1-216-093-91 | RES-CHIP    | 68K    | 5%    | 1/10W |
| R283     | 1-216-689-11 | RES-CHIP    | 39K    | 5%    | 1/10W | R361     | 1-216-022-00 | RES-CHIP    | 75     | 5%    | 1/10W |
| R284     | 1-216-049-11 | RES-CHIP    | 1K     | 5%    | 1/10W | R370     | 1-249-429-11 | CARBON      | 10K    | 5%    | 1/4W  |
| R285     | 1-216-049-11 | RES-CHIP    | 1K     | 5%    | 1/10W | R376     | 1-216-022-00 | RES-CHIP    | 75     | 5%    | 1/10W |
| R286     | 1-216-089-91 | RES-CHIP    | 47K    | 5%    | 1/10W | R380     | 1-216-295-91 | SHORT       |        |       |       |
| R287     | 1-216-097-11 | RES-CHIP    | 100K   | 5%    | 1/10W | R381     | 1-216-069-00 | RES-CHIP    | 6.8K   | 5%    | 1/10W |
| R288     | 1-216-041-00 | RES-CHIP    | 470    | 5%    | 1/10W | R382     | 1-216-295-91 | SHORT       |        |       |       |
| R289     | 1-216-041-00 | RES-CHIP    | 470    | 5%    | 1/10W | R383     | 1-216-295-91 | SHORT       |        |       |       |
| R290     | 1-216-043-91 | RES-CHIP    | 560    | 5%    | 1/10W | R384     | 1-216-295-91 | SHORT       |        |       |       |
| R291     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W | R387     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |
| R296     | 1-216-057-00 | RES-CHIP    | 2.2K   | 5%    | 1/10W | R388     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W |
| R297     | 1-216-025-11 | RES-CHIP    | 100    | 5%    | 1/10W | R398     | 1-216-091-00 | RES-CHIP    | 56K    | 5%    | 1/10W |
| R298     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W | R399     | 1-216-109-00 | RES-CHIP    | 330K   | 5%    | 1/10W |
| R299     | 1-216-033-00 | RES-CHIP    | 220    | 5%    | 1/10W | R434     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |
| R301     | 1-216-022-00 | RES-CHIP    | 75     | 5%    | 1/10W | R435     | 1-216-065-91 | RES-CHIP    | 4.7K   | 5%    | 1/10W |





NOTE: The components identified by shading and  $\triangle$  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  $\triangle$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

**MA BC**

# COMPLETE PARTS LISTING FV SERIES

| REF. NO.  | PART NO.     | DESCRIPTION  | VALUES               |     |      |                     |              | REF. NO.         | PART NO.                      | DESCRIPTION  | VALUES |     |     |  |  |
|---|--------------|--|----------------------|-----|------|---------------------|--------------|------------------|-------------------------------|--------------|--------|-----|-----|--|--|
| <b>TUNER</b>  |              |  |                      |     |      |                     |              |                  |                               |              |        |     |     |  |  |
|  | TU150        | 8-598-501-30   | TUNER, FSS BTF-FA402 |     |      |                     |              | C3539            | 1-163-231-11                  | CERAMIC CHIP | 15pF   | 5%  | 50V |  |  |
| <b>CRYSTAL</b>  |              |  |                      |     |      |                     |              |                  |                               |              |        |     |     |  |  |
| X001  | 1-767-487-11 | VIBRATOR, CRYSTAL  |                      |     |      |                     | C3541        | 1-163-106-00     | CERAMIC CHIP                  | 36pF         | 5%     | 50V |     |  |  |
| X301  | 1-567-505-11 | OSCILLATOR, CRYSTAL  |                      |     |      |                     | C3542        | 1-126-964-11     | ELECT                         | 10μF         | 20%    | 50V |     |  |  |
|  |              |  |                      |     |      |                     |              |                  |                               |              |        |     |     |  |  |
| *   | A-1131-593-A | <b>BC BOARD, MOUNTED<br/>(KV-27FV17/29FV17/29FV17C ONLY)</b> |                      |     |      |                     | C3543        | 1-164-505-11     | CERAMIC CHIP                  | 2.2μF        |        | 16V |     |  |  |
| <b>CAPACITOR</b>  |              |  |                      |     |      |                     |              |                  |                               |              |        |     |     |  |  |
| C3500   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | C3546               | 1-163-231-11 | CERAMIC CHIP     | 15pF                          | 5%           | 50V    |     |     |  |  |
| C3501   | 1-163-231-11 | CERAMIC CHIP   | 15pF                 | 5%  | 50V  | C3547               | 1-126-934-11 | ELECT            | 220μF                         | 20%          | 10V    |     |     |  |  |
| C3502   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | C3548               | 1-164-004-11 | CERAMIC CHIP     | 0.1μF                         | 10%          | 25V    |     |     |  |  |
| C3504   | 1-163-102-00 | CERAMIC CHIP   | 24pF                 | 5%  | 50V  | C3549               | 1-104-660-91 | ELECT            | 47μF                          | 20%          | 16V    |     |     |  |  |
| C3505   | 1-163-102-00 | CERAMIC CHIP   | 24pF                 | 5%  | 50V  | C3550               | 1-163-031-91 | CERAMIC CHIP     | 0.01μF                        |              | 50V    |     |     |  |  |
| C3506   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | C3551               | 1-104-660-91 | ELECT            | 47μF                          | 20%          | 16V    |     |     |  |  |
| C3507   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | C3552               | 1-163-031-91 | CERAMIC CHIP     | 0.01μF                        |              | 50V    |     |     |  |  |
| C3509   | 1-163-038-91 | CERAMIC CHIP   | 0.1μF                |     | 25V  | C3553               | 1-163-031-91 | CERAMIC CHIP     | 0.01μF                        |              | 50V    |     |     |  |  |
| C3510   | 1-163-131-00 | CERAMIC CHIP   | 390pF                | 5%  | 50V  | C3554               | 1-104-660-91 | ELECT            | 47μF                          | 20%          | 16V    |     |     |  |  |
| C3511   | 1-163-038-91 | CERAMIC CHIP   | 0.1μF                |     | 25V  | C3555               | 1-126-934-11 | ELECT            | 220μF                         | 20%          | 10V    |     |     |  |  |
| C3512   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | C3556               | 1-164-004-11 | CERAMIC CHIP     | 0.1μF                         | 10%          | 25V    |     |     |  |  |
| C3513   | 1-216-295-91 | SHORT  |                      |     |      |                     | C3557        | 1-163-031-91     | CERAMIC CHIP                  | 0.01μF       |        | 50V |     |  |  |
| C3514   | 1-163-031-91 | CERAMIC CHIP   | 0.01μF               |     | 50V  | C3558               | 1-104-660-91 | ELECT            | 47μF                          | 20%          | 16V    |     |     |  |  |
| C3515   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | C3559               | 1-163-031-91 | CERAMIC CHIP     | 0.01μF                        |              | 50V    |     |     |  |  |
| C3516   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | C3560               | 1-104-660-91 | ELECT            | 47μF                          | 20%          | 16V    |     |     |  |  |
| C3517   | 1-126-924-11 | ELECT  | 330μF                | 20% | 6.3V | C3561               | 1-163-031-91 | CERAMIC CHIP     | 0.01μF                        |              | 50V    |     |     |  |  |
| C3518   | 1-163-038-91 | CERAMIC CHIP   | 0.1μF                |     | 25V  | C3562               | 1-163-031-91 | CERAMIC CHIP     | 0.01μF                        |              | 50V    |     |     |  |  |
| C3519   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | C3563               | 1-104-660-91 | ELECT            | 47μF                          | 20%          | 16V    |     |     |  |  |
| C3520   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | C3564               | 1-104-660-91 | ELECT            | 47μF                          | 20%          | 16V    |     |     |  |  |
| C3521   | 1-163-237-11 | CERAMIC CHIP   | 27pF                 | 5%  | 50V  | C3565               | 1-163-031-91 | CERAMIC CHIP     | 0.01μF                        |              | 50V    |     |     |  |  |
| C3522   | 1-104-660-91 | ELECT  | 47μF                 | 20% | 16V  | C3566               | 1-163-031-91 | CERAMIC CHIP     | 0.01μF                        |              | 50V    |     |     |  |  |
| C3523   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | <b>CONNECTOR</b>    |              |                  |                               |              |        |     |     |  |  |
| C3524   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | *                   | CN3500       | 1-691-632-21     | CONNECTOR, BOARD TO BOARD 15P |              |        |     |     |  |  |
| C3525   | 1-163-038-91 | CERAMIC CHIP   | 0.1μF                |     | 25V  | <b>FERRITE BEAD</b> |              |                  |                               |              |        |     |     |  |  |
| C3526   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | FB3500              | 1-414-234-22 | FERRITE          | 0μH                           |              |        |     |     |  |  |
| C3527   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | FB3501              | 1-414-234-22 | FERRITE          | 0μH                           |              |        |     |     |  |  |
| C3528   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | FB3502              | 1-414-234-22 | FERRITE          | 0μH                           |              |        |     |     |  |  |
| C3529   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | FB3503              | 1-414-234-22 | FERRITE          | 0μH                           |              |        |     |     |  |  |
| C3530   | 1-104-660-91 | ELECT  | 47μF                 | 20% | 16V  | FB3504              | 1-414-234-22 | FERRITE          | 0μH                           |              |        |     |     |  |  |
| C3531   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | FB3505              | 1-414-234-22 | FERRITE          | 0μH                           |              |        |     |     |  |  |
| C3532   | 1-126-964-11 | ELECT  | 10μF                 | 20% | 50V  | FB3506              | 1-414-234-22 | FERRITE          | 0μH                           |              |        |     |     |  |  |
| C3533   | 1-163-133-00 | CERAMIC CHIP   | 470pF                | 5%  | 50V  | FB3507              | 1-414-234-22 | FERRITE          | 0μH                           |              |        |     |     |  |  |
| C3534   | 1-126-960-11 | ELECT  | 1μF                  | 20% | 50V  | FB3508              | 1-414-234-22 | FERRITE          | 0μH                           |              |        |     |     |  |  |
| C3535   | 1-163-231-11 | CERAMIC CHIP   | 15pF                 | 5%  | 50V  | <b>FILTER</b>       |              |                  |                               |              |        |     |     |  |  |
| C3536   | 1-126-960-11 | ELECT  | 1μF                  | 20% | 50V  | FL3500              | 1-239-848-21 | FILTER, LOW PASS |                               |              |        |     |     |  |  |
| C3527   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | FL3502              | 1-239-848-21 | FILTER, LOW PASS |                               |              |        |     |     |  |  |
| C3528   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | FL3503              | 1-239-848-21 | FILTER, LOW PASS |                               |              |        |     |     |  |  |
| C3529   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | FL3504              | 1-233-512-21 | FERRITE          | 37μH                          |              |        |     |     |  |  |
| C3530   | 1-104-660-91 | ELECT  | 47μF                 | 20% | 16V  | FL3505              | 1-233-512-21 | FERRITE          | 37μH                          |              |        |     |     |  |  |
| C3531   | 1-165-319-11 | CERAMIC CHIP   | 0.1μF                |     | 50V  | FL3506              | 1-233-512-21 | FERRITE          | 37μH                          |              |        |     |     |  |  |
| C3532   | 1-126-964-11 | ELECT  | 10μF                 | 20% | 50V  |                     |              |                  |                               |              |        |     |     |  |  |
| C3533   | 1-163-133-00 | CERAMIC CHIP   | 470pF                | 5%  | 50V  |                     |              |                  |                               |              |        |     |     |  |  |
| C3534   | 1-126-960-11 | ELECT  | 1μF                  | 20% | 50V  |                     |              |                  |                               |              |        |     |     |  |  |
| C3535   | 1-163-231-11 | CERAMIC CHIP   | 15pF                 | 5%  | 50V  |                     |              |                  |                               |              |        |     |     |  |  |
| C3536   | 1-126-960-11 | ELECT  | 1μF                  | 20% | 50V  |                     |              |                  |                               |              |        |     |     |  |  |



## COMPLETE PARTS LISTING

| REF. NO.          | PART NO.     | DESCRIPTION               | VALUES |    |       |  | REF. NO.       | PART NO.     | DESCRIPTION       | VALUES |       |       |  |
|-------------------|--------------|---------------------------|--------|----|-------|--|----------------|--------------|-------------------|--------|-------|-------|--|
| <u>IC</u>         |              |                           |        |    |       |  | R3523          | 1-216-049-11 | RES-CHIP          | 1K     | 5%    | 1/10W |  |
| IC3500            | 8-759-568-27 | IC UPD424210LE-60-E2      |        |    |       |  | R3524          | 1-216-089-91 | RES-CHIP          | 47K    | 5%    | 1/10W |  |
| IC3501            | 8-759-594-44 | IC UPD64082GF-3BA         |        |    |       |  | R3525          | 1-216-057-00 | RES-CHIP          | 2.2K   | 5%    | 1/10W |  |
| IC3502            | 8-759-583-47 | IC UPC2933T-E1            |        |    |       |  | R3526          | 1-216-105-91 | RES-CHIP          | 220K   | 5%    | 1/10W |  |
|                   |              |                           |        |    |       |  | R3527          | 1-216-033-00 | RES-CHIP          | 220    | 5%    | 1/10W |  |
| <u>COIL</u>       |              |                           |        |    |       |  | R3528          | 1-208-776-11 | METAL CHIP        | 560    | 0.50% | 1/10W |  |
| L3500             | 1-412-028-11 | INDUCTOR                  | 4.7μH  |    |       |  | R3529          | 1-208-772-11 | METAL CHIP        | 390    | 0.50% | 1/10W |  |
| L3501             | 1-412-058-11 | INDUCTOR                  | 10μH   |    |       |  | R3530          | 1-216-067-00 | RES-CHIP          | 5.6K   | 5%    | 1/10W |  |
| L3502             | 1-412-058-11 | INDUCTOR                  | 10μH   |    |       |  | R3531          | 1-216-049-11 | RES-CHIP          | 1K     | 5%    | 1/10W |  |
| L3503             | 1-412-058-11 | INDUCTOR                  | 10μH   |    |       |  | R3532          | 1-216-025-11 | RES-CHIP          | 100    | 5%    | 1/10W |  |
| L3504             | 1-412-058-11 | INDUCTOR                  | 10μH   |    |       |  | R3534          | 1-216-049-11 | RES-CHIP          | 1K     | 5%    | 1/10W |  |
| L3505             | 1-412-058-11 | INDUCTOR                  | 10μH   |    |       |  | R3535          | 1-216-025-11 | RES-CHIP          | 100    | 5%    | 1/10W |  |
| <u>TRANSISTOR</u> |              |                           |        |    |       |  | R3544          | 1-216-049-11 | RES-CHIP          | 1K     | 5%    | 1/10W |  |
| Q3500             | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |    |       |  | R3545          | 1-216-043-91 | RES-CHIP          | 560    | 5%    | 1/10W |  |
| Q3501             | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |    |       |  | R3547          | 1-216-067-00 | RES-CHIP          | 5.6K   | 5%    | 1/10W |  |
| Q3502             | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |    |       |  | R3548          | 1-216-295-91 | SHORT             |        |       |       |  |
| Q3503             | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |    |       |  | R3549          | 1-216-057-00 | RES-CHIP          | 2.2K   | 5%    | 1/10W |  |
| Q3504             | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |    |       |  | R3550          | 1-208-780-11 | METAL CHIP        | 820    | 0.50% | 1/10W |  |
| Q3505             | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |    |       |  | R3551          | 1-208-776-11 | METAL CHIP        | 560    | 0.50% | 1/10W |  |
| Q3506             | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |    |       |  | R3552          | 1-208-764-11 | METAL CHIP        | 180    | 0.50% | 1/10W |  |
| Q3510             | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |    |       |  | R3553          | 1-216-057-00 | RES-CHIP          | 2.2K   | 5%    | 1/10W |  |
| Q3511             | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |    |       |  | R3554          | 1-216-047-91 | RES-CHIP          | 820    | 5%    | 1/10W |  |
| Q3512             | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |    |       |  | R3555          | 1-216-075-00 | RES-CHIP          | 12K    | 5%    | 1/10W |  |
| Q3513             | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |    |       |  | R3556          | 1-216-085-91 | RES-CHIP          | 33K    | 5%    | 1/10W |  |
| Q3514             | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |        |    |       |  | R3557          | 1-216-049-11 | RES-CHIP          | 1K     | 5%    | 1/10W |  |
| Q3515             | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |    |       |  | R3558          | 1-216-017-91 | RES-CHIP          | 47     | 5%    | 1/10W |  |
| Q3516             | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |    |       |  | R3559          | 1-216-295-91 | SHORT             |        |       |       |  |
| Q3517             | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX |        |    |       |  | R3560          | 1-216-049-11 | RES-CHIP          | 1K     | 5%    | 1/10W |  |
| <u>RESISTOR</u>   |              |                           |        |    |       |  | R3561          | 1-216-043-91 | RES-CHIP          | 560    | 5%    | 1/10W |  |
| R3503             | 1-216-017-91 | RES-CHIP                  | 47     | 5% | 1/10W |  | R3563          | 1-216-295-91 | SHORT             |        |       |       |  |
| R3504             | 1-216-295-91 | SHORT                     |        |    |       |  | R3564          | 1-216-295-91 | SHORT             |        |       |       |  |
| R3505             | 1-216-295-91 | SHORT                     |        |    |       |  | R3565          | 1-216-067-00 | RES-CHIP          | 5.6K   | 5%    | 1/10W |  |
| R3506             | 1-216-295-91 | SHORT                     |        |    |       |  | R3566          | 1-216-057-00 | RES-CHIP          | 2.2K   | 5%    | 1/10W |  |
| R3507             | 1-216-295-91 | SHORT                     |        |    |       |  | R3567          | 1-216-043-91 | RES-CHIP          | 560    | 5%    | 1/10W |  |
| R3508             | 1-216-295-91 | SHORT                     |        |    |       |  | R3568          | 1-216-047-91 | RES-CHIP          | 820    | 5%    | 1/10W |  |
| R3509             | 1-216-049-11 | RES-CHIP                  | 1K     | 5% | 1/10W |  | R3569          | 1-216-057-00 | RES-CHIP          | 2.2K   | 5%    | 1/10W |  |
| R3510             | 1-216-041-00 | RES-CHIP                  | 470    | 5% | 1/10W |  | R3570          | 1-216-085-91 | RES-CHIP          | 33K    | 5%    | 1/10W |  |
| R3511             | 1-216-041-00 | RES-CHIP                  | 470    | 5% | 1/10W |  | R3571          | 1-216-075-00 | RES-CHIP          | 12K    | 5%    | 1/10W |  |
| R3512             | 1-216-295-91 | SHORT                     |        |    |       |  | R3572          | 1-216-049-11 | RES-CHIP          | 1K     | 5%    | 1/10W |  |
| R3514             | 1-216-025-11 | RES-CHIP                  | 100    | 5% | 1/10W |  | R3573          | 1-216-017-91 | RES-CHIP          | 47     | 5%    | 1/10W |  |
| R3515             | 1-216-055-00 | RES-CHIP                  | 1.8K   | 5% | 1/10W |  | R3588          | 1-216-043-91 | RES-CHIP          | 560    | 5%    | 1/10W |  |
| R3516             | 1-216-055-00 | RES-CHIP                  | 1.8K   | 5% | 1/10W |  | <u>CRYSTAL</u> |              |                   |        |       |       |  |
| R3517             | 1-216-025-11 | RES-CHIP                  | 100    | 5% | 1/10W |  | X3500          | 1-767-606-11 | VIBRATOR, CRYSTAL |        |       |       |  |
| R3518             | 1-216-025-11 | RES-CHIP                  | 100    | 5% | 1/10W |  |                |              |                   |        |       |       |  |
| R3519             | 1-216-295-91 | SHORT                     |        |    |       |  |                |              |                   |        |       |       |  |
| R3520             | 1-216-065-91 | RES-CHIP                  | 4.7K   | 5% | 1/10W |  |                |              |                   |        |       |       |  |
| R3521             | 1-216-041-00 | RES-CHIP                  | 470    | 5% | 1/10W |  |                |              |                   |        |       |       |  |
| R3522             | 1-216-041-00 | RES-CHIP                  | 470    | 5% | 1/10W |  |                |              |                   |        |       |       |  |



## COMPLETE PARTS LISTING


| REF. NO.                | PART NO. | DESCRIPTION | VALUES |  |                   | REF. NO.          | PART NO.                  | DESCRIPTION               | VALUES |       |  |
|-------------------------|----------|-------------|--------|--|-------------------|-------------------|---------------------------|---------------------------|--------|-------|--|
| <div><div>P</div></div> |          |             |        |  |                   | <u>IC</u>         |                           |                           |        |       |  |
|                         |          |             |        |  |                   | IC3301            | 6-700-200-01              | IC M65665FP-D60S          |        |       |  |
|                         |          |             |        |  |                   | <u>COIL</u>       |                           |                           |        |       |  |
|                         |          |             |        |  |                   | L3300             | 1-412-058-11              | INDUCTOR                  | 10μH   |       |  |
|                         |          |             |        |  |                   | L3301             | 1-410-682-31              | INDUCTOR                  | 470μH  |       |  |
|                         |          |             |        |  |                   | L3302             | 1-412-058-11              | INDUCTOR                  | 10μH   |       |  |
|                         |          |             |        |  |                   | L3303             | 1-412-058-11              | INDUCTOR                  | 10μH   |       |  |
|                         |          |             |        |  |                   | <u>TRANSISTOR</u> |                           |                           |        |       |  |
|                         |          |             |        |  |                   | Q3300             | 8-729-422-27              | TRANSISTOR 2SD601A-QRS-TX |        |       |  |
|                         |          |             |        |  |                   | Q3301             | 8-729-422-27              | TRANSISTOR 2SD601A-QRS-TX |        |       |  |
|                         |          |             |        |  | Q3302             | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX |                           |        |       |  |
|                         |          |             |        |  | Q3304             | 8-729-926-14      | TRANSISTOR 2SD1292        |                           |        |       |  |
|                         |          |             |        |  | Q3305             | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX |                           |        |       |  |
|                         |          |             |        |  | Q3307             | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX |                           |        |       |  |
|                         |          |             |        |  | Q3308             | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX |                           |        |       |  |
|                         |          |             |        |  | Q3309             | 8-729-424-02      | TRANSISTOR 2SB709A-QRS-TX |                           |        |       |  |
|                         |          |             |        |  | Q3310             | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX |                           |        |       |  |
|                         |          |             |        |  | Q3312             | 8-729-422-27      | TRANSISTOR 2SD601A-QRS-TX |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | R3300             | 1-216-089-91      | RES-CHIP                  | 47K                       | 5%     | 1/10W |  |
|                         |          |             |        |  | R3301             | 1-216-049-11      | RES-CHIP                  | 1K                        | 5%     | 1/10W |  |
|                         |          |             |        |  | R3302             | 1-216-089-91      | RES-CHIP                  | 47K                       | 5%     | 1/10W |  |
|                         |          |             |        |  | R3303             | 1-216-049-11      | RES-CHIP                  | 1K                        | 5%     | 1/10W |  |
|                         |          |             |        |  | R3304             | 1-216-049-11      | RES-CHIP                  | 1K                        | 5%     | 1/10W |  |
|                         |          |             |        |  | R3305             | 1-216-089-91      | RES-CHIP                  | 47K                       | 5%     | 1/10W |  |
|                         |          |             |        |  | R3306             | 1-216-081-00      | RES-CHIP                  | 22K                       | 5%     | 1/10W |  |
|                         |          |             |        |  | R3307             | 1-216-049-11      | RES-CHIP                  | 1K                        | 5%     | 1/10W |  |
|                         |          |             |        |  | R3308             | 1-216-081-00      | RES-CHIP                  | 22K                       | 5%     | 1/10W |  |
|                         |          |             |        |  | R3309             | 1-216-041-00      | RES-CHIP                  | 470                       | 5%     | 1/10W |  |
|                         |          |             |        |  | R3310             | 1-216-089-91      | RES-CHIP                  | 47K                       | 5%     | 1/10W |  |
|                         |          |             |        |  | R3311             | 1-216-045-00      | RES-CHIP                  | 680                       | 5%     | 1/10W |  |
|                         |          |             |        |  | R3312             | 1-216-295-91      | SHORT                     |                           |        |       |  |
|                         |          |             |        |  | R3313             | 1-216-295-91      | SHORT                     |                           |        |       |  |
|                         |          |             |        |  | R3314             | 1-216-295-91      | SHORT                     |                           |        |       |  |
|                         |          |             |        |  | R3318             | 1-216-073-91      | RES-CHIP                  | 10K                       | 5%     | 1/10W |  |
|                         |          |             |        |  | R3319             | 1-216-073-91      | RES-CHIP                  | 10K                       | 5%     | 1/10W |  |
|                         |          |             |        |  | R3320             | 1-216-065-91      | RES-CHIP                  | 4.7K                      | 5%     | 1/10W |  |
|                         |          |             |        |  | R3321             | 1-216-295-91      | SHORT                     |                           |        |       |  |
|                         |          |             |        |  | R3323             | 1-216-043-91      | RES-CHIP                  | 560                       | 5%     | 1/10W |  |
|                         |          |             |        |  | R3324             | 1-216-049-11      | RES-CHIP                  | 1K                        | 5%     | 1/10W |  |
|                         |          |             |        |  | R3327             | 1-216-295-91      | SHORT                     |                           |        |       |  |
|                         |          |             |        |  | R3328             | 1-216-049-11      | RES-CHIP                  | 1K                        | 5%     | 1/10W |  |
|                         |          |             |        |  | R3329             | 1-216-295-91      | SHORT                     |                           |        |       |  |
|                         |          |             |        |  | R3330             | 1-216-049-11      | RES-CHIP                  | 1K                        | 5%     | 1/10W |  |
|                         |          |             |        |  | R3331             | 1-216-049-11      | RES-CHIP                  | 1K                        | 5%     | 1/10W |  |
|                         |          |             |        |  | R3335             | 1-215-857-71      | METAL OXIDE               | 10                        | 5%     | 1W    |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>RESISTOR</u>   |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>IC</u>         |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>COIL</u>       |                   |                           |                           |        |       |  |
|                         |          |             |        |  | <u>TRANSISTOR</u> |                   |                           |                           |        |       |  |

NOTE: The components identified by shading and  $\triangle$  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  $\triangle$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



## COMPLETE PARTS LISTING

| REF. NO.         | PART NO.     | DESCRIPTION  | VALUES               |     |       |  | REF. NO.   | PART NO.     | DESCRIPTION  | VALUES |    |      |  |
|------------------|--------------|--|----------------------|-----|-------|--|--|--------------|--|--------|----|------|--|
| R3336            | 1-216-041-00 | RES-CHIP   | 470                  | 5%  | 1/10W |  | <b>DIODE</b>   |              |  |        |    |      |  |
| R3343            | 1-216-049-11 | RES-CHIP   | 1K                   | 5%  | 1/10W |  | D701   | 8-719-901-83 | DIODE 1SS83TD  |        |    |      |  |
| R3346            | 1-216-049-11 | RES-CHIP   | 1K                   | 5%  | 1/10W |  | D702   | 8-719-901-83 | DIODE 1SS83TD  |        |    |      |  |
| R3347            | 1-216-073-91 | RES-CHIP   | 10K                  | 5%  | 1/10W |  | D703   | 8-719-901-83 | DIODE 1SS83TD  |        |    |      |  |
| R3348            | 1-216-073-91 | RES-CHIP   | 10K                  | 5%  | 1/10W |  | D704   | 8-719-302-43 | DIODE RGP10GPKG23  |        |    |      |  |
| R3350            | 1-216-295-91 | SHORT  |                      |     |       |  | <b>IC</b>  |              |  |        |    |      |  |
| R3351            | 1-216-033-00 | RES-CHIP   | 220                  | 5%  | 1/10W |  | IC701  | 8-759-803-42 | IC LA6500-FA   |        |    |      |  |
| R3354            | 1-216-133-91 | RES-CHIP   | 3.3M                 | 5%  | 1/10W |  | IC702  | 8-759-562-43 | IC TDA6108JF/N1B   |        |    |      |  |
| R3359            | 1-216-295-91 | SHORT  |                      |     |       |  | <b>JACK</b>  |              |  |        |    |      |  |
| R3360            | 1-216-295-91 | SHORT  |                      |     |       |  |  J701 | 1-451-470-21 | SOCKET, CRT  |        |    |      |  |
| R3361            | 1-216-295-91 | SHORT  |                      |     |       |  | <b>COIL</b>  |              |  |        |    |      |  |
| R3362            | 1-216-061-91 | RES-CHIP   | 3.3K                 | 5%  | 1/10W |  | L701   | 1-408-613-31 | INDUCTOR   | 68μH   |    |      |  |
| R3363            | 1-216-085-91 | RES-CHIP   | 33K                  | 5%  | 1/10W |  | <b>TRANSISTOR</b>  |              |  |        |    |      |  |
| R3364            | 1-216-025-11 | RES-CHIP   | 100                  | 5%  | 1/10W |  | Q700   | 8-729-423-33 | TRANSISTOR 2SC3311A-QRSTA                                    |        |    |      |  |
| R3365            | 1-216-025-11 | RES-CHIP   | 100                  | 5%  | 1/10W |  | Q701   | 8-729-423-33 | TRANSISTOR 2SC3311A-QRSTA                                    |        |    |      |  |
| R3368            | 1-216-073-91 | RES-CHIP   | 10K                  | 5%  | 1/10W |  | <b>RESISTOR</b>  |              |  |        |    |      |  |
| R3369            | 1-216-037-00 | RES-CHIP   | 330                  | 5%  | 1/10W |  | R700   | 1-249-433-11 | CARBON   | 22K    | 5% | 1/4W |  |
| R3372            | 1-216-295-91 | SHORT  |                      |     |       |  | R701   | 1-249-429-11 | CARBON   | 10K    | 5% | 1/4W |  |
| R3374            | 1-216-295-91 | SHORT  |                      |     |       |  | R702   | 1-249-409-11 | CARBON   | 220    | 5% | 1/4W |  |
| <b>CRYSTAL</b>   |              |  |                      |     |       |  | R703   | 1-247-807-31 | CARBON   | 100    | 5% | 1/4W |  |
| X3301            | 1-781-377-11 | VIBRATOR, CRYSTAL  |                      |     |       |  | R704   | 1-249-421-11 | CARBON   | 2.2K   | 5% | 1/4W |  |
| <div>CA</div>    |              |  |                      |     |       |  |  |              |  |        |    |      |  |
| *                | A-1332-063-A | CA (VAR) BOARD, MOUNTED<br>(KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |                      |     |       |  | R705   | 1-249-429-11 | CARBON   | 10K    | 5% | 1/4W |  |
| *                | A-1332-061-A | CA (VAR) BOARD, MOUNTED<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |                      |     |       |  | R706   | 1-249-381-11 | CARBON   | 1      | 5% | 1/4W |  |
| *                | 4-382-854-11 | SCREW (M3X10), P, SW (+)   |                      |     |       |  | R707   | 1-249-383-11 | CARBON   | 1.5    | 5% | 1/4W |  |
| <b>CAPACITOR</b> |              |  |                      |     |       |  | R708   | 1-247-807-31 | CARBON   | 100    | 5% | 1/4W |  |
| C701             | 1-104-664-11 | ELECT  | 47μF                 | 20% | 25V   |  | R709   | 1-247-807-31 | CARBON   | 100    | 5% | 1/4W |  |
| C702             | 1-136-165-00 | FILM   | 0.1μF                | 5%  | 50V   |  | R710   | 1-247-807-31 | CARBON   | 100    | 5% | 1/4W |  |
| C703             | 1-104-664-11 | ELECT  | 47μF                 | 20% | 25V   |  | R711   | 1-260-328-11 | CARBON   | 1K     | 5% | 1/2W |  |
| C704             | 1-107-651-11 | ELECT  | 4.7μF                | 20% | 250V  |  | R712   | 1-260-328-11 | CARBON   | 1K     | 5% | 1/2W |  |
| C705             | 1-107-652-11 | ELECT  | 10μF                 | 20% | 250V  |  | R713   | 1-260-328-11 | CARBON   | 1K     | 5% | 1/2W |  |
| C706             | 1-137-528-11 | MYLAR  | 0.1μF                | 10% | 250V  |  | R714   | 1-260-087-11 | CARBON   | 100    | 5% | 1/2W |  |
| C707             | 1-162-114-00 | CERAMIC  | 0.0047μF             |     | 2KV   |  | R715   | 1-260-132-11 | CARBON   | 560K   | 5% | 1/2W |  |
| C708             | 1-136-165-00 | FILM   | 0.1μF                | 5%  | 50V   |  | R716   | 1-260-123-11 | CARBON   | 100K   | 5% | 1/2W |  |
| C709             | 1-126-934-11 | ELECT  | 220μF                | 20% | 16V   |  | R717   | 1-216-373-11 | METAL OXIDE<br>(KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) | 2.2    | 5% | 2W   |  |
| C710             | 1-126-964-11 | ELECT  | 10μF                 | 20% | 50V   |  | R718   | 1-216-373-11 | METAL OXIDE<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        | 2.2    | 5% | 2W   |  |
| <b>CONNECTOR</b> |              |  |                      |     |       |  | R719   | 1-215-888-00 | METAL OXIDE  | 220    | 5% | 2W   |  |
| *                | CN701        | 1-564-506-11   | PLUG,CONNECTOR 3P    |     |       |  | R720   | 1-249-421-11 | CARBON   | 2.2K   | 5% | 1/4W |  |
|                  | CN702        | 1-695-915-11   | TAB (CONTACT)        |     |       |  | R721   | 1-249-421-11 | CARBON   | 2.2K   | 5% | 1/4W |  |
|                  | CN704        | 1-785-879-11   | CONNECTOR, ONE TOUCH |     |       |  | <b>VARIABLE RESISTOR</b>   |              |  |        |    |      |  |
| *                | CN706        | 1-564-509-11   | PLUG,CONNECTOR 6P    |     |       |  | RV701  | 1-241-656-11 | RES, ADJ, METAL FILM 110M                                    |        |    |      |  |



## COMPLETE PARTS LISTING

| REF. NO.         | PART NO.     | DESCRIPTION  | VALUES   | REF. NO.          | PART NO.     | DESCRIPTION   | VALUES        |
|------------------|--------------|--|--|-------------------|--------------|---|---------------|
|                  |              |  |  | <b>TRANSISTOR</b> |              |   |               |
| *                | A-1342-550-A | VA (VAR) BOARD, MOUNTED<br>(KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |  | Q807              | 8-729-931-45 | TRANSISTOR IRF614   |               |
| *                | A-1342-549-A | VA (VAR) BOARD, MOUNTED<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |  | Q808              | 8-729-140-97 | TRANSISTOR 2SB734-T-34  |               |
|                  | 4-382-854-11 | SCREW (M3X10), P, SW (+)   |  | Q901              | 8-729-017-06 | TRANSISTOR 2SC4793  |               |
| <b>CAPACITOR</b> |              |  |  | Q902              | 8-729-017-05 | TRANSISTOR 2SA1837  |               |
| C805             | 1-129-763-61 | FILM   | 0.033μF 5% 200V<br>(KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) | Q903              | 8-729-423-33 | TRANSISTOR 2SC3311A-QRSTA   |               |
| C805             | 1-130-338-91 | FILM   | 0.01μF 5% 630V<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY)         | Q904              | 8-729-423-33 | TRANSISTOR 2SC3311A-QRSTA   |               |
| C811             | 1-129-765-00 | FILM   | 0.047μF 5% 200V<br>(KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) | Q905              | 8-729-119-76 | TRANSISTOR 2SA1309A-QRSTA   |               |
| C811             | 1-129-768-61 | FILM   | 0.082μF 5% 200V<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        | Q906              | 8-729-423-33 | TRANSISTOR 2SC3311A-QRSTA   |               |
| C901             | 1-107-667-11 | ELECT  | 2.2μF 20% 160V   | <b>RESISTOR</b>   |              |   |               |
| C902             | 1-130-491-00 | MYLAR  | 0.047μF 5% 50V   | R818              | 1-216-025-11 | RES-CHIP  | 100 5% 1/10W  |
| C903             | 1-126-935-11 | ELECT  | 470μF 20% 10V  | R826              | 1-249-421-11 | CARBON  | 2.2K 5% 1/4W  |
| C904             | 1-130-471-00 | MYLAR  | 0.001μF 5% 50V   | R876              | 1-216-049-11 | RES-CHIP  | 1K 5% 1/10W   |
| C905             | 1-106-383-00 | MYLAR  | 0.047μF 10% 200V   | R901              | 1-249-401-11 | CARBON  | 47 5% 1/4W    |
| C906             | 1-130-471-00 | MYLAR  | 0.001μF 5% 50V   | R902              | 1-249-386-11 | CARBON  | 2.7 5% 1/4W   |
| C907             | 1-107-638-11 | ELECT  | 33μF 20% 160V  | R903              | 1-249-414-11 | CARBON  | 560 5% 1/4W   |
| C908             | 1-126-935-11 | ELECT  | 470μF 20% 10V  | R904              | 1-249-432-11 | CARBON  | 18K 5% 1/4W   |
| C909             | 1-161-830-00 | CERAMIC  | 0.0047μF 500V  | R905              | 1-249-417-11 | CARBON  | 1K 5% 1/4W    |
| C910             | 1-104-999-11 | MYLAR  | 0.1μF 10% 200V   | R906              | 1-249-432-11 | CARBON  | 18K 5% 1/4W   |
| C911             | 1-104-665-11 | ELECT  | 100μF 20% 10V  | R907              | 1-249-386-11 | CARBON  | 2.7 5% 1/4W   |
| C912             | 1-126-941-11 | ELECT  | 470μF 20% 25V  | R908              | 1-249-414-11 | CARBON  | 560 5% 1/4W   |
| C913             | 1-102-074-00 | CERAMIC  | 0.001μF 10% 50V  | R909              | 1-260-312-11 | CARBON  | 47 5% 1/2W    |
| C914             | 1-130-491-00 | MYLAR  | 0.047μF 5% 50V   | R910              | 1-216-476-11 | METAL OXIDE   | 180 5% 3W     |
| <b>CONNECTOR</b> |              |  |  | R911              | 1-249-403-11 | CARBON  | 68 5% 1/4W    |
| *                | CN901        | 1-564-508-11   | PLUG,CONNECTOR 5P  | R912              | 1-249-409-11 | CARBON  | 220 5% 1/4W   |
| *                | CN902        | 1-770-723-11   | CONNECTOR, BOARD TO BOARD 8P                                     | R913              | 1-249-403-11 | CARBON  | 68 5% 1/4W    |
| *                | CN904        | 1-564-507-11   | PLUG,CONNECTOR 4P  | R914              | 1-249-410-11 | CARBON  | 270 5% 1/4W   |
| <b>DIODE</b>     |              |  |  | R915              | 1-249-417-11 | CARBON  | 1K 5% 1/4W    |
| D804             | 8-719-302-43 | DIODE RGP10GPKG23  |  | R916              | 1-249-417-11 | CARBON  | 1K 5% 1/4W    |
| D805             | 8-719-991-33 | DIODE 1SS133T-77   |  | R917              | 1-249-417-11 | CARBON  | 1K 5% 1/4W    |
| D806             | 8-719-991-33 | DIODE 1SS133T-77   |  | R918              | 1-247-807-31 | CARBON  | 100 5% 1/4W   |
| D807             | 8-719-210-21 | DIODE ERA82-004TP5   |  | R919              | 1-247-807-31 | CARBON  | 100 5% 1/4W   |
| D901             | 8-719-110-88 | DIODE MTZJ-T-77-39   |  | R920              | 1-249-416-11 | CARBON  | 820 5% 1/4W   |
| D902             | 8-719-110-88 | DIODE MTZJ-T-77-39   |  | R921              | 1-249-429-11 | CARBON  | 10K 5% 1/4W   |
| D903             | 8-719-991-33 | DIODE 1SS133T-77   |  | R922              | 1-249-397-11 | CARBON  | 22 5% 1/4W    |
| <b>COIL</b>      |              |  |  | R923              | 1-249-401-11 | CARBON  | 47 5% 1/4W    |
| L801             | 1-406-989-21 | INDUCTOR   | 10mH   |                   |              |   |               |
| L802             | 1-459-111-00 | INDUCTOR   | 10mH   | *                 | A-1343-875-A | D (VAR) BOARD, MOUNTED<br>(KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |               |
| L901             | 1-412-528-11 | INDUCTOR   | 18μH   | *                 | A-1343-874-A | D (VAR) BOARD, MOUNTED<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |               |
|                  |              |  |  | <b>CAPACITOR</b>  |              |   |               |
|                  |              |  |  | C801              | 1-126-960-11 | ELECT   | 1μF 20% 50V   |
|                  |              |  |  | C802              | 1-126-964-11 | ELECT   | 10μF 20% 50V  |
|                  |              |  |  | C803              | 1-136-191-11 | MYLAR   | 0.22μF 5% 63V |





## COMPLETE PARTS LISTING

| REF. NO.              | PART NO.     | DESCRIPTION                                   | VALUES            | REF. NO.          | PART NO.     | DESCRIPTION                                   | VALUES           |
|-----------------------|--------------|---|-------------------|-------------------|--------------|---|------------------|
| C804                  | 1-136-191-11 | MYLAR   | 0.22μF 5% 63V     | <b>TRANSISTOR</b> |              |   |                  |
| C807                  | 1-163-021-91 | CERAMIC CHIP                                  | 0.01μF 10% 50V    | Q801              | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX                     |                  |
| C808                  | 1-163-021-91 | CERAMIC CHIP                                  | 0.01μF 10% 50V    | Q802              | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX                     |                  |
| C809                  | 1-110-501-11 | CERAMIC CHIP                                  | 0.33μF 10% 16V    | Q803              | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX                     |                  |
| C810                  | 1-130-495-00 | MYLAR   | 0.1μF 5% 50V      | Q804              | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX                     |                  |
| C812                  | 1-163-021-91 | CERAMIC CHIP                                  | 0.01μF 10% 50V    | Q805              | 8-729-140-97 | TRANSISTOR 2SB734-T-34                        |                  |
| C814                  | 1-163-021-91 | CERAMIC CHIP                                  | 0.01μF 10% 50V    | Q806              | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX                     |                  |
| C815                  | 1-129-718-00 | FILM  | 0.022μF 5% 630V   | Q809              | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX                     |                  |
| C816                  | 1-102-244-00 | CERAMIC                                       | 220pF 10% 500V    | Q810              | 8-729-043-95 | TRANSISTOR 2SC3840K                           |                  |
| C817                  | 1-129-709-91 | FILM  | 0.0039μF 5% 630V  | Q811              | 8-729-119-76 | TRANSISTOR 2SA1309A-QRSTA                     |                  |
|                       |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |                   | Q812              | 8-729-119-76 | TRANSISTOR 2SA1309A-QRSTA                     |                  |
| C817                  | 1-129-928-00 | FILM  | 0.0027μF 10% 630V | <b>RESISTOR</b>   |              |   |                  |
|                       |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |                   | R801              | 1-216-089-91 | RES-CHIP                                      | 47K 5% 1/10W     |
| C818                  | 1-164-735-51 | CERAMIC                                       | 0.0015μF 10% 500V | R802              | 1-216-073-91 | RES-CHIP                                      | 10K 5% 1/10W     |
|                       |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |                   | R803              | 1-216-081-00 | RES-CHIP                                      | 22K 5% 1/10W     |
| C818                  | 1-164-625-11 | CERAMIC                                       | 680pF 10% 500V    | R804              | 1-216-073-91 | RES-CHIP                                      | 10K 5% 1/10W     |
|                       |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |                   | R805              | 1-216-065-91 | RES-CHIP                                      | 4.7K 5% 1/10W    |
| C820                  | 1-109-954-11 | ELECT   | 0.47μF 20% 160V   | R806              | 1-216-081-00 | RES-CHIP                                      | 22K 5% 1/10W     |
| C821                  | 1-163-021-91 | CERAMIC CHIP                                  | 0.01μF 10% 50V    | R807              | 1-216-061-91 | RES-CHIP                                      | 3.3K 5% 1/10W    |
| C823                  | 1-130-967-00 | FILM  | 0.0027μF 5% 50V   | R808              | 1-216-073-91 | RES-CHIP                                      | 10K 5% 1/10W     |
| C824                  | 1-104-760-11 | CERAMIC CHIP                                  | 0.047μF 10% 50V   | R809              | 1-216-081-00 | RES-CHIP                                      | 22K 5% 1/10W     |
| C825                  | 1-137-150-11 | MYLAR   | 0.01μF 5% 50V     | R811              | 1-216-025-11 | RES-CHIP                                      | 100 5% 1/10W     |
| C826                  | 1-163-251-11 | CERAMIC CHIP                                  | 100pF 5% 50V      | R812              | 1-216-061-91 | RES-CHIP                                      | 3.3K 5% 1/10W    |
| C862                  | 1-126-964-11 | ELECT   | 10μF 20% 50V      | R813              | 1-216-041-00 | RES-CHIP                                      | 470 5% 1/10W     |
| <b>CONNECTOR</b>      |              |   |                   | R814              | 1-215-862-11 | METAL OXIDE                                   | 68 5% 1W         |
| * CN800               | 1-564-510-11 | PLUG,CONNECTOR 7P                             |                   |                   |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |                  |
| * CN801               | 1-564-507-11 | PLUG,CONNECTOR 4P                             |                   | R815              | 1-215-862-11 | METAL OXIDE                                   | 68 5% 1W         |
| * CN802               | 1-508-784-21 | PIN,CONNECTOR (5MM PITCH) 1P                  |                   | R816              | 1-247-807-31 | CARBON  | 100 5% 1/4W      |
| <b>DIODE</b>          |              |   |                   | R817              | 1-216-091-00 | RES-CHIP                                      | 56K 5% 1/10W     |
| D801                  | 8-719-109-89 | DIODE MTZJ-T-77-5.6C                          |                   |                   |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |                  |
| D802                  | 8-719-991-33 | DIODE 1SS133T-77                              |                   | R817              | 1-208-822-11 | METAL CHIP                                    | 47K 0.50% 1/10W  |
| D808                  | 8-719-991-33 | DIODE 1SS133T-77                              |                   |                   |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |                  |
| D809                  | 8-719-110-41 | DIODE MTZJ-T-77-15B                           |                   | R819              | 1-216-089-91 | RES-CHIP                                      | 47K 5% 1/10W     |
| D810                  | 8-719-970-87 | DIODE ERA38-06TP1                             |                   | R820              | 1-216-683-11 | METAL CHIP                                    | 22K 0.50% 1/10W  |
| D811                  | 8-719-970-87 | DIODE ERA38-06TP1                             |                   |                   |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |                  |
| D812                  | 8-719-300-33 | DIODE ERB44-06TP1                             |                   | R820              | 1-208-818-11 | METAL CHIP                                    | 33K 0.50% 1/10W  |
| D813                  | 8-719-991-33 | DIODE 1SS133T-77                              |                   |                   |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |                  |
| D814                  | 8-719-991-33 | DIODE 1SS133T-77                              |                   | R821              | 1-216-077-91 | RES-CHIP                                      | 15K 5% 1/10W     |
| <b>IC</b>             |              |   |                   |                   |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |                  |
| IC801                 | 8-759-700-42 | IC NJM2904D                                   |                   | R821              | 1-216-061-91 | RES-CHIP                                      | 3.3K 5% 1/10W    |
| IC802                 | 8-759-659-67 | IC NJM2903D                                   |                   |                   |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |                  |
| IC803                 | 8-759-659-67 | IC NJM2903D                                   |                   | R822              | 1-216-065-91 | RES-CHIP                                      | 4.7K 5% 1/10W    |
| <b>CHIP CONDUCTOR</b> |              |   |                   | R823              | 1-216-065-91 | RES-CHIP                                      | 4.7K 5% 1/10W    |
| JR801                 | 1-216-295-91 | SHORT   |                   | R824              | 1-208-830-11 | METAL CHIP                                    | 100K 0.50% 1/10W |
| <b>COIL</b>           |              |   |                   | R825              | 1-208-830-11 | METAL CHIP                                    | 100K 0.50% 1/10W |
| L803                  | 1-406-677-11 | INDUCTOR                                      | 10mH              | R827              | 1-216-065-91 | RES-CHIP                                      | 4.7K 5% 1/10W    |
|                       |              |   |                   | R828              | 1-216-085-91 | RES-CHIP                                      | 33K 5% 1/10W     |
|                       |              |   |                   | R829              | 1-208-846-11 | METAL CHIP                                    | 470K 0.50% 1/10W |
|                       |              |   |                   | R830              | 1-216-295-91 | SHORT   |                  |



## COMPLETE PARTS LISTING

| REF. NO. | PART NO.     | DESCRIPTION                                   | VALUES |       |       | REF. NO. | PART NO.     | DESCRIPTION                            | VALUES |       |       |
|----------|--------------|---|--------|-------|-------|----------|--------------|--|--------|-------|-------|
| R831     | 1-216-049-11 | RES-CHIP                                      | 1K     | 5%    | 1/10W | R890     | 1-216-097-11 | RES-CHIP                               | 100K   | 5%    | 1/10W |
| R832     | 1-216-067-00 | RES-CHIP                                      | 5.6K   | 5%    | 1/10W |          |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY) |        |       |       |
|          |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |        |       |       | R860     | 1-208-806-11 | METAL CHIP                             | 10K    | 0.50% | 1/10W |
| R832     | 1-216-061-91 | RES-CHIP                                      | 3.3K   | 5%    | 1/10W | R862     | 1-216-057-00 | RES-CHIP                               | 2.2K   | 5%    | 1/10W |
|          |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |        |       |       | R863     | 1-216-057-00 | RES-CHIP                               | 2.2K   | 5%    | 1/10W |
| R833     | 1-216-687-11 | METAL CHIP                                    | 33K    | 0.50% | 1/10W | R864     | 1-216-033-00 | RES-CHIP                               | 220    | 5%    | 1/10W |
|          |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |        |       |       |          |              |  |        |       |       |
| R833     | 1-216-689-11 | RES-CHIP                                      | 39K    | 5%    | 1/10W | R865     | 1-216-097-11 | RES-CHIP                               | 100K   | 5%    | 1/10W |
|          |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |        |       |       | R866     | 1-249-429-11 | CARBON                                 | 10K    | 5%    | 1/4W  |
|          |              |   |        |       |       | R867     | 1-216-073-91 | RES-CHIP                               | 10K    | 5%    | 1/10W |
| R834     | 1-216-065-91 | RES-CHIP                                      | 4.7K   | 5%    | 1/10W | R868     | 1-216-073-91 | RES-CHIP                               | 10K    | 5%    | 1/10W |
| R835     | 1-216-057-00 | RES-CHIP                                      | 2.2K   | 5%    | 1/10W | R869     | 1-216-097-11 | RES-CHIP                               | 100K   | 5%    | 1/10W |
| R836     | 1-216-057-00 | RES-CHIP                                      | 2.2K   | 5%    | 1/10W |          |              |  |        |       |       |
| R837     | 1-208-808-11 | METAL CHIP                                    | 12K    | 0.50% | 1/10W | R870     | 1-216-057-00 | RES-CHIP                               | 2.2K   | 5%    | 1/10W |
|          |              |   |        |       |       | R871     | 1-215-489-00 | METAL                                  | 680K   | 1%    | 1/4W  |
| R838     | 1-247-807-31 | CARBON  | 100    | 5%    | 1/4W  | R872     | 1-216-121-11 | RES-CHIP                               | 1M     | 5%    | 1/10W |
| R839     | 1-216-025-11 | RES-CHIP                                      | 100    | 5%    | 1/10W | R873     | 1-216-073-91 | RES-CHIP                               | 10K    | 5%    | 1/10W |
| R840     | 1-216-093-91 | RES-CHIP                                      | 68K    | 5%    | 1/10W | R874     | 1-216-037-00 | RES-CHIP                               | 330    | 5%    | 1/10W |
|          |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |        |       |       | R875     | 1-216-035-00 | RES-CHIP                               | 270    | 5%    | 1/10W |
| R841     | 1-208-802-11 | METAL CHIP                                    | 6.8K   | 0.50% | 1/10W |          |              |  |        |       |       |
|          |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |        |       |       |          |              |  |        |       |       |
| R841     | 1-208-806-11 | METAL CHIP                                    | 10K    | 0.50% | 1/10W |          |              |  |        |       |       |
|          |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |        |       |       |          |              |  |        |       |       |
|          |              |   |        |       |       |          |              |  |        |       |       |
| R842     | 1-208-796-11 | METAL CHIP                                    | 3.9K   | 0.50% | 1/10W |          |              |  |        |       |       |
| R845     | 1-249-441-11 | CARBON  | 100K   | 5%    | 1/4W  |          |              |  |        |       |       |
| R846     | 1-249-441-11 | CARBON  | 100K   | 5%    | 1/4W  |          |              |  |        |       |       |
| R847     | 1-249-441-11 | CARBON  | 100K   | 5%    | 1/4W  |          |              |  |        |       |       |
| R848     | 1-215-876-00 | METAL OXIDE                                   | 15K    | 5%    | 1W    |          |              |  |        |       |       |
|          |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |        |       |       |          |              |  |        |       |       |
|          |              |   |        |       |       |          |              |  |        |       |       |
| R848     | 1-215-894-11 | METAL OXIDE                                   | 2.2K   | 5%    | 2W    |          |              |  |        |       |       |
|          |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |        |       |       |          |              |  |        |       |       |
| R849     | 1-215-920-11 | METAL OXIDE                                   | 3.3K   | 5%    | 3W    |          |              |  |        |       |       |
|          |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |        |       |       |          |              |  |        |       |       |
| R849     | 1-216-486-21 | METAL OXIDE                                   | 8.2K   | 5%    | 3W    |          |              |  |        |       |       |
|          |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |        |       |       |          |              |  |        |       |       |
| R850     | 1-216-486-21 | METAL OXIDE                                   | 8.2K   | 5%    | 3W    |          |              |  |        |       |       |
|          |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |        |       |       |          |              |  |        |       |       |
| R851     | 1-215-894-11 | METAL OXIDE                                   | 2.2K   | 5%    | 2W    |          |              |  |        |       |       |
|          |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |        |       |       |          |              |  |        |       |       |
|          |              |   |        |       |       |          |              |  |        |       |       |
| R851     | 1-215-922-11 | METAL OXIDE                                   | 6.8K   | 5%    | 3W    |          |              |  |        |       |       |
|          |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |        |       |       |          |              |  |        |       |       |
| R852     | 1-215-922-11 | METAL OXIDE                                   | 6.8K   | 5%    | 3W    |          |              |  |        |       |       |
|          |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |        |       |       |          |              |  |        |       |       |
| R854     | 1-216-069-00 | RES-CHIP                                      | 6.8K   | 5%    | 1/10W |          |              |  |        |       |       |
|          |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |        |       |       |          |              |  |        |       |       |
|          |              |   |        |       |       |          |              |  |        |       |       |
| R854     | 1-216-067-00 | RES-CHIP                                      | 5.6K   | 5%    | 1/10W |          |              |  |        |       |       |
|          |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |        |       |       |          |              |  |        |       |       |
| R855     | 1-216-089-91 | RES-CHIP                                      | 47K    | 5%    | 1/10W |          |              |  |        |       |       |
|          |              | (KV-27FS13/27FS17/27FV17/29FV17/29FV17C ONLY) |        |       |       |          |              |  |        |       |       |
| R855     | 1-216-091-00 | RES-CHIP                                      | 56K    | 5%    | 1/10W |          |              |  |        |       |       |
|          |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |        |       |       |          |              |  |        |       |       |
| R857     | 1-208-818-11 | METAL CHIP                                    | 33K    | 0.50% | 1/10W |          |              |  |        |       |       |
|          |              | (KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |        |       |       |          |              |  |        |       |       |

## TRANSFORMER

T801 1-424-584-11 TRANSFORMER, DYNAMIC FOCUS



\* A-1372-817-A HX BOARD, MOUNTED

## CONNECTOR

\* CN4001 1-564-518-11 PLUG,CONNECTOR 3P

## RESISTOR

|       |              |          |      |    |       |
|-------|--------------|----------|------|----|-------|
| R4001 | 1-216-025-11 | RES-CHIP | 100  | 5% | 1/10W |
| R4002 | 1-216-045-00 | RES-CHIP | 680  | 5% | 1/10W |
| R4003 | 1-216-047-91 | RES-CHIP | 820  | 5% | 1/10W |
| R4004 | 1-216-057-00 | RES-CHIP | 2.2K | 5% | 1/10W |
| R4005 | 1-216-069-00 | RES-CHIP | 6.8K | 5% | 1/10W |

## SWITCH

|       |              |                |
|-------|--------------|----------------|
| S4001 | 1-762-196-21 | SWITCH TACTILE |
| S4002 | 1-762-196-21 | SWITCH TACTILE |
| S4003 | 1-762-196-21 | SWITCH TACTILE |
| S4004 | 1-762-196-21 | SWITCH TACTILE |
| S4005 | 1-762-196-21 | SWITCH TACTILE |
| S4006 | 1-762-196-21 | SWITCH TACTILE |



## COMPLETE PARTS LISTING

| REF. NO.             | PART NO.     | DESCRIPTION  | VALUES            |     |       |                                 | REF. NO.     | PART NO.   | DESCRIPTION       | VALUES |       |  |  |
|----------------------|--------------|--|-------------------|-----|-------|---------------------------------|--------------|--|-------------------|--------|-------|--|--|
| <div>HA</div>        |              |  |                   |     |       | <div>IC</div>                   |              |  |                   |        |       |  |  |
| *                    | A-1372-825-A | HA BOARD, MOUNTED<br>(KV-27FV17/29FV17/29FV17C ONLY)       |                   |     |       |                                 | IC4050       | 8-742-211-20   | HYB IC SBX3071-71 |        |       |  |  |
| <div>CAPACITOR</div> |              |  |                   |     |       | <div>CHIP CONDUCTOR</div>       |              |  |                   |        |       |  |  |
| C4202                | 1-117-534-91 | ELECT  | 1μF               | 20% | 100V  | JR4051                          | 1-216-295-91 | SHORT  |                   |        |       |  |  |
| C4203                | 1-117-534-91 | ELECT  | 1μF               | 20% | 100V  | <div>RESISTOR</div>             |              |  |                   |        |       |  |  |
| <div>CONNECTOR</div> |              |  |                   |     |       | R4050                           | 1-249-401-11 | CARBON   | 47                | 5%     | 1/4W  |  |  |
|                      |              |  |                   |     |       | R4051                           | 1-216-049-11 | RES-CHIP   | 1K                | 5%     | 1/10W |  |  |
|                      |              |  |                   |     |       | <div>K</div>                    |              |  |                   |        |       |  |  |
| *                    | CN4200       | 1-564-512-11   | PLUG,CONNECTOR 9P |     |       | *                               | A-1380-633-A | K (VAR) BOARD, MOUNTED<br>(KV-27FV17/29FV17/29FV17C ONLY)                          |                   |        |       |  |  |
| <div>DIODE</div>     |              |  |                   |     |       | *                               | A-1380-632-A | K (VAR) BOARD, MOUNTED<br>(KV-27FS13/27FV17/32FS13/32FS17/34FS13C/<br>34FS17 ONLY) |                   |        |       |  |  |
| D4216                | 8-719-069-60 | DIODE UDZSTE-179.1B  |                   |     |       | <div>CAPACITOR</div>            |              |  |                   |        |       |  |  |
| D4217                | 8-719-108-12 | DIODE RD9.1EW-T1   |                   |     |       | C201                            | 1-126-963-11 | ELECT  | 4.7μF             | 20%    | 50V   |  |  |
| D4218                | 8-719-108-12 | DIODE RD9.1EW-T1   |                   |     |       | C202                            | 1-126-963-11 | ELECT  | 4.7μF             | 20%    | 50V   |  |  |
| D4219                | 8-719-108-12 | DIODE RD9.1EW-T1   |                   |     |       | C404                            | 1-164-182-11 | CERAMIC CHIP   | 0.0033μF          | 10%    | 50V   |  |  |
| D4299                | 8-719-069-60 | DIODE UDZSTE-179.1B  |                   |     |       | C405                            | 1-163-034-91 | CERAMIC CHIP   | 0.033μF           |        | 50V   |  |  |
| <div>JACK</div>      |              |  |                   |     |       | C406                            | 1-163-011-11 | CERAMIC CHIP   | 0.0015μF          | 10%    | 50V   |  |  |
| J4221                | 1-770-361-11 | TERMINAL BLOCK, S  |                   |     |       | C407                            | 1-164-222-91 | CERAMIC CHIP   | 0.22μF            |        | 25V   |  |  |
| <div>RESISTOR</div>  |              |  |                   |     |       | C408                            | 1-164-222-91 | CERAMIC CHIP   | 0.22μF            |        | 25V   |  |  |
| R4206                | 1-249-425-11 | CARBON   | 4.7K              | 5%  | 1/4W  | C409                            | 1-163-011-11 | CERAMIC CHIP   | 0.0015μF          | 10%    | 50V   |  |  |
| R4207                | 1-216-113-00 | RES-CHIP   | 470K              | 5%  | 1/10W | C410                            | 1-163-034-91 | CERAMIC CHIP   | 0.033μF           |        | 50V   |  |  |
| R4209                | 1-216-065-91 | RES-CHIP   | 4.7K              | 5%  | 1/10W | C411                            | 1-164-182-11 | CERAMIC CHIP   | 0.0033μF          | 10%    | 50V   |  |  |
| R4210                | 1-249-419-11 | CARBON   | 1.5K              | 5%  | 1/4W  | C412                            | 1-163-038-91 | CERAMIC CHIP   | 0.1μF             |        | 25V   |  |  |
| R4211                | 1-249-421-11 | CARBON   | 2.2K              | 5%  | 1/4W  | C413                            | 1-126-963-11 | ELECT  | 4.7μF             | 20%    | 50V   |  |  |
| R4212                | 1-249-427-11 | CARBON   | 6.8K              | 5%  | 1/4W  | C414                            | 1-126-963-11 | ELECT  | 4.7μF             | 20%    | 50V   |  |  |
| R4228                | 1-216-113-00 | RES-CHIP   | 470K              | 5%  | 1/10W | C415                            | 1-126-963-11 | ELECT  | 4.7μF             | 20%    | 50V   |  |  |
| <div>SWITCH</div>    |              |  |                   |     |       | C416                            | 1-126-963-11 | ELECT  | 4.7μF             | 20%    | 50V   |  |  |
| S4217                | 1-762-196-21 | SWITCH TACTILE   |                   |     |       | C417                            | 1-126-963-11 | ELECT  | 4.7μF             | 20%    | 50V   |  |  |
| S4218                | 1-762-196-21 | SWITCH TACTILE   |                   |     |       | C418                            | 1-163-038-91 | CERAMIC CHIP   | 0.1μF             |        | 25V   |  |  |
| S4219                | 1-762-196-21 | SWITCH TACTILE   |                   |     |       | C419                            | 1-164-346-11 | CERAMIC CHIP   | 1μF               |        | 16V   |  |  |
| S4220                | 1-762-196-21 | SWITCH TACTILE   |                   |     |       | C422                            | 1-126-963-11 | ELECT  | 4.7μF             | 20%    | 50V   |  |  |
|                      |              |  |                   |     |       | C423                            | 1-126-963-11 | ELECT  | 4.7μF             | 20%    | 50V   |  |  |
| <div>HB</div>        |              |  |                   |     |       | C424                            | 1-164-005-11 | CERAMIC CHIP   | 0.47μF            |        | 25V   |  |  |
| *                    | A-1372-826-A | HB (VAR) BOARD, MOUNTED<br>(KV-27FV17/29FV17/29FV17C ONLY) |                   |     |       | (KV-27FV17/29FV17/29FV17C ONLY) |              |  |                   |        |       |  |  |
| <div>CAPACITOR</div> |              |  |                   |     |       | C425                            | 1-164-346-11 | CERAMIC CHIP   | 1μF               |        | 16V   |  |  |
| C4050                | 1-104-665-11 | ELECT  | 100μF             | 20% | 25V   | (KV-27FV17/29FV17/29FV17C ONLY) |              |  |                   |        |       |  |  |
| <div>CONNECTOR</div> |              |  |                   |     |       | C426                            | 1-126-960-11 | ELECT  | 1μF               | 20%    | 50V   |  |  |
|                      |              |  |                   |     |       | (KV-27FV17/29FV17/29FV17C ONLY) |              |  |                   |        |       |  |  |
| *                    | CN4050       | 1-564-520-11   | PLUG,CONNECTOR 5P |     |       | C427                            | 1-126-968-11 | ELECT  | 100μF             | 20%    | 50V   |  |  |
| <div>DIODE</div>     |              |  |                   |     |       | (KV-27FV17/29FV17/29FV17C ONLY) |              |  |                   |        |       |  |  |
| D4051                | 8-719-057-09 | DIODE LNJ801LPDJA  |                   |     |       | C428                            | 1-126-968-11 | ELECT  | 100μF             | 20%    | 50V   |  |  |
|                      |              |  |                   |     |       | (KV-27FV17/29FV17/29FV17C ONLY) |              |  |                   |        |       |  |  |



## COMPLETE PARTS LISTING

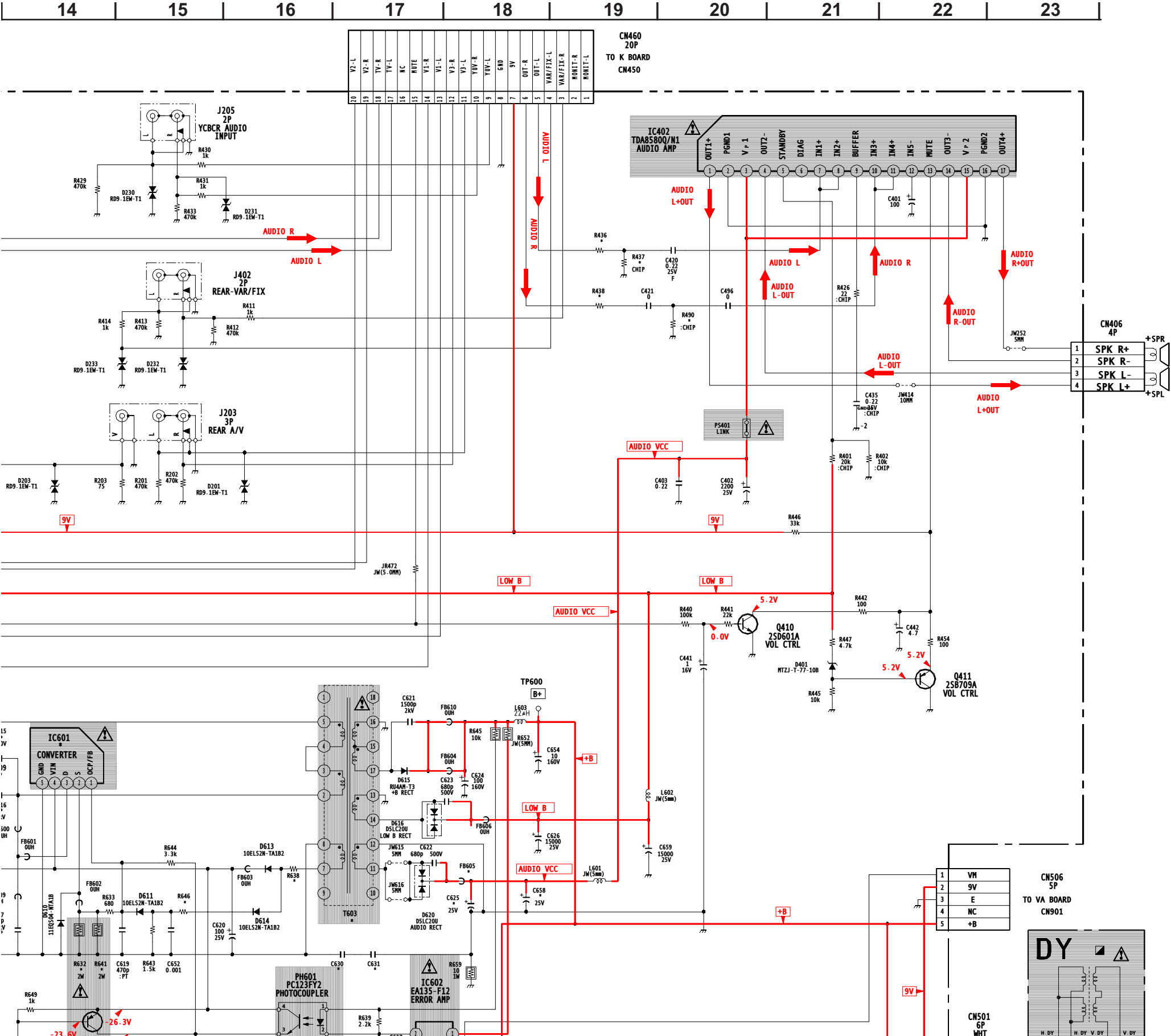
| REF. NO.              | PART NO.     | DESCRIPTION   | VALUES  | REF. NO.          | PART NO.     | DESCRIPTION                     | VALUES        |
|-----------------------|--------------|---|---|-------------------|--------------|---------------------------------|---------------|
| C429                  | 1-163-017-00 | CERAMIC CHIP  | 0.0047μF 10% 50V<br>(KV-27FV17/29FV17/29FV17C ONLY) | JR419             | 1-216-295-91 | SHORT                           |               |
| C430                  | 1-164-222-91 | CERAMIC CHIP  | 0.22μF 25V<br>(KV-27FV17/29FV17/29FV17C ONLY)       | JR440             | 1-216-295-91 | SHORT                           |               |
| C431                  | 1-163-038-91 | CERAMIC CHIP  | 0.1μF 25V<br>(KV-27FV17/29FV17/29FV17C ONLY)        | JR460             | 1-216-295-91 | SHORT                           |               |
| C432                  | 1-163-021-91 | CERAMIC CHIP  | 0.01μF 10% 50V<br>(KV-27FV17/29FV17/29FV17C ONLY)   | JR420             | 1-216-295-91 | SHORT                           |               |
| C433                  | 1-164-346-11 | CERAMIC CHIP  | 1μF 16V<br>(KV-27FV17/29FV17/29FV17C ONLY)          | JR421             | 1-216-295-91 | SHORT                           |               |
| C434                  | 1-163-038-91 | CERAMIC CHIP  | 0.1μF 25V<br>(KV-27FV17/29FV17/29FV17C ONLY)        | JR422             | 1-216-295-91 | SHORT                           |               |
| C440                  | 1-163-038-91 | CERAMIC CHIP  | 0.1μF 25V   | JR425             | 1-216-295-91 | SHORT                           |               |
| C441                  | 1-126-933-11 | ELECT   | 100μF 20% 16V                                       | JR426             | 1-216-295-91 | SHORT                           |               |
| C446                  | 1-126-933-11 | ELECT   | 100μF 20% 16V                                       | JR427             | 1-216-295-91 | SHORT                           |               |
| C450                  | 1-126-963-11 | ELECT   | 4.7μF 20% 50V                                       | JR428             | 1-216-295-91 | SHORT                           |               |
| C451                  | 1-126-963-11 | ELECT   | 4.7μF 20% 50V                                       | JR429             | 1-216-295-91 | SHORT                           |               |
| C455                  | 1-164-005-11 | CERAMIC CHIP  | 0.47μF 25V<br>(KV-27FV17/29FV17/29FV17C ONLY)       | JR474             | 1-216-295-91 | SHORT                           |               |
| C456                  | 1-163-021-91 | CERAMIC CHIP  | 0.01μF 10% 50V<br>(KV-27FV17/29FV17/29FV17C ONLY)   | JR491             | 1-216-295-91 | SHORT                           |               |
| C457                  | 1-163-034-91 | CERAMIC CHIP  | 0.033μF 50V<br>(KV-27FV17/29FV17/29FV17C ONLY)      | <b>COIL</b>       |              |                                 |               |
| C458                  | 1-126-963-11 | ELECT   | 4.7μF 20% 50V<br>(KV-27FV17/29FV17/29FV17C ONLY)    | L410              | 1-412-062-11 | INDUCTOR                        | 47μH          |
| C460                  | 1-126-963-11 | ELECT   | 4.7μF 20% 50V<br>(KV-27FV17/29FV17/29FV17C ONLY)    | <b>TRANSISTOR</b> |              |                                 |               |
| C475                  | 1-163-038-91 | CERAMIC CHIP  | 0.1μF 25V   | Q430              | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX       |               |
| C490                  | 1-216-295-91 | SHORT   |   | Q431              | 8-729-422-27 | TRANSISTOR 2SD601A-QRS-TX       |               |
| <b>CONNECTOR</b>      |              |   |   | Q432              | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX       |               |
| * CN402               | 1-564-506-11 | PLUG,CONNECTOR 3P   |   | Q433              | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX       |               |
| CN450                 | 1-573-301-21 | CONNECTOR, BOARD TO BOARD 20P                                     |   | <b>RESISTOR</b>   |              |                                 |               |
| CN451                 | 1-564-505-11 | PLUG,CONNECTOR 2P   |   | R403              | 1-216-295-91 | SHORT                           |               |
| <b>IC</b>             |              |   |   | R404              | 1-216-025-11 | RES-CHIP                        | 100 5% 1/10W  |
| IC403                 | 8-759-658-19 | IC NJM2198-TE2<br>(KV-27FV17/29FV17/29FV17C ONLY)                 |   | R405              | 1-216-025-11 | RES-CHIP                        | 100 5% 1/10W  |
| IC404                 | 8-759-697-77 | IC NJW1130AG-TE2  |   | R407              | 1-216-025-11 | RES-CHIP                        | 100 5% 1/10W  |
| <b>CHIP CONDUCTOR</b> |              |   |   | R409              | 1-216-025-11 | RES-CHIP                        | 100 5% 1/10W  |
| JR402                 | 1-216-295-91 | SHORT<br>(KV-27FV17/29FV17/29FV17C ONLY)                          |   | R410              | 1-216-025-11 | RES-CHIP                        | 100 5% 1/10W  |
| JR403                 | 1-216-295-91 | SHORT   |   | R431              | 1-216-073-91 | RES-CHIP                        | 10K 5% 1/10W  |
| JR404                 | 1-216-295-91 | SHORT   |   | R432              | 1-216-073-91 | RES-CHIP                        | 10K 5% 1/10W  |
| JR407                 | 1-216-295-91 | SHORT<br>(KV-27FV13/27FS17/32FS13/32FS17/34FS13C/<br>34FS17 ONLY) |   | R433              | 1-216-295-91 | SHORT                           |               |
| JR408                 | 1-216-295-91 | SHORT<br>(KV-27FV13/27FS17/32FS13/32FS17/34FS13C/<br>34FS17 ONLY) |   | R434              | 1-216-065-91 | RES-CHIP                        | 4.7K 5% 1/10W |
|                       |              |   |   | R435              | 1-216-033-00 | RES-CHIP                        | 220 5% 1/10W  |
|                       |              |   |   | R436              | 1-216-065-91 | RES-CHIP                        | 4.7K 5% 1/10W |
|                       |              |   |   | R437              | 1-216-033-00 | RES-CHIP                        | 220 5% 1/10W  |
|                       |              |   |   | R438              | 1-216-033-00 | RES-CHIP                        | 220 5% 1/10W  |
|                       |              |   |   | R442              | 1-216-033-00 | RES-CHIP                        | 220 5% 1/10W  |
|                       |              |   |   | R443              | 1-216-105-91 | RES-CHIP                        | 220K 5% 1/10W |
|                       |              |   |   | R444              | 1-216-105-91 | RES-CHIP                        | 220K 5% 1/10W |
|                       |              |   |   | R445              | 1-216-105-91 | RES-CHIP                        | 220K 5% 1/10W |
|                       |              |   |   | R446              | 1-216-105-91 | RES-CHIP                        | 220K 5% 1/10W |
|                       |              |   |   | R452              | 1-216-073-91 | RES-CHIP                        | 10K 5% 1/10W  |
|                       |              |   |   |                   |              | (KV-27FV17/29FV17/29FV17C ONLY) |               |
|                       |              |   |   | R455              | 1-216-081-00 | RES-CHIP                        | 22K 5% 1/10W  |



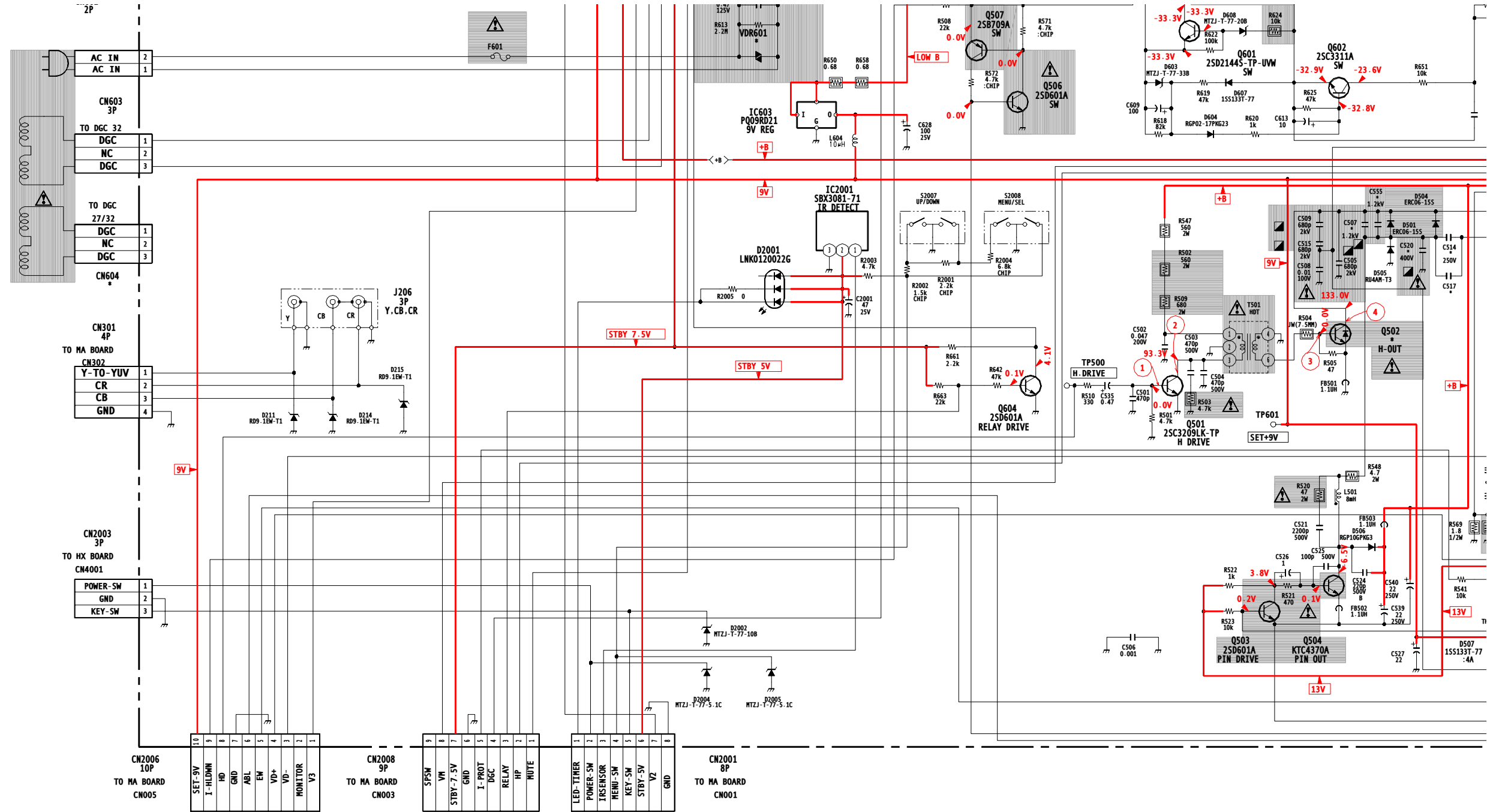
| REF. NO.                         | PART NO.     | DESCRIPTION   | VALUES |    |       | REF. NO.                | PART NO. | DESCRIPTION  | VALUES |
|----------------------------------|--------------|---|--------|----|-------|-------------------------|----------|--|--------|
| R456                             | 1-216-081-00 | RES-CHIP  | 22K    | 5% | 1/10W | <b>REMOTE COMMANDER</b> |          |  |        |
| R468                             | 1-216-295-91 | SHORT   |        |    |       | 1-476-680-11            |          | REMOTE COMMANDER (RM-Y180)<br>(KV-27FS13/32FS13/34FS13C ONLY)                          |        |
| R469                             | 1-216-295-91 | SHORT   |        |    |       | 1-476-681-11            |          | REMOTE COMMANDER (RM-Y181)<br>(KV-27FS17/32FS17/34FS17/27FV17/29FV17/<br>29FV17C ONLY) |        |
| R470                             | 1-216-025-11 | RES-CHIP  | 100    | 5% | 1/10W | 4-978-977-11            |          | BATTERY COVER (RM-Y180, RM-Y181)   |        |
| <hr/>                            |              |   |        |    |       |                         |          |  |        |
| <b>ACCESSORIES AND PACKAGING</b> |              |   |        |    |       |                         |          |  |        |
| *                                | 4-041-255-01 | BAG, PROTECTION (KV-27FS13/27FS17/ 27FV17/<br>29FV17/29FV17C ONLY)  |        |    |       |                         |          |  |        |
| *                                | 4-041-259-01 | BAG, PROTECTION<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY)           |        |    |       |                         |          |  |        |
| *                                | 4-075-517-01 | CARTON, INDIVIDUAL (KV-27FV17 ONLY)                                 |        |    |       |                         |          |  |        |
| *                                | 4-075-524-01 | CARTON, INDIVIDUAL (KV-29FV17/29FV17C ONLY)                         |        |    |       |                         |          |  |        |
| *                                | 4-074-568-05 | CARTON, INDIVIDUAL (KV-27FS13/27FS17 ONLY)                          |        |    |       |                         |          |  |        |
| *                                | 4-083-277-01 | CARTON, INDIVIDUAL<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY)        |        |    |       |                         |          |  |        |
|                                  | 4-081-082-01 | CUSHION, UPPER (KV-27FS13/27FS17 ONLY)                              |        |    |       |                         |          |  |        |
|                                  | 4-081-083-01 | CUSHION, LOWER (KV-27FS13/27FS17 ONLY)                              |        |    |       |                         |          |  |        |
| *                                | 4-073-715-02 | CUSHION ASSY, UPPER<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY)       |        |    |       |                         |          |  |        |
| *                                | 4-073-716-02 | CUSHION ASSY, LOWER<br>(KV-32FS13/32FS17/34FS13C/34FS17 ONLY)       |        |    |       |                         |          |  |        |
|                                  | 4-075-515-01 | CUSHION ASSY, UPPER<br>(KV-27FV17/29FV17/29FV17C ONLY)              |        |    |       |                         |          |  |        |
|                                  | 4-075-516-01 | CUSHION ASSY, LOWER<br>(KV-27FV17/29FV17/29FV17C ONLY)              |        |    |       |                         |          |  |        |
|                                  | 4-081-737-21 | MANUAL, INSTRUCTION<br>(KV-27FS13/27FS17/27FV17/32FS13/32FS17 ONLY) |        |    |       |                         |          |  |        |
|                                  | 4-081-738-41 | MANUAL, INSTRUCTION (KV-29FV17/29FV17C ONLY)                        |        |    |       |                         |          |  |        |
|                                  | 4-081-737-31 | MANUAL, INSTRUCTION<br>(KV-27FS13CND/27FV17CND/32FS13CND ONLY)      |        |    |       |                         |          |  |        |
|                                  | 4-081-739-41 | MANUAL, INSTRUCTION (KV-34FS13C/34FS17 ONLY)                        |        |    |       |                         |          |  |        |

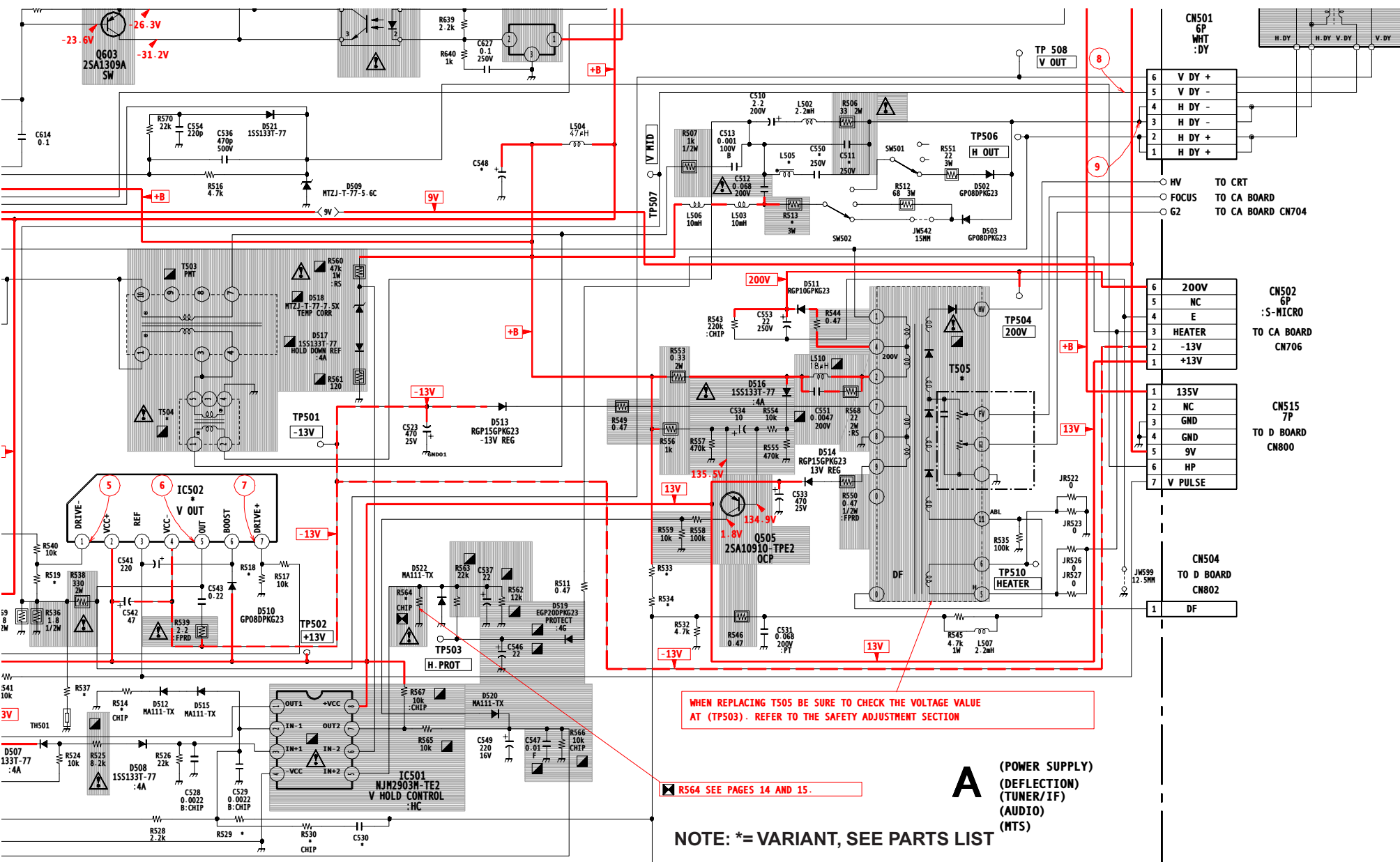


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WHEN REPLACING T505 BE SURE TO CHECK THE VOLTAGE VALUE AT (TP503) . REFER TO THE SAFETY ADJUSTMENT SECTION

⚡ R564 SEE PAGES 14 AND 15.

NOTE: \*= VARIANT, SEE PARTS LIST

**A** (POWER SUPPLY)  
(DEFLECTION)  
(TUNER/IF)  
(AUDIO)  
(MTS)

|                           |        |
|---------------------------|--------|
| CN501<br>6P<br>WHT<br>:DY |        |
| 6                         | V DY + |
| 5                         | V DY - |
| 4                         | H DY - |
| 3                         | H DY - |
| 2                         | H DY + |
| 1                         | H DY + |
| HV TO CRT                 |        |
| FOCUS TO CA BOARD         |        |
| 62 TO CA BOARD CN704      |        |

|   |        |
|---|--------|
| CN502<br>6P<br>:S-MICRO<br>TO CA BOARD<br>CN706 |        |
| 6   | 200V   |
| 5   | NC     |
| 4   | E      |
| 3   | HEATER |
| 2   | -13V   |
| 1   | +13V   |

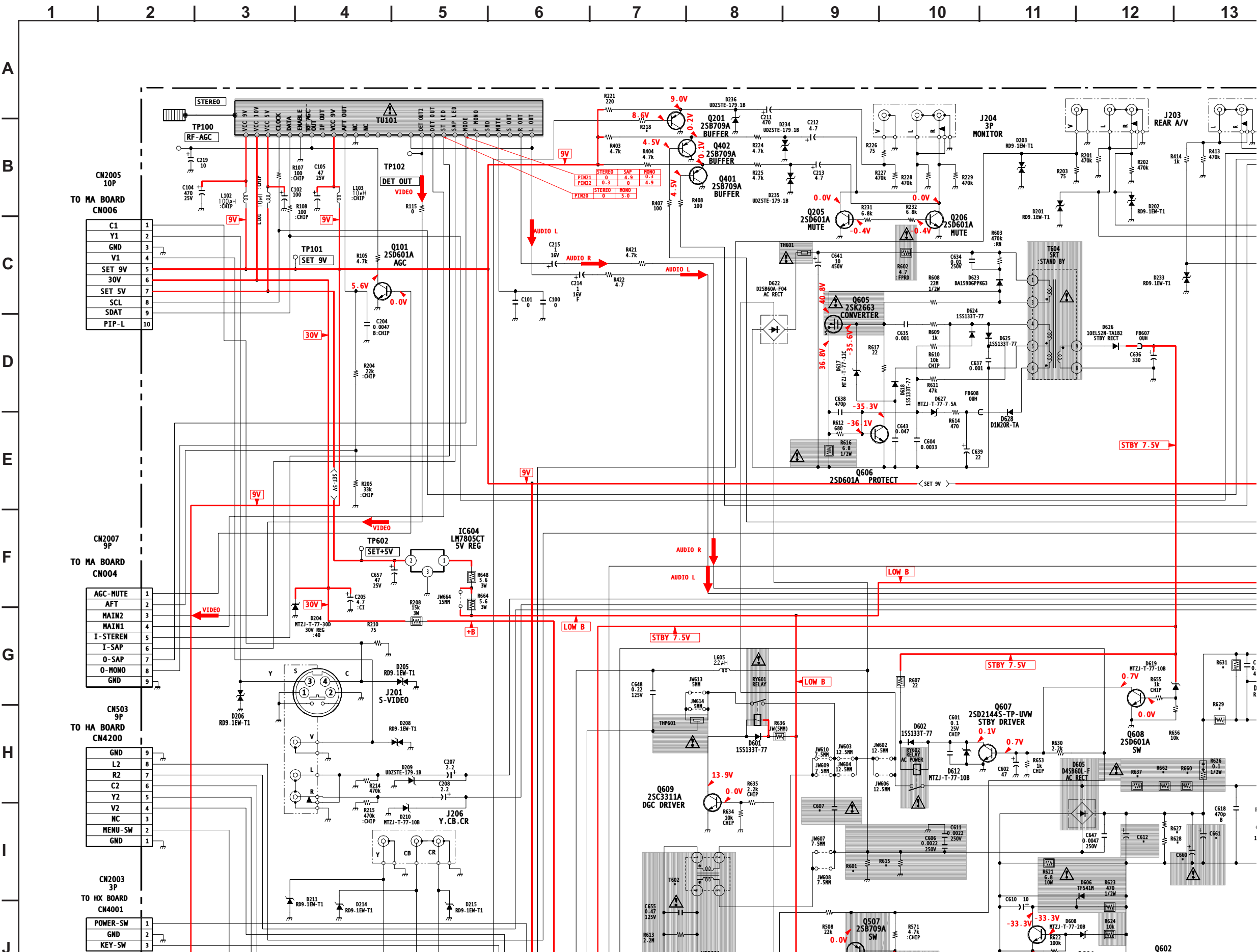
  

|                                    |         |
|------------------------------------|---------|
| CN515<br>7P<br>TO D BOARD<br>CN800 |         |
| 1                                  | 135V    |
| 2                                  | NC      |
| 3                                  | GND     |
| 4                                  | GND     |
| 5                                  | 9V      |
| 6                                  | HP      |
| 7                                  | V PULSE |

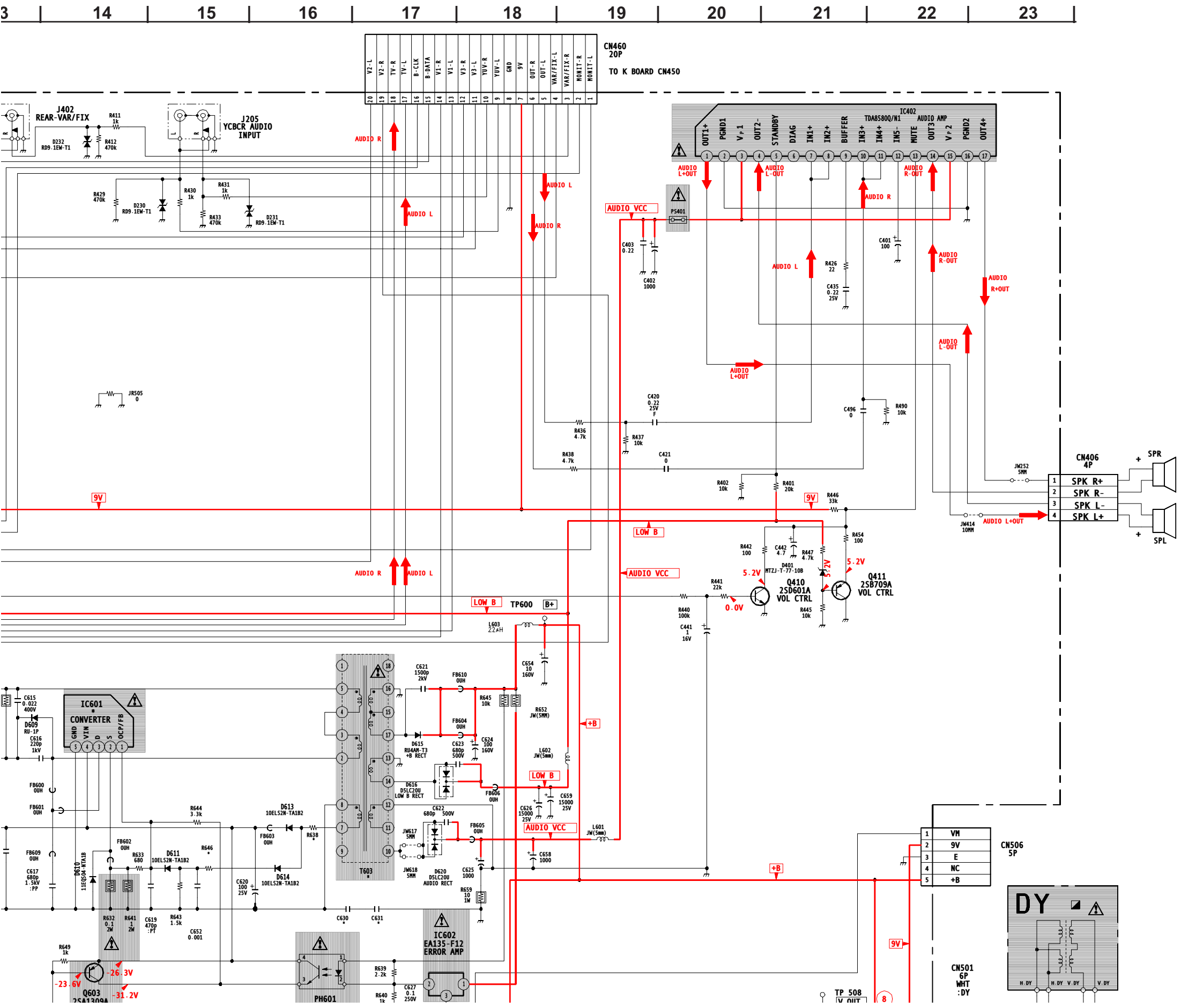
  

|                              |    |
|------------------------------|----|
| CN504<br>TO D BOARD<br>CN802 |    |
| 1                            | DF |

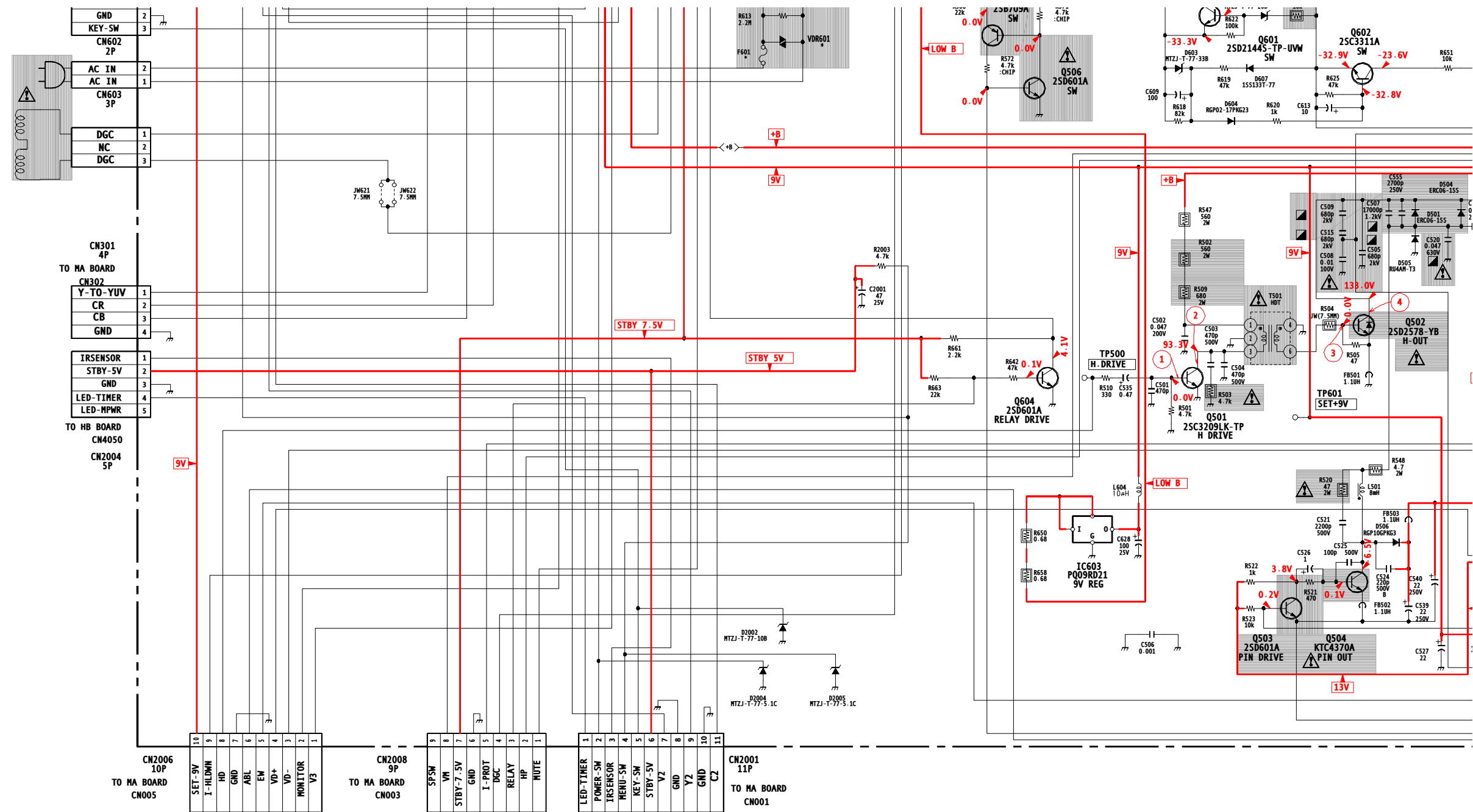
A BOARD SCHEMATIC DIAGRAM (KV-27FV17/29FV17/29FV17C ONLY)

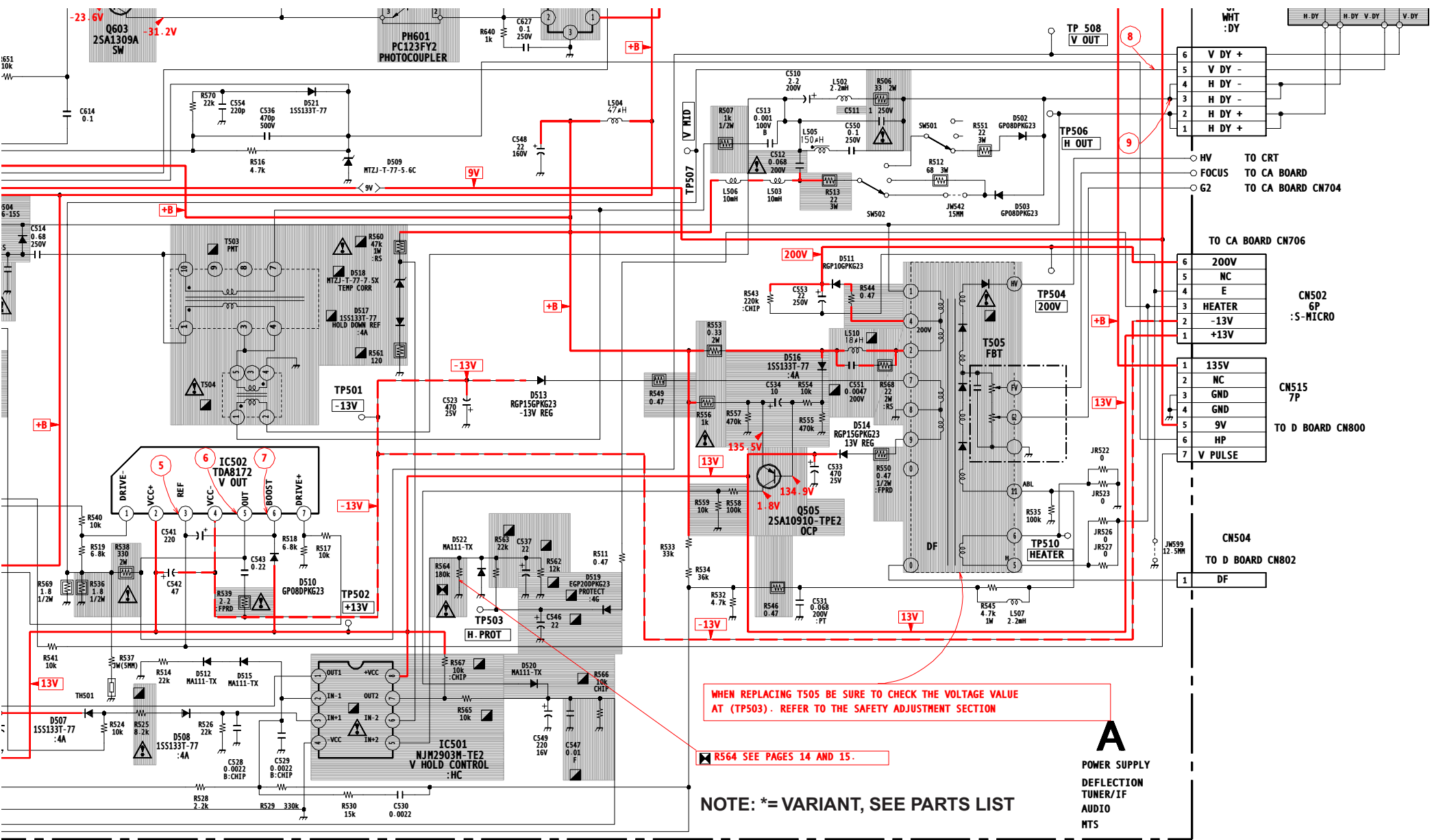






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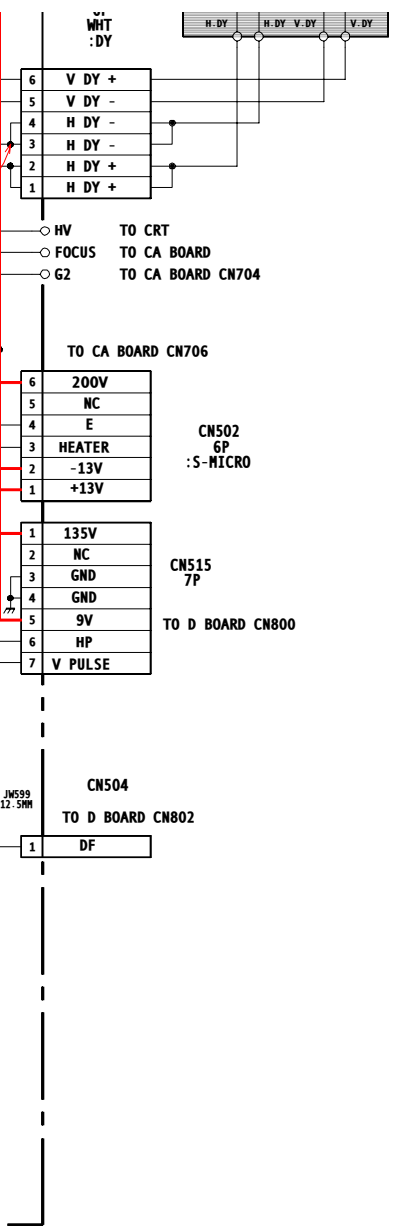


WHEN REPLACING TS05 BE SURE TO CHECK THE VOLTAGE VALUE AT (TP503) . REFER TO THE SAFETY ADJUSTMENT SECTION

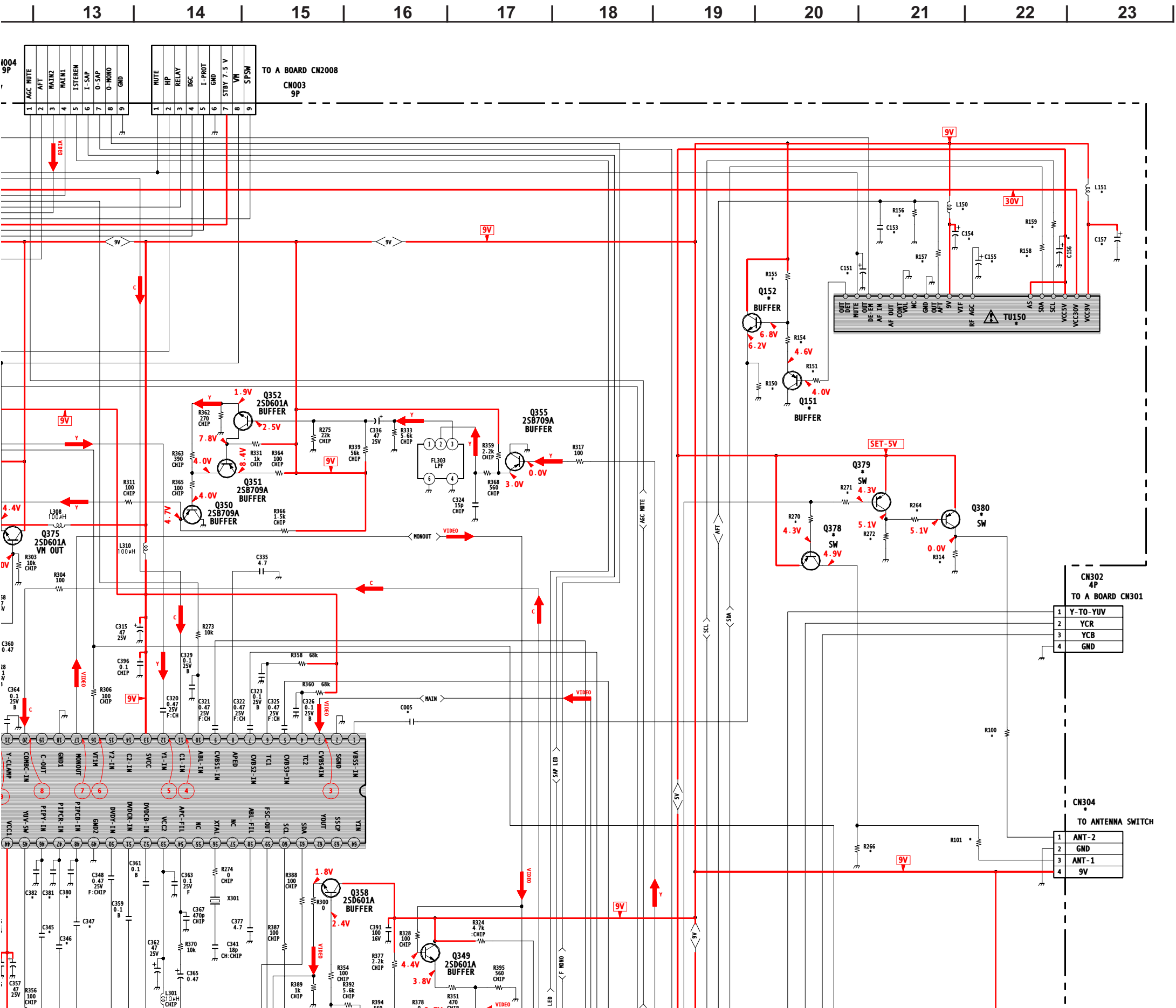
✎ R564 SEE PAGES 14 AND 15.

NOTE: \*= VARIANT, SEE PARTS LIST

**A**  
POWER SUPPLY  
DEFLECTION  
TUNER/IF  
AUDIO  
MTS







J

K

L

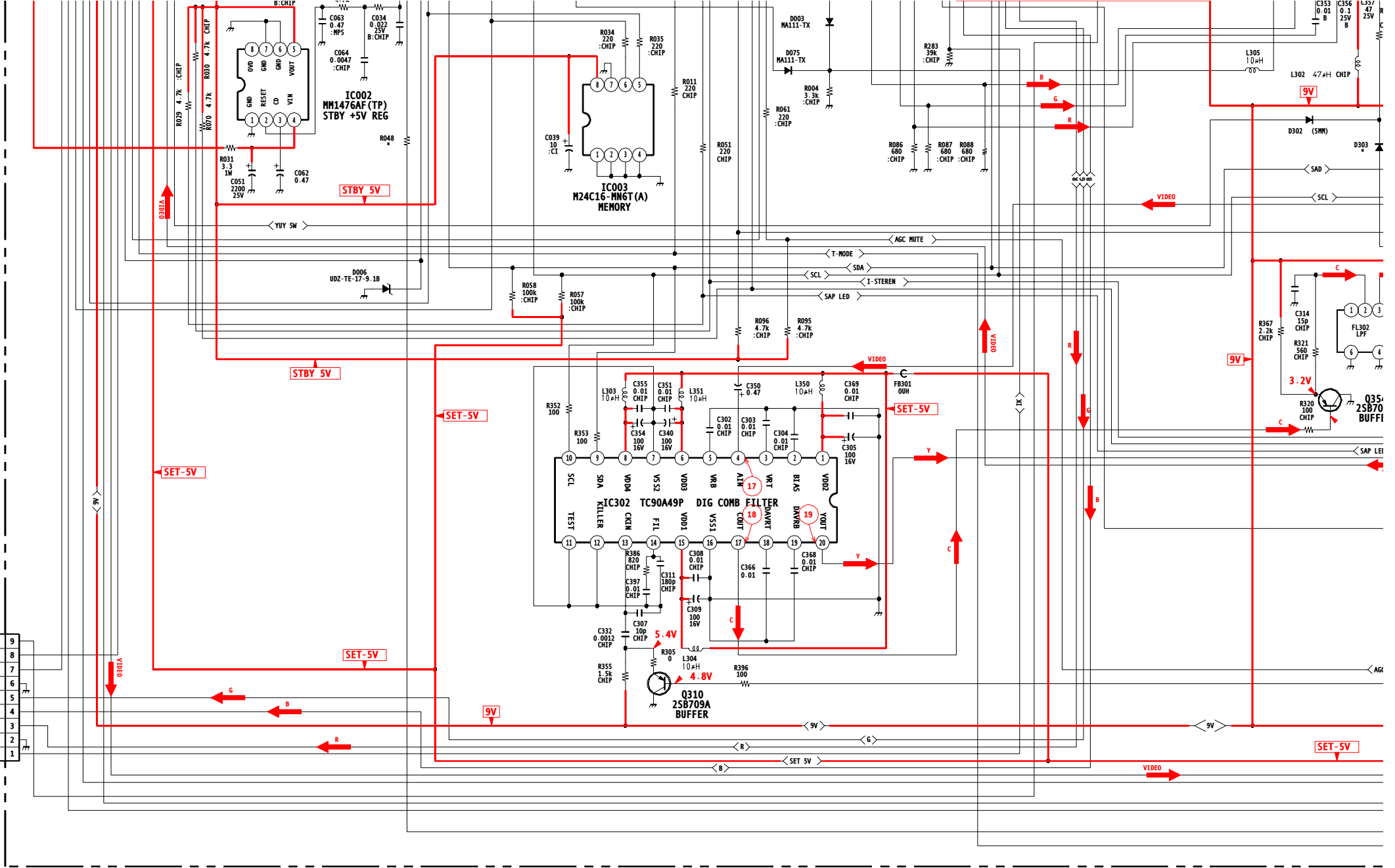
M

N

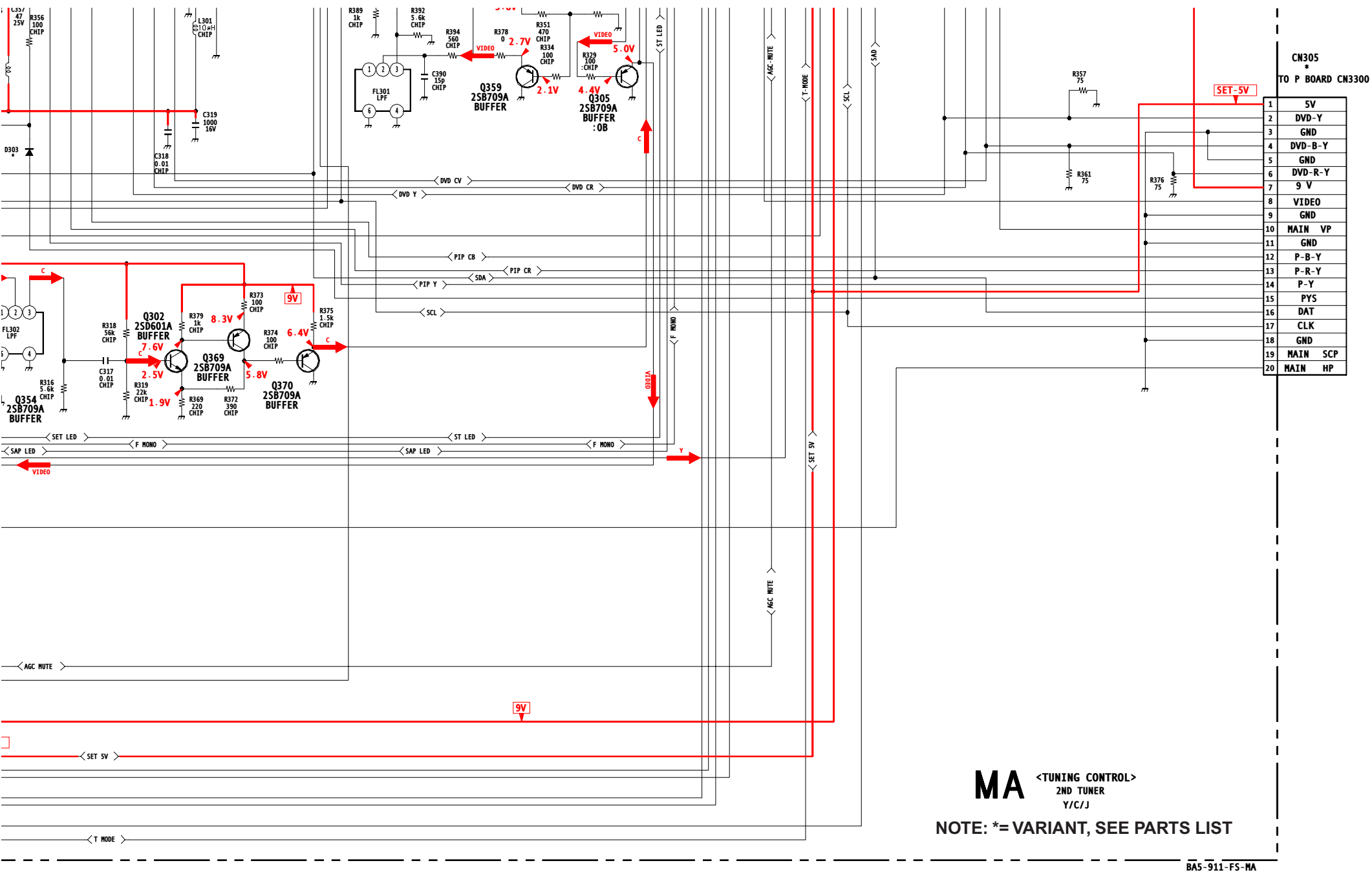
O

P

|             |   |       |
|-------------|---|-------|
| CN303       |   | 9P    |
| TO CA BOARD |   | CN705 |
| H-TRAP      | 9 |       |
| NS-MUTE     | 8 |       |
| N/S         | 7 |       |
| GND         | 6 |       |
| G           | 5 |       |
| B           | 4 |       |
| R           | 3 |       |
| GND         | 2 |       |
| I-K         | 1 |       |





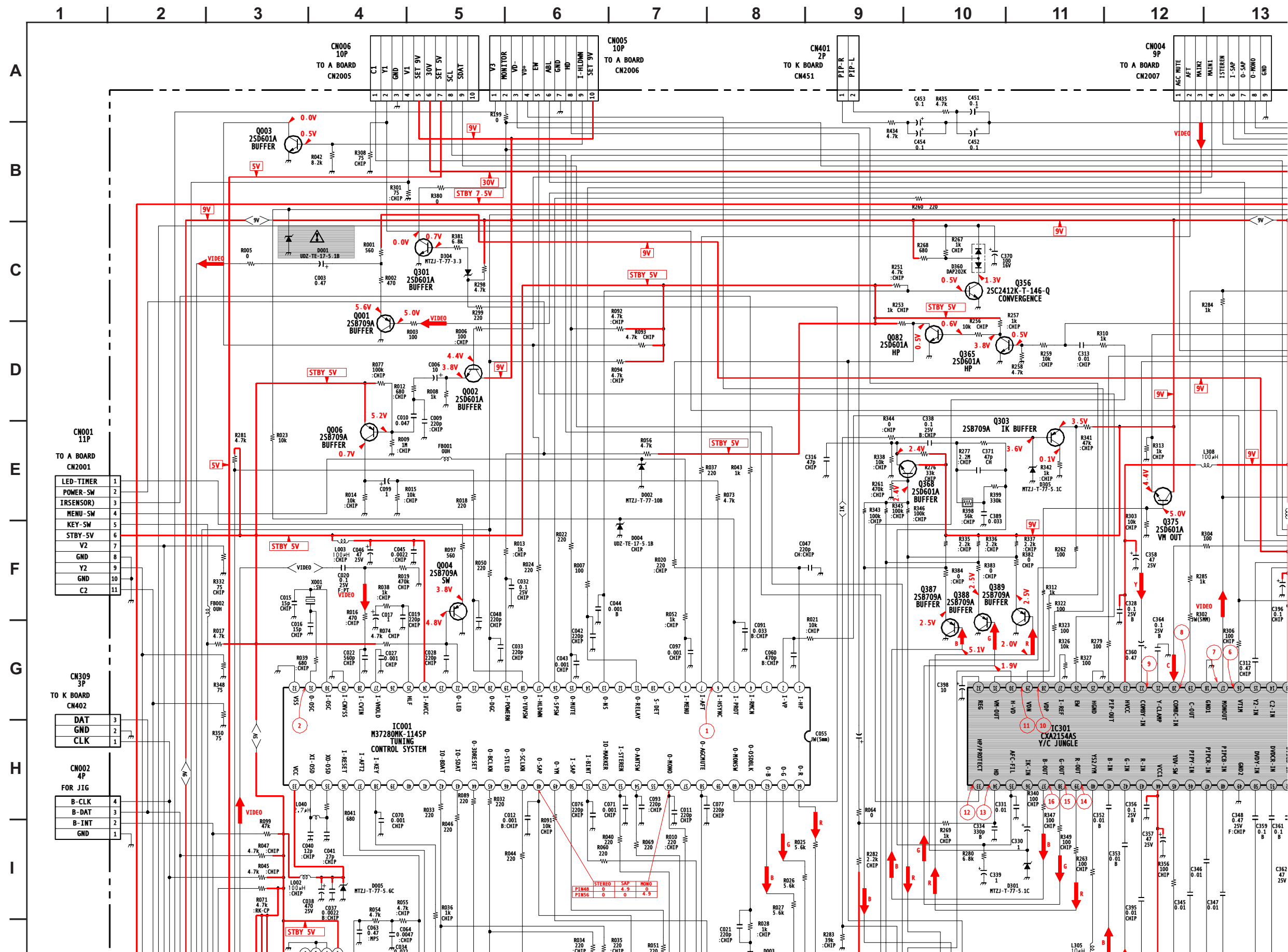


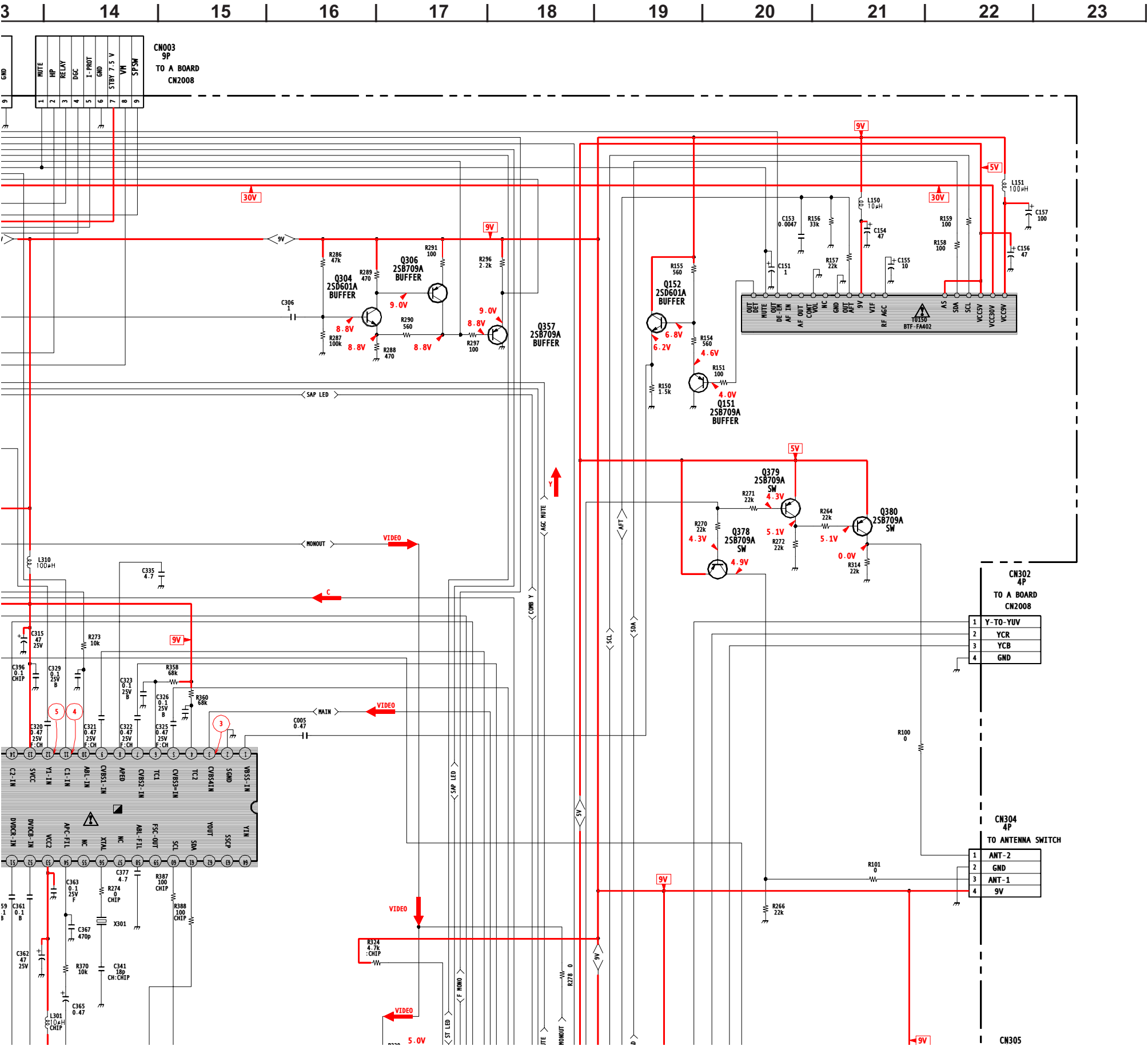
MA <TUNING CONTROL>  
2ND TUNER  
Y/C/J

NOTE: \*= VARIANT, SEE PARTS LIST

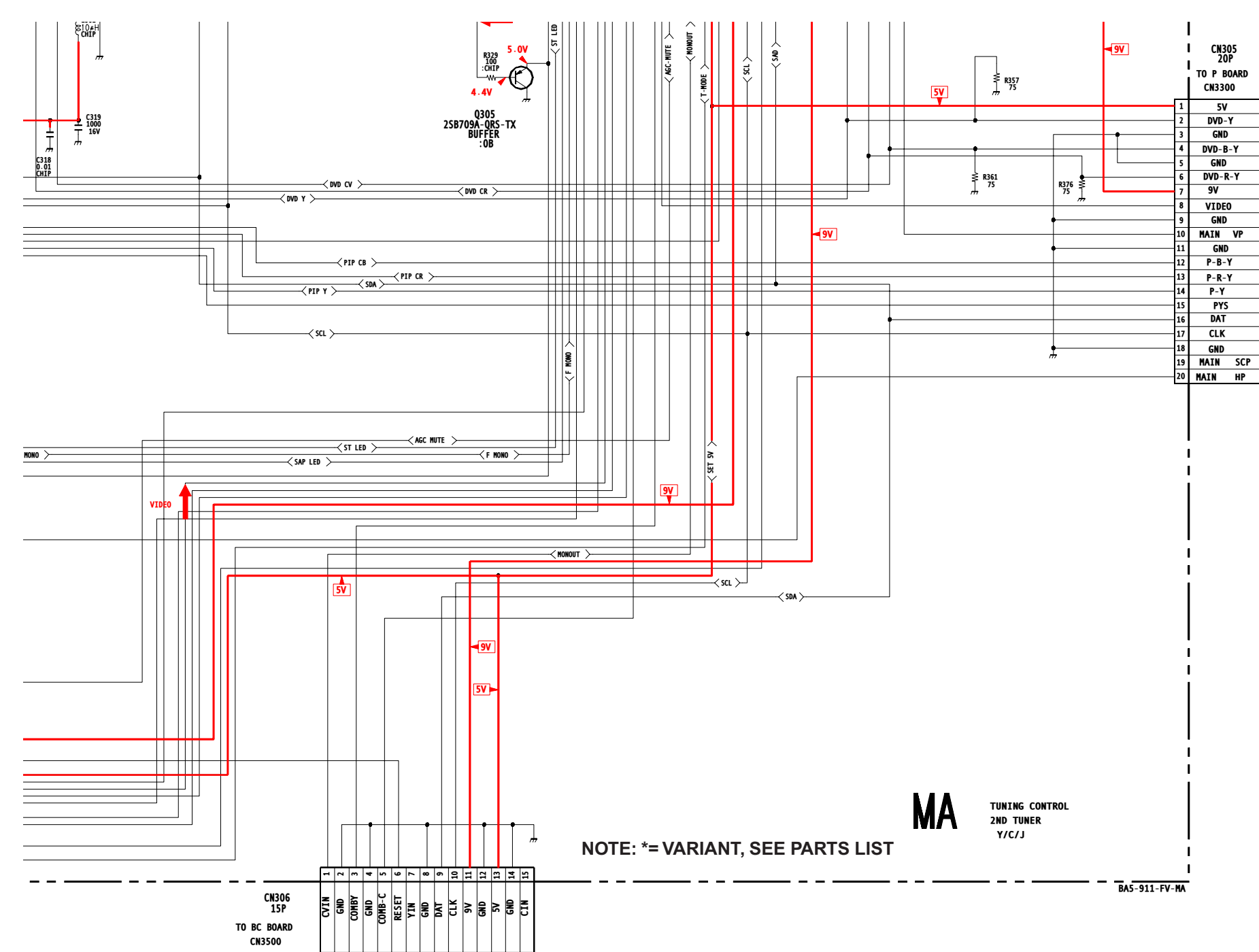
BA5-911-FS-MA

MA BOARD SCHEMATIC DIAGRAM (KV-27FV17/29FV17/29FV17C ONLY)









**SONY®**

4-081-737-21



FD Trinitron  
**WEGA**

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***Trinitron® Color TV***

Operating Instructions

*KV-27FS13*

*KV-27FS17*

*KV-27FV17*

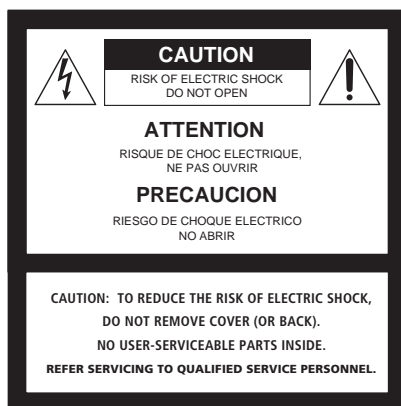
*KV-32FS13*

*KV-32FS17*



# WARNING

To reduce the risk of fire or electric shock, do not expose the TV to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## Note to the CATV Installer

This reminder is provided to call the CATV system installer’s attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

## SAFETY PRECAUTIONS

- ☐ Operate the TV only on 120 V AC.
- ☐ One blade of the power plug is wider than the other for safety purposes and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- ☐ If any liquid or solid object falls into the TV, unplug it and have it checked by qualified personnel before operating it further.

## CAUTION

When using TV games, computers, and similar products with your TV, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern is left on the screen for long periods of time at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. Continuously watching the same channel can cause the imprint of station logos onto the TV screen. These types of imprints are not covered by your warranty because they are the results of misuse.



**To reduce the risk of electric shock, do not use this polarized plug with an extension cord, receptacle, or other outlet unless the blades can be fully inserted to prevent blade exposure.**



You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

## NOTIFICATION

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ☐ Reorient or relocate the receiving antennas.
- ☐ Increase the separation between the equipment and receiver.
- ☐ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ☐ Consult the dealer or an experienced radio/TV technician for help.

## Protecting the TV

- ☐ To prevent internal heat build-up, do not block the ventilation openings.
- ☐ Do not install the TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.

## Note on Caption Vision

This television receiver provides display of television closed captioning in accordance with § 15.119 of the FCC rules.

Use of this television for other than private viewing of programs broadcast on UHF or VHF or transmitted by cable companies for the use of the general public may require authorization from the broadcaster-cable company and/or program owner.

## Owner's Record

The model and serial numbers are located on the front cover of this manual and the rear of your TV.

## Trademarks and Copyrights

ENERGY STAR® is a registered mark.



As an ENERGY STAR® Partner, Sony has determined that this product or product models meet the ENERGY STAR® guidelines for energy efficiency.

Licensed by BBE Sound, Inc. under USP 4638258.4482866. BBE and BBE symbol are trademarks of BBE Sound, Inc.

**(●)® SRS (SOUND RETRIEVAL SYSTEM) (KV-27FV17 only)**

The (●) SRS (SOUND RETRIEVAL SYSTEM) is manufactured by Sony Corporation under license from SRS Labs, Inc. It is covered by U.S. Patent No. 4,748,669. Other U.S. and foreign patents pending.

The word 'SRS' and the SRS symbol (●) are registered trademark of SRS Labs, Inc.

# Important Safeguards

For your protection, please read these instructions completely, and keep this manual for future reference. Carefully observe and comply with all warnings, cautions and instructions placed on the set, or described in the operating instructions or service manual.

## WARNING

To guard against injury, the following basic safety precautions should be observed in the installation, use, and servicing of the set.

## Use

### Power Sources

This set should be operated only from the type of power source indicated on the serial/model plate. If you are not sure of the type of electrical power supplied to your home, consult your dealer or local power company. For those sets designed to operate from battery power, refer to the operating instructions.



### Grounding or Polarization

This set is equipped with a polarized AC power cord plug (a plug having one blade wider than the other), or with a three-wire grounding type plug (a plug having a third pin for grounding).

Follow the instructions below:

### For the set with a polarized AC power cord plug

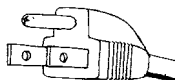
This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the polarized plug by forcing it in.



### Alternate Warning

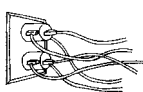
#### For the set with a three-wire grounding type AC plug

This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the grounding plug.



## Overloading

Do not overload wall outlets, extension cords or convenience receptacles beyond their capacity, since this can result in fire or electric shock. Always turn the set off when it is not to be used. When the set is left unattended and unused for long periods of time, unplug it from the wall outlet as a precaution against the possibility of an internal malfunction that could create a fire hazard.



Do not disconnect the antenna or the power cord during a heavy storm. Lightning may strike while you are holding the cable or cord, causing serious injury. Turn off your TV and wait for the weather to improve.

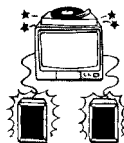
## Object and Liquid Entry

Never push objects of any kind into the set through the cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the set.



## Attachments

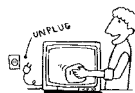
Do not use attachments not recommended by the manufacturer, as they may cause hazards.



Do not place any objects, especially heavy objects, on top of the set. The object may fall from the set, causing injury.

## Cleaning

Unplug the set from the wall outlet before cleaning or polishing it. Do not use liquid cleaners or aerosol cleaners. Use a cloth lightly dampened with water for cleaning the exterior of the set.



If a snapping or popping sound from a TV set is continuous or frequent while the TV is operating, unplug the TV and consult your dealer or service technician. It is normal for some TV sets to make occasional snapping or popping sounds, particularly when being turned on or off.



## Installation

Always use two or more people to lift or move the set. The set is heavy and the bottom surface is flat. Serious injury can result from trying to move the set by yourself alone, or from unsteady handling. Install the set on a stable, level surface.

## Water and Moisture

Do not use power-line operated sets near water — for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.



## Accessories

Do not place the set on an unstable cart, stand, tripod, bracket, table, or shelf. The set may fall, causing serious injury to a child or an adult, and serious damage to the set. Use only a cart or stand recommended by the manufacturer for the specific model of TV. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

Disconnect all cables and cords from the set before attempting to move the set.



Do not allow children or pets to climb up onto, or push against, the set. The set may fall, causing serious injury.

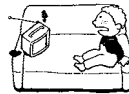
## Ventilation

The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of the set, and to protect it from overheating, these slots and openings must never be blocked or covered.

- **Never cover the slots and openings with a cloth or other materials.**



- **Never block the slots and openings by placing the set on a bed, sofa, rug or other similar surface.**



- **Never place the set in a confined space, such as a bookcase, or built-in cabinet, unless proper ventilation is provided.**



- **Do not place the set near or over a radiator or heat register, or where it is exposed to direct sunlight.**



## Power-Cord Protection

Do not allow anything to rest on or roll over the power cord, and do not place the set where the power cord is subject to wear or abuse.



## Grounding or Polarization

This set may be equipped with a polarized alternating current line plug (a plug having one blade wider than other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact you electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

## Antennas

### Outdoor Antenna Grounding

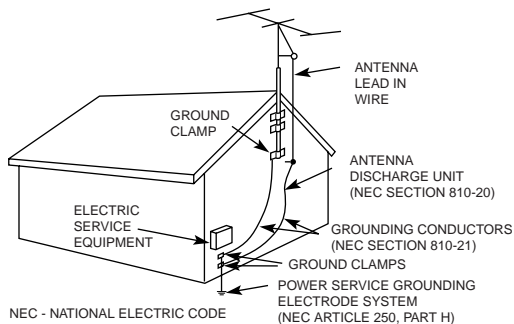
If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits.

WHEN INSTALLING AN OUTDOOR ANTENNA SYSTEM, EXTREME CARE SHOULD BE TAKEN TO KEEP FROM CONTACTING SUCH POWER LINES OR CIRCUITS AS CONTACT WITH THEM IS ALMOST INVARIABLY FATAL.

Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code (NEC) in USA and Section 54 of the Canadian Electrical Code in Canada provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

### Antenna Grounding According to the NEC

Refer to section 54-300 of Canadian Electrical Code for Antenna Grounding.



## Lightning

For added protection for this television receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power-line surges.

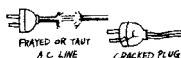


## Service

### Damage Requiring Service

Unplug the set from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power cord or plug is damaged or frayed.



- If liquid has been spilled into the set.



- If the set has been exposed to rain or water.



- If the set has been subject to excessive shock by being dropped, or the cabinet has been damaged.



- If the set does not operate normally when following the operating instructions. Adjust only those controls that are specified in the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the set to normal operation.



- When the set exhibits a distinct change in performance — this indicates a need for service.

### Servicing

Do not attempt to service the set yourself since opening the cabinet may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.



### Replacement Parts

When replacement parts are required, be sure the service technician certifies in writing that he has used replacement parts specified by the manufacturer that have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards.



### Safety Check

Upon completion of any service or repairs to the set, ask the service technician to perform routine safety checks (as specified by the manufacturer) to determine that the set is in safe operating condition, and to so certify. When the set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the set.



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|--------------------|----|



# Introduction

Congratulations on your purchase of the Sony Trinitron® Color TV. Before you begin using this manual, please check the model number located on the rear of your TV or on the front cover of this manual.

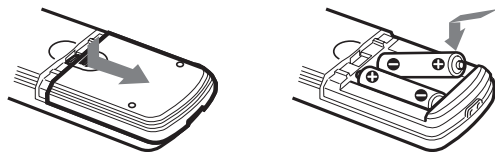
## Trinitron® Color TV Features


Some of the features you will enjoy include:


- ❑ **FLAT CRT** — New technologically advanced screen for optimal picture quality.
- ❑ **Parental Control** — A tool for parents to help monitor what their children watch on TV by establishing rating limits.
- ❑ **Favorite Channel** — Instant access to your favorite channels with the touch of a button.
- ❑ **Picture in Picture (PIP)** — Allows you to view two channels simultaneously (KV-27FV17, KV-27FS17, KV-32FS17 only).
- ❑ **Universal Remote Control** — Program your remote control to operate your connected cable box, VCR, digital satellite receiver, or DVD player.
- ❑ **Energy Star®** — A recognized symbol of energy efficiency.
- ❑ **S VIDEO** — A video input that offers enhanced picture quality.
- ❑ **Direct MTS** — Allows direct access to changing your Multi-Channel TV Sound: Stereo, Mono, or Auto-SAP (Second Audio Program), with the touch of a button.
- ❑ **Trilingual Menus** — Choose between English, French, or Spanish menus.
- ❑ **Front Panel Controls** — Allows for access to the on-screen menus without the use of a remote control.
- ❑ **Front A/V inputs** — A quick connection for video games, camcorders, or stereo/mono equipment.


## Batteries for the Remote Control

Insert two AA (R6) batteries (supplied) into the remote control using the following illustration as a guide.




 Under normal conditions, batteries will last up to six months. If the remote control does not operate properly, the batteries might be worn out.

 If you will not be using the remote control for an extended period of time, remove the batteries to avoid possible damage from battery leakage.

 Your remote control can be programmed to operate most video equipment, (see page 37).

## About this Manual

This manual provides instructions to help you enjoy your new TV. It shows you how to connect to an antenna or cable, cable box, VCR, DVD, satellite receiver, stereo system or camcorder. Once you are connected, follow the instructions and use the remote control to access the on-screen menus.

 The TV front and rear panels illustrated in this manual are for KV-27FS13, KV-27FS17, KV-32FS13, and KV-32FS17. The rear panel shown on page 13 is for KV-27FV17. Your front and rear panels may not look exactly like those illustrated.

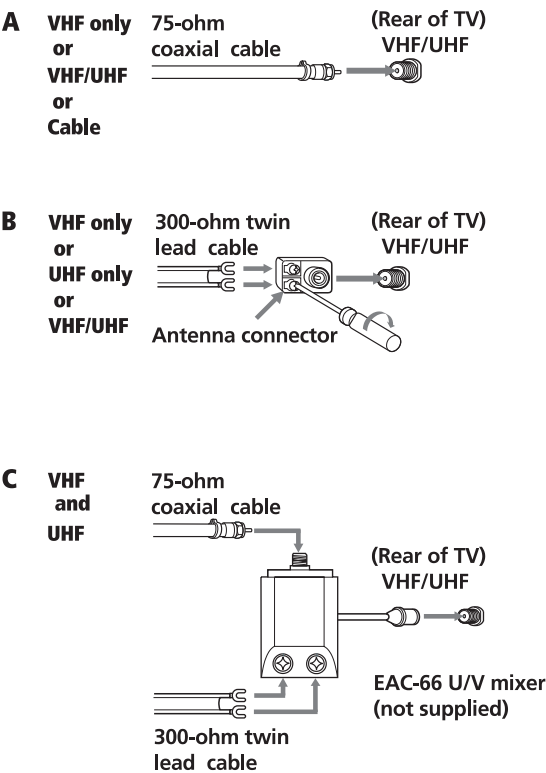
# Connecting Your TV


Read this chapter before setting up your TV for the first time. This section covers basic connections in addition to any optional equipment you may be connecting.

## Basic Connections

### TV with indoor or outdoor antenna, or CATV cable

Depending on the cable available in your home, choose one of the connections below:



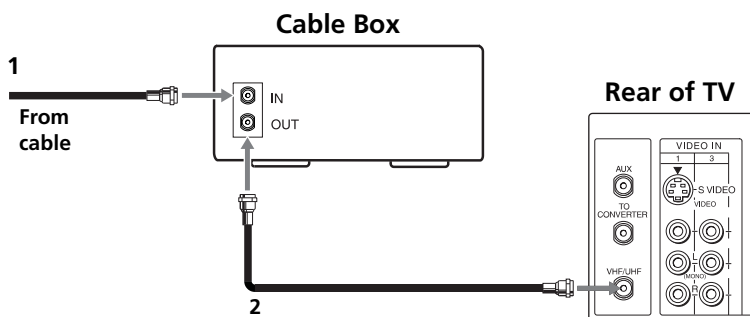
 If you are connecting to an indoor or outdoor antenna, you may need to adjust the orientation of the antenna for best reception.



## Cable Box Connections

Some cable TV systems use scrambled or encoded signals that require a cable box to view all channels. If you subscribe to that kind of cable service, use this connection. Scrambled signals coming in to the TV through the cable box cannot be viewed in PIP. If some of your channels are scrambled, consider using the Cable Box and Cable connection (see page 5).

### Cable Box and TV



- 1** Connect the coaxial cable from your cable service to the IN jack on your cable box.
- 2** Connect a coaxial cable (not supplied) from the OUT jack on your cable box to the VHF/UHF jack on your TV.



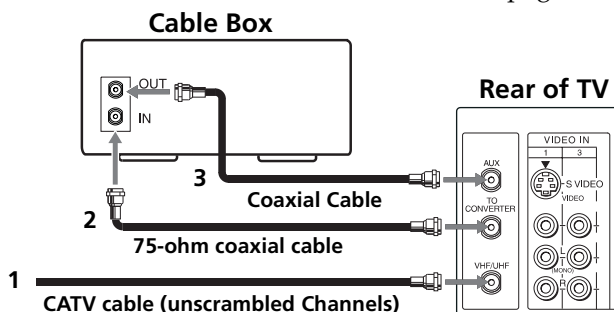
If you will be controlling all channel selection through your cable box, you should consider using the Channel Fix feature by setting your TV to channel 3 or 4, (see page 27).

## Cable Box and Cable

Use this connection if you subscribe to a cable system that scrambles some channels (pay channels), but not all of them. This set up allows you to use the remote control to:

- a) change channels through your cable box when you are receiving a scrambled signal, and
- b) change channels through your TV.

This connection also allows you to use the PIP feature when you are viewing unscrambled channels coming directly into your TV from your cable. Scrambled signals coming through the cable box cannot be viewed in PIP. For more information on the PIP feature, see page 18.



- 1** Connect the coaxial cable from your cable service to the VHF/UHF jack on your TV.
- 2** Using a coaxial cable (not supplied), connect the IN jack on your cable box to the TO CONVERTER jack on your TV.
- 3** Using a coaxial cable (not supplied), connect the OUT jack on your cable box to the AUX jack on your TV.

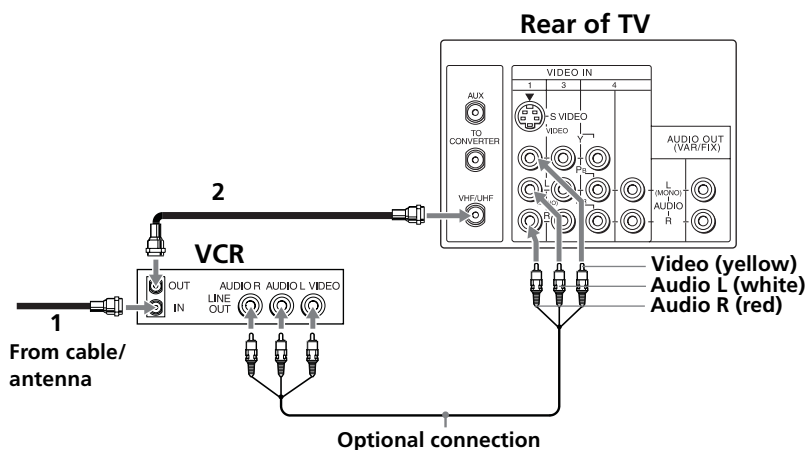
Pressing the button on the remote control switches between the cable box and direct cable inputs.

Your Sony remote control can be programmed to operate your cable box, (see page 38).

To use the cable box to change your channels, set your TV to channel 3 or 4. Setting the Channel Fix feature will assure you don't accidentally switch the channels using your TV, (see page 27).

# Connecting Additional Equipment

## TV and VCR



To watch video programs from your VCR, tune your TV to channel 3 or 4 (as set on the rear of your VCR).

- 1** Connect the coaxial cable from your TV antenna or cable service to the IN jack on your VCR.
- 2** Using a coaxial cable (not supplied), connect the OUT jack on your VCR to the VHF/UHF jack on the TV.

### Optional connection

If your VCR is equipped with video outputs, you can get better picture quality by connecting Audio/Video cables (not supplied) from AUDIO and VIDEO OUT on your VCR to AUDIO/VIDEO IN on your TV.

For optimum picture quality, use S VIDEO instead of the yellow Audio/ Video cable. S VIDEO does not provide sound; the audio cables must still be connected.

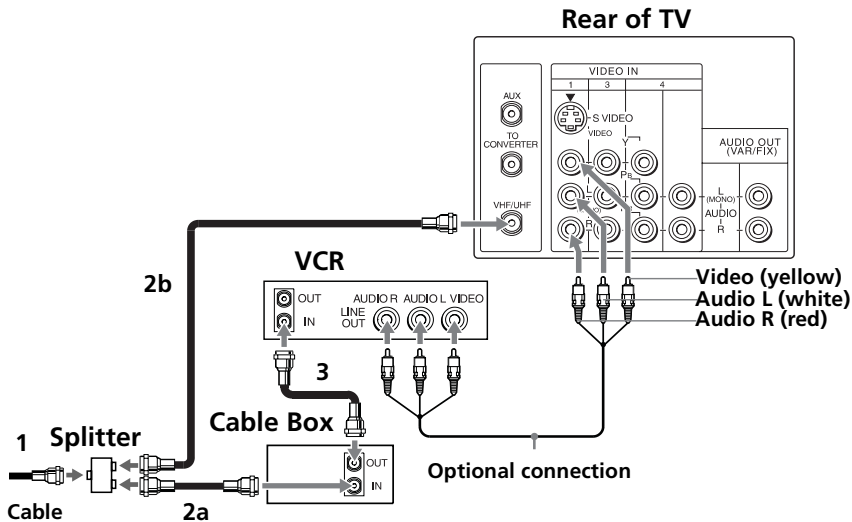
You can use the button to switch between the VHF/UHF and VIDEO inputs.

## TV, VCR, and Cable Box

Use this connection if you subscribe to a cable system that scrambles some channels (pay channels), but not all of them. This set up allows you to use the remote control to:


- a) change channels through your cable box or VCR when you are receiving a scrambled signal, and
- b) change channels through your TV.

This connection also allows you to use the PIP feature when you are viewing unscrambled channels coming directly into your TV from your cable. Scrambled signals coming through the cable box cannot be viewed in PIP. For more information on the PIP feature, see page 18.






- 1** Connect the single input jack of the splitter to your incoming cable connection.
- 2** Using a coaxial cable (not supplied), connect the two output jacks of the splitter to:
  - a) the IN jack on your cable box, and
  - b) the VHF/UHF jack on the TV.
- 3** Using a coaxial cable (not supplied), connect the OUT jack on your cable box to the IN jack on your VCR.

(continued)

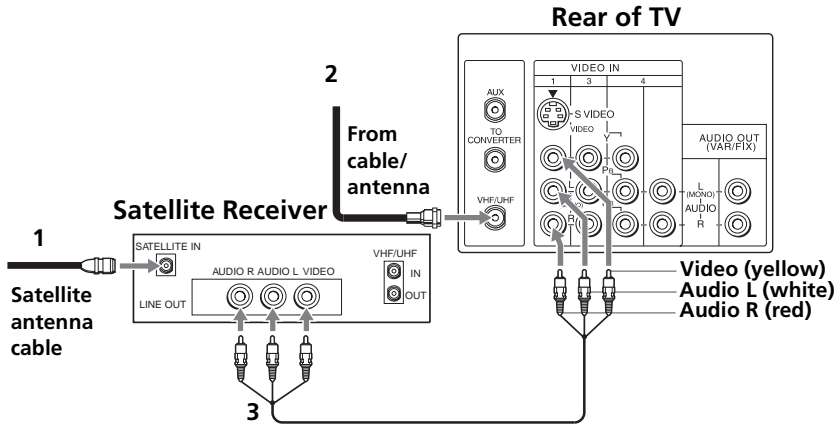
-  If you will be controlling all channel selections through your cable box, you should consider using the Channel Fix feature by setting your TV to channel 3 or 4, (see page 27).

### Optional connection


If your VCR is equipped with video outputs, you can get better picture quality by connecting Audio/Video cables (not supplied) from AUDIO and VIDEO OUT on your VCR to AUDIO/VIDEO IN on your TV.



-  For optimum picture quality, use S VIDEO instead of the yellow Audio/ Video cable. S VIDEO does not provide sound; the audio cables must still be connected.
-  You can use the  button to switch between the VHF/UHF and VIDEO inputs.

## TV and Satellite Receiver



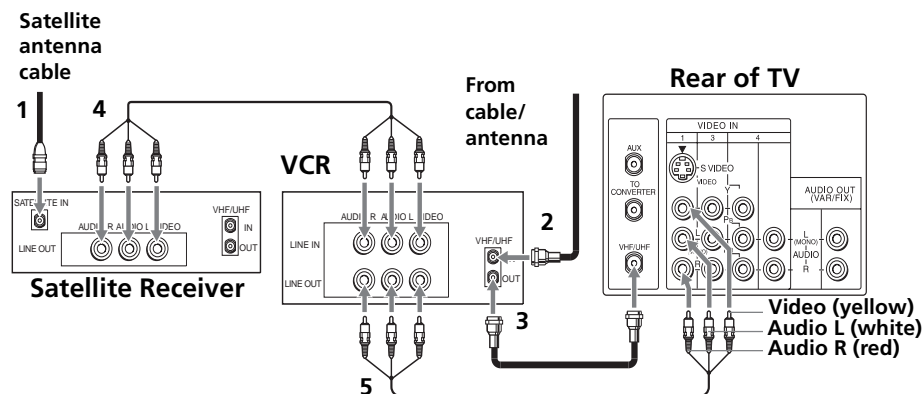
- 1** Connect the cable from your satellite antenna to SATELLITE IN on your satellite receiver.
- 2** Connect the coaxial cable from your cable or antenna to the VHF/UHF jack on your TV.
- 3** Using Audio/Video cables (not supplied), connect AUDIO and VIDEO OUT on your satellite receiver to AUDIO and VIDEO IN on your TV.

 For optimum picture quality, use S VIDEO instead of the yellow Audio/ Video cable. S VIDEO does not provide sound; the audio cables must still be connected.


 You can use the  button to switch between the VHF/UHF and satellite receiver inputs.



## TV, Satellite Receiver, and VCR

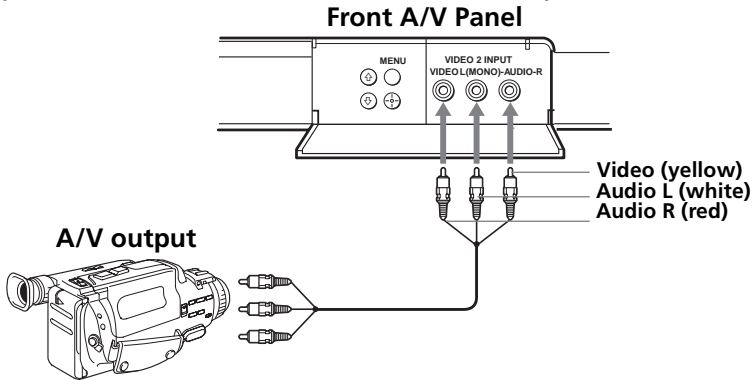



- 1** Connect the cable from your satellite antenna to SATELLITE IN on your satellite receiver.
- 2** Connect the coaxial cable from your cable or antenna to the IN jack on your VCR.
- 3** Using a coaxial cable (not supplied), connect the OUT jack on your VCR to the VHF/UHF jack on your TV.
- 4** Using Audio/Video cables (not supplied), connect AUDIO and VIDEO OUT on your satellite receiver to AUDIO and VIDEO IN on your VCR.
- 5** Using Audio/Video cables (not supplied), connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.

 To view from the satellite receiver or VCR, select the video input to which your satellite receiver or VCR is connected by pressing  $\text{TV/VIDEO}$  on the remote control.

## Connecting a Camcorder

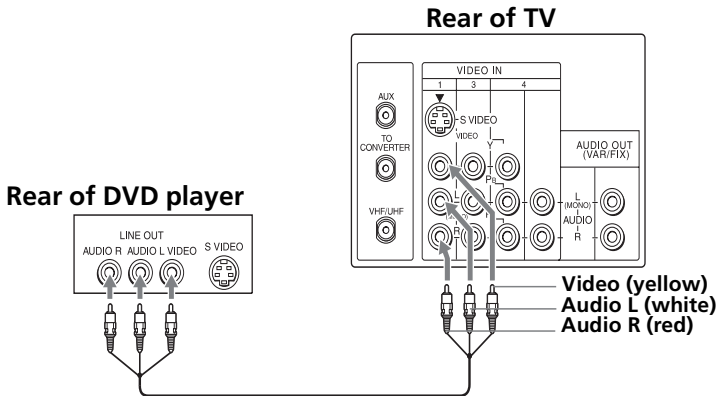
Using Audio/Video cables (not supplied), connect AUDIO and VIDEO OUT on your camcorder to AUDIO and VIDEO IN on your TV.




 If you have an S VIDEO equipped camcorder, you can use an S VIDEO cable for optimum picture quality.

## Connecting a DVD Player

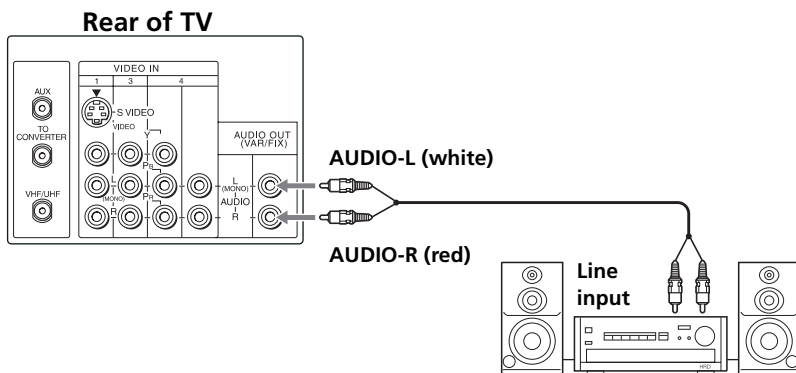
Using Audio/Video cables (not supplied), connect AUDIO and VIDEO OUT on your DVD player to AUDIO and VIDEO IN on your TV.




 For optimum picture quality, use S VIDEO instead of the yellow Audio/ Video cable. S VIDEO does not provide sound, the audio cables must still be connected.

## Connecting an Audio System

Using Audio cables (not supplied), connect AUDIO OUT on your TV to one of the unused line inputs (e.g. TV, AUX, TAPE2) on your stereo.

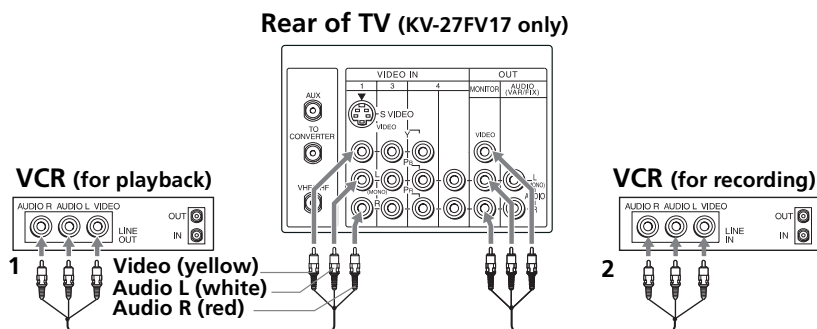


 Set your stereo to the selected line input. See page 24 for additional audio setup instructions.


## Connecting Two VCRs for Tape Editing

### KV-27FV17 only

You can connect two VCRs together to edit video tapes. You can also connect both VCRs to your TV to view the program being recorded.

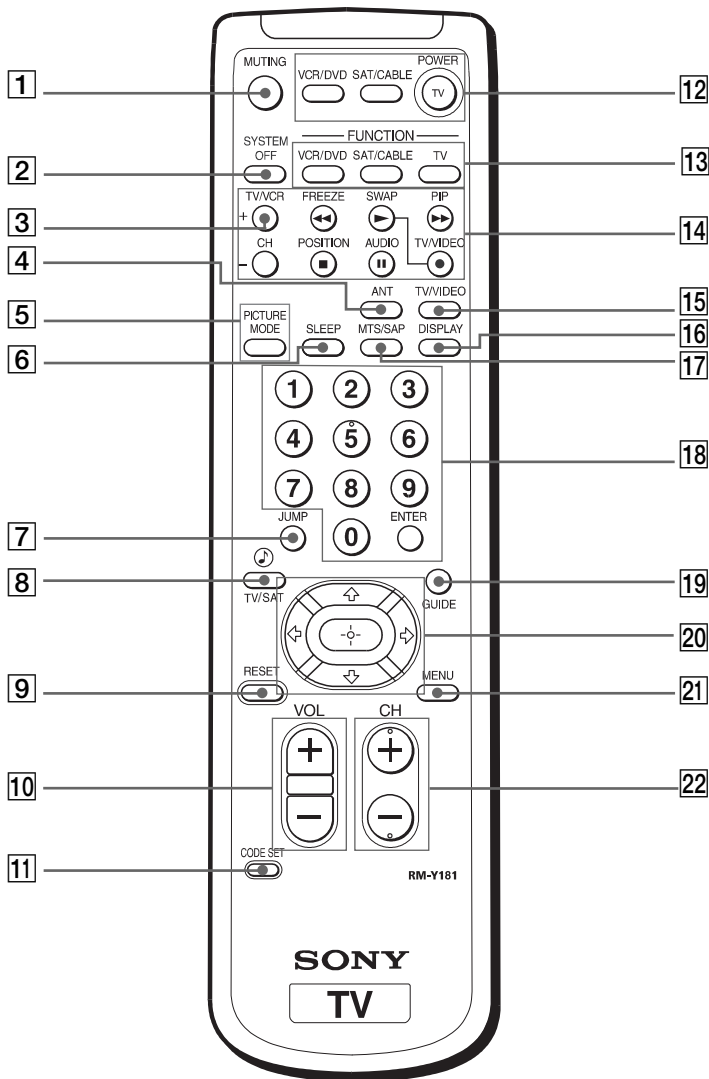


- 1** Using an Audio/Video cable (not supplied), connect AUDIO and VIDEO OUT on your first VCR to AUDIO and VIDEO IN on your TV.
- 2** Using Audio/Video cable (not supplied), connect AUDIO and VIDEO OUT on the second VCR to the MONITOR AUDIO and VIDEO OUT on your TV.





 To perform tape editing, set the TV to the video input intended for playback by pressing **TV/VIDEO**.

# Using the Remote Control and Basic Functions

This section shows you how to use the more advanced buttons on the remote control and how to use the on-screen menus.



## Using the Remote Control

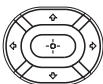
| Button   | Description   |
|--|---|
| <b>1 MUTING</b>  | Instantly turns off the sound. Press again or press  to restore sound.   |
| <b>2 SYSTEM OFF</b>  | Powers off all Sony equipment at once, (may not work with older equipment).   |
| <b>3 TV/VCR</b>  | Press when you are finished using a VCR and you want to switch to the TV input. Your VCR power will remain on.  |
| <b>4 ANT (antenna)</b>   | Press to change the VHF/UHF input to the AUX input (KV-27FS17, KV-27FV17, KV-32FS17 only).  |
| <b>5 PICTURE MODE</b>  | Cycles through the available Video Mode settings.   |
| <b>6 SLEEP</b>   | Turns the TV off automatically in approximately 15, 30, 45, 60, 90, or 120 minutes. Cancel by pressing until SLEEP OFF appears.   |
| <b>7 JUMP</b>  | Alternates between the last two channels selected with the  -  buttons. |
| <b>8</b>  | Cycles through available Steady Sound settings, (see page 24).  |
| <b>9 RESET</b>   | Press to return to factory settings while in an on-screen menu.   |
| <b>10 VOL (volume)</b>   | Press when you want to adjust the volume.   |
| <b>11 CODE SET</b>   | Use to program your remote control to operate connected video equipment, (see page 37).   |
| <b>12 POWER</b>  | Press when you want to turn connected equipment on and off.   |
| <b>13 FUNCTION</b>   | Press when you want to control connected equipment with your remote control.  |
| <b>14 Picture in Picture (PIP)</b>   | Operates PIP feature. To use the PIP feature, see page 18.  |
| <b>15 TV/VIDEO</b>   | Cycles through available video inputs.  |
| <b>16 DISPLAY</b>  | Press once to show current time, (if set) and channel number. Press again to turn DISPLAY off.  |





The remote control shown on page 14 (RM-Y181) is for KV-27FS17, KV-27FV17, and KV-32FS17. Your remote control may not look like the one illustrated.

(continued)



|           |   |   |
|-----------|---|---|
| <b>17</b> | <b>MTS/SAP</b>  | Cycles through the Multi-channel TV Sound (MTS) options: Stereo, Mono, and Auto-SAP (Second Audio Programming).                             |
| <b>18</b> | <b>0-9 and ENTER</b>  | Change channels directly, and enter numerical values in on-screen displays.   |
| <b>19</b> | <b>GUIDE</b>  | Brings up the custom guide of your satellite receiver.  |
| <b>20</b> |  | Moves the cursor in the on-screen menus. Press the arrow buttons to move the cursor. Press the center button to select or access an option. |
| <b>21</b> | <b>MENU</b>   | Displays the on-screen menu. Press again to exit the menu at any time.  |
| <b>22</b> | <b>CH (channel)</b>   | Press when you want to change channels.   |

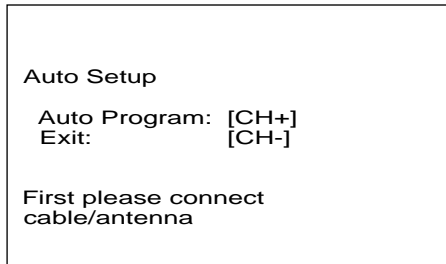
 For information on Picture in Picture (PIP) operation buttons, see page 18.



 If you lose your remote control, see page 43.


## Setting Up the TV Automatically

After you have finished connecting your TV, you can perform Auto Program to set up your channels.











- 1 Press  to turn on the TV. The Initial Setup screen appears.





- 2 Press the TV FUNCTION button.
- 3 Press  on the remote control or in the TV front panel to perform Auto Program, or press  to exit.

 The Initial Setup screen appears each time you turn on the TV until you perform Auto Program.

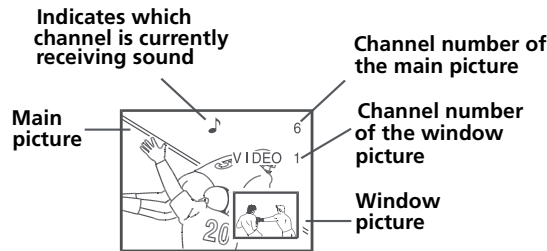
### To perform Auto Program again

- 1 Press .
- 2 Press  to highlight Channel Setup menu (  ).
- 3 Press  to highlight Cable. Press  to select.
- 4 Press  or  to select ON or OFF according to how you connected your TV. Press .
- 5 Press  to highlight Auto Program. Press  to search for channels.

 After performing Auto Program, press  to exit.

# Using Picture in Picture (PIP)

The Picture-in-Picture (PIP) feature allows you to view two channels simultaneously, one in the full size “main” picture and one in a small “window” picture.



## Dual Tuner PIP

KV-27FS17, KV-27FV17, KV-32FS17 only


These models are equipped with dual tuners. This means that PIP is “ready to use.”

|  |  |
|--|--|
|  | Press to turn the PIP feature on and off. Press repeatedly to change the size of the window picture and to turn off the PIP feature.   |
|  | Press repeatedly to cycle through available video inputs on the video equipment you have connected to the TV.  |
|  | Press to alternate sound between the main picture and the window picture. The sound symbol  appears for 3 seconds, indicating whether you are hearing the sound from the main or picture window. |
|  | Press to change the channel in the window picture. To change the channel in the main window, use the main CH+/- buttons at the bottom of the remote control.                                     |
|  | Press to move the location of the window picture among the four corners of the screen.   |
|  | Press to freeze the window picture. Press again to restore the picture.  |
|  | Press to switch the main picture with the window picture. Press again to switch them back.   |



The AUX input cannot be viewed in the window picture.

For more information about your remote control, see page14.

## To use PIP

- 1** Press the TV FUNCTION button on your remote to view a working channel.
- 2** Press the  button and the window picture appears.
- 3** Use the yellow labeled buttons on your remote control to control the PIP features. See page 18 for descriptions on the PIP control buttons.

## To check your PIP

- 1** Press the TV FUNCTION button on your remote to view a working channel.
- 2** Press the  button and select that same channel again. You should now have the same program playing in both your main window and your picture window.
- 3** Use the yellow CH+/- to change the channel in the picture window.
- 4** Now use the main CH+/- on the bottom of your remote control to change the channel in the main window.
- 5** Press the  button to switch to other video inputs for other equipment that is connected to any of the VIDEO IN jacks at the back of your TV. You should see a different picture in your PIP window for each connected video equipment component. Make sure the connected equipment is turned on and working when you perform this test.
- 6** If the PIP feature does not work properly with the TV or the connected video equipment component, refer to the Troubleshooting section on pages 41-42 for possible solutions.



Any video equipment you have connected to the AUX input cannot be viewed in the PIP window.




If you're viewing all channels through a cable box, the PIP feature will not work. The cable box only unscrambles one signal at a time, so the window picture will be the same as the main picture. However, you can watch a cable channel and another video source. Make sure your DVD, VCR, or satellite receiver is connected to the VIDEO IN jacks on the back of the TV, not the AUX input.

# Quick Start to the Menus

The following settings are available in your on-screen menus:

| Menu   | Allows you to                              |
|--|--|
| <div><div>VideoAudioChannelParentTimerSetupBasic</div><div><div>Mode: Vivid</div><div>Picture</div><div>Brightness</div><div>Color</div><div>Hue</div><div>Sharpness</div><div>Color Temp: Cool</div><div>VM: High</div></div><div>Move [Left][Right][Up][Down] Select [Enter] End [Exit]</div></div>                  | Make adjustments to your picture settings. |
| <div><div>VideoAudioChannelParentTimerSetupBasic</div><div><div>Treble</div><div>Bass</div><div>Balance</div><div>Steady Sound: OFF</div><div>Effect: OFF</div><div>MTS: Stereo</div><div>Speaker: ON</div><div>Audio Out: Variable</div></div><div>Move [Left][Right][Up][Down] Select [Enter] End [Exit]</div></div> | Change your audio settings.                |
| <div><div>VideoAudioChannelParentTimerSetupBasic</div><div><div>Favorite Channel</div><div>Cable: ON</div><div>Channel Fix: OFF</div><div>Auto Program</div><div>Channel Skip/Add</div><div>Channel Label</div></div><div>Move [Left][Right][Up][Down] Select [Enter] End [Exit]</div></div>                           | Customize your channel settings.           |

 The menus illustrated in this manuals are for KV-27FV17. Your menus may not look like those illustrated.

## Menu

## Allows you to



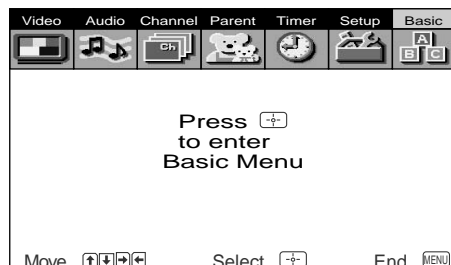
Set rating limits on your TV based on a program's rating or content.



Set the clock on your TV and program scheduled viewing using Timer 1 and Timer 2.



Program your channels, label video inputs, select menu languages, or run a demo of the menus.












Set basic settings for your TV.

# Using the Menus

This section shows the options available for setting up and adjusting your TV.

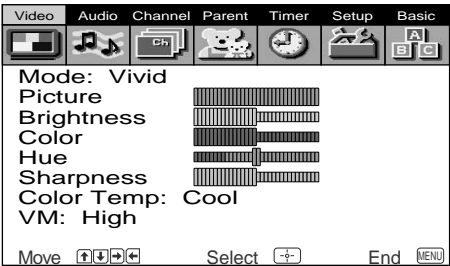
## To access a menu

- 1** Press  to display the on-screen menu.
- 2** Use  or  to highlight the desired menu, then press .
- 3** Use the  or  buttons to highlight the desired option, then press .
- 4** Press  to complete the adjustment.
- 5** Press  to exit the menu.













# Using the Video Menu

To access the Video menu, refer to the following steps:



|  |  |
|--|--|
| <b>Mode</b><br><i>Customized picture viewing</i> | <b>Vivid:</b> Select for enhanced picture contrast and sharpness.<br><b>Standard:</b> Select for a standard picture.<br><b>Sports:</b> Select for a bright picture.<br><b>Movie:</b> Select for a finely detailed picture. |
|--|--|

 Press  for direct Mode settings (Vivid, Standard, Sports, Movie).



|  |  |
|--|--|
| <b>Picture</b><br><i>Picture contrast</i>              | Press  to decrease picture contrast.<br>Press  to increase picture contrast.     |
| <b>Brightness</b><br><i>Picture adjustment</i>         | Press  to darken the picture.<br>Press  to brighten the picture.               |
| <b>Color</b><br><i>Color saturation</i>                | Press  to decrease color saturation.<br>Press  to increase color saturation. |
| <b>Hue</b><br><i>Color tones</i>                       | Press  to increase the red tones.<br>Press  to increase the green tones.     |
| <b>Sharpness</b><br><i>Picture detail</i>              | Press  to soften the picture.<br>Press  to sharpen the picture.              |
| <b>Color Temp</b><br><i>White intensity adjustment</i> | <b>Cool:</b> Gives the white colors a blue tint.<br><b>Neutral:</b> Gives the white colors a neutral tint.<br><b>Warm:</b> Gives the white colors a red tint.  |
| <b>VM</b><br><i>Velocity Modulation</i>                | Sharpens picture definition to give objects a sharp, clean edge. Select from one of the following options: <b>High</b> , <b>Low</b> , <b>OFF</b> .   |

# Using the Audio Menu

To access the Audio menu, refer to the following steps:



|   |   |
|---|---|
| <b>Treble</b>                                   | Press ⇐ to decrease the higher pitched sound.<br>Press ⇒ to increase the higher pitched sound.  |
| <b>Bass</b>                                     | Press ⇐ to decrease the lower pitched sound.<br>Press ⇒ to increase the lower pitched sound.  |
| <b>Balance</b>                                  | Press ⇐ to emphasize the left speaker sound.<br>Press ⇒ to emphasize the right speaker sound.   |
| <b>Steady Sound</b><br><i>Stabilizes volume</i> | KV-27FV17 only<br>Press ⬆ or ⬇ to select one of the following options:<br><b>ON:</b> Select to stabilize the volume when changing channels.<br><b>OFF:</b> Select to turn Steady Sound off. |


 Press  for a direct selection of Steady Sound settings.

|               |   |
|---------------|---|
| <b>Effect</b> | Press ⬆ or ⬇ to select one of the following options:<br><b>OFF:</b> Normal stereo or mono reception.<br><b>SRS:</b> Produces a dynamic three-dimensional sound for stereo audio signals (KV-27FV17 only).<br><b>Simulated:</b> Add a surround-like effect to mono programs (KV-27FV17 only).<br><b>Surround:</b> Simulates theater quality sound for stereo programs (KV-27FS13, KV-27FS17, KV-32FS13, KV-32FS17 only). |
|---------------|---|

**MTS***Multi-Channel  
sound***Stereo:** Select when viewing a broadcast in stereo.**Mono:** Select to reduce noise in areas of poor reception.**Auto-SAP:** Select to have the TV automatically switch to a Second Audio Program (SAP) when a signal is received.

If your TV is set to Auto-SAP, some programs may be muted or distorted. If your TV does not output sound, change your Audio settings to Stereo or Mono.



Press  for direct MTS settings (Stereo, Mono, Auto-SAP).

**Speaker***Custom selection  
of audio output  
source***ON:** Select to listen to the sound from the TV speakers with or without a separate stereo system.**OFF:** Select to turn off the TV speakers and listen to the TV's sound only through external audio system speakers.**Audio Out***Use to control the  
TV's volume  
through a stereo*

Use Audio Out only when you have an external audio system connected to your TV.

**Variable:** Adjust the volume through your TV.**Fixed:** Adjust the TV volume through a connected stereo.

Audio Out can only be set when Speaker is set to OFF.

## Using the Channel Setup Menu













To access the Channel Setup menu, refer to the following steps:









### Favorite Channel

*Quick access to favorite channels*

With the Favorite Channel menu open:

- 1 Press  to select.
- 2 Use the  or  buttons to select Auto or Manual. When Auto is selected, the last seven channels accessed by the - buttons will appear.
- 3 When in Manual, press  then  to select the position (1-7) where you want to set a favorite channel. Then press .
- 4 Using the  or  buttons, select the desired channel.
- 5 Press  to change to the channel entered. Press  to exit.


 To use Favorite Channel: Exit all menus and press . Press  or  to move the cursor to the desired channel number and press .

 After you close the menu, the PIP window picture appears so you can preview the favorite channel (KV-27FS17, KV-27FV17, KV-32FS17 only).

### Cable

**ON:** Select if you are receiving cable channels with a CATV cable.

**OFF:** Select if you are using a TV antenna.

 After changing your cable settings, you will need to perform Auto Program.

|  |   |
|--|---|
| <b>Channel Fix</b>   | <p><b>2-6:</b> Select when you want to control all channel selection through a cable box or VCR. Select the appropriate channel (usually 3 or 4) and use the cable box's or VCR's remote control for channel selection.</p> <p><b>Video 1:</b> Select from available video inputs when you have connected video equipment (e.g. satellite receiver) and you want your TV fixed to it.</p> <p><b>AUX 2-6:</b> Use this setting instead of the <b>2-6</b> if you want to change channels using a cable box, VCR or satellite receiver and you've connected it to the AUX input.</p> |
| <b>Auto Program</b>  | Perform Auto Program whenever setting up your TV. It will cycle through all available channels and program any receivable channels.   |
| <b>Channel Skip/Add</b>  | <p>Use this feature after you run Auto Program to skip unwanted channels or add new ones.</p> <ol style="list-style-type: none"> <li>1 Use the <b>0</b>-<b>9</b> buttons or the [CH+/-] buttons to select the channel.</li> <li>2 Press <b>⏏</b> to Skip or Add (only one option will be available).</li> </ol>   |
| <b>Channel Label</b><br><i>Label up to 40 channels with their call letters</i> | <p>With the Channel Label window open:</p> <ol style="list-style-type: none"> <li>1 Press <b>⏏</b>, then press <b>⬆</b> or <b>⬇</b> until you reach the desired channel number.</li> <li>2 Press <b>⏏</b> to activate the channel.</li> <li>3 Press <b>⬇</b> then press <b>⏏</b> to highlight the label field.</li> <li>4 Press <b>⬆</b> or <b>⬇</b> to display the first call letter or number of the caption and press <b>⏏</b> to select it. When finished, press <b>⏏</b> to activate.</li> </ol>   |



Favorite Channel, Channel Skip/Add, and Channel Label cannot be used when Channel Fix is set.

# Parental Control

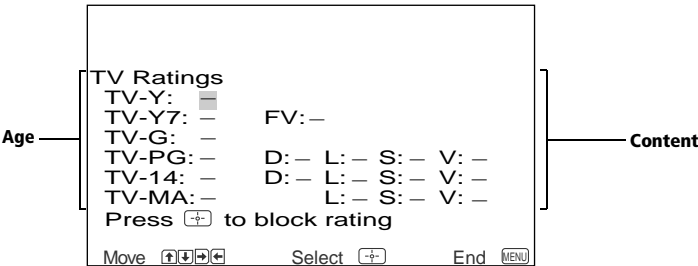
The Parental Control feature is designed to help parents monitor what their children watch on television. This section shows you the different rating systems available and how to set your TV’s rating limit.

## Overview of the Ratings

Once you have become familiar with these rating systems, you should be ready to set your TV’s rating limit.


## TV Ratings

The TV ratings are divided into two groups: age-based and content-based.



| Age   | Defined as                  |
|-------|-----------------------------|
| TV-Y  | All children                |
| TV-Y7 | Directed to older children  |
| TV-G  | General audience            |
| TV-PG | Parental Guidance suggested |
| TV-14 | Parents Strongly cautioned  |
| TV-MA | Mature Audience only        |

| Contents | Defined as          |
|----------|---------------------|
| FV       | Fantasy Violence    |
| D        | Suggestive dialogue |
| L        | Strong language     |
| S        | Sexual situations   |
| V        | Violence            |

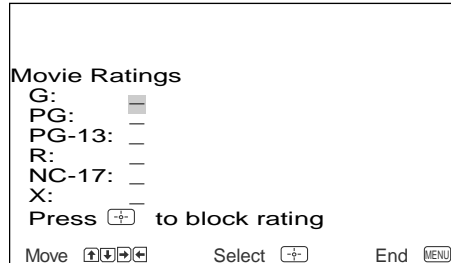
 The content ratings will increase depending on the level of the age-based rating. For example, a program with a TV-PG V (Violence) rating may contain moderate violence, while a TV-14 V (Violence) rating may contain intense violence.

## Movie Ratings

### (U.S. models only)

This system defines the rating levels of movies shown in theaters and on prime cable channels.

| Rating       | Defined as                   |
|--------------|------------------------------|
| <b>G</b>     | General audience             |
| <b>PG</b>    | Parental Guidance suggested  |
| <b>PG-13</b> | Parents strongly cautioned   |
| <b>R</b>     | Restricted                   |
| <b>NC-17</b> | No one 17 and under admitted |
| <b>X</b>     | Adult audience only          |



## Unrated

### (U.S. models only)

You have the option of blocking TV programs or movies that are not rated.

|              |                                |
|--------------|--------------------------------|
| <b>Allow</b> | Allows all unrated programs    |
| <b>Block</b> | Blocks all unrated programming |



If you choose to block unrated TV programs, please be aware that the following programs may be blocked: emergency broadcasts, political programs, sports, news, public service announcements, religious programs, and weather.



## English Ratings

### (Canadian models only)

These ratings are for Canadian programs that are broadcast in English.

| Rating     | Defined as                 |
|------------|----------------------------|
| <b>C</b>   | Children                   |
| <b>C8+</b> | Children 8 years and older |
| <b>G</b>   | General programming        |
| <b>PG</b>  | Parental Guidance          |
| <b>14+</b> | Viewers 14 and older       |
| <b>18+</b> | Adult programming          |

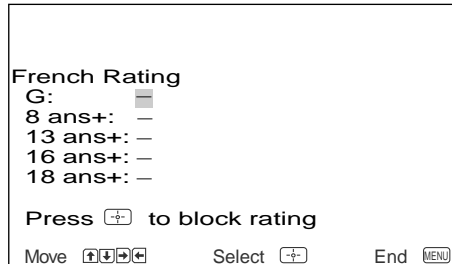


## French Ratings

### (Canadian models only)

These ratings are for Canadian programs that are broadcast in French.

| Rating         | Defined as                                |
|----------------|---|
| <b>G</b>       | General                                   |
| <b>8 ans+</b>  | Not recommended for younger children      |
| <b>13 ans+</b> | Not recommended for children under age 13 |
| <b>16 ans+</b> | Not recommended for ages under 16         |
| <b>18 ans+</b> | This program is restricted to adults      |



## U.S.A. Ratings


### (Canadian models only)

For programs from the United States, see “TV Ratings” on page 28.


## Using the Parental Control Menu

To access the Parental Control menu, refer to the following steps:



In the Parental Control  menu, you will be asked to set a 4-digit password for any further access into Parental Control.

- 1 Press **[+]**, then use the **[0]-[9]** buttons to enter a 4-digit password.

 Keep this instruction manual in a safe place. If you forget your password, see page 42.

- 2 Confirm your password by entering it again.

Once your password is set correctly, the next Parental Control menu appears.

## Setting the rating

You can change the Rating by selecting one of the Parental Lock options.



- 1 Move the cursor to Parental Lock and press [Up/Down].

If you are not familiar with the Parental Guidelines rating system, use one of the following preselected categories to simplify the rating selections: Child, Youth, or Young Adult.

- 2 Use the [Up] or [Down] buttons to select the desired rating, and press [Up/Down].

| Rating      | TV will allow a maximum rating of:                          |
|-------------|---|
| Child       | TV-Y, TV-G, G (U.S. models only), G (Canadian models only)  |
| Youth       | TV-PG, PG (U.S. models only), PG (Canadian models only)     |
| Young Adult | TV-14, PG-13 (U.S. models only), 14+ (Canadian models only) |
| Custom      | Select to set more restrictive ratings, (see next section)  |
| OFF         | No rating limit   |

## Using the Custom menu




Before setting Custom ratings, see pages 28-30, "Overview of the Ratings," for a description of the available rating systems.

Follow the instructions on the screen to make your custom settings. See page 29 for U.S. models and page 30 for Canadian models for more information.



Once you have blocked a rating or content, all higher ratings or content will be automatically blocked.

## Changing your password

- 1** Use the  or  buttons to move the cursor to Change Password and press .
- 2** Follow steps 1 and 2 of “Using the Parental Control Menu” on page 31.

## Information for Parents

### To view a program that exceeds the TV rating

- ☐ Press  <sup>ENTER</sup>, then use the - buttons to enter your password.



Entering your password to view a blocked program will temporarily turn Lock to OFF. To reactivate your Lock settings, turn the TV off then back on. The TV will return to the settings that you have selected.

# Using the Timer ⌚ Menu

To access the Timer menu, refer to the following steps:



**Current Time**

With the menu open:

- 1 Press  $\uparrow$  or  $\downarrow$  to select the current time, then press  $\odot$ .  
(If you are in Daylight Saving time, be sure to set Daylight Saving to “ON”).
- 2 Press  $\uparrow$  or  $\downarrow$  to enter the current time, then press  $\odot$ .
- 3 Press  $\text{MENU}$  to exit the menu.

**Timer 1 and Timer 2**

With the menu open, set cursor on Timer 1 or Timer 2:

- 1 Press  $\uparrow$  or  $\downarrow$  to select Timer 1 or Timer 2, then press  $\odot$ .
- 2 Press  $\uparrow$  or  $\downarrow$  to enter your time and channel of preference, then press  $\odot$ .
- 3 Press  $\text{MENU}$  to exit the menu.

You must set the Current Time before you can use Timer 1 and Timer 2.

You can set the Timer to ON, OFF, or Set. Once the timer is set, you can turn it on or off without having to go through the settings.

**Daylight Saving**

**OFF:** Select in fall at the end of Daylight Saving.  
**ON:** Select in spring to compensate for Daylight Saving.

When you perform Auto Program, all Timer 1 and Timer 2 settings will be cleared.

Any loss of power will cause Current Time, Timer 1, and Timer 2 settings to be cleared.

## Using the Setup Menu

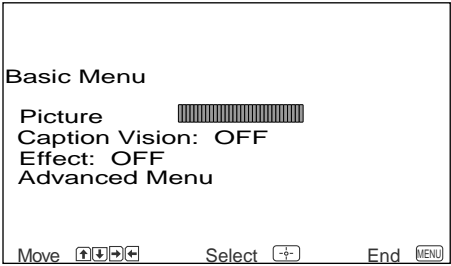
To access the Setup menu, refer to the following steps:



|  |   |
|--|---|
| <b>Caption Vision</b><br><i>Closed-Captioning</i>      | <p>Allows you to select from three closed caption modes (for programs that are broadcast with closed caption). Press <math>\uparrow</math> or <math>\downarrow</math> to select one of the following options:</p> <p><b>OFF:</b> Turns off Caption Vision.</p> <p><b>CC1, 2, 3, 4:</b> Displays printed dialogue and sound effects of a program.</p> <p><b>TXT1, 2, 3, 4:</b> Displays network/station information.</p> <p><b>XDS (Extended Data Services):</b> Displays information about the network and current program, if available.</p> |
| <b>Video Label</b><br><i>Label connected equipment</i> | <p>Allows you to label the audio/video equipment you have connected to the TV so you can identify them when in the Display mode.</p> <p>With the Video Label window open:</p> <ol style="list-style-type: none"> <li>1 Press <math>\uparrow</math> or <math>\downarrow</math> to access the input you want to label and press <math>\odot</math>.</li> <li>2 Press <math>\uparrow</math> or <math>\downarrow</math> to choose a label and press <math>\odot</math>.</li> </ol>  |
| <b>Tilt Correction</b>                                 | <p>Press <math>\downarrow</math> or <math>\uparrow</math> to correct any tilt of the picture by -5 and +5. Press <math>\odot</math> to activate.</p>  |
| <b>Language</b>  | <p>Select to display all menus in your language of choice. Use the <math>\uparrow</math> or <math>\downarrow</math> buttons, select the desired language and press <math>\odot</math>.</p>  |
| <b>16:9 Enhanced</b>                                   | <p>Provides enhanced picture resolution for wide screen sources such as DVD, (only available when the TV is in Video mode).</p>   |
| <b>Demo</b>  | <p>Select to perform a demonstration of the on-screen menus.</p>  |

# Using the Basic <sup>A</sup><sub>B</sub><sup>C</sup> Menu

To access the Basic menu, refer to the following steps:



|                         |  |
|-------------------------|--|
| <b>Picture</b>          | Press ⇐ to decrease picture contrast.  |
| <i>Picture contrast</i> | Press ⇒ to increase picture contrast.  |
| <b>Caption Vision</b>   | Allows you to select from three closed caption modes (for programs that are broadcast with closed caption).<br>Press ⇐ or ⇒ to select one of the following options:<br><b>OFF:</b> Caption Vision is not activated.<br><b>CC1, 2, 3, 4:</b> Displays printed dialogue and sound effects of a program.<br><b>TXT1, 2, 3, 4:</b> Displays network/station information.<br><b>XDS (Extended Data Services):</b> Displays information about the network and current program, if available. |
| <b>Effect</b>           | Press ⇐ or ⇒ to select one of the following options:<br><b>OFF:</b> Normal stereo or mono reception.<br><b>SRS:</b> Produces a dynamic three-dimensional sound for stereo audio signals (KV-27FV17 only).<br><b>Simulated:</b> Add a surround-like effect to mono programs (KV-27FV17 only).<br><b>Surround:</b> Simulates theater quality sound for stereo programs (KV-27FS13, KV-27FS17, KV-32FS13, KV-32FS17 only).  |
| <b>Advanced Menu</b>    | Select to return to the main menus.  |







If you use the **MENU** button to close the Basic menu, only the Basic menu appears when you press **MENU** again. To have access to the other menus, use ⇐ to select **Advanced Menu**.



# Other Information

## Programming the Remote Control

You can use the supplied remote control to operate Sony or non-Sony video equipment.

- 1 Press .
- 2 Press  or  (FUNCTION).
- 3 Use the - buttons to key in the code number from the following chart.
- 4 Press .

### VCR codes

|                  |                              |                |   |
|------------------|------------------------------|----------------|---|
| Sony             | 301, 302, 303                | JCPenney       | 309, 305, 304, 330, 314, 336, 337           |
| Admiral (M.Ward) | 327                          | JVC            | 314, 336, 337, 345, 346, 347                |
| Aiwa             | 338, 344                     | Kenwood        | 314, 336, 332, 337                          |
| Audio Dynamic    | 314, 337                     | LXI (Sears)    | 332, 305, 330, 335, 338                     |
| Broksonic        | 319, 317                     | Magnavox       | 308, 309, 310                               |
| Canon            | 309, 308                     | Marantz        | 314, 336, 337                               |
| Citizen          | 332                          | Marta          | 332   |
| Craig            | 302, 332                     | Memorex        | 309, 335                                    |
| Criterion        | 315                          | Minolta        | 305, 304                                    |
| Curtis Mathis    | 304, 338, 309                | Mitsubishi/MGA | 323, 324, 325, 326                          |
| Daewoo           | 341, 312, 309                | Multitech      | 325, 338, 321                               |
| DBX              | 314, 336, 337                | NEC            | 314, 336, 337                               |
| Dimensia         | 304                          | Olympic        | 309, 308                                    |
| Emerson          | 319, 320, 316, 317, 318, 341 | Optimus        | 327   |
| Fisher           | 330, 335                     | Panasonic      | 308, 309, 306, 307                          |
| Funai            | 338                          | Pentax         | 305, 304                                    |
| General Electric | 329, 304, 309                | Philco         | 308, 309                                    |
| Go Video         | 322, 339, 340                | Philips        | 308, 309, 310                               |
| Goldstar         | 332                          | Pioneer        | 308   |
| Hitachi          | 306, 304, 305, 338           | Quasar         | 308, 309, 306                               |
| Instant Replay   | 309, 308                     | RCA/PROSCAN    | 304, 305, 308, 309, 311, 312, 313, 310, 329 |

## VCR codes

|                         |  |
|-------------------------|--|
| Realistic               | 309, 330, 328, 335, 324, 338           |
| Samsung                 | 322, 313, 321                          |
| Sansui                  | 314                                    |
| Sanyo                   | 330, 335                               |
| Scott                   | 312, 313, 321, 335, 323, 324, 325, 326 |
| Sharp                   | 327, 328                               |
| Shintom                 | 315                                    |
| Signature 2000 (M.Ward) | 338, 327                               |
| SV2000                  | 338                                    |
| Sylvania                | 308, 309, 338, 310                     |

## Cable box codes

|                    |   |
|--------------------|---|
| Sony               | 230   |
| Hamlin/Regal       | 222, 223, 224, 225, 226                     |
| Jerrold/G. I.      | 201, 202, 203, 204, 205, 206, 207, 208, 218 |
| Oak                | 227, 228, 229                               |
| Panasonic          | 219, 220, 221                               |
| Pioneer            | 214, 215                                    |
| Scientific Atlanta | 209, 210, 211                               |
| Tocom              | 216, 217                                    |
| Zenith             | 212, 213                                    |

## Laser Disc Player codes

|           |          |
|-----------|----------|
| Sony      | 701      |
| Panasonic | 704, 710 |
| Pioneer   | 702      |

## DBS codes

|                       |     |
|-----------------------|-----|
| DIRECTV               | 809 |
| Echostar/Dish Network | 810 |


|           |                         |
|-----------|-------------------------|
| Symphonic | 338                     |
| Tashiro   | 332                     |
| Tatung    | 314, 336, 337           |
| Teac      | 314, 336, 338, 337      |
| Technics  | 309, 308                |
| Toshiba   | 312, 311                |
| Wards     | 327, 328, 335, 331, 332 |
| Yamaha    | 314, 330, 336, 337      |
| Zenith    | 331                     |


## Satellite receiver codes


|                  |                                      |
|------------------|--------------------------------------|
| Sony             | 801 (preset code for remote control) |
| General Electric | 802                                  |
| Hitachi          | 805                                  |
| Hughes           | 804                                  |
| Panasonic        | 803                                  |
| RCA/PROSCAN      | 802, 808                             |
| Toshiba          | 806, 807                             |

## DVD codes












|                  |     |
|------------------|-----|
| Sony             | 751 |
| JVC              | 756 |
| Mitsubishi       | 761 |
| Onkyo            | 762 |
| Oritron          | 759 |
| Panasonic        | 753 |
| Philips/Magnavox | 757 |
| Pioneer          | 752 |
| RCA              | 755 |
| Samsung/Hitachi  | 758 |
| Toshiba          | 754 |
| Zenith           | 760 |

 If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.












 Whenever you remove the batteries the code numbers may revert to the factory setting and must be reset.

 In some rare cases, you may not be able to operate your equipment with the supplied remote control. In this case, use the equipment's supplied remote control.







### Operating a VCR

| Press   | To                               |
|---|----------------------------------|
| VTR/DVD<br>  | Power on the VCR                 |
| <b>0-9</b>  | Select channels directly         |
| CH  CH                    | Change channels                  |
|    | Play video tape                  |
|    | Stop                             |
|  or                       | Search forward or backward       |
|    | Pause                            |
|  and <br>at the same time | Record                           |
| TV/VTR<br>   | Change between VCR and TV inputs |

### Operating a DVD


| Press   | To                                  |
|---|-------------------------------------|
| VTR/DVD<br>  | Power on the DVD                    |
| <b>0-9</b>  | Select chapters directly            |
| CH  CH    | Search chapters forward or backward |
|    | Play DVD                            |
|    | Stop                                |
|    | Pause                               |
|  ,  ,  ,  | Move the cursor in the menu         |
| MENU<br>   | Display the DVD menu                |




Operating a Laser Disc

| Press   | To                                  |
|---|-------------------------------------|
| VTR/DVD<br>  | Power on the laser disc             |
| CH  CH  | Search chapters forward or backward |
|    | Play disc                           |
|    | Stop                                |
|    | Pause                               |

## Troubleshooting

If you are having a problem with your TV, try the suggestions below. If the problem persists, contact your nearest Sony dealer.

|  |   |
|--|---|
| <b>No picture, no sound</b>  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Make sure the power cord is plugged in.</li> <li><input type="checkbox"/> If red light is flashing on the front of your TV for more than a few minutes, disconnect and reconnect the power cord to restore the TV. If the problem continues, call your local service center.</li> <li><input type="checkbox"/> Check the TV/VIDEO settings: when watching TV, set to TV; when watching video equipment, set to VIDEO (page 15).</li> <li><input type="checkbox"/> Make sure the batteries have been inserted correctly into the remote control (page 2).</li> <li><input type="checkbox"/> Try another channel, it could be station trouble.</li> </ul> |
| <b>Poor or no picture, good sound</b>                                    | <ul style="list-style-type: none"> <li><input type="checkbox"/> Adjust Picture in the Video menu (page 23).</li> <li><input type="checkbox"/> Adjust Brightness in the Video menu (page 23).</li> <li><input type="checkbox"/> Check the antenna and/or cable connections (page 3).</li> </ul>  |
| <b>Good picture, no sound</b>  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Press  so that MUTING disappears from the screen (page 15).</li> <li><input type="checkbox"/> Check your Audio settings. Your TV may be set to Auto-SAP (page 25).</li> </ul>  |
| <b>No color</b>  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Adjust Color in the Video menu (page 23).</li> </ul>  |
| <b>No signal</b>   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Check the Cable setting in the Channel Setup menu (page 26).</li> <li><input type="checkbox"/> Check the antenna and/or cable connections (page 3).</li> <li><input type="checkbox"/> Make sure the channel selected is currently broadcasting.</li> </ul>  |
| <b>Dotted lines or stripes</b>   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Adjust the antenna.</li> <li><input type="checkbox"/> Move the TV away from other electronic equipment. Some electronic equipment can create electrical noise, which can interfere with TV reception.</li> </ul>  |
| <b>Double images or ghosts</b>   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Check your outdoor antenna or call your cable service provider.</li> </ul>  |
| <b>Cannot receive higher number channels (UHF) when using an antenna</b> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Make sure Cable is set to OFF in the Channel Setup menu (page 26).</li> <li><input type="checkbox"/> Perform Auto Program to add channels that are not presently in the memory (page 17).</li> </ul>  |











|  |  |
|--|--|
| <b>Cable stations don't seem to work</b>                   | <ul style="list-style-type: none"> <li>❑ Make sure Cable is set to ON in the Channel Setup menu (page 26).</li> <li>❑ Perform Auto Program to add channels that are not presently in the memory (page 17).</li> </ul>  |
| <b>Remote control does not operate</b>                     | <ul style="list-style-type: none"> <li>❑ Batteries could be weak. Replace them (page 2).</li> <li>❑ Move the TV 3-4 feet away from fluorescent lights.</li> </ul>  |
| <b>Cannot change channels with the remote control</b>      | <ul style="list-style-type: none"> <li>❑ Make sure you have not inadvertently switched your TV from the channel 3 or 4 setting if you are using another device to change channels.</li> <li>❑ If you are using another device to control channels, be sure the FUNCTION button for that device has been pressed. For example, if you're using your VCR to control channels, be sure to press the VTR/DVD FUNCTION buttons (page 15).</li> </ul>  |
| <b>The TV needs to be cleaned</b>                          | <ul style="list-style-type: none"> <li>❑ Clean the TV with a soft dry cloth. Never use strong solvents such as thinner or benzine, which might damage the finish of the cabinet.</li> </ul>  |
| <b>Lost password for Parental Control</b>                  | <ul style="list-style-type: none"> <li>❑ In the password screen, enter the following master password: 4357. After using the master password, you must create a new password; it cannot be used to unlock currently blocked channels.</li> </ul>  |
| <b>Cannot access other menus when using the Basic Menu</b> | <ul style="list-style-type: none"> <li>❑ If you use the  button to close the Basic menu, only the Basic menu appears when you press  again. To have access to the other menus, use the  button to select Advanced Menu (page 36).</li> </ul>                                  |
| <b>The remote control won't work in PIP mode</b>           | <ul style="list-style-type: none"> <li>❑ Press the TV FUNCTION button. You may have inadvertently pressed the VTR/DVD FUNCTION button, which changes the PIP buttons to VCR mode (page 15).</li> </ul>   |
| <b>There is no window picture or it is just static</b>     | <ul style="list-style-type: none"> <li>❑ Be sure your window picture is set to a video source/channel that has a program airing.</li> <li>❑ You may be tuned to a video input with nothing connected to it. Try cycling through your video inputs using the yellow PIP TV/VIDEO button with the red dot (page 18).</li> <li>❑ PIP is not set to receive a signal from the AUX input. If you have connected a VCR, DVD or Satellite Receiver to the AUX input on the TV, it will not show in the small window picture.</li> </ul> |

---

**I get the same program in the window picture as in the main picture**

- ❑ Both may be set to the same channel. Try changing channels in either the main picture or the window picture (pages 18-19).
  - ❑ Your TV may be set up to select all your channels through a cable box. The cable box will only unscramble one signal at a time, so you cannot use the PIP feature. If possible, run a direct cable to the VHF/UHF jack on your TV. This will only work if your cable system provides an unscrambled signal (page 5).
- 

**You lost your remote control**

- ❑ You can use the front Audio/Video panel controls to access the menu. Press  to open the menu. Use the  or  buttons on the front Audio/Video panel instead of the  or  buttons on the remote control. Use the  button on the front Audio/Video panel instead of the , , and  buttons on the remote control. Press  again when the setting or adjustment is complete. Contact your nearest Sony dealer to order a replacement.
- 

*If, after reading these Operating Instructions, you have additional questions related to the use of your Sony television, please call our Direct Response Center at 1-800-222-SONY (7669) (U.S. residents only) or (416) 499-SONY (7669) (Canadian residents only).*



## Specifications

### For all models (except as noted)

|                      |  |
|----------------------|--|
| Television system    | American TV standard/NTSC  |
| Channel coverage     | VHF: 2-13/UHF: 14-69/CATV: 1-125   |
| Antenna              | 75-ohm external antenna terminal for VHF/UHF   |
| Picture tube         | FD Trinitron® tube   |
| Power requirements   | 120V, 60 Hz  |
| Supplied Accessories | Size AA (R6) batteries (2)<br>Remote Control RM-Y180 (1) (KV-27FS13,<br>KV-32FS13)<br>RM-Y181 (1) (KV-27FS17, KV-27FV17,<br>KV-32FS17)                     |
| Optional Accessories | Connecting cables VMC-810S/820S, VMC-720M,<br>YC-YC-15V/30V, RK74A<br>U/V mixer EAC-66<br>TV Stand: SU-27FD4 (27 inch models)<br>SU-32FD4 (32 inch models) |

### **KV-27FS13, KV-27FS17**

|                    |   |
|--------------------|---|
| Screen size        | Visible screen size: 27 inches (679 mm) measured diagonally<br>Actual tube size: 29 inches (736 mm) measured diagonally                             |
| Inputs/outputs     | 3 video, 3 audio<br>1 S VIDEO<br>1 AUDIO OUT<br>1 RF input (KV-27FS13)<br>2 RF inputs (KV-27FS17)<br>1 Y, P <sub>B</sub> , P <sub>R</sub> , 1 audio |
| Speaker output     | 7.5 W x 2   |
| Power Consumption  | 170 W in use (KV-27FS13)<br>180 W in use (KV-27FS17)<br>1 W in standby  |
| Dimensions (W/H/D) | 700 x 632 x 512 mm (27 <sup>5</sup> / <sub>8</sub> x 25 x 20 <sup>1</sup> / <sub>4</sub> in.)   |
| Mass               | 47 kg (103 lbs. 10 oz.)   |

**KV-27FV17**

|             |   |
|-------------|---|
| Screen size | Visible screen size: 27 inches (679 mm) measured diagonally<br>Actual tube size: 29 inches (736 mm) measured diagonally |
|-------------|---|

|                |  |
|----------------|--|
| Inputs/outputs | 3 video, 3 audio<br>2 S VIDEO<br>1 Audio Out<br>1 Monitor Out<br>2 RF inputs<br>1 Y, P <sub>B</sub> , P <sub>R</sub> , 1 audio |
|----------------|--|

|                |          |
|----------------|----------|
| Speaker output | 15 W x 2 |
|----------------|----------|

|                   |                                |
|-------------------|--------------------------------|
| Power Consumption | 220 W in use<br>1 W in standby |
|-------------------|--------------------------------|

|                    |   |
|--------------------|---|
| Dimensions (W/H/D) | 762 x 604 x 519 mm (30 x 23 <sup>7</sup> / <sub>8</sub> x 20 <sup>1</sup> / <sub>2</sub> in.) |
|--------------------|---|

|      |                  |
|------|------------------|
| Mass | 49 kg (108 lbs.) |
|------|------------------|

**KV-32FS13, KV-32FS17**

|             |   |
|-------------|---|
| Screen size | Visible screen size: 32 inches (803 mm) measured diagonally<br>Actual tube size: 34 inches (863 mm) measured diagonally |
|-------------|---|

|                |   |
|----------------|---|
| Inputs/outputs | 3 video, 3 audio<br>1 S VIDEO<br>1 Audio Out<br>1 RF input (KV-32FS13)<br>2 RF inputs (KV-32FS17)<br>1 Y, P <sub>B</sub> , P <sub>R</sub> , 1 audio |
|----------------|---|

|                |          |
|----------------|----------|
| Speaker output | 10 W x 2 |
|----------------|----------|

|                   |   |
|-------------------|---|
| Power Consumption | 195 W in use (KV-32FS13)<br>205 W (KV-32FS17)<br>1 W in standby |
|-------------------|---|

|                    |   |
|--------------------|---|
| Dimensions (W/H/D) | 800 x 708 x 582 mm (31 <sup>1</sup> / <sub>2</sub> x 27 <sup>7</sup> / <sub>8</sub> x 23 in.) |
|--------------------|---|


|      |                  |
|------|------------------|
| Mass | 75 kg (163 lbs.) |
|------|------------------|

Design and specifications are subject to change without notice.


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
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FD Trinitron  
**WEGA**

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## ***Televisor Trinitron® A Color***

Manual de Instrucciones

Lea este manual antes de operar el producto.

***KV-29FS13***  
***KV-29FS13C***  
***KV-29FV17***  
***KV-29FV17C***



# ADVERTENCIA

Para evitar el riesgo de incendio o descarga eléctrica, no exponga el televisor a la lluvia o humedad.



Este símbolo señala al usuario la presencia de voltaje peligroso sin aislamiento en el interior del aparato, y de tal intensidad que podría presentar riesgo de descarga eléctrica.



Este símbolo indica al usuario que el manual que acompaña a este aparato contiene instrucciones importantes referentes a su funcionamiento y mantenimiento.

## Nota para el técnico que instale el sistema CATV

El Artículo 820-40 del NEC contiene normas para la puesta a tierra y, en particular, dispone que la tierra del cable debe conectarse al sistema de tierra del edificio en el punto más próximo que sea factible a la entrada del cable.

## PRECAUCIONES DE SEGURIDAD

- ☐ Alimente el televisor sólo con ca 120 V para los modelos KV-29FS13 y KV-29FV17, y con ca 220 V para los modelos KV-29FS13C y KV-29FV17C.
- ☐ La clavija está diseñada, por motivos de seguridad, para entrar a la tomacorriente en una sola posición. Si Ud. no puede meter la clavija completamente a la tomacorriente, consulte con su proveedor.
- ☐ Si algún líquido u objeto cae dentro del televisor, desconéctelo inmediatamente y llévelo al personal de servicio técnico especializado para que lo revisen antes de volver a utilizarlo.

## PRECAUCIÓN

Al usar videojuegos, computadoras y productos similares con el televisor, mantenga los ajustes de brillo y contraste a un nivel moderado. Si una imagen inmóvil permanece en la pantalla durante un periodo prolongado con elevada intensidad de brillo o contraste, la imagen podría quedar grabada en la pantalla en forma permanente. Igualmente, ver continuamente el mismo canal de televisión podría dejar grabada en la pantalla el logotipo de la emisora. La garantía no cubre este tipo de anomalías, ya que se deben al mal uso del aparato.



Para evitar el riesgo de descarga eléctrica, no emplee esta clavija polarizada con un cable prolongador, receptáculo u otra tomacorriente, a menos que las cuchillas puedan insertarse completamente a fin de que no queden al descubierto.



Cualquier cambio o modificación que no se detalla expresamente en el presente manual podría invalidar su autorización para emplear este aparato.

## NOTIFICACIÓN

Este aparato ha sido debidamente probado, comprobándose que cumple con los límites impuestos a dispositivos digitales Clase B de acuerdo con la Sección 15 de las normas de la FCC. Estos límites se establecieron para ofrecer protección razonable contra interferencias perjudiciales en las instalaciones residenciales. Este aparato genera, usa y puede emitir energía radioeléctrica. De no instalarse y utilizarse de acuerdo con las instrucciones correspondientes podría producir interferencias perjudiciales en las radiocomunicaciones. No obstante, no puede garantizarse que no se produzcan estas interferencias en una instalación determinada. Si este aparato llega a interferir en la recepción por radio o televisión, lo que podrá comprobarse encendiendo y apagando el aparato, se recomienda al usuario intentar corregir la interferencia mediante una o más de las siguientes medidas:

- ☐ Reoriente o cambie de lugar las antenas receptoras.
- ☐ Aumente la distancia que separa este aparato y el receptor afectado.
- ☐ Enchufe el aparato en una toma de corriente de un circuito distinto al que esté enchufado el receptor afectado.
- ☐ Consulte con el distribuidor o solicite los servicios de un técnico capacitado en radio y televisión.

## Protección del televisor

- ☐ Para evitar el sobrecalentamiento interno, no tape las rejillas de ventilación.
- ☐ No instale el televisor en un lugar caliente o húmedo, ni donde quede expuesto a cantidades excesivas de polvo o vibraciones mecánicas.

## Nota sobre la función "Caption Vision"

Este televisor permite ver subtítulos, en cumplimiento con lo dispuesto en el inciso 15,119 de las normas de la Comisión Federal de Comunicaciones (FCC) de EE.UU.

El empleo de este televisor para fines que no sean la recepción privada de programas transmitidos por UHF, VHF o cable, destinados al uso del público en general, podría requerir autorización de la emisora o compañía de cable del propietario del programa o de ambos.

## Registro de propiedad

El modelo y el número de serie están situados en la portada de este manual y en la parte posterior del televisor.

## Marcas comerciales y copyrights

ENERGY STAR® es marca registrada.



Como socio de ENERGY STAR®, Sony ha determinado que este producto o este modelo de producto cumple con las pautas ENERGY STAR® para eficiencia energética.

Sólo para los modelos KV-29FV17 y KV-29FV17C

Bajo licencia de BBE Sound, Inc sobre el número USP 4638258.4482866. BBE y símbolo de BBE son marcas registradas de BBE Sound, Inc.

# Normas de seguridad importantes

Para su protección, lea detenidamente estas instrucciones, y guarde este manual para futuras referencias. Lea cuidadosamente todas las advertencias y precauciones, y siga las instrucciones inscritas en el televisor o descritas en el manual de instrucciones o de reparación.

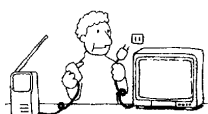
## ADVERTENCIA

Para protegerse contra daños personales, siga las precauciones de seguridad básicas durante la instalación, la utilización y el mantenimiento del televisor indicadas a continuación.

## Utilización

### Fuentes de alimentación

Este aparato solamente deberá alimentarse con el tipo de fuente de alimentación indicado en la etiqueta de serie/modelo. Si no está seguro sobre el tipo de red eléctrica de su hogar, consulte a su proveedor o a la compañía de suministro eléctrico local. Con respecto a los aparatos diseñados para utilizarse con baterías, consulte el manual de instrucciones.



### Conexión a tierra o polarización

Este aparato dispone de una clavija del cable de alimentación polarizado (una cuchilla de la clavija es más ancha que la otra), o con tres terminales (el tercero es para puesta a tierra). Siga las instrucciones indicadas a continuación:

### Para un televisor con clavija del cable de alimentación polarizado

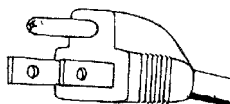
Esta clavija solamente encajará en la toma de alimentación de una sola forma. Ésta es una medida de seguridad. Si no es capaz de insertar completamente la clavija en la toma de alimentación, pruebe invirtiéndola. Si la clavija sigue sin poder insertarse, póngase en contacto con un electricista para que le instale una toma adecuada. No elimine la finalidad de seguridad del enchufe polarizado insertándolo con fuerza.



### Advertencia alternativa

#### Para un televisor con clavija de tres terminales con conexión a tierra

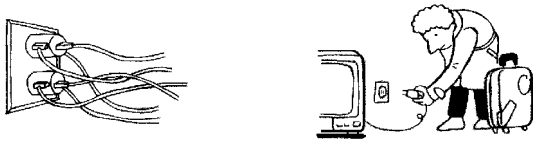
Esta clavija solamente podrá insertarse en una toma de la red con conexión a tierra. Ésta es una medida de seguridad. Si no es capaz de insertar completamente la clavija en la toma de alimentación, póngase en contacto con un electricista para que le instale una toma adecuada. No elimine la finalidad de seguridad de la clavija de 3 terminales insertándolo con fuerza.





## Sobrecarga

No sobrecargue las tomas de alimentación, los cables prolongadores ni tomacorrientes de derivación sobrepasando su capacidad, porque esto podría resultar en incendios o cortocircuitos. Apague siempre el aparato cuando no lo utilice. Cuando vaya a dejar el aparato sin usar durante mucho tiempo, desconéctelo de la alimentación como protección contra la posibilidad de un mal funcionamiento interno que pudiese provocar el peligro de incendio.



No desconecte la antena ni el cable de alimentación durante tormentas fuertes. Podría recibir una descarga eléctrica mientras agarra el cable, causándole graves daños. Apague el televisor y espere a que las condiciones meteorológicas mejoren.

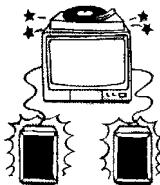
## Introducción de objetos y líquidos

No introduzca nunca objetos de ningún tipo a través de las ranuras del gabinete, ya que podrían tocar puntos de tensión peligrosa o cortocircuitar partes, lo que podrían resultar en incendios o descargas eléctricas. No vierta nunca ningún tipo de líquido sobre el aparato.



## Accesorios

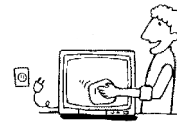
No utilice nunca ningún accesorio no recomendado por el fabricante, ya que podrían ser peligrosos.



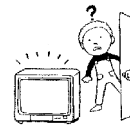
No coloque objetos, especialmente los pesados, sobre el aparato. El objeto puede caerse del televisor, causándole heridas.

## Limpieza

Antes de limpiar el televisor, desconéctelo de la alimentación. No utilice limpiadores líquidos ni aerosoles. Para limpiar el exterior del aparato, emplee un paño ligeramente humedecido en agua.



Si un televisor en funcionamiento emite crujidos o detonaciones continuos o frecuentes, desconéctelo y consulte a su proveedor o a un radiotécnico. Es normal que algunos televisores produzcan estos ruidos, especialmente al conectar o desconectar su alimentación.

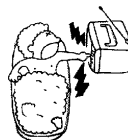


## Instalación

Son precisas dos o más personas para levantar o mover el aparato. El aparato es pesado y la superficie inferior es plana. Si el aparato lo mueve una sola persona o si se maneja en lugares inestables, pueden producirse daños graves. Instale el aparato sobre una superficie estable y nivelada.

## Agua y humedad

No utilice aparatos que requieran de alimentación eléctrica cerca del agua, por ejemplo, cerca de una bañera, un lavabo, un fregadero o una lavadora en un sótano húmedo, ni cerca de una piscina, etc.



## Colocación

No coloque el aparato sobre una mesita con ruedas, un pedestal, un trípode, una abrazadera, una mesa o un estante inestable. El televisor podría caerse causando daños serios a niños, adultos, y al propio televisor. Utilice solamente la mesita con ruedas o soporte recomendado por el fabricante para el modelo específico de TV. El montaje del producto se debe hacer según las instrucciones del fabricante y usted debe usar un accesorio de montaje recomendado por el fabricante. La combinación de un televisor y un mueble con ruedas deberá moverse con cuidado. Las paradas repentinas, la fuerza excesiva y las superficies desiguales podrían hacer que se cayese tal combinación.

Desconecte todos los cables del aparato antes de moverlo.

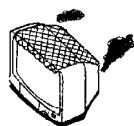


No permita que niños ni mascotas se suban al aparato ni que lo empujen. El televisor podría caerse, causando daños graves.

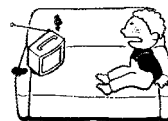
## Ventilación

Las ranuras y aberturas del gabinete y de la parte posterior o inferior son para permitir la ventilación necesaria. Para asegurar la operación fiable del televisor, y protegerlo contra el sobrecalentamiento, estas ranuras y aberturas no deberán cubrirse ni bloquearse nunca.

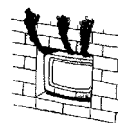
- **No bloquear nunca las ranuras ni aberturas con paños ni otros materiales.**



- **No bloquee nunca las ranuras ni aberturas colocando el televisor sobre una cama, sofá, alfombra u otras superficies similares.**



- **No coloque nunca el televisor en un lugar cerrado, como en un librero o un mueble empotrado, a menos que esté adecuadamente ventilado.**

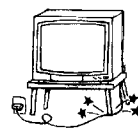


- **No coloque el televisor cerca ni sobre un radiador o una salida de aire caliente, ni expuesto a la luz solar directa.**



## Protección del cable de alimentación

No permita que ningún objeto quede sobre el cable de alimentación, ni coloque el televisor donde el cable pueda quedar sometido a desgaste o presión.



## Conexión a tierra o polarización

Es posible que este aparato venga equipado con un enchufe de corriente alterna polarizado (un enchufe que tiene una pata más ancha que la otra). Este enchufe calza en el tomacorriente de una manera solamente. Esto es una función de seguridad. Si usted no puede insertar el enchufe por completo en el tomacorriente, trate de darlo vuelta. Si todavía el enchufe no entra, comuníquese con un electricista para que cambie el tomacorriente obsoleto. No rechace el propósito de seguridad del enchufe polarizado.

## Antenas

### Conexión a tierra de la antena exterior

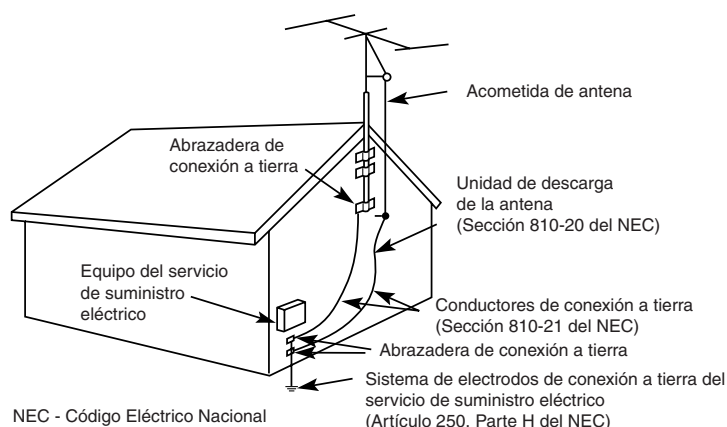
Cuando instale una antena exterior, tenga en cuenta las precauciones siguientes. Un sistema de antena exterior no deberá colocarse cerca de líneas de alta tensión ni otros circuitos de iluminación o alimentación, ni donde pueda entrar en contacto con tales líneas o circuitos.

CUANDO INSTALE UN SISTEMA DE ANTENA EXTERIOR, TENGA EXTREMADO CUIDADO PARA EVITAR QUE ENTRE EN CONTACTO CON TALES LÍNEAS DE ALIMENTACIÓN O CIRCUITOS, YA QUE TAL CONTACTO PODRÍA RESULTAR INVARIABLEMENTE FATAL.

Cerciórese de que el sistema de antena esté puesto a tierra a fin de que proporcione cierta protección contra sobretensiones y cargas estáticas. La Sección 810 del Código Eléctrico Nacional (NEC) de EE.UU., y la Sección 54 del Código Eléctrico Canadiense ofrecen información con respecto a la puesta a tierra adecuada de una unidad de descarga de antena, el tamaño de los conductores de conexión a tierra, la ubicación de la unidad de descarga de antena, la conexión a los electrodos de conexión a tierra, y los requisitos de tales electrodos.

### Conexión a tierra de la antena de acuerdo con el Código Eléctrico Nacional

Con respecto a la conexión a tierra de la antena, consulte la sección 54-300 del Código Eléctrico Canadiense.



### En caso de descarga eléctrica

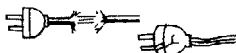
Para evitar daños al televisor debido a una descarga eléctrica o a una sobretensión de corriente durante una tormenta, o cuando no se encuentre en uso por largos periodos de tiempo, desconecte el cable a la toma de corriente de la pared y desconecte la antena. Esto impedirá que el receptor se dañe.

## Mantenimiento

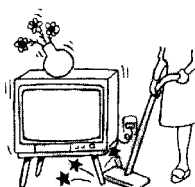
### Daños que requieren reparación

Desconecte el televisor de la toma de alimentación y solicite los servicios de personal de reparación calificado en las condiciones siguientes:

- Cuando el cable o la clavija de alimentación esté dañado.



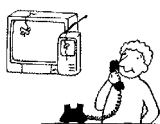
- Si dentro del televisor se ha derramado líquido o se cayeron objetos adentro del producto.



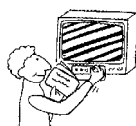
- Si el televisor ha estado expuesto a la lluvia o al agua.



- Si el televisor ha recibido un golpe fuerte al caer, o se daña el gabinete.



- Si el televisor no funciona normalmente al seguir las instrucciones de operación. Ajuste solamente los controles especificados en el manual de instrucciones. El ajuste inadecuado de otros controles podría resultar en daños que podrían requerir la intervención costosa de un técnico calificado a fin de devolver el televisor a su funcionamiento normal.



- Cuando el rendimiento del televisor haya cambiado notablemente, significará que es necesario repararlo.

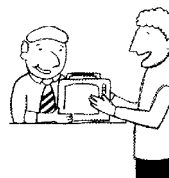
### Reparación

No intente reparar por sí mismo el aparato, ya que al abrir el gabinete se vería expuesto a tensiones peligrosas y otros riesgos. Solicite los servicios de personal de reparación calificado.



### Piezas de reemplazo

Cuando se haya requerido el reemplazo de piezas, solicite al técnico de reparación un certificado por escrito de que ha utilizado las piezas de repuesto con las mismas características que las originales, especificadas por el fabricante. La sustitución no autorizada de piezas podría resultar en incendios, descargas eléctricas, u otros peligros.



### Comprobación de seguridad

Después de haber finalizado cualquier servicio de mantenimiento o reparación, solicite al técnico de reparación que realice y certifique las comprobaciones de seguridad rutinarias (como especifica el fabricante) para determinar si el televisor se encuentra en condiciones de funcionar con seguridad. Cuando finalice la vida útil del televisor, el deshacerse inadecuadamente de él podría provocar la implosión del tubo de imagen. Solicite este servicio a un técnico calificado.





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## Conexión del televisor

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# Introducción

Gracias por haber comprado el televisor Trinitron® a color de Sony. Antes de utilizar este manual, verifique el número de modelo localizado en la parte posterior del televisor o en la portada de este manual.

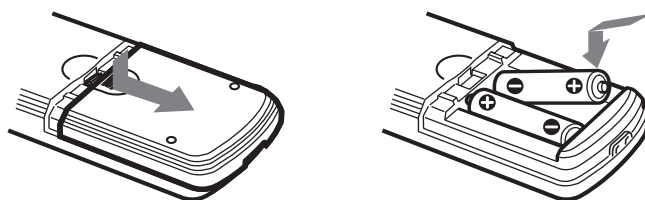
## Funciones del televisor Trinitron® a color


A continuación se enumeran las características del televisor:


- ❑ **CRT PLANO** — Nueva pantalla tecnológicamente avanzada para obtener una óptima calidad de imagen.
- ❑ **Control Paterno** — Herramienta diseñada para que los padres puedan controlar el acceso de los niños al televisor mediante el establecimiento de límites de utilización.
- ❑ **Canal Favorito** — Acceso instantáneo a los canales preferidos con sólo tocar un botón.
- ❑ **Imagen en imagen (PIP)** — Permite visualizar dos canales simultáneamente (KV-29FV17, KV-29FV17C solamente).
- ❑ **Control remoto universal** — Programe su control remoto para utilizar el decodificador, la videocasetera, el receptor de satélite digital o el reproductor DVD conectado.
- ❑ **Energy Star®** — Símbolo reconocido de eficiencia energética.
- ❑ **S VIDEO** — Entrada de video que ofrece una calidad de imagen mejorada.
- ❑ **MTS directo** — Proporciona acceso directo para cambiar el sonido multicanal del televisor: Estéreo, Mono o Auto-SAP (segundo programa de sonido), con sólo tocar un botón.
- ❑ **Menús bilingües** — Elija entre los menús Inglés o Español.
- ❑ **Controles del panel frontal** — Proporcionan acceso a los menús en pantalla sin necesidad de utilizar control remoto.
- ❑ **Entradas A/V frontales** — Conexión rápida para videojuegos, cámaras de video o equipo estéreo/mono.


## Baterías para el control remoto

Inserte dos baterías tamaño AA (R6) (incluidas con el televisor) en el control remoto como se indica en la siguiente ilustración.




 En condiciones normales, las baterías durarán un máximo de seis meses. Si el control remoto no funciona correctamente, es posible que las baterías estén agotadas.

 Cuando el control remoto no vaya a utilizarse durante un periodo prolongado, quite las baterías para evitar que fugas de las mismas dañen su control remoto.

 Su control remoto puede programarse para hacer funcionar la mayoría de los equipos de video (consulte la página 32).

## Acerca de este manual

En este manual se proporcionan las instrucciones necesarias para que disfrute de su nuevo televisor. Asimismo, se indica cómo conectar el televisor a una antena o cable, decodificador, videocasetera, reproductor DVD, receptor de satélite, sistema estereofónico o cámara de video. Una vez realizada la conexión, siga las instrucciones y utilice el control remoto para acceder a los menús en pantalla.

 Los paneles frontal y posterior del televisor que aparecen en las ilustraciones de este manual corresponden a los modelos KV-29FS13 y KV-29FS13C. El panel posterior mostrado en la página 13 corresponde a los modelos KV-29FV17 y KV-29FV17C. Es posible que sus paneles frontal y posterior no tengan el mismo aspecto que los que se muestran en la ilustración.

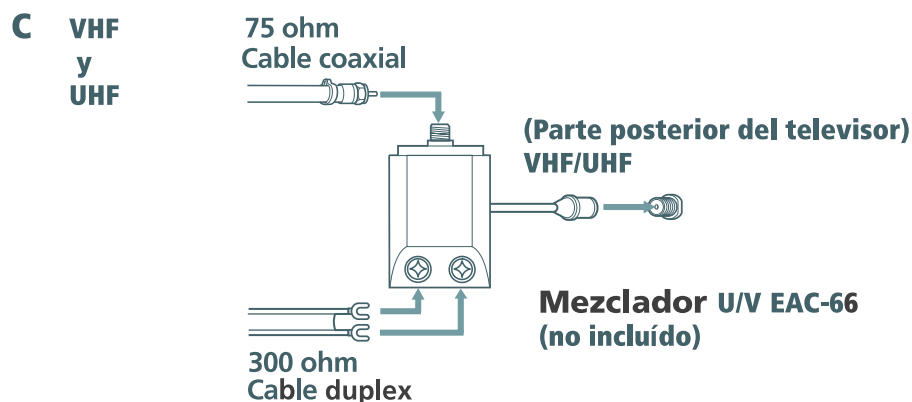
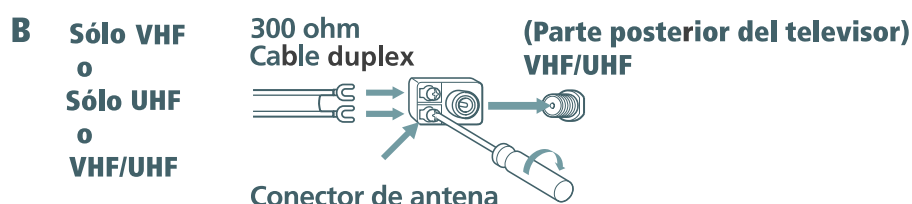
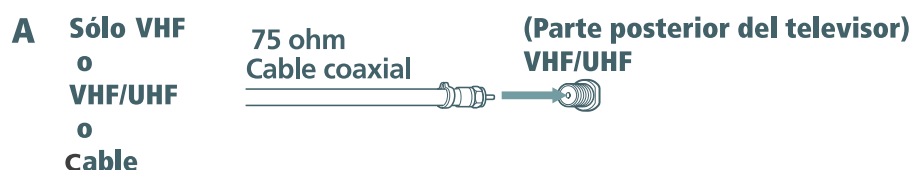
# Conexión del televisor


Lea este capítulo antes de configurar el televisor por primera vez. En esta sección se incluyen las conexiones básicas, así como la conexión de cualquier otro equipo.

## Conexiones básicas

### Televisor con antena interior o exterior, o cable CATV

Dependiendo del cable disponible, elija una de las conexiones siguientes:

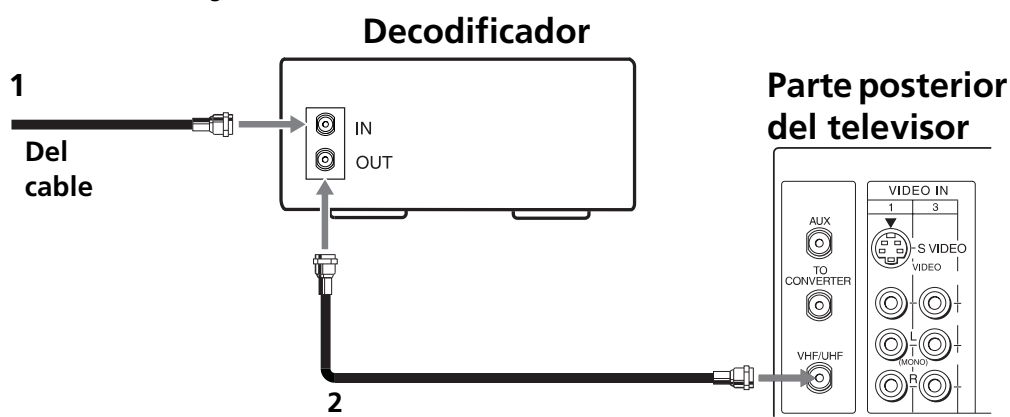


 Si realiza la conexión a una antena interior o exterior, es posible que necesite ajustar la orientación de la antena para obtener el mejor nivel de recepción.


## Conexiones de decodificador

Algunos sistemas de televisión por cable usan señales deformadas o codificadas que requieren un decodificador para poder ver todos los canales. Si se suscribe a dicho tipo de servicio de cable, utilice esta conexión. Las señales codificadas que recibe el televisor mediante el decodificador no pueden visualizarse en PIP. Si algunos canales están codificados, considere el uso de la conexión de decodificador y cable (consulte la página 5).

### Decodificador y televisor



- 1** Conecte el cable coaxial del servicio de cable a la entrada IN de su decodificador.
- 2** Empleando un cable coaxial (no incluido), conecte la salida OUT de su decodificador a la entrada VHF/UHF de su televisor.

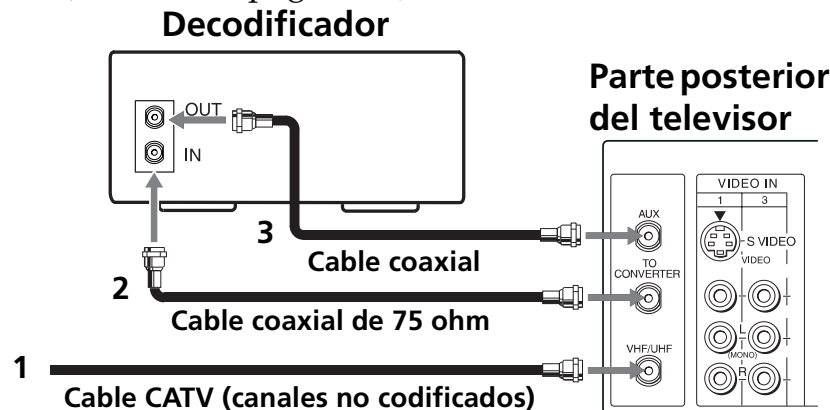
 Si va a hacer la selección de todos los canales a través de su decodificador, debe considerar la posibilidad de usar la función Fijar Canal ajustando el televisor en el canal 3 o 4 (consulte la página 27).

## Decodificador y cable



Utilice esta conexión si se suscribe a un sistema de cable que codifique algunos canales (canales de pago), pero no todos. Esta configuración permite utilizar el control remoto para:


- a) cambiar de canal mediante el decodificador cuando se recibe una señal codificada, y
- b) cambiar de canal mediante el televisor.


Esta conexión permite también utilizar la función PIP cuando se visualizan canales no codificados que el televisor recibe directamente del cable. Las señales codificadas transmitidas mediante el decodificador no pueden visualizarse en PIP. Para obtener más información sobre la función PIP, (consulte la página 18).



- 1** Conecte el cable coaxial de su servicio de cable a la entrada VHF/UHF de su televisor.
- 2** Empleando un cable coaxial (no incluido), conecte la entrada IN de su decodificador a la entrada TO CONVERTER de su televisor.
- 3** Empleando un cable coaxial (no incluido), conecte la salida OUT de su decodificador a la entrada AUX de su televisor.

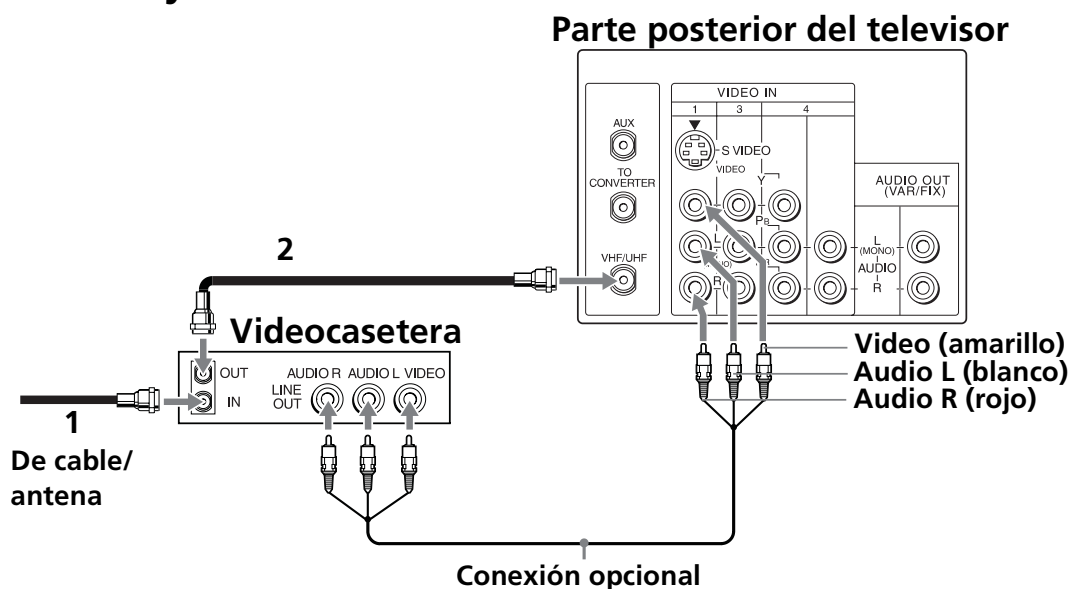
 Al oprimir el botón  del control remoto, las entradas de decodificador y de cable directo cambian.

 Su control remoto Sony puede programarse para hacer funcionar su decodificador (consulte la página 32).

 Con el fin de utilizar el decodificador para cambiar de canal, ajuste el televisor en el canal 3 o 4. El ajuste de la función Fijar Canal garantiza que los canales no cambien accidentalmente utilizando el televisor (consulte la página 27).

# Conexión de equipo adicional

## Televisor y videocasetera



Para ver programas de video desde la videocasetera, sintonice el televisor con el canal 3 o 4 (como esté ajustado en la parte posterior de la videocasetera).

- 1** Conecte el cable coaxial de la antena del televisor o del servicio de cable a la entrada IN de su videocasetera.
- 2** Empleando un cable coaxial (no incluido), conecte la salida OUT de su videocasetera a la entrada VHF/UHF de su televisor.

### Conexión opcional

Si la videocasetera está equipada con salidas de video, puede obtener mejor calidad de imagen conectando cables de Audio/Video (no incluidos) de las salidas AUDIO y VIDEO OUT de su videocasetera a las entradas AUDIO/VIDEO IN de su televisor.

Para obtener una calidad de imagen óptima, utilice S VIDEO en lugar del cable de Audio / Video amarillo. Puesto que S VIDEO no proporciona sonido, es preciso conectar los cables de audio.

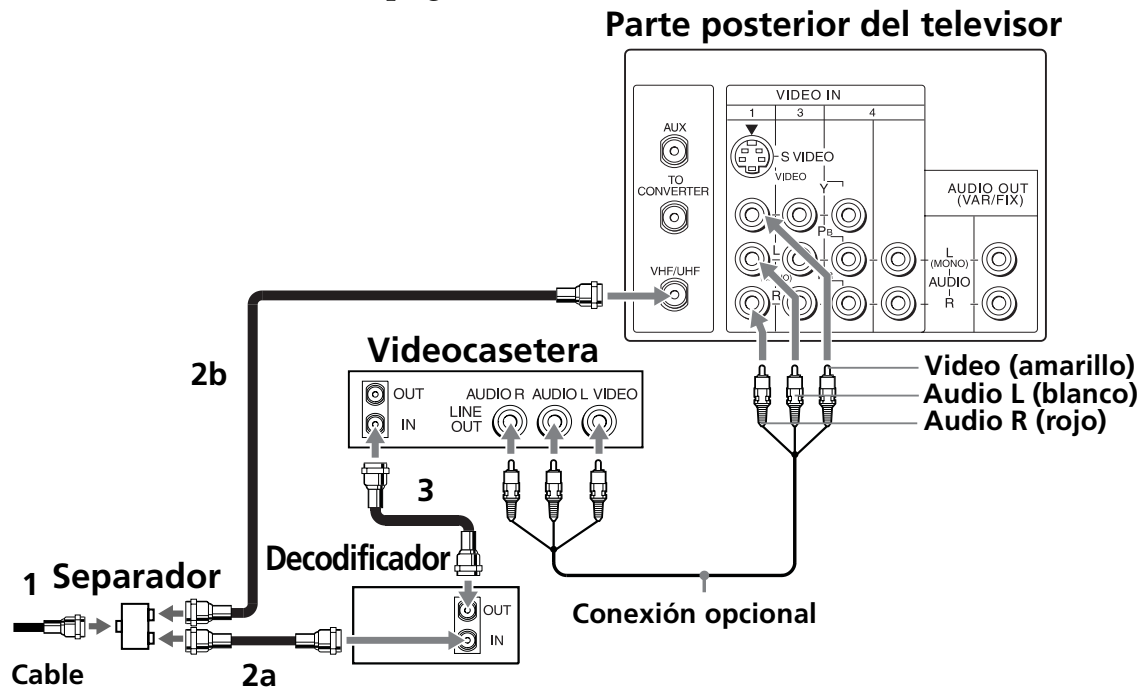
Puede utilizar el botón para cambiar entre las entradas de VHF/UHF y VIDEO.

## Televisor, videocasetera y decodificador

Utilice esta conexión si se suscribe a un sistema de cable que codifique algunos canales (canales de pago), pero no todos. Esta configuración permite utilizar el control remoto para:


- a) cambiar de canal mediante el decodificador o la videocasetera cuando se recibe una señal codificada, y
- b) cambiar de canal mediante el televisor.

Esta conexión permite también utilizar la función PIP cuando se visualizan canales no codificados que el televisor recibe directamente del cable. Las señales codificadas transmitidas mediante el decodificador no pueden visualizarse en PIP. Para obtener más información sobre la función PIP, (consulte la página 18).




- 1** Conecte la toma de entrada única del separador a la conexión de cable entrante.
- 2** Con un cable coaxial (no incluido), conecte las dos tomas de salida del separador a:
  - a) la entrada IN del decodificador, y
  - b) la entrada VHF/UHF del televisor.
- 3** Empleando un cable coaxial (no incluido), conecte la salida OUT de su decodificador a la entrada IN de su videocasetera.



(continúa)

-  Si va a hacer la selección de todos los canales a través de su decodificador, debe considerar la posibilidad de usar la función Fijar Canal ajustando el televisor en el canal 3 o 4 (consulte la página 27).

### **Conexión opcional**

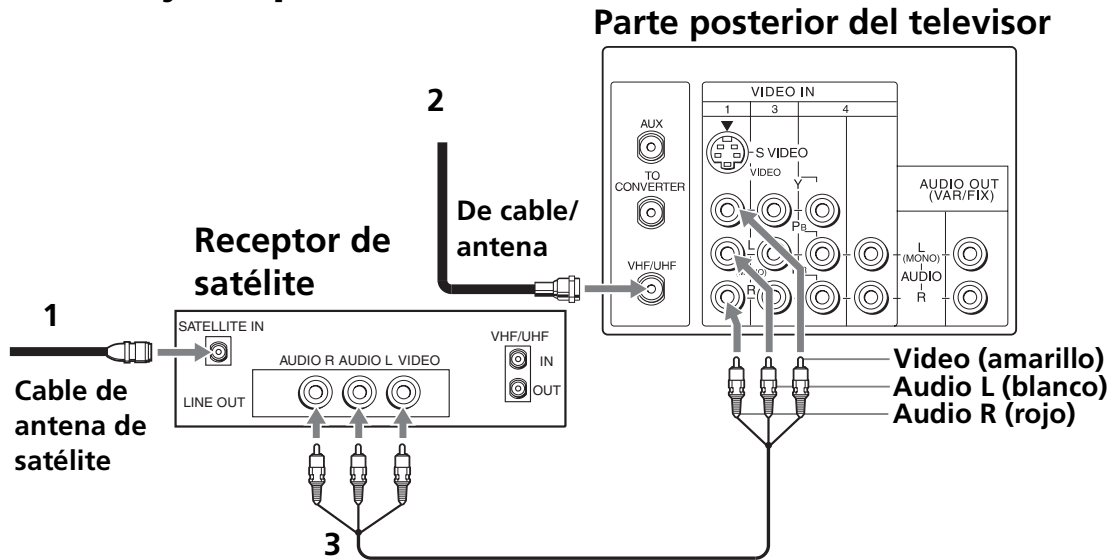
Si la videocasetera está equipada con salidas de video, puede obtener mejor calidad de imagen conectando cables de Audio/Video (no incluidos) de las salidas AUDIO y VIDEO OUT de su videocasetera a las entradas AUDIO/VIDEO IN de su televisor.

-  Para obtener una calidad de imagen óptima, utilice S VIDEO en lugar del cable de Audio/Video amarillo. Puesto que S VIDEO no proporciona sonido, es preciso conectar los cables de audio.

-  Puede utilizar el botón  para cambiar entre las entradas de VHF/UHF y VIDEO.



## Televisor y receptor de satélite



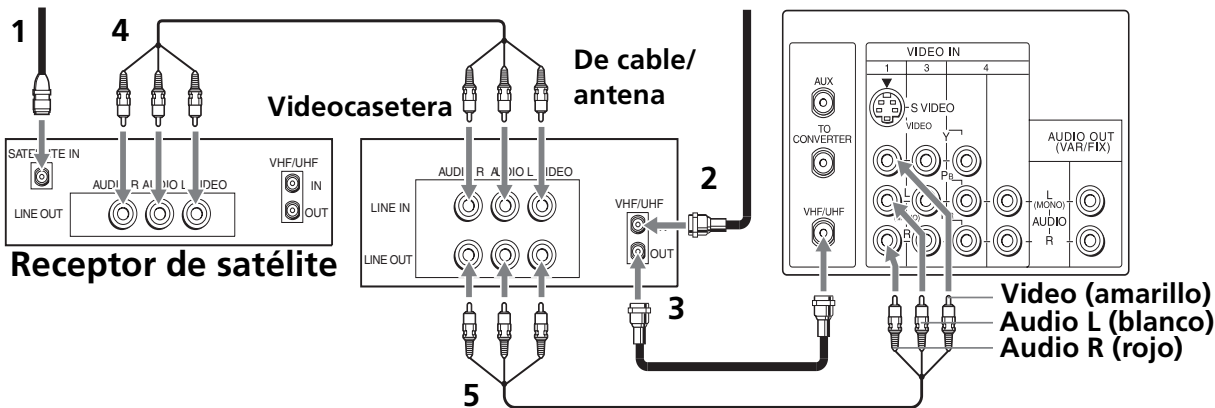
- 1** Conecte el cable de su antena de satélite a la entrada **SATELLITE IN** de su receptor de satélite.
- 2** Conecte el cable coaxial de su sistema de cable o antena a la entrada **VHF/UHF** de su televisor.
- 3** Con cables de Audio/Video (no incluidos), conecte las salidas **AUDIO** y **VIDEO OUT** de su receptor de satélite a las entradas **AUDIO** y **VIDEO IN** de su televisor.

Para obtener una calidad de imagen óptima, utilice **S VIDEO** en lugar del cable de Audio/Video amarillo. Puesto que **S VIDEO** no proporciona sonido, es preciso conectar los cables de audio.


Puede utilizar el botón **TV/VIDEO** para cambiar entre las entradas de **VHF/UHF** y de receptor de satélite.

## Televisor, receptor de satélite y videocasetera

Cable de  
antena de  
satélite

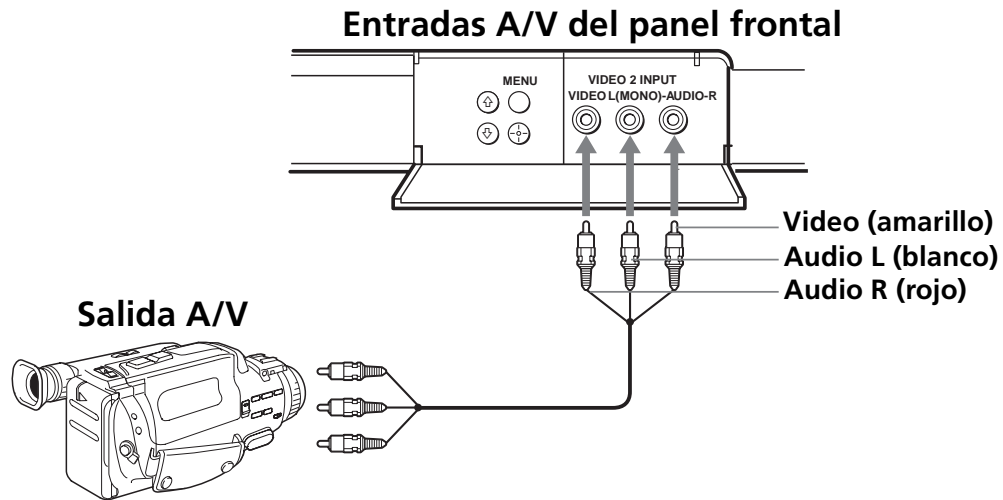


- 1** Conecte el cable de su antena de satélite a la entrada SATELLITE IN de su receptor de satélite.
- 2** Conecte el cable coaxial de su sistema de cable o antena a la entrada IN de su videocasetera.
- 3** Empleando un cable coaxial (no incluido), conecte la salida OUT de su videocasetera a la entrada VHF/UHF de su televisor.
- 4** Con cables de Audio/Video (no incluidos), conecte las salidas AUDIO y VIDEO OUT de su receptor de satélite a las entradas AUDIO y VIDEO IN de su videocasetera.
- 5** Con cables de Audio/Video (no incluidos), conecte las salidas AUDIO y VIDEO OUT de su videocasetera a las entradas AUDIO y VIDEO IN de su televisor.

 Para ver la entrada del receptor de satélite o de la videocasetera, seleccione la entrada de video a la que esté conectado el receptor o la videocasetera; para ello, oprima **TV/VIDEO** en el control remoto.

## Conexión de una cámara de video

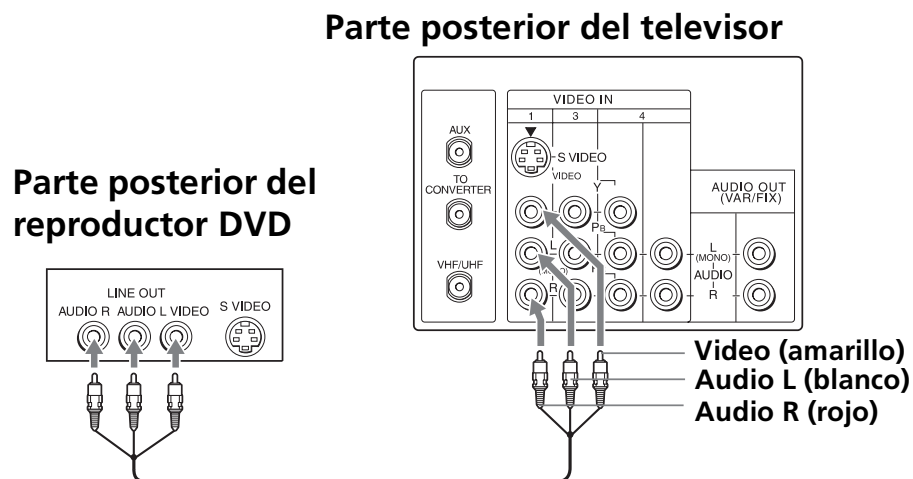
Con cables de Audio/Video (no incluidos), conecte las salidas AUDIO y VIDEO OUT de su cámara de video a las entradas AUDIO y VIDEO IN de su televisor.



Si dispone de una cámara de video equipada de S VIDEO, podrá utilizar un cable S VIDEO para obtener imágenes de óptima calidad.

## Conexión de un reproductor DVD

Con cables de Audio/Video (no incluidos), conecte la salida de AUDIO y VIDEO OUT de su reproductor DVD a las entradas AUDIO y VIDEO IN de su televisor.

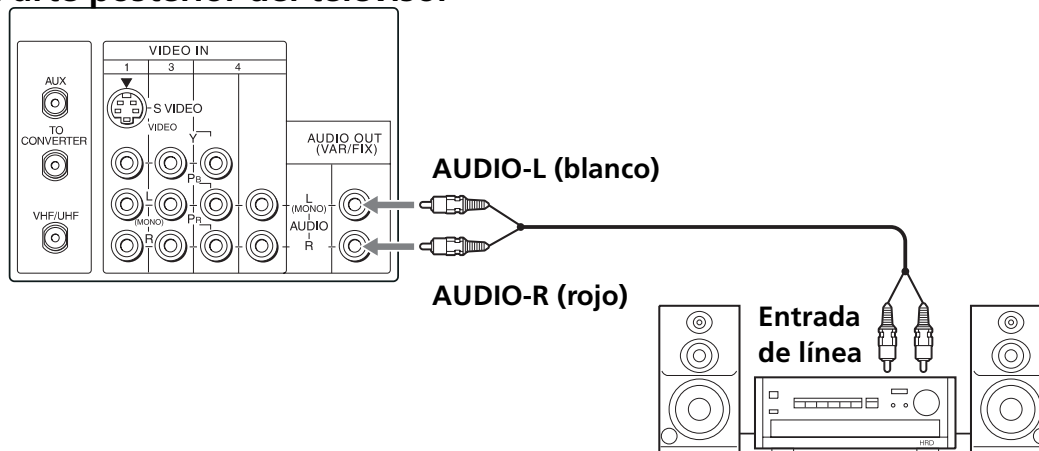



Para obtener una calidad de imagen óptima, utilice S VIDEO en lugar del cable de Audio / Video amarillo. Puesto que S VIDEO no proporciona sonido, es preciso conectar los cables de audio.

## Conexión de un sistema de audio

Con cables de audio (no incluidos), conecte la salida AUDIO OUT de su televisor a una de las entradas de línea que no se utilice (p.ej. TV, AUX, TAPE2) de su sistema estéreo.

### Parte posterior del televisor



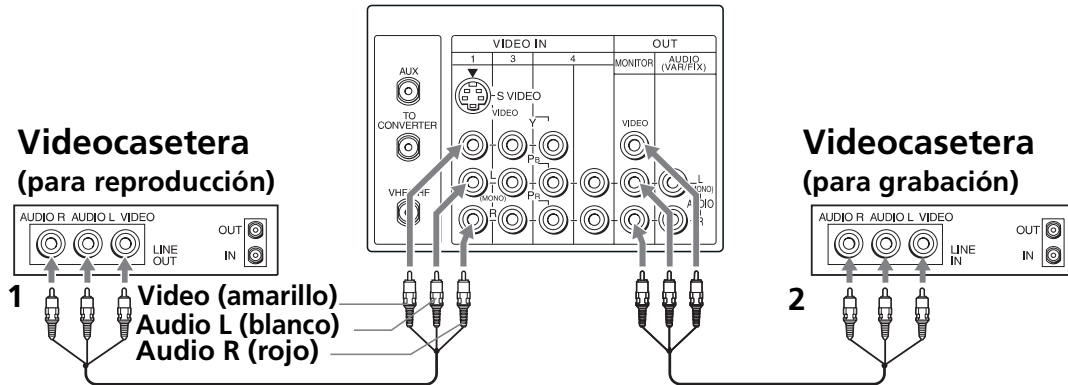
 Ajuste el sistema estéreo en la entrada de línea seleccionada. Consulte la página 24 para obtener instrucciones complementarias sobre ajustes de audio.

## Conexión de dos videocaseteras para edición de cintas


Sólo KV-29FV17 y KV-29FV17C

Puede conectar dos videocaseteras para editar cintas de video. También puede conectar ambas videocaseteras a su televisor para ver el programa en grabación.

### Parte posterior del televisor (sólo KV-29FV17 y KV-29FV17C)

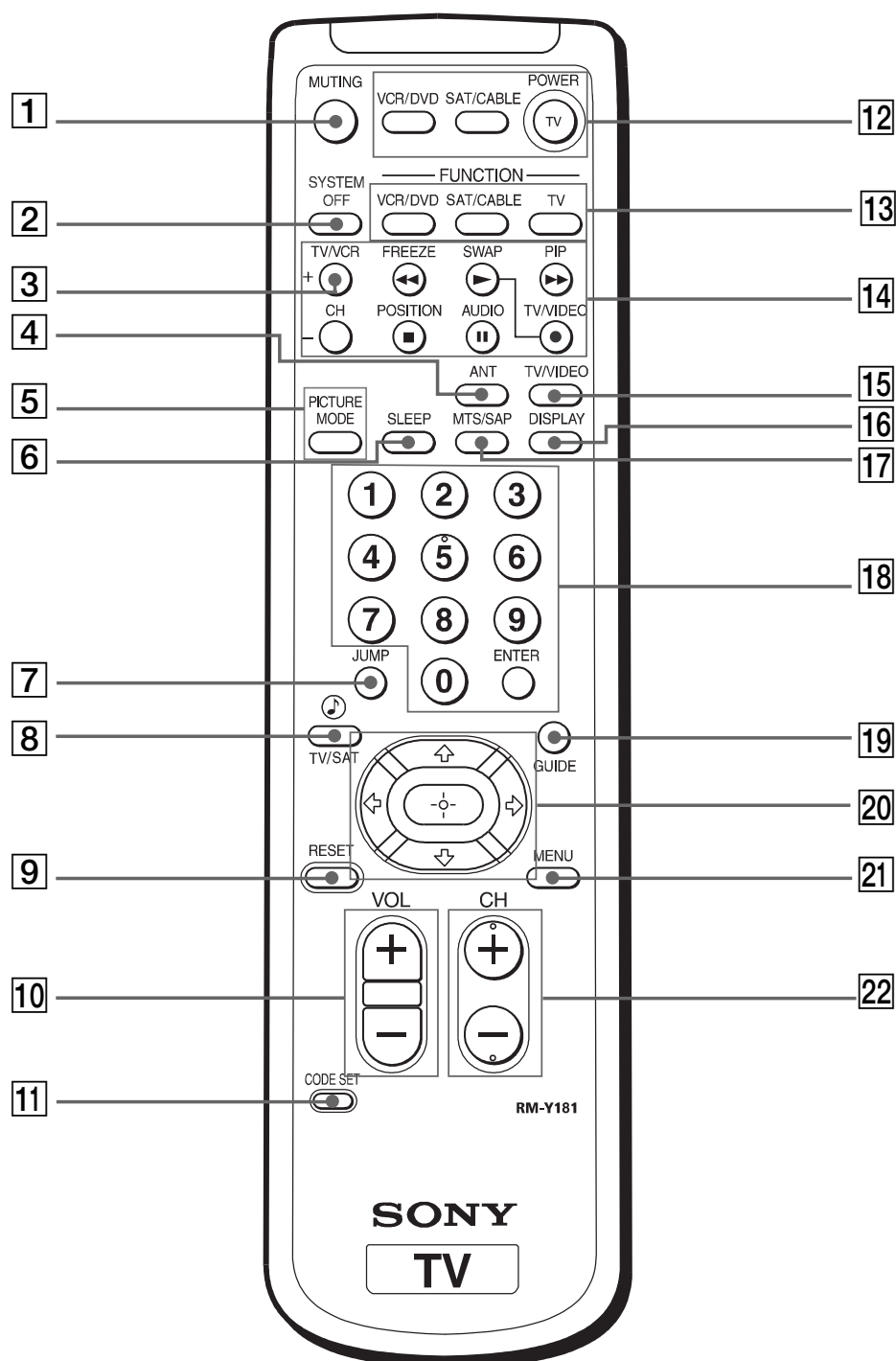


- 1** Con un cable de Audio/Video (no incluido), conecte las salidas AUDIO y VIDEO OUT de su primera videocasetera a las entradas AUDIO y VIDEO IN de su televisor.
- 2** Con un cable de Audio/Video (no incluido), conecte las salidas AUDIO y VIDEO OUT de la segunda videocasetera a las salidas MONITOR AUDIO y VIDEO OUT de su televisor.



 Para editar cintas, ajuste el televisor en la entrada de video destinada a la reproducción; para ello, oprima .


# Uso del control remoto y las funciones básicas

En esta sección se explica cómo utilizar los botones más avanzados del control remoto, así como los menús en pantalla.



## Uso del control remoto

| Botón  | Descripción  |
|--|--|
| <b>1 MUTE</b>  | Apaga el sonido instantáneamente. Oprímalo de nuevo u oprima  para encender el sonido de nuevo. |
| <b>2 SYSTEM OFF</b>  | Apaga simultáneamente todos los equipos Sony (puede no funcionar con equipos más antiguos).  |
| <b>3 TV/VCR</b>  | Oprímalo cuando termine de utilizar una videocasetera y desee cambiar a la entrada de televisión. La alimentación de la videocasetera permanecerá activada.                      |
| <b>4 ANT (antena)</b>  | Oprímalo para cambiar la entrada VHF/UHF a la entrada AUX (sólo KV-29FV17 y KV-29FV17C).   |
| <b>5 PICTURE MODE</b>  | Recorre cíclicamente los ajustes de modo de video disponibles.   |
| <b>6 SLEEP</b>   | Apaga el televisor automáticamente en 15, 30, 45, 60, 90 o 120 minutos aproximadamente. Para cancelar, oprímalo hasta que aparezca SLEEP OFF.                                    |
| <b>7 JUMP</b>  | Permite alternar entre los dos últimos canales seleccionados con los botones <b>0-9</b> .  |
| <b>8</b>  | Recorre cíclicamente los ajustes de sonido estable (Steady Sound) disponibles (consulte la página 24).   |
| <b>9 RESET</b>   | Oprímalo para volver a los ajustes de fábrica desde un menú en pantalla.   |
| <b>10 VOL (volumen)</b>  | Oprímalo cuando desee ajustar el volumen.  |
| <b>11 CODE SET</b>   | Utilícelo para programar el control remoto con el fin de hacer funcionar equipos de video conectados (consulte la página 32).  |
| <b>12 POWER</b>  | Oprímalo para encender y apagar el equipo conectado.   |
| <b>13 FUNCTION</b>   | Oprímalo para controlar el equipo conectado mediante el control remoto.  |
| <b>14 Imagen en imagen (PIP)</b>   | Activa la función PIP. Para utilizar la función PIP, consulte la página 18.  |

 El control remoto mostrado en la página 14 (RM-Y181) es para los modelos KV-29FV17 y KV-29FV17C. Su control remoto puede no ser como el que aparece en las ilustraciones.

(continúa)

|                       |   |
|-----------------------|---|
| <b>15 TV/VIDEO</b>    | Recorre cíclicamente las entradas de video disponibles.   |
| <b>16 DISPLAY</b>     | Oprímalo una vez para mostrar la hora actual (si está ajustada) y el número de canal. Para cancelar, oprímalo hasta que aparezca la indicación "DISPLAY OFF".                   |
| <b>17 MTS/SAP</b>     | Oprima este botón para recorrer las opciones Multi-channel TV Sound (MTS) (opciones de sonido multicanal del televisor): Estéreo, Mono y Auto-SAP (segundo programa de sonido). |
| <b>18 0-9 y ENTER</b> | Permiten cambiar de canal directamente e introducir valores numéricos en indicaciones en pantalla.  |
| <b>19 GUIDE</b>       | Permite acceder a la guía personalizada del receptor de satélite.   |
| <b>20</b>             | Mueve el cursor por los menús en pantalla. Oprima los botones de flecha para mover el cursor. Oprima el botón central para seleccionar o acceder a una opción.                  |
| <b>21 MENU</b>        | Muestra el menú en pantalla. Oprímalo de nuevo para salir del menú en cualquier momento.  |
| <b>22 CH (canal)</b>  | Oprímalo cuando desee cambiar de canal.   |



Para obtener información sobre los botones de utilización de Imagen en imagen (PIP), consulte la página 18.



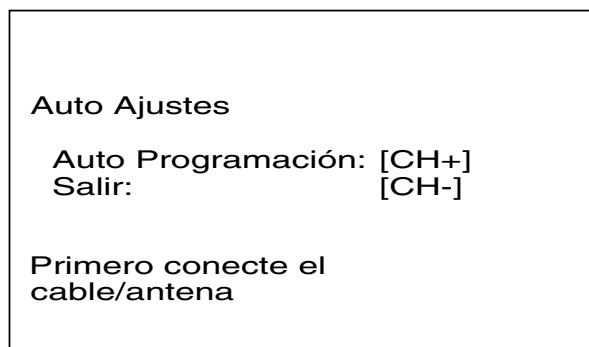
Si pierde el control remoto, consulte la página 38.






## Programación automática del televisor

Después de conectar el televisor, puede ejecutar Auto Programación para programar los canales.











- 1 Oprima  para encender el televisor. Aparece la pantalla de ajuste inicial.





- 2 Oprima el botón TV FUNCTION.
- 3 Oprima  en el control remoto o en el panel frontal del televisor para realizar la Auto Programación, u oprima  para salir.

 La pantalla de ajuste inicial aparecerá cada vez que encienda el televisor hasta que ejecute Auto Programación.

### Para volver a ejecutar Auto Programación

- 1 Oprima .
- 2 Oprima  para resaltar el menú Ajuste de Canal (  ).
- 3 Oprima  para resaltar Cable. Oprima  para seleccionar.
- 4 Oprima  o  para seleccionar SI o NO en función de cómo conectó su televisor. Oprima .
- 5 Oprima  para resaltar Auto Programación. Oprima  para buscar canales.

 Cuando termine Auto Programación, oprima  para salir.

## Uso de Imagen en imagen (PIP)

La función Imagen en imagen (PIP) permite ver dos canales simultáneamente, uno al tamaño normal como imagen “principal” y el otro en una imagen pequeña conocida como “ventana”.



### Sintonizador dual PIP

Sólo KV-29FV17, KV-29FV17C


Estos modelos están equipados con sintonizadores duales. Esto significa que PIP está “listo para utilizarse”.

|                        |   |
|------------------------|---|
| PIP<br>                | Oprímalo para activar y desactivar la función PIP. Oprímalo varias veces para cambiar el tamaño de la imagen de ventana y para desactivar la función PIP.   |
| TV/VIDEO<br>           | Oprímalo varias veces para recorrer cíclicamente las entradas de video disponibles del equipo de video que haya conectado al televisor.   |
| AUDIO<br>              | Oprima este botón para alternar entre el sonido de la imagen principal y el de la imagen de ventana. El símbolo de sonido  aparece durante 3 segundos, indicando si escucha el sonido de la imagen principal o el de la de ventana. |
| TV/VCR<br>+<br>CH<br>- | Oprímalo para cambiar de canal en la imagen de ventana. Para cambiar el canal de la ventana principal, utilice los botones CH+/- principales de la parte inferior del control remoto.   |
| POSITION<br>           | Oprímalo para cambiar la ubicación de la imagen de ventana entre las cuatro esquinas de la pantalla.  |
| FREEZE<br>             | Oprímalo para congelar la imagen de ventana. Oprímalo de nuevo para restaurar la imagen.  |
| SWAP<br>               | Oprímalo para cambiar la imagen principal y la de ventana. Oprímalo de nuevo para volver a cambiarlas.  |



La entrada AUX no se puede ver en la imagen de ventana.


Para obtener más información sobre el control remoto, consulte la página 14.


## Para utilizar PIP

- 1** Oprima el botón TV FUNCTION del control remoto para ver algún canal activo.
- 2** Oprima el botón  para que aparezca la imagen de ventana.
- 3** Utilice los botones de color amarillo del control remoto para controlar las funciones PIP. Consulte la página 18 para obtener descripciones sobre los botones de control de PIP.

## Para comprobar la imagen PIP

- 1** Oprima el botón TV FUNCTION del control remoto para ver algún canal activo.
- 2** Oprima el botón  y seleccione de nuevo el mismo canal. En este momento, el mismo programa debe aparecer en las ventanas principal y de imagen.
- 3** Utilice los botones CH+/- amarillos para cambiar de canal en la ventana de imagen.
- 4** Utilice ahora los botones CH+/- principales de la parte inferior del control remoto para cambiar de canal en la ventana principal.
- 5** Oprima el botón  para cambiar a otras entradas de video de otros equipos que estén conectados a cualquiera de las tomas VIDEO IN del panel posterior del televisor. Debe ver una imagen diferente en la ventana PIP correspondientes a cada uno de los componentes de equipo de video conectados. Compruebe que el equipo conectado está encendido y en funcionamiento cuando realice esta prueba.
- 6** Si la función PIP no se activa correctamente con el televisor o el componente de equipo de video conectado, consulte la sección Solución de problemas en las páginas 37-38 para obtener posibles soluciones.


 Todos los equipos de video que haya conectado a la entrada AUX no pueden verse en la ventana PIP.

 Si ve todos los canales a través de un decodificador, la función PIP no se activará. Puesto que el decodificador sólo decodifica una señal cada vez, la imagen de ventana será la misma que la principal. No obstante, es posible visualizar un canal de cable y otra fuente de video. Compruebe que el reproductor DVD, videocasetera o receptor de satélite está conectado a las tomas VIDEO IN del panel posterior del televisor, no a la entrada AUX.

## Acceso rápido a los menús

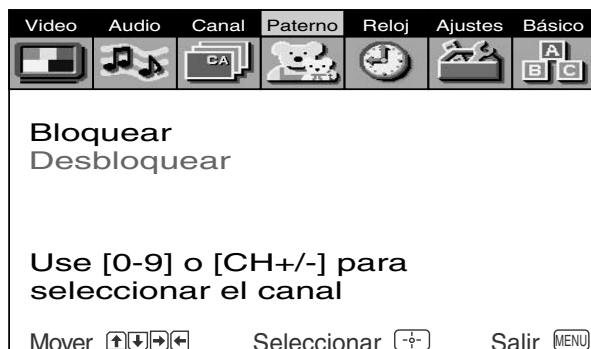
Los siguientes ajustes están disponibles en los menús en pantalla:

| Menú  | Permite                              |
|---|--------------------------------------|
|  <p>Video Audio Canal Paterno Reloj Ajustes Básico</p> <p>Modo: Vívado<br/>Contraste<br/>Brillo<br/>Color<br/>Tinte<br/>Nitidez<br/>Calidez: Frío<br/>MV: Alto</p> <p>Mover [Up][Down][Left][Right] Seleccionar [Enter] Salir [MENU]</p>                     | Hacer ajustes a la imagen.           |
|  <p>Video Audio Canal Paterno Reloj Ajustes Básico</p> <p>Agudos<br/>Graves<br/>Balance<br/>Auto Volumen: SI<br/>Efecto: NO<br/>MTS: Estéreo<br/>Bocinas: SI<br/>Salida: Variable</p> <p>Mover [Up][Down][Left][Right] Seleccionar [Enter] Salir [MENU]</p> | Cambiar los ajustes de audio.        |
|  <p>Video Audio Canal Paterno Reloj Ajustes Básico</p> <p>Canal Favorito<br/>Cable: NO<br/>Fijar Canal: NO<br/>Auto Programación<br/>Omitir/Añadir Canal<br/>Nombre de Canal</p> <p>Mover [Up][Down][Left][Right] Seleccionar [Enter] Salir [MENU]</p>     | Personalizar los ajustes de canales. |

 Los menús ilustrados en este manual corresponden a los modelos KV-29FV17 y KV-29FV17C. Es posible que sus menús sean diferentes a estos.

## Menú

## Permite



Definir límites de clasificación en su televisor basados en clasificaciones o contenidos de los programas.



Ajustar el reloj de su televisor y programar la visualización de programas específicos usando Reloj 1 y Reloj 2.



Programar canales, etiquetar entradas de video, seleccionar el idioma de los menús o ejecutar una demostración de éstos.












Seleccionar ajustes básicos para el televisor.

# Uso de los menús

En esta sección se muestran las opciones disponibles para programar y ajustar su televisor.

## Para acceder a un menú

- 1** Oprima  para visualizar el menú en pantalla.
- 2** Utilice  o  para resaltar el menú que desee y oprima .
- 3** Utilice los botones  o  para resaltar la opción que desee y oprima  (el ajuste ó las opciones de esa función aparecerá en la pantalla).
- 4** Oprima  para completar el ajuste.
- 5** Oprima  para salir del menú.

## Uso del menú de Video

Para acceder el menú de Video, realice los siguientes pasos:



### Modo



*Visualización de imagen personalizada*

**Vívido:** Seleccione este modo para aumentar el contraste y la nitidez de la imagen.

**Estándar:** Seleccione este modo para ver imágenes cotidianas.


**Deportes:** Seleccione este modo para ver imágenes con mas brillo.


**Película:** Seleccione este modo para ver imágenes con mayor detalle.

 Oprima  para acceder directamente a ajustes de Modo (Vívido, Estándar, Deportes, Película).

### Contraste


*Contraste de imagen*

Oprima  para disminuir el contraste de la imagen.

Oprima  para aumentar el contraste de la imagen.

### Brillo


*Ajuste de la imagen*

Oprima  para disminuir el brillo de la imagen.

Oprima  para aumentar el brillo de la imagen.

### Color

*Saturación del color*

Oprima  para disminuir la saturación del color.

Oprima  para aumentar la saturación del color.

### Tinte

*Tonos del color*


Oprima  para aumentar los tonos rojos.

Oprima  para aumentar los tonos verdes.

### Nitidez

*Detalle de la imagen*

Oprima  para suavizar la imagen.

Oprima  para agudizar la imagen.

### Calidez

*Ajuste de intensidad del blanco*

**Frío:** Proporciona un matiz azulado a los colores blancos.

**Neutro:** Proporciona un matiz neutro a los colores blancos.

**Cálido:** Proporciona un matiz rojizo a los colores blancos.

### MV

*Modulación de velocidad*

Agudiza la definición de la imagen para que los objetos adquieran un borde perfilado. Seleccione una de las siguientes opciones: **Alto, Bajo, NO.**

## Uso del menú de Audio

Para acceder el menú de Audio, realice los siguientes pasos:

**Mostrar**



**Resaltar** 



**Seleccionar**



|   |  |
|---|--|
| <b>Agudos</b>                                       | Oprima ⇐ para disminuir los sonidos agudos.<br>Oprima ⇒ para aumentar los sonidos agudos.  |
| <b>Graves</b>                                       | Oprima ⇐ para disminuir los sonidos graves.<br>Oprima ⇒ para aumentar los sonidos graves.  |
| <b>Balance</b>                                      | Oprima ⇐ para potenciar el sonido de la bocina izquierda.<br>Oprima ⇒ para potenciar el sonido de la bocina derecha.   |
| <b>Auto Volumen</b><br><i>Estabiliza el volumen</i> | Oprima ⬆ o ⬇ para seleccionar una de las siguientes opciones:<br><b>SI:</b> Selecciónelo para estabilizar el volumen al cambiar de canal.<br><b>NO:</b> Selecciónelo para desactivar Auto Volumen. |



Oprima




TV/SAT


para seleccionar directamente ajustes de Auto Volumen.

|               |  |
|---------------|--|
| <b>Efecto</b> | Oprima ⬆ o ⬇ para seleccionar una de las siguientes opciones:<br><b>NO:</b> Recepción estereofónica o monofónica normal.<br><b>SRS:</b> Produce sonido tridimensional dinámico para señales de audio estéreo (sólo KV-29FV17 y KV-29FV17C).<br><b>Simulado:</b> Añade un efecto de sonido envolvente simulado en los programas monofónicos (sólo KV-29FV17 y KV-29FV17C).<br><b>Surround:</b> Simula el sonido con calidad de sala de cine para programas estéreo (sólo KV-29FS13 y KV-29FS13C). |
|---------------|--|




|  |   |
|--|---|
| <b>MTS</b><br><i>Sonido multicanal</i> | <p><b>Estéreo:</b> Selecciónelo cuando visualice una emisión en estéreo.</p> <p><b>Mono:</b> Selecciónelo para reducir el ruido en zonas de recepción deficiente.</p> <p><b>Auto-SAP:</b> Selecciónelo para que el televisor cambie automáticamente a un segundo programa de sonido (SAP) al recibirse una señal.</p> |
|--|---|

 Si el televisor está ajustado en Auto-SAP, puede que algunos programas no se oigan o que aparezcan distorsionados. Si el televisor no emite sonido, cambie los ajustes de Audio a Estéreo o Mono.

 Oprima  para realizar ajustes de MTS directamente (Estéreo, Mono, Auto-SAP).

|  |  |
|--|--|
| <b>Bocinas</b><br><i>Selección personalizada de fuentes de salida de audio</i> | <p><b>SI:</b> Selecciónelo para escuchar el sonido a través de las bocinas del televisor con o sin un sistema estéreo independiente.</p> <p><b>NO:</b> Selecciónelo para desactivar las bocinas del televisor y escuchar el sonido de éste sólo a través de las bocinas de un sistema de sonido externo.</p> |
|--|--|

|   |   |
|---|---|
| <b>Salida</b><br><i>Utilícelo para controlar el volumen del televisor mediante un sistema estéreo</i> | <p>Utilice Salida solamente cuando haya un sistema de audio externo conectado al televisor.</p> <p><b>Variable:</b> Ajuste el volumen mediante el televisor.</p> <p><b>Fija:</b> Ajuste el volumen del televisor mediante un sistema estéreo conectado.</p> |
|---|---|

 Salida sólo puede ajustarse cuando Bocinas está desactivado (NO).

## Uso del menú de Ajuste de Canal

Para acceder el menú de Ajuste de Canal, realice los siguientes pasos:

**Mostrar**



**Resaltar**













**Seleccionar**









### Canal Favorito

*Acceso rápido a canales favoritos*

Con el menú de Canal Favorito abierto:

- 1 Oprima  para seleccionar.
- 2 Utilice los botones  o  para seleccionar Auto o Manual. Si selecciona Auto, aparecerán los últimos siete canales a los que acceso mediante los botones **0-9**.
- 3 Cuando se encuentre en Manual, oprima  y, a continuación,  para seleccionar la posición (1-7) en la que desee ajustar un canal favorito. Después oprima .
- 4 Con los botones  o , seleccione el canal deseado.
- 5 Oprima  para cambiar al canal introducido. Oprima  para salir.


 Para utilizar Canal Favorito: Salga de todos los menús y oprima . Oprima  o  para desplazar el cursor al número de canal que desee, y oprima .












 Después de cerrar el menú, aparece la imagen de ventana PIP para que pueda previsualizar el canal favorito (sólo KV-29FV17 y KV-29FV17C).


### Cable

**SI:** Selecciónelo si está recibiendo canales por cable con un cable CATV.

**NO:** Selecciónelo si está utilizando una antena de televisión.

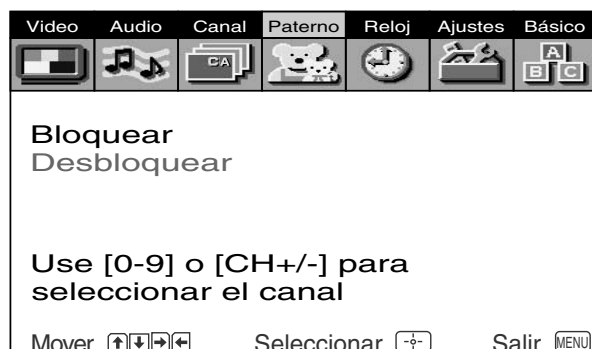
 Después de cambiar los ajustes de cable, será necesario ejecutar Auto Programación.


|   |  |
|---|--|
| <b>Fijar Canal</b>  | <p><b>2-6:</b> Selecciónelo cuando desee controlar la selección de todos los canales a través del decodificador o videocasetera. Seleccione el canal adecuado (normalmente 3 o 4) y utilice el control remoto del decodificador o de la videocasetera para la selección de canal.</p> <p><b>Video 1:</b> Seleccione una de las entradas de video accesibles cuando esté conectado al equipo de video (p. ej., receptor de satélite) y quiera fijar su televisor a ésta.</p> <p><b>AUX 2-6:</b> Utilice este ajuste en lugar de <b>2-6</b> si desea cambiar de canal mediante un decodificador, videocasetera o receptor de satélite y lo haya conectado a la entrada AUX (sólo KV-29FV17, KV-29FV17C).</p> <p><b>NO:</b> Fijar Canal no se ajustará.</p>   |
| <b>Auto Programación</b>  | Ejecute Auto Programación siempre que programe su televisor. Recorrerá todos los canales disponibles y programará los que se reciben.  |
| <b>Omitir/Añadir Canal</b>  | <p>Utilice esta función después del ejecutar Auto Programación para omitir los canales que no desee o para añadir canales nuevos.</p> <ol style="list-style-type: none"> <li>1 Utilice los botones ①-⑨ o [CH+/-] para seleccionar el canal.</li> <li>2 Oprima  para omitir o añadir (sólo habrá disponible una opción).</li> </ol>   |
| <b>Nombre de Canal</b><br><i>Etiqueta un máximo de 40 canales con sus "call letters" (letras identificativas de localización)</i> | <p>Con la ventana Nombre de Canal abierta:</p> <ol style="list-style-type: none"> <li>1 Oprima  y, a continuación,  o  hasta que llegue al número del canal deseado.</li> <li>2 Oprima  para activar el canal.</li> <li>3 Oprima  y, a continuación,  para resaltar el campo de nombre.</li> <li>4 Oprima  o  para visualizar el primer número o letra del nombre y oprima  para seleccionarlo. Cuando termine, oprima  para activarlo.</li> </ol> |

 Canal Favorito, Omitir/Añadir Canal y Nombre de Canal no pueden usarse cuando Fijar Canal está ajustado.


## Uso del menú Paterno


Para acceder el menú Paterno, realice los siguientes pasos:




Con el menú Paterno abierto, oprima  para seleccionar Bloquear o Desbloquear:


### Bloquear

Use **0-9** o **[CH +/-]** para elegir un canal que desee bloquear, y después oprima  para seleccionar.

 Cuando un canal se bloquea, aparece en forma de pantalla negra con la palabra "Bloqueado" sobre la pantalla (sólo en el uso normal de la TV).

### Desbloquear

Use **0-9** o **[CH +/-]** para elegir el canal que desee desbloquear, y después oprima  para seleccionar.

 Para cancelar todos los canales bloqueados, abra el menú Paterno y oprima



## Uso del menú de Reloj

Para acceder al menú de Reloj, realice los siguientes pasos:



### Hora Actual

Con el menú abierto:


- 1 Oprima  $\uparrow$  o  $\downarrow$  para seleccionar la hora actual y, después, oprima  $\rightarrow$ .  
(Si se encuentra en la Hora de Verano, asegúrese de ajustar Hora de Verano en "SI").
- 2 Oprima  $\uparrow$  o  $\downarrow$  para introducir la hora actual y, después, oprima  $\rightarrow$ .
- 3 Oprima  $\text{MENU}$  para salir del menú.


### Reloj 1 y Reloj 2

*Visualización programada*

Con el menú abierto, coloque el cursor en Reloj 1 o Reloj 2:


- 1 Oprima  $\uparrow$  o  $\downarrow$  para seleccionar Reloj 1 o Reloj 2 y, después, oprima  $\rightarrow$ .
- 2 Oprima  $\uparrow$  o  $\downarrow$  para introducir la hora y canal que prefiera y, después, oprima  $\rightarrow$ .
- 3 Oprima  $\text{MENU}$  para salir del menú.


 Es preciso ajustar Hora Actual para poder utilizar Reloj 1 y Reloj 2.

 Es posible ajustar el Reloj en SI, NO o Ajuste. Una vez programado el reloj, podrá activarlo o desactivarlo sin necesidad de realizar los distintos ajustes.

### Hora de Verano

**SI:** Selecciónelo en primavera para compensar la hora de verano.  
**NO:** Selecciónelo en otoño al final de la Hora de Verano.















 Al ejecutar Auto Programación, se borrarán todos los ajustes de Reloj 1 y Reloj 2.

 En caso de interrupción de alimentación, se borrarán los ajustes de Hora Actual, Reloj 1 y Reloj 2.

# Uso del menú de Ajustes

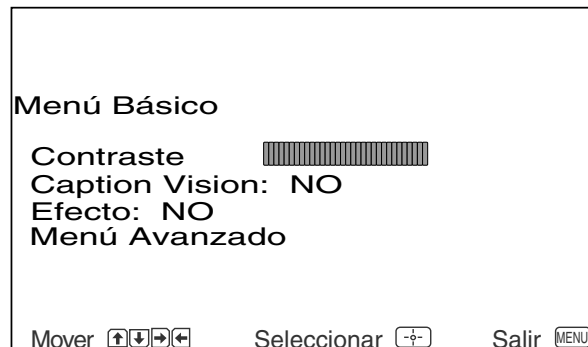
Para acceder el menú de Ajustes, realice los siguientes pasos:













|   |   |
|---|---|
| <b>Caption Vision</b><br><i>Subtítulos</i>                      | Permite realizar la selección entre los tres modos de subtítulo (para programas que se emiten con subtítulos).<br>Oprima  o  para seleccionar una de las siguientes opciones:<br><b>NO:</b> Desactiva Caption Vision.<br><b>CC1, 2, 3, 4:</b> Muestra el diálogo impreso y los efectos de sonido de un programa.<br><b>TXT1, 2, 3, 4:</b> Muestra información de la red/emisora.<br><b>XDS</b> (Servicio ampliado de datos): Muestra información sobre la emisora y el programa actual, si está disponible.  |
| <b>Etiqueta de Video</b><br><i>Nombre de equipos conectados</i> | Permite asignar nombre a los equipos de audio/video que haya conectado al televisor para poder identificarlos cuando se encuentre en el modo Desplegado.<br>Con la ventana Etiqueta de Video abierta:<br><b>1</b> Oprima  o  para acceder a la entrada a la que desee asignar nombre y oprima  .<br><b>2</b> Oprima  o  para elegir un nombre y oprima  . |
| <b>Rotación</b>   | Oprima  o  para corregir cualquier inclinación que se aprecie en la imagen entre -5 y +5.<br>Oprima  para activarlo.   |
| <b>Lenguaje</b>   | Selecciónelo para mostrar todos los menús en el idioma que desee. Utilice los botones  o  , seleccione el idioma que desee y oprima  .   |
| <b>16:9 Realzado</b>  | Proporciona una resolución realzada de imagen para fuentes de pantalla panorámica como DVD (disponible solamente cuando el televisor se encuentra en el modo de Video).   |
| <b>Demostración</b>   | Selecciónelo para ver una demostración de los menús en pantalla.  |

## Uso del menú Básico

Para acceder el menú Básico, realice los siguientes pasos:







|  |  |
|--|--|
| <b>Contraste</b><br><i>Contraste de imagen</i> | Oprima  para disminuir el contraste de la imagen.<br>Oprima  para aumentar el contraste de la imagen.   |
| <b>Caption Vision</b><br><i>Subtítulos</i>     | Permite realizar la selección entre los tres modos de subtítulo (para programas que se emiten con subtítulos).<br>Oprima  o  para seleccionar una de las siguientes opciones:<br><b>NO:</b> Caption Vision no se activa.<br><b>CC1, 2, 3, 4:</b> Muestra el diálogo impreso y los efectos de sonido de un programa.<br><b>TXT1, 2, 3, 4:</b> Muestra información de la red/emisora.<br><b>XDS</b> (Servicio ampliado de datos): Muestra información sobre la emisora y el programa actual, si está disponible. |
| <b>Efecto</b>                                  | Oprima  o  para seleccionar una de las siguientes opciones:<br><b>NO:</b> Recepción estereofónica o monofónica normal.<br><b>SRS:</b> Produce sonido tridimensional dinámico para señales de audio estéreo (sólo KV-29FV17 y KV-29FV17C).<br><b>Simulado:</b> Añade un efecto de sonido envolvente simulado en los programas monofónicos (sólo KV-29FV17 y KV-29FV17C).<br><b>Surround:</b> Simula el sonido con calidad de sala de cine para programas estéreo (sólo KV-29FS13 y KV-29FS13C).                 |
| <b>Menú Avanzado</b>                           | Selecciónelo para volver a los menús principales.  |

 Si utiliza el botón  para cerrar el menú Básico, sólo aparecerá dicho menú al oprimir  de nuevo. Para tener acceso a otros menús, utilice  para seleccionar el menú Avanzado.

# Información adicional

## Programación del control remoto

Se puede utilizar el control remoto que se suministra para poner en funcionamiento tanto equipos de video Sony como equipos de otras marcas.

- 1 Oprima .
- 2 Oprima  o  (FUNCTION).
- 3 Utilice los botones ①-⑨ para introducir el número de código de la siguiente tabla.
- 4 Oprima .

### Códigos de videocaseteras

|                     |                              |                |   |
|---------------------|------------------------------|----------------|---|
| Sony                | 301, 302, 303                | JCPenney       | 309, 305, 304, 330, 314, 336, 337           |
| Admiral<br>(M.Ward) | 327                          | JVC            | 314, 336, 337, 345, 346, 347                |
| Aiwa                | 338, 344                     | Kenwood        | 314, 336, 332, 337                          |
| Audio Dynamic       | 314, 337                     | LXI (Sears)    | 332, 305, 330, 335, 338                     |
| Broksonic           | 319, 317                     | Magnavox       | 308, 309, 310                               |
| Canon               | 309, 308                     | Marantz        | 314, 336, 337                               |
| Citizen             | 332                          | Marta          | 332   |
| Craig               | 302, 332                     | Memorex        | 309, 335                                    |
| Criterion           | 315                          | Minolta        | 305, 304                                    |
| Curtis Mathis       | 304, 338, 309                | Mitsubishi/MGA | 323, 324, 325, 326                          |
| Daewoo              | 341, 312, 309                | Multitech      | 325, 338, 321                               |
| DBX                 | 314, 336, 337                | NEC            | 314, 336, 337                               |
| Dimensia            | 304                          | Olympic        | 309, 308                                    |
| Emerson             | 319, 320, 316, 317, 318, 341 | Optimus        | 327   |
| Fisher              | 330, 335                     | Panasonic      | 308, 309, 306, 307                          |
| Funai               | 338                          | Pentax         | 305, 304                                    |
| General Electric    | 329, 304, 309                | Philco         | 308, 309                                    |
| Go Video            | 322, 339, 340                | Philips        | 308, 309, 310                               |
| Goldstar            | 332                          | Pioneer        | 308   |
| Hitachi             | 306, 304, 305, 338           | Quasar         | 308, 309, 306                               |
| Instant Replay      | 309, 308                     | RCA/PROSCAN    | 304, 305, 308, 309, 311, 312, 313, 310, 329 |



**Códigos de videocaseteras**

|                         |  |
|-------------------------|--|
| Realistic               | 309, 330, 328, 335, 324, 338           |
| Sansui                  | 314                                    |
| Samsung                 | 322, 313, 321                          |
| Sanyo                   | 330, 335                               |
| Scott                   | 312, 313, 321, 335, 323, 324, 325, 326 |
| Sharp                   | 327, 328                               |
| Shintom                 | 315                                    |
| Signature 2000 (M.Ward) | 338, 327                               |
| SV2000                  | 338                                    |
| Sylvania                | 308, 309, 338, 310                     |

**Códigos de decodificadores**

|                    |   |
|--------------------|---|
| Hamlin/Regal       | 222, 223, 224, 225, 226                     |
| Jerrold/G. I.      | 201, 202, 203, 204, 205, 206, 207, 208, 218 |
| Oak                | 227, 228, 229                               |
| Panasonic          | 219, 220, 221                               |
| Pioneer            | 214, 215                                    |
| Scientific Atlanta | 209, 210, 211                               |
| Tocom              | 216, 217                                    |
| Zenith             | 212, 213                                    |

**Códigos de reproductores de discos láser**

|           |          |
|-----------|----------|
| Sony      | 701      |
| Panasonic | 704, 710 |
| Pioneer   | 702      |

**Códigos de DBS**

|                       |     |
|-----------------------|-----|
| DIRECTV               | 809 |
| Echostar/Dish Network | 810 |


|           |                         |
|-----------|-------------------------|
| Symphonic | 338                     |
| Tashiro   | 332                     |
| Tatung    | 314, 336, 337           |
| Teac      | 314, 336, 338, 337      |
| Technics  | 309, 308                |
| Toshiba   | 312, 311                |
| Wards     | 327, 328, 335, 331, 332 |
| Yamaha    | 314, 330, 336, 337      |
| Zenith    | 331                     |


**Códigos de receptores de satélite**


|                  |          |
|------------------|----------|
| Sony             | 801      |
| General Electric | 802      |
| Hitachi          | 805      |
| Hughes           | 804      |
| Panasonic        | 803      |
| RCA/PROSCAN      | 802, 808 |
| Toshiba          | 806, 807 |

**Códigos de reproductores DVD**






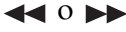




|                  |     |
|------------------|-----|
| Sony             | 751 |
| JVC              | 756 |
| Mitsubishi       | 761 |
| Onkyo            | 762 |
| Oritron          | 759 |
| Panasonic        | 753 |
| Philips/Magnavox | 757 |
| Pioneer          | 752 |
| RCA              | 755 |
| Samsung/Hitachi  | 758 |
| Toshiba          | 754 |
| Zenith           | 760 |

 Si se indica más de un número de código, intente introducirlos uno por uno hasta que encuentre el correcto para su equipo.







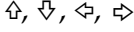

 Cuando quite las baterías, los números de código pueden regresar al ajuste de fábrica y será preciso volver a ajustarlos.

 En casos excepcionales, es posible que no se pueda emplear el equipo con el control remoto suministrado. En este caso, utilice el control remoto suministrado con el equipo.






## Empleo de una videocasetera

| Oprima   | Para  |
|--|---|
|   | Encender la videocasetera                               |
|   | Seleccionar canales directamente                        |
|   | Cambiar de canal  |
|   | Reproducir cintas de video                              |
|    | Detener el funcionamiento                               |
|   | Buscar hacia delante o atrás                            |
|   | Introducir pausas                                       |
|  y <br>(simultáneamente) | Grabar  |
|   | Cambiar entre las entradas de videocasetera y televisor |

## Empleo de un reproductor DVD


| Oprima  | Para                                   |
|---|--|
|  | Encender el reproductor DVD            |
|  | Seleccionar capítulos directamente     |
|  | Buscar capítulos hacia delante o atrás |
|  | Reproducir un DVD                      |
|  | Detener el funcionamiento              |
|  | Introducir pausas                      |
|  | Desplazar el cursor por el menú        |
|  | Mostrar el menú DVD                    |




## Empleo de un reproductor de discos láser











| Oprima  | Para                                    |
|---|---|
| VCR/DVD<br>      | Encender el reproductor de discos láser |
| CH<br>+ CH<br>-  | Buscar capítulos hacia delante o atrás  |
|                  | Reproducir discos                       |
|                  | Detener el funcionamiento               |
|                  | Introducir pausas                       |

## Solución de problemas

Si tiene algún problema con su televisor, consulte las sugerencias siguientes. Si el problema no se soluciona, póngase en contacto con su distribuidor Sony.

|  |   |
|--|---|
| <b>Ausencia de imagen y de sonido</b>              | <ul style="list-style-type: none"> <li><input type="checkbox"/> Asegúrese de que el cable de alimentación está enchufado.</li> <li><input type="checkbox"/> Si la luz roja de la parte frontal del televisor parpadea durante más de unos minutos, desconecte y vuelva a conectar el cable de alimentación para restablecer el televisor. Si el problema continúa, llame al centro de asistencia técnica local.</li> <li><input type="checkbox"/> Compruebe los ajustes TV/VIDEO: cuando vea la televisión, utilice el ajuste TV y, cuando emplee el equipo de video, utilice el ajuste VIDEO (página 16).</li> <li><input type="checkbox"/> Asegúrese de que las baterías se han insertado en el control remoto correctamente (página 2).</li> <li><input type="checkbox"/> Pruebe otro canal, ya que los problemas podrían proceder de la emisora.</li> </ul> |
| <b>Sin imagen o imagen defectuosa, buen sonido</b> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Ajuste Contraste en el menú de Video (página 23).</li> <li><input type="checkbox"/> Ajuste Brillo en el menú de Video (página 23).</li> <li><input type="checkbox"/> Compruebe las conexiones de antena y/o cable (página 3).</li> </ul>  |
| <b>Buena imagen, sin sonido</b>                    | <ul style="list-style-type: none"> <li><input type="checkbox"/> Oprima  para que desaparezca MUTING de la pantalla (página 15).</li> <li><input type="checkbox"/> Compruebe los ajustes de Audio. El televisor puede estar ajustado en Auto-SAP (página 25).</li> </ul>  |
| <b>Sin color</b>                                   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Ajuste Color en el menú de Video (página 23).</li> </ul>  |
| <b>Sin señal</b>                                   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Compruebe el ajuste Cable del menú de Ajuste de Canal (página 26).</li> <li><input type="checkbox"/> Compruebe las conexiones de antena y/o cable (página 3).</li> <li><input type="checkbox"/> Asegúrese de que el canal seleccionado emite actualmente.</li> </ul>  |
| <b>Rayas o líneas con puntos</b>                   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Ajuste la antena.</li> <li><input type="checkbox"/> Aleje el televisor de cualquier otro equipo electrónico. Algunos equipos electrónicos pueden crear ruido eléctrico que interfiera con la recepción de televisión.</li> </ul>  |

|   |  |
|---|--|
| <b>Imágenes dobles o fantasma</b>   | <input type="checkbox"/> Compruebe la antena exterior o llame al proveedor del servicio de cable.  |
| <b>No puede recibir canales de banda alta (UHF) cuando utiliza una antena</b> | <input type="checkbox"/> Asegúrese de que Cable está ajustado en la posición NO en el menú de Ajuste de Canal (página 26).<br><input type="checkbox"/> Utilice Auto Programación para añadir canales que no están en la memoria (página 17).   |
| <b>Parece que las emisoras por cable no funcionan</b>                         | <input type="checkbox"/> Asegúrese de que Cable está ajustado en la posición SI en el menú de Ajuste de Canal (página 26).<br><input type="checkbox"/> Utilice Auto Programación para añadir canales que no están en la memoria (página 17).   |
| <b>El control remoto no funciona</b>  | <input type="checkbox"/> Las baterías podrían estar bajas. Sustitúyalas (página 2).<br><input type="checkbox"/> Aleje el televisor 1 metro aproximadamente de las luces fluorescentes.   |
| <b>Imposible cambiar de canal con el control remoto</b>                       | <input type="checkbox"/> Asegúrese de que no ha cambiado accidentalmente el televisor del ajuste de canal 3 o 4 si utiliza otro dispositivo para cambiar de canal.<br><input type="checkbox"/> Si utiliza otro dispositivo para controlar los canales, asegúrese de oprimir el botón FUNCTION correspondiente a dicho dispositivo. Por ejemplo, si utiliza la videocasetera para controlar los canales, asegúrese de oprimir los botones VCR/DVD FUNCTION (página 15).                   |
| <b>Es necesario limpiar el televisor</b>                                      | <input type="checkbox"/> Limpie el TV con un paño suave y seco. Nunca emplee disolventes, como diluyente de pintura o bencina, ya que pueden dañar el acabado exterior.  |
| <b>No puede acceder a otros menús mientras utiliza el menú Básico</b>         | <input type="checkbox"/> Si utiliza el botón  para cerrar el menú Básico, sólo aparecerá dicho menú al oprimir  de nuevo. Para tener acceso a otros menús, utilice el botón  para seleccionar el menú Avanzado (página 31). |
| <b>El control remoto no funciona en el modo PIP</b>                           | <input type="checkbox"/> Oprima el botón TV FUNCTION. Es posible que haya oprimido accidentalmente el botón VCR/DVD FUNCTION, que cambia los botones PIP al modo de videocasetera (página 15).   |

|  |  |
|--|--|
| <b>No aparece la imagen de ventana o aparece estática</b>                  | <ul style="list-style-type: none"> <li>❑ Asegúrese de que la imagen de ventana está ajustada en una fuente de video/canal en el que se emita algún programa.</li> <li>❑ Es posible que haya sintonizado una entrada de video a la que no hay nada conectado. Recorra las entradas de video utilizando el botón PIP TV/VIDEO amarillo con punto rojo (página 18).</li> <li>❑ PIP no está ajustado para recibir la señal de la entrada AUX. Si ha conectado una videocasetera, reproductor DVD o receptor de satélite a la entrada AUX del televisor, la imagen no aparecerá en la ventana pequeña.</li> </ul>   |
| <b>Aparece el mismo programa en la imagen de ventana y en la principal</b> | <ul style="list-style-type: none"> <li>❑ Es posible que ambas estén ajustadas en el mismo canal. Cambie de canal en la imagen principal o en la de ventana (páginas 18-19).</li> <li>❑ Es posible que el televisor esté ajustado para seleccionar todos los canales mediante un decodificador. El decodificador sólo decodificará una señal cada vez, por lo que no es posible utilizar la función PIP. Si es posible, conecte un cable directo a la toma VHF/UHF del televisor. Esto sólo funcionará si el sistema de cable proporciona señales no codificadas (página 5).</li> </ul>   |
| <b>Control remoto perdido</b>  | <ul style="list-style-type: none"> <li>❑ Puede utilizar los controles del panel frontal de audio/video para acceder a los menús. Oprima  para abrir el menú. Utilice los botones  o  del panel frontal de audio/video en lugar de los botones  o  del control remoto. Utilice el botón  del panel frontal de audio/video en lugar de los botones , , y  del control remoto. Oprima  de nuevo cuando haya completado el ajuste. Póngase en contacto con el distribuidor Sony más próximo para solicitar un control remoto.</li> </ul> |

*Si usted necesita asistencia adicional, llame al número de apoyo técnico de Sony correspondiente a su país. Uno de los profesionales de apoyo técnico de Sony estará encantado de asistirle.*

# Especificaciones

## Para todos los modelos (excepto donde se indique)

|                                     |   |
|-------------------------------------|---|
| Sistema de televisión               | Estándar americano de TV/NTSC   |
| Cobertura de canales                | VHF: 2-13/UHF: 14-69/Cable: 1-125   |
| Antena                              | Terminal de antena externa de 75 ohm para VHF/UHF   |
| Tubo de imagen                      | FD Trinitron®   |
| Requisitos del suministro eléctrico | ca 120 V 60 Hz (KV-29FS13, KV-29FV17)<br>ca 220 V 50 Hz (KV-29FS13C, KV-29FV17C)  |
| Accesorios suministrados            | Baterías tamaño AA (R6) (2)<br>Control remoto RM-Y180 (1) (KV-29FS13, KV-29FS13C)<br>RM-Y181 (1) (KV-29FV17, KV-29FV17C)        |
| Accesorios opcionales               | Cables de conexión VMC-810S/820S, VMC-720M, YC-YC-15V/30V, RK74A<br>Mezclador de U/V EAC-66<br>Soporte para televisor: SU-27FD4 |

### KV-29FS13, KV-29FS13C

|                         |   |
|-------------------------|---|
| Tamaño de pantalla      | Tamaño de pantalla visible medida diagonalmente: 679 mm (27 pulgadas)<br>Tamaño de pantalla real medida diagonalmente: 724 mm (29 pulgadas) |
| Entradas/Salidas        | 3 video, 3 audio<br>1 S VIDEO<br>1 salida de audio<br>1 entrada RF<br>1 Y, P <sub>B</sub> , P <sub>R</sub> , 1 audio                        |
| Salida de la bocina     | 10 W × 2  |
| Consumo de energía      | 175 W en uso<br>1 W en espera   |
| Dimensiones (An/Al/Prf) | 700 × 632 × 512 mm (27 <sup>5</sup> / <sub>8</sub> × 25 × 20 <sup>1</sup> / <sub>4</sub> pulgadas)  |
| Peso                    | 47 kg (103 lbs. 10 oz.)   |

**KV-29FV17, KV-29FV17C**

|                         |  |
|-------------------------|--|
| Tamaño de pantalla      | Tamaño de pantalla visible medida diagonalmente: 679 mm(27 pulgadas)<br>Tamaño de pantalla real medida diagonalmente: 724 mm (29 pulgadas)   |
| Entradas/Salidas        | 3 video, 3 audio<br>1 S VIDEO<br>1 salida de audio<br>1 salida de monitor<br>2 entradas RF<br>1 Y, P <sub>B</sub> , P <sub>R</sub> , 1 audio |
| Salida de la bocina     | 15 W × 2   |
| Consumo de energía      | 220 W en uso (KV-29FV17)<br>210 W en uso (KV-29FV17C)<br>1 W en espera   |
| Dimensiones (An/Al/Prf) | 762 × 604 × 519 mm (30 × 23 <sup>7</sup> / <sub>8</sub> × 20 <sup>1</sup> / <sub>2</sub> pulgadas)   |
| Peso                    | 49 kg (108 lbs.)   |

El diseño y las especificaciones están sujetos a cambios sin previo aviso.



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FD Trinitron  
**WEGA**

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## ***Televisor Trinitron® A Color***

Manual de Instrucciones

Lea este manual antes de operar el producto.

***KV-34FS13A***

***KV-34FS13C***

***KV-34FS17***



# ADVERTENCIA

Para evitar el riesgo de incendio o descarga eléctrica, no exponga el televisor a la lluvia o humedad.



Este símbolo señala al usuario la presencia de voltaje peligroso sin aislamiento en el interior del aparato, y de tal intensidad que podría presentar riesgo de descarga eléctrica.



Este símbolo indica al usuario que el manual que acompaña a este aparato contiene instrucciones importantes referentes a su funcionamiento y mantenimiento.

## Nota para el técnico que instale el sistema CATV

El Artículo 820-40 del NEC contiene normas para la puesta a tierra y, en particular, dispone que la tierra del cable debe conectarse al sistema de tierra del edificio en el punto más próximo que sea factible a la entrada del cable.

## PRECAUCIONES DE SEGURIDAD

- ☐ Opere el televisor únicamente con corriente alterna de 120-220 V
- ☐ La clavija está diseñada, por motivos de seguridad, para entrar a la tomacorriente en una sola posición. Si Ud. no puede meter la clavija completamente a la tomacorriente, consulte con su proveedor.
- ☐ Si algún líquido u objeto cae dentro del televisor, desconéctelo inmediatamente y llévelo al personal de servicio técnico especializado para que lo revisen antes de volver a utilizarlo.

## PRECAUCIÓN

Al usar videojuegos, computadoras y productos similares con el televisor, mantenga los ajustes de brillo y contraste a un nivel moderado. Si una imagen inmóvil permanece en la pantalla durante un periodo prolongado con elevada intensidad de brillo o contraste, la imagen podría quedar grabada en la pantalla en forma permanente. Igualmente, ver continuamente el mismo canal de televisión podría dejar grabada en la pantalla el logotipo de la emisora. La garantía no cubre este tipo de anomalías, ya que se deben al mal uso del aparato.



Para evitar el riesgo de descarga eléctrica, no emplee esta clavija polarizada con un cable prolongador, receptáculo u otra tomacorriente, a menos que las cuchillas puedan insertarse completamente a fin de que no queden al descubierto.



Cualquier cambio o modificación que no se detalla expresamente en el presente manual podría invalidar su autorización para emplear este aparato.

## NOTIFICACIÓN

Este aparato ha sido debidamente probado, comprobándose que cumple con los límites impuestos a dispositivos digitales Clase B de acuerdo con la Sección 15 de las normas de la FCC. Estos límites se establecieron para ofrecer protección razonable contra interferencias perjudiciales en las instalaciones residenciales. Este aparato genera, usa y puede emitir energía radioeléctrica. De no instalarse y utilizarse de acuerdo con las instrucciones correspondientes podría producir interferencias perjudiciales en las radiocomunicaciones. No obstante, no puede garantizarse que no se produzcan estas interferencias en una instalación determinada. Si este aparato llega a interferir en la recepción por radio o televisión, lo que podrá comprobarse encendiendo y apagando el aparato, se recomienda al usuario intentar corregir la interferencia mediante una o más de las siguientes medidas:

- ☐ Reoriente o cambie de lugar las antenas receptoras.
- ☐ Aumente la distancia que separa este aparato y el receptor afectado.
- ☐ Enchufe el aparato en una toma de corriente de un circuito distinto al que esté enchufado el receptor afectado.
- ☐ Consulte con el distribuidor o solicite los servicios de un técnico capacitado en radio y televisión.

## Protección del televisor

- ☐ Para evitar el sobrecalentamiento interno, no tape las rejillas de ventilación.
- ☐ No instale el televisor en un lugar caliente o húmedo, ni donde quede expuesto a cantidades excesivas de polvo o vibraciones mecánicas.

## Nota sobre la función "Caption Vision"

Este televisor permite ver subtítulos, en cumplimiento con lo dispuesto en el inciso 15,119 de las normas de la Comisión Federal de Comunicaciones (FCC) de EE.UU.

El empleo de este televisor para fines que no sean la recepción privada de programas transmitidos por UHF, VHF o cable, destinados al uso del público en general, podría requerir autorización de la emisora o compañía de cable del propietario del programa o de ambos.

## Registro de propiedad

El modelo y el número de serie están situados en la portada de este manual y en la parte posterior del televisor.

## Marcas comerciales y copyrights

ENERGY STAR® es marca registrada.



Como socio de ENERGY STAR®, Sony ha determinado que este producto o este modelo de producto cumple con las pautas ENERGY STAR® para eficiencia energética.



# Normas de seguridad importantes

Para su protección, lea detenidamente estas instrucciones, y guarde este manual para futuras referencias. Lea cuidadosamente todas las advertencias y precauciones, y siga las instrucciones inscritas en el televisor o descritas en el manual de instrucciones o de reparación.

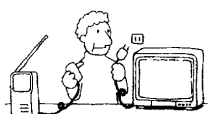
## ADVERTENCIA

Para protegerse contra daños personales, siga las precauciones de seguridad básicas durante la instalación, la utilización y el mantenimiento del televisor indicadas a continuación.

## Utilización

### Fuentes de alimentación

Este aparato solamente deberá alimentarse con el tipo de fuente de alimentación indicado en la etiqueta de serie/modelo. Si no está seguro sobre el tipo de red eléctrica de su hogar, consulte a su proveedor o a la compañía de suministro eléctrico local. Con respecto a los aparatos diseñados para utilizarse con baterías, consulte el manual de instrucciones.



### Conexión a tierra o polarización

Este aparato dispone de una clavija del cable de alimentación polarizado (una cuchilla de la clavija es más ancha que la otra), o con tres terminales (el tercero es para puesta a tierra). Siga las instrucciones indicadas a continuación:

### Para un televisor con clavija del cable de alimentación polarizado

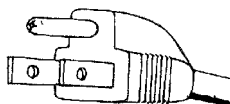
Esta clavija solamente encajará en la toma de alimentación de una sola forma. Ésta es una medida de seguridad. Si no es capaz de insertar completamente la clavija en la toma de alimentación, pruebe invirtiéndola. Si la clavija sigue sin poder insertarse, póngase en contacto con un electricista para que le instale una toma adecuada. No elimine la finalidad de seguridad del enchufe polarizado insertándolo con fuerza.



### Advertencia alternativa

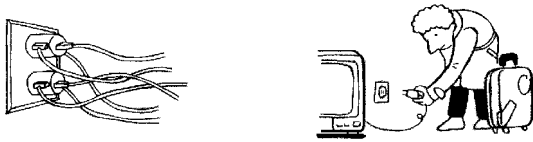
#### Para un televisor con clavija de tres terminales con conexión a tierra

Esta clavija solamente podrá insertarse en una toma de la red con conexión a tierra. Ésta es una medida de seguridad. Si no es capaz de insertar completamente la clavija en la toma de alimentación, póngase en contacto con un electricista para que le instale una toma adecuada. No elimine la finalidad de seguridad de la clavija de 3 terminales insertándolo con fuerza.



## Sobrecarga

No sobrecargue las tomas de alimentación, los cables prolongadores ni tomacorrientes de derivación sobrepasando su capacidad, porque esto podría resultar en incendios o cortocircuitos. Apague siempre el aparato cuando no lo utilice. Cuando vaya a dejar el aparato sin usar durante mucho tiempo, desconéctelo de la alimentación como protección contra la posibilidad de un mal funcionamiento interno que pudiese provocar el peligro de incendio.



No desconecte la antena ni el cable de alimentación durante tormentas fuertes. Podría recibir una descarga eléctrica mientras agarra el cable, causándole graves daños. Apague el televisor y espere a que las condiciones meteorológicas mejoren.

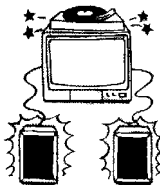
## Introducción de objetos y líquidos

No introduzca nunca objetos de ningún tipo a través de las ranuras del gabinete, ya que podrían tocar puntos de tensión peligrosa o cortocircuitar partes, lo que podrían resultar en incendios o descargas eléctricas. No vierta nunca ningún tipo de líquido sobre el aparato.



## Accesorios

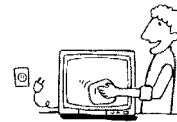
No utilice nunca ningún accesorio no recomendado por el fabricante, ya que podrían ser peligrosos.



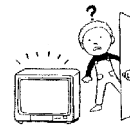
No coloque objetos, especialmente los pesados, sobre el aparato. El objeto puede caerse del televisor, causándole heridas.

## Limpieza

Antes de limpiar el televisor, desconéctelo de la alimentación. No utilice limpiadores líquidos ni aerosoles. Para limpiar el exterior del aparato, emplee un paño ligeramente humedecido en agua.



Si un televisor en funcionamiento emite crujidos o detonaciones continuos o frecuentes, desconéctelo y consulte a su proveedor o a un radiotécnico. Es normal que algunos televisores produzcan estos ruidos, especialmente al conectar o desconectar su alimentación.

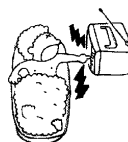


## Instalación

Son precisas dos o más personas para levantar o mover el aparato. El aparato es pesado y la superficie inferior es plana. Si el aparato lo mueve una sola persona o si se maneja en lugares inestables, pueden producirse daños graves. Instale el aparato sobre una superficie estable y nivelada.

## Agua y humedad

No utilice aparatos que requieran de alimentación eléctrica cerca del agua, por ejemplo, cerca de una bañera, un lavabo, un fregadero o una lavadora en un sótano húmedo, ni cerca de una piscina, etc.



## Colocación

No coloque el aparato sobre una mesita con ruedas, un pedestal, un trípode, una abrazadera, una mesa o un estante inestable. El televisor podría caerse causando daños serios a niños, adultos, y al propio televisor. Utilice solamente la mesita con ruedas o soporte recomendado por el fabricante para el modelo específico de TV. El montaje del producto se debe hacer según las instrucciones del fabricante y usted debe usar un accesorio de montaje recomendado por el fabricante. La combinación de un televisor y un mueble con ruedas deberá moverse con cuidado. Las paradas repentinas, la fuerza excesiva y las superficies desiguales podrían hacer que se cayese tal combinación.

Desconecte todos los cables del aparato antes de moverlo.

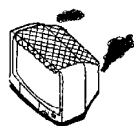


No permita que niños ni mascotas se suban al aparato ni que lo empujen. El televisor podría caerse, causando daños graves.

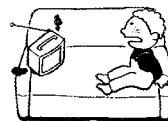
## Ventilación

Las ranuras y aberturas del gabinete y de la parte posterior o inferior son para permitir la ventilación necesaria. Para asegurar la operación fiable del televisor, y protegerlo contra el sobrecalentamiento, estas ranuras y aberturas no deberán cubrirse ni bloquearse nunca.

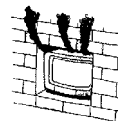
- **No bloquear nunca las ranuras ni aberturas con paños ni otros materiales.**



- **No bloquee nunca las ranuras ni aberturas colocando el televisor sobre una cama, sofá, alfombra u otras superficies similares.**



- **No coloque nunca el televisor en un lugar cerrado, como en un librero o un mueble empotrado, a menos que esté adecuadamente ventilado.**



- **No coloque el televisor cerca ni sobre un radiador o una salida de aire caliente, ni expuesto a la luz solar directa.**



## Protección del cable de alimentación

No permita que ningún objeto quede sobre el cable de alimentación, ni coloque el televisor donde el cable pueda quedar sometido a desgaste o presión.



## Conexión a tierra o polarización

Es posible que este aparato venga equipado con un enchufe de corriente alterna polarizado (un enchufe que tiene una pata más ancha que la otra). Este enchufe calza en el tomacorriente de una manera solamente. Esto es una función de seguridad. Si usted no puede insertar el enchufe por completo en el tomacorriente, trate de darlo vuelta. Si todavía el enchufe no entra, comuníquese con un electricista para que cambie el tomacorriente obsoleto. No rechace el propósito de seguridad del enchufe polarizado.

## Antenas

### Conexión a tierra de la antena exterior

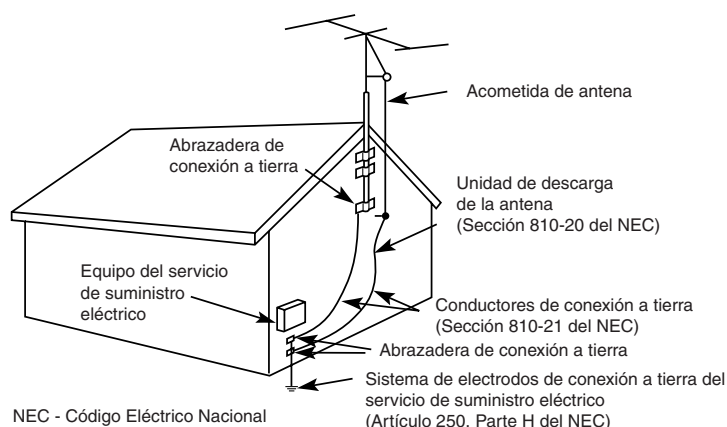
Cuando instale una antena exterior, tenga en cuenta las precauciones siguientes. Un sistema de antena exterior no deberá colocarse cerca de líneas de alta tensión ni otros circuitos de iluminación o alimentación, ni donde pueda entrar en contacto con tales líneas o circuitos.

CUANDO INSTALE UN SISTEMA DE ANTENA EXTERIOR, TENGA EXTREMADO CUIDADO PARA EVITAR QUE ENTRE EN CONTACTO CON TALES LÍNEAS DE ALIMENTACIÓN O CIRCUITOS, YA QUE TAL CONTACTO PODRÍA RESULTAR INVARIABLEMENTE FATAL.

Cerciórese de que el sistema de antena esté puesto a tierra a fin de que proporcione cierta protección contra sobretensiones y cargas estáticas. La Sección 810 del Código Eléctrico Nacional (NEC) de EE.UU., y la Sección 54 del Código Eléctrico Canadiense ofrecen información con respecto a la puesta a tierra adecuada de una unidad de descarga de antena, el tamaño de los conductores de conexión a tierra, la ubicación de la unidad de descarga de antena, la conexión a los electrodos de conexión a tierra, y los requisitos de tales electrodos.

### Conexión a tierra de la antena de acuerdo con el Código Eléctrico Nacional

Con respecto a la conexión a tierra de la antena, consulte la sección 54-300 del Código Eléctrico Canadiense.



### En caso de descarga eléctrica

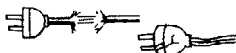
Para evitar daños al televisor debido a una descarga eléctrica o a una sobretensión de corriente durante una tormenta, o cuando no se encuentre en uso por largos periodos de tiempo, desconecte el cable a la toma de corriente de la pared y desconecte la antena. Esto impedirá que el receptor se dañe.

## Mantenimiento

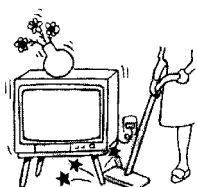
### Daños que requieren reparación

Desconecte el televisor de la toma de alimentación y solicite los servicios de personal de reparación calificado en las condiciones siguientes:

- Cuando el cable o la clavija de alimentación esté dañado.



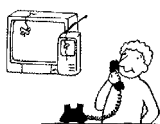
- Si dentro del televisor se ha derramado líquido o se cayeron objetos adentro del producto.



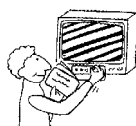
- Si el televisor ha estado expuesto a la lluvia o al agua.



- Si el televisor ha recibido un golpe fuerte al caer, o se daña el gabinete.



- Si el televisor no funciona normalmente al seguir las instrucciones de operación. Ajuste solamente los controles especificados en el manual de instrucciones. El ajuste inadecuado de otros controles podría resultar en daños que podrían requerir la intervención costosa de un técnico calificado a fin de devolver el televisor a su funcionamiento normal.



- Cuando el rendimiento del televisor haya cambiado notablemente, significará que es necesario repararlo.

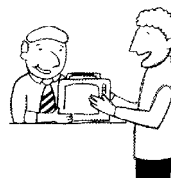
### Reparación

No intente reparar por sí mismo el aparato, ya que al abrir el gabinete se vería expuesto a tensiones peligrosas y otros riesgos. Solicite los servicios de personal de reparación calificado.



### Piezas de reemplazo

Cuando se haya requerido el reemplazo de piezas, solicite al técnico de reparación un certificado por escrito de que ha utilizado las piezas de repuesto con las mismas características que las originales, especificadas por el fabricante. La sustitución no autorizada de piezas podría resultar en incendios, descargas eléctricas, u otros peligros.



### Comprobación de seguridad

Después de haber finalizado cualquier servicio de mantenimiento o reparación, solicite al técnico de reparación que realice y certifique las comprobaciones de seguridad rutinarias (como especifica el fabricante) para determinar si el televisor se encuentra en condiciones de funcionar con seguridad. Cuando finalice la vida útil del televisor, el deshacerse inadecuadamente de él podría provocar la implosión del tubo de imagen. Solicite este servicio a un técnico calificado.





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# Introducción

Gracias por haber comprado el televisor Trinitron® a color de Sony. Antes de utilizar este manual, verifique el número de modelo localizado en la parte posterior del televisor o en la portada de este manual.

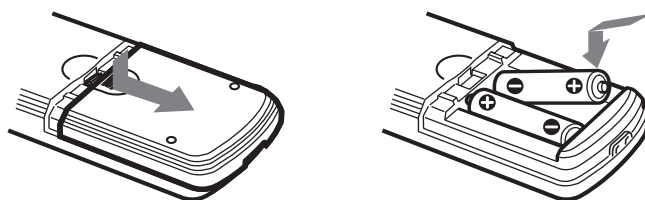
## Funciones del televisor Trinitron® a color

A continuación se enumeran las características del televisor:

- ❑ **CRT PLANO** — Nueva pantalla tecnológicamente avanzada para obtener una óptima calidad de imagen.
- ❑ **Control Paterno** — Herramienta diseñada para que los padres puedan controlar el acceso de los niños al televisor mediante el establecimiento de límites de utilización.
- ❑ **Canal Favorito** — Acceso instantáneo a los canales preferidos con sólo tocar un botón.
- ❑ **Imagen en imagen (PIP)** — Permite visualizar dos canales simultáneamente (sólo KV-34FS17).
- ❑ **Control remoto universal** — Programe su control remoto para utilizar el decodificador, la videocasetera, el receptor de satélite digital o el reproductor DVD conectado.
- ❑ **Energy Star®** — Símbolo reconocido de eficiencia energética.
- ❑ **S VIDEO** — Entrada de video que ofrece una calidad de imagen mejorada.
- ❑ **MTS directo** — Proporciona acceso directo para cambiar el sonido multicanal del televisor: Estéreo, Mono o Auto-SAP (segundo programa de sonido), con sólo tocar un botón.
- ❑ **Menús bilingües** — Elija entre los menús Inglés o Español.
- ❑ **Controles del panel frontal** — Proporcionan acceso a los menús en pantalla sin necesidad de utilizar control remoto.
- ❑ **Entradas A/V frontales** — Conexión rápida para videojuegos, cámaras de video o equipo estéreo/mono.

## Baterías para el control remoto


Inserte dos baterías tamaño AA (R6) (incluidas con el televisor) en el control remoto como se indica en la siguiente ilustración.



- ✎ En condiciones normales, las baterías durarán un máximo de seis meses. Si el control remoto no funciona correctamente, es posible que las baterías estén agotadas.
- ✎ Cuando el control remoto no vaya a utilizarse durante un periodo prolongado, quite las baterías para evitar que fugas de las mismas dañen su control remoto.
- ✎ Su control remoto puede programarse para hacer funcionar la mayoría de los equipos de video (consulte la página 32).

## Uso del botón de MAIN POWER (botón de alimentación principal)

### Sólo para el modelo KV-34FS13A

Antes de encender su televisor utilizando su control remoto, necesita presionar el botón  , localizado en la parte frontal de su televisor.

## Acerca de este manual

En este manual se proporcionan las instrucciones necesarias para que disfrute de su nuevo televisor. Asimismo, se indica cómo conectar el televisor a una antena o cable, decodificador, videocasetera, reproductor DVD, receptor de satélite, sistema estereofónico o cámara de video. Una vez realizada la conexión, siga las instrucciones y utilice el control remoto para acceder a los menús en pantalla.

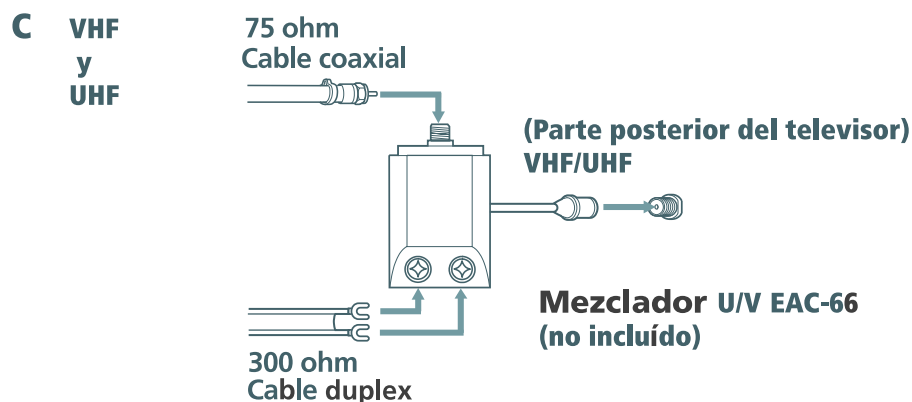
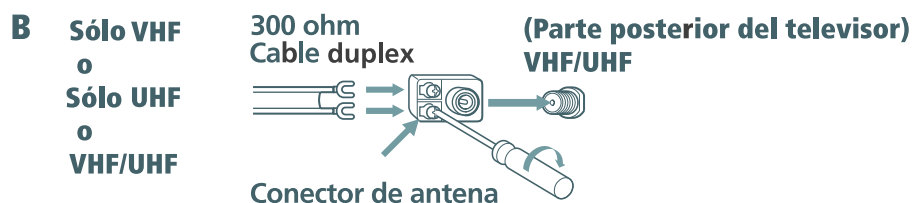
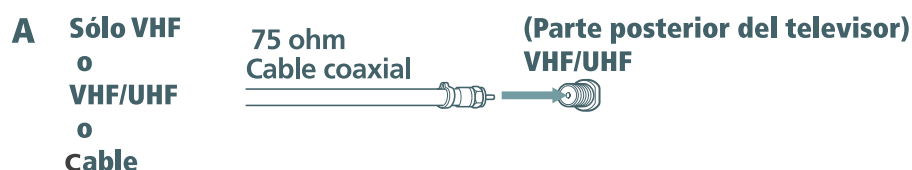
# Conexión del televisor


Lea este capítulo antes de configurar el televisor por primera vez. En esta sección se incluyen las conexiones básicas, así como la conexión de cualquier otro equipo.

## Conexiones básicas

### Televisor con antena interior o exterior, o cable CATV

Dependiendo del cable disponible, elija una de las conexiones siguientes:

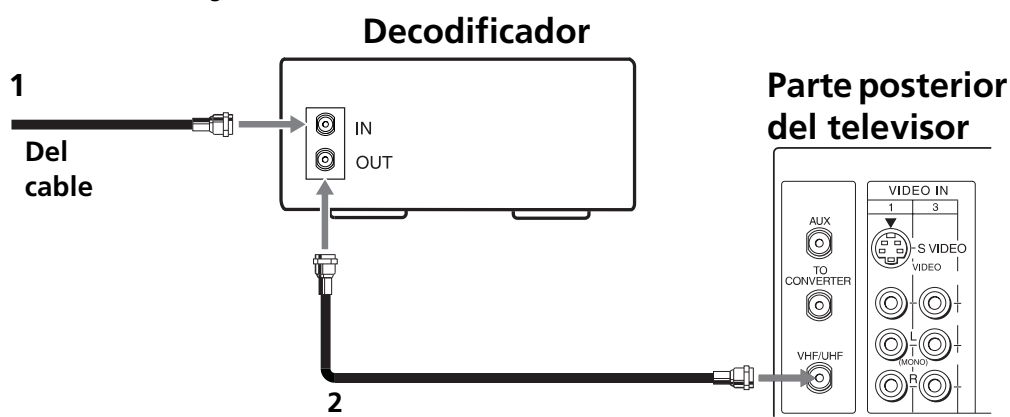


 Si realiza la conexión a una antena interior o exterior, es posible que necesite ajustar la orientación de la antena para obtener el mejor nivel de recepción.


## Conexiones de decodificador

Algunos sistemas de televisión por cable usan señales deformadas o codificadas que requieren un decodificador para poder ver todos los canales. Si se suscribe a dicho tipo de servicio de cable, utilice esta conexión. Las señales codificadas que recibe el televisor mediante el decodificador no pueden visualizarse en PIP. Si algunos canales están codificados, considere el uso de la conexión de decodificador y cable (consulte la página 5).

### Decodificador y televisor



- 1** Conecte el cable coaxial del servicio de cable a la entrada IN de su decodificador.
- 2** Empleando un cable coaxial (no incluido), conecte la salida OUT de su decodificador a la entrada VHF/UHF de su televisor.

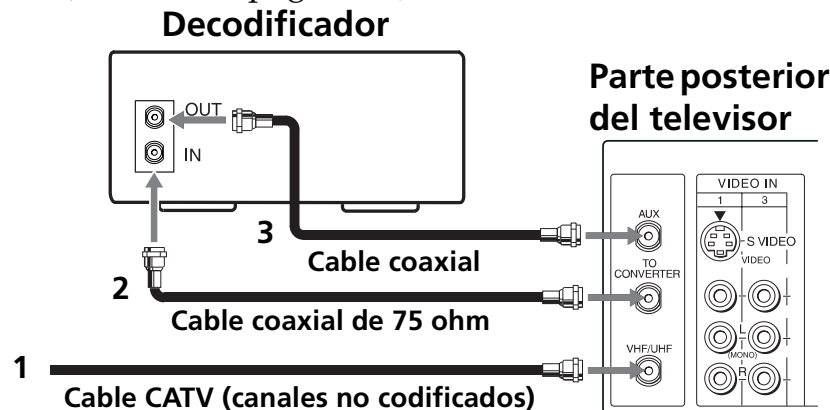
 Si va a hacer la selección de todos los canales a través de su decodificador, debe considerar la posibilidad de usar la función Fijar Canal ajustando el televisor en el canal 3 o 4 (consulte la página 27).

## Decodificador y cable



Utilice esta conexión si se suscribe a un sistema de cable que codifique algunos canales (canales de pago), pero no todos. Esta configuración permite utilizar el control remoto para:


- a) cambiar de canal mediante el decodificador cuando se recibe una señal codificada, y
- b) cambiar de canal mediante el televisor.


Esta conexión permite también utilizar la función PIP cuando se visualizan canales no codificados que el televisor recibe directamente del cable. Las señales codificadas transmitidas mediante el decodificador no pueden visualizarse en PIP. Para obtener más información sobre la función PIP, (consulte la página 18).



- 1** Conecte el cable coaxial de su servicio de cable a la entrada VHF/UHF de su televisor.
- 2** Empleando un cable coaxial (no incluido), conecte la entrada IN de su decodificador a la entrada TO CONVERTER de su televisor.
- 3** Empleando un cable coaxial (no incluido), conecte la salida OUT de su decodificador a la entrada AUX de su televisor.

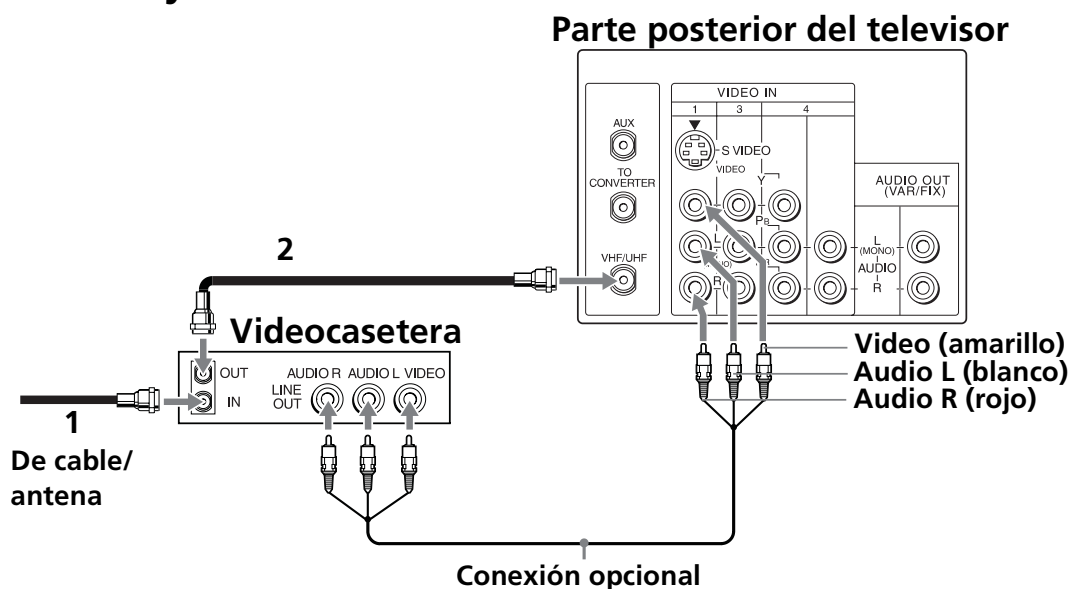
 Al oprimir el botón  del control remoto, las entradas de decodificador y de cable directo cambian.

 Su control remoto Sony puede programarse para hacer funcionar su decodificador (consulte la página 32).

 Con el fin de utilizar el decodificador para cambiar de canal, ajuste el televisor en el canal 3 o 4. El ajuste de la función Fijar Canal garantiza que los canales no cambien accidentalmente utilizando el televisor (consulte la página 27).

## Conexión de equipo adicional

### Televisor y videocasetera



Para ver programas de video desde la videocasetera, sintonice el televisor con el canal 3 o 4 (como esté ajustado en la parte posterior de la videocasetera).

- 1** Conecte el cable coaxial de la antena del televisor o del servicio de cable a la entrada IN de su videocasetera.
- 2** Empleando un cable coaxial (no incluido), conecte la salida OUT de su videocasetera a la entrada VHF/UHF de su televisor.

#### Conexión opcional

Si la videocasetera está equipada con salidas de video, puede obtener mejor calidad de imagen conectando cables de Audio/Video (no incluidos) de las salidas AUDIO y VIDEO OUT de su videocasetera a las entradas AUDIO/VIDEO IN de su televisor.

Para obtener una calidad de imagen óptima, utilice S VIDEO en lugar del cable de Audio/Video amarillo. Puesto que S VIDEO no proporciona sonido, es preciso conectar los cables de audio.

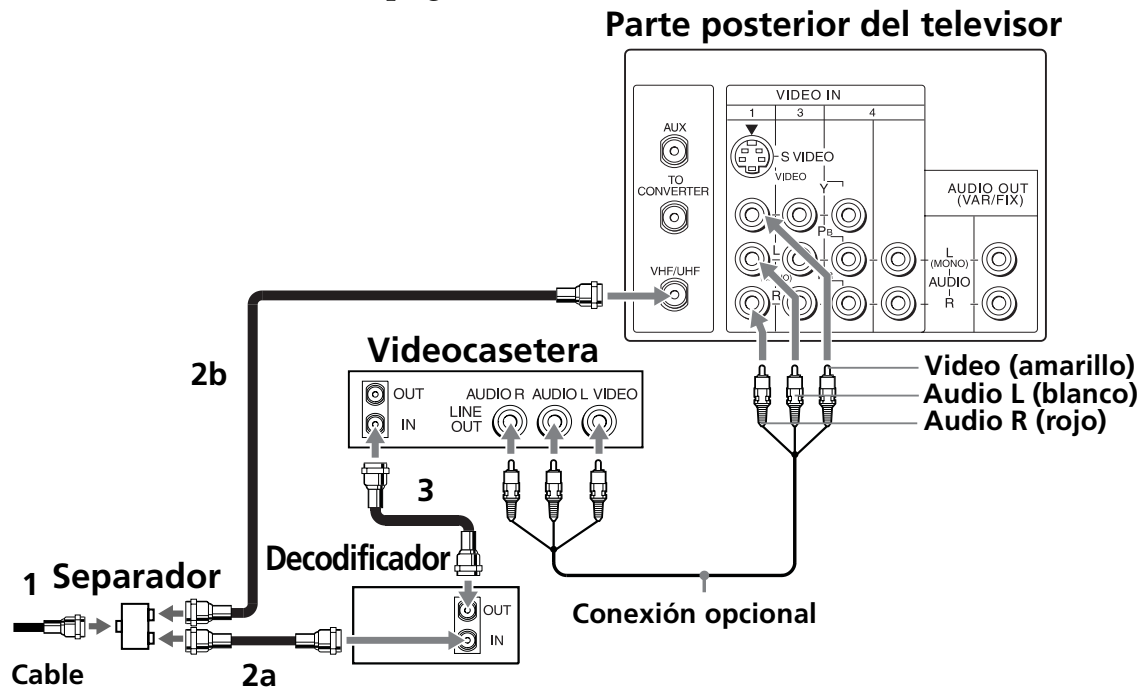
Puede utilizar el botón para cambiar entre las entradas de VHF/UHF y VIDEO.

## Televisor, videocasetera y decodificador

Utilice esta conexión si se suscribe a un sistema de cable que codifique algunos canales (canales de pago), pero no todos. Esta configuración permite utilizar el control remoto para:


- a) cambiar de canal mediante el decodificador o la videocasetera cuando se recibe una señal codificada, y
- b) cambiar de canal mediante el televisor.

Esta conexión permite también utilizar la función PIP cuando se visualizan canales no codificados que el televisor recibe directamente del cable. Las señales codificadas transmitidas mediante el decodificador no pueden visualizarse en PIP. Para obtener más información sobre la función PIP, (consulte la página 18).




- 1** Conecte la toma de entrada única del separador a la conexión de cable entrante.
- 2** Con un cable coaxial (no incluido), conecte las dos tomas de salida del separador a:
  - a) la entrada IN del decodificador, y
  - b) la entrada VHF/UHF del televisor.
- 3** Empleando un cable coaxial (no incluido), conecte la salida OUT de su decodificador a la entrada IN de su videocasetera.



(continúa)

-  Si va a hacer la selección de todos los canales a través de su decodificador, debe considerar la posibilidad de usar la función Fijar Canal ajustando el televisor en el canal 3 o 4 (consulte la página 27).

### **Conexión opcional**

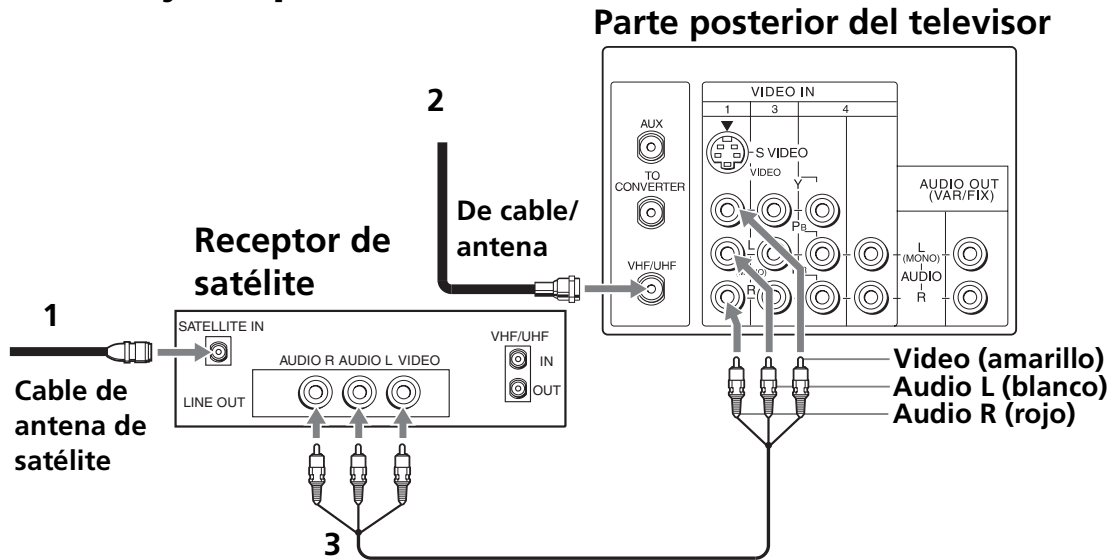
Si la videocasetera está equipada con salidas de video, puede obtener mejor calidad de imagen conectando cables de Audio/Video (no incluidos) de las salidas AUDIO y VIDEO OUT de su videocasetera a las entradas AUDIO/VIDEO IN de su televisor.

-  Para obtener una calidad de imagen óptima, utilice S VIDEO en lugar del cable de Audio/Video amarillo. Puesto que S VIDEO no proporciona sonido, es preciso conectar los cables de audio.

-  Puede utilizar el botón  para cambiar entre las entradas de VHF/UHF y VIDEO.



## Televisor y receptor de satélite



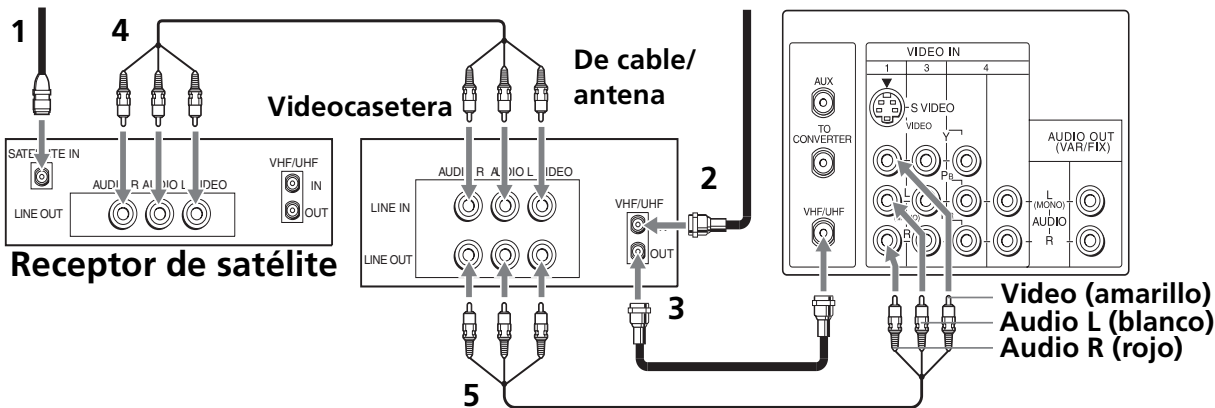
- 1** Conecte el cable de su antena de satélite a la entrada SATELLITE IN de su receptor de satélite.
- 2** Conecte el cable coaxial de su sistema de cable o antena a la entrada VHF/UHF de su televisor.
- 3** Con cables de Audio/Video (no incluidos), conecte las salidas AUDIO y VIDEO OUT de su receptor de satélite a las entradas AUDIO y VIDEO IN de su televisor.

Para obtener una calidad de imagen óptima, utilice S VIDEO en lugar del cable de Audio/Video amarillo. Puesto que S VIDEO no proporciona sonido, es preciso conectar los cables de audio.

Puede utilizar el botón para cambiar entre las entradas de VHF/UHF y de receptor de satélite.

## Televisor, receptor de satélite y videocasetera

Cable de  
antena de  
satélite



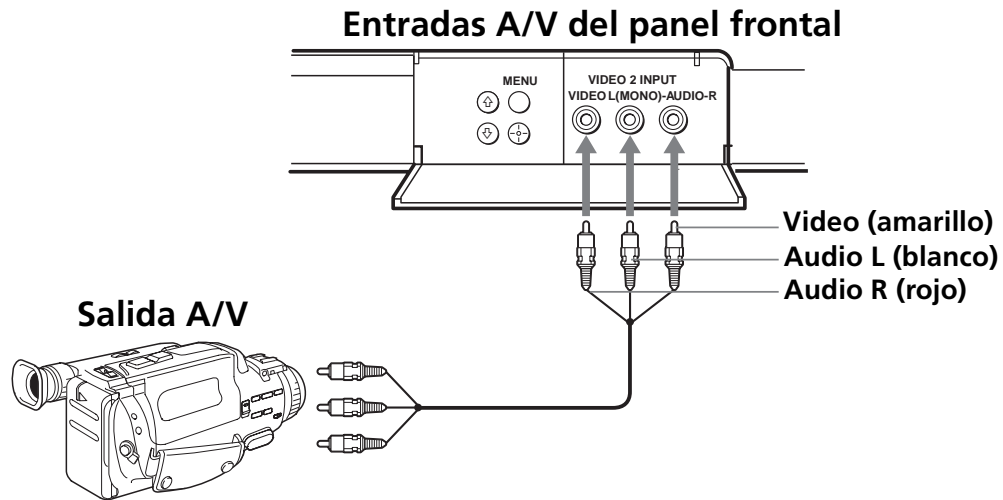
- 1** Conecte el cable de su antena de satélite a la entrada SATELLITE IN de su receptor de satélite.
- 2** Conecte el cable coaxial de su sistema de cable o antena a la entrada IN de su videocasetera.
- 3** Empleando un cable coaxial (no incluido), conecte la salida OUT de su videocasetera a la entrada VHF/UHF de su televisor.
- 4** Con cables de Audio/Video (no incluidos), conecte las salidas AUDIO y VIDEO OUT de su receptor de satélite a las entradas AUDIO y VIDEO IN de su videocasetera.
- 5** Con cables de Audio/Video (no incluidos), conecte las salidas AUDIO y VIDEO OUT de su videocasetera a las entradas AUDIO y VIDEO IN de su televisor.



Para ver la entrada del receptor de satélite o de la videocasetera, seleccione la entrada de video a la que esté conectado el receptor o la videocasetera; para ello, oprima **TV/VIDEO** en el control remoto.

## Conexión de una cámara de video

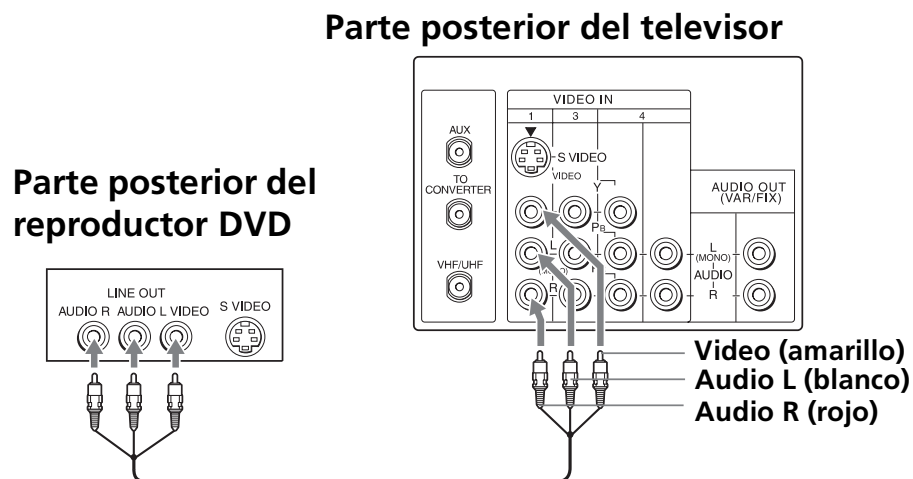
Con cables de Audio/Video (no incluidos), conecte las salidas AUDIO y VIDEO OUT de su cámara de video a las entradas AUDIO y VIDEO IN de su televisor.



Si dispone de una cámara de video equipada de S VIDEO, podrá utilizar un cable S VIDEO para obtener imágenes de óptima calidad.

## Conexión de un reproductor DVD

Con cables Audio/Video (no incluidos), conecte la salida AUDIO y VIDEO OUT de su reproductor DVD a las entradas AUDIO y VIDEO IN de su televisor.

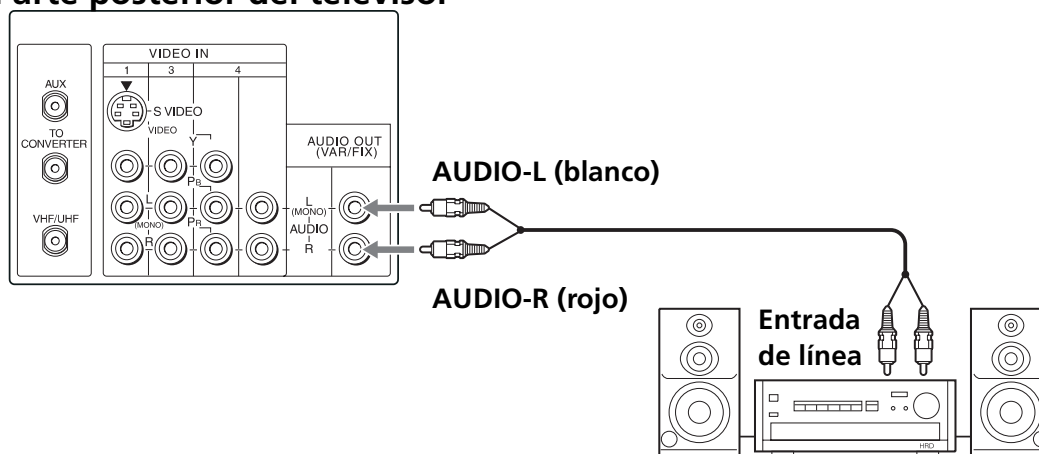



Para obtener una calidad de imagen óptima, utilice S VIDEO en lugar del cable de Audio/Video amarillo. Puesto que S VIDEO no proporciona sonido, es preciso conectar los cables de audio.

## Conexión de un sistema de audio

Con cables de audio (no incluidos), conecte la salida AUDIO OUT de su televisor a una de las entradas de línea que no se utilice (p.ej. TV, AUX, TAPE2) de su sistema estéreo.

### Parte posterior del televisor

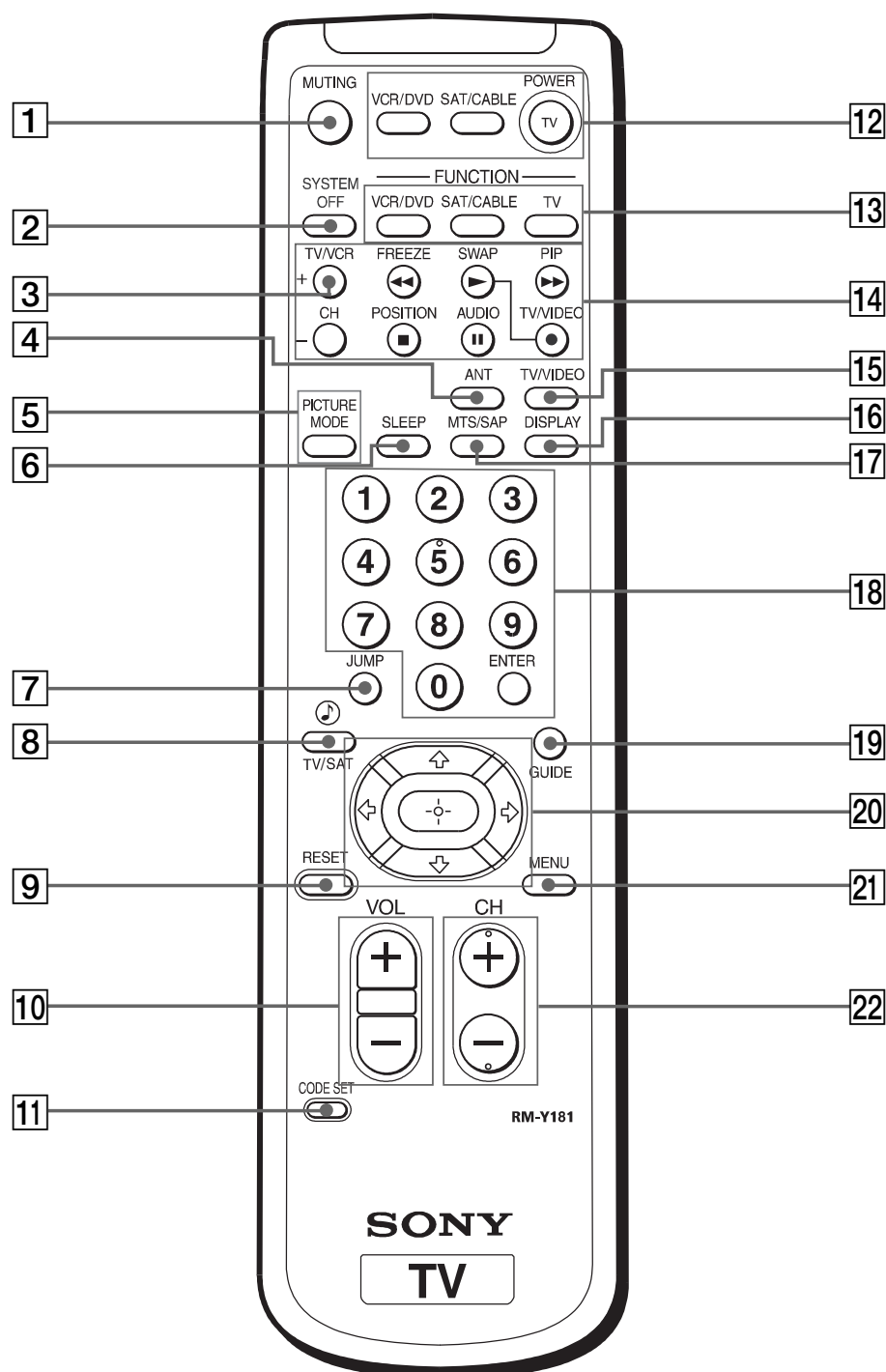


 Ajuste el sistema estéreo en la entrada de línea seleccionada. Consulte la página 24 para obtener instrucciones complementarias sobre ajustes de audio.






# Uso del control remoto y las funciones básicas

En esta sección se explica cómo utilizar los botones más avanzados del control remoto, así como los menús en pantalla.



## Uso del control remoto

| Botón  | Descripción  |
|--|--|
| <b>1 MUTE</b>  | Apaga el sonido instantáneamente. Oprímalo de nuevo u oprima  para encender el sonido de nuevo. |
| <b>2 SYSTEM OFF</b>  | Apaga simultáneamente todos los equipos Sony (puede no funcionar con equipos más antiguos).  |
| <b>3 TV/VCR</b>  | Oprímalo cuando termine de utilizar una videocasetera y desee cambiar a la entrada de televisión. La alimentación de la videocasetera permanecerá activada.                      |
| <b>4 ANT (antena)</b>  | Oprímalo para cambiar la entrada VHF/UHF a la entrada AUX.   |
| <b>5 PICTURE MODE</b>  | Recorre cíclicamente los ajustes de modo de video disponibles.   |
| <b>6 SLEEP</b>   | Apaga el televisor automáticamente en 15, 30, 45, 60, 90 o 120 minutos aproximadamente. Para cancelar, oprímalo hasta que aparezca SLEEP OFF.                                    |
| <b>7 JUMP</b>  | Permite alternar entre los dos últimos canales seleccionados con los botones <b>0-9</b> .  |
| <b>8</b>  | Recorre cíclicamente los ajustes de sonido estable (Steady Sound) disponibles (consulte la página 24).   |
| <b>9 RESET</b>   | Oprímalo para volver a los ajustes de fábrica desde un menú en pantalla.   |
| <b>10 VOL (volumen)</b>  | Oprímalo cuando desee ajustar el volumen.  |
| <b>11 CODE SET</b>   | Utilícelo para programar el control remoto con el fin de hacer funcionar equipos de video conectados (consulte la página 32).  |
| <b>12 POWER</b>  | Oprímalo para encender y apagar el equipo conectado.   |
| <b>13 FUNCTION</b>   | Oprímalo para controlar el equipo conectado mediante el control remoto.  |
| <b>14 Imagen en imagen (PIP)</b>   | Activa la función PIP. Para utilizar la función PIP, consulte la página 18.  |

 El control remoto mostrado en la página 14 (RM-Y181) es sólo para el modelo KV-34FS17. Su control remoto puede no ser como el que aparece en las ilustraciones.

(continúa)

|                       |   |
|-----------------------|---|
| <b>15 TV/VIDEO</b>    | Recorre cíclicamente las entradas de video disponibles.   |
| <b>16 DISPLAY</b>     | Oprímalo una vez para mostrar la hora actual (si está ajustada) y el número de canal. Para cancelar, oprímalo hasta que aparezca la indicación "DISPLAY OFF".                   |
| <b>17 MTS/SAP</b>     | Oprima este botón para recorrer las opciones Multi-channel TV Sound (MTS) (opciones de sonido multicanal del televisor): Estéreo, Mono y Auto-SAP (segundo programa de sonido). |
| <b>18 0-9 y ENTER</b> | Permiten cambiar de canal directamente e introducir valores numéricos en indicaciones en pantalla.  |
| <b>19 GUIDE</b>       | Permite acceder a la guía personalizada del receptor de satélite.   |
| <b>20</b>             | Mueve el cursor por los menús en pantalla. Oprima los botones de flecha para mover el cursor. Oprima el botón central para seleccionar o acceder a una opción.                  |
| <b>21 MENU</b>        | Muestra el menú en pantalla. Oprímalo de nuevo para salir del menú en cualquier momento.  |
| <b>22 CH (canal)</b>  | Oprímalo cuando desee cambiar de canal.   |



Para obtener información sobre los botones de utilización de Imagen en imagen (PIP), consulte la página 18.






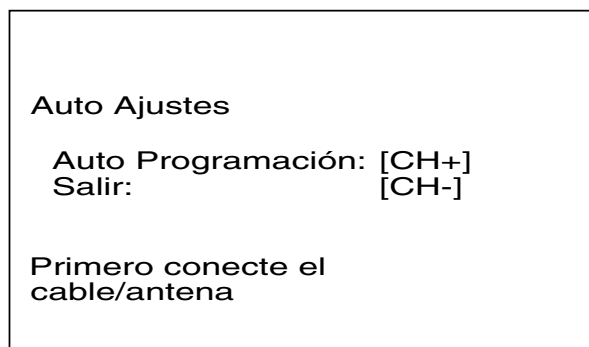
Si pierde el control remoto, consulte la página 38.






## Programación automática del televisor

Después de conectar el televisor, puede ejecutar Auto Programación para programar los canales.











- 1 Oprima  para encender el televisor. Aparece la pantalla de Configuración inicial. (Sólo para el modelo KV-34FS13A, oprima el botón  antes de oprimir ).





- 2 Oprima el botón TV FUNCTION.
- 3 Oprima  en el control remoto o en el panel frontal del televisor para realizar la Auto Programación, u oprima  para salir.

 La pantalla de ajuste inicial aparecerá cada vez que encienda el televisor hasta que ejecute Auto Programación.

### Para volver a ejecutar Auto Programación

- 1 Oprima .
- 2 Oprima  para resaltar el menú Ajuste de Canal (  ).
- 3 Oprima  para resaltar Cable. Oprima  para seleccionar.
- 4 Oprima  o  para seleccionar SI o NO en función de cómo conectó su televisor. Oprima .
- 5 Oprima  para resaltar Auto Programación. Oprima  para buscar canales.

 Cuando termine Auto Programación, oprima  para salir.

## Uso de Imagen en imagen (PIP)

La función Imagen en imagen (PIP) permite ver dos canales simultáneamente, uno al tamaño normal como imagen “principal” y el otro en una imagen pequeña conocida como “ventana”.



### Sintonizador dual PIP

Sólo para el modelo KV-34FS17


Estos modelos están equipados con sintonizadores duales. Esto significa que PIP está “listo para utilizarse”.

|  |   |
|--|---|
|  | Oprímalo para activar y desactivar la función PIP. Oprímalo varias veces para cambiar el tamaño de la imagen de ventana y para desactivar la función PIP.   |
|  | Oprímalo varias veces para recorrer cíclicamente las entradas de video disponibles del equipo de video que haya conectado al televisor.   |
|  | Oprima este botón para alternar entre el sonido de la imagen principal y el de la imagen de ventana. El símbolo de sonido  aparece durante 3 segundos, indicando si escucha el sonido de la imagen principal o el de la de ventana. |
|  | Oprímalo para cambiar de canal en la imagen de ventana. Para cambiar el canal de la ventana principal, utilice los botones CH+/- principales de la parte inferior del control remoto.   |
|  | Oprímalo para cambiar la ubicación de la imagen de ventana entre las cuatro esquinas de la pantalla.  |
|  | Oprímalo para congelar la imagen de ventana. Oprímalo de nuevo para restaurar la imagen.  |
|  | Oprímalo para cambiar la imagen principal y la de ventana. Oprímalo de nuevo para volver a cambiarlas.  |



La entrada AUX no se puede ver en la imagen de ventana.


Para obtener más información sobre el control remoto, consulte la página 14.


## Para utilizar PIP

- 1** Oprima el botón TV FUNCTION del control remoto para ver algún canal activo.
- 2** Oprima el botón  para que aparezca la imagen de ventana.
- 3** Utilice los botones de color amarillo del control remoto para controlar las funciones PIP. Consulte la página 18 para obtener descripciones sobre los botones de control de PIP.

## Para comprobar la imagen PIP




- 1** Oprima el botón TV FUNCTION del control remoto para ver algún canal activo.
- 2** Oprima el botón  y seleccione de nuevo el mismo canal. En este momento, el mismo programa debe aparecer en las ventanas principal y de imagen.
- 3** Utilice los botones CH+/- amarillos para cambiar de canal en la ventana de imagen.
- 4** Utilice ahora los botones CH+/- principales de la parte inferior del control remoto para cambiar de canal en la ventana principal.
- 5** Oprima el botón  para cambiar a otras entradas de video de otros equipos que estén conectados a cualquiera de las tomas VIDEO IN del panel posterior del televisor. Debe ver una imagen diferente en la ventana PIP correspondientes a cada uno de los componentes de equipo de video conectados. Compruebe que el equipo conectado está encendido y en funcionamiento cuando realice esta prueba.
- 6** Si la función PIP no se activa correctamente con el televisor o el componente de equipo de video conectado, consulte la sección Solución de problemas en las páginas 37-38 para obtener posibles soluciones.


 Todos los equipos de video que haya conectado a la entrada AUX no pueden verse en la ventana PIP.

 Si ve todos los canales a través de un decodificador, la función PIP no se activará. Puesto que el decodificador sólo decodifica una señal cada vez, la imagen de ventana será la misma que la principal. No obstante, es posible visualizar un canal de cable y otra fuente de video. Compruebe que el reproductor DVD, videocasetera o receptor de satélite está conectado a las tomas VIDEO IN del panel posterior del televisor, no a la entrada AUX.

## Acceso rápido a los menús

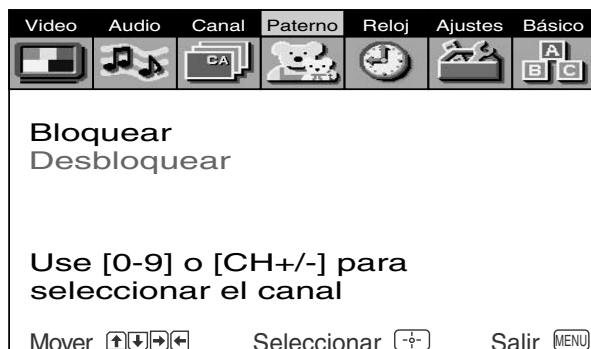
Los siguientes ajustes están disponibles en los menús en pantalla:

| Menú  | Permite                              |
|---|--------------------------------------|
|    | Hacer ajustes a la imagen.           |
|   | Cambiar los ajustes de audio.        |
|  | Personalizar los ajustes de canales. |

 Los menús ilustrados en este manual corresponden al modelo KV-34FS17. Es posible que sus menús sean diferentes a estos.

## Menú

## Permite



Definir límites de clasificación en su televisor basados en clasificaciones o contenidos de los programas.



Ajustar el reloj de su televisor y programar la visualización de programas específicos usando Reloj 1 y Reloj 2.



Programar canales, etiquetar entradas de video, seleccionar el idioma de los menús o ejecutar una demostración de éstos (Sistema de Color sólo para el modelo KV-34FS13A).












Seleccionar ajustes básicos para el televisor.

# Uso de los menús

En esta sección se muestran las opciones disponibles para programar y ajustar su televisor.

## Para acceder a un menú

- 1** Oprima  para visualizar el menú en pantalla.
- 2** Utilice  o  para resaltar el menú que desee y oprima .
- 3** Utilice los botones  o  para resaltar la opción que desee y oprima  (el ajuste ó las opciones de esta función aparecerá en la pantalla).
- 4** Oprima  para completar el ajuste.
- 5** Oprima  para salir del menú.

## Uso del menú de Video

Para acceder el menú de Video, realice los siguientes pasos:



### Modo

*Visualización de imagen personalizada*


**Vívido:** Seleccione este modo para aumentar el contraste y la nitidez de la imagen.

**Estándar:** Seleccione este modo para ver imágenes cotidianas.

**Deportes:** Seleccione este modo para ver imágenes con mas brillo.

**Película:** Seleccione este modo para ver imágenes con mayor detalle.



Oprima  para acceder directamente a ajustes de Modo (Vívido, Estándar, Deportes, Película).

### Contraste

*Contraste de imagen*

Oprima ⇐ para disminuir el contraste de la imagen.

Oprima ⇒ para aumentar el contraste de la imagen.

### Brillo

*Ajuste de la imagen*

Oprima ⇐ para disminuir el brillo de la imagen.

Oprima ⇒ para aumentar el brillo de la imagen.

### Color

*Saturación del color*

Oprima ⇐ para disminuir la saturación del color.

Oprima ⇒ para aumentar la saturación del color.

### Tinte

*Tonos del color*

Oprima ⇐ para aumentar los tonos rojos.

Oprima ⇒ para aumentar los tonos verdes.

### Nitidez

*Detalle de la imagen*

Oprima ⇐ para suavizar la imagen.

Oprima ⇒ para agudizar la imagen.

### Calidez

*Ajuste de intensidad del blanco*

**Frío:** Proporciona un matiz azulado a los colores blancos.

**Neutro:** Proporciona un matiz neutro a los colores blancos.

**Cálido:** Proporciona un matiz rojizo a los colores blancos.

### MV

*Modulación de velocidad*

Agudiza la definición de la imagen para que los objetos adquieran un borde perfilado. Seleccione una de las siguientes opciones: **Alto, Bajo, NO.**

## Uso del menú de Audio

Para acceder el menú de Audio, realice los siguientes pasos:

**Mostrar**



**Resaltar** 



**Seleccionar**



|   |  |
|---|--|
| <b>Agudos</b>                                       | Oprima ⇐ para disminuir los sonidos agudos.<br>Oprima ⇒ para aumentar los sonidos agudos.  |
| <b>Graves</b>                                       | Oprima ⇐ para disminuir los sonidos graves.<br>Oprima ⇒ para aumentar los sonidos graves.  |
| <b>Balance</b>                                      | Oprima ⇐ para potenciar el sonido de la bocina izquierda.<br>Oprima ⇒ para potenciar el sonido de la bocina derecha.   |
| <b>Auto Volumen</b><br><i>Estabiliza el volumen</i> | Oprima ⬆ o ⬇ para seleccionar una de las siguientes opciones:<br><b>SI:</b> Selecciónelo para estabilizar el volumen al cambiar de canal.<br><b>NO:</b> Selecciónelo para desactivar Auto Volumen. |



Oprima





para seleccionar directamente ajustes de Auto Volumen.

|               |   |
|---------------|---|
| <b>Efecto</b> | Oprima ⬆ o ⬇ para seleccionar una de las siguientes opciones:<br><b>NO:</b> Recepción estereofónica o monofónica normal.<br><b>Surround:</b> Simula el sonido con calidad de sala de cine para programas estéreo. |
|---------------|---|




|  |   |
|--|---|
| <b>MTS</b><br><i>Sonido multicanal</i> | <p><b>Estéreo:</b> Selecciónelo cuando visualice una emisión en estéreo.</p> <p><b>Mono:</b> Selecciónelo para reducir el ruido en zonas de recepción deficiente.</p> <p><b>Auto-SAP:</b> Selecciónelo para que el televisor cambie automáticamente a un segundo programa de sonido (SAP) al recibirse una señal.</p> |
|--|---|

 Si el televisor está ajustado en Auto-SAP, puede que algunos programas no se oigan o que aparezcan distorsionados. Si el televisor no emite sonido, cambie los ajustes de Audio a Estéreo o Mono.

 Oprima  para realizar ajustes de MTS directamente (Estéreo, Mono, Auto-SAP).

|  |  |
|--|--|
| <b>Bocinas</b><br><i>Selección personalizada de fuentes de salida de audio</i> | <p><b>SI:</b> Selecciónelo para escuchar el sonido a través de las bocinas del televisor con o sin un sistema estéreo independiente.</p> <p><b>NO:</b> Selecciónelo para desactivar las bocinas del televisor y escuchar el sonido de éste sólo a través de las bocinas de un sistema de sonido externo.</p> |
|--|--|

|   |   |
|---|---|
| <b>Salida</b><br><i>Utilícelo para controlar el volumen del televisor mediante un sistema estéreo</i> | <p>Utilice Salida solamente cuando haya un sistema de audio externo conectado al televisor.</p> <p><b>Variable:</b> Ajuste el volumen mediante el televisor.</p> <p><b>Fija:</b> Ajuste el volumen del televisor mediante un sistema estéreo conectado.</p> |
|---|---|

 Salida sólo puede ajustarse cuando Bocinas está desactivado (NO).

## Uso del menú de Ajuste de Canal

Para acceder al menú de Ajuste de Canal, realice los siguientes pasos:

**Mostrar**



**Resaltar**













**Seleccionar**









### Canal Favorito

*Acceso rápido a canales favoritos*

Con el menú de Canal Favorito abierto:

- 1 Oprima  para seleccionar.
- 2 Utilice los botones  o  para seleccionar Auto o Manual. Si selecciona Auto, aparecerán los últimos siete canales a los que acceso mediante los botones **0-9**.
- 3 Cuando se encuentre en Manual, oprima  y, a continuación,  para seleccionar la posición (1-7) en la que desee ajustar un canal favorito. Después oprima .
- 4 Con los botones  o , seleccione el canal deseado.
- 5 Oprima  para cambiar al canal introducido. Oprima  para salir.


 Para utilizar Canal Favorito: Salga de todos los menús y oprima . Oprima  o  para desplazar el cursor al número de canal que desee, y oprima .

 Después de cerrar el menú, aparece la imagen de ventana PIP para que pueda previsualizar el canal favorito (sólo KV-34FS17).


### Cable

**SI:** Selecciónelo si está recibiendo canales por cable con un cable CATV.

**NO:** Selecciónelo si está utilizando una antena de televisión.

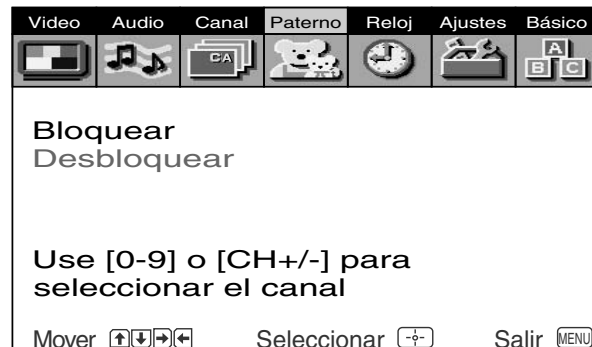
 Después de cambiar los ajustes de cable, será necesario ejecutar Auto Programación.

|   |  |
|---|--|
| <b>Fijar Canal</b>  | <p><b>2-6:</b> Selecciónelo cuando desee controlar la selección de todos los canales a través del decodificador o videocasetera. Seleccione el canal adecuado (normalmente 3 o 4) y utilice el control remoto del decodificador o de la videocasetera para la selección de canal.</p> <p><b>Video 1:</b> Seleccione una de las entradas de video accesibles cuando esté conectado al equipo de video (p. ej., receptor de satélite) y quiera fijar su televisor a ésta.</p> <p><b>AUX 2-6:</b> Utilice este ajuste en lugar de <b>2-6</b> si desea cambiar de canal mediante un decodificador, videocasetera o receptor de satélite y lo haya conectado a la entrada AUX (sólo KV-34FS17).</p> <p><b>NO:</b> Fijar Canal no se ajustará.</p> |
| <b>Auto Programación</b>  | Ejecute Auto Programación siempre que programe su televisor. Recorrerá todos los canales disponibles y programará los que se reciben.  |
| <b>Omitir/Añadir Canal</b>  | <p>Utilice esta función después del ejecutar Auto Programación para omitir los canales que no desee o para añadir canales nuevos.</p> <ol style="list-style-type: none"> <li>1 Utilice los botones <b>0-9</b> o <b>[CH+/-]</b> para seleccionar el canal.</li> <li>2 Oprima <b>[+/-]</b> para omitir o añadir (sólo habrá disponible una opción).</li> </ol>   |
| <b>Nombre de Canal</b><br><i>Etiqueta un máximo de 40 canales con sus "call letters" (letras identificativas de localización)</i> | <p>Con la ventana Nombre de Canal abierta:</p> <ol style="list-style-type: none"> <li>1 Oprima <b>[+/-]</b> y, a continuación, <b>↑</b> o <b>↓</b> hasta que llegue al número del canal deseado.</li> <li>2 Oprima <b>[+/-]</b> para activar el canal.</li> <li>3 Oprima <b>↔</b> y, a continuación, <b>[+/-]</b> para resaltar el campo de nombre.</li> <li>4 Oprima <b>↑</b> o <b>↓</b> para visualizar el primer número o letra del nombre y oprima <b>[+/-]</b> para seleccionarlo. Cuando termine, oprima <b>[+/-]</b> para activarlo.</li> </ol>   |

 Canal Favorito, Omitir/Añadir Canal y Nombre de Canal no pueden usarse cuando Fijar Canal está ajustado.


## Uso del menú Paterno


Para acceder el menú Paterno, realice los siguientes pasos:




Con el menú Paterno abierto, oprima  para seleccionar Bloquear o Desbloquear:


### Bloquear

Use **0-9** o **[CH +/-]** para elegir un canal que desee bloquear, y después oprima  para seleccionar.

 Cuando un canal se bloquea, aparece en forma de pantalla negra con la palabra "Bloqueado" sobre la pantalla (sólo en el uso normal de la TV).

### Desbloquear

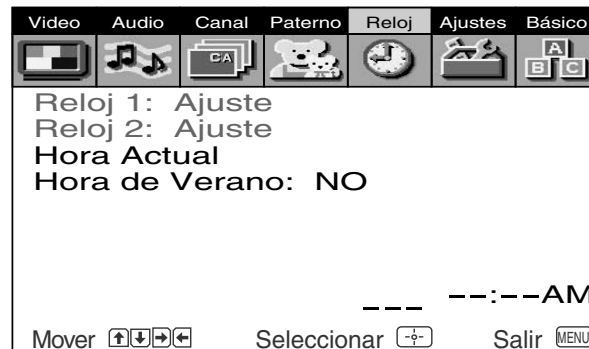
Use **0-9** o **[CH +/-]** para elegir el canal que desee desbloquear, y después oprima  para seleccionar.















 Para cancelar todos los canales bloqueados, abra el menú Paterno y oprima





## Uso del menú de Reloj

Para acceder el menú de Reloj, realice los siguientes pasos:





|   |  |
|---|--|
| <b>Hora Actual</b>  | <p>Con el menú abierto:</p> <ol style="list-style-type: none"> <li>1 Oprima  o  para seleccionar la hora actual y, después, oprima .</li> <li>(Si se encuentra en la Hora de Verano, asegúrese de ajustar Hora de Verano en "SI").</li> <li>2 Oprima  o  para introducir la hora actual y, después, oprima .</li> <li>3 Oprima  para salir del menú.</li> </ol> |
| <b>Reloj 1 y Reloj 2</b><br><i>Visualización programada</i> | <p>Con el menú abierto, coloque el cursor en Reloj 1 o Reloj 2:</p> <ol style="list-style-type: none"> <li>1 Oprima  o  para seleccionar Reloj 1 o Reloj 2 y, después, oprima .</li> <li>2 Oprima  o  para introducir la hora y canal que prefiera y, después, oprima .</li> <li>3 Oprima  para salir del menú.</li> </ol>                                |

 Es preciso ajustar Hora Actual para poder utilizar Reloj 1 y Reloj 2.

 Es posible ajustar el Reloj en SI, NO o Ajuste. Una vez programado el reloj, podrá activarlo o desactivarlo sin necesidad de realizar los distintos ajustes.

|                       |  |
|-----------------------|--|
| <b>Hora de Verano</b> | <p><b>SI:</b> Selecciónelo en primavera para compensar la hora de verano.</p> <p><b>NO:</b> Selecciónelo en otoño al final de la Hora de Verano.</p> |
|-----------------------|--|















 Al ejecutar Auto Programación, se borrarán todos los ajustes de Reloj 1 y Reloj 2.

 En caso de interrupción de alimentación, se borrarán los ajustes de Hora Actual, Reloj 1 y Reloj 2.

# Uso del menú de Ajustes

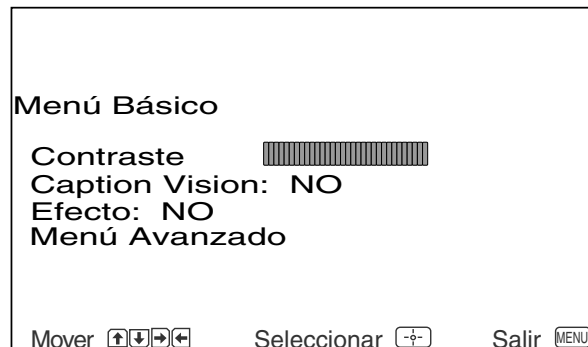
Para acceder el menú de Ajustes, realice los siguientes pasos:






|   |   |
|---|---|
| <b>Caption Vision</b><br><i>Subtítulos</i>                      | Permite realizar la selección entre los tres modos de subtítulo (para programas que se emiten con subtítulos).<br>Oprima  o  para seleccionar una de las siguientes opciones:<br><b>NO:</b> Desactiva Caption Vision.<br><b>CC1, 2, 3, 4:</b> Muestra el diálogo impreso y los efectos de sonido de un programa.<br><b>TXT1, 2, 3, 4:</b> Muestra información de la red/emisora.<br><b>XDS</b> (Servicio ampliado de datos): Muestra información sobre la emisora y el programa actual, si está disponible.  |
| <b>Etiqueta de Video</b><br><i>Nombre de equipos conectados</i> | Permite asignar nombre a los equipos de audio/video que haya conectado al televisor para poder identificarlos cuando se encuentre en el modo Desplegado.<br>Con la ventana Etiqueta de Video abierta:<br><b>1</b> Oprima  o  para acceder a la entrada a la que desee asignar nombre y oprima  .<br><b>2</b> Oprima  o  para elegir un nombre y oprima  . |
| <b>Rotación</b>   | Oprima  o  para corregir cualquier inclinación que se aprecie en la imagen entre -5 y +5. Oprima  para activarlo.  |
| <b>Lenguaje</b>   | Selecciónelo para mostrar todos los menús en el idioma que desee. Utilice los botones  o  , seleccione el idioma que desee y oprima  .   |
| <b>16:9 Realzado</b>  | Proporciona una resolución realzada de imagen para fuentes de pantalla panorámica como DVD (disponible solamente cuando el televisor se encuentra en el modo de Video).   |
| <b>Demostración</b>   | Selecciónelo para ver una demostración de los menús en pantalla.  |
| <b>Sistema de Color</b>   | Seleccione un ciclo a través de AUTO (ajuste de fábrica), NTSC, PALM, PALN para TV, Video 1, Video 2 y Video 3.   |

## Uso del menú Básico

Para acceder al menú Básico, realice los siguientes pasos:







|  |   |
|--|---|
| <b>Contraste</b><br><i>Contraste de imagen</i> | Oprima ⇐ para disminuir el contraste de la imagen.<br>Oprima ⇒ para aumentar el contraste de la imagen.   |
| <b>Caption Vision</b><br><i>Subtítulos</i>     | Permite realizar la selección entre los tres modos de subtítulo (para programas que se emiten con subtítulos).<br>Oprima ⬆ o ⬇ para seleccionar una de las siguientes opciones:<br><b>NO</b> : Caption Vision no se activa.<br><b>CC1, 2, 3, 4</b> : Muestra el diálogo impreso y los efectos de sonido de un programa.<br><b>TXT1, 2, 3, 4</b> : Muestra información de la red/emisora.<br><b>XDS</b> (Servicio ampliado de datos): Muestra información sobre la emisora y el programa actual, si está disponible. |
| <b>Efecto</b>                                  | Oprima ⬆ o ⬇ para seleccionar una de las siguientes opciones:<br><b>NO</b> : Recepción estereofónica o monofónica normal.<br><b>Surround</b> : Simula el sonido con calidad de sala de cine para programas estéreo.   |
| <b>Menú Avanzado</b>                           | Selecciónelo para volver a los menús principales.   |

 Si utiliza el botón  para cerrar el menú Básico, sólo aparecerá dicho menú al oprimir  de nuevo. Para tener acceso a otros menús, utilice ⬇ para seleccionar el menú Avanzado.

# Información adicional

## Programación del control remoto

Se puede utilizar el control remoto que se suministra para poner en funcionamiento tanto equipos de video Sony como equipos de otras marcas.

- 1 Oprima .
- 2 Oprima  o  (FUNCTION).
- 3 Utilice los botones ①-⑨ para introducir el número de código de la siguiente tabla.
- 4 Oprima .

### Códigos de videocaseteras

|                     |                              |                |   |
|---------------------|------------------------------|----------------|---|
| Sony                | 301, 302, 303                | JCPenney       | 309, 305, 304, 330, 314, 336, 337           |
| Admiral<br>(M.Ward) | 327                          | JVC            | 314, 336, 337, 345, 346, 347                |
| Aiwa                | 338, 344                     | Kenwood        | 314, 336, 332, 337                          |
| Audio Dynamic       | 314, 337                     | LXI (Sears)    | 332, 305, 330, 335, 338                     |
| Broksonic           | 319, 317                     | Magnavox       | 308, 309, 310                               |
| Canon               | 309, 308                     | Marantz        | 314, 336, 337                               |
| Citizen             | 332                          | Marta          | 332   |
| Craig               | 302, 332                     | Memorex        | 309, 335                                    |
| Criterion           | 315                          | Minolta        | 305, 304                                    |
| Curtis Mathis       | 304, 338, 309                | Mitsubishi/MGA | 323, 324, 325, 326                          |
| Daewoo              | 341, 312, 309                | Multitech      | 325, 338, 321                               |
| DBX                 | 314, 336, 337                | NEC            | 314, 336, 337                               |
| Dimensia            | 304                          | Olympic        | 309, 308                                    |
| Emerson             | 319, 320, 316, 317, 318, 341 | Optimus        | 327   |
| Fisher              | 330, 335                     | Panasonic      | 308, 309, 306, 307                          |
| Funai               | 338                          | Pentax         | 305, 304                                    |
| General Electric    | 329, 304, 309                | Philco         | 308, 309                                    |
| Go Video            | 322, 339, 340                | Philips        | 308, 309, 310                               |
| Goldstar            | 332                          | Pioneer        | 308   |
| Hitachi             | 306, 304, 305, 338           | Quasar         | 308, 309, 306                               |
| Instant Replay      | 309, 308                     | RCA/PROSCAN    | 304, 305, 308, 309, 311, 312, 313, 310, 329 |



**Códigos de videocaseteras**

|                         |  |
|-------------------------|--|
| Realistic               | 309, 330, 328, 335, 324, 338           |
| Sansui                  | 314                                    |
| Samsung                 | 322, 313, 321                          |
| Sanyo                   | 330, 335                               |
| Scott                   | 312, 313, 321, 335, 323, 324, 325, 326 |
| Sharp                   | 327, 328                               |
| Shintom                 | 315                                    |
| Signature 2000 (M.Ward) | 338, 327                               |
| SV2000                  | 338                                    |
| Sylvania                | 308, 309, 338, 310                     |

**Códigos de decodificadores**

|                    |   |
|--------------------|---|
| Hamlin/Regal       | 222, 223, 224, 225, 226                     |
| Jerrold/G. I.      | 201, 202, 203, 204, 205, 206, 207, 208, 218 |
| Oak                | 227, 228, 229                               |
| Panasonic          | 219, 220, 221                               |
| Pioneer            | 214, 215                                    |
| Scientific Atlanta | 209, 210, 211                               |
| Tocom              | 216, 217                                    |
| Zenith             | 212, 213                                    |

**Códigos de reproductores de discos láser**

|           |          |
|-----------|----------|
| Sony      | 701      |
| Panasonic | 704, 710 |
| Pioneer   | 702      |

**Códigos de DBS**

|                       |     |
|-----------------------|-----|
| DIRECTV               | 809 |
| Echostar/Dish Network | 810 |


|           |                         |
|-----------|-------------------------|
| Symphonic | 338                     |
| Tashiro   | 332                     |
| Tatung    | 314, 336, 337           |
| Teac      | 314, 336, 338, 337      |
| Technics  | 309, 308                |
| Toshiba   | 312, 311                |
| Wards     | 327, 328, 335, 331, 332 |
| Yamaha    | 314, 330, 336, 337      |
| Zenith    | 331                     |


**Códigos de receptores de satélite**


|                  |          |
|------------------|----------|
| Sony             | 801      |
| General Electric | 802      |
| Hitachi          | 805      |
| Hughes           | 804      |
| Panasonic        | 803      |
| RCA/PROSCAN      | 802, 808 |
| Toshiba          | 806, 807 |

**Códigos de reproductores DVD**











|                  |     |
|------------------|-----|
| Sony             | 751 |
| JVC              | 756 |
| Mitsubishi       | 761 |
| Onkyo            | 762 |
| Oritron          | 759 |
| Panasonic        | 753 |
| Philips/Magnavox | 757 |
| Pioneer          | 752 |
| RCA              | 755 |
| Samsung/Hitachi  | 758 |
| Toshiba          | 754 |
| Zenith           | 760 |

 Si se indica más de un número de código, intente introducirlos uno por uno hasta que encuentre el correcto para su equipo.







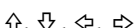

 Cuando quite las baterías, los números de código pueden regresar al ajuste de fábrica y será preciso volver a ajustarlos.

 En casos excepcionales, es posible que no se pueda emplear el equipo con el control remoto suministrado. En este caso, utilice el control remoto suministrado con el equipo.





## Empleo de una videocasetera

| Oprima   | Para  |
|--|---|
|   | Encender la videocasetera                               |
|   | Seleccionar canales directamente                        |
|   | Cambiar de canal  |
|   | Reproducir cintas de video                              |
|    | Detener el funcionamiento                               |
|   | Buscar hacia delante o atrás                            |
|   | Introducir pausas                                       |
|  y <br>(simultáneamente) | Grabar  |
|   | Cambiar entre las entradas de videocasetera y televisor |

## Empleo de un reproductor DVD


| Oprima  | Para                                   |
|---|--|
|  | Encender el reproductor DVD            |
|  | Seleccionar capítulos directamente     |
|  | Buscar capítulos hacia delante o atrás |
|  | Reproducir un DVD                      |
|  | Detener el funcionamiento              |
|  | Introducir pausas                      |
|  | Desplazar el cursor por el menú        |
|  | Mostrar el menú DVD                    |




## Empleo de un reproductor de discos láser











| Oprima   | Para                                    |
|--|---|
| VCR/DVD<br> | Encender el reproductor de discos láser |
| CH<br>+ -  | Buscar capítulos hacia delante o atrás  |
|             | Reproducir discos                       |
|             | Detener el funcionamiento               |
|             | Introducir pausas                       |

## Solución de problemas

Si tiene algún problema con su televisor, consulte las sugerencias siguientes. Si el problema no se soluciona, póngase en contacto con su distribuidor Sony.

|  |   |
|--|---|
| <b>Ausencia de imagen y de sonido</b>              | <ul style="list-style-type: none"> <li><input type="checkbox"/> Asegúrese de que el cable de alimentación está enchufado.</li> <li><input type="checkbox"/> Si la luz roja de la parte frontal del televisor parpadea durante más de unos minutos, desconecte y vuelva a conectar el cable de alimentación para restablecer el televisor. Si el problema continúa, llame al centro de asistencia técnica local.</li> <li><input type="checkbox"/> Compruebe los ajustes TV/VIDEO: cuando vea la televisión, utilice el ajuste TV y, cuando emplee el equipo de video, utilice el ajuste VIDEO (página 16).</li> <li><input type="checkbox"/> Asegúrese de que las baterías se han insertado en el control remoto correctamente (página 2).</li> <li><input type="checkbox"/> Pruebe otro canal, ya que los problemas podrían proceder de la emisora.</li> </ul> |
| <b>Sin imagen o imagen defectuosa, buen sonido</b> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Ajuste Contraste en el menú de Video (página 23).</li> <li><input type="checkbox"/> Ajuste Brillo en el menú de Video (página 23).</li> <li><input type="checkbox"/> Compruebe las conexiones de antena y/o cable (página 3).</li> </ul>  |
| <b>Buena imagen, sin sonido</b>                    | <ul style="list-style-type: none"> <li><input type="checkbox"/> Oprima  para que desaparezca MUTING de la pantalla (página 15).</li> <li><input type="checkbox"/> Compruebe los ajustes de Audio. El televisor puede estar ajustado en Auto-SAP (página 25).</li> </ul>  |
| <b>Sin color</b>                                   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Ajuste Color en el menú de Video (página 23).</li> </ul>  |
| <b>Sin señal</b>                                   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Compruebe el ajuste Cable del menú de Ajuste de Canal (página 26).</li> <li><input type="checkbox"/> Compruebe las conexiones de antena y/o cable (página 3).</li> <li><input type="checkbox"/> Asegúrese de que el canal seleccionado emite actualmente.</li> </ul>  |
| <b>Rayas o líneas con puntos</b>                   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Ajuste la antena.</li> <li><input type="checkbox"/> Aleje el televisor de cualquier otro equipo electrónico. Algunos equipos electrónicos pueden crear ruido eléctrico que interfiera con la recepción de televisión.</li> </ul>  |

|   |  |
|---|--|
| <b>Imágenes dobles o fantasma</b>   | <input type="checkbox"/> Compruebe la antena exterior o llame al proveedor del servicio de cable.  |
| <b>No puede recibir canales de banda alta (UHF) cuando utiliza una antena</b> | <input type="checkbox"/> Asegúrese de que Cable está ajustado en la posición NO en el menú de Ajuste de Canal (página 26).<br><input type="checkbox"/> Utilice Auto Programación para añadir canales que no están en la memoria (página 17).   |
| <b>Parece que las emisoras por cable no funcionan</b>                         | <input type="checkbox"/> Asegúrese de que Cable está ajustado en la posición SI en el menú de Ajuste de Canal (página 26).<br><input type="checkbox"/> Utilice Auto Programación para añadir canales que no están en la memoria (página 17).   |
| <b>El control remoto no funciona</b>  | <input type="checkbox"/> Las baterías podrían estar bajas. Sustitúyalas (página 2).<br><input type="checkbox"/> Aleje el televisor 1 metro aproximadamente de las luces fluorescentes.   |
| <b>Imposible cambiar de canal con el control remoto</b>                       | <input type="checkbox"/> Asegúrese de que no ha cambiado accidentalmente el televisor del ajuste de canal 3 o 4 si utiliza otro dispositivo para cambiar de canal.<br><input type="checkbox"/> Si utiliza otro dispositivo para controlar los canales, asegúrese de oprimir el botón FUNCTION correspondiente a dicho dispositivo. Por ejemplo, si utiliza la videocasetera para controlar los canales, asegúrese de oprimir los botones VCR/DVD FUNCTION (página 15).                   |
| <b>Es necesario limpiar el televisor</b>                                      | <input type="checkbox"/> Limpie el TV con un paño suave y seco. Nunca emplee disolventes, como diluyente de pintura o bencina, ya que pueden dañar el acabado exterior.  |
| <b>No puede acceder a otros menús mientras utiliza el menú Básico</b>         | <input type="checkbox"/> Si utiliza el botón  para cerrar el menú Básico, sólo aparecerá dicho menú al oprimir  de nuevo. Para tener acceso a otros menús, utilice el botón  para seleccionar el menú Avanzado (página 31). |
| <b>El control remoto no funciona en el modo PIP</b>                           | <input type="checkbox"/> Oprima el botón TV FUNCTION. Es posible que haya oprimido accidentalmente el botón VCR/DVD FUNCTION, que cambia los botones PIP al modo de videocasetera (página 15).   |

|  |  |
|--|--|
| <b>No aparece la imagen de ventana o aparece estática</b>                  | <ul style="list-style-type: none"> <li>❑ Asegúrese de que la imagen de ventana está ajustada en una fuente de video/canal en el que se emita algún programa.</li> <li>❑ Es posible que haya sintonizado una entrada de video a la que no hay nada conectado. Recorra las entradas de video utilizando el botón PIP TV/VIDEO amarillo con punto rojo (página 18).</li> <li>❑ PIP no está ajustado para recibir la señal de la entrada AUX. Si ha conectado una videocasetera, reproductor DVD o receptor de satélite a la entrada AUX del televisor, la imagen no aparecerá en la ventana pequeña.</li> </ul>   |
| <b>Aparece el mismo programa en la imagen de ventana y en la principal</b> | <ul style="list-style-type: none"> <li>❑ Es posible que ambas estén ajustadas en el mismo canal. Cambie de canal en la imagen principal o en la de ventana (páginas 18-19).</li> <li>❑ Es posible que el televisor esté ajustado para seleccionar todos los canales mediante un decodificador. El decodificador sólo decodificará una señal cada vez, por lo que no es posible utilizar la función PIP. Si es posible, conecte un cable directo a la toma VHF/UHF del televisor. Esto sólo funcionará si el sistema de cable proporciona señales no codificadas (página 5).</li> </ul>   |
| <b>Control remoto perdido</b>  | <ul style="list-style-type: none"> <li>❑ Puede utilizar los controles del panel frontal de audio/video para acceder a los menús. Oprima  para abrir el menú. Utilice los botones  o  del panel frontal de audio/video en lugar de los botones  o  del control remoto. Utilice el botón  del panel frontal de audio/video en lugar de los botones , , y  del control remoto. Oprima  de nuevo cuando haya completado el ajuste. Póngase en contacto con el distribuidor Sony más próximo para solicitar un control remoto.</li> </ul> |

*Si usted necesita asistencia adicional, llame al número de apoyo técnico de Sony correspondiente a su país. Uno de los profesionales de apoyo técnico de Sony estará encantado de asistirle.*

# Especificaciones

## Para todos los modelos (excepto donde se indique)

|                                     |   |
|-------------------------------------|---|
| Sistema de televisión               | Estándar americano de TV/NTSC<br>PALM/PALN/NTSC (KV-34FS13A)  |
| Cobertura de canales                | VHF: 2-13/UHF: 14-69/Cable: 1-125   |
| Antena                              | Terminal de antena externa de 75 ohm para VHF/UHF   |
| Tubo de imagen                      | FD Trinitron®   |
| Requisitos del suministro eléctrico | ca 120-220 V 50/60 Hz (KV-34FS13A)<br>ca 220 V 50 Hz (KV-34FS13C)<br>ca 120 V 60 Hz (KV-34FS17)   |
| Accesorios suministrados            | Baterías tamaño AA (R6) (2)<br>Control remoto RM-Y180 (1) (KV-34FS13A, KV-34FS13C)<br>RM-Y181 (1) (KV-34FS17)                               |
| Accesorios opcionales               | Cables de conexión VMC-810S/820S, VMC-720M, YC-YC-15V/30V, RK74A<br>Mezclador de U/V EAC-66<br>Soporte para televisor: SU-32FD3             |
| <b>KV-34FS13A, KV-34FS13C</b>       |   |
| Tamaño de pantalla                  | Tamaño de pantalla visible medida diagonalmente: 803 mm (32 pulgadas)<br>Tamaño de pantalla real medida diagonalmente: 859 mm (34 pulgadas) |
| Entradas/Salidas                    | 3 video, 3 audio<br>1 S VIDEO<br>1 salida de audio<br>1 entrada RF<br>1 Y, P <sub>B</sub> , P <sub>R</sub> , 1 audio                        |
| Salida de la bocina                 | 10 W × 2  |
| Consumo de energía                  | 195 W en uso<br>1 W en espera   |
| Dimensiones (An/Al/Prf)             | 700 × 632 × 512 mm (27 <sup>5</sup> / <sub>8</sub> × 25 × 20 <sup>1</sup> / <sub>4</sub> pulgadas)  |
| Peso                                | 75 kg (163 lbs.)  |

**KV-34FS17**

|                         |   |
|-------------------------|---|
| Tamaño de pantalla      | Tamaño de pantalla visible medida diagonalmente: 803 mm (32 pulgadas)<br>Tamaño de pantalla real medida diagonalmente: 859 mm (34 pulgadas) |
| Entradas/Salidas        | 3 video, 3 audio<br>1 S VIDEO<br>1 salida de audio<br>2 entradas RF<br>1 Y, P <sub>B</sub> , P <sub>R</sub> , 1 audio                       |
| Salida de la bocina     | 10 W × 2  |
| Consumo de energía      | 205 W en uso<br>1 W en espera   |
| Dimensiones (An/Al/Prf) | 762 × 604 × 519 mm (30 × 23 <sup>7</sup> / <sub>8</sub> × 20 <sup>1</sup> / <sub>2</sub> pulgadas)  |
| Peso                    | 75 kg (163 lbs.)  |

El diseño y las especificaciones están sujetos a cambios sin previo aviso.



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## PRINTING THE SERVICE MANUAL

The PDF of this service manual is not designed to be printed from cover to cover. The pages vary in size, and must therefore be printed in sections based on page dimensions.

### NON-SCHEMATIC PAGES

Data that does NOT INCLUDE schematic diagrams are formatted to 8.5 x 11 inches and can be printed on standard letter-size and/or A4-sized paper.

### SCHEMATIC DIAGRAMS

The schematic diagram pages are provided in two ways, full size and tiled. The full-sized schematic diagrams are formatted on paper sizes between 8.5" x 11" and 18" x 30" depending upon each individual diagram size. Those diagrams that are LARGER than 11" x 17" in full-size mode have been tiled for your convenience and can be printed on standard 11" x 17" (tabloid-size) paper, and reassembled.

#### TO PRINT FULL SIZE SCHEMATIC DIAGRAMS

---

If you have access to a large paper plotter or printer capable of outputting the full-sized diagrams, output as follows:


- 1) Note the page size(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.
- 2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your large format printer. Confirm that the printer settings are set to output the indicated page size or larger.
- 3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

#### TO PRINT TILED VERSION OF SCHEMATICS

---

Schematic pages that are larger than 11" x 17" full-size are provided in a 11" x 17" printable tiled format near the end of the document. These can be printed to tabloid-sized paper and assembled to full-size for easy viewing.



If you have access to a printer capable of outputting the tabloid size (11" x 17") paper, then output the tiled version of the diagram as follows:


- 1) Note the page number(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.
- 2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your printer. Confirm that the plotter settings are set to output 11" x 17", or tabloid size paper in landscape (  ) mode.
- 3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

#### TO PRINT SPECIFIC SECTIONS OF A SCHEMATIC

---

To print just a particular section of a PDF, rather than a full page, access the Graphics Select tool in the Acrobat Reader tool bar.

- 1) To view the Graphics Select Tool, press and HOLD the mouse button over the Text Select Tool which looks like: .  
This tool will expand to reveal to additional tools.  
Choose the Graphics Select tool by placing the cursor over the button on of the far right that looks like: .
- 2) After selecting the Graphics Select Tool, place your cursor in the document window and the cursor will change to a plus (+) symbol. Click and drag the cursor over the area you want to print. When you release the mouse button, a marquee (or dotted lined box) will be displayed outlining the area you selected.
- 3) With the marquee in place, go to the file menu and select the "Print..." option. When the print window appears, choose the option under the section called "Print Range" which says "Selected Graphic".

Select OK and the output will print only the area that you outlined with the marquee. 

(continued >)

## ON-SCREEN SEARCH OPTION

All of the text within the service manual PDF is content searchable. This means that you can enter any text, word, phrase or reference number that appears in the manual, and the PDF software will search, find and move the cursor to the location where you requested text first appears. This feature can be particularly useful in locating components on a specific schematic or printed wire circuit board (PWB) diagrams.

Follow these steps to effectively locate a component on a schematic diagram:

- 1) Locate the schematic you want to search by clicking on the corresponding bookmark on the left side of the screen. The view on the right of the screen will then jump to the desired schematic page.
- 2) Magnify the diagram to at least 400% before conducting a component search. This will enable you to easily view the reference number when it is highlighted on screen. To do this, click on the magnifying glass button on the tool bar at the top of the screen. Move the cursor over the diagram and RIGHT click you mouse. Select the 400% magnification option on the pop-up menu. Click on the button with the icon of the open hand to deactivate the magnification tool
- 3) Search the diagram (or the entire manual) by clicking on the binocular button tool at the top of the screen. The "Find" window will appear and allow you to type in your desired text. Type in a reference designator, such as R502, and click on the "Find" button. If the component is not on the diagram, but is listed anywhere else in the manual, the cursor will jump to the first location the text is found in the file. To find another instance of that same text, click on the binocular button again and select "Find Again."

## HISTORY INFORMATION FOR THE FOLLOWING MANUAL:

# SERVICE MANUAL

# BA-5 CHASSIS

| <u>MODEL NAME</u> | <u>REMOTE COMMANDER</u> | <u>DESTINATION</u> | <u>CHASSIS NO.</u> |
|-------------------|-------------------------|--------------------|--------------------|
| <b>KV-27FS13</b>  | RM-Y180                 | USA                | SCC-S40NA          |
| <b>KV-27FS13</b>  | RM-Y180                 | CND                | SCC-S41LA          |
| <b>KV-27FS17</b>  | RM-Y181                 | USA                | SCC-S40PA          |
| <b>KV-27FV17</b>  | RM-Y181                 | USA                | SCC-S40MA          |
| <b>KV-27FV17</b>  | RM-Y181                 | CND                | SCC-S41KA          |
| <b>KV-29FV17</b>  | RM-Y181                 | E                  | SCC-S38XA          |
| <b>KV-29FV17C</b> | RM-Y181                 | E                  | SCC-S38YA          |
| <b>KV-32FS13</b>  | RM-Y180                 | USA                | SCC-S40QA          |
| <b>KV-32FS13</b>  | RM-Y180                 | CND                | SCC-S41MA          |
| <b>KV-32FS17</b>  | RM-Y181                 | USA                | SCC-S40RA          |
| <b>KV-34FS13C</b> | RM-Y180                 | E                  | SCC-S56DA          |
| <b>KV-34FS17</b>  | RM-Y181                 | E                  | SCC-S56JA          |

**ORIGINAL MANUAL ISSUE DATE: 3/2001**

ALL REVISIONS AND UPDATES TO THE ORIGINAL MANUAL ARE APPENDED TO THE END OF THE PDF FILE.

| <u>REVISION DATE</u> | <u>REVISION TYPE</u>                                 | <u>SUBJECT</u>                                 |
|----------------------|--|--|
| 3/2001               | No revisions or updates are applicable at this time. |  |
| 9/2002               | CORRECTION-1   | Exploded View part number correction for Door. |
| 10/2002              | CORRECTION-2   | New 2 Pin THP601                               |

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# SERVICE MANUAL

# BA-5 CHASSIS

| <u>MODEL NAME</u> | <u>REMOTE COMMANDER</u> | <u>DESTINATION</u> | <u>CHASSIS NO.</u> |
|-------------------|-------------------------|--------------------|--------------------|
| <b>KV-27FS13</b>  | RM-Y180                 | USA                | SCC-S40NA          |
| <b>KV-27FS13</b>  | RM-Y180                 | CND                | SCC-S41LA          |
| <b>KV-27FS17</b>  | RM-Y181                 | USA                | SCC-S40PA          |
| <b>KV-27FV17</b>  | RM-Y181                 | USA                | SCC-S40MA          |
| <b>KV-27FV17</b>  | RM-Y181                 | CND                | SCC-S41KA          |
| <b>KV-29FV17</b>  | RM-Y181                 | E                  | SCC-S38XA          |
| <b>KV-29FV17C</b> | RM-Y181                 | E                  | SCC-S38YA          |
| <b>KV-32FS13</b>  | RM-Y180                 | USA                | SCC-S40QA          |
| <b>KV-32FS13</b>  | RM-Y180                 | CND                | SCC-S41MA          |
| <b>KV-32FS17</b>  | RM-Y181                 | USA                | SCC-S40RA          |
| <b>KV-34FS13C</b> | RM-Y180                 | E                  | SCC-S56DA          |
| <b>KV-34FS17</b>  | RM-Y181                 | E                  | SCC-S56JA          |

## CORRECTION - 1

SUBJECT: EXPLODED VIEW PARTS NUMBER CORRECTION

Correct the service manual as shown.  
File this Correction with the service manual.

 : Corrected Item

Section 6: Exploded View (Page 57 & 60)

6-2. Picture Tube Removal (KV-27FV17/29FV17/29FV17C ONLY)

6-5. Picture Tube Removal

(KV-27FS13/27FS17/32FS13/32FS17/34FS13C/34FS17 ONLY)

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 : Corrected Item



## Section 6: Exploded View (Page 57 & 60)

### 6-2. Picture Tube Removal (KV-27FV17/29FV17/29FV17C ONLY)

#### INCORRECT

| REF. NO. | PART NO.     | DESCRIPTION |
|----------|--------------|-------------|
| 3        | X-4037-631-3 | DOOR        |

#### CORRECT

| REF. NO.  | PART NO.                 | DESCRIPTION |
|---|--------------------------|-------------|
|  3 | X-4037-631-4             | DOOR        |
|   | (KP-27FV17 ONLY)         |             |
|  3 | X-4037-631-1             | DOOR        |
|   | (KP-29FV17/29FV17C ONLY) |             |



### 6-5. Picture Tube Removal

(KV-27FS13/27FS17/32FS13/32FS17/34FS13C/34FS17 ONLY)

#### INCORRECT

| REF. NO. | PART NO.                              | DESCRIPTION                   |
|----------|---------------------------------------|-------------------------------|
| 3        | 4-075-658-21                          | DOOR (KV-34FS13C/34FS17 ONLY) |
| 3        | 4-075-658-31                          | DOOR                          |
|          | (KP-27FS13/27FS17/32FS13/32FS17 ONLY) |                               |

#### CORRECT

| REF. NO.  | PART NO.                              | DESCRIPTION                   |
|---|---------------------------------------|-------------------------------|
|  3 | 4-075-658-11                          | DOOR (KV-34FS13C/34FS17 ONLY) |
|  3 | 4-075-658-21                          | DOOR                          |
|   | (KP-27FS13/27FS17/32FS13/32FS17 ONLY) |                               |

## SERVICE MANUAL

## BA-5 CHASSIS

| <u>MODEL NAME</u> | <u>REMOTE COMMANDER</u> | <u>DESTINATION</u> | <u>CHASSIS NO.</u> |
|-------------------|-------------------------|--------------------|--------------------|
| <b>KV-27FS13</b>  | RM-Y180                 | USA                | SCC-S40NA          |
| <b>KV-27FS13</b>  | RM-Y180                 | CND                | SCC-S41LA          |
| <b>KV-27FS17</b>  | RM-Y181                 | USA                | SCC-S40PA          |
| <b>KV-27FV17</b>  | RM-Y181                 | USA                | SCC-S40MA          |
| <b>KV-27FV17</b>  | RM-Y181                 | CND                | SCC-S41KA          |
| <b>KV-29FV17</b>  | RM-Y181                 | E                  | SCC-S38XA          |
| <b>KV-29FV17C</b> | RM-Y181                 | E                  | SCC-S38YA          |
| <b>KV-32FS13</b>  | RM-Y180                 | USA                | SCC-S40QA          |
| <b>KV-32FS13</b>  | RM-Y180                 | CND                | SCC-S41MA          |
| <b>KV-32FS17</b>  | RM-Y181                 | USA                | SCC-S40RA          |
| <b>KV-34FS13C</b> | RM-Y180                 | E                  | SCC-S56DA          |

## CORRECTION - 2

SUBJECT: NEW 2 PIN THP601

Correct the service manual as shown.  
File this Correction with the service manual.

## SECTION 6: DIAGRAMS

6-3. A Board Schematic Diagram (Page 32, 33)

## SECTION 8: ELECTRICAL PARTS LIST (Page 67, 73, 74-78)

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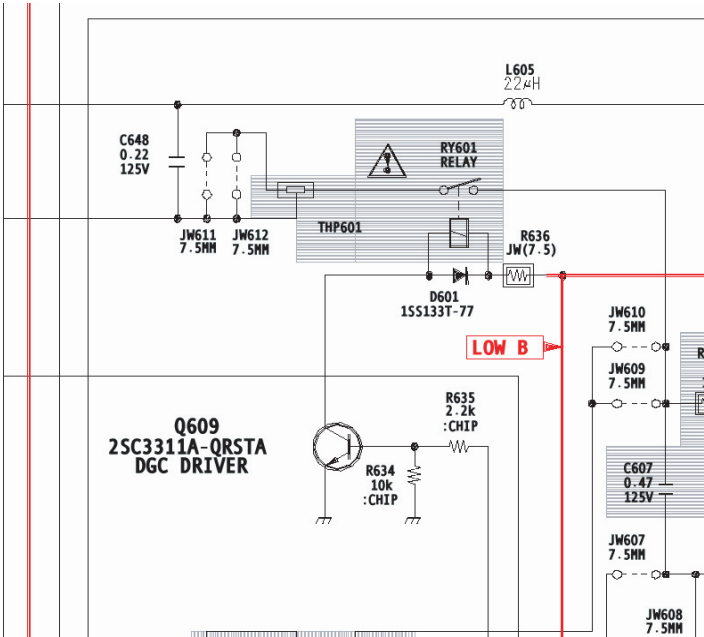
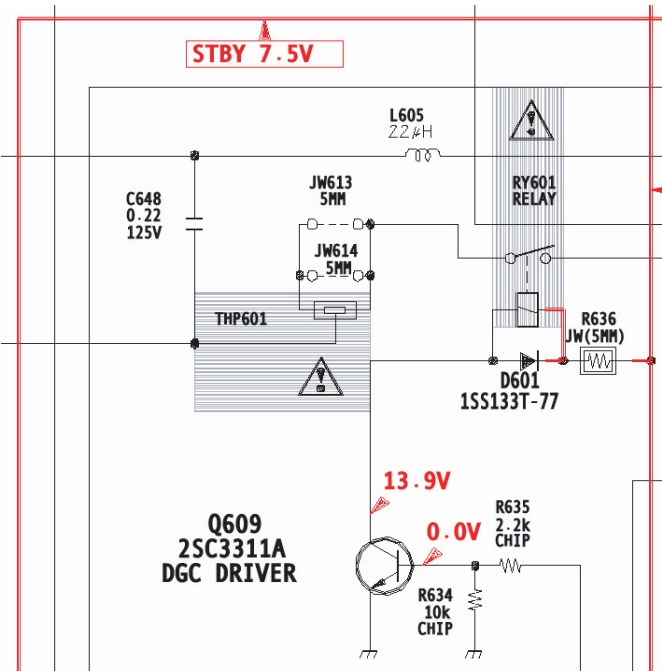
 : Corrected Item

SECTION 6: DIAGRAMS  
6-3.A Board Schematic Diagram (Page 32, 33,)

If a set requires a 3 pin (THP601) thermistor it may still be ordered using the existing part number. If a set requires a 2 pin (THP601) thermistor the new part number must be used.

For 3 Pin Configuration






For 2 Pin Configuration



SECTION 8: ELECTRICAL PARTS LIST (Page 67, 73, 74-78)

OLD

NEW

| REF. NO.  | PART NO.     | DESCRIPTION        | REF. NO.   | PART NO.     | DESCRIPTION        |
|---|--------------|--------------------|--|--------------|--------------------|
|  THP601 | 1-803-540-11 | THERMISTOR (3 PIN) |  THP601 | 1-803-540-11 | THERMISTOR (3 PIN) |
|   | [ OR ]       |                    |  | [ OR ]       |                    |
|  THP601 | 1-803-629-11 | THERMISTOR (3 PIN) |  THP601 | 1-803-629-11 | THERMISTOR (3 PIN) |
|   |              |                    |  THP601 | 1-804-313-11 | THERMISTOR (2 PIN) |

