

# SERVICE MANUAL

## AE-5 CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.	MODEL	COMMANDER	DEST	CHASSIS NO.
<b>KV-28FX65B</b>	RM-887	FRENCH	SCC-Q13J-A	<b>KV-32FX65B</b>	RM-887	FRENCH	SCC-Q13K-A
<b>KV-28FX65E</b>	RM-887	ESP	SCC-Q14J-A	<b>KV-32FX65E</b>	RM-887	ESP	SCC-Q14K-A
<b>KV-28FX65U</b>	RM-887	UK	SCC-Q15E-A	<b>KV-32FX65K</b>	RM-887	OIRT	SCC-Q15F-A
				<b>KV-32FX65U</b>	RM-887	UK	SCC-Q16M-A

## FD Trinitron



TRINITRON<sup>®</sup> COLOR TV  
**SONY<sup>®</sup>**

# TABLE OF CONTENTS

Section	Title	Page	Section	Title	Page
	Specifications .....	3			
	Connectors .....	5			
	Self Diagnostic Software .....	6			
<b>1. GENERAL</b>			<b>5. DIAGRAMS</b>		
	Tuning your TV .....	9	5-1.	Block Diagram (1) .....	31
	Finding your Video Channel .....	9		Block Diagram (2) .....	35
	NexT View .....	9		Block Diagram (3) .....	39
	Teletext .....	10		Block Diagram (4) .....	43
	Using the TV menu system .....	11	5-2.	Circuit Board Location .....	46
	Specifications .....	15	5-3.	Schematic Diagrams and	
	Troubleshooting .....	15		Printed Wiring Boards .....	46
				* H7 Board .....	47
<b>2. DISASSEMBLY</b>				* H8 Board .....	47
2-1.	Rear Cover Removal .....	16		* F4 Board .....	48
2-2.	Speaker Connector .....	16		* F1 Board .....	48
2-3.	Chassis Removal .....	16		* E Board .....	49
2-4.	Service Position .....	17		* M1 Board .....	53
2-5.	D1 Board Removal .....	17		* D1 Board .....	56
2-6.	J Board Removal .....	17		* D Board .....	63
2-7.	B1 Board Removal .....	18		* A Board .....	66
2-8.	Side Control Removal .....	18		* J Board .....	75
2-9.	F4 Bracket Removal .....	18		* C Board .....	81
2-10.	F4 and H8 Board Removal .....	18		* VM Board .....	83
2-11.	Picture Tube Removal .....	19		* B1 Board .....	85
	Bottom Plates .....	20	5-4.	Semiconductors .....	89
			5-5.	IC Blocks .....	88
<b>3. SET-UP ADJUSTMENTS</b>			<b>6. EXPLODED VIEWS</b>		
3-1.	Beam Landing .....	21	6-1.	Chassis (28FX65) .....	92
3-2.	Convergence .....	22	6-2.	Picture Tube (28FX65) .....	93
3-3.	Focus, Screen [G2] Adjustment .....	24	6-3.	Chassis (32FX65B/E/K) .....	94
3-4.	White Balance .....	24	6-4.	Picture Tube (32FX65B/E/K) .....	95
			6-5.	Chassis (32FX65U) .....	96
<b>4. CIRCUIT ADJUSTMENTS</b>			6-6.	Picture Tube (32FX65U) .....	97
4-1.	Electrical Adjustments .....	25	<b>7. ELECTRICAL PARTS LIST</b>		98
4-2.	Volume Electrical Adjustments .....	29			
4-3.	Test Mode 2 .....	30			

## CAUTION

**SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.**

## WARNING !!

AN ISOLATION TRANSFORMER MUST BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD DUE TO LIVE CHASSIS, THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE POWER LINE.

## SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED  $\Delta$  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.

## ATTENTION

**APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE.**

## ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

## ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  $\Delta$  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.


ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
French	B/G/H, D/K,L,I	GERMAN/NICAM Stereo	VHF : E02-E12, R01-R12 UHF : E21-E69, R21-R69 CABLE TV : S01-S20, B-Q HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN /NICAM Stereo	VHF : E02-E12, R01-R12 UHF : E21-E69, R21-R69 CABLE TV : S01-S05, S1-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, D/K	GERMAN /NICAM Stereo	VHF : E02-E12, R01-R12 UHF : E21-E69, R21-R69 CABLE TV : S01-S05, S1-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

Model	KV-28FX65B	KV-28FX65E	KV-28FX65U	
Power Consumption	126W	126W	126W	
Model	KV-32FX65B	KV-32FX65E	KV-32FX65U	KV-32FX65K
Power Consumption	122W	122W	122W	122W

Picture Tube	FD Trinitron Wide Approx 71 cm (28 inches) (Approx 66cm picture measured diagonally) Approx 82 cm (32 inches) (Approx 76cm picture measured diagonally) 110 degree deflection	Sound output  Subwoofer	Right and Left speaker 2x20W (Music Power) 2x10W (RMS)  1x30W (Music Power) 1x15W (RMS)
<b>Input/Output Terminals [REAR]</b>		Power Requirements	220 - 240V AC
1: 21-pin Euro connector (CENELEC standard)	Inputs for Audio and Video signals. Inputs for RGB. Outputs of TV Video and Audio signals.	Dimensions	28" Approx 796x518x522mm 32" Approx 883x567x562mm
2: 21-pin Euro connector	Inputs for Audio and Video signals. Inputs for S Video. Outputs of TV Video and Audio signals. (selectable)	Weight	28" Approx 48.0kg 32" Approx 64.0kg
3: 21-pin Euro connector	Inputs for Audio and Video signals. Inputs for S Video. Outputs for Video and Audio signals (monitor out)	Supplied Accessories	RM-887 Remote Commander (1) IEC designated R6 battery (2)
RCA Connectors	Variable output for Audio Signals	Other Features	NexTView, Digital Comb Filter, Noise Reduction, Graphic Equaliser, 2000 Page Text Memory.
<b>Input/Output Terminals [FRONT]</b>		Remote control system	Infrared control
Headphone jack	stereo mini jack	Power requirements	3V dc 2 batteries IEC designation R6 (size AA)
Audio inputs	phono jacks	Dimensions	Approx 210x45x23mm (w/h/d)
Video inputs	phono jacks	Weight	Approx 95g (not including battery)
S Video input	4 pin DIN		
Design and specifications are subject to change without notice.			

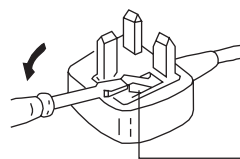
Model Name Item	KV-28FX65B KV-32FX65B	KV-28FX65E KV-32FX65E	KV-28FX65U KV-32FX65U	KV-32FX65K
Pal Comb	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	ON	ON
Woofer Box	ON	ON	ON	ON
Scart 1	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON
Scart 3	ON	ON	ON	ON
Front in (4)	ON	ON	ON	ON
Projector	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON
Norm B/G	ON	ON	OFF	ON
Norm I	ON	OFF	ON	OFF
Norm D/K	ON	ON	OFF	ON
Norm AUS	OFF	OFF	OFF	OFF
Norm L	ON	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF
Teletext	ON	ON	ON	ON
Nicam Stereo	ON	ON	ON	ON

### WARNING (UK Models only)

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **13 AMP** rating. Should the fuse need to be replaced, use a **13 AMP FUSE** approved by ASTA to **BS 1362**, ie one that carries the  mark.

IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR THE OUTLET SOCKETS IN YOUR HOME, IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET.

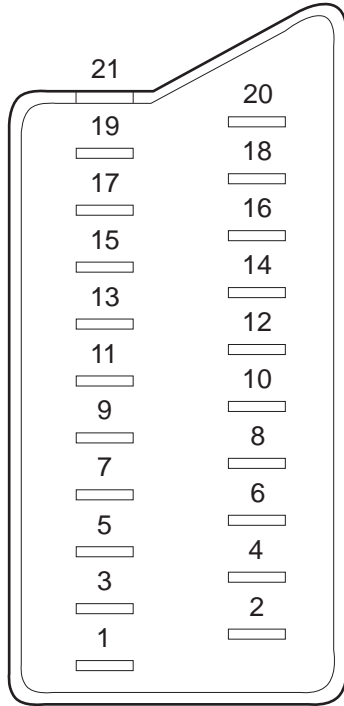
When an alternative type of plug is used, it should be fitted with a **13 AMP FUSE**, otherwise the circuit should be protected by a **13 AMP FUSE** at the distribution board.



How to replace the fuse.  
Open the fuse compartment with a screwdriver blade and replace the fuse.



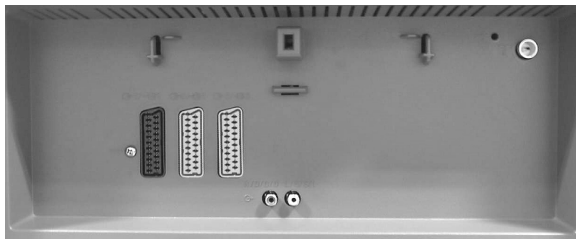
## 21 pin connector



Pin No	1	2	3	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
2	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance : More than 10kohm*
7	○	●	●	Blue input	0.7 +/- 3dB, 75 ohms positive
8	○	○	○	Function select (AV control)	High state (9.5-12V) : Part mode Low state (0-2V) : TV mode Input impedance : More than 10K ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 +/- 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground (blanking)	
15	○	-	-	Red input	0.7 +/- 3dB, 75 ohms, positive
	-	○	○	(S signal Chroma input)	0.3 +/- 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1-3V) Low state (0-0.4V) Input impedance : 75 ohms
17	○	○	○	Ground (video output)	
18	○	○	○	Ground (video input)	
19	○	○	○	Video output	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
20	○	-	-	Video input	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
	-	○	○	Video input Y (S signal)	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected    ● Not Connected (open)    \* at 20Hz - 20kHz

## Rear Connection Panel



## Front Connection Panel

S-Video socket



S Video socket pin configuration		
Pin No	Signal	Signal Level
1	Ground	-
2	Ground	-
3	Y (S signal) input	1V +/- 3dB 75ohm, positive Sync. 0.3V -3 +10dB
4	C (S signal) input	0.3V +/- 3dB 75ohm, positive Sync.

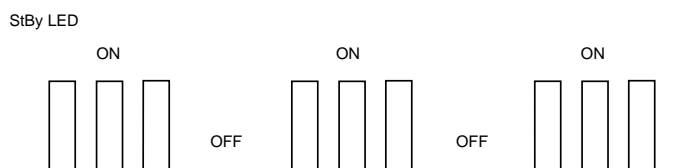
## AE-5 SELF DIAGNOSTIC SOFTWARE

The identification of errors within the AE-5 chassis is triggered in one of two ways :- 1: Busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with a continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED (Series of flashes which must be counted) See table 1., non fatal errors are reported using this method.

Diagnostic Item Description	No of times Standby LED Flashes	Probable cause Location	Detected Symptoms
Power does not turn on	Does not light	Power cord is not plugged in. Fuse is open circuit.	Power does not come on No power is supplied to the TV AC power supply is faulty
+B Overcurrent (OCP)	2 times	H.OUT (Q6803/6804) is shorted. (D Board) Linearity FET (Q6806) is shorted. (D Board) IC6604 Power IC is shorted. (D Board)	Power does not come on Load on power line has shorted
Vertical Deflection stopped	4 times	+15V is not supplied R6835 open (D Board) -15V is not supplied R6834 open (D Board) IC6700 is shorted (D Board)	Vertical deflection pulse has stopped Power line has shorted

Error Message	LED Flashes
No error	00
Reserved	01
OCP ( Over Current Protection )	02
OVP ( Over Voltage Protection )	03
Vertical Protection	04
Unstable AKB (check starts after 30's, enable TT61 disable TT62)	05
Horizontal Protection	06
Speaker Protection	07
I2C bus 0 error	08
M-B Tele-Text-Decoder	09
M-B ST24C32, NVM	10
J-B TDA9320, Main Colour Decoder	11
B1/B2-B Feature Box	12
B1-B D/A-Converter	13
E-B Backend	14
J-B MSP3410D, Sound Processor	15
J-B CXD2057, Auto Wide	16
External RAM	17

### Flash Timing Example : e.g. error number 3



## Error Detection Monitor

Device acknowledge is used to check IIC errors. Device acknowledge is checked by sending an IIC start sequence during CRT power on. Each device is checked three times, if there is no acknowledge after each attempt, it will be regarded as an error.

There are three steps to check for errors.

1. IIC line 0  
If all devices except the NVM have errors, IIC line 0 error is displayed.
2. Board check  
If all devices mounted on one board have errors, board error is displayed.
3. Each device check  
If IIC line error and board error are not detected then the device with the error is displayed.

**The detected errors can be displayed as follows :**

1. Error Monitor Menu.
2. Error Reader.

### 1. Error Monitor Menu

Error Display Mode is entered by the following sequence of commands Standby -> Information -> Digit 5 -> Volume Down -> TV

**ERROR MONITOR**

1. IGNORE ERRORS   OFF                      ON                      OFF

Operating Time :                      000075                      h                      15                      min

Stored Errors :

1.      D1 - B CXA1875 or MB88141

2.      No Error Occured

3.      No Error Occured

4.      No Error Occured

5.      No Error Occured

Current Error :

Start Error Sequence

Last menu   ◀   Enter Item   ▶

## 2. Error Reader Display

The error reader display is connected to the service connector to read actual error codes. The part number for the error reader display is S-188-900-10. Once an error has been detected it will then be displayed on the two digit error reader. The errors displayed refer to the following table.

Error Code	Error Message
000h	No error occurred
001h	Bus error, IIC0
002h	Bus error, IIC1
<b>100h</b>	<b>A-Board</b>
101h	A-B CXA1875, Port Expander
102h	A-B TU1326, Main Tuner
103h	A-B TU1350, Sub Tuner
<b>200h</b>	<b>B1-Board</b>
201h	B1-B P83C654, Feature Box B1-B. SDA9280, D/A Convertor
202h	B1-B P83C654, Feature Box B1-B. SDA9280, D/A Convertor
<b>300h</b>	<b>B2-Board</b>
301h	B2-B. SAA4977, BESIC
302h	B2-B. SAA495X, Field Memory
<b>400h</b>	<b>B3-Board</b>
401h	B3-B. MID-X
402h	B3-B. Panorama
403h	B3-B. DRC
404h	BK-B. Picture Booster
<b>500h</b>	<b>D1-Board</b>
501h	D1-B CXA8070, Dynamic Convertor
502h	D1-B CXA1875, Port Expander
<b>600h</b>	<b>E-Board</b>
601h	E-B CXD2100, Backend
<b>700h</b>	<b>J-Board</b>
701h	J-B CXD2057, Auto Wide
702h	J-B SDA9288, PIP
703h	J-B Sub Colour Decoder
704h	J-B Main Colour Decoder
705h	J-B CXA1875, Sub-Sound
706h	J-B TDA7309, HP-Amplifier
707h	J-B TEA6422DT, Audio Switch
708h	J-B MSP3410D, Sound Processor
709h	J-B TC9337F, Sound DSP
70Ah	J-B CXA21X69, AV Switch
<b>800h</b>	<b>M-Board</b>
801h	M-B ST24C32, NVM

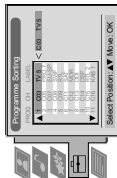
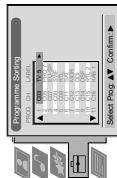
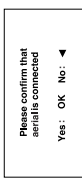
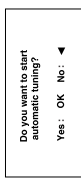
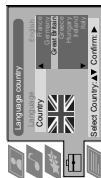
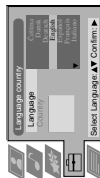
The operating instructions mentioned here are partial abstracts from the 'Operating Instruction Manual'. The page numbers of the 'Operating Instruction Manual' remain as in the manual.

## Installation

### 5. Tuning your TV

Before you tune your TV, you will be asked to set your language and country.

1. The Language/Country menu appears on the TV screen with the word 'English' highlighted.
2. Press the **▲** or **▼** buttons on the remote control to select your chosen language then press the OK button to confirm.
3. Press **▲** or **▼** to select the country in which you wish to operate the TV then press the OK button to confirm your choice. Select 'OFF' if you do not want your channels stored in a given channel sequence starting from programme position 1.
4. The 'autotune' menu appears on the TV screen in your selected language. Press the OK button to confirm.
5. Ensure the aerial is connected as instructed, then press the OK button to confirm. The TV starts to automatically search and store all available channels for you. This may take a few minutes - please be patient and do not press any buttons.



## SECTION 1 GENERAL

## Operation

### NexTVView\*

\* depending on availability of service

**1** NexTVView is an electronic programme guide with up to 1 week\* of programme information on those channels included in the selected provider.

\*If the data exceeds the memory of NexTVView, you will get information on less than 7 days.

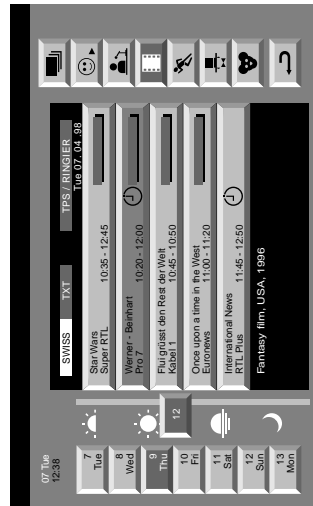
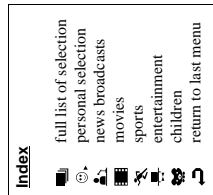
When looking for information you can search by theme (sports, art etc.), date or time (e.g. broadcasts between 8 and 9 p.m.). When you've found a programme you can go directly to this programme, use the timer to remind you of it or preset your VCR with Smartlink.

**1** The NexTVView provider is responsible for the contents of the guide. The TV set is responsible for the presentation, that is the menu structure and the navigation, if there is none from the provider. If there is a navigation from the provider the basic operation with the joystick is the same as described in the Sony navigation.

At first you need to select a channel providing a NexTVView service. In this case the indication "NexTVView" is displayed as soon as all data is available. When you later change the channel you can still select this NexTVView service.

### Operation using the Sony navigation

1. Press **⏏** to switch NexTVView on and off.
2. Use the joystick buttons as follows:
  - moving up or downwards within a column: Use **▲** or **▼**.
  - going to the left columns time and date: Use **◀**.
  - going to the right column icons: Use **▶**.
  - Confirming a selection: Press **OK**.
  - (a) while in the columns date, time or icon (themes), the programme list changes according to the selection.
  - (b) while in the programme list, confirming a running broadcast brings you directly to the TV programme or confirming a future programme brings you to the long info menu.



### 6. Finding your video channel









If you have connected a VCR to your TV, you now need to find your video channel. Please refer to the 'Connecting the TV' section of this manual on page 3.

1. Press the **PROGR+/-** buttons on the TV remote control until your video picture appears on the TV screen.



Note: If you wish to move your video channel to a different programme position, refer to the 'Re-arranging the TV channels' section of this instruction manual.

## Individual Setting

**i** When you select , there will be no personal pre-selection. , lets you make your own individual selection of them, limiting the search to the marked ones.



1. Select , using  or  Push  to enter.
2. The menu Individual Settings is displayed.
3. Select the item you wish to mark using  or  Confirm by pressing OK.
4. Repeat step 2 for all the items you wish to have in your list.
5. When finished with the list, select  using  and press OK.

### Using the 'Long Info' menu


1. Select a future programme in the column programme list using  or  Press OK.
2. The long info menu is displayed.




**You may wish to record the selected programme with your VCR.**  
(only with Smartlink VCRs)


2. Select  using  and press OK.
3. This information is transferred to the VCR connected to your set.

### Setting up your VCR

3. Select VPS/PDC by pushing  repeatedly.


**i** With this setting on, you have the guaranteed recording of the whole broadcast should there be a change in the TV programme. This only works if the selected channel broadcasts a VPS/PDC signal.

- Select On or Off using .

4. Select Speed using .


**i** Select between standardplay (SP) or longplay (LP) mode. With longplay you can record twice as much on a videotape. The picture quality, however, may suffer.

- Select SP or LP using OK.

5. Select VCR Setup using .




**i** Select which of the connected Smartlink VCRs you wish to programme.

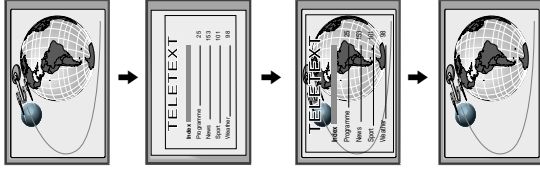
- Select VCR 1 or 2 using OK.

6. Select  Press OK.
7. You are back in the last menu.

**i** Most TV channels broadcast information via Teletext. The index page of the teletext service (usually page 100) gives you information on how to use the service. Please use a TV channel with a strong signal, otherwise there may be Teletext errors.

## Switching Teletext on and off

1. Select the TV channel which carries the teletext service you want to view.
2. Press the  button once to get Teletext only.
3. Press  twice for Mix mode.
4. Press  a third time to switch off Teletext.





## Selecting a Teletext page



Input three digits for the page number using the numbered buttons on the remote control. If you make a mistake, type in any three digits then re-enter the correct page number.

## Using Other Teletext Functions


### Selecting the next or preceding page

Press the  or  buttons on the remote control to select the previous or next page.


### Selecting a sub page

A teletext page may consist of several sub pages. In this case an information line is displayed, showing the number of subpages. Select the sub page by pressing  or .

### To freeze a Teletext page

Press the  button to freeze the page. Press again to cancel the freeze.

### Revealing concealed information



Press the  button to reveal information. Press again to conceal the information.

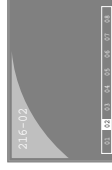
### Using colour buttons to access pages (Fastext)

(only available if the TV station broadcasts Fastext signals)

When the colour coded menu appears at the bottom of a page, press a coloured button on the remote control (green, red, yellow or blue) to access the corresponding page.

### Using the feature 'Page Catching'

1. Press the numbered buttons on the remote control to select a teletext page which has several page numbers on it (eg the index page).
2. Press the OK button.
3. Press  or  to select the desired page number then press the OK button. The requested page is displayed after some seconds.



## Operation

### Teletext

#### Using the Teletext menu

1. With Teletext switched on, press the MENU button on the remote control to display the menu on the TV screen.
2. Press ▲ or ▼ to select your chosen item on the screen then press ► to display the relevant sub menu.
3. To remove the Teletext menu from the screen, press the MENU button.

#### Top/Bottom/Full

The Top/Bottom/Full sub menu allows you to enlarge different sections of the Teletext page. Press ▲ to enlarge the upper half of the screen, Press ▼ to enlarge the lower half. Press the OK button to restore the page to normal size. Press ◀ to return to the Teletext menu screen.

#### Text Clear

Text Clear is a function that displays a TV channel while a Teletext page is being searched for.

1. Press the [ ] button on the remote control to select full screen text.
2. Press the MENU button to display the 'Teletext' menu.
3. Press ▲ or ▼ to highlight 'Text Clear' and press ► to select.
4. The current TV channel is displayed. Once the text page has been found a blue [ ] symbol will appear in the top left hand corner of the screen.
5. Press the [ ] button on the remote control to view the page.

#### Reveal

Some Teletext pages contain hidden information (eg for a quiz), which can be revealed.

1. In text mode press the MENU button on the remote control to access the 'Teletext' menu.
2. Press ▲ or ▼ to highlight 'Reveal' and press ► to select. The hidden information is displayed on the screen.

#### Time Page\*

\*depending on availability of service.

Time Page allows a time-coded Teletext page (such as an alarm page), to be displayed at a set time.

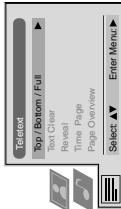
1. In Text mode press the MENU button on the remote control to access the 'Teletext' menu.
2. Press ▲ or ▼ to highlight 'Time Page' and press ► to select. The 'Time Page' sub menu is displayed.
3. Enter the desired page number using the numbered buttons on the remote control.
4. Enter the desired time using the remote control.
5. Press OK to confirm the settings. The TV will exit Teletext mode and the time will be displayed in the top left hand corner of the screen. At the requested time the desired page is displayed.

#### Page Overview\*

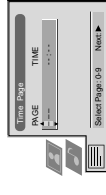
\*only available if TOP-Text is transmitted by the TV station.

In this menu the TOP-Text pages are divided into two columns, the first column showing 'blocks' of pages and the second showing 'groups' of pages.

1. Press ◀ or ▶ to select the first or second column.
2. Press ▲ or ▼ to select the relevant 'group' or 'block' of pages.
3. Press the OK button to display the chosen pages.



Top ▲ Bottom ▼ Full OK



## Operation

### Using the TV menu system

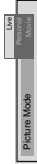
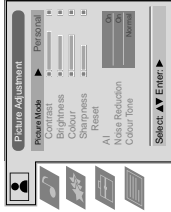
The TV consists of a menu system which is based on a series of user friendly on-screen displays and menus. These displays will help you get the most from your TV, helping you to change picture and sound settings, to alter the size of the TV picture and to rearrange the TV channels etc.

#### Adjusting the picture and sound

- The picture and sound are preset at the factory. You can however adjust them to suit your own taste.
1. Press the MENU button on the remote control to display the menu on the TV screen.
  2. Press the ▲ or ▼ buttons to select [ ] for picture settings or [ ] for sound settings then press ► to enter either the 'Picture Adjustment' menu or the 'Audio Adjustment' menu.
  3. Press the ▲ or ▼ buttons to select the item on the screen you wish to adjust then press ► to confirm. For a description of the menu items and their effects, see the table below.
  4. Press the ▲, ▼, ► or ◀ buttons to adjust your selected item.
  5. As soon as you have adjusted the item, press the OK button to store the new setting.
  6. Repeat steps 3-5 if you wish to adjust any of the other items.
  7. Press the MENU button to remove the menu from the TV screen.

#### Picture Control

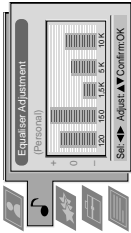
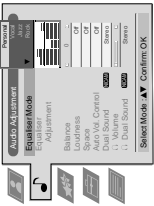
Item	Effect/Operation
Picture Mode	▼ Live (for live broadcasts) ▲ Personal (for individual settings) ▲ Movie (for movie broadcasts)
Contrast	Less ▲▲▲ More ▲▲▲
Brightness*	Darker ▲▲▲ Brighter ▲▲▲
Colour*	Less ▲▲▲ More ▲▲▲
Hue**	Reddish ▲▲▲ Greenish ▲▲▲
Sharpness*	Softer ▲▲▲ Sharper ▲▲▲
*Only available if 'Personal' is selected in 'Picture Mode'	
**Only available for NTSC colour signal (eg. US video tapes)	
Reset	Resets picture to the factory preset levels
AI (Artificial Intelligence)	▼ On: Automatic optimization of contrast level according to the TV signal. ▲ Off: Normal.
Noise Reduction	▼ On: Reduces picture noise in case of a weak broadcasting signal. ▲ Off: No noise reduction.
Colour Tone	▼ Warm: Gives a warm tint to the picture. ▲ Normal: Normal. ▲ Cool: Gives a cool tint to the picture.



Using the TV menu system:

Sound Control

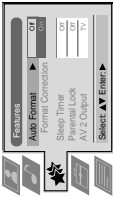
Item	Effect/Operation
Equaliser Mode	<div>▼ Personal</div> <div>Vocal</div> <div>Jazz</div> <div>Rock</div> <div>Pop</div> <div>▲ Flat (fixed setting, cannot be adjusted)</div>
Equaliser adjustment	<p>You can adjust the mode selected in Equaliser mode by cutting and boosting the 5 selected frequency bands. Press ◀ or ▶ to select the frequency band then ▼ or ▲ to adjust the frequency. Finally, press the OK button to store the new adjustment.</p> <p><b>1</b> If you want to store the new setting, you need to set the Equaliser mode to 'Personal'. Personal mode permanently stores the setting, all other modes (Vocal, Jazz, Rock, Pop) store only until the next mode change.</p>
Balance	<div>◀ More left</div> <div>▶ More right</div>
Loudness	<div>▼ Off: Normal</div> <div>▲ On: For music broadcasts</div>
Space	<div>▼ Off: Normal</div> <div>▲ On: Special acoustic effect</div>
Auto Vol. Control	<div>▲ Off: Volume level changes according to the broadcast signal.</div> <div>▼ On: Volume level of the channels will stay the same independent of the broadcast signal (eg in the case of advertisements).</div>
Dual Sound	<p>For a bilingual broadcast:</p> <div>▼ A for channel 1</div> <div>▲ B for channel 2</div> <p>For a stereo broadcast:</p> <div>▼ Mono</div> <div>▲ Stereo</div>
Headphones	<p>Adjusts headphone volume.</p> <p>Can also adjust the volume level of additional equipment connected to the RCA sockets on the rear of the TV.</p>
Dual Sound	<p>For a bilingual broadcast:</p> <div>▼ A for channel 1</div> <div>▲ B for channel 2</div>



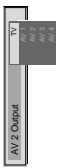
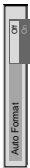
Using the TV menu system:

Using the Features menu

1. Press the MENU button on the remote control to display the menu on the TV screen.
2. Press the ▲ or ▼ buttons to select for the 'Features' menu then press ▶ to enter the 'Features' menu.
3. Press the ▲ or ▼ buttons to select the desired menu item then press ▶ to confirm. For a description of the menu items and their effects, see the table below.
4. Press the ▲, ▼, ▶ or ◀ buttons to select the desired setting.
5. Press the OK button to confirm your choice of setting.
6. Repeat steps 3-5 if you wish to select any of the other items.
7. Press the MENU button to remove the menu from the TV screen.



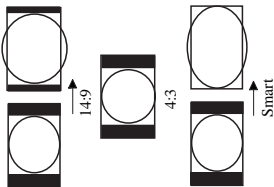
Item	Effect/Operation
Auto Format*	<div>▼ Off: Size of picture does not automatically adjust.</div> <div>▲ On: The TV will automatically adjust the picture size to eliminate any dark areas on the TV picture (as shown below):</div>
Format Correction*	<div>▼ Off: 4:3/14:9 is selected.</div> <div>▲ On: Smart mode is selected automatically for 4:3/14:9 broadcasts. (*only if Auto Format is set to 'On')</div>
Sleep Timer	<p>You can select a time after which the TV switches itself into standby mode.</p> <div>▼ Off</div> <div>▲ 90 min</div>
Parental Lock	<div>▼ Off: No parental lock.</div> <div>▲ On: This feature disables the buttons on the TV when the set is in standby mode. It is only possible to switch the set back on by pressing a button on the remote control.</div>
AV2 Output	<div>▼ TV audio/video signal from the aerial .</div> <div>AV1 audio/video signal from scart 1.</div> <div>AV2 audio/video signal from scart 2.</div> <div>AV3 audio/video signal from scart 3.</div> <div>▲ AV4 audio/video signal from connectors on front of the TV.</div>



Changing the screen size

**1** This feature allows you to change the size of the TV picture.

Press the button on the remote control repeatedly or use the ▲ or ▼ buttons to select one of the following formats then press the OK button to confirm your selection:



- Wide for 16:9 broadcasts.
- Zoom widescreen format for letterbox movies.
- 14:9 compromise between 4:3 and 16:9 picture size.
- 4:3 conventional 4:3 picture size, full picture information.
- Smart initiation of wide screen effect for 4:3 broadcasts.


In Smart, Zoom and 14:9 modes parts of the top and bottom of the screen are cut off. Press ▲ or ▼ to adjust the position of the image on screen (eg to read subtitles) then press the OK button to confirm.

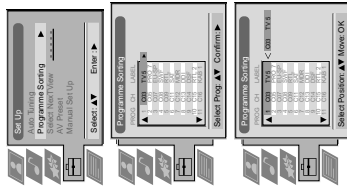


Using the TV menu system:

## Re-arranging the TV channels


**i** After tuning the TV, you can use this feature to change the order of the channels on the TV.

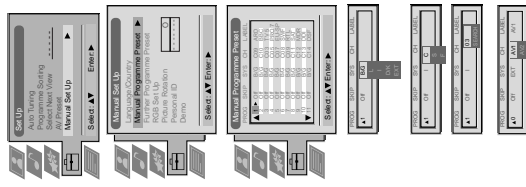
1. Press the MENU button on the remote control to display the menu on the TV screen.
2. Press the ▼ button to select the  symbol on the menu screen then press ► to enter the 'Set Up' menu.
3. Press the ▼ button to select 'Programme Sorting', then press ► to enter the 'Programme Sorting' menu.
4. Press the ▲ or ▼ buttons to select the channel you want to move then press ► to confirm.
5. Press the ▲ or ▼ buttons to select the new programme position (eg PROG 4) for your selected channel then press the OK button to confirm. The selected channel now moves to its new programme position and the other channels move accordingly.
6. Repeat steps 4 and 5 if you wish to sort the other channels.
7. Press the MENU button to remove the menu from the TV screen.



## Manually tuning the TV

**i** You have already tuned the TV automatically using the instructions at the start of this manual. You can however carry out this operation manually, adding channels to the TV, one at a time.


1. Press the MENU button on the remote control to display the menu on the TV screen.
2. Press the ▼ button to select the  symbol on the menu screen then press ► to enter the 'Set Up' menu.
3. Press the ▼ button to select 'Manual Set Up' on the menu screen then press ► to enter the 'Manual Set Up' menu.
4. Press the ▼ button to select 'Manual Programme Preset' on the menu screen then press ► to enter the 'Manual Programme Preset' menu.
5. Press the ▲ or ▼ buttons to select a programme number for your channel (eg PROGR 1 for BBC1) then press ► to highlight the 'SKIP' column.
6. Press ► to select 'OFF' then press ► to highlight the 'SYS' column.
7. Press the ▲ or ▼ buttons to select the TV broadcast system or 'EXT' for a video input source (AV1, AV2, ...) then press ► to confirm.
8. Press the ▲ or ▼ buttons to select 'C' for terrestrial channels, 'S' for cable channels, or 'F' for direct frequency inputs then press ► to confirm.
9. Select the first number digit of 'CH' (channel) then the second number digit of 'CH' with the number buttons on the remote control or Press the ▼ button to search for the next available channel.
10. If you do not wish to store this channel on the programme number you selected, press the ▲ or ▼ buttons to continue searching for the desired channel.
11. If this is the channel you wish to store, press the OK button.
12. Repeat steps 5-11 if you wish to store more channels then press the MENU button to remove the menu from the TV screen.

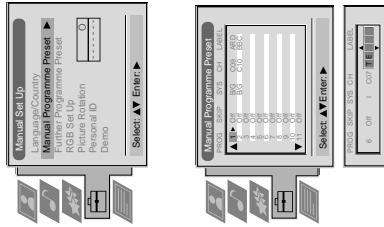


Using the TV menu system:

## Naming a channel


**i** Names for channels are usually taken automatically from Teletext if available. You can however name a channel or an input video source using up to five characters (letters or numbers).

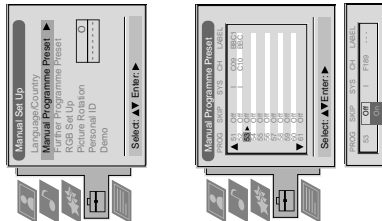
1. Press the MENU button on the remote control to display the menu on the TV screen.
2. Press the ▼ button to select the  symbol on the menu screen then press ► to enter the 'Set Up' menu.
3. Press the ▼ button to select 'Manual Set Up' then press ► to enter the 'Manual Set Up' menu.
4. Press the ▼ button to select 'Manual Programme Preset' then press ► to enter the 'Manual Programme Preset' menu.
5. Press the ▲ or ▼ buttons to select the channel you wish to name.
6. Press the ► button repeatedly until the first element of the 'LABEL' column is highlighted.
7. Press the ▲ or ▼ buttons to select a letter or number (select '.' for a blank) then press ► to confirm. Select the other four characters in the same way.
8. After selecting all the characters, press the OK button.
9. Repeat steps 5 to 8 if you wish to label other channels.
10. Press the MENU button to remove the menu from the TV screen.



## Skipping programme positions

**i** This function enables you to skip unused programme positions when selecting them with the PROG+/- buttons. However, by using the number buttons you can still select the skipped programme position.


1. Press the MENU button on the remote control to display the menu on the TV screen.
2. Press the ▼ button to select the  symbol on the menu screen then press ► to enter the 'Set Up' menu.
3. Press the ▼ button to select 'Manual Set Up' then press ► to enter the 'Manual Set Up' menu.
4. Press the ▼ button to select 'Manual Programme Preset' then press ► to enter the 'Manual Programme Preset' menu.
5. Press the ▲ or ▼ buttons to select the programme position then press ► to highlight the 'SKIP' column.
6. Press the ▲ or ▼ buttons to select 'Off' or 'On' (if you wish to skip this programme position) then press the OK button to store.
7. Repeat steps 5 and 6 if you wish to skip or unskip further programme positions.
8. Press the MENU button to remove the menu from the TV screen.



Using the TV menu system:

## Using the Further Programme Preset feature

**1** With this feature you can a) individually adjust the volume level of each channel, b) manually fine-tune the TV to obtain a better picture reception if the picture is distorted or c) preset the AV output for the programme positions of channels with scrambled signals (eg from a pay TV decoder). In this way a connected VCR records the unscrambled signal.

1. Press the MENU button on the remote control to display the menu on the TV screen.
2. Press the ▼ button to select the  symbol on the menu screen then press ► to enter the 'Set Up' menu
3. Press the ▼ button to select 'Manual Set Up' then press ► to enter the 'Manual Set Up' menu.
4. Press the ▼ button to select 'Further Programme Preset' then press ► to enter the 'Further Programme Preset' menu.
5. Press the ▲ or ▼ buttons to select the relevant programme number then press the ► button repeatedly to select a) VOL b) AFT or c) DECODER. The selected item changes colour.
6. a) **VOL - Volume Offset**  
Press the ▲ or ▼ buttons to adjust the volume level (range -7 to +7) of the channel. Store by pressing the OK button. Repeat steps 5 and 6a if you wish to adjust the volume level of the other channels.

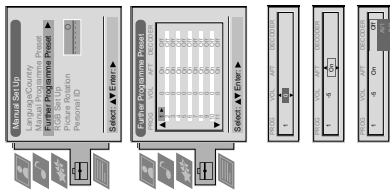
### b) AFT - Automatic Fine Tuning

Press the ▲ or ▼ buttons to fine tune the channel frequency over a range of -15 to +15. Press the OK button to confirm. Repeat steps 5 and 6b if you wish to fine tune other channels.

### c) DECODER

Press the ▲ or ▼ buttons to select AV1 or AV2 for the programme position then press the OK button to confirm. You can now attach a decoder to the AV1 or the AV2 socket on the back of the TV and the picture from that decoder will appear on this programme number. Repeat steps 5 and 6c to preset the AV output for other programme positions.


7. Press the MENU button to remove the menu from the TV screen.

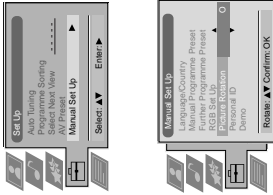


Using the TV menu system:

## Adjusting the picture rotation




**1** Because of the earth's magnetism the picture might slant. In this case you can readjust the picture.

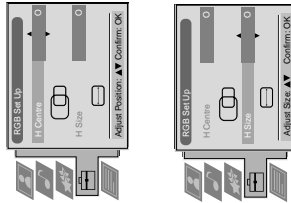
1. Press the MENU button on the remote control to display the menu on the TV screen.
2. Press the ▼ button to select the  symbol on the menu screen then press ► to enter the 'Set Up' menu
3. Press the ▼ button to select 'Manual Set Up' then press ► to enter the 'Manual Set Up' menu.
4. Press the ▼ button to select 'Picture Rotation' then press ► to enter the 'Picture Rotation' sub menu.
5. Press the ▲ or ▼ buttons to rotate the picture over a range of -5 to +5 then press the OK button to store.
6. Press the MENU button to remove the menu from the TV screen.



## Adjusting the picture geometry for an RGB source

**1** When connecting an RGB source such as a Sony Playstation you may need to readjust the geometry of the picture.

1. Press the  button on the remote control to select the connected RGB source 1.
2. Press the MENU button to display the menu on the TV screen.
3. Press the ▼ button to select the  symbol on the menu screen then press ► to enter the 'Set Up' menu
4. Press the ▼ button to select 'Manual Set Up' on the menu screen then press ► to enter the 'Manual Set Up' menu
5. Press the ▼ button to select 'RGB Set Up' on the menu screen then press ► to enter the 'RGB Set Up' sub menu.
6. Press ► to select H Centre then press ▲ or ▼ to adjust the centre of the picture over a range of -10 to +10. Store the new range by pressing the OK button.
7. Press ► to select H Size then press ▲ or ▼ to adjust the horizontal coordinates over a range of -10 to +10. Store the new range by pressing the OK button.
8. Press the MENU button to remove the menu from the TV screen.



Specifications

TV system

Left/Right: 2x20W (Music Power)  
2x10W (RMS)  
Sub woofer: 30W (Music Power)  
15W (RMS)

Colour system

PAL  
SECAM, NTSC 3.58, 4.43 (only Video In)

Channel coverage

See the 'Channel Display Table' below.

Picture tube

KV-28FX65: FD Trinitron WIDE, Approx. 71cm (28 inches)  
KV-32FX65: FD Trinitron WIDE, Approx. 82cm (32 inches)

Rear Terminals

- 21-pin Euro connector (CENELEC standard) including audio/ video input, RGB input, TV audio/video output.
- 21-pin Euro connector (CENELEC standard) including audio/ video input, S-video input, Selectable audio/video output.
- 21-pin Euro connector (CENELEC standard) including audio/ video input, S-video input, Monitor audio/video output.
- LCS/1 RCA connectors, variable output for audio signals.
- RF In

Front Terminals

- Video input - phono jacks
- Audio inputs - phono jacks
- S video input - 4 pin DIN
- Headphones jack - minijack stereo

Channel Display Table

	Receivable Channels	Channel Displays
1	B21..B69	C21..C69

Troubleshooting

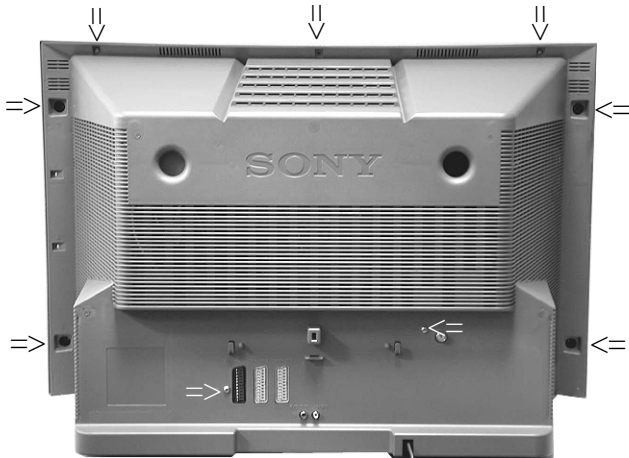
Here are some simple solutions to problems which may affect the picture and sound.

Problem	Suggested remedy
No picture (screen is dark), no sound	<ul style="list-style-type: none"><li>Plug the TV in.</li><li>Press the button on the front of the TV.</li><li>If the indicator is on press the / button or a numbered button on the remote control.</li><li>Check the aerial connection.</li><li>Turn the TV off for 3 or 4 seconds and then turn it on again using the button on the front of the TV.</li></ul>
Poor or no picture (screen is dark), but good sound.	<ul style="list-style-type: none"><li>Using the MENU system, select the Picture Adjustment display. Adjust the brightness, picture and colour balance levels.</li><li>From the Picture Adjustment display select RESET to return to the factory settings.</li></ul>
Good picture, no sound	<ul style="list-style-type: none"><li>Press the button on the remote control.</li><li>If is displayed on the screen, press the button on the remote control.</li></ul>
No colour on colour programmes	<ul style="list-style-type: none"><li>Using the MENU system, select the Picture Adjustment display and adjust the colour setting.</li><li>From the Picture Adjustment display select RESET to return to the factory settings.</li></ul>
Distorted picture when changing programmes or selecting Teletext	<ul style="list-style-type: none"><li>Turn off any equipment connected to the scart connectors on the rear of the TV.</li></ul>
Remote control does not function	<ul style="list-style-type: none"><li>Replace the batteries.</li></ul>
The standby indicator on the TV flashes	<ul style="list-style-type: none"><li>Contact your nearest Sony service centre.</li></ul>
Interference on picture from external equipment	<ul style="list-style-type: none"><li>Reduce sharpness level.</li></ul>

- If you continue to have these problems, have your TV serviced by qualified personnel.
- NEVER open the casing yourself.

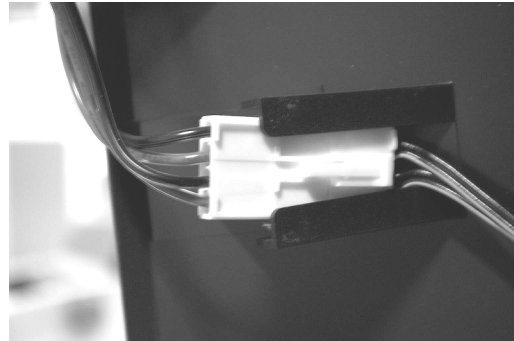
## SECTION 2 DISASSEMBLY

### 2-1. Rear Cover Removal



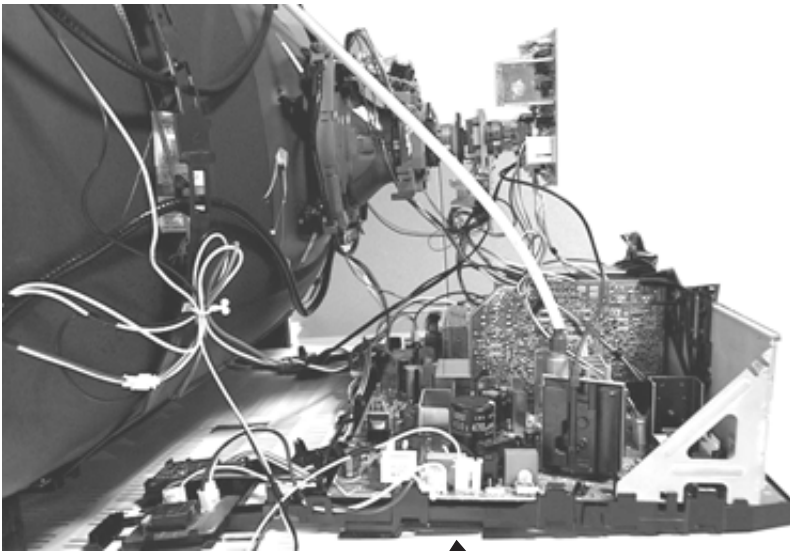
Remove the rear cover fixing screws indicated. Take care when removing the rear cover not to damage the speaker cables [Disconnect the speaker connector] as speakers are fitted inside the rear cover.

### 2-2. Speaker Connector Disconnection

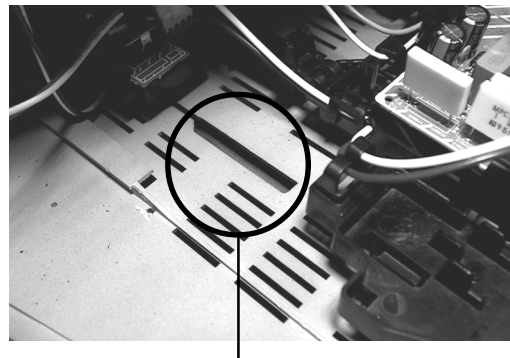


Before completely removing the rear cover disconnect the speaker connector which is located on the inside.

### 2-3. Chassis Removal and Refitting

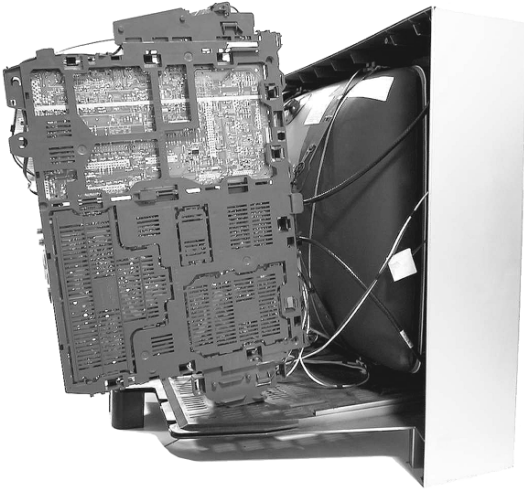


To remove lift the main bracket rear slightly and slide the chassis away from the beznet. Ensure that the interconnecting leads are released from their purse locks to prevent damage being caused.



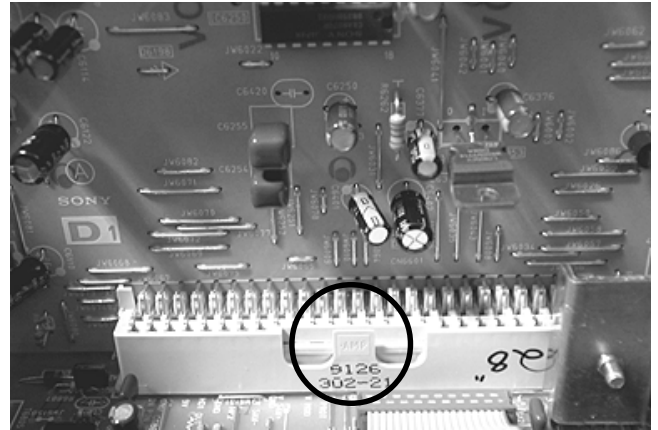
When refitting the chassis ensure that the main bracket is located in the beznet guide slots before sliding the chassis forwards. Refit the interconnecting leads in their respective purse locks.

#### 2-4. Service Position



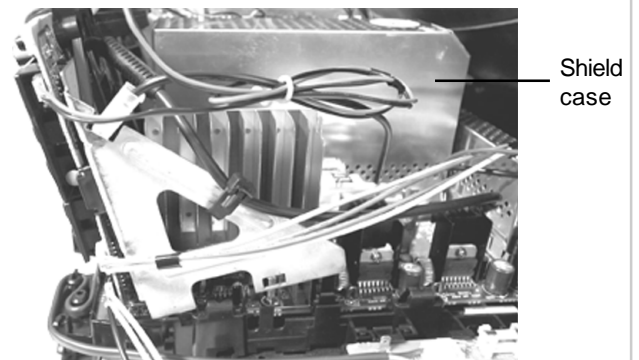
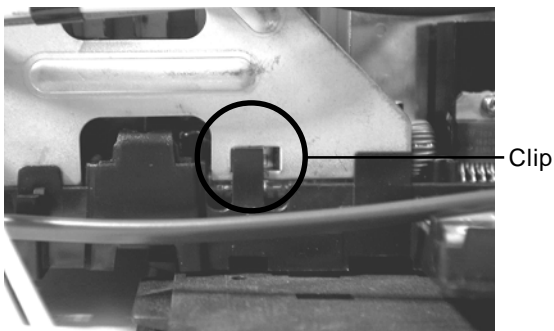
Position the PWB as indicated to access the solder side. To gain access to the D Board follow the instructions on page 19. [Removal and Replacement of the main bracket bottom plates ].

#### 2-5. D1 Board Removal



To remove the D1 Board release the clip circled and gently remove the board in a vertical direction.

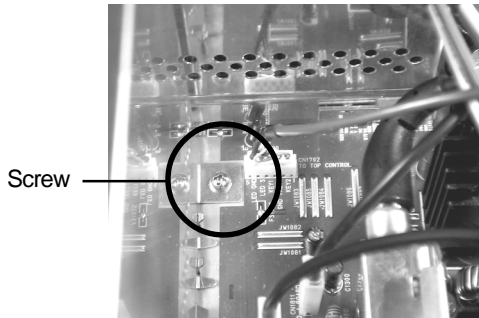
#### 2-6. J Board Removal



Release the two metal bracket support clips located on either side of the chassis. Tilt the bracket very slightly away from the shield case indicated. Release the J board board socket retaining clip and carefully lift the complete assembly vertically.

### 2-7. B1 Board Removal

Follow the steps indicated in removal of the J board. With the assembly removed access to the B1 board shield is possible. To remove the shield locate and remove the two screws positioned on either side and at opposite ends of the shield. Release the B1 board clip and remove in a vertical direction. Please ensure that the screws are refitted after service.

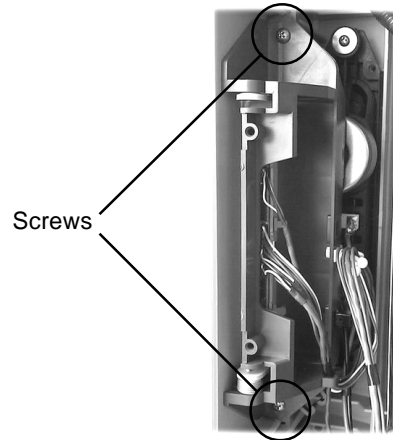


#### Note :

Removal of the B1, E, and M1 printed circuit boards follows the same procedure of releasing the securing clips as indicated in the fig for D1 board removal. Take care not to apply too great a pressure to the clips as this may cause damage.

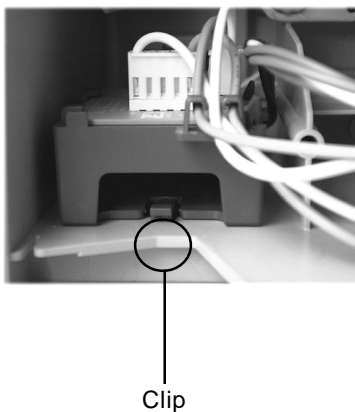
### 2-8. Side Control Module Removal

Remove the two screws fixing the user control module to the side of the set. The control module can then be removed by sliding it towards the rear of the set allowing access to the H7 Board.



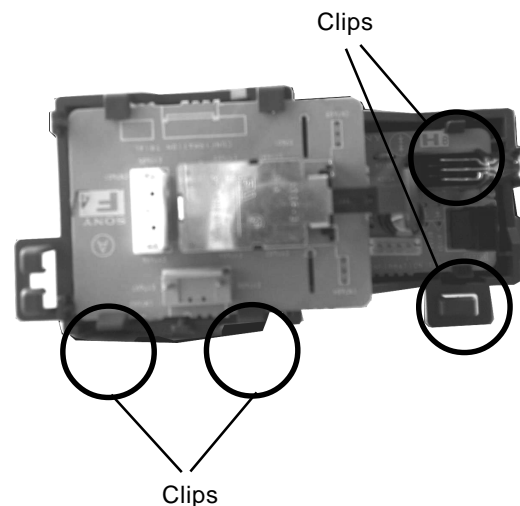
### 2-9. F4 Bracket Removal

Release the clip circled and pull the bracket towards the rear of the set. The bracket can then be removed to allow access to the boards.



### 2-10. F4 and H8 Board Removal

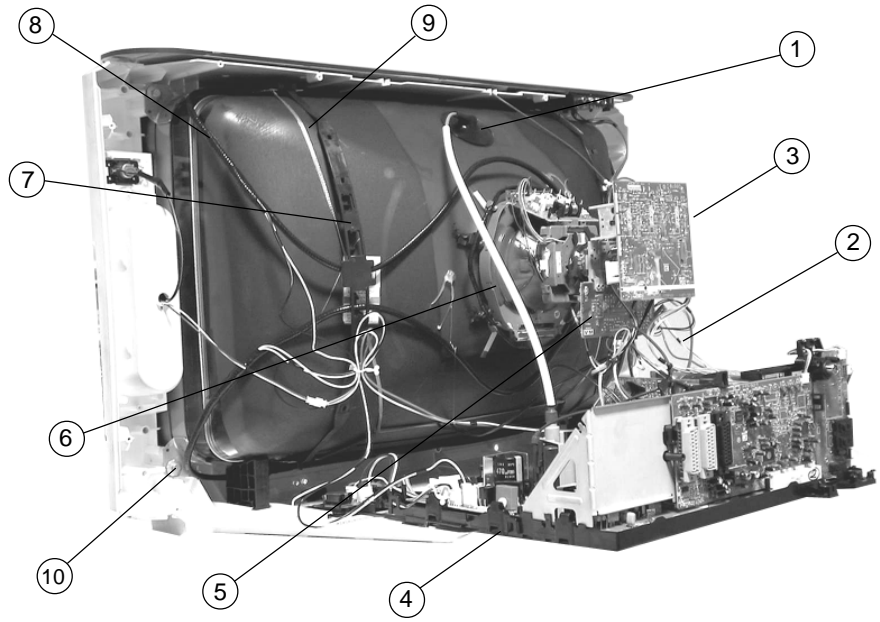
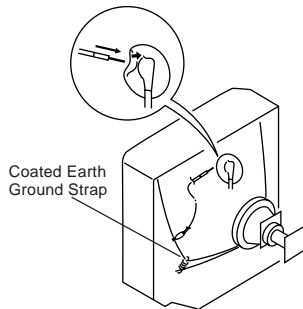
To remove the F4 and H8 Boards release the clips circled and ease the boards gently away from the support bracket.



## 2-11. Picture Tube Removal

### WARNING: BEFORE REMOVING THE ANODE CAP

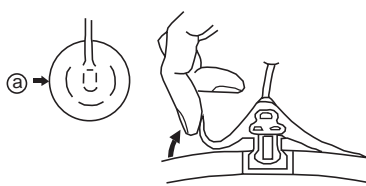
High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT **before** attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.



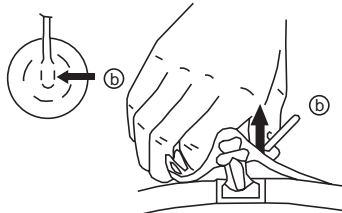
1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the Deflection yoke, neck assy, degaussing coils and CRT grounding strap.
3. Remove the C Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the Neck assembly fixing screw and remove.
6. Loosen 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 tensioners.
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.]

### Removal of the Anode-Cap

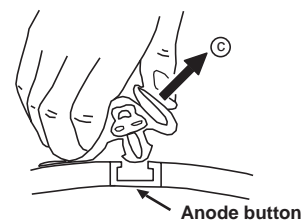
#### \* REMOVING PROCEDURES.



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



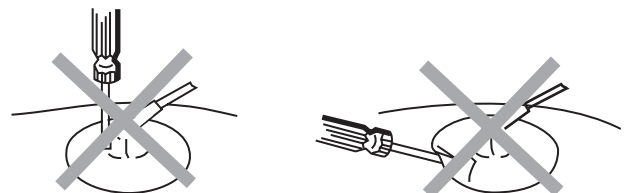
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow (b)



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

#### How to handle the Anode-Cap

1. To prevent damaging the surface of the anode-cap do not use sharp materials.
2. Do not apply too great a pressure on the rubber, as this may cause damage to the anode connector.
3. A metal fitting called a shatter hook terminal is fitted inside the rubber cap.
4. Do not turn the rubber foot over excessively, this may cause damage if the shatter hook sticks out.





## REMOVAL AND REPLACEMENT OF THE MAIN-BRACKET BOTTOM PLATES.

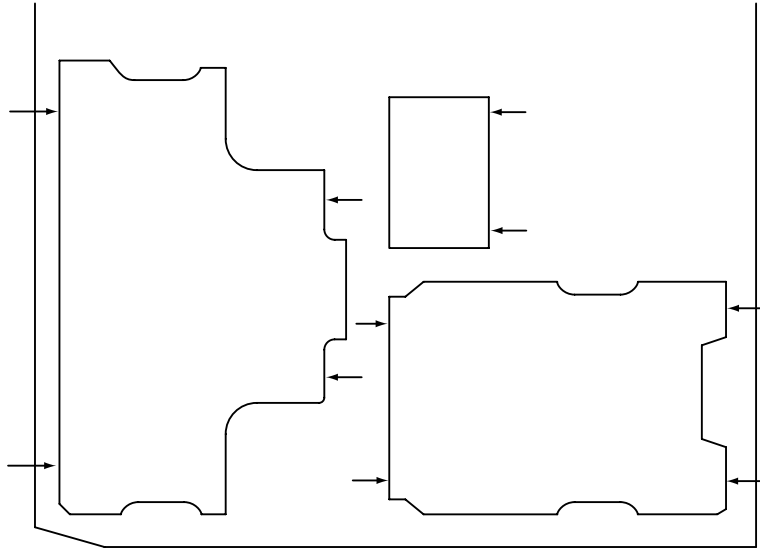
### (1) REMOVING THE PLATES

In the event of servicing being required to the solder side of the D Board printed wiring board, the bottom plates fitted to the main chassis bracket require to be removed.

This is performed by cutting the gates with a sharp wire cutter at the locations indicated by the arrows.

**Note :** There are 3 plates fitted to the main bracket and secured by 3 gates.

Only remove the necessary plate to gain access to the printed wiring board.

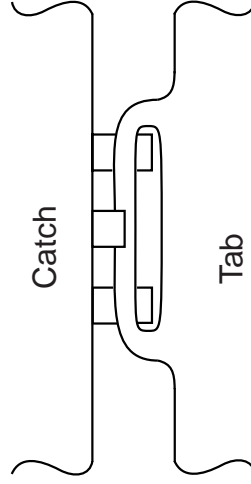


For safety reasons, on no account should the plates be removed and not refitted after servicing.

### (2) REFITTING THE PLATES

Because the plates differ in size it is important that the correct plates are refitted in their original location.

Please note that the plates need to be rotated 180 degrees from their cut position to allow the tabs to be fitted into their catch positions.





## SECTION 3 SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to the following settings :

Contrast ..... normal

Brightness ..... normal

**Carry out the adjustments in the following order :**

- 3-1. Beam Landing.
- 3-2. Convergence.
- 3-3. Focus.
- 3-4. White Balance.

**Note :** Test equipment required.

1. Color bar/pattern generator.
2. Degausser.
3. Oscilloscope.
4. Digital multimeter.

### 3-1. Beam Landing

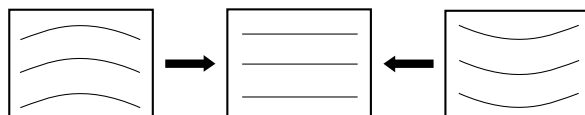
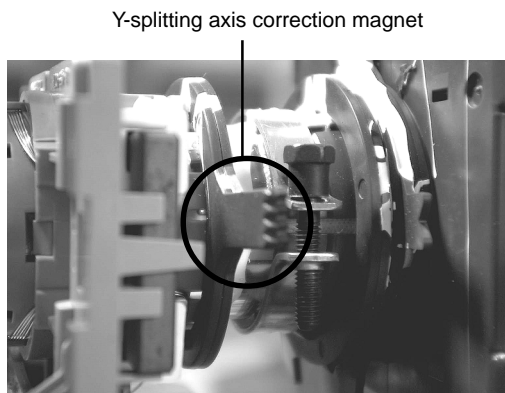
#### Preparation :

1. In order to reduce the influence of geomagnetism on the set's picture tube, face it in an easterly or westerly direction.
2. Switch on the TV set's power and degauss with a degausser.

#### (1) Adjustment of Correction Magnet for Y-Splitting Axis.

1. Input a crosshatch signal from the pattern generator.
2. Set the Picture control to minimum and confirm that the Brightness control is set to normal.
3. Position the neck assembly as indicated in Fig.3-3.
4. Loosen the deflection yoke fixing screw.
5. Move the deflection yoke as far forward as is possible.
6. Adjust the upper and lower pin symmetrically by opening or closing the Y-splitting axis correction magnets located on the neck assembly. [See Fig 3-1 and Fig 3-2]
7. Return the deflection yoke to its original position and re-tighten its fixing screw.

**Fig.3-1**



**Fig.3-2**

#### Caution :

High voltages are present on the Deflection yoke terminals - take care when handling the Deflection yoke whilst carrying out adjustments.

#### (2) Landing

**Note :** Before carrying out the following adjustments adjust the magnets as indicated below [See Fig.3-4].

1. Input a crosshatch signal from the signal generator.
2. Rough-adjust the focus and horizontal convergence.
3. Switch from the crosshatch pattern to an all-red pattern.
4. Move the deflection yoke backwards and adjust with the purity magnet so that the red is at the centre and it aligns symmetrically [See Fig.3-5].
5. Move the deflection yoke forward to the point where the entire screen just becomes red [Mark its position].
6. Move the deflection yoke further forward until the screen just changes colour at the edges. [Mark its position]
7. Position the deflection yoke between the two marks indicated above.
8. Input a crosshatch pattern from the pattern generator and rotate the deflection yoke so that the horizontal lines are parallel with the top and bottom of the screen.
9. When the position of the deflection yoke has been determined, fasten it with its fixing screw.
10. Switch the pattern generator to green then blue and confirm the purity.
11. If the beam does not land correctly in all the corners of the screen, use disk magnets to correct it. [Confirm the corner landing for green and blue]

**Fig.3-3**

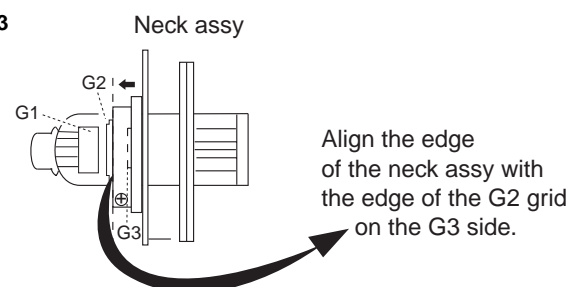


Fig.3-4

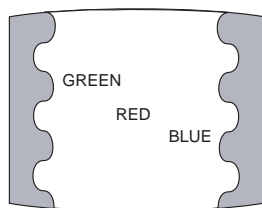
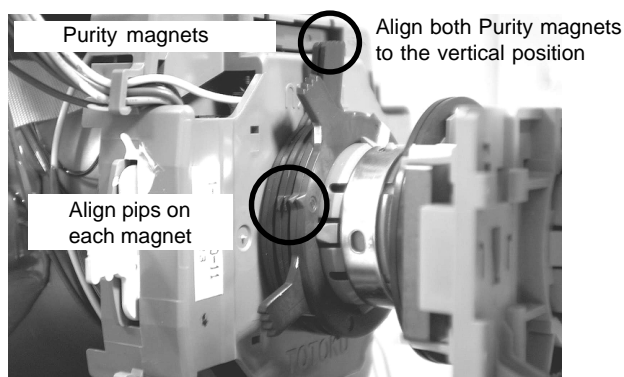
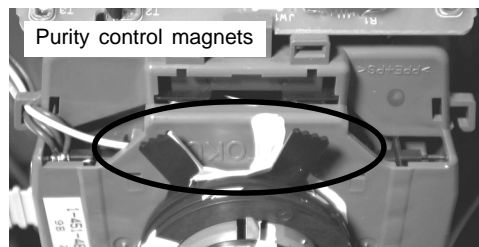
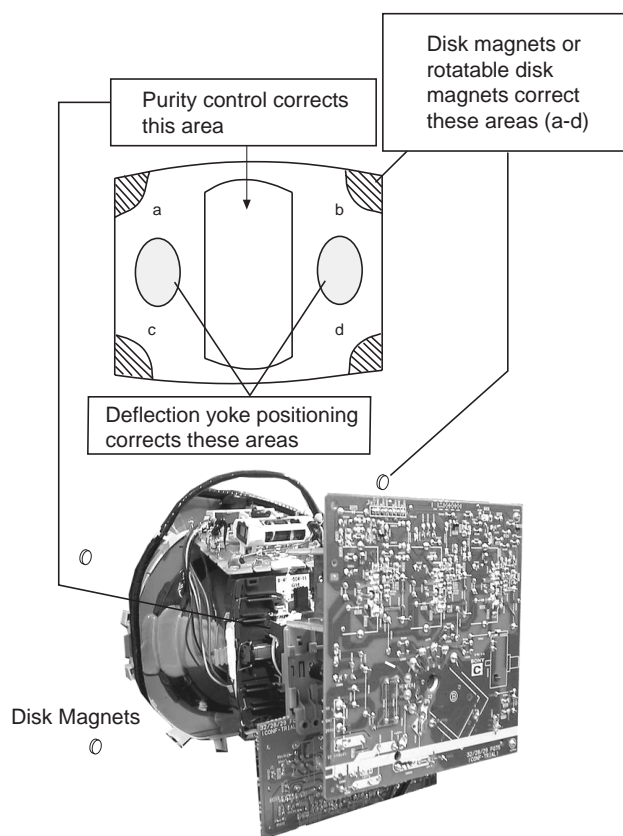


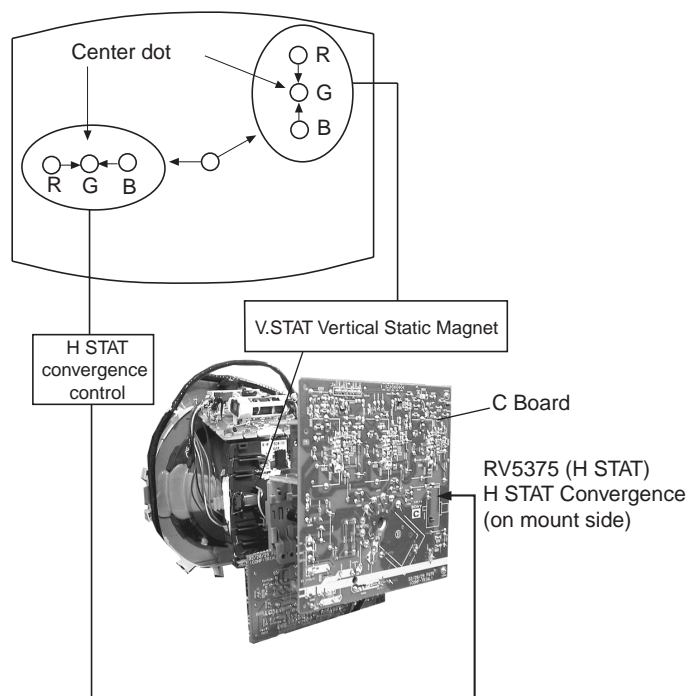
Fig.3-5



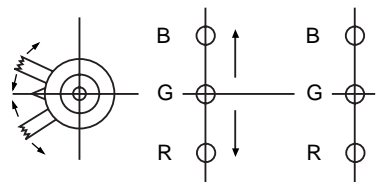
### 3-2. Convergence

#### (1) Screen centre convergence [Static convergence]

1. Input a dot pattern signal from the pattern generator.
2. Normalize the picture setting.
3. [Moving vertically], adjust the V.STAT magnet so that the vertical red, green and blue dots coincide at the centre of the screen.



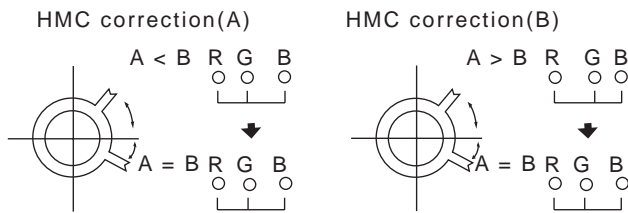
By opening or closing the V.STAT magnet, the red green and blue dots move in the direction indicated below.



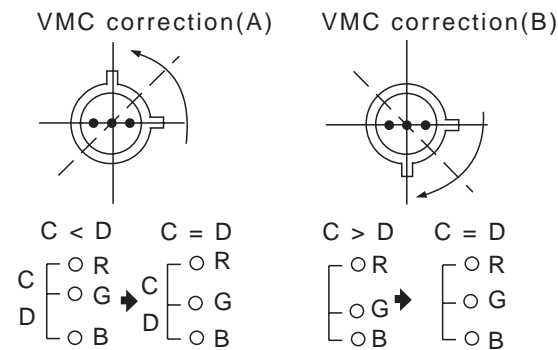
**Note:** Do not adjust the H.STAT by rotating the V.STAT magnets as this can affect the focus setting.

4. Correction for HMC [Horizontal mis-convergence] and VMC [Vertical mis-convergence] by using the BMC [Hexapole] magnet.

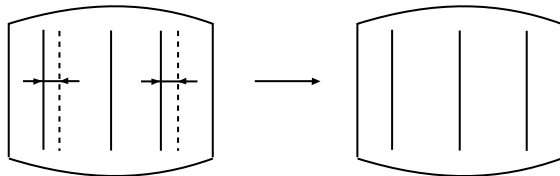
- a). HMC correction by BMC [Hexapole] magnet and movement of the electron beam.



- b). VMC correction by BMC [Hexapole] magnet and movement of the electron beam.

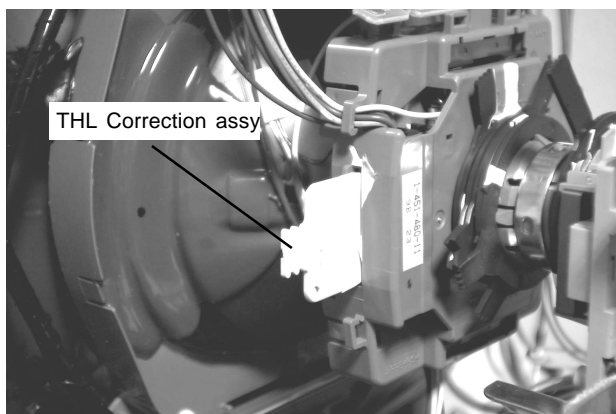


### HAMP Adjustment

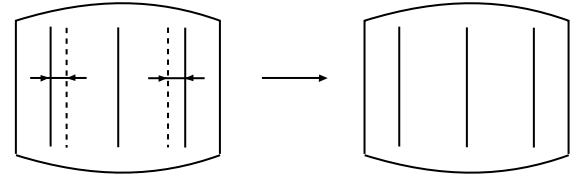


Adjust the HAMP using HAMPL and HAMPR registers in the Dynamic Convergence section of the service menu.

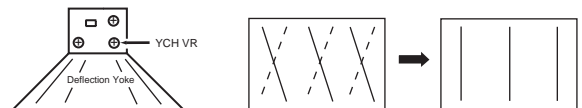
### HTIL Adjustment



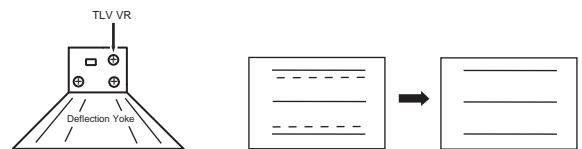
HTIL correction can be performed by adding a THL correction assembly to the Deflection yoke.



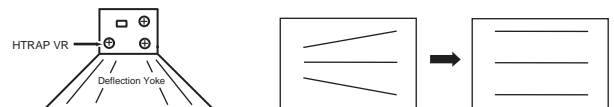
### YCH Adjustment



### TLV Adjustment

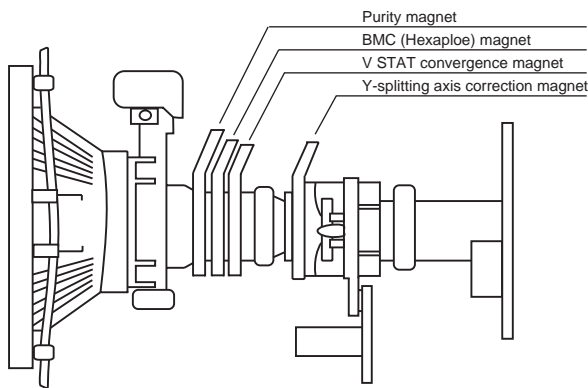


### H-TRAP Adjustment

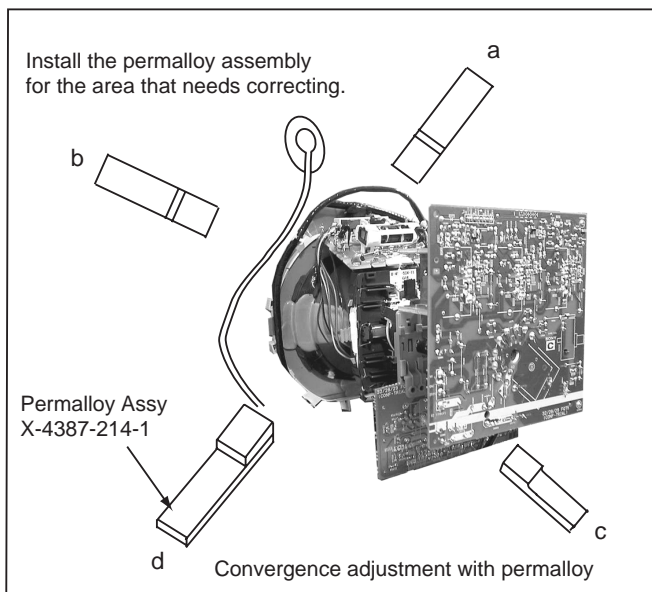
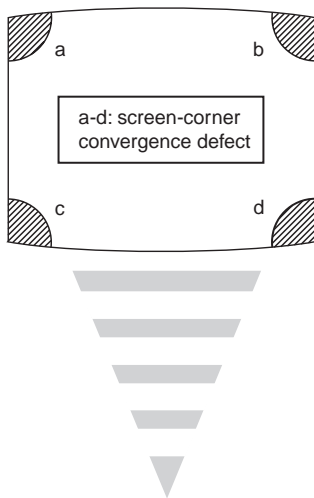


The H-TRAP should not be adjusted unless absolutely necessary as it affects the TLV settings.

## Layout of each control

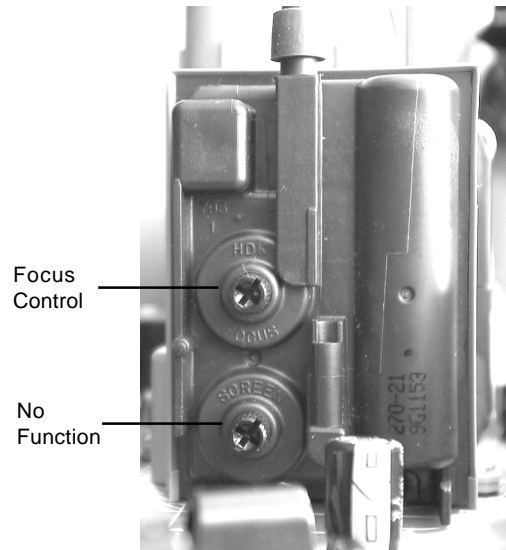


**Note :** If you are unable to adjust the corner convergence properly, this can be corrected with the use of permalloy magnets.



## 3-3. Focus, Screen (G2) Adjustment

1. Receive a television broadcast signal.
2. Normalize the picture setting.
3. Adjust the focus control located on the flyback transformer to obtain the best focus at the centre of the screen.  
Bring only the centre area of the screen into focus, the magenta-  
ring appears on the screen. In this case, adjust the focus to  
optimize the screen uniformly.



### G2 adjustment [RV5376]

1. Input a dot signal from the pattern generator.
2. Set the Picture, Brightness and Colour to minimum.
3. Apply 170V DC from an external power supply to the R, G and B cathodes of the CRT.
4. Whilst watching the picture, adjust the G2 control RV5376 [SCREEN] located on the C Board to the point just before the flyback return lines disappear.

## 3-4. White Balance Adjustment

[Adjustment in the service mode using the remote commander]

### White balance adjustment for TV mode

1. Input an all-white signal from the pattern generator.
2. Enter into the 'Service Mode' by pressing 'TEST', 'TEST' and 'MENU' 'MENU' on the Service Commander.
3. Select 'Backend' from the on screen menu display and press 'OK'.
4. The 'Backend' menu will appear on the screen.[See Page 26]
5. Set the 'Contrast' to MAX.
6. Set the 'R-Drive' to 41.
7. Adjust the 'G-Drive' and the 'B-Drive' so that the white balance becomes optimum.
8. Press the 'OK' button to write the data for each item.
9. Set the 'Contrast' to MIN.
10. Set the 'R-Cutoff' to 31.
11. Adjust the 'G-Cutoff', and the 'B-Cutoff' with the left and right buttons on the remote commander so that the white balance becomes optimum.
12. Press the 'OK' button to write the data for each item.

## SECTION 4 CIRCUIT ADJUSTMENTS

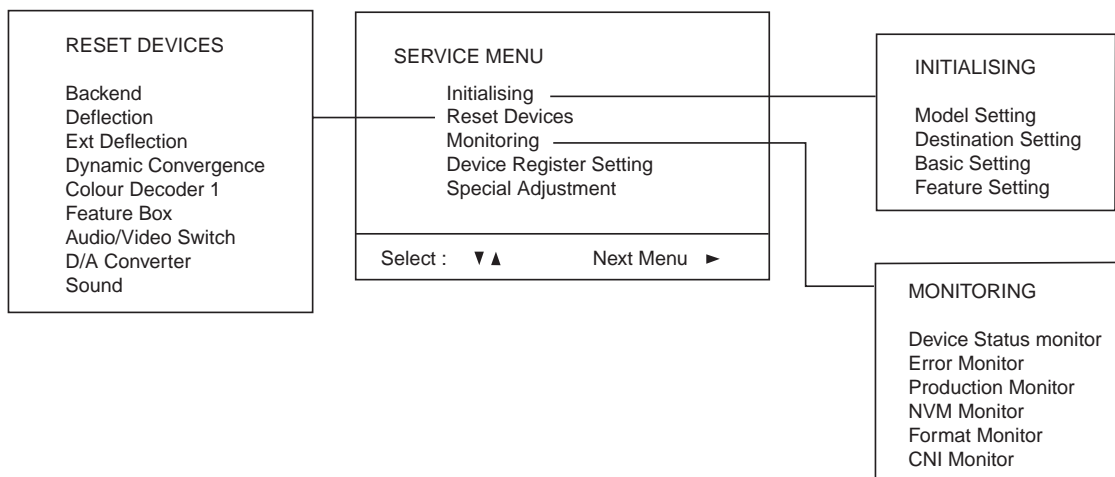
## 4-1. Electrical Adjustments

Service adjustments to this model can be performed using the supplied Remote Commander RM-887.

## How to enter into the Service Mode



1. Turn on the main power switch of the set while pressing P + (plus) and P - (minus) buttons on the side pop out control panel.
2. When the picture appears release the P+ and P- buttons.
3. 'TT' will appear in the upper right corner of the screen.
4. Press the 'MENU' button twice on the remote commander to obtain the service menu on the screen.



4. Push the joystick up or down on the remote commander to select the adjustment item.
5. Push the right button to proceed to the next menu.
6. If the required adjustment item is 'Deflection', push the down button to move to 'Deflection'.
7. Push the joystick to the right to enter into 'Deflection'.
8. Change the data in order to comply with each standard.

**Note :**

- Before performing any adjustments ensure that the correct model has been selected in the ‘Model Setting’ menu.
- After carrying out the service adjustments, to prevent the customer accessing the ‘Service Menu’ switch the TV set OFF and then ON.

## Initialising Menu

Initialising	
Model Setting	
Destination Setting	
Basic Setting	
Feature Setting	
Select :	Next menu:

## Model Setting

The menu contains a list with all the available models of this software to set up the TV set in an easy way. The selection of a model is setting data for its features and hardware resources which cannot be detected by the automatic power on H/W detection as well as a special *model byte* to get an unique model identification for models which cannot be differed by features and hardware resources (e.g. KV-28FC60 and KV-28FC60Z)

Before data is set, the user will be asked if he really wants to set a new model. If the user agrees, automatically the destination setting menu is shown.

Model Setting		
1	KV-28FC60	Reset
2	KV-28FC60Z	
3	KV-29FC60	
4	KV-32FC60	
5	KV-32FC60Z	
6	KV-34FC60	
7	KV-28FQ75	
8	KV-29FQ75	
9	KV-32FQ75	
10	KV-34FQ75	
11	KV-28FS70	
12	KV-32FS70	
13	KV-36FS70	
14	KV-28FX65	
15	KV-29FX65	
16	KV-32FX65	
17	KV-29FQ65	
BLACK = No Conformity GREEN = Compatible Model RED = Conformity for all data		

Table.4-1

### Indication of Model Compatibility.

#### Black:

If any data does not match to specific model, the model name is displayed in black.

#### Green:

All data which is checked by model setting menu concurs to model except model byte.

#### Red:

All data which is checked by model setting menu concurs to model including model byte.

#### Note:

After selecting a model, it may be necessary to reset some devices to get the correct data. (Treble/Bass Offset of Sound, deflection adjustments, ...)

## Basic Setting

Basic setting				
No	Descr	Min	Max	Data
1	Sys.B/G	OFF	ON	ON
2	Sys.D/K	OFF	ON	ON
3	Sys.L	OFF	ON	OFF
4	Sys.I (UK)	OFF	ON	OFF
5	Sys.I (IRL)	OFF	ON	ON
6	TXTNat.option	1	4	3
7	16:9 CRT	OFF	ON	OFF
8	Sub-woofer	OFF	ON	ON
9	Auto stand-by	OFF	ON	ON
10	Comb-filter	OFF	ON	OFF
11	Auto YC det	OFF	ON	ON
12	Auto comb det	OFF	ON	OFF
13	AV2 Available	OFF	ON	ON
14	AV3 Available	OFF	ON	ON
15	AV4 Available	OFF	ON	ON
16	AV3 Fr & rear	OFF	ON	OFF
17	SECAM Tape	OFF	ON	OFF
18	AV1 Sound Mute	OFF	ON	OFF

Table.4-2

## Feature Setting

Feature setting				
No	Descr	Min	Max	Data
1	EPG	OFF	ON	ON

Table.4-3

## Device Register Setting

Backend
Deflection
Ext Deflection
Dynamic Convergence
Colour Decoder 1
D/A Converter
Feature High End
Audio / Video Switch
Sound

Table.4-4

Audio / Video Switch					
No	Descr	Def	Min	Max	Data
1	CVOUT1	0	0	7	0
2	CVOUT2	2	0	7	2
3	GD1 SW	OFF	OFF	ON	OFF
4	GD2 SW	OFF	OFF	ON	OFF
5	YCOUT 1	0	0	7	0
6	YCOUT 2	1	0	7	1
7	LO0CTRL	OFF	OFF	ON	OFF
8	LO1CTRL	OFF	OFF	ON	OFF
9	AOUT 1	3	0	7	3
10	AOUT 2	3	0	7	3
11	AOUT 3MUTE	OFF	OFF	ON	OFF
12	ZCD SW	ON	OFF	ON	ON
13	AOUT 3	3	0	7	3
14	GROUP DEL	15	0	31	15
15	AOUT3 L/R	0	0	3	0
16	AOUT3VOLF	0	0	7	0
17	AOUT3VOLC	3	0	7	3

**Table.4-5**

Special Adjustment				
No	Descr	Min	Max	Data
1	RGB level	0	7	0
2	RGB Gain	0	31	8
3	RGB PatLevel	0	7	0
4	RGB Patgain	0	31	15
5	Extra Fw	0	255	255
6	EPG Chks Check	OFF	ON	ON
7	Slicer High	OFF	ON	ON
8	FCW Wide	OFF	ON	ON
9	Mpeg NR	OFF	ON	OFF
10	Notch Filter	OFF	ON	OFF
11	NLD Step	-7	0	0
12	PKD Step	-15	0	0
13	CRD Step	0	15	7
14	SHP Step	-10	0	-3
15	COL Step	-10	0	-1
16	SHP gain Step	-5	0	0
17	VM level Step	-3	0	0
18	NTSC Auto YC AV2	OFF	ON	OFF
19	NTSC Auto YC AV3	OFF	ON	OFF
20	RGB Disable	OFF	ON	OFF
21	Intern GD	OFF	ON	ON
22	AV2 YC Mix Out	OFF	ON	ON

**Table.4-6**

Backend					
No	Descr	Def	Min	Max	Data
1	R-on	ON	OFF	ON	ON
2	G-on	ON	OFF	ON	ON
3	B-on	ON	OFF	ON	ON
4	D-col	OFF	OFF	ON	OFF
5	Color-axis	2	0	3	2
6	Contrast	40	0	63	40
7	Limit-Luv	3	0	3	3
8	Hue	32	0	63	32
9	Colour	31	0	63	31
10	CTI-Level	2	0	3	2
11	Brightness	31	0	63	31
12	Gamma	3	0	3	3
13	Sharpness	30	0	63	30
14	R-Drive	41	0	63	41
15	G-Drive	41	0	63	30
16	B-Drive	41	0	63	23
17	ABL-Mode	0	0	3	0
18	Sub Bright	31	0	63	22
19	VM-Level	2	0	3	1
20	R-Cutoff	31	0	63	31
21	Preover	2	0	3	2
22	G-Cutoff	31	0	63	23
23	DPIC-Level	1	0	3	1
24	B-Cutoff	31	0	63	29
25	DC-Tran	0	0	3	0
26	Sub-Cont	7	0	15	9
27	LRGB2-Lvl	8	0	15	0
28	P-Abl	15	0	15	15
29	Sharp.Fo	ON	OFF	ON	ON
30	Aging-W	OFF	OFF	ON	OFF
31	Aging-B	OFF	OFF	ON	OFF
32	CB-offset1	11	0	15	11
33	CR-offset1	11	0	15	11
34	CB-offset2	7	0	15	7
35	CR-offset2	7	0	15	7
36	Sub Color	0	-8	8	-2

**Table.4-7**

Colour Decoder 1					
No	Descr	Def	Min	Max	Data
1	Tint	31	0	63	31
2	P/N Gw	OFF	OFF	ON	OFF
3	P/N ID	OFF	OFF	ON	OFF
4	Sub Colour	7	0	15	7
5	Sub Contr	8	0	15	8
6	Sharp FO	1	0	3	1
7	Sharp EQ	2	0	3	2
8	Sharp Gain	8	0	15	8
9	Y-Out Lev	35	0	63	35
10	BS Point	0	0	3	0
11	C-Out Lev	45	0	63	45
12	DC Rest	0	0	3	0
13	BPF FO	2	0	3	2
14	BPF Q	1	0	3	1
15	Filter Sw	OFF	OFF	ON	OFF

**Table.4-8**



Colour Decoder 1 (cont)					
No	Descr	Def	Min	Max	Data
16	C-Trap Sw	0	0	1	0
17	S-D Trap	ON	OFF	ON	ON
18	LPF	ON	OFF	ON	ON
19	Y-DL	8	0	10	8
20	N-Comb	ON	OFF	ON	ON
21	Video Sel	0	0	15	0
22	RGB Sel	0	0	3	0
23	Halftone	OFF	OFF	ON	OFF
24	CrOFF.1	7	0	15	7
25	CbOFF.1	7	0	15	7
26	CrOFF.2	7	0	15	7
27	CbOFF.2	7	0	15	7
28	VCD Freq	3	0	7	3
29	VCD Mode	0	0	3	1
30	AFC SENS	1	0	3	1
31	MVM	OFF	OFF	ON	OFF
32	S-R-Y Adj	6	0	15	6
33	S-B-Y Adj	4	0	15	4
34	BELL/HPF	2	0	3	2
35	BELL FO	OFF	OFF	ON	OFF
36	S-GP	0	0	3	0
37	S ID	OFF	OFF	ON	OFF
38	RGB1 ENB	OFF	OFF	ON	OFF
39	HS-PH	1	0	1	0
40	S/N RATIO	3	0	3	3

Table.4-9

Dynamic Convergence					
No	Descr	Def	Min	Max	Data
1	Range	63	0	63	63
2	V Stat	36	0	63	17
3	H Stat	33	0	63	31
4	H amp L	37	0	63	33
5	H amp R	36	0	63	33
6	Up Y	31	0	63	31
7	Low Y	33	0	63	31
8	Y up L	30	0	63	45
9	Y up R	30	0	63	31
10	Y low L	31	0	63	31
11	Y low R	30	0	63	45
12	Mbow Up L	31	0	63	31
13	Mbow Up R	32	0	63	31
14	Mbow Low L	32	0	63	31
15	Mbow Low R	32	0	63	31
16	T Cor PCtrl	OFF	OFF	ON	OFF
17	Top Cor Pin	31	0	63	31
18	B Cor PCtrl	OFF	OFF	ON	OFF
19	Bot Cor Pin	43	0	63	31

Table.4-10

Sound					
No	Descr	Def	Min	Max	Data
1	Ref.Level	40	0	20	40
2	Auto-gain	ON	OFF	ON	ON
3	Ana-in	0	0	1	0
4	Carr-mute	ON	OFF	ON	ON
5	Clock out	ON	OFF	ON	ON
6	AM-gain	ON	OFF	ON	ON
7	Clip mode	0	0	2	0
8	SCART1 Vol	79	0	127	79
9	SCART2 Vol	79	0	127	79
10	SCART Pr	27	0	127	27
11	I2S1-pr	16	0	127	16
12	I2S2-pr	16	0	127	16
13	FM pr	27	0	127	27
14	BG Nic-pr	53	0	127	53
15	L Nic-pr	59	0	127	59
16	DK Nic-pr	53	0	127	53
17	I Nic-pr	97	0	127	97
18	Irl Nic-pr	97	0	127	97
19	AVC-Decay	2	0	8	2
20	SubW-vol	0	-127	0	0
21	SubW-freq	20	5	40	20
22	SubW-HPass	OFF	OFF	ON	OFF
23	Spat-stre	+127	0	-1	127
24	Spat-Coeff	0	0	8	0
25	Bass offs	0	-3	+3	0
26	Treble offs	0	-3	+3	0
27	Loudn offs	0	0	9	0
28	Hp-Voloffs	-2	-5	+5	-2
29	M-S Limit	+30	-128	+127	30
30	M-B Limit	-30	-128	+127	-30
31	S-M Limit	+12	-128	+127	12
32	S-B Limit	-20	-128	+127	-20
33	B-M Limit	-12	-128	+127	-12
34	B-S Limit	+20	-128	+127	20
35	Err.Max	40	0	255	40
36	Err.Min	18	0	255	18
37	Vol.Offs	0	-6	0	-4

Table.4-11

Ext. Deflection					
No	Descr	Def	Min	Max	Data
1	Linearity	127	0	255	127
2	H Centre	31	0	63	31
3	H Trap	31	0	63	31
4	Rotation	0	0	255	0
5	FocusPhase	127	0	255	127

Table.4-12



Deflection					
No	Descr	Def	Min	Max	Data
1	V-Size	31	0	63	35
2	V-Position	31	0	63	30
3	V-Comp	1	0	3	0
4	V-Linear	7	0	15	7
5	S-Corr	7	0	15	7
6	H-Size	31	0	63	27
7	EW-DC	OFF	OFF	ON	OFF
8	Akb Tim2	OFF	OFF	ON	OFF
9	Pin-Amp	31	0	63	29
10	H-Comp	0	0	3	0
11	Up-Cpin	31	0	63	35
12	M-Pin	2	0	3	2
13	Lo-CPin	31	0	63	34
14	Trapezium	7	0	15	6
15	H-Position	31	0	63	25
16	VblKw	0	0	3	0
17	AFC-Bow	7	0	15	7
18	AFC-Angle	7	0	15	10
19	Left-Blk	38	0	63	52
20	Right-Blk	12	0	63	11
21	V-Freerun	0	0	3	0
22	V-Aspect	47	0	63	47
23	Zoom-Sw	OFF	OFF	ON	OFF
24	U-Scan	OFF	OFF	ON	OFF
25	V-Scroll	31	0	63	31
26	Akb-Tim	0	0	3	2
27	Up-Vlin	0	0	15	0
28	Lo-Vlin	0	0	15	0

Table.4-13

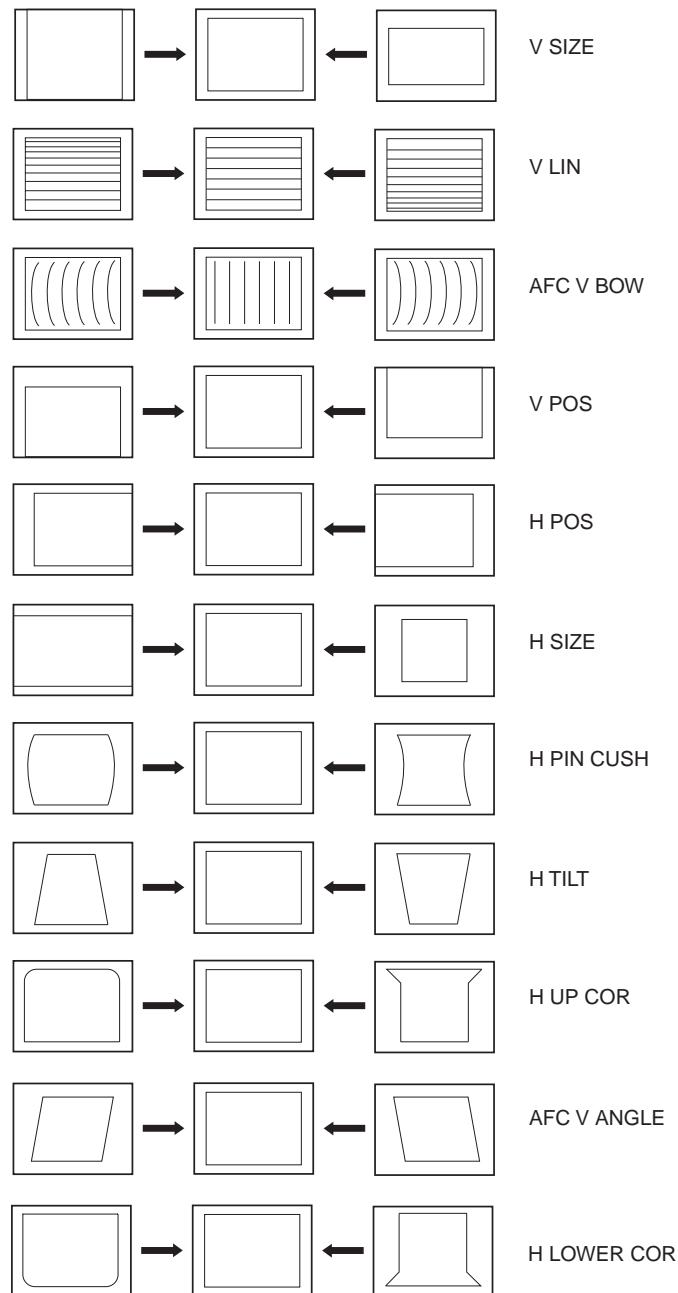
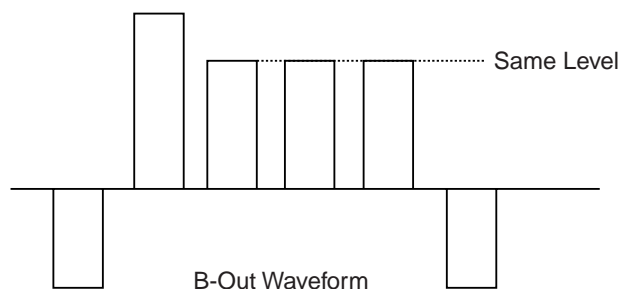
### Deflection System Adjustment

1. Enter into the service mode and select 'Deflection' from the menu. The 'Deflection' adjustment menu will be displayed.
2. Select and adjust each item to obtain the optimum image.

## 4-2. Volume Electrical Adjustments

### Sub Colour Adjustment

1. Input a PAL colour bar signal.
2. Connect an oscilloscope to CN5400 pin 5 located on the C Board.
3. Enter into the 'Service Mode'.
4. Choose 'Backend' from the menu.
5. Adjust 'Sub Colour' data so that the right sides of the waveform are of equal height.



### 4-3. TEST MODE 2:

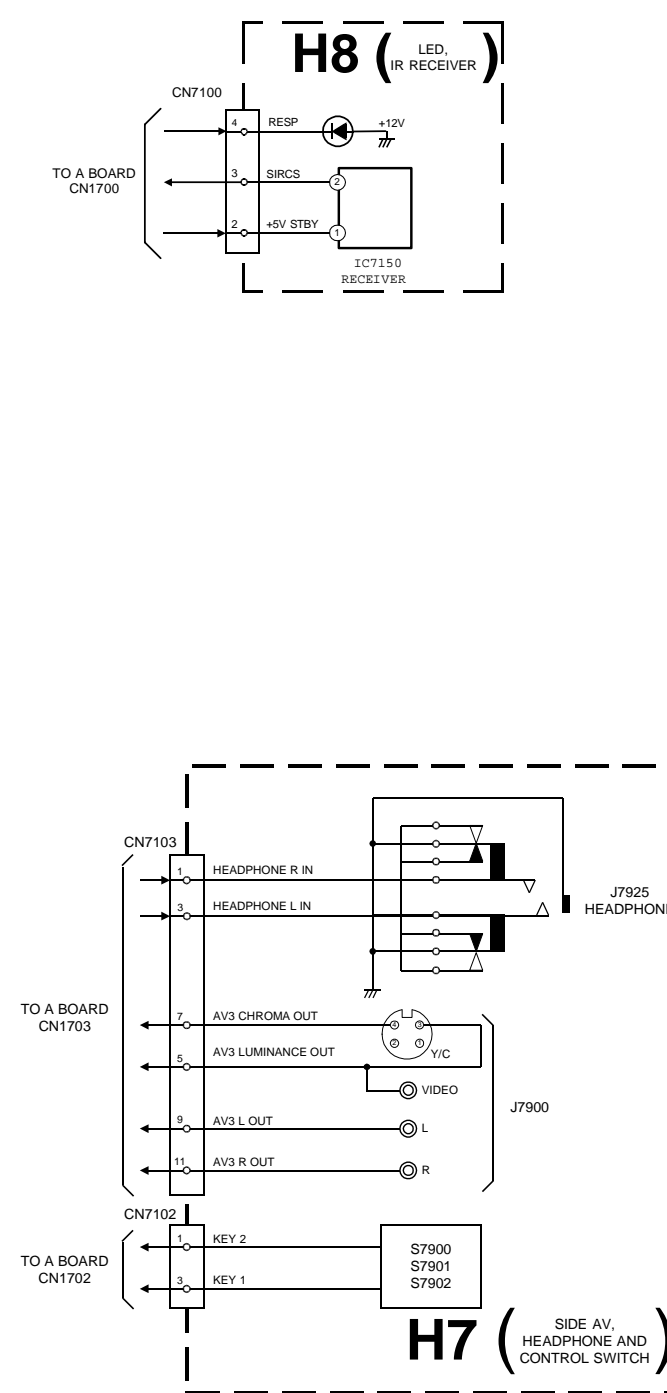
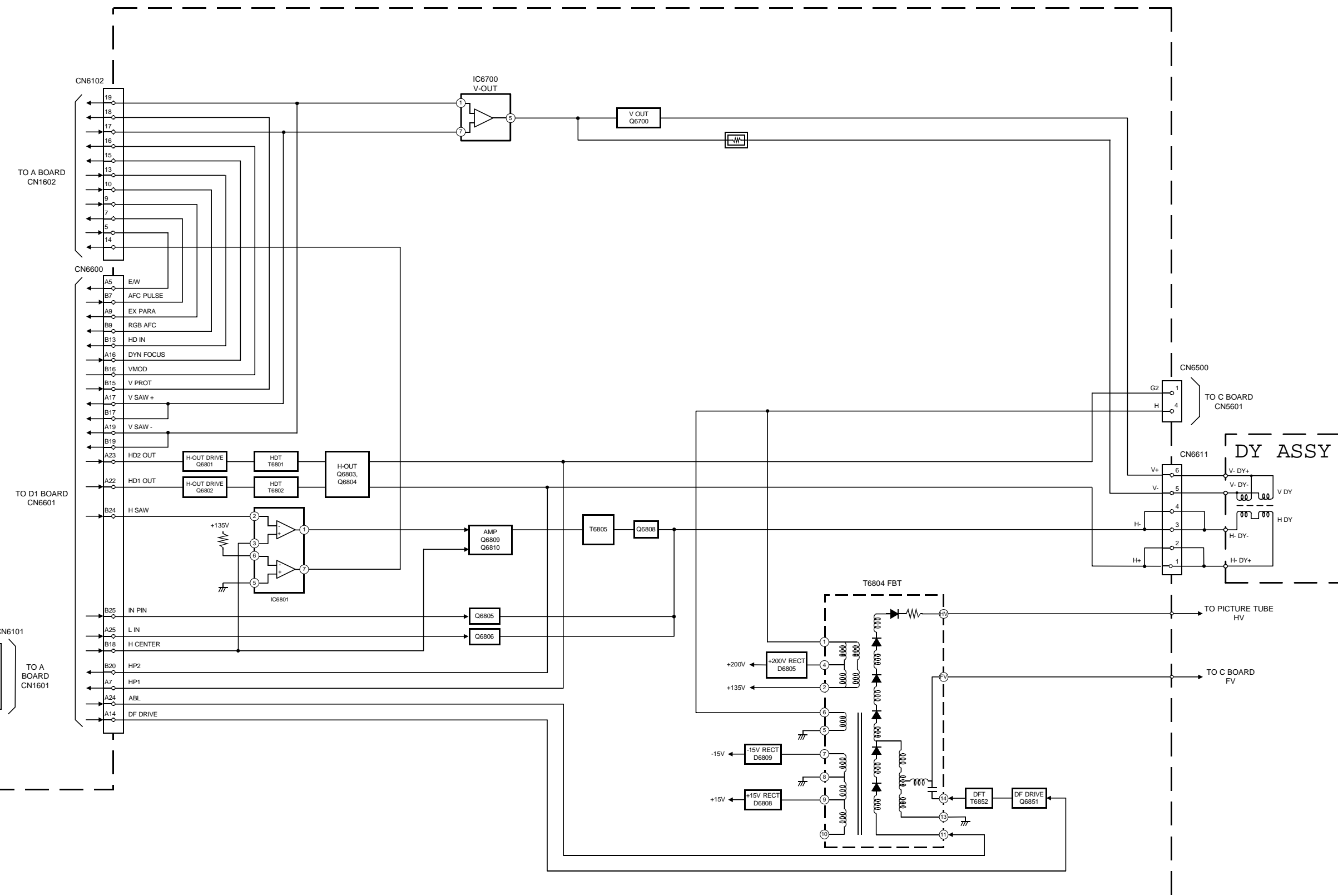
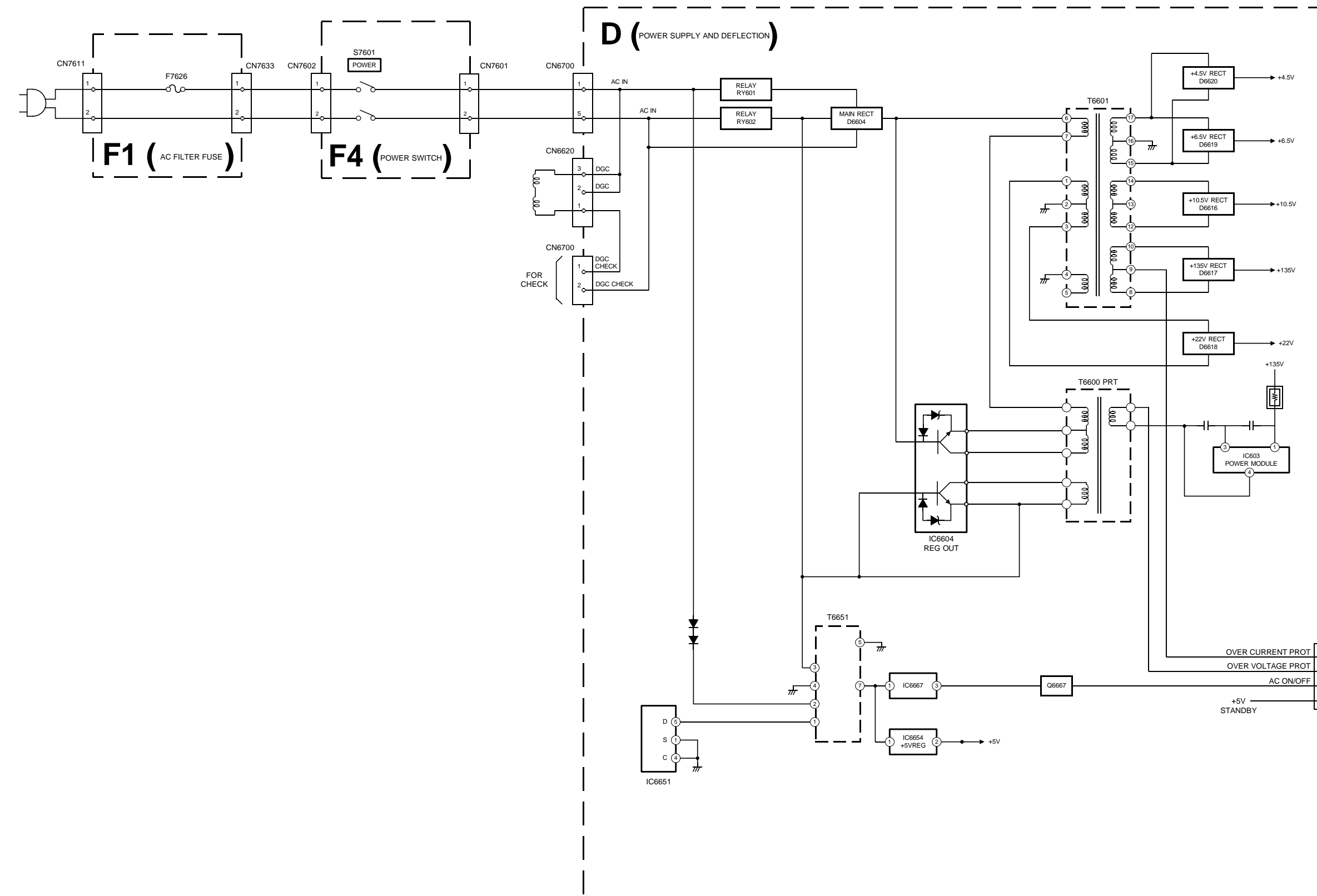
Is available by pressing the 'TEST' button twice, OSD 'TT' appears. The functions described below are available by selecting the two numbers. To release the 'Test mode 2', press 0, 10, 20 ... twice or switch the TV set into Stand-by mode. Pressing the two Local Control buttons (+ and -) during power ON will also switch into 'TT' mode.

In 'TT' mode, it is possible to remove the Menu from the screen by pressing the Speaker Off button once. Pressing the Speaker OFF button a second time will cause the Menu to reappear. The function is kept even when the menu is not displayed on screen !!.

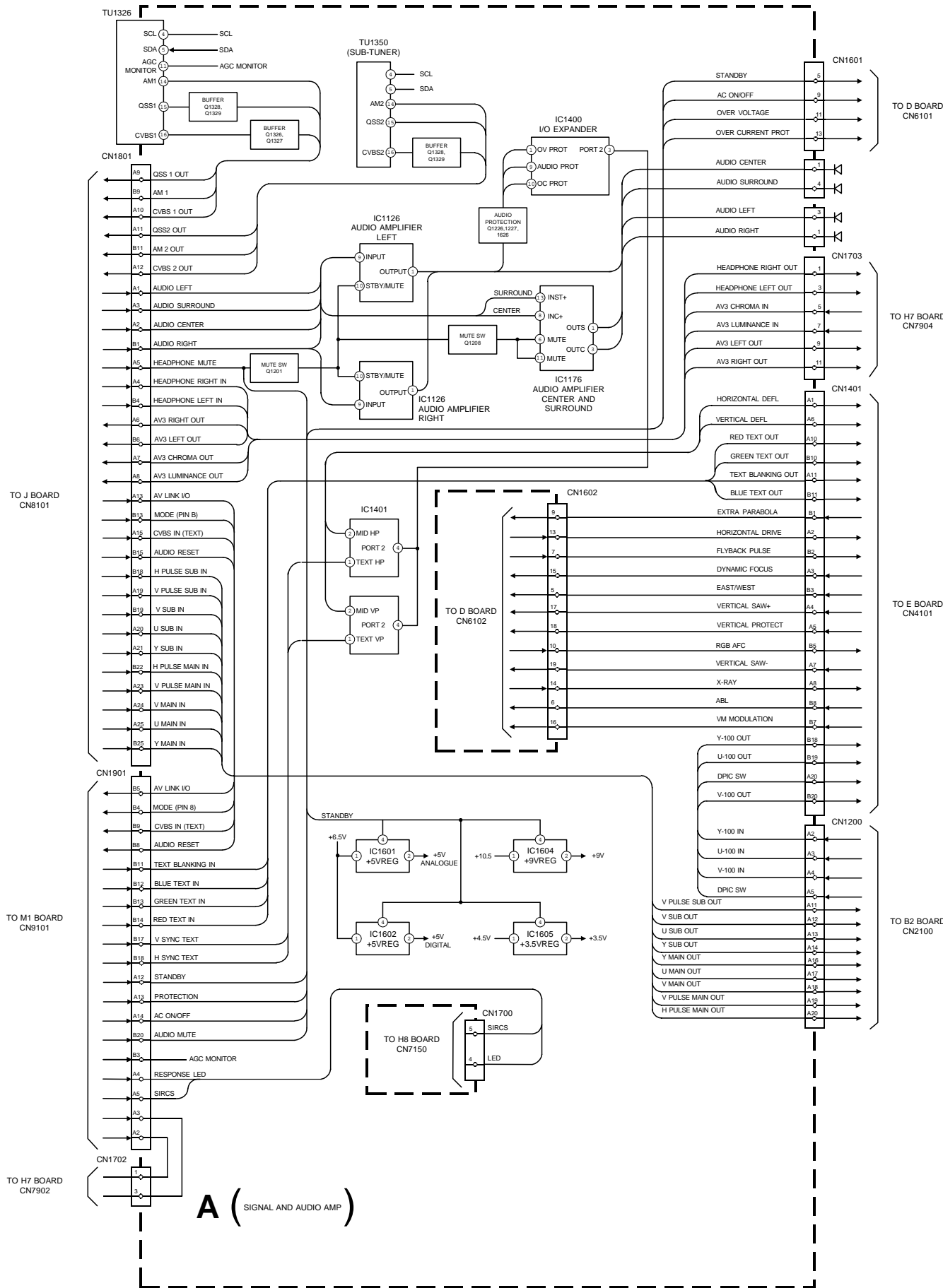
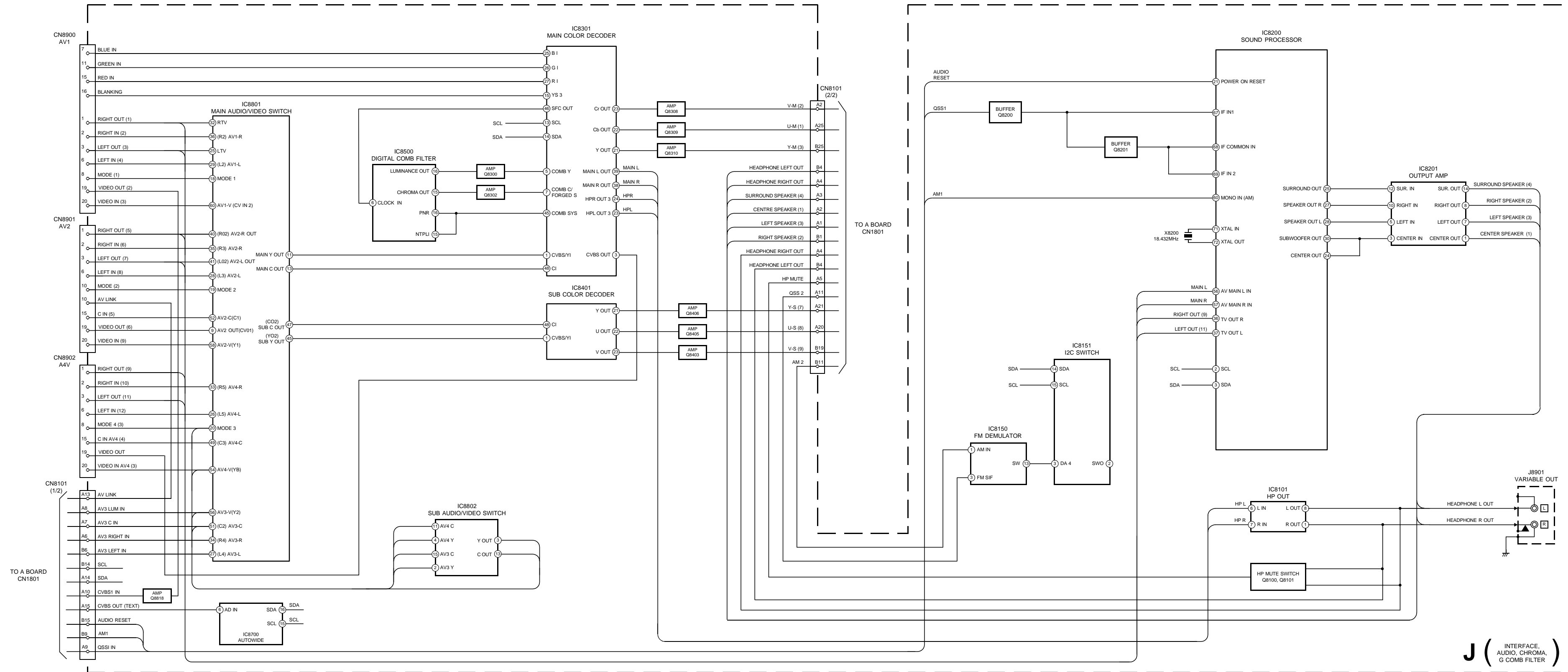
00	'TT' mode off
01	Picture maximum
02	Picture minimum
03	Set speaker/headphone Volume to 30%
04	Set speaker/headphone Volume to 50%
05	Set speaker/headphone Volume to 65%
06	Set speaker/headphone Volume to 80%
07	Ageing mode
08	Shipping Condition
10	No function
11	Sub picture adjustment
12	Sub colour adjustment
13	Display software version and TV set configuration
14	No function
15	Picture Rotation - Auto Function -5 -> 0 -> + 5
16	Picture level 50%
17	Audio mute on
18	No function
19	Sub brightness adjustment
20	No function
21	Destination A includes text settings, display TV status
22	Destination L includes text settings, display TV status
23	Destination E includes text settings, display TV status
24	Destination U includes text settings, display TV status
25	Destination D includes text settings, display TV status
26	Destination B includes text settings, display TV status
27	Destination K includes text settings, display TV status
28	Destination R includes text settings, display TV status
30	No function
31	Geometry Adjustment 1
32	Geometry Adjustment 2
33	Error monitor
34	No function
35	CRT 4:3 <> 16:9 ; Display TV status
36	Line 23 detection switch
37	Velocity Modulation (VM) test
38	No function
39	No function
40	No function
41	Screen mode check
42	Re-initialise geometry
43	No function
44	No function
45	No function
46	Reserved for dealer commander
47	Re-initialise NVM
48	Set NVM as non virgin
49	Set NVM as virgin
50	No function
51	Set Dolby volume to 90%
52	Dolby on left speaker only
53	Dolby on right speaker only

54	Dolby on left centre only
55	Dolby on surround speaker only
56	No function
57	No function
58	No function
59	No function
60	No function
61	Service mode
62	Production mode
63	Copy the picture reset data from ROM into the picture reset location of NVM
64	Copy the actual adj picture data from NVM to reset location of NVM
65	Reset error codes
66	No function
67	No function
68	Ignore error on
69	Ignore errors off
70	No function
71	No function
72	No function
73	Clear all programmes except 1-5 and all station labels
74	Adjustment for PIN Amp/Upper Corner Pin for EPG
75	Adjustment for Lower Corner Pin/ Trapezoid for EPG
76	No function
77	No function
78	No video blanking
79	Reset NVM Addresses 0EFF - 0FFF
80	No function
81	Smart Link test signal on AV2 Pin 10.
82	Horizontal centre adjustment for MID-X input main picture. Adjustment is done with left and right joystick button, released by "TV" or "OK" buttons.
83	No function
-	
86	Personal ID reset
87	
88	Parental Lock off
89	OSD mute on/off
90	No function
91	No function
92	No function
93	Reserved for software group only
94	No function
95	Dolby Low Pass Filter ON in surround channel
96	Dolby Low Pass Filter OFF in surround channel
97	No action
98	No action
99	No function

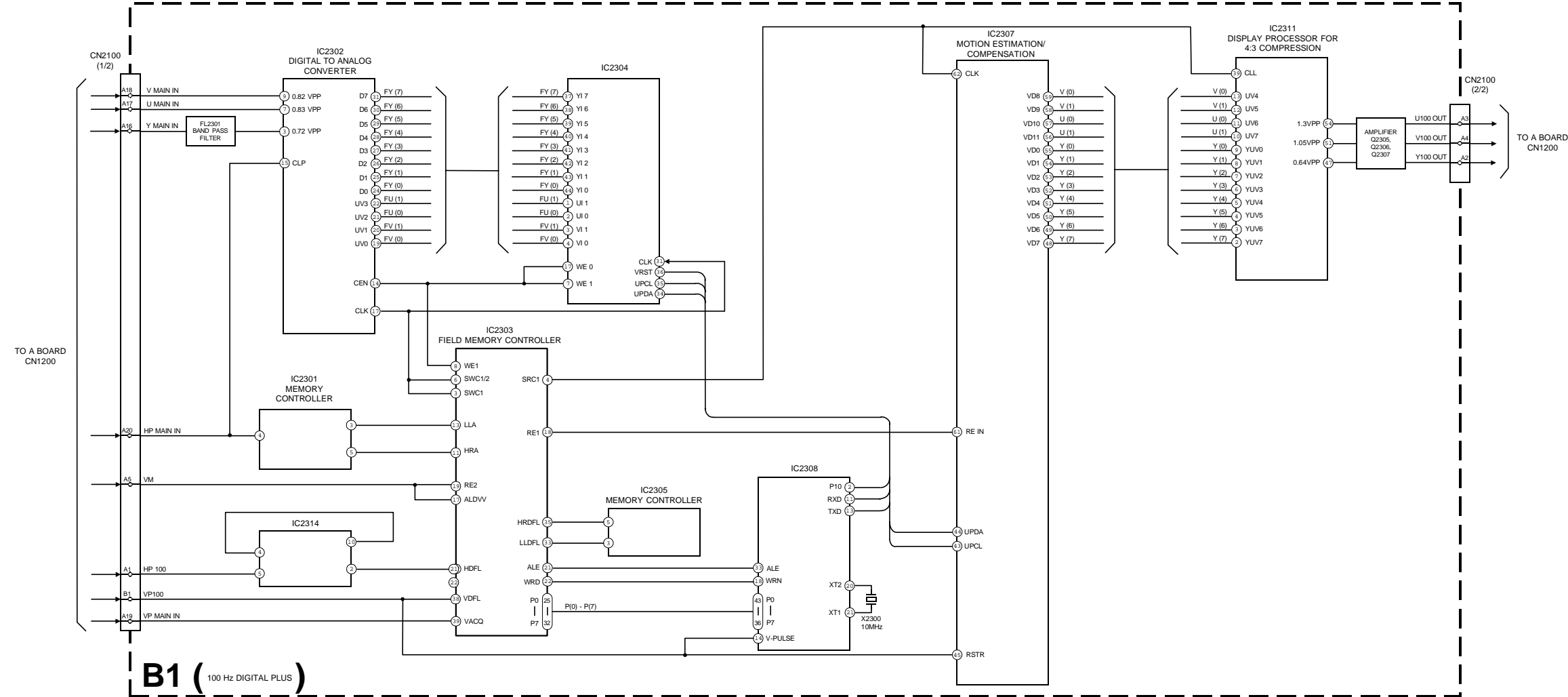
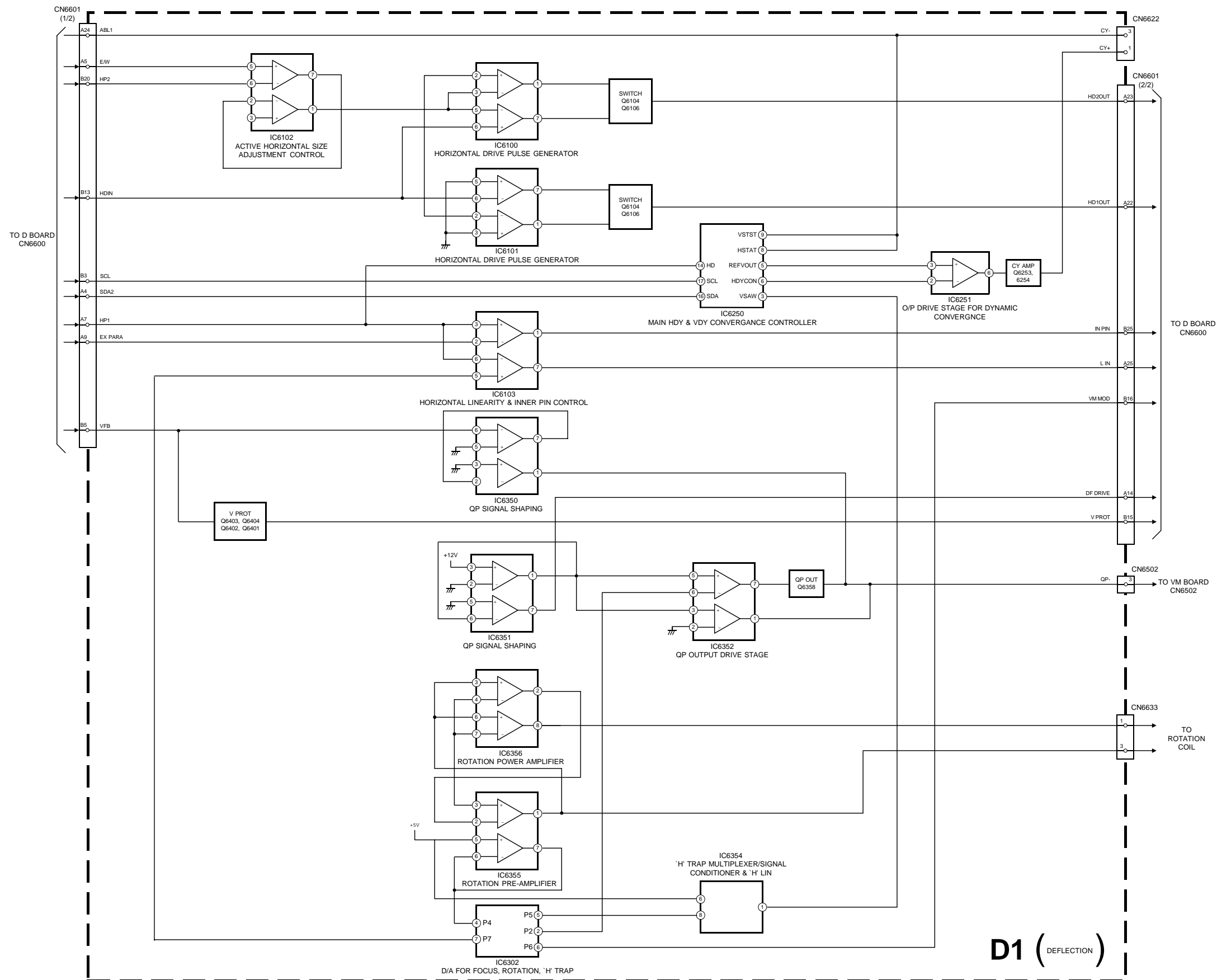
### 5-1. BLOCK DIAGRAMS (1)



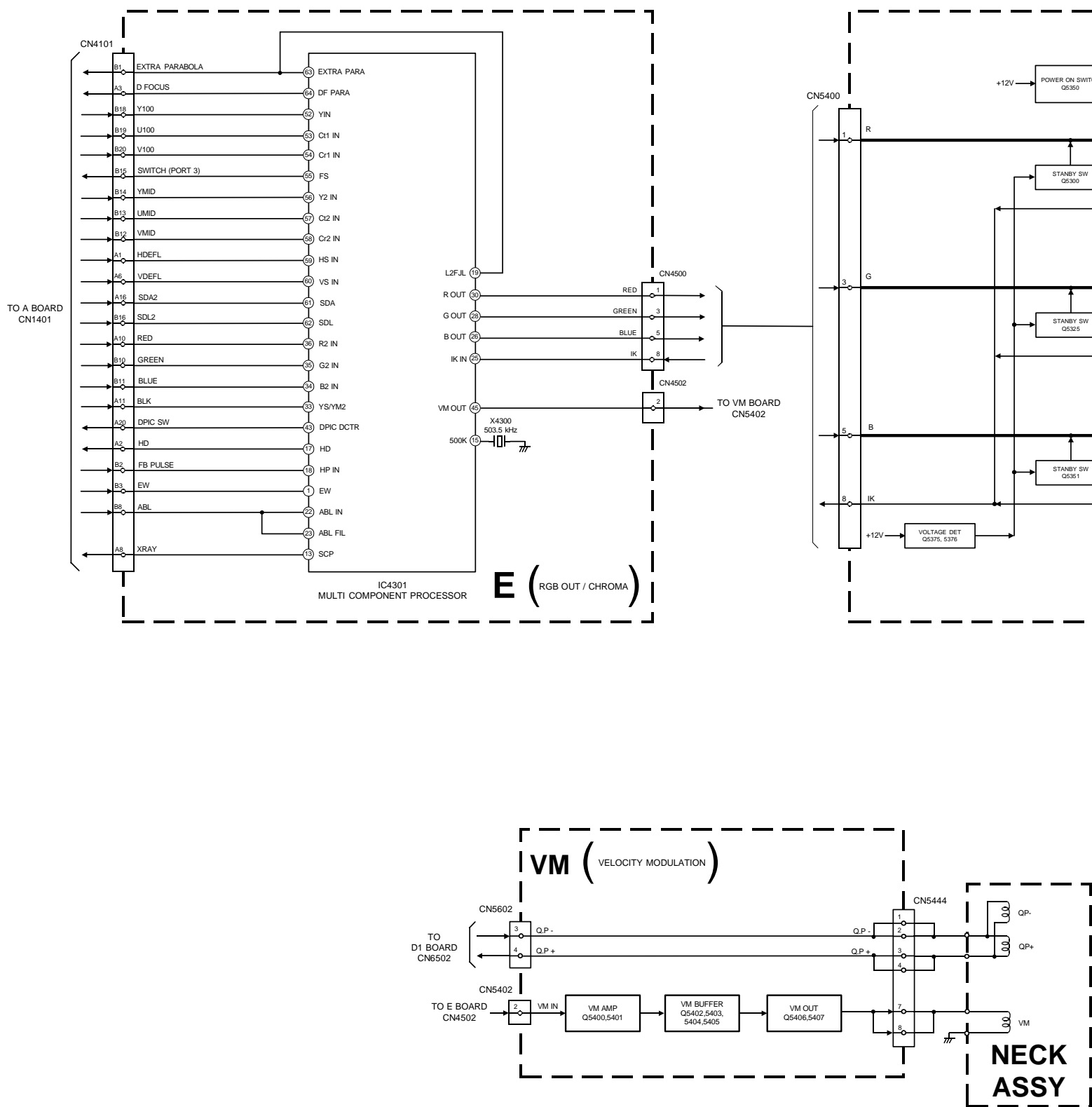
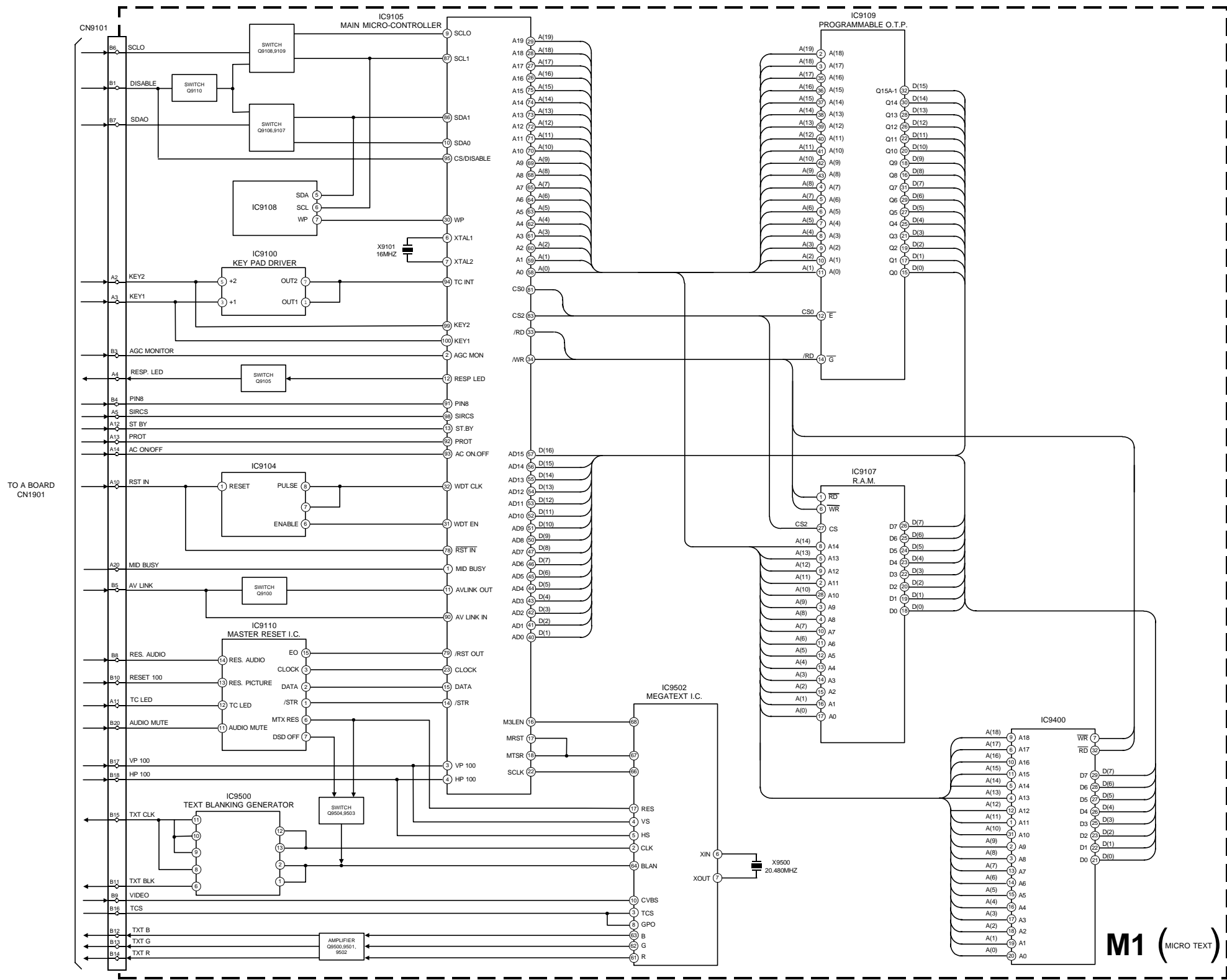
5-1. BLOCK DIAGRAMS (2)



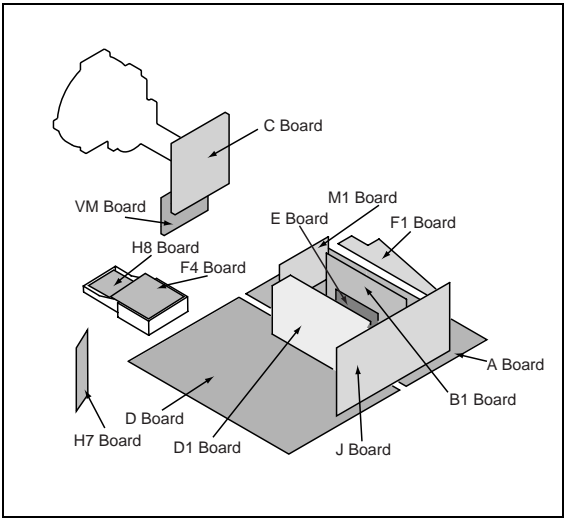
5-1. BLOCK DIAGRAMS (3)



5-1. BLOCK DIAGRAMS (4)



5-2. CIRCUIT BOARD LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

- Note :**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.
  - $\text{pF}$  :  $\mu\text{F}$  50WV or less are not indicated except for electrolytic types.
  - Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm  
Electrical power rating : 1/4W

- Chip resistors are 1/10W
- All resistors are in ohms.
- k = 1000 ohms, M = 1000,000 ohms

- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation or adjustment for repair.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in Volts.
- Readings are taken with a 10Mohm digital multimeter.
- Readings are taken with a color bar input signal.
- Voltage variations may be noted due to normal production tolerances.

- : B + bus.
- : B - bus.
- : RF signal path.
- : earth - ground.
- : earth - chassis.

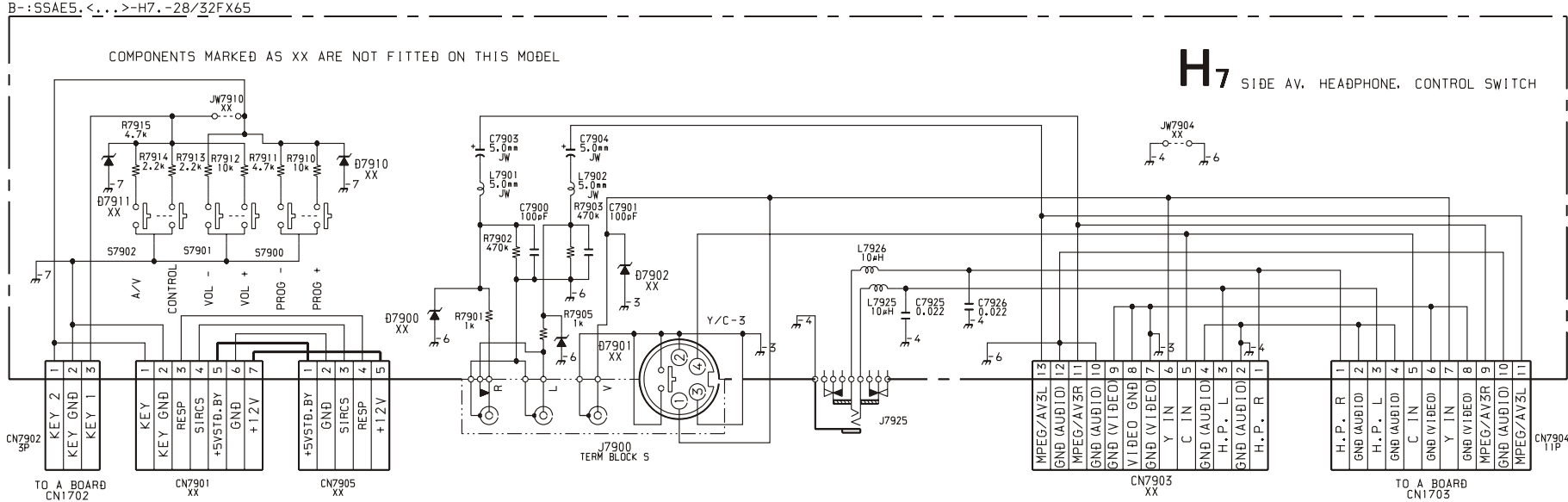
Reference Information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NON FLAMMABLE CARBON
	FUSE	: NON FLAMMABLE FUSIBLE
	RS	: NON FLAMMABLE METAL OXIDE
	RB	: NON FLAMMABLE CEMENT
	RW	: NON FLAMMABLE WIREWOUND
		: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

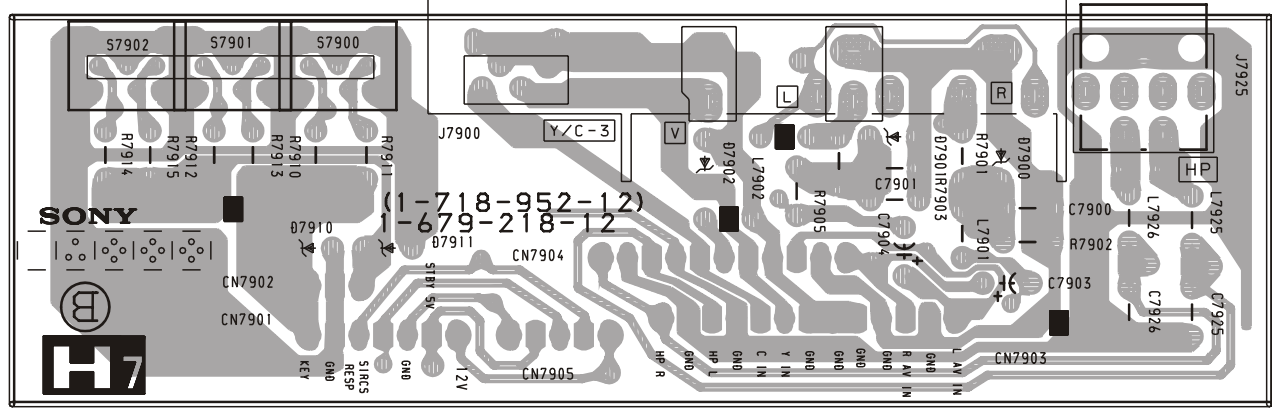
**Note :** The components identified by shading and marked  $\Delta$  are critical for safety. Replace only with the part numbers specified in the parts list.

**Note :** Les composants identifiés par une trame et par une marque  $\Delta$  sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

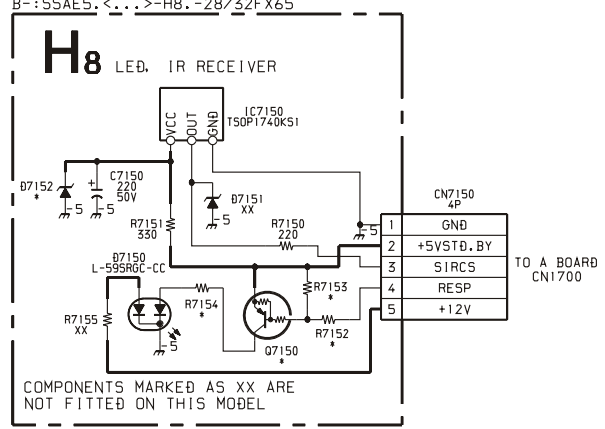
H7 [ FRONT AV, S-VIDEO ]



H7 [ PRINTED WIRING BOARD ]

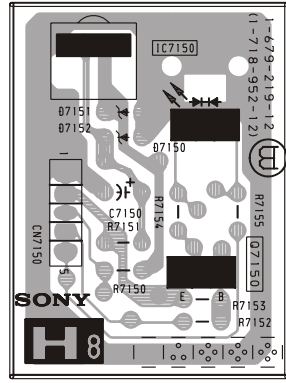


H8 [ IR RECEIVER FOR SIRCS AND LED ]

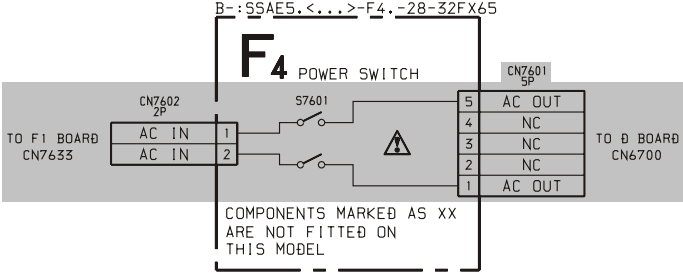


Ref	28FX65B	28FX65E	28FX65U	32FX65B	32FX65E	32FX65K	32FX65U
D7152	MTZJ-T-77-5.6B	MTZJ-T-77-5.6B	MTZJ-T-77-5.6B	-	-	-	MTZJ-T-77-5.6B
Q7150	DTA144ESA-TP	DTA144ESA-TP	DTA144ESA-TP	-	-	-	DTA144ESA-TP
R7152	JW (5.0MM)	JW (5.0MM)	JW (5.0MM)	-	-	-	JW (5.0MM)
R7153	4.7K	4.7K	4.7K	-	-	-	4.7K
R7154	270	270	270	-	-	-	270

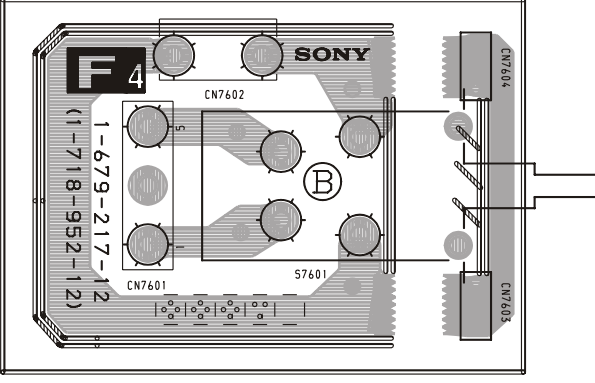
H8 [ PRINTED WIRING BOARD ]



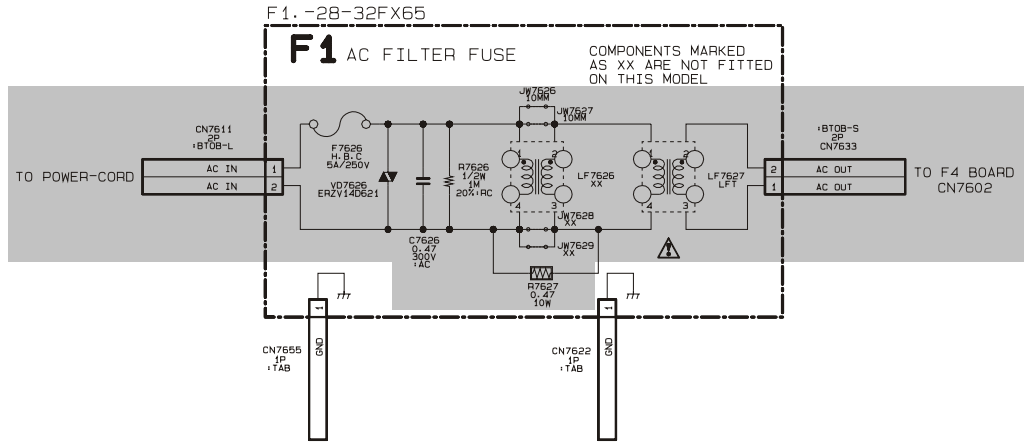
F4 [ POWER SWITCH ]



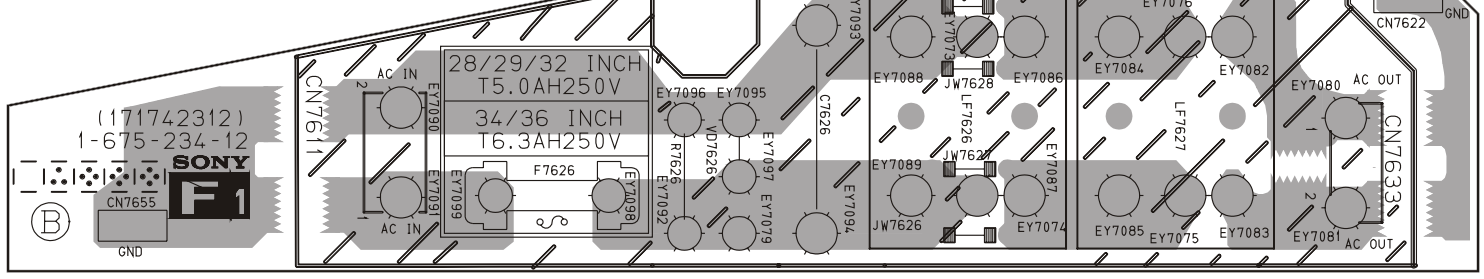
F4 [ PRINTED WIRING BOARD ]



F1 [ AC FILTER FUSE ]



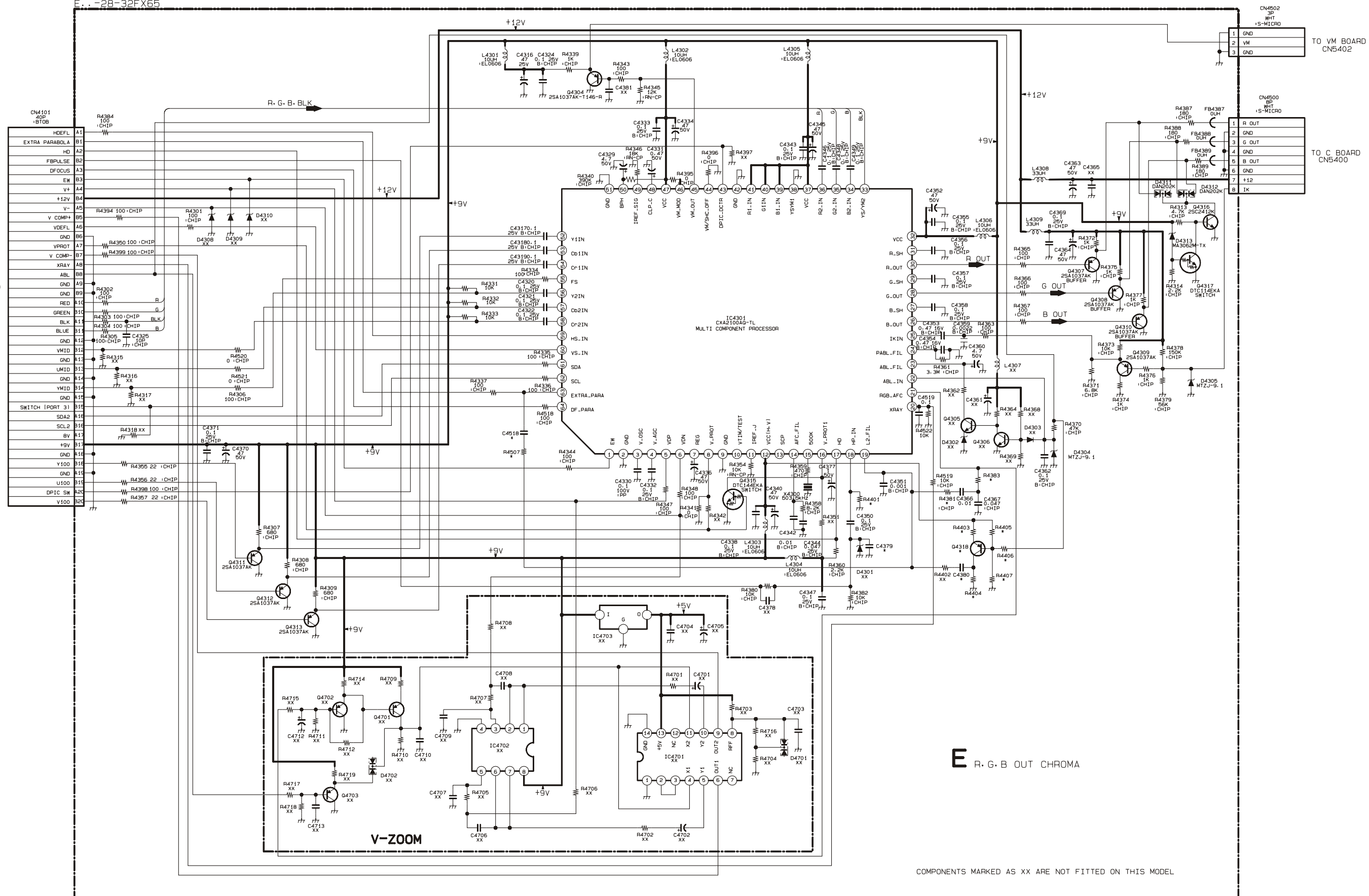
F1 [ PRINTED WIRING BOARD ]





E...-28-32FX65

TO A BOARD  
CN1401

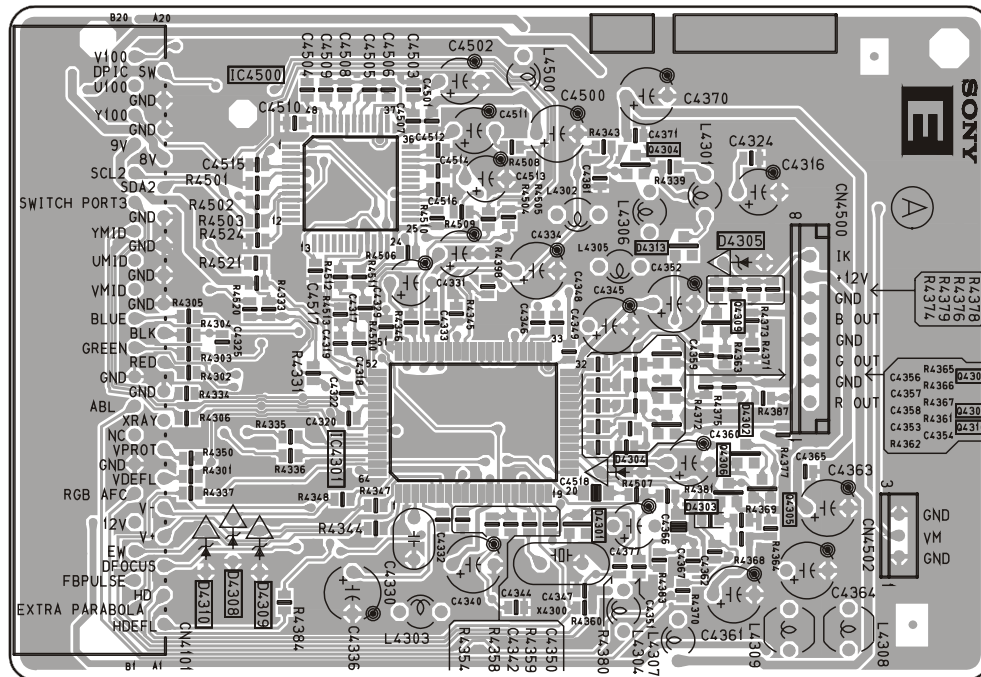


COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

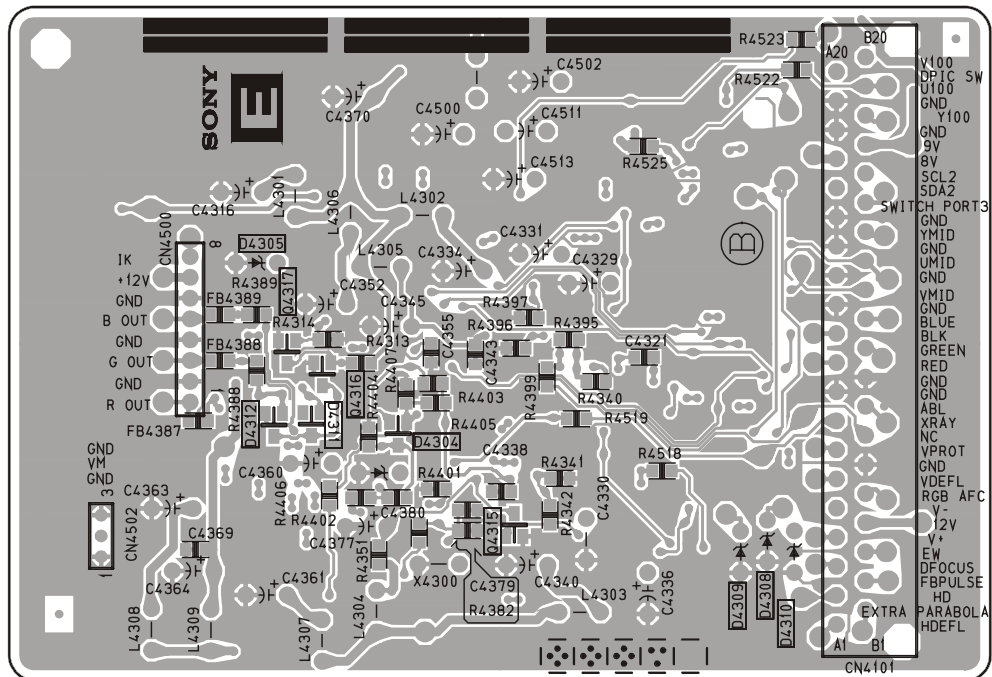
E [ R, G, B OUT CHROMA ]



## E [PRINTED WIRING BOARD (A side)]

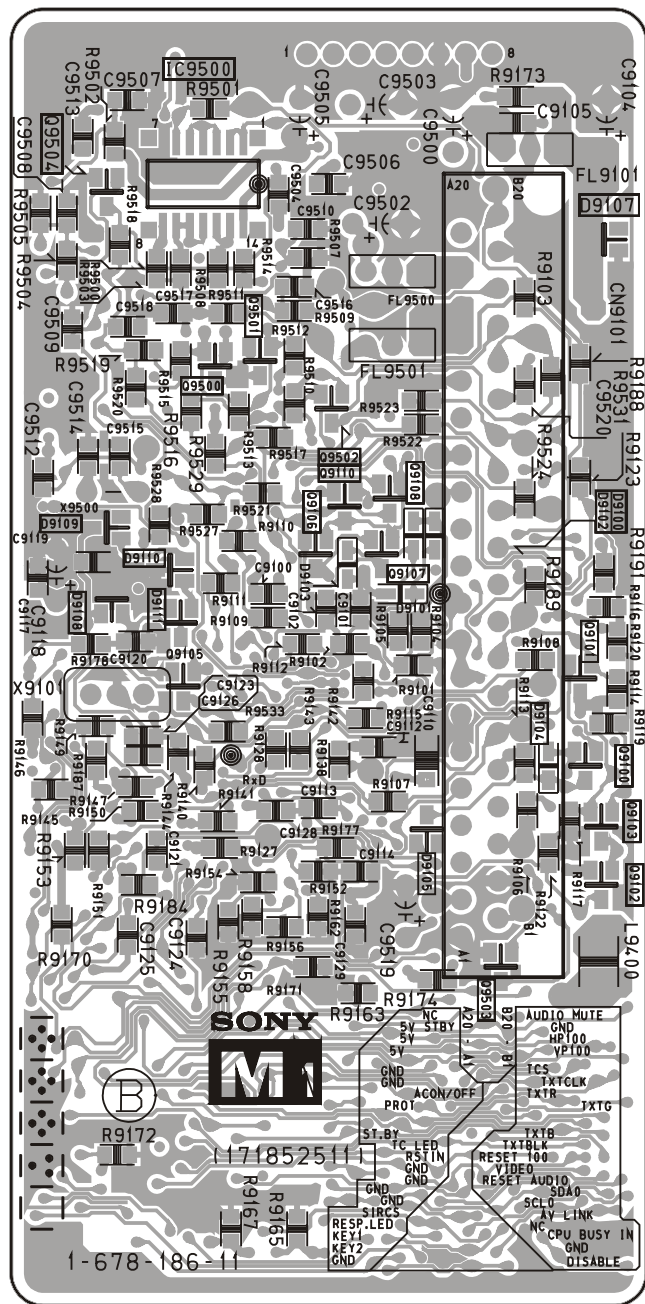


## E [PRINTED WIRING BOARD (B side)]



Ref	28FX65B	28FX65E	28FX65U	32FX65B	32FX65E	32FX65K	32FX65U
C4379	47PF	47PF	47PF	-	-	-	47PF
C4380	-	-	-	-	-	-	0.0047UF
C4518	-	-	-	1UF	1UF	1UF	-
Q4318	-	-	-	-	-	-	2SA1037AK-T146-R
R4381	-	-	-	1.5M	1.5M	1.5M	-
R4383	18K	18K	18K	47K	47K	47K	18K
R4401	220K	220K	220K	270K	270K	270K	220K
R4403	-	-	-	-	-	-	10K
R4404	10K	10K	10K	-	-	-	10K
R4405	-	-	-	-	-	-	39K
R4406	-	-	-	-	-	-	220K
R4407	-	-	-	-	-	-	56K
R4507	-	-	-	2.2M	2.2M	2.2M	-

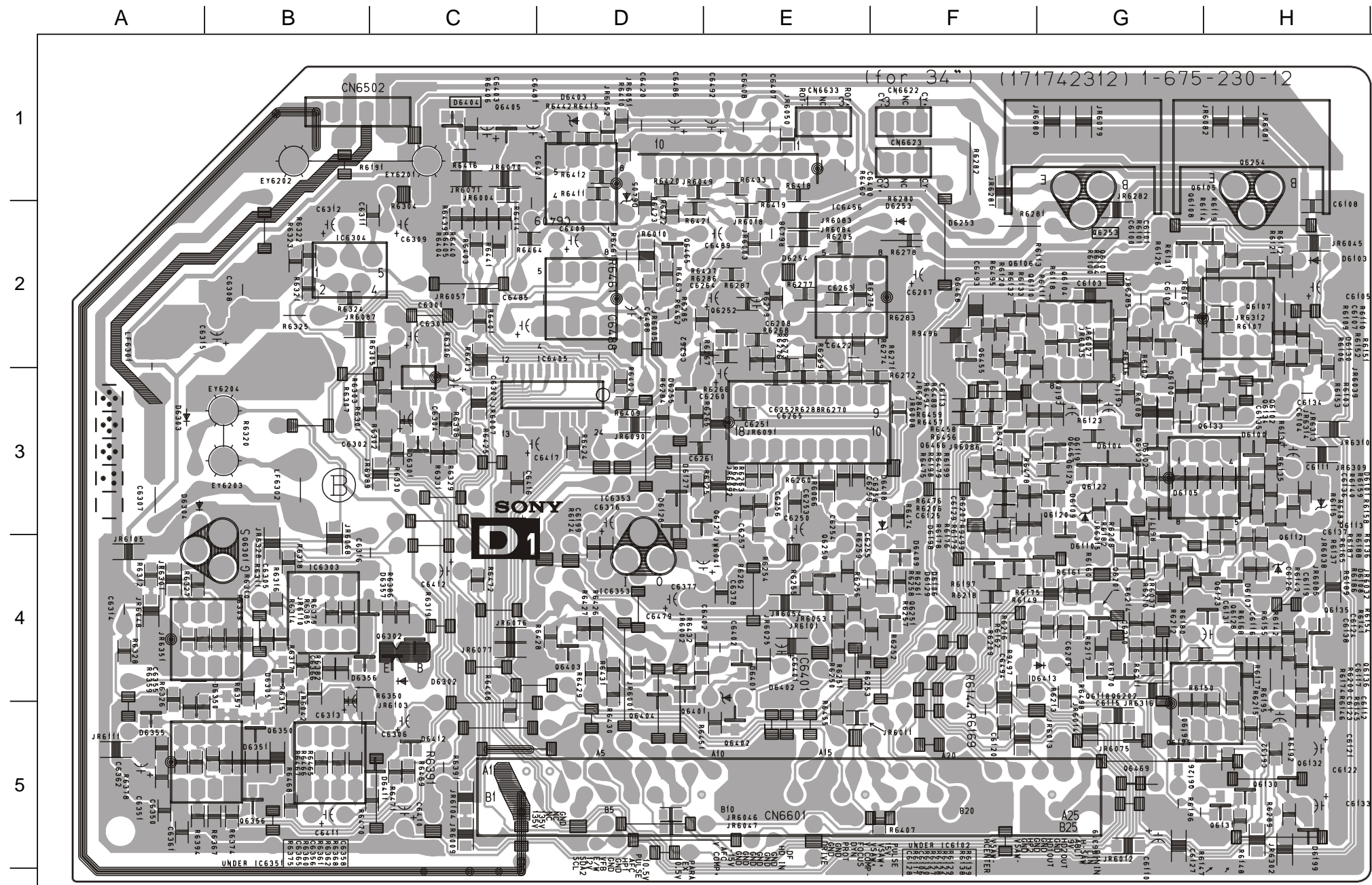
**M1** [PRINTED WIRING BOARD (B side)]

52









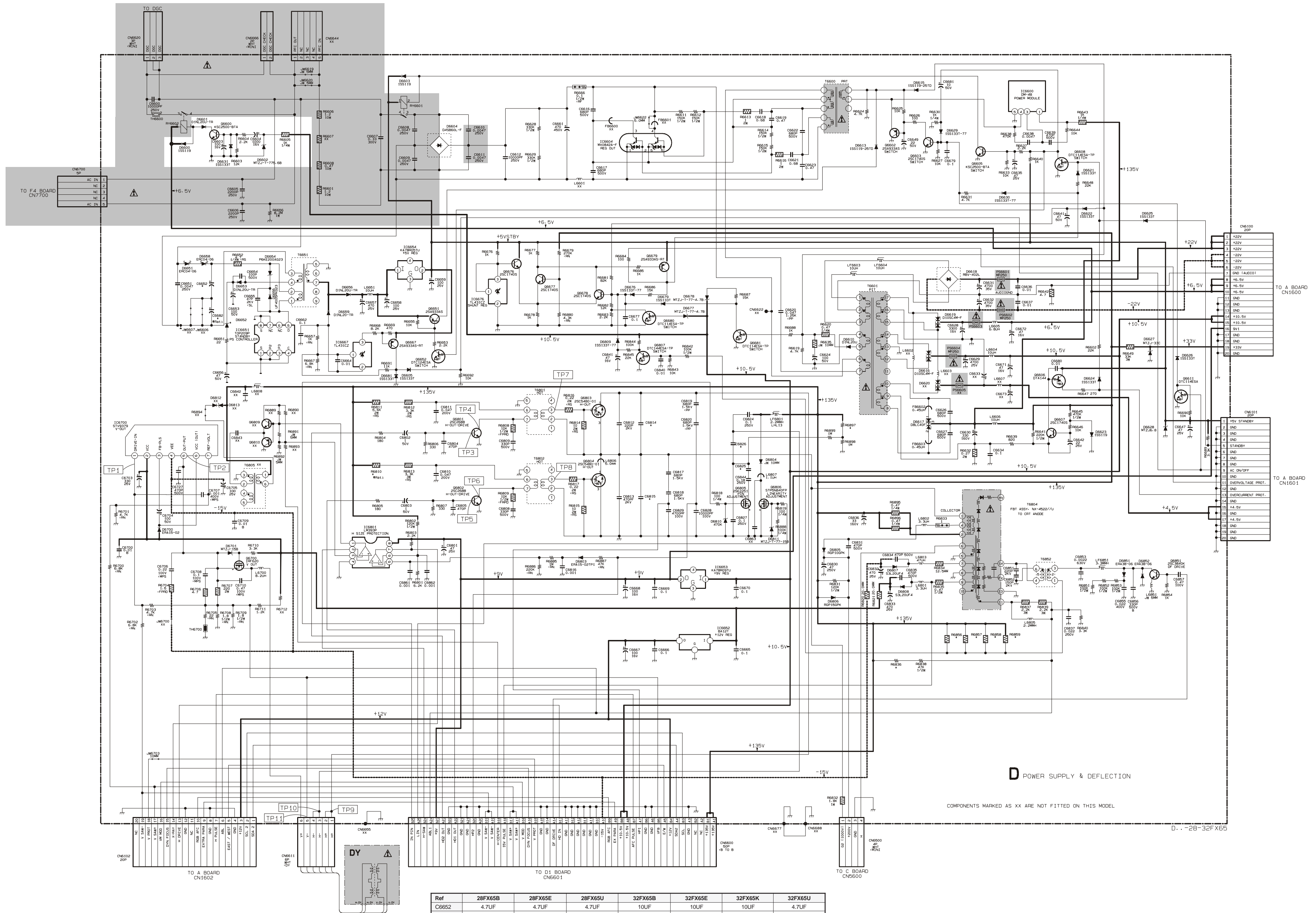
IC	IC6304 B - 2	Q6101 H - 2	Q6112 H - 3	Q6127 D - 3	Q6252 D - 2	Q6403 D - 4	D6104 G - 4	D6302 C - 4	D6355 A - 4
IC6100 G - 2	IC6351 A - 5	Q6102 H - 3	Q6113 H - 4	Q6128 H - 4	Q6253 H - 2	Q6404 D - 4	D6105 G - 3	D6303 A - 3	D6401 D - 4
IC6101 H - 2	IC6353 D - 4	Q6103 G - 3	Q6118 G - 5	Q6129 F - 3	Q6254 G - 2	Q6405 C - 1	D6107 H - 4	D6304 A - 3	D6402 E - 5
IC6102 H - 3	IC6405 C - 2	Q6104 F - 2	Q6119 F - 4	Q6130 H - 5	Q6301 A - 3	Q6455 F - 3	D6108 H - 4	D6305 B - 4	D6403 D - 1
IC6103 H - 5	IC6454 C - 2	Q6105 G - 2	Q6120 F - 4	Q6131 H - 5	Q6302 C - 4	Q6465 D - 2	D6127 D - 3	D6253 F - 2	D6404 C - 1
IC6250 E - 3	IC6455 C - 1	Q6106 F - 2	Q6122 F - 4	Q6201 G - 4	Q6350 B - 4	Q6466 F - 3	D6128 D - 3	D6254 E - 2	D6405 D - 1
IC6301 C - 3	IC6456 E - 1	Q6107 H - 2	Q6123 H - 3	Q6202 G - 4	Q6356 B - 5	Q6467 G - 3	D6129 F - 3	D6255 D - 3	D6408 E - 3
IC6302 A - 4	TRANSISTOR	Q6108 G - 2	Q6125 H - 5	Q6250 E - 4	Q6401 D - 5	DIODE	D6198 F - 3	D6350 A - 4	D6409 F - 4
IC6303 B - 4	Q6100 G - 3	Q6110 F - 2	Q6126 H - 5	Q6251 F - 4	Q6402 E - 5	D6102 G - 3	D6301 C - 3	D6351 B - 5	

D1 [ PRINTED WIRING BOARD ]

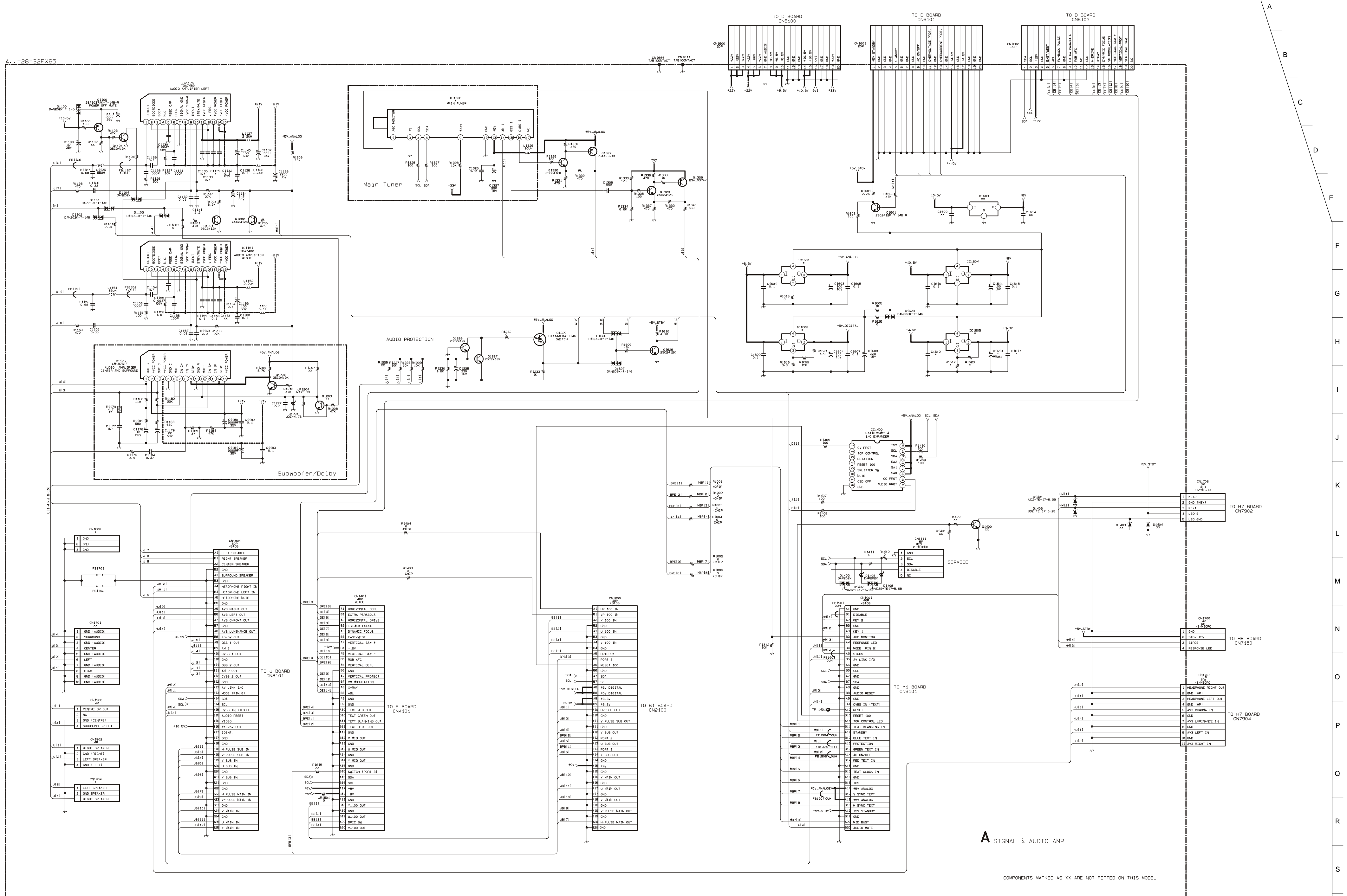








Ref	28FX65B	28FX65E	28FX65U	32FX65B	32FX65E	32FX65K	32FX65U
C6652	4.7UF	4.7UF	4.7UF	10UF	10UF	10UF	4.7UF
C6682	JW 5.0MM	JW 5.0MM	JW 5.0MM	10UF	10UF	10UF	JW 5.0MM
C6814	7500PF	7500PF	7500PF	6800PF	6800PF	6800PF	6800PF
C6815	6800PF	6800PF	6800PF	6200PF	6200PF	6200PF	6200PF
C6825	0.22UF	0.22UF	0.22UF	0.18UF	0.18UF	0.18UF	0.18UF
C6826	0.68UF	0.68UF	0.68UF	0.56UF	0.56UF	0.56UF	0.56UF
D6652	MTZJ-T-77-12	MTZJ-T-77-12	MTZJ-T-77-12	MTZJ-T-77-12A	MTZJ-T-77-12A	MTZJ-T-77-12A	MTZJ-T-77-12
R6810	3.3K	3.3K	3.3K	3.9K	3.9K	3.9K	3.9K
R6836	18K	18K	18K	15K	15K	15K	15K
R6856	18K	18K	18K	5.6K	5.6K	5.6K	5.6K
R6857	18K	18K	18K	5.6K	5.6K	5.6K	5.6K
R6858	18K	18K	18K	5.6K	5.6K	5.6K	5.6K
R6859	18K	18K	18K	5.6K	5.6K	5.6K	5.6K
R6897	470K	470K	470K	680K	680K	680K	680K





IC Voltage Table

IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC1126	1	0
	2	-11
	3	10
	6	-19
	9	0
	10	4.1
IC1151	12	-11
	1	0
	2	-11
	3	10
	6	-18
	9	0
IC1400	10	4.1
	12	-11
	1	0
	3	4.6
	5	4.6
	6	4.0
IC1176	9	0
	10	4.1
	12	-11
	1	0
	3	3
	6	3
IC1604	7	0
	8	0
	9	0
	11	3
	12	0
	13	0
	14	0
	15	4.5

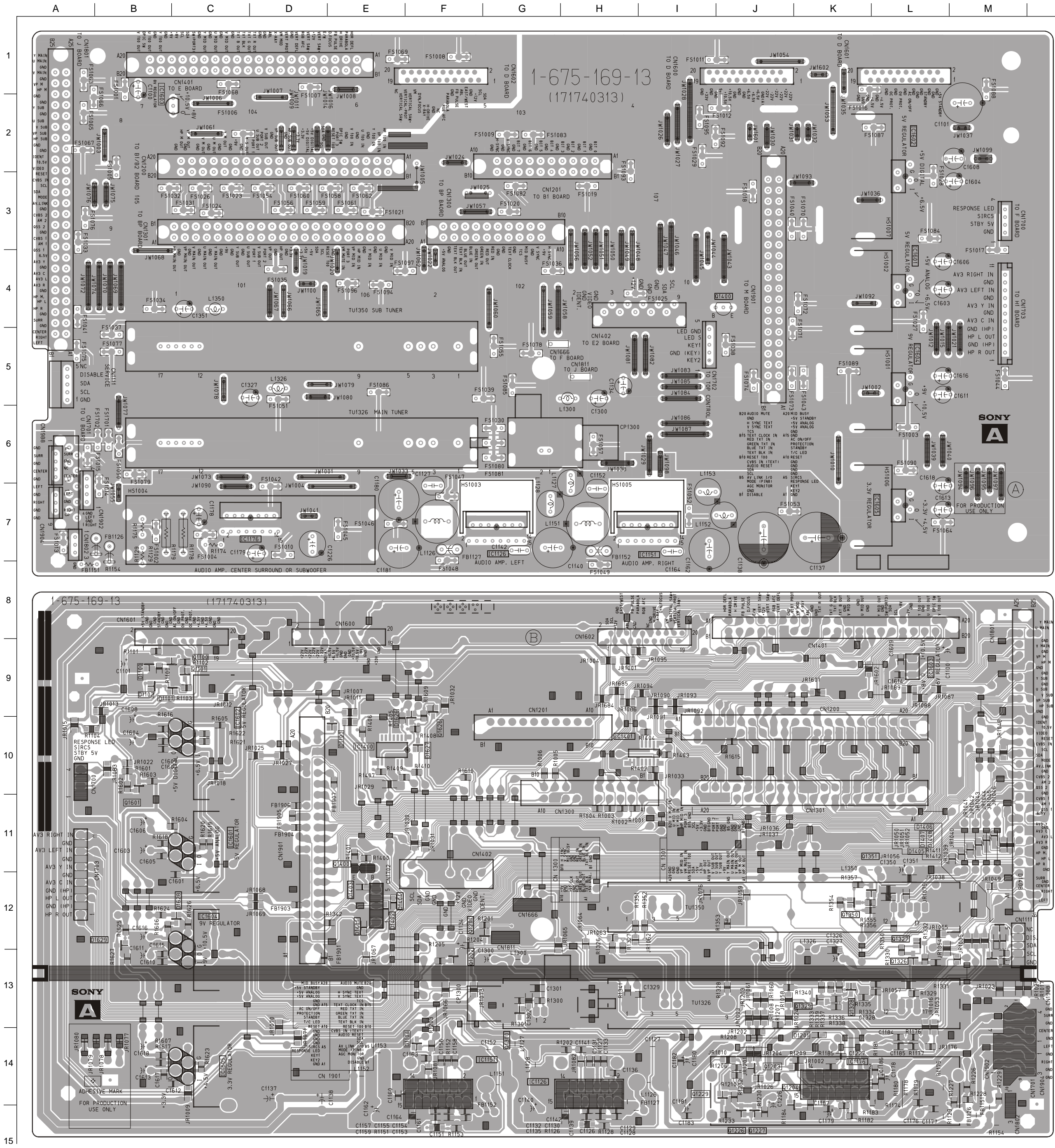
Semiconductor Location Table

IC		Q1403 L - 9	
IC1126	G - 7	Q1404	L - 9
IC1151	I - 7	Q1405	M - 8
IC1176	K - 14	Q1406	M - 9
IC1400	E - 10	Q1601	B - 11
IC1601	L - 4	Q1602	C - 9
IC1604	L - 5	Q1626	F - 9
DIODE			
IC1605	L - 7	D1101	B - 9
IC1630	I - 2	D1101	B - 9
IC1631	L - 2	D1102	B - 9
TRANSISTOR			
Q1100	B - 9	D1103	D - 10
Q1101	C - 9	D1104	E - 14
Q1201	F - 12	D1201	K - 13
Q1202	F - 12	D1401	E - 12
Q1204	F - 12	D1402	E - 12
Q1226	J - 15	D1405	L - 11
Q1227	J - 15	D1406	L - 11
Q1229	I - 14	D1407	L - 11
Q1300	G - 13	D1408	L - 11
Q1326	L - 12	D1601	C - 9
Q1327	L - 12	D1602	C - 9
Q1328	K - 13	D1626	B - 12
Q1329	K - 13	D1627	F - 10
Q1401	L - 9	D1630	H - 1
Q1402	L - 9	D1631	L - 3

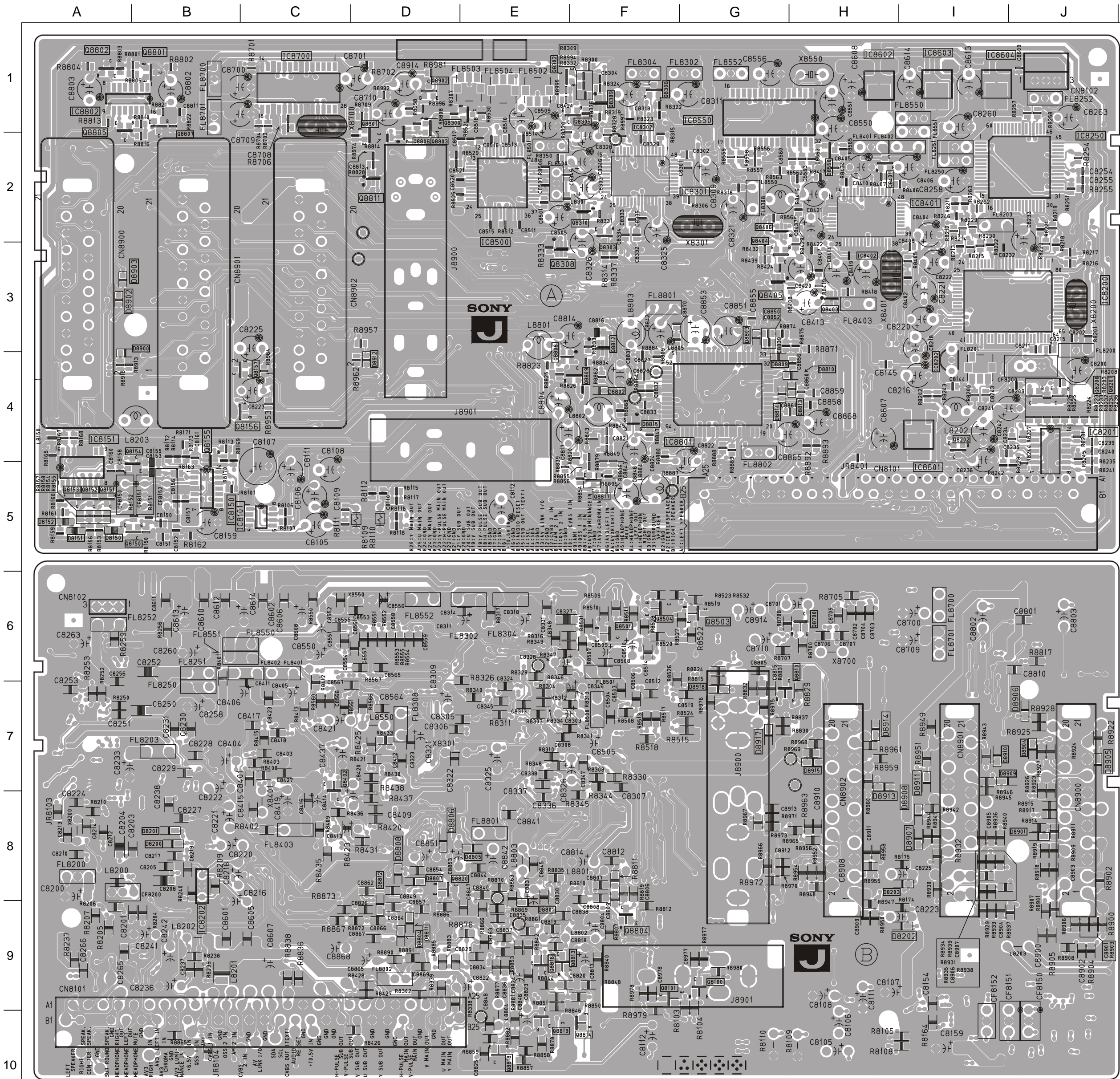
Semiconductor Voltage Table

Ref	(e)	(b)	(c)	Ref	(e)	(b)	(c)
Q1100	10.5	10.6	0	Q1229	5	4.9	0
Q1101	0	0	2.2	Q1326	1.2	1.8	4.4
Q1201	0	0.6	0	Q1327	5	4.4	1.7
Q1202	0	0.1	2.1	Q1328	2.6	3.2	8.3
Q1300	0	4.6	0	Q1329	5	8.3	4.5
Q1226	0	0	4.9	Q1601	0	0	5
Q1227	0	0	4.9	Q1602	3.9	3.3	0

Ref	28FX65B	28FX65E	28FX65U	32FX65B	32FX65E	32FX65K	32FX65U
C1139	0.01UF	-	0.01UF	-	-	-	0.01UF
C1612	-	-	-	0.01UF	0.01UF	0.01UF	-
C1613	-	-	-	100UF	100UF	100UF	-
C1617	-	-	-	0.1UF	0.1UF	0.1UF	-
CN1666	TAB	TAB	TAB	-	-	-	TAB
CN1802	3P	-	-	3P	3P	3P	-
CN1904	-	-	-	3P	3P	3P	-
IC1601	KA78R05-SYDTU	KA78R05-SYDTU	KA78R05-SYDTU	PQ05RF11	PQ05RF11	PQ05RF11	PQ05RF11
IC1602	KA278R05-YDTU	KA278R05-YDTU	KA278R05-YDTU	KA78R05-SYDTU	KA78R05-SYDTU	KA78R05-SYDTU	KA78R05-SYDTU
IC1604	KA78R09-YDTU	KA78R09-YDTU	KA78R09-YDTU	PQ05RF11	PQ05RF11	PQ05RF11	PQ05RF11
IC1605	-	-	-	KA78R33-YDTU	PQ05RF11	PQ05RF11	PQ05RF11
R1617	-	-	-	3.3	3.3	3.3	-
R1623	-	-	-	220	220	220	-
TU1326	TUNER/VIF (FR)	TUNER/VIF (AEP)	TUNER/VIF (UK)	TUNER/VIF (FR)	TUNER/VIF (AEP)	TUNER/VIF (AEP)	TUNER/VIF (UK)







Semiconductor Location Table

IC		Q8150	A-5	Q8405	G-3	D8810	G-4	
IC8101	B-5	Q8151	A-5 <td>Q8406</td> <td>G-2<td>D8811</td><td>D-9</td></td>	Q8406	G-2 <td>D8811</td> <td>D-9</td>	D8811	D-9	
IC8150	B-5	Q8152	A-5 <td>Q8501</td> <td>F-6<td>D8812</td><td>D-8</td></td>	Q8501	F-6 <td>D8812</td> <td>D-8</td>	D8812	D-8	
IC8151	A-4	Q8153	A-5 <td>Q8901</td> <td>D-1</td> <td>D8813</td> <td>G-4</td>	Q8901	D-1	D8813	G-4	
IC8200	J-3	Q8154	A-4	DIODE			D8814	G-4
IC8201	J-4	Q8156	B-4	D8150	A-5 <td>D8900</td> <td>A-3</td>	D8900	A-3	
IC8202	I-3	Q8157	C-4	D8151	A-5 <td>D8901</td> <td>J-8</td>	D8901	J-8	
IC8301	F-2	Q8200	J-3	D8152	A-5 <td>D8902</td> <td>A-3</td>	D8902	A-3	
IC8302	F-1	Q8201	J-4	D8153	I-4 <td>D8903</td> <td>A-3</td>	D8903	A-3	
IC8401	I-2	Q8202	I-4	D8200	B-8 <td>D8904</td> <td>J-7</td>	D8904	J-7	
IC8402	H-2	Q8300	D-1	D8201	B-8 <td>D8905</td> <td>J-7</td>	D8905	J-7	
IC8500	E-2	Q8302	E-1	D8202	H-9 <td>D8906</td> <td>I-7</td>	D8906	I-7	
IC8550	G-1	Q8303	F-2	D8203	H-8 <td>D8907</td> <td>I-8</td>	D8907	I-8	
IC8601	I-4	Q8305	E-1	D8801	E-8 <td>D8908</td> <td>I-8</td>	D8908	I-8	
IC8602	H-1	Q8306	F-1	D8802	F-4 <td>D8909</td> <td>I-7</td>	D8909	I-7	
IC8603	I-1	Q8308	E-3	D8803	G-3 <td>D8910</td> <td>I-7</td>	D8910	I-7	
IC8604	I-1	Q8309	F-1	D8804	D-9 <td>D8911</td> <td>I-7</td>	D8911	I-7	
IC8700	C-1	Q8310	E-2	D8805	D-8 <td>D8912</td> <td>D-3</td>	D8912	D-3	
IC8801	F-4	Q8401	H-2	D8806	D-8 <td>D8913</td> <td>H-7</td>	D8913	H-7	
TRANSISTOR		Q8402	C-7	D8807	D-8 <td>D8914</td> <td>H-7</td>	D8914	H-7	
Q8100	G-9	Q8403	H-3	D8808	D-8 <td>D8915</td> <td>H-7</td>	D8915	H-7	
Q8101	F-9	Q8404	G-2	D8809	G-3			

IC Voltage Table

IC Voltage Table					
Ref No	Pin No	Voltage (V)	Ref No	Pin No	Voltage (V)
IC8200	2-3	4.7	IC8500	1-2	1.5
	4-6	2.5		3	0.5
	7	0.6		6	2.6
	17	0.7		7	0.9
	21	5.0		9	1.0
	36	3.8		11	2.8
	37	3.7		12-13	1.8
	38	7.0		14	1.0
	40	7.0		22-23	5.0
	45	3.7		26	5.0
	56-57	3.8		30	5.0
	58	2.6		37	2.4
	60	3.8		40-42	1.9
	67	0.4		44	1.9
	68-69	1.5	IC8101	1	4.2
IC8201	71	2.4		3	4.1
	72	2.2		5	0.6
	1-3	5.0		8	0.5
	5-10	5.0	IC8301	1	1.8
IC8301	12-14	5.0		2-4	4.5
	1	2.4		5	0
	2	1.9		6-7	4.6
	3	1.5		8	0
	4	0.1		9	4.6
	5	2.4		10	3.4
	7	2.6		11	3.8
	9	0.3		13	4.5
	10	0.8		22-30	4.5
	11	2.5		32-41	4.5
	13-14	4.5		43	4.6
	20	2.4		45	3.7
	21	1.8		46	3.5
	22-23	1.9		47	4.5
IC8401	24	0.1		49	4.5
	25-27	2.5		51-60	4.5
	29	2.8	IC8151	2	2.4
	37	1.1		3	4.6
	38	4.0		4	4.6
	1	2.3		5	0.4
	2	1.9		6	4.6
	4	0.1		7	0.4
	9	0.3		9	0
	10	4.0		10	2.6
	11	2.4		1	3.0
	20	2.4		2	2.5
	21	1.7		3	1.7
	22-23	1.9		6	4.3
	37	1.1		12	2.4
	38	4.0		13	4.6
	40	3.3		14	2.5
	47	3.8			
	48	1.8			

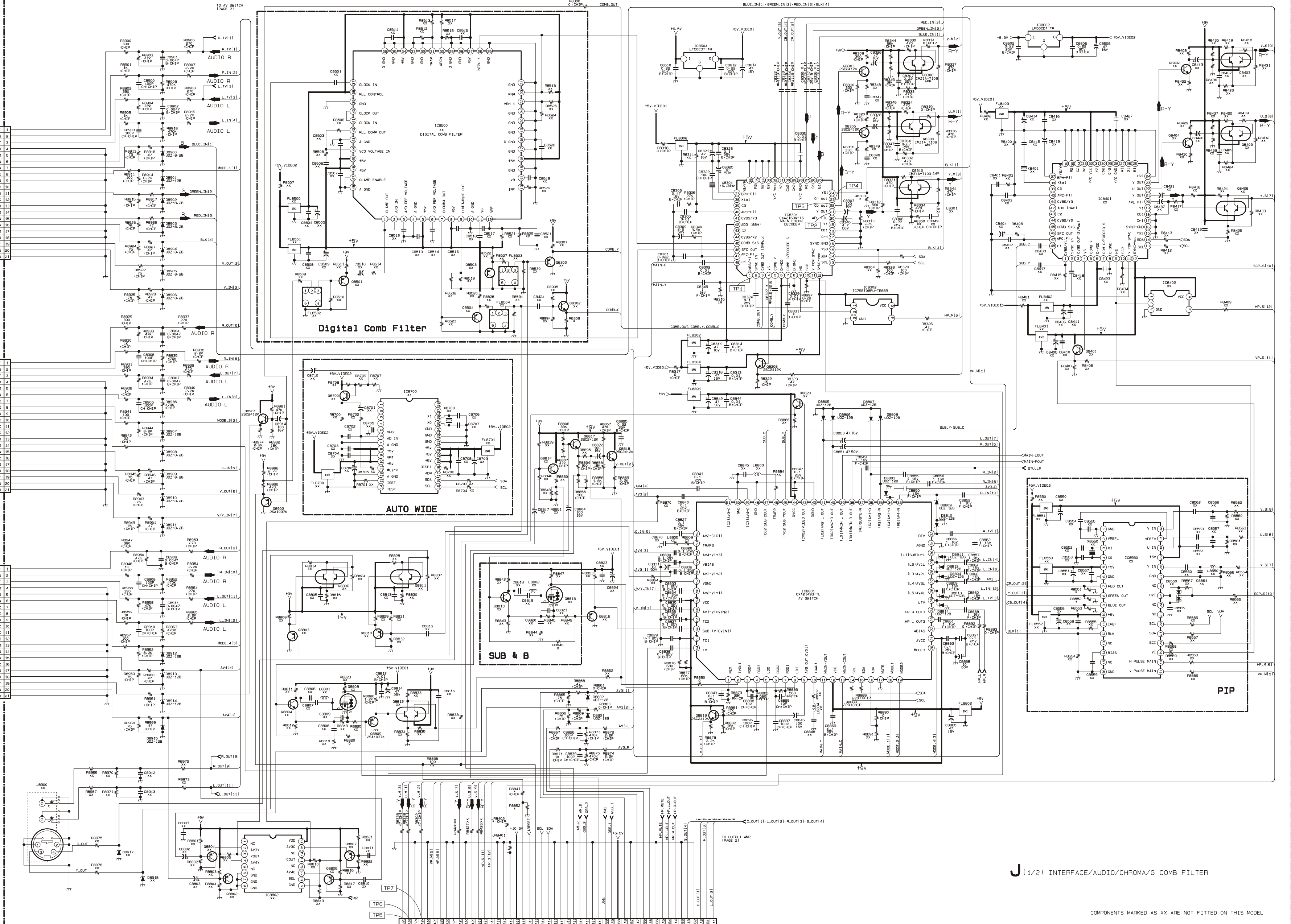
Semiconductor Voltage Table

Ref	(e)	(b)	(c)	Ref	(e)	(b)	(c)
Q8150	2.9	3.6	5.0	Q8302	1.0	1.6	9.0
Q8151	0	0.4	4.8	Q8303	1.3	1.9	7.7
Q8152	0	4.6	0	Q8305	1.3	1.9	7.3
Q8153	0	0.4	4.8	Q8306	0.1	0.1	5.0
Q8154	0	4.6	0	Q8401	0.1	0.1	5.0
Q8156	3.9	4.6	9.0	Q8404	1.2	1.9	7.4
Q8157	3.9	4.6	9.0	Q8809	2.7	2.1	0
Q8200	1.9	2.5	5.0	Q8817	3.9	4.6	9.0
Q8201	1.2	1.9	5.0	Q8901	1.9	2.5	9.0
Q8202	5.1	5.8	9.0	Ref	(s)	(g)	(d)
Q8300	1.6	1.0	0	Q8815	1.8	0	0.6

Ref	28FX65B	28FX65E	28FX65U	32FX65B	32FX65E	32FX65K	32FX65U
C8243	0.33UF	0.33UF	0.33UF	-	-	-	0.33UF
C8327	1UF	1UF	1UF	-	-	-	1UF
C8331	0.01UF	0.01UF	0.01UF	100	100	100	0.01UF
C8332	0.01UF	0.01UF	0.01UF	100	100	100	0.01UF
C8333	0.01UF	0.01UF	0.01UF	100	100	100	0.01UF
C8334	0.01UF	0.01UF	0.01UF	100	100	100	0.01UF
JR8401	SHORT 0	SHORT 0	SHORT 0	-	-	-	SHORT 0
JR8402	-	-	-	SHORT 0	SHORT 0	SHORT 0	-
R8176	-	-	-	SHORT 0	SHORT 0	SHORT 0	-
R8177	SHORT 0	SHORT 0	SHORT 0	-	-	-	SHORT 0
R8303	-	-	-	SHORT 0	SHORT 0	SHORT 0	-
R8309	-	-	-	SHORT 0	SHORT 0	SHORT 0	-
R8551	-	-	-	SHORT 0	SHORT 0	SHORT 0	-
R8552	-	-	-	SHORT 0	SHORT 0	SHORT 0	-
R8553	-	-	-	SHORT 0	SHORT 0	SHORT 0	-
R8841	-	-	-	SHORT 0	SHORT 0	SHORT 0	-
R8852	SHORT 0	SHORT 0	SHORT 0	-	-	-	SHORT 0



J. - 28-32FX65

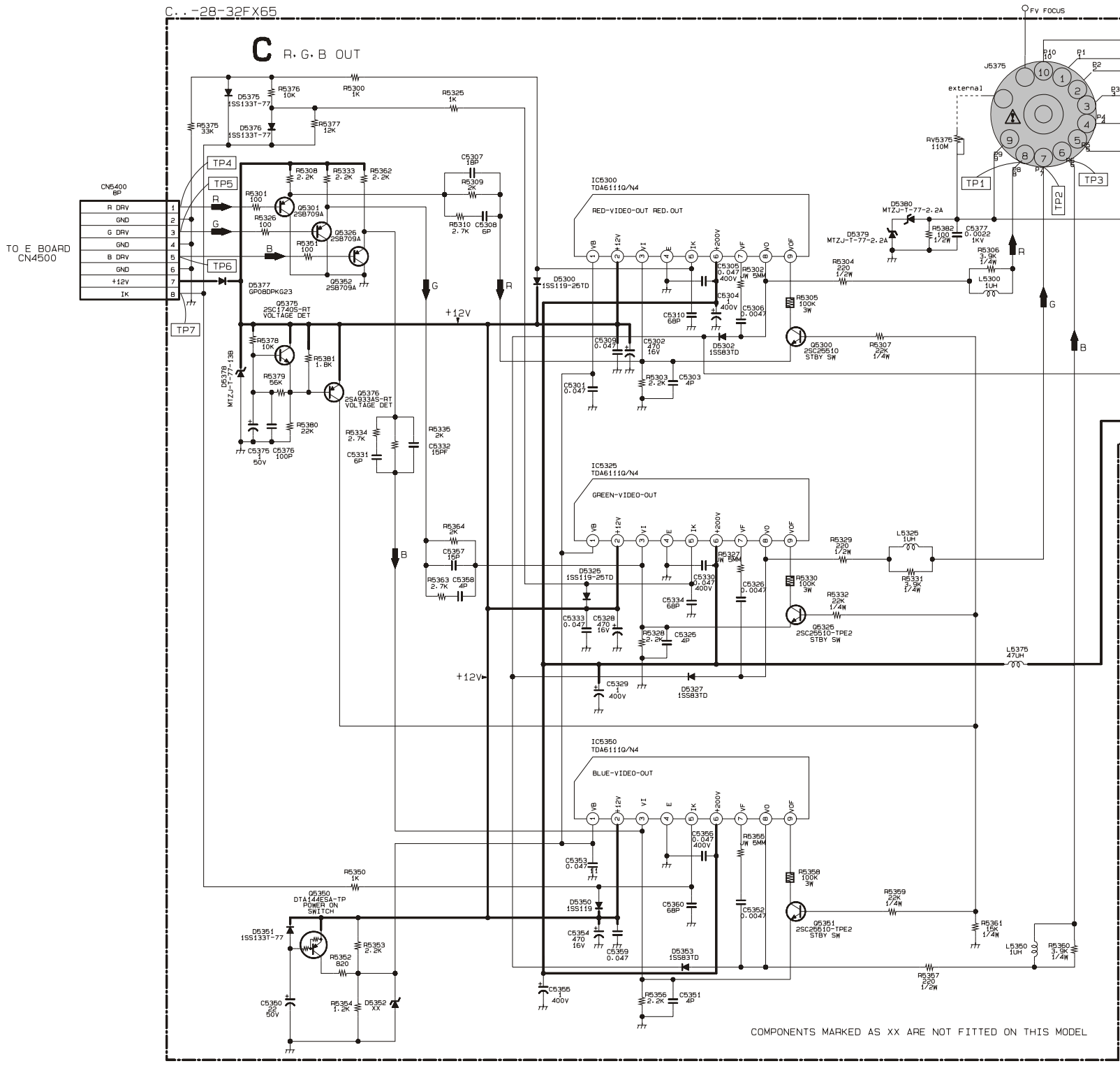


J (1/2) INTERFACE/AUDIO/CHROMA/G COMB FILTER

COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

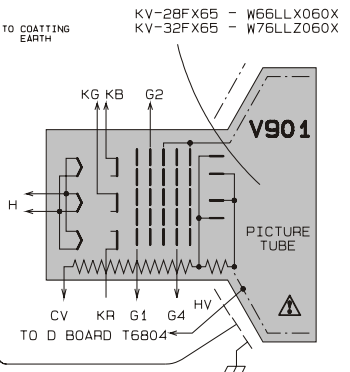




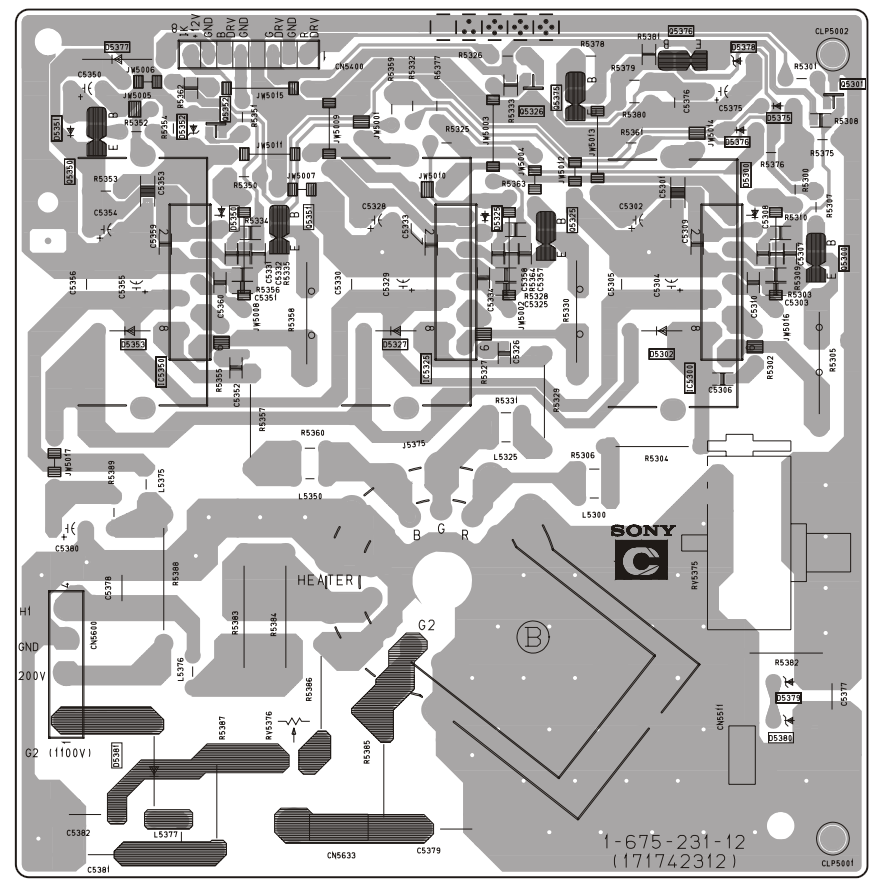
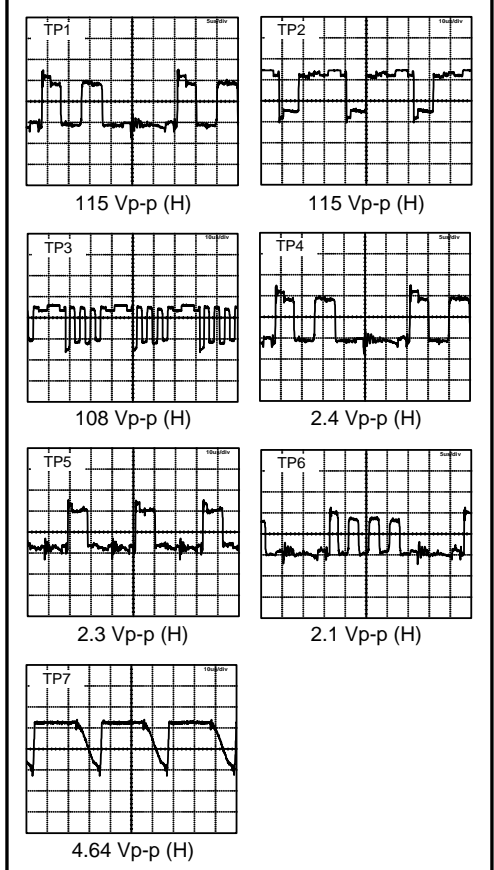


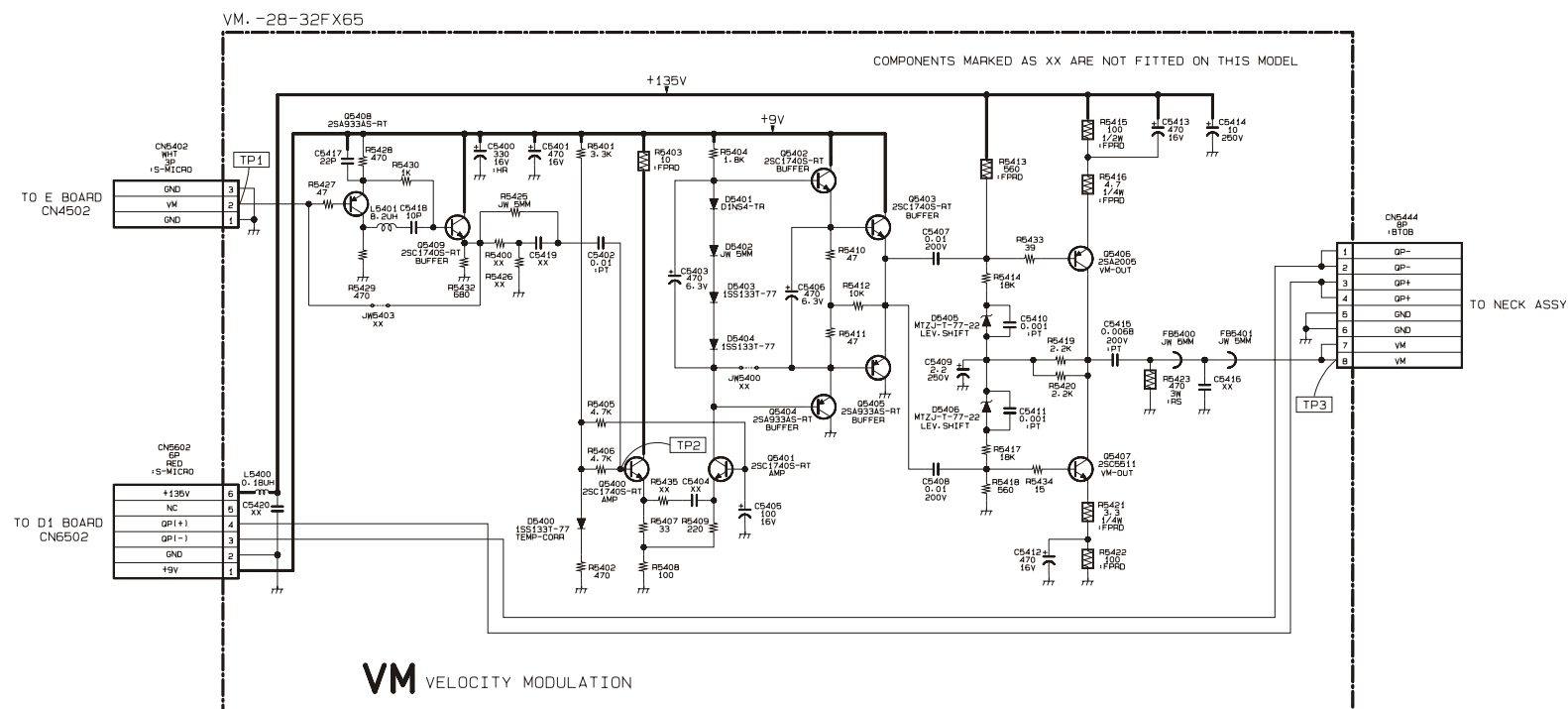
Ref	(e)	(b)	(c)
Q5300	3.8	4.5	3.9
Q5301	3.7	3.1	0
Q5325	3.8	4.5	3.9
Q5326	4.0	3.3	0
Q5351	3.8	4.5	3.9
Q5352	3.9	3.2	0
Q5375	10.6	11.1	11.2
Q5376	11.2	10.6	11.1

IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC5300	1	4.0
	3	3.8
	5	8.2
	7	155.0
	8	158.0
IC5325	1	4.0
	3	3.9
	5	8.5
	7	145.0
	8	157.0
IC5350	1	4.0
	3	3.9
	5	8.2
	7	150.0
	8	158.0
	9	149.0



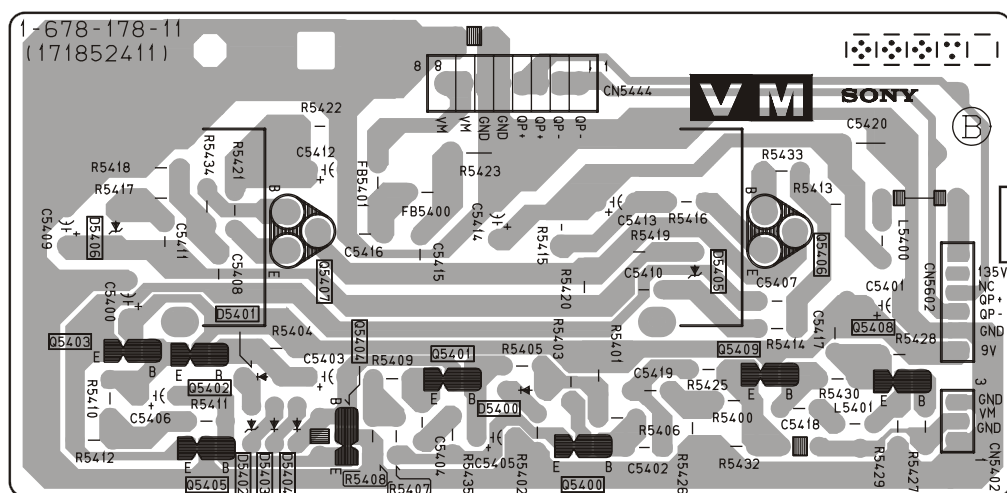
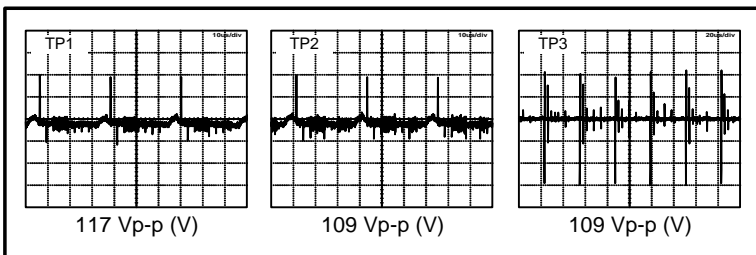
C board Waveforms



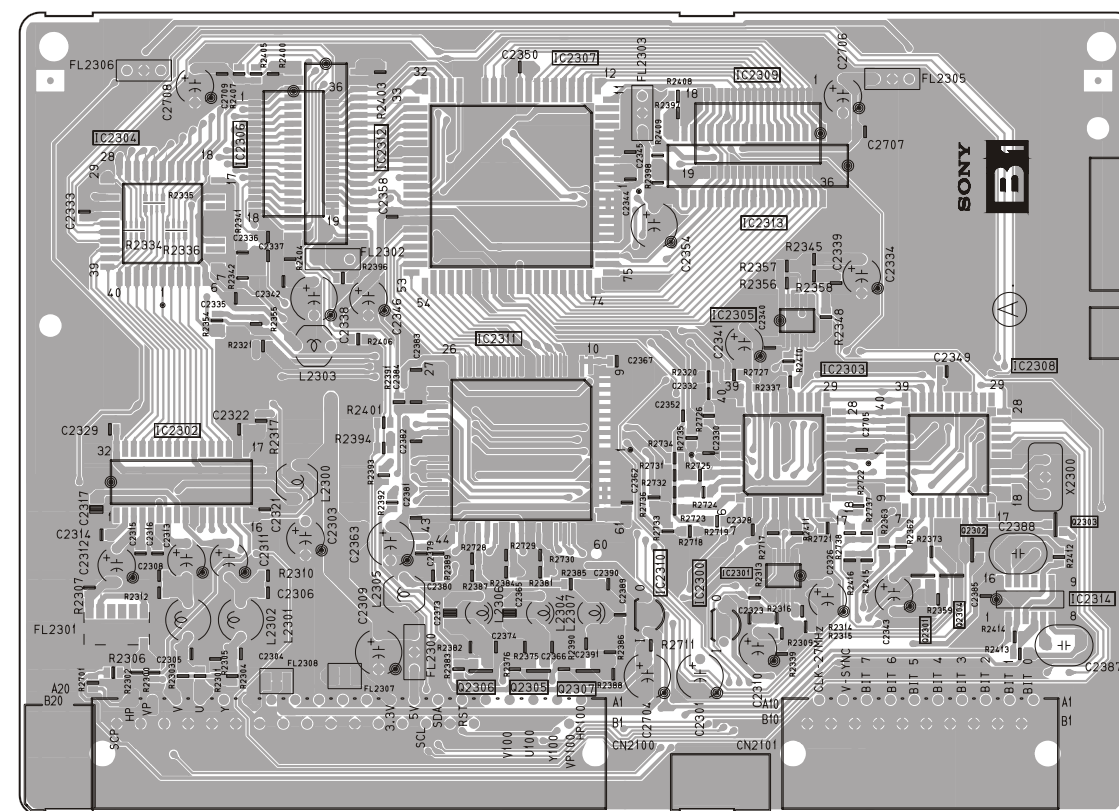


Ref	(e)	(b)	(c)
Q5400	0.9	1.5	9.0
Q5401	1.0	1.6	5.2
Q5402	6.0	6.6	9.0
Q5403	5.9	6.0	9.0
Q5404	5.2	5.9	0
Q5405	5.9	5.8	0
Q5406	135.1	134.6	68.2
Q5407	0.8	1.4	68.2
Q5408	7.6	6.9	1.4
Q5409	6.9	7.5	9.0

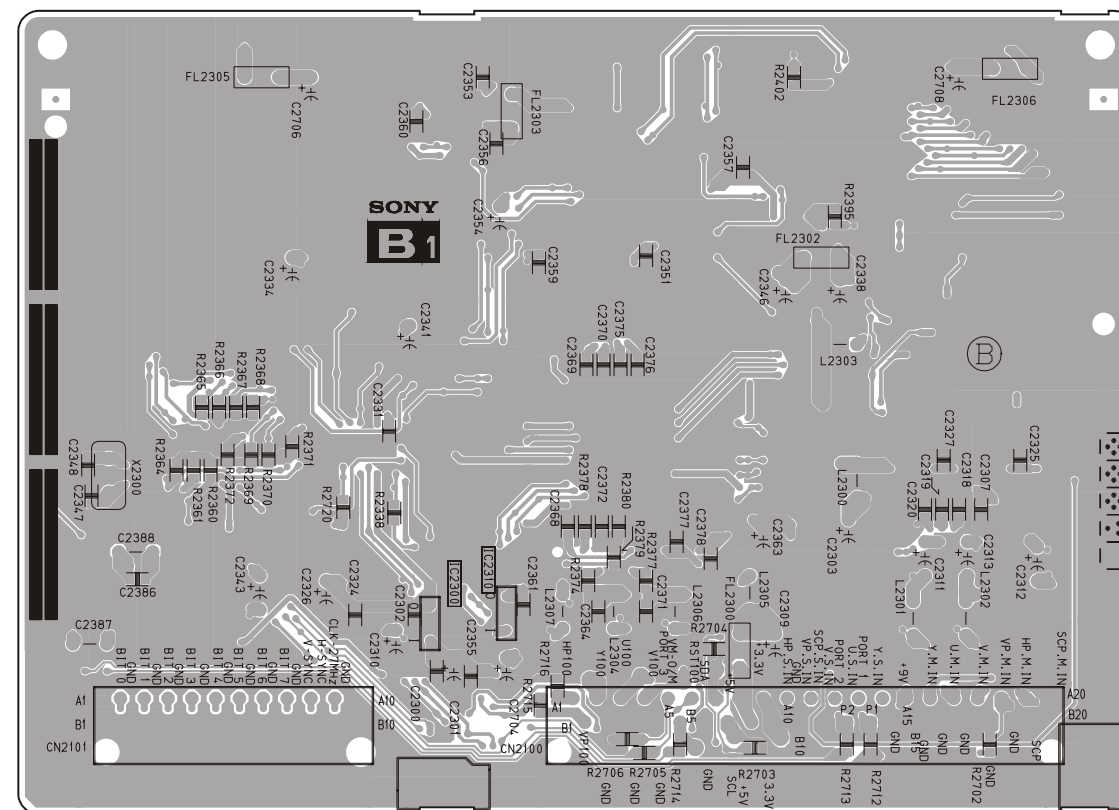
VM board Waveforms



VM [ PRINTED WIRING BOARD ]

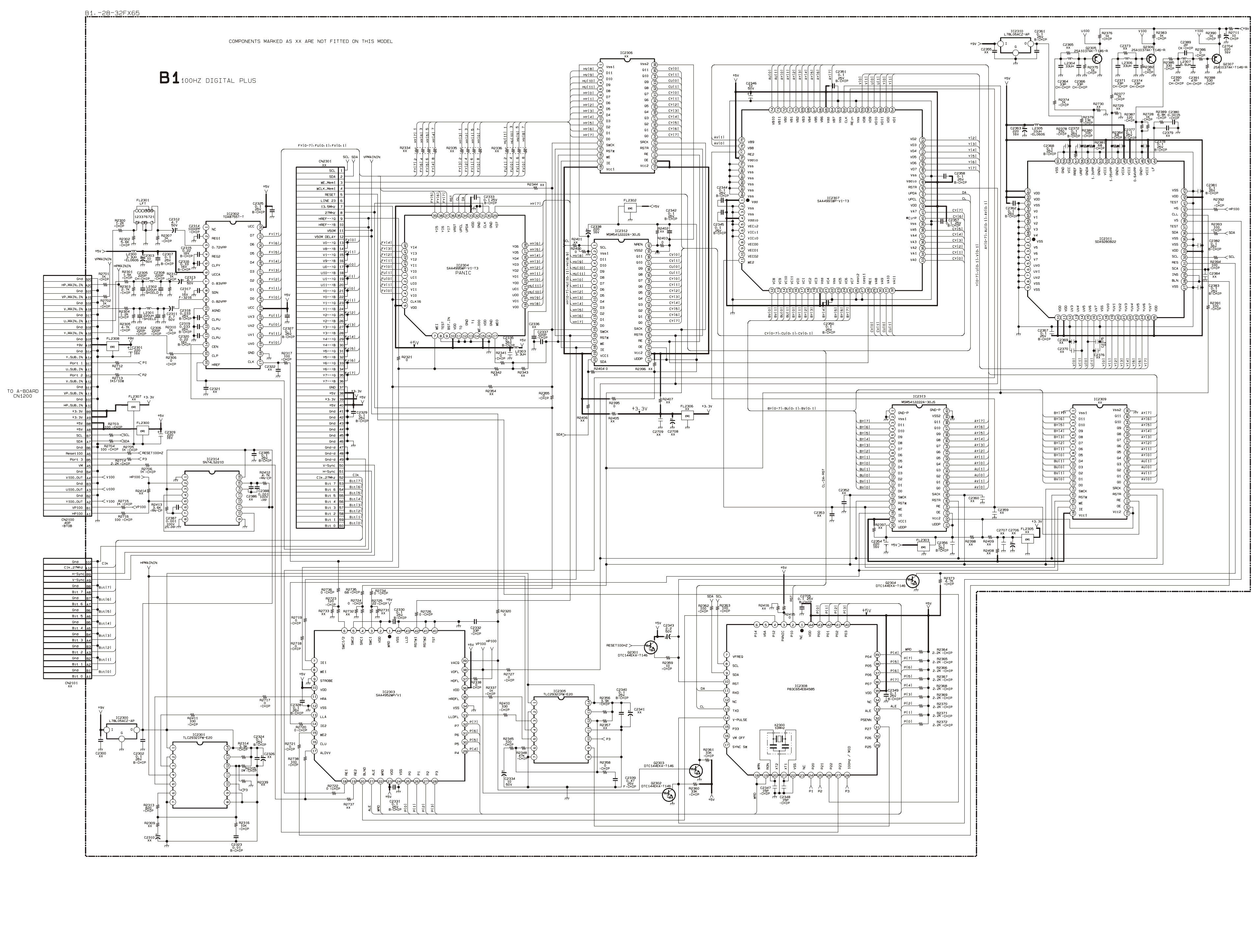


B1 [ PRINTED WIRING BOARD [A] SIDE ]



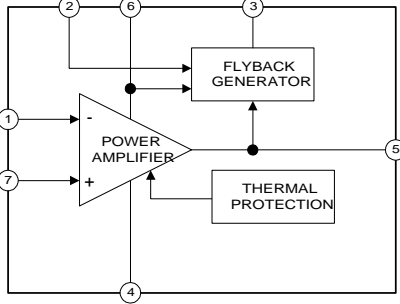
B1 [ PRINTED WIRING BOARD [B] SIDE ]



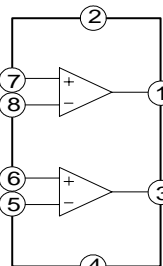


5-5. IC BLOCK DIAGRAMS

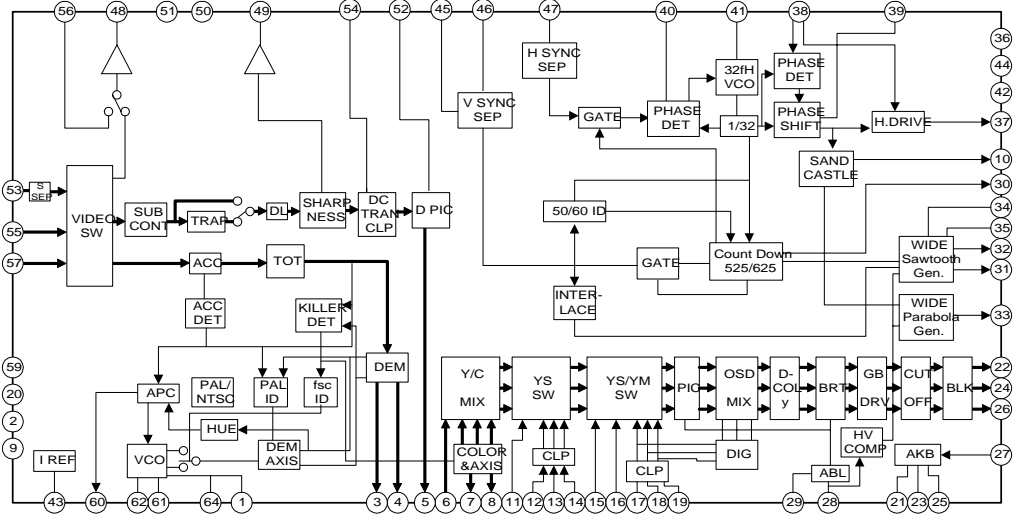
D BOARD IC6700 STV 9379



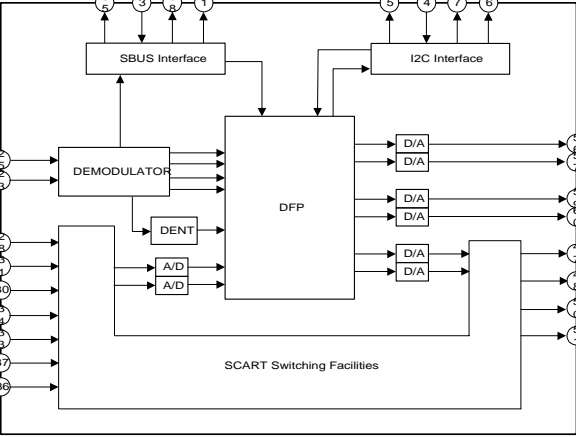
J BOARD IC8101 TDA2822D



E BOARD IC4301 CXA2100Q-TL

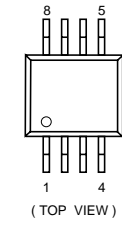


J BOARD IC8200 MSP3410D-QA-B4

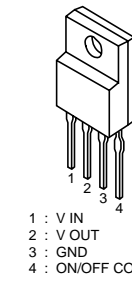


5-4 SEMICONDUCTORS

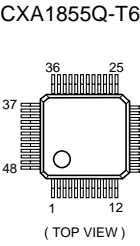
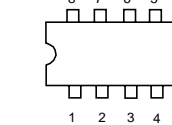
BA7046F  
BA7046F-T1  
LM393PS-E20  
MB3793-42NF  
MB3793-42NF-ER  
NJM2240M  
NJM2240M(TE2)  
NJM3404AD



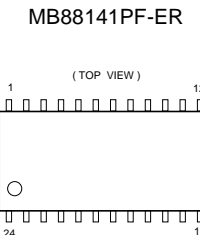
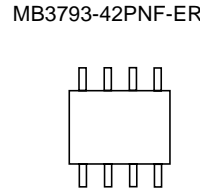
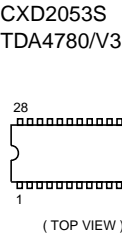
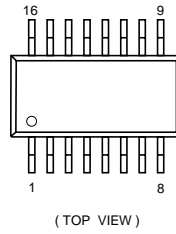
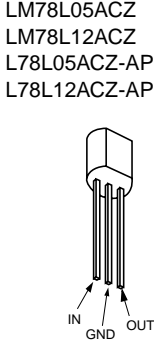
KA78R05TU  
KA78R09TU  
KA78R33TU



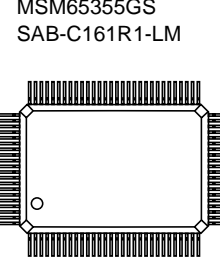
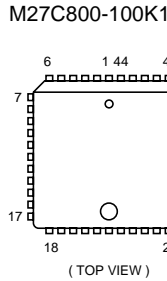
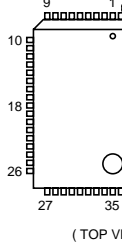
CAD005AD  
LM358  
LM393N  
M5216P  
M24C32-BN6  
ST24C16FB6  
TDA2822M  
UPC393C



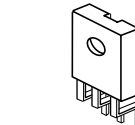
CXA1875AM-T4  
HE4094BT  
MC14052BDR2  
MC74F157ADR2  
SN74LS221D  
74HCT4046AD/S470



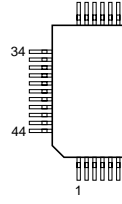
MSP3410D-QA-B4  
SAA7185WP  
SDA5273P-C134-GE  
SDA5275



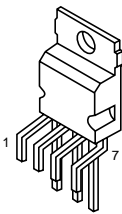
SBX1981-51



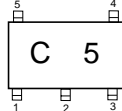
SDA9361



STV9379



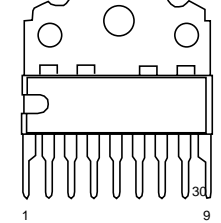
TC4S69F



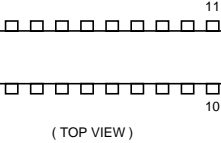
TC55257DFTL-70V-EL



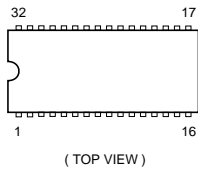
TDA6111Q/N4



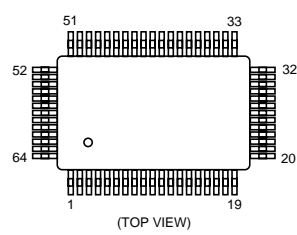
TDA7309D013TR



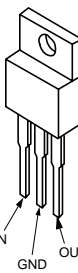
SDA9288X-B121  
TDA9143/N2  
TDA9144/N2  
TDA9170T  
MSM534031E3Y-Z



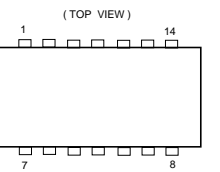
TDA9320H-N1-518



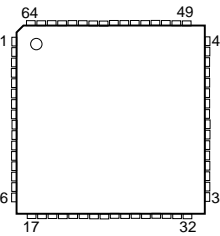
TEA6422DT



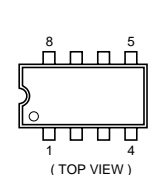
TLC2933



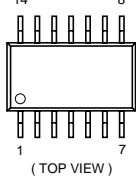
TLC5733A



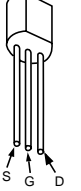
TOP209P



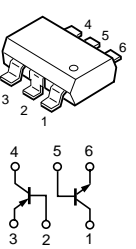
U2860B-BFPG3  
74LVC08D



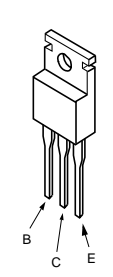
BC546B  
BC556B



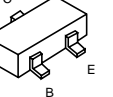
IMZ1A-T109



IRF614  
IRF620



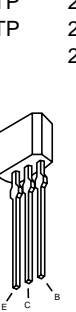
DTA144EK  
DTA144EK-T146  
DTC114EK  
DTC114YKA-T146  
DTC123EK  
DTC123EK-T146  
DTC124EKA-T146



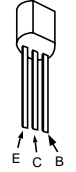
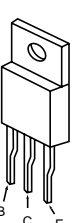
DTC144EK  
DTC144EK-T146  
2SA1037K-T-146-R  
2SA1162-G  
2SC2412K-QR  
2SC2412K-T-146-R



2SA1837



2SC2500-B  
2SC2551-O  
2SC2551O-TPE2



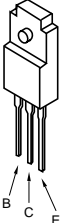
2SC2688-LK  
2SC3840K



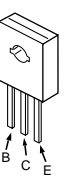
2SC3997CA



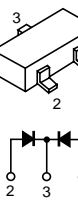
2SC4793



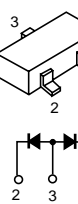
2SD2396H



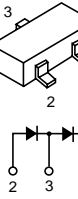
DAN202K  
DAN202K-T-146



DAP202K  
DAP202K-T-146



DA204K  
DA204K-T-146

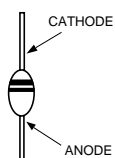




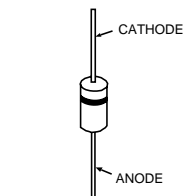
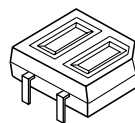
D1NL20-TA  
D1NL20U-TR  
D1NS4-TR  
EGP20G  
EL1Z  
GP08D  
GP08DPKG23  
R2K-V1

RGP02-20EG23  
RGP10GPKG23  
RGP15GPKG23  
S2LA20F  
1SS133T-77  
1SS83  
1SS83TD

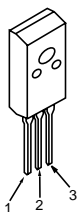
ERC04-06SE



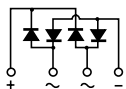
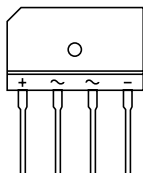
MA73-TX



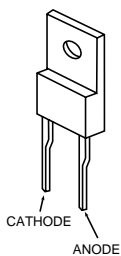
D10SC4M-F  
D10SC6M



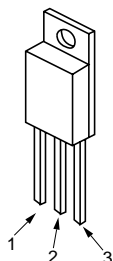
D4SB60L  
D4SB60L-F  
RBA-402L



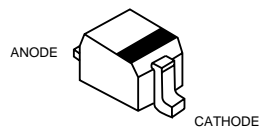
ERD08M-15



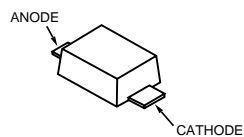
ESAC39M-06C  
ESAC39M-06CF38



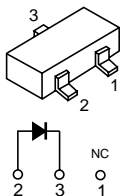
1SS355TE-17  
RD12SB2  
UDZ-TE-17-3.9B  
UDZ-TE-17-4.7B  
UDZS-TE-17-5.6B  
UDZ-TE-17-6.2B  
UDZ-TE-17-6.8B  
UDZ-TE-17-8.2B  
UDZ-TE-12B



UF4005PKG23

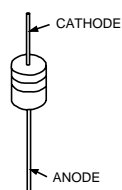


MA3033-L  
MA3033L-TX  
MA3056M-TX  
MA3062M-TX  
MA3030-H-(TX)

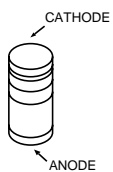


ERA15  
ERA38-06TP1  
ERA82-004TP1  
GP08DPKG23  
MTZJ-T-77-13B  
MTZJ-T-77-15  
MTZJ-T-77-2.2A  
MTZJ-T-77-3-3B  
MTZJ-T-77-3.6A  
MTZJ-T-77-4.7B  
MTZJ-T-77-5.6B  
MTZJ-T-77-6.8

MTZJ-T-77-7.5B  
MTZJ-T-77-9.1  
MTZJ-T-77-12  
MTZJ-T-77-22  
MTZJ-T-77-18B  
MTZJ-33C  
RD5.6ESB2  
RD9.1ESB2  
PGKE200AG23  
1SS119-25  
1SS119-25TD



MA3051L-TX



## SECTION 6 EXPLODED VIEWS

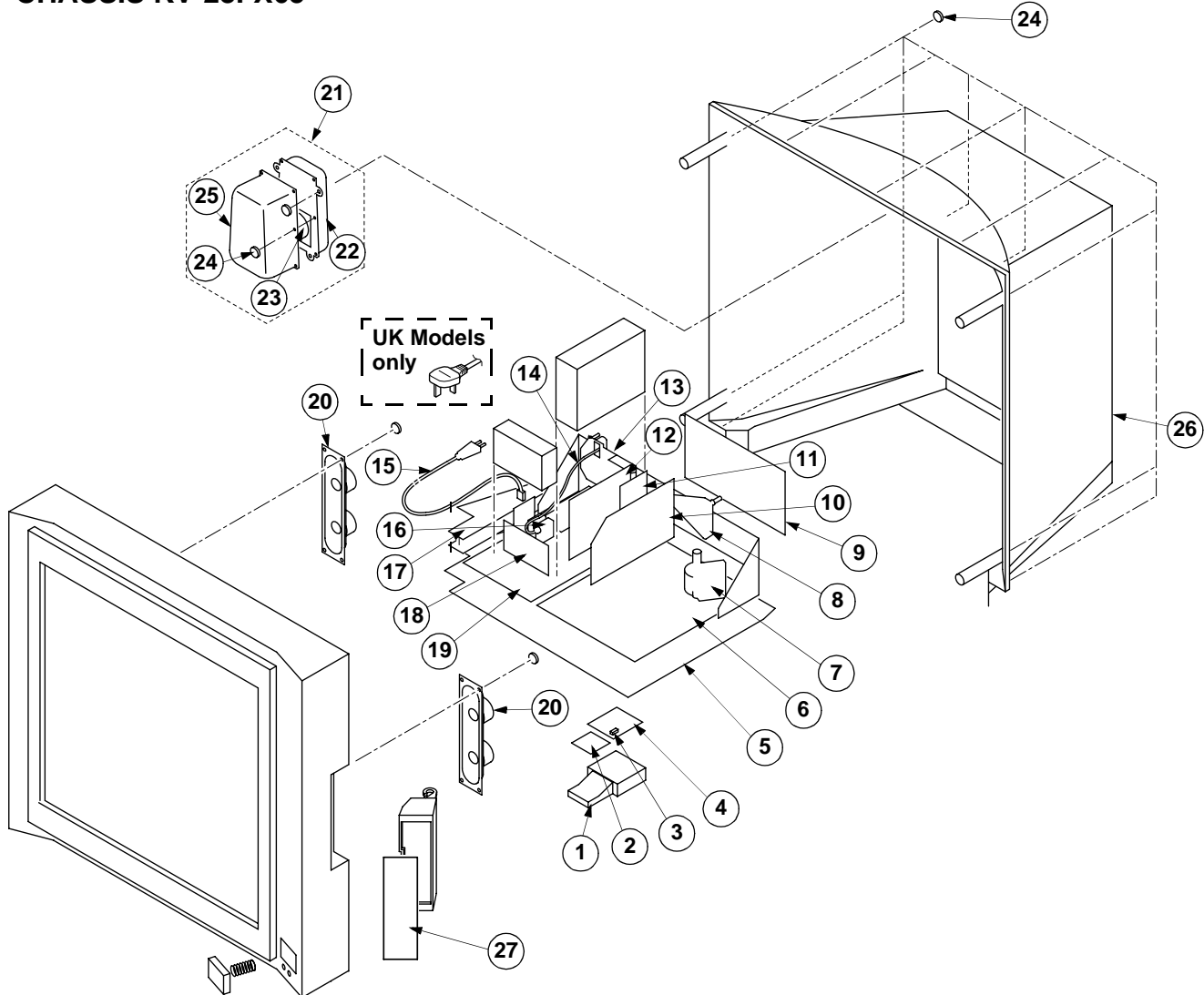
**Note :** Les composants identifiés par une trame et par une marque  $\Delta$  sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces du numéro spécifié.

**Note :** The components identified by shading and marked  $\Delta$  are critical for safety. Replace only with the part numbers specified in the parts list.

### NOTE :

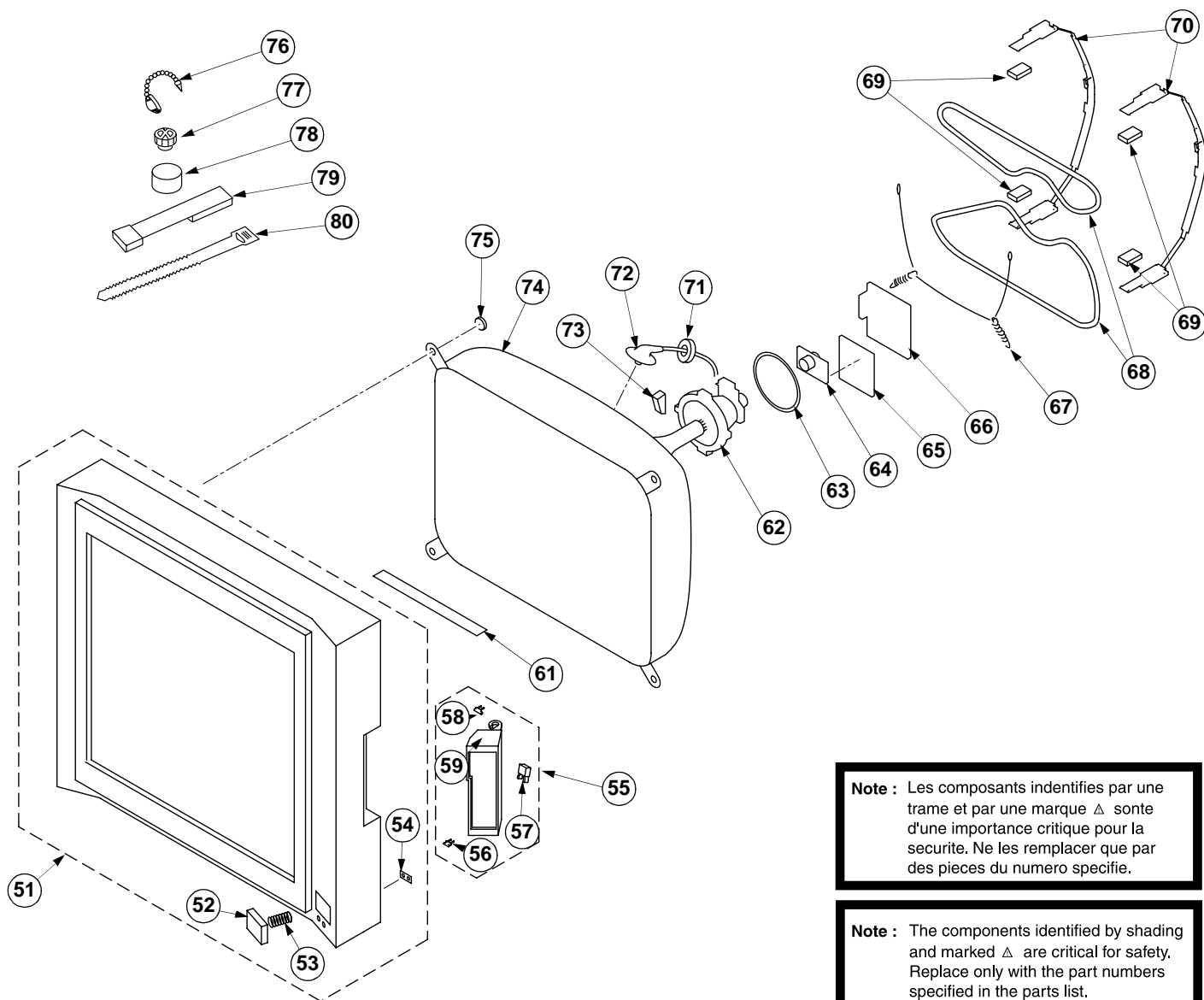
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

### 6-1. CHASSIS KV-28FX65



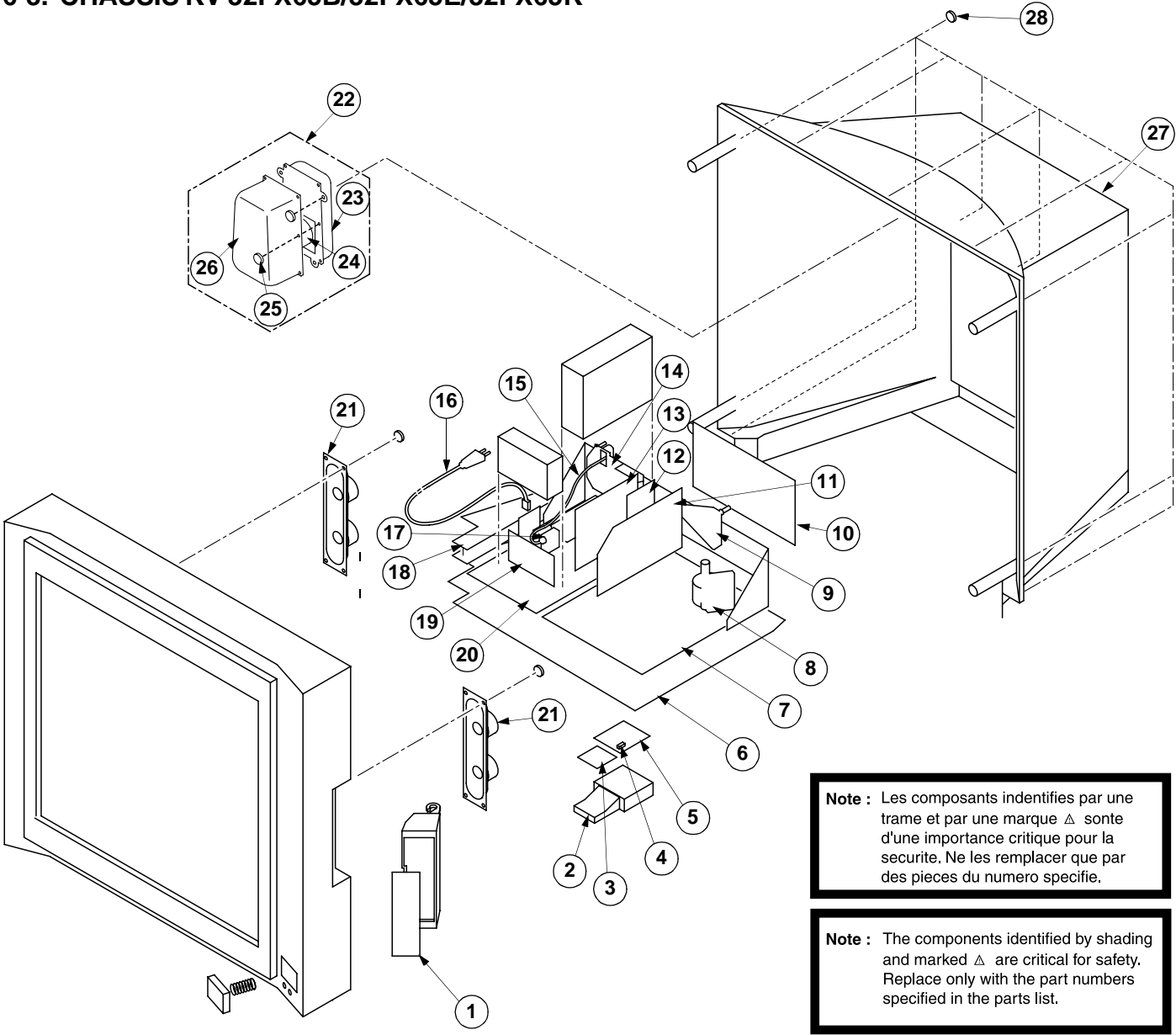
REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
1	*4-205-697-01	H/F BRACKET		16	1-693-340-11	TUNER/VIF (FR) (KV-28FX65B)	
2	*A-1646-229-A	H8 BOARD, COMPLETE			1-693-338-11	TUNER/VIF (AEP) (KV-28FX65E)	
3	$\Delta$ 1-571-433-21	SWITCH, PUSH (AC POWER)			1-693-339-11	TUNER/VIF (UK) (KV-28FX65U)	
4	*A-1624-091-A	F4 BOARD, COMPLETE		17	*A-1624-086-A	F1 BOARD, COMPLETE	
5	*4-205-196-22	MAIN BRACKET		18	*A-1634-060-A	M1 BOARD, COMPLETE	
6	*A-1640-328-A	D BOARD, COMPLETE		19	*A-1631-128-A	A BOARD, COMPLETE (KV-28FX65B)	
7	$\Delta$ 1-453-340-21	TRANSFORMER ASSY, FLYBACK (NX4522//U214)			*A-1631-126-A	A BOARD, COMPLETE (KV-28FX65E)	
8	*4-204-476-04	BRACKET, J1			*A-1631-127-A	A BOARD, COMPLETE (KV-28FX65U)	
9	*A-1651-142-A	J BOARD, COMPLETE		20	1-529-899-11	SPEAKER (24X4.2CM)	
10	*A-1640-382-A	D1 BOARD, COMPLETE		21	*A-1678-192-A	WOOFER ASSY (SP) 22-25	
11	*A-1640-383-A	E BOARD, COMPLETE		22	*4-204-775-21	BAFFLE, WOOFER	
12	*A-1620-112-A	B1 BOARD, COMPLETE		23	1-529-417-11	SPEAKER (8CM)	
13	*4-204-477-04	BRACKET, J2		24	4-039-358-01	SCREW +BVTP 4X16 TYPE 2 IT-3	
14	1-790-082-11	CABLE, RF		25	*4-204-776-21	BOX, WOOFER	
15	$\Delta$ 1-792-389-11	CORD, POWER (KV-28FX65B/28FX65E)		26	4-205-700-01	REAR COVER	
	$\Delta$ 1-792-592-11	CORD, PLUG WITH POWER (KV-28FX65U)		27	*A-1646-220-A	H7 BOARD COMPLETE	

## 6-2. PICTURE TUBE KV-28FX65



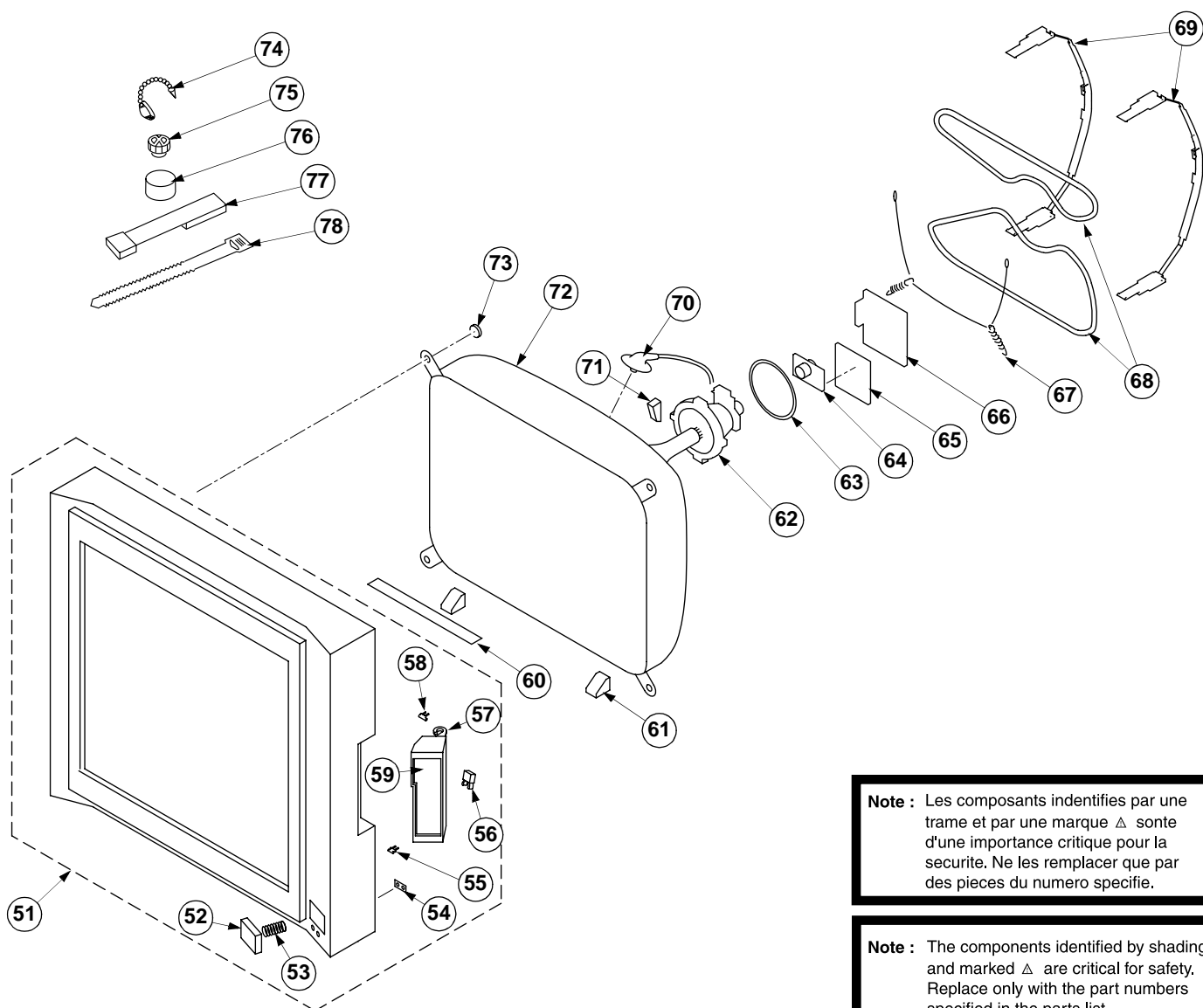
REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
51	X-4200-630-1	BEZNET ASSY	52-54	67	4-200-433-01	SPRING, EXTENSION	
52	4-205-699-01	POWER BUTTON		68	$\Delta$ 1-416-466-11	COIL, DEMAGNETIC	
53	4-202-964-11	SPRING		69	*4-203-390-51	CUSHION, DGC	
54	4-205-698-01	GUIDE, LIGHT		70	*4-057-303-01	HOLDER, DGC	
55	A-1610-075-A	DOOR ASSY	56-59	71	4-202-554-01	HOLDER, HV CABLE	
56	3-022-410-01	DAMPER		72	$\Delta$ 1-251-317-63	CAP ASSY, HIGH-VOLTAGE	
57	4-047-464-01	CATCHER, PUSH		73	4-203-658-01	SPACER, DY	
58	4-205-743-01	SPRING, TORSION		74	$\Delta$ 8-737-786-05	PICTURE TUBE (W66LLX060X)	
59	4-205-695-01	DOOR BRACKET		75	4-036-188-01	SCREW, TAPPING	
61	4-203-128-41	SHEET, BLOTING		76	4-308-870-00	CLIP, LEAD WIRE	
62	$\Delta$ 1-451-481-11	DEFLECTION YOKE (Y28RVC2)		77	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM	
63	1-419-363-11	COIL, NA ROTATION		78	1-452-032-00	MAGNET, DISK; 10MM	
64	$\Delta$ 8-453-011-11	NECK ASSY, (NA299-M)		79	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
65	*A-1644-108-A	VM BOARD, COMPLETE		80	3-701-007-00	BAND, BINDING	
66	*A-1638-139-A	C BOARD, COMPLETE					

6-3. CHASSIS KV 32FX65B/32FX65E/32FX65K



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
1	*A-1646-218-A	H7 BOARD, COMPLETE		16	Δ 1-792-389-11	CORD, POWER	
2	*4-205-724-01	F4, H7 BRACKET		17	1-693-340-11	TUNER/VIF (FR) (KV-32FX65B)	
3	*A-1646-217-A	H8 BOARD, COMPLETE			1-693-338-11	TUNER/VIF (AEP) (KV-32FX65E/32FX65K)	
4	Δ 1-571-433-21	SWITCH, PUSH (AC POWER)		18	*A-1624-086-A	F1 BOARD, COMPLETE	
5	*A-1624-089-A	F4 BOARD, COMPLETE		19	*A-1634-057-A	M1 BOARD, COMPLETE	
6	*4-205-196-02	MAIN BRACKET		20	*A-1632-916-A	A BOARD, COMPLETE (KV-32FX65B)	
7	*A-1640-399-A	D BOARD, COMPLETE			*A-1632-917-A	A BOARD, COMPLETE (KV-32FX65E/32FX65K)	
8	Δ 1-453-340-21	TRANSFORMER ASSY, FLYBACK (NX4522//U214)		21	1-529-899-11	SPEAKER (24X4.2CM)	
9	*4-204-476-04	BRACKET, J1		22	*A-1678-191-A	WOOFER ASSY (SP) 23-26	
10	*A-1651-137-A	J BOARD, COMPLETE		23	*4-204-775-01	BAFFLE, WOOFER	
11	*A-1640-322-A	D1 BOARD, COMPLETE		24	1-529-417-11	SPEAKER (8CM)	
12	*A-1640-381-A	E BOARD, COMPLETE		25	7-685-663-71	SCREW +BVTP 4X16 TYPE 2 IT-3	
13	*A-1620-133-A	B1 BOARD, COMPLETE		26	*4-204-776-01	BOX, WOOFER	
14	*4-204-477-04	BRACKET, J2		27	4-205-540-01	REAR COVER	
15	1-790-082-11	CABLE, RF		28	7-685-663-79	SCREW +BVTP 4X16 TYPE 2 IT-3	

## 6-4. PICTURE TUBE KV-32FX65B/32FX65E/32FX65K

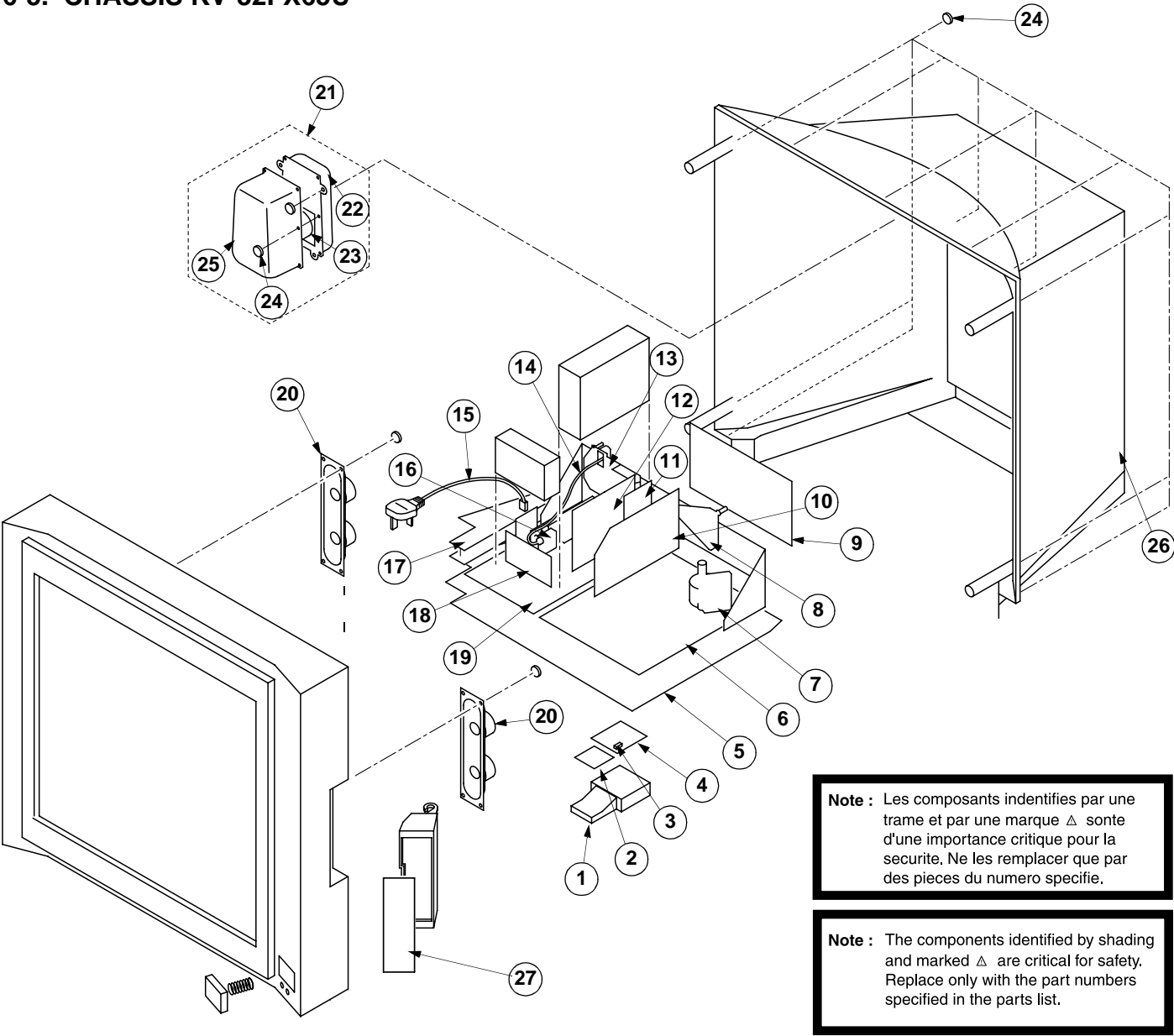


**Note :** Les composants indentifiés par une trame et par une marque  $\Delta$  sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces du numéro spécifié.

**Note :** The components identified by shading and marked  $\Delta$  are critical for safety. Replace only with the part numbers specified in the parts list.

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
51	X-4200-640-1	BEZNET ASSY	52-59	65	*A-1644-108-A	VM BOARD, COMPLETE	
52	4-205-720-01	POWER BUTTON		66	*A-1638-139-A	C BOARD, COMPLETE	
53	4-204-426-01	SPRING		67	4-369-318-21	SPRING, TENSION	
54	4-205-726-01	GUIDE, LIGHT		68	$\Delta$ 1-416-769-11	COIL, DEMAGNETIC	
55	3-022-410-01	DAMPER		69	*4-204-768-01	HOLDER, DGC (29")	
56	4-047-464-01	CATCHER, PUSH		70	$\Delta$ 1-251-317-63	CAP ASSY, HIGH-VOLTAGE	
57	4-205-723-01	DOOR BRACKET		71	3-704-495-01	SPACER, DY	
58	4-205-725-01	DOOR SPRING		72	$\Delta$ 8-735-054-05	PICTURE TUBE (W76LLZ060X)	
59	4-205-722-01	DOOR		73	4-046-765-12	SCREW, TAPPING 7+CROWN WASHER	
60	4-204-058-31	SHEET, BLOTING		74	4-308-870-00	CLIP, LEAD WIRE	
61	*4-203-098-01	SUPPORTER, CRT		75	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM	
62	$\Delta$ 1-451-480-11	DEFLECTION YOKE (Y32RVC2)		76	1-452-032-00	MAGNET, DISK; 10MM	
63	1-419-363-11	COIL, NA ROTATION		77	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
64	$\Delta$ 8-453-011-11	NECK ASSY, (NA299-M)		78	3-701-007-00	BAND, BINDING	

6-5. CHASSIS KV-32FX65U



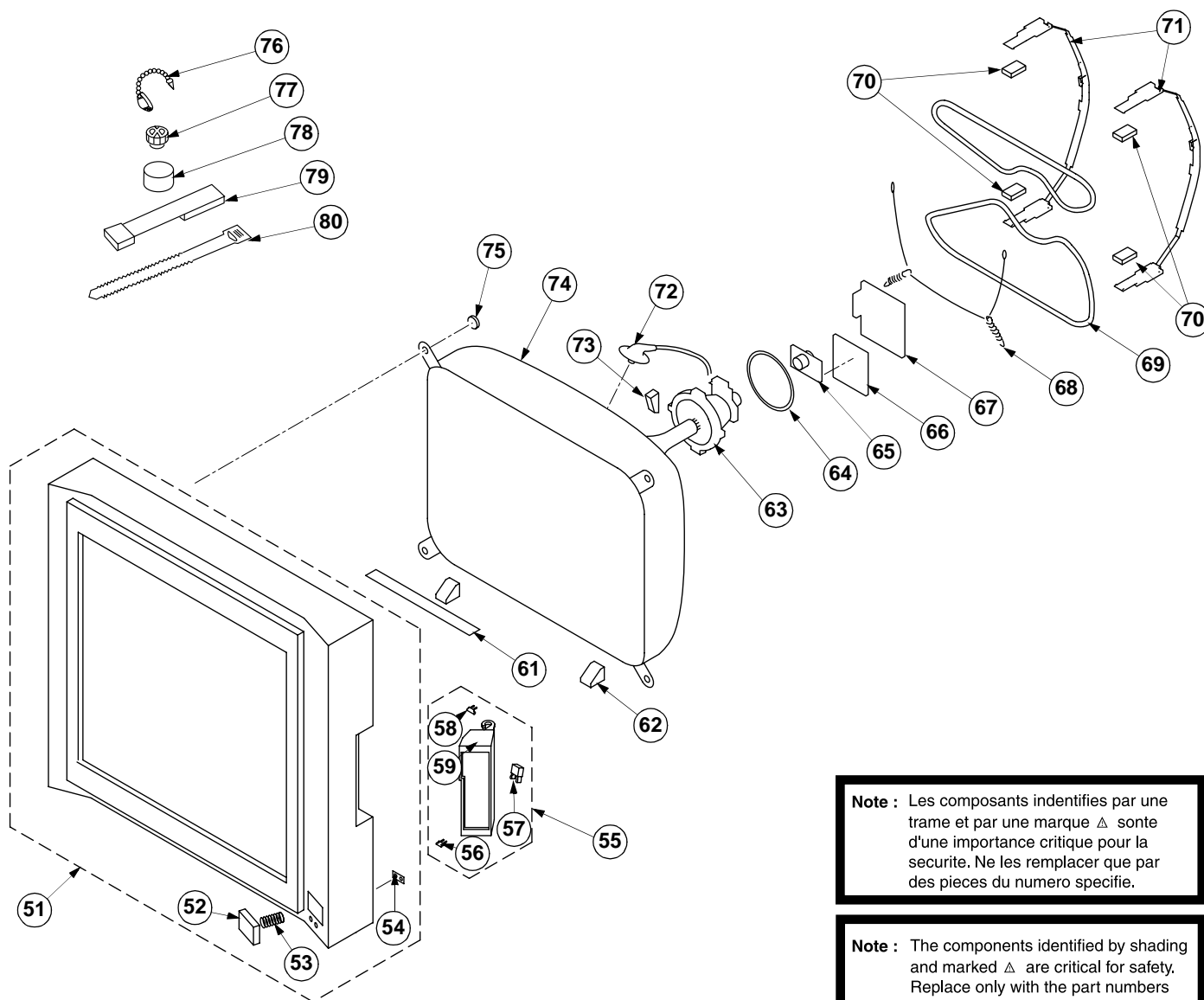
**Note :** Les composants identifiés par une trame et par une marque Δ sont d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

**Note :** The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.

REF. NO.	PART.NO	DESCRIPTION	REMARK
1	*4-205-697-01	H/F BRACKET	
2	*A-1646-229-A	H8 BOARD, COMPLETE	
3	Δ 1-571-433-21	SWITCH, PUSH (AC POWER)	
4	*A-1624-091-A	F4 BOARD, COMPLETE	
5	*4-205-196-22	MAIN BRACKET	
6	*A-1640-323-A	D BOARD, COMPLETE	
7	Δ 1-453-340-21	TRANSFORMER ASSY, FLYBACK (NX4522//U214)	
8	*4-204-476-04	BRACKET, J1	
9	*A-1651-142-A	J BOARD, COMPLETE	
10	*A-1640-385-A	D1 BOARD, COMPLETE	
11	*A-1640-384-A	E BOARD, COMPLETE	
12	*A-1620-112-A	B1 BOARD, COMPLETE	
13	*4-204-477-04	BRACKET, J2	
14	1-790-082-11	CABLE, RF	

REF. NO.	PART.NO	DESCRIPTION	REMARK
15	Δ 1-792-592-11	CORD, PLUG WITH POWER	
16	1-693-339-11	TUNER/VIF(UK)	
17	*A-1624-086-A	F1 BOARD, COMPLETE	
18	*A-1634-060-A	M1 BOARD, COMPLETE	
19	*A-1631-127-A	A BOARD, COMPLETE	
20	1-529-899-11	SPEAKER (24X4.2CM)	
21	*A-1678-192-A	WOOFER ASSY (SP)	22-25
22	*4-204-775-21	BAFFLE, WOOFER	
23	1-529-417-11	SPEAKER (8CM)	
24	4-039-358-01	SCREW (4X16), (+) BV TAPPING	
25	*4-204-776-21	BOX, WOOFER	
26	4-205-736-11	REAR COVER	
27	*A-1646-220-A	H7 BOARD, COMPLETE	

## 6-6. PICTURE TUBE KV-32FX65U



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
51	X-4200-641-2	BEZNET ASSY	52-54	67	*A-1638-139-A	C BOARD, COMPLETE	
52	4-205-699-01	POWER BUTTON		68	4-200-433-01	SPRING, EXTENSION	
53	4-202-964-11	SPRING		69	Δ 1-416-769-11	COIL, DEMAGNETIC	
54	4-205-698-01	GUIDE, LIGHT		70	*4-203-390-41	CUSHION, DGC	
55	A-1610-075-A	DOOR ASSY	56-59	71	*4-059-569-01	HOLDER, DGC	
56	3-022-410-01	DAMPER		72	Δ 1-251-317-63	CAP ASSY, HIGH-VOLTAGE	
57	4-047-464-01	CATCHER, PUSH		73	4-203-658-01	SPACER, DY	
58	4-205-743-01	SPRING, TORSION		74	Δ 8-735-054-05	PICTURE TUBE (W76LLZ060X)	
59	4-205-695-01	DOOR BRACKET		75	4-204-225-01	PT SCREW	
61	4-203-128-31	SHEET, BLOTING		76	4-308-870-00	CLIP, LEAD WIRE	
62	*4-203-098-01	SUPPORTER, CRT		77	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM	
63	Δ 1-451-480-11	DEFLECTION YOKE (Y32RVC2)		78	1-452-032-00	MAGNET, DISK; 10MM	
64	1-419-363-11	COIL, NA ROTATION		79	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
65	Δ 8-453-011-11	NECK ASSY, (NA299-M)		80	3-701-007-00	BAND, BINDING	
66	*A-1644-108-A	VM BOARD, COMPLETE					

## SECTION 7 ELECTRICAL PARTS LIST

### PARTS LISTING TABLE OF CONTENTS

	<u>Page</u>
<b>H7 BOARD COMPLETE Parts List :</b> .....	99
<b>B1 BOARD COMPLETE Parts List :</b> .....	99
<b>F1 BOARD COMPLETE Parts List :</b> .....	101
<b>F4 BOARD COMPLETE Parts List :</b> .....	102
<b>A BOARD COMMON Parts List :</b> .....	102
<b>A BOARD VARIANT Parts List :</b> Parts that belong only to the model specified	
<u>Model</u>	
KV-28FX65 .....	104
KV-32FX65 .....	105
<b>M1 BOARD COMMON Parts List :</b> .....	105
<b>M1 BOARD VARIANT Parts List :</b> Parts that belong only to the model specified	
<u>Model</u>	
KV-28FX65 .....	107
KV-32FX65 .....	107
<b>C BOARD COMMON Parts List :</b> Parts common to all models listed in this manual .....	107
<b>D BOARD COMMON Parts List :</b> .....	109
<b>D BOARD VARIANT Parts List :</b> Parts that belong only to the model specified	
<u>Model</u>	
KV-28FX65 .....	113
KV-32FX65 .....	113
<b>D1 BOARD COMMON Parts List :</b> Parts common to all models listed in this manual .....	114
<b>D1 BOARD VARIANT Parts List :</b> Parts that belong only to the model specified	
<u>Model</u>	
KV-28FX65 .....	118
KV-32FX65 .....	118
<b>E BOARD COMMON Parts List :</b> Parts common to all models listed in this manual .....	119
<b>E BOARD VARIANT Parts List :</b> Parts that belong only to the model specified	
<u>Model</u>	
KV-28FX65 .....	121
KV-32FX65 .....	121
<b>H8 BOARD COMMON Parts List :</b> Parts common to all models listed in this manual .....	121
<b>H8 BOARD VARIANT Parts List :</b> Parts that belong only to the model specified	
<u>Model</u>	
KV-28FX65 .....	121
KV-32FX65 .....	122
<b>J BOARD COMMON Parts List :</b> Parts common to all models listed in this manual .....	122
<b>J BOARD VARIANT Parts List :</b> Parts that belong only to the model specified	
<u>Model</u>	
KV-28FX65 .....	127
KV-32FX65 .....	127
<b>VM BOARD COMPLETE Parts List :</b> .....	127
<b>MISCELLANEOUS :</b> .....	129
<b>ACCESSORIES AND PACKAGING MATERIALS :</b> .....	129

**Note :** Refer to the designated variant parts list when seeking a part indicated by an asterisk (\*)  
 Parts indicated (#) on the Schematic Diagram are not used in this model and  
 therefore do not appear in the Parts List.



**H7****B1**

REF.NO. PART.NO DESCRIPTION REMARK

**\*A-1646-220-A H7 Board, Complete  
(KV-28FX65/32FX65U)**  
**\*A-1646-218-A H7 Board, Complete  
(KV-32FX65B/32FX65E/32FX65K)**

## &lt; CAPACITOR &gt;

C7900 1-101-810-00 CERAMIC 100PF 5.00% 500V  
 C7901 1-101-810-00 CERAMIC 100PF 5.00% 500V  
 C7903 1-535-143-61 LEAD, JUMPER (5.0MM)  
 C7904 1-535-143-61 LEAD, JUMPER (5.0MM)  
 C7925 1-137-372-11 MYLAR 0.022UF 5.00% 50V  
 C7926 1-137-372-11 MYLAR 0.022UF 5.00% 50V

## &lt; CONNECTOR &gt;

CN7902 \*1-564-518-11 PLUG, CONNECTOR 3P  
 CN7904 \*1-564-526-11 PLUG, CONNECTOR 11P

## &lt; SOCKET &gt;

J7900 1-779-947-11 TERMINAL BLOCK, S  
 J7925 1-785-448-11 JACK

## &lt; COIL &gt;

L7901 1-535-143-61 LEAD, JUMPER (5.0MM)  
 L7902 1-535-143-61 LEAD, JUMPER (5.0MM)  
 L7925 1-414-183-41 INDUCTOR 10UH  
 L7926 1-414-183-41 INDUCTOR 10UH

## &lt; RESISTOR &gt;

R7901 1-249-417-11 CARBON 1K 5% 1/4W  
 R7902 1-247-895-91 CARBON 470K 5% 1/4W  
 R7903 1-247-895-91 CARBON 470K 5% 1/4W  
 R7905 1-249-417-11 CARBON 1K 5% 1/4W  
 R7910 1-249-429-11 CARBON 10K 5% 1/4W  
 R7911 1-249-425-11 CARBON 4.7K 5% 1/4W  
 R7912 1-249-429-11 CARBON 10K 5% 1/4W  
 R7913 1-249-421-11 CARBON 2.2K 5% 1/4W  
 R7914 1-249-421-11 CARBON 2.2K 5% 1/4W  
 R7915 1-249-425-11 CARBON 4.7K 5% 1/4W

## &lt; SWITCH &gt;

S7900 1-771-947-11 SWITCH, TACTILE  
 S7901 1-771-947-11 SWITCH, TACTILE  
 S7902 1-771-947-11 SWITCH, TACTILE

REF.NO. PART.NO DESCRIPTION REMARK

**\*A-1620-112-A B1 Board, Complete  
(KV-28FX65/32FX65U)**  
**\*A-1620-133-A B1 Board, Complete  
(KV-32FX65B/32FX65E/32FX65K)**

## &lt; CAPACITOR &gt;

C2301 1-126-934-11 ELECT 220UF 20.00% 16V  
 C2302 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2303 1-126-964-11 ELECT 10UF 20.00% 50V  
 C2304 1-163-259-91 CERAMIC CHIP 220PF 5.00% 50V  
 C2305 1-163-259-91 CERAMIC CHIP 220PF 5.00% 50V

C2306 1-163-259-91 CERAMIC CHIP 220PF 5.00% 50V  
 C2307 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2308 1-163-259-91 CERAMIC CHIP 220PF 5.00% 50V  
 C2309 1-126-934-11 ELECT 220UF 20.00% 16V  
 C2311 1-126-963-11 ELECT 4.7UF 20.00% 50V

C2312 1-126-963-11 ELECT 4.7UF 20.00% 50V  
 C2313 1-126-963-11 ELECT 4.7UF 20.00% 50V  
 C2314 1-163-275-11 CERAMIC CHIP 0.001UF 5.00% 50V  
 C2315 1-164-489-11 CERAMIC CHIP 0.22UF 10.00% 16V  
 C2316 1-110-501-11 CERAMIC CHIP 0.33UF 10.00% 16V

C2317 1-162-638-11 CERAMIC CHIP 1UF 16V  
 C2318 1-163-989-11 CERAMIC CHIP 0.033UF 10.00% 25V  
 C2319 1-163-989-11 CERAMIC CHIP 0.033UF 10.00% 25V  
 C2320 1-164-489-11 CERAMIC CHIP 0.22UF 10.00% 16V  
 C2323 1-163-021-91 CERAMIC CHIP 0.01UF 10.00% 50V

C2324 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2325 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2327 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2328 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2329 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V

C2330 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2331 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2332 1-163-239-11 CERAMIC CHIP 33PF 5.00% 50V  
 C2333 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2334 1-126-964-11 ELECT 10UF 20.00% 50V

C2335 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2337 1-163-259-91 CERAMIC CHIP 220PF 5.00% 50V  
 C2338 1-126-934-11 ELECT 220UF 20.00% 16V  
 C2339 1-164-005-11 CERAMIC CHIP 0.47UF 25V  
 C2340 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V

C2342 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2343 1-126-961-11 ELECT 2.2UF 20.00% 50V  
 C2344 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2345 1-164-004-11 CERAMIC CHIP 0.1UF 10.00% 25V  
 C2346 1-126-964-11 ELECT 10UF 20.00% 50V

C2347 1-163-231-11 CERAMIC CHIP 15PF 5.00% 50V

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C2348	1-163-231-11	CERAMIC CHIP 15PF	5.00% 50V	IC2303	8-759-438-64	IC SAA4952WP/V1	
C2349	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	IC2304	8-759-546-02	IC SAA4995WP-V1-T3	
C2350	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	IC2305	8-759-669-75	IC TLC2932IPW-E20	
C2351	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	IC2307	8-759-546-04	IC SAA4991WP-V1-T3	
C2354	1-126-934-11	ELECT 220UF	20.00% 16V	IC2308	8-759-572-55	IC P83C654EBA/585	
C2356	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	IC2310	8-759-991-41	IC L78L05ACZ-AP	
C2357	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	IC2311	8-759-467-19	IC SDA9280B22	
C2358	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	IC2312	8-759-576-71	IC MSM5412222A-30JS-DR1	
C2361	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	IC2313	8-759-576-71	IC MSM5412222A-30JS-DR1	
C2362	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	IC2314	8-759-439-26	IC SN74LS221D	
C2363	1-126-934-11	ELECT 220UF	20.00% 16V	< COIL >			
C2364	1-163-239-11	CERAMIC CHIP 33PF	5.00% 50V	L2300	1-408-597-21	INDUCTOR 3.3UH	
C2366	1-163-239-11	CERAMIC CHIP 33PF	5.00% 50V	L2301	1-410-435-21	INDUCTOR 220UH	
C2367	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	L2302	1-410-435-21	INDUCTOR 220UH	
C2368	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	L2303	1-408-597-21	INDUCTOR 3.3UH	
C2371	1-163-239-11	CERAMIC CHIP 33PF	5.00% 50V	L2304	1-414-186-31	INDUCTOR 33UH	
C2372	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	L2305	1-408-603-31	INDUCTOR 10UH	
C2374	1-163-239-11	CERAMIC CHIP 33PF	5.00% 50V	L2306	1-414-186-31	INDUCTOR 33UH	
C2377	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	L2307	1-414-384-11	INDUCTOR 5.6UH	
C2378	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	< TRANSISTOR >			
C2380	1-163-145-00	CERAMIC CHIP 0.0015UF	5.00% 50V	Q2301	1-801-806-11	TRANSISTOR DTC144EKA-T146	
C2381	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	Q2302	1-801-806-11	TRANSISTOR DTC144EKA-T146	
C2382	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	Q2303	1-801-806-11	TRANSISTOR DTC144EKA-T146	
C2383	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	Q2304	1-801-806-11	TRANSISTOR DTC144EKA-T146	
C2385	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	Q2305	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
C2387	1-136-250-11	FILM 0.001UF	2.00% 100V	Q2306	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
C2388	1-136-479-11	FILM 0.001UF	1.00% 100V	Q2307	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
C2389	1-163-085-00	CERAMIC CHIP 2PF	0.25PF 50V	< RESISTOR >			
C2390	1-163-243-11	CERAMIC CHIP 47PF	5.00% 50V	R2300	1-216-051-00	RES-CHIP 1.2K 5% 1/10W	
C2391	1-163-243-11	CERAMIC CHIP 47PF	5.00% 50V	R2301	1-216-053-00	RES-CHIP 1.5K 5% 1/10W	
C2704	1-126-934-11	ELECT 220UF	20.00% 16V	R2302	1-216-067-00	RES-CHIP 5.6K 5% 1/10W	
C2705	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	R2303	1-216-059-00	RES-CHIP 2.7K 5% 1/10W	
< CONNECTOR >				R2304	1-216-051-00	RES-CHIP 1.2K 5% 1/10W	
CN2100	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P		R2305	1-216-065-91	RES-CHIP 4.7K 5% 1/10W	
< FILTER >				R2306	1-216-295-11	SHORT 0	
FL2300	1-236-071-11	ENCAPSULATED COMPONENT		R2307	1-216-049-11	RES-CHIP 1K 5% 1/10W	
FL2301	1-233-767-21	FILTER		R2310	1-216-049-11	RES-CHIP 1K 5% 1/10W	
FL2302	1-236-071-11	ENCAPSULATED COMPONENT		R2312	1-216-049-11	RES-CHIP 1K 5% 1/10W	
FL2303	1-236-071-11	ENCAPSULATED COMPONENT		R2313	1-216-047-91	RES-CHIP 820 5% 1/10W	
FL2308	1-233-736-21	FILTER, EMI		R2314	1-216-063-91	RES-CHIP 3.9K 5% 1/10W	
< IC >				R2315	1-216-121-11	RES-CHIP 1M 5% 1/10W	
IC2300	8-759-991-41	IC L78L05ACZ-AP		R2316	1-216-073-00	RES-CHIP 10K 5% 1/10W	
IC2301	8-759-669-75	IC TLC2932IPW-E20		R2317	1-216-025-11	RES-CHIP 100 5% 1/10W	
IC2302	8-759-257-59	IC TDA8755T-T		R2320	1-216-295-11	SHORT 0	

The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

**B1**

**F1**

REF.NO.	PART.NO	DESCRIPTION	REMARK			REF.NO.	PART.NO	DESCRIPTION	REMARK		
R2321	1-216-295-11	SHORT	0			R2403	1-216-295-11	SHORT	0		
R2337	1-216-049-11	RES-CHIP	1K	5%	1/10W	R2404	1-216-295-11	SHORT	0		
R2338	1-216-295-11	SHORT	0			R2410	1-216-037-00	RES-CHIP	330	5%	1/10W
R2341	1-216-295-11	SHORT	0			R2411	1-216-037-00	RES-CHIP	330	5%	1/10W
R2345	1-216-025-11	RES-CHIP	100	5%	1/10W	R2412	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R2348	1-216-089-11	RES-CHIP	47K	5%	1/10W	R2413	1-216-664-11	METAL CHIP	3.6K	0.5%	1/10W
R2355	1-216-295-11	SHORT	0			R2415	1-216-295-11	SHORT	0		
R2356	1-216-063-91	RES-CHIP	3.9K	5%	1/10W	R2701	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2358	1-216-295-11	SHORT	0			R2702	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2359	1-216-001-00	RES-CHIP	10	5%	1/10W	R2703	1-216-025-11	RES-CHIP	100	5%	1/10W
R2360	1-216-085-00	RES-CHIP	33K	5%	1/10W	R2704	1-216-025-11	RES-CHIP	100	5%	1/10W
R2361	1-216-085-00	RES-CHIP	33K	5%	1/10W	R2705	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2362	1-216-025-11	RES-CHIP	100	5%	1/10W	R2706	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2363	1-216-025-11	RES-CHIP	100	5%	1/10W	R2711	1-216-001-00	RES-CHIP	10	5%	1/10W
R2364	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2713	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2365	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2714	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R2366	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2715	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2367	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2716	1-216-025-11	RES-CHIP	100	5%	1/10W
R2368	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2717	1-216-295-11	SHORT	0		
R2369	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2718	1-216-295-11	SHORT	0		
R2370	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2719	1-216-295-11	SHORT	0		
R2371	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2720	1-216-295-11	SHORT	0		
R2372	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2721	1-216-295-11	SHORT	0		
R2373	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R2722	1-216-295-11	SHORT	0		
R2374	1-216-049-11	RES-CHIP	1K	5%	1/10W	R2723	1-216-027-00	RES-CHIP	120	5%	1/10W
R2375	1-216-049-11	RES-CHIP	1K	5%	1/10W	R2724	1-216-295-11	SHORT	0		
R2376	1-216-049-11	RES-CHIP	1K	5%	1/10W	R2725	1-216-009-91	RES-CHIP	22	5%	1/10W
R2377	1-216-049-11	RES-CHIP	1K	5%	1/10W	R2726	1-216-295-11	SHORT	0		
R2378	1-216-029-00	RES-CHIP	150	5%	1/10W	R2727	1-216-295-11	SHORT	0		
R2379	1-216-076-00	RES-CHIP	13K	5%	1/10W	R2728	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2380	1-216-073-00	RES-CHIP	10K	5%	1/10W	R2734	1-216-295-11	SHORT	0		
R2381	1-216-021-00	RES-CHIP	68	5%	1/10W	R2735	1-216-021-00	RES-CHIP	68	5%	1/10W
R2382	1-216-049-11	RES-CHIP	1K	5%	1/10W	R2736	1-216-295-11	SHORT	0		
R2383	1-216-049-11	RES-CHIP	1K	5%	1/10W	R2738	1-216-025-11	RES-CHIP	100	5%	1/10W
R2384	1-216-021-00	RES-CHIP	68	5%	1/10W	< CRYSTAL >					
R2385	1-216-037-00	RES-CHIP	330	5%	1/10W	X2300	1-579-175-11	VIBRATOR, CERAMIC			
R2386	1-216-295-11	SHORT	0			*A-1624-086-A F1 Board, Complete					
R2387	1-216-027-00	RES-CHIP	120	5%	1/10W	*4-374-846-01 COVER, CAPACITOR, CAP TYPE					
R2388	1-216-037-00	RES-CHIP	330	5%	1/10W	< CAPACITOR >					
R2389	1-216-069-00	RES-CHIP	6.8K	5%	1/10W	C7626	△ 1-136-527-12	FILM	0.47UF	20.00%	300V
R2390	1-216-049-11	RES-CHIP	1K	5%	1/10W						
R2391	1-216-025-11	RES-CHIP	100	5%	1/10W						
R2392	1-216-295-11	SHORT	0								
R2393	1-216-025-11	RES-CHIP	100	5%	1/10W						
R2394	1-216-025-11	RES-CHIP	100	5%	1/10W						
R2395	1-216-295-11	SHORT	0								
R2400	1-216-295-11	SHORT	0								

F1

F4

A

The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

REF.NO.	PART.NO	DESCRIPTION	REMARK
< CONNECTOR >			
CN7611	$\Delta$ *1-580-843-11	PIN, CONNECTOR (POWER)	
CN7622	1-695-915-11	TAB (CONTACT)	
CN7633	$\Delta$ *1-580-843-11	PIN, CONNECTOR (POWER)	
CN7655	1-695-915-11	TAB (CONTACT)	

## &lt; FUSE &gt;

F7626	$\Delta$ 1-576-232-11	FUSE (H.B.C.) 5A/250V	
	$\Delta$ 1-533-725-11	HOLDER, FUSE (F7626)	

## &lt; RESISTOR &gt;

R7626	$\Delta$ 1-202-719-00	SOLID 1M 20% 1/2W	
R7627	$\Delta$ 1-220-797-11	CEMENTED 0.47 5% 10W	

## &lt; TRANSFORMER &gt;

LF7627	$\Delta$ 1-433-488-11	TRANSFORMER, LINE FILTER	
--------	-----------------------	--------------------------	--

## &lt; VARISTOR &gt;

VD7626	$\Delta$ 1-803-830-11	VARISTOR (ERZV14D621)	
--------	-----------------------	-----------------------	--

**\*A-1624-091-A F4 Board, Complete (KV-28FX65/32FX65U)**  
**\*A-1624-089-A F4 Board, Complete (KV-32FX65B/32FX65E/32FX65K)**

## &lt; CONNECTOR &gt;

CN7601	$\Delta$ *1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P	
CN7602	$\Delta$ *1-580-843-11	PIN, CONNECTOR (POWER)	

## &lt; SWITCH &gt;

S7601	$\Delta$ 1-571-433-21	SWITCH, PUSH (AC POWER)	
-------	-----------------------	-------------------------	--

**\*A-1631-128-A A Board, Complete (KV-28FX65B)**  
**\*A-1631-126-A A Board, Complete (KV-28FX65E)**  
**\*A-1631-127-A A Board, Complete (KV-28FX65U/32FX65U)**  
**\*A-1632-916-A A Board, Complete (KV-32FX65B)**  
**\*A-1632-917-A A Board, Complete (KV-32FX65E/32FX65K)**

## A Board, Common Parts

4-382-854-11 SCREW (M3X10), P, SW (+)

REF.NO.	PART.NO	DESCRIPTION	REMARK
< CAPACITOR >			
C1100	1-104-664-11	ELECT 47UF	20.00% 25V
C1101	1-126-943-11	ELECT 2200UF	20.00% 25V
C1126	1-162-568-11	CERAMIC CHIP 0.33UF	10.00% 16V
C1127	1-136-175-00	FILM 0.68UF	5.00% 50V
C1128	1-163-135-00	CERAMIC CHIP 560PF	5.00% 50V
C1129	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C1130	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C1131	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C1132	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C1133	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1134	1-126-961-11	ELECT 2.2UF	20.00% 50V
C1135	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1136	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1137	1-126-953-11	ELECT 2200UF	20.00% 35V
C1138	1-126-953-11	ELECT 2200UF	20.00% 35V
C1140	1-111-216-91	ELECT 150UF	20.00% 63V
C1141	1-164-505-11	CERAMIC CHIP 2.2UF	16V
C1142	1-130-777-00	MYLAR 0.1UF	5.00% 63V
C1151	1-162-568-11	CERAMIC CHIP 0.33UF	10.00% 16V
C1152	1-136-175-00	FILM 0.68UF	5.00% 50V
C1153	1-163-135-00	CERAMIC CHIP 560PF	5.00% 50V
C1154	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C1155	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C1156	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C1157	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C1158	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1159	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1160	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1162	1-111-216-91	ELECT 150UF	20.00% 63V
C1163	1-164-505-11	CERAMIC CHIP 2.2UF	16V
C1164	1-130-777-00	MYLAR 0.1UF	5.00% 63V
C1177	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1178	1-126-964-11	ELECT 10UF	20.00% 50V
C1179	1-126-965-11	ELECT 22UF	20.00% 50V
C1180	1-126-952-11	ELECT 1000UF	20.00% 35V
C1181	1-126-952-11	ELECT 1000UF	20.00% 35V
C1182	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1183	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1184	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C1226	1-104-661-91	ELECT 330UF	20.00% 16V
C1227	1-164-505-11	CERAMIC CHIP 2.2UF	16V
C1326	1-163-059-91	CERAMIC CHIP 0.01UF	10.00% 50V
C1327	1-126-934-11	ELECT 220UF	20.00% 10V
C1328	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C1601	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C1602	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	FB1901	1-414-553-11	FERRITE	0UH
C1603	1-126-933-11	ELECT 100UF	20.00% 16V	FB1903	1-414-553-11	FERRITE	0UH
C1604	1-126-933-11	ELECT 100UF	20.00% 16V	FB1904	1-414-553-11	FERRITE	0UH
C1605	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	FB1905	1-414-553-11	FERRITE	0UH
C1607	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	FB1906	1-414-553-11	FERRITE	0UH
C1608	1-126-934-11	ELECT 220UF	20.00% 16V	FB1907	1-414-553-11	FERRITE	0UH
C1610	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V				
C1611	1-126-933-11	ELECT 100UF	20.00% 16V		< IC >		
C1615	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	IC1126	8-759-544-25	IC TDA7482	
	< CONNECTOR >			IC1151	8-759-544-25	IC TDA7482	
CN1111	*1-564-520-11	PLUG, CONNECTOR 5P		IC1176	8-759-333-24	IC LM1876TF	
CN1200	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P		IC1400	8-752-072-94	IC CXA1875AM-T4	
CN1401	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P			< COIL >		
CN1600	1-900-903-64	CONNECTOR ASSY 20P		L1126	1-416-857-11	INDUCTOR	65UH
CN1601	1-900-903-64	CONNECTOR ASSY 20P		L1127	1-414-158-11	INDUCTOR	2.2UH
CN1602	1-900-903-64	CONNECTOR ASSY 20P		L1128	1-414-158-11	INDUCTOR	2.2UH
CN1700	*1-564-507-11	PLUG, CONNECTOR 4P		L1151	1-416-857-11	INDUCTOR	65UH
CN1702	*1-564-506-11	PLUG, CONNECTOR 3P		L1152	1-414-158-11	INDUCTOR	2.2UH
CN1703	1-764-334-11	PLUG, CONNECTOR 11P		L1153	1-414-158-11	INDUCTOR	2.2UH
CN1801	1-695-299-11	CONNECTOR, BOARD TO BOARD 50P		L1326	1-414-183-41	INDUCTOR	10UH
CN1811	1-695-915-11	TAB (CONTACT)			< TRANSISTOR >		
CN1901	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P		Q1100	8-729-026-49	TRANSISTOR 2SA1037AK-T-146-R	
CN1902	*1-564-507-11	PLUG, CONNECTOR 4P		Q1101	8-729-026-49	TRANSISTOR 2SA1037AK-T-146-R	
CN1988	*1-568-879-11	PIN, CONNECTOR 4P		Q1201	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
	< DIODE >			Q1202	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D1100	8-719-914-43	DIODE DAN202K-T-146		Q1204	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D1101	8-719-914-44	DIODE DAP202K-T-146		Q1226	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D1102	8-719-914-43	DIODE DAN202K-T-146		Q1227	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D1103	8-719-914-43	DIODE DAN202K-T-146		Q1229	8-729-027-38	TRANSISTOR DTA144EKA-T146	
D1104	8-719-914-43	DIODE DAN202K-T-146		Q1326	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D1201	8-719-976-96	DIODE UDZ-TE-17-4.7B		Q1327	8-729-026-49	TRANSISTOR 2SA1037AK-T-146-R	
D1401	8-719-056-82	DIODE UDZ-TE-17-6.2B		Q1328	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D1402	8-719-056-82	DIODE UDZ-TE-17-6.2B		Q1329	8-729-026-49	TRANSISTOR 2SA1037AK-T-146-R	
D1405	8-719-914-44	DIODE DAP202K-T-146		Q1601	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D1406	8-719-914-44	DIODE DAP202K-T-146		Q1626	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D1407	8-719-069-55	DIODE UDZS-TE17-5.6B			< RESISTOR >		
D1408	8-719-069-55	DIODE UDZS-TE17-5.6B		JR1203	1-216-296-91	SHORT	0
D1626	8-719-914-43	DIODE DAN202K-T-146		JR1204	8-719-421-57	MA73-TX	
D1627	8-719-914-43	DIODE DAN202K-T-146		JR1601	1-216-296-91	SHORT	0
D1629	8-719-914-43	DIODE DAN202K-T-146		R1001	1-216-295-11	SHORT	0
	< FERRITE BEAD >			R1002	1-216-295-11	SHORT	0
FB1126	1-410-397-21	FERRITE 1.1UH		R1003	1-216-295-11	SHORT	0
FB1127	1-410-397-21	FERRITE 1.1UH		R1004	1-216-295-11	SHORT	0
FB1151	1-410-397-21	FERRITE 1.1UH		R1005	1-216-295-11	SHORT	0
FB1152	1-410-397-21	FERRITE 1.1UH					

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R1006	1-216-295-11	SHORT	0	R1339	1-216-041-00	RES-CHIP	470 5% 1/10W
R1100	1-216-025-11	RES-CHIP	100 5% 1/10W	R1340	1-216-043-91	RES-CHIP	560 5% 1/10W
R1101	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	R1342	1-216-073-00	RES-CHIP	10K 5% 1/10W
R1103	1-216-089-11	RES-CHIP	47K 5% 1/10W	R1403	1-216-295-11	SHORT	0
R1104	1-216-296-91	SHORT	0	R1404	1-216-295-11	SHORT	0
R1126	1-208-762-11	RES-CHIP	150 0.5% 1/10W	R1405	1-216-025-11	RES-CHIP	100 5% 1/10W
R1127	1-216-073-00	RES-CHIP	10K 5% 1/10W	R1407	1-216-025-11	RES-CHIP	100 5% 1/10W
R1128	1-216-041-00	RES-CHIP	470 5% 1/10W	R1408	1-216-025-11	RES-CHIP	100 5% 1/10W
R1151	1-208-762-11	METAL CHIP	150 0.5% 1/10W	R1409	1-216-025-11	RES-CHIP	100 5% 1/10W
R1152	1-216-075-00	RES-CHIP	12K 5% 1/10W	R1410	1-216-025-11	RES-CHIP	100 5% 1/10W
R1153	1-216-041-00	RES-CHIP	470 5% 1/10W	R1411	1-216-295-11	SHORT	0
R1176	1-216-063-91	RES-CHIP	3.9K 5% 1/10W	R1412	1-216-295-11	SHORT	0
R1179	1-216-357-00	METAL OXIDE	4.7 5% 1W	R1601	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R1180	1-216-081-00	RES-CHIP	22K 5% 1/10W	R1602	1-208-822-11	METAL CHIP	47K 0.5% 1/10W
R1181	1-216-045-00	RES-CHIP	680 5% 1/10W	R1603	1-216-025-11	RES-CHIP	100 5% 1/10W
R1182	1-216-081-00	RES-CHIP	22K 5% 1/10W	R1605	1-216-049-11	RES-CHIP	1K 5% 1/10W
R1183	1-216-045-00	RES-CHIP	680 5% 1/10W	R1609	1-216-089-11	RES-CHIP	47K 5% 1/10W
R1184	1-216-089-11	RES-CHIP	47K 5% 1/10W	R1610	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
R1185	1-216-089-11	RES-CHIP	47K 5% 1/10W	R1616	1-216-304-11	RES-CHIP	3.3 5% 1/10W
R1201	1-216-089-11	RES-CHIP	47K 5% 1/10W	R1618	1-216-295-11	SHORT	0
R1202	1-216-083-00	RES-CHIP	27K 5% 1/10W	R1621	1-216-027-00	RES-CHIP	120 5% 1/10W
R1203	1-216-083-00	RES-CHIP	27K 5% 1/10W	R1622	1-216-029-00	RES-CHIP	150 5% 1/10W
R1204	1-216-071-00	RES-CHIP	8.2K 5% 1/10W	R1625	1-216-295-11	SHORT	0
R1205	1-216-089-11	RES-CHIP	47K 5% 1/10W	<b>A Board Variant Parts KV-28FX65</b>			
R1206	1-216-073-00	RES-CHIP	10K 5% 1/10W				
R1208	1-216-089-11	RES-CHIP	47K 5% 1/10W	< CAPACITOR >			
R1209	1-216-065-91	RES-CHIP	4.7K 5% 1/10W	C1139	1-104-329-11	CERAMIC CHIP 0.1UF	10.00% 50V (KV-28FX65B/28FX65U)
R1210	1-216-089-11	RES-CHIP	47K 5% 1/10W	< CONNECTOR >			
R1227	1-216-073-00	RES-CHIP	10K 5% 1/10W	CN1666	1-695-915-11	TAB (CONTACT)	
R1228	1-216-073-00	RES-CHIP	10K 5% 1/10W	CN1802	1-564-506-11	PLUG, CONNECTOR, 3P	(KV-28FX65B)
R1229	1-216-073-00	RES-CHIP	10K 5% 1/10W	< IC >			
R1230	1-216-055-00	RES-CHIP	1.8K 5% 1/10W	IC1601	8-759-574-76	IC KA78R05-SYDTU	
R1232	1-216-295-11	SHORT	0	IC1602	8-759-574-78	IC KA278R05-YDTU	
R1233	1-216-049-11	RES-CHIP	1K 5% 1/10W	IC1604	8-759-544-13	IC KA78R09-YDTU	
R1326	1-216-025-11	RES-CHIP	100 5% 1/10W	IC1605	8-759-574-75	IC KA78R33-YDTU	(KV-28FX65U)
R1327	1-216-025-11	RES-CHIP	100 5% 1/10W	< TUNER >			
R1328	1-216-073-00	RES-CHIP	10K 5% 1/10W	TU1326	1-693-340-11	TUNER/VIF (FR)	(KV-28FX65B)
R1329	1-216-025-11	RES-CHIP	100 5% 1/10W		1-693-338-11	TUNER/VIF (AEP)	(KV-28FX65E)
R1330	1-216-041-00	RES-CHIP	470 5% 1/10W		1-693-339-11	TUNER/VIF (UK)	(KV-28FX65U)
R1331	1-216-041-00	RES-CHIP	470 5% 1/10W				
R1332	1-216-041-00	RES-CHIP	470 5% 1/10W				
R1333	1-216-075-00	RES-CHIP	12K 5% 1/10W				
R1334	1-216-069-00	RES-CHIP	6.8K 5% 1/10W				
R1335	1-216-025-11	RES-CHIP	100 5% 1/10W				
R1336	1-216-041-00	RES-CHIP	470 5% 1/10W				
R1337	1-216-041-00	RES-CHIP	470 5% 1/10W				
R1338	1-216-001-00	RES-CHIP	10 5% 1/10W				

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
<b>A Board Variant Parts KV-32FX65</b>				C9110	1-165-321-11	CERAMIC CHIP 0.68UF	10.00% 16V
< CAPACITOR >				C9111	1-164-157-11	CERAMIC CHIP 0.068UF	10.00% 25V
C1139	1-104-329-11	CERAMIC CHIP 0.1UF	10.00% 50V (KV-32FX65U)	C9112	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1612	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V (KV-32FX65B/32FX65E/32FX65K)	C9113	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1613	1-126-933-11	ELECT 100UF	20.00% 16V (KV-32FX65B/32FX65E/32FX65K)	C9114	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1617	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V (KV-32FX65B/32FX65E/32FX65K)	C9115	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
< CONNECTOR >				C9117	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
CN1666	1-695-915-11	TAB (CONTACT)	(KV-32FX65U)	C9118	1-104-664-11	ELECT 47UF	20.00% 25V
CN1802	1-564-506-11	PLUG, CONNECTOR, 3P	(KV-32FX65B/32FX65E/32FX65K)	C9119	1-163-259-91	CERAMIC CHIP 220PF	5.00% 50V
CN1904	1-564-506-11	PLUG, CONNECTOR, 3P	(KV-32FX65B/32FX65E/32FX65K)	C9121	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
< IC >				C9122	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
IC1601	8-759-069-28	IC PQ05RF11		C9123	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
IC1602	8-759-574-76	IC KA278R05-SYDTU		C9124	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
IC1604	8-759-054-28	IC PQ09RF11		C9125	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
IC1605	8-759-069-28	IC PQ05RF11		C9126	1-163-239-11	CERAMIC CHIP 33PF	5.00% 50V
< RESISTOR >				C9127	1-163-239-11	CERAMIC CHIP 33PF	5.00% 50V
R1617	1-216-304-11	RES-CHIP 3.3 5% 1/10W	(KV-32FX65B/32FX65E/32FX65K)	C9128	1-163-239-11	CERAMIC CHIP 33PF	5.00% 50V
R1623	1-216-033-00	RES-CHIP 220 5% 1/10W	(KV-32FX65B/32FX65E/32FX65K)	C9129	1-163-239-11	CERAMIC CHIP 33PF	5.00% 50V
< TUNER >				C9130	1-163-239-11	CERAMIC CHIP 33PF	5.00% 50V
TU1326	1-693-340-11	TUNER/VIF (FR)	(KV-32FX65B)	C9131	1-163-239-11	CERAMIC CHIP 33PF	5.00% 50V
	1-693-338-11	TUNER/VIF (AEP)	(KV-32FX65E/32FX65K)	C9132	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
	1-693-339-11	TUNER/VIF (UK)	(KV-32FX65U)	C9400	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
<b>*A-1634-060-A M1 Board, Complete (KV-28FX65/32FX65U)</b> <b>*A-1634-057-A M1 Board, Complete (KV-32FX65B/32FX65E/32FX65K)</b>				C9500	1-104-664-11	ELECT 47UF	20.00% 25V
<b>M1 Board, Common Parts</b>				C9502	1-104-664-11	ELECT 47UF	20.00% 25V
< CAPACITOR >				C9503	1-126-964-11	ELECT 10UF	20.00% 50V
C9100	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C9504	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C9101	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V	C9505	1-104-665-11	ELECT 100UF	20.00% 25V
C9102	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V	C9506	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C9104	1-104-664-11	ELECT 47UF	20.00% 25V	C9507	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
C9105	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C9508	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
< CONNECTOR >				C9509	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
				C9510	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
				C9511	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
				C9512	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
				C9513	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
				C9514	1-163-235-11	CERAMIC CHIP 22PF	5.00% 50V
				C9515	1-163-235-11	CERAMIC CHIP 22PF	5.00% 50V
				C9516	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
				C9517	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
				C9518	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
				C9519	1-126-964-11	ELECT 10UF	20.00% 50V
				C9520	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
				< CONNECTOR >			
				CN9101	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P	

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
< DIODE >				< RESISTOR >			
D9100	8-719-988-61	DIODE 1SS355TE-17		R9100	1-216-073-00	RES-CHIP 10K 5%	1/10W
D9101	8-719-988-61	DIODE 1SS355TE-17		R9101	1-216-033-00	RES-CHIP 220 5%	1/10W
D9102	8-719-988-61	DIODE 1SS355TE-17		R9102	1-216-033-00	RES-CHIP 220 5%	1/10W
D9103	8-719-988-61	DIODE 1SS355TE-17		R9103	1-216-025-11	RES-CHIP 100 5%	1/10W
D9104	8-719-056-83	DIODE UDZ-TE-17-6.8B		R9104	1-216-073-00	RES-CHIP 10K 5%	1/10W
D9105	8-719-914-43	DIODE DAN202K-T-146		R9105	1-216-073-00	RES-CHIP 10K 5%	1/10W
D9107	8-719-025-31	DIODE 02CZ5.6-TE85L		R9106	1-216-073-00	RES-CHIP 10K 5%	1/10W
< FILTER >				R9107	1-216-025-11	RES-CHIP 100 5%	1/10W
FL9101	1-236-071-11	ENCAPSULATED COMPONENT		R9108	1-216-025-11	RES-CHIP 100 5%	1/10W
FL9500	1-236-071-11	ENCAPSULATED COMPONENT		R9109	1-216-073-00	RES-CHIP 10K 5%	1/10W
FL9501	1-236-071-11	ENCAPSULATED COMPONENT		R9110	1-216-081-00	RES-CHIP 22K 5%	1/10W
< IC >				R9111	1-216-025-11	RES-CHIP 100 5%	1/10W
IC9100	8-759-988-13	IC LM393PS-E20		R9112	1-216-025-11	RES-CHIP 100 5%	1/10W
IC9104	8-759-259-18	IC MB3793-42PNF-ER		R9113	1-216-033-00	RES-CHIP 220 5%	1/10W
IC9105	8-759-686-50	IC SAB-C161PI-LM		R9114	1-216-083-00	RES-CHIP 27K 5%	1/10W
IC9107	8-759-395-27	IC TC55257DFTL-70V-EL		R9115	1-216-081-00	RES-CHIP 22K 5%	1/10W
IC9108	8-759-564-06	IC M24C32-MN6T		R9116	1-216-073-00	RES-CHIP 10K 5%	1/10W
IC9110	8-759-559-96	IC HEF4094BT		R9117	1-216-073-00	RES-CHIP 10K 5%	1/10W
IC9500	8-759-188-33	IC 74F00SJX		R9119	1-216-073-00	RES-CHIP 10K 5%	1/10W
IC9501	8-759-666-17	IC MSM5116400D-60SJRI		R9120	1-216-073-00	RES-CHIP 10K 5%	1/10W
IC9502	8-759-665-84	IC SDA5275-3PC02-22		R9121	1-216-017-91	RES-CHIP 47 5%	1/10W
< COIL >				R9122	1-216-049-11	RES-CHIP 1K 5%	1/10W
L9400	1-412-029-11	INDUCTOR CHIP 10UH		R9123	1-216-073-00	RES-CHIP 10K 5%	1/10W
L9401	1-412-029-11	INDUCTOR CHIP 10UH		R9127	1-216-049-11	RES-CHIP 1K 5%	1/10W
< TRANSISTOR >				R9128	1-216-097-11	RES-CHIP 100K 5%	1/10W
Q9100	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R9135	1-216-295-11	SHORT 0	
Q9101	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R9138	1-216-049-11	RES-CHIP 1K 5%	1/10W
Q9102	8-729-902-21	TRANSISTOR 2SA1037K-T-146-R		R9140	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
Q9103	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R9141	1-216-049-11	RES-CHIP 1K 5%	1/10W
Q9105	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R9142	1-216-041-00	RES-CHIP 470 5%	1/10W
Q9106	8-729-027-46	TRANSISTOR DTC114YKA-T146		R9143	1-216-049-11	RES-CHIP 1K 5%	1/10W
Q9107	8-729-027-46	TRANSISTOR DTC114YKA-T146		R9144	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
Q9108	8-729-027-46	TRANSISTOR DTC114YKA-T146		R9145	1-216-049-11	RES-CHIP 1K 5%	1/10W
Q9109	8-729-027-46	TRANSISTOR DTC114YKA-T146		R9146	1-216-049-11	RES-CHIP 1K 5%	1/10W
Q9110	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R9147	1-216-049-11	RES-CHIP 1K 5%	1/10W
Q9500	8-729-902-21	TRANSISTOR 2SA1037K-T-146-R		R9148	1-216-073-00	RES-CHIP 10K 5%	1/10W
Q9501	8-729-902-21	TRANSISTOR 2SA1037K-T-146-R		R9149	1-216-025-11	RES-CHIP 100 5%	1/10W
Q9502	8-729-902-21	TRANSISTOR 2SA1037K-T-146-R		R9150	1-216-025-11	RES-CHIP 100 5%	1/10W
Q9503	1-801-806-11	TRANSISTOR DTC144EKA-T146		R9151	1-216-025-11	RES-CHIP 100 5%	1/10W
Q9504	1-801-806-11	TRANSISTOR DTC144EKA-T146		R9153	1-216-025-11	RES-CHIP 100 5%	1/10W
				R9159	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
				R9161	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
				R9162	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
				R9164	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
				R9166	1-216-073-00	RES-CHIP 10K 5%	1/10W



**M1****C**

REF.NO.	PART.NO	DESCRIPTION	REMARK			REF.NO.	PART.NO	DESCRIPTION	REMARK		
R9168	1-216-069-00	RES-CHIP	6.8K	5%	1/10W	R9526	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R9172	1-216-069-00	RES-CHIP	6.8K	5%	1/10W	R9527	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R9173	1-216-295-11	SHORT	0			R9528	1-216-025-11	RES-CHIP	100	5%	1/10W
R9174	1-216-025-11	RES-CHIP	100	5%	1/10W	R9529	1-216-025-11	RES-CHIP	100	5%	1/10W
R9175	1-216-025-11	RES-CHIP	100	5%	1/10W	R9530	1-216-025-11	RES-CHIP	100	5%	1/10W
R9176	1-216-025-11	RES-CHIP	100	5%	1/10W	R9531	1-216-295-11	SHORT	0		
R9177	1-216-025-11	RES-CHIP	100	5%	1/10W	< CRYSTAL >					
R9178	1-216-025-11	RES-CHIP	100	5%	1/10W	X9101	1-781-107-21	VIBRATOR, CERAMIC			
R9179	1-216-097-11	RES-CHIP	100K	5%	1/10W	X9500	1-760-551-21	VIBRATOR, CERAMIC			
R9184	1-216-025-11	RES-CHIP	100	5%	1/10W	<b>M1 Board Variant Parts KV-28FX65</b>					
R9185	1-216-025-11	RES-CHIP	100	5%	1/10W	< IC >					
R9186	1-216-025-11	RES-CHIP	100	5%	1/10W	IC9109	8-759-544-32	IC M27C800-100K1			
R9187	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	<b>M1 Board Variant Parts KV-32FX65</b>					
R9188	1-216-073-00	RES-CHIP	10K	5%	1/10W	< IC >					
R9189	1-216-025-11	RES-CHIP	100	5%	1/10W	IC9109	8-759-597-95	IC M27C800-100K1-AE520			
R9191	1-216-025-11	RES-CHIP	100	5%	1/10W			(KV-32FX65B/32FX65E/32FX65K)			
R9192	1-216-025-11	RES-CHIP	100	5%	1/10W		8-759-544-32	IC M27C800-100K1			(KV-32FX65U)
R9193	1-216-097-11	RES-CHIP	100K	5%	1/10W	<b>*A-1638-139-A C Board, Complete</b>					
R9194	1-216-097-11	RES-CHIP	100K	5%	1/10W	4-382-854-11	SCREW (M3X10) , P, SW (+)				
R9195	1-216-097-11	RES-CHIP	100K	5%	1/10W	< CAPACITOR >					
R9196	1-216-073-00	RES-CHIP	10K	5%	1/10W	C5301	1-163-075-00	CERAMIC CHIP 0.047UF		50V	
R9197	1-216-073-00	RES-CHIP	10K	5%	1/10W	C5302	1-128-528-11	ELECT 470UF		20.00% 16V	
R9500	1-216-295-11	SHORT	0			C5303	1-163-087-00	CERAMIC CHIP 4PF		0.25PF 50V	
R9501	1-216-295-11	SHORT	0			C5304	1-107-967-11	ELECT 1UF		20.00% 400V	
R9502	1-216-295-11	SHORT	0			C5305	1-136-207-11	MYLAR 0.047UF		10.00% 400V	
R9504	1-216-041-00	RES-CHIP	470	5%	1/10W	C5306	1-163-017-00	CERAMIC CHIP 0.0047UF		10.00% 50V	
R9505	1-216-051-00	RES-CHIP	1.2K	5%	1/10W	C5307	1-163-233-11	CERAMIC CHIP 18PF		5.00% 50V	
R9506	1-216-073-00	RES-CHIP	10K	5%	1/10W	C5308	1-163-089-00	CERAMIC CHIP 6PF		0.50PF 50V	
R9507	1-216-097-11	RES-CHIP	100K	5%	1/10W	C5309	1-163-035-00	CERAMIC CHIP 0.047UF		50V	
R9508	1-216-017-91	RES-CHIP	47	5%	1/10W	C5310	1-163-113-00	CERAMIC CHIP 68PF		5.00% 50V	
R9509	1-216-049-11	RES-CHIP	1K	5%	1/10W	C5325	1-163-087-00	CERAMIC CHIP 4PF		0.25PF 50V	
R9510	1-216-017-91	RES-CHIP	47	5%	1/10W	C5326	1-163-017-00	CERAMIC CHIP 0.0047UF		10.00% 50V	
R9511	1-216-049-11	RES-CHIP	1K	5%	1/10W	C5328	1-128-528-11	ELECT 470UF		20.00% 16V	
R9512	1-216-017-91	RES-CHIP	47	5%	1/10W	C5329	1-107-967-11	ELECT 1UF		20.00% 400V	
R9513	1-216-017-91	RES-CHIP	47	5%	1/10W	C5330	1-136-207-11	MYLAR 0.047UF		10.00% 400V	
R9514	1-216-017-91	RES-CHIP	47	5%	1/10W	C5331	1-163-089-00	CERAMIC CHIP 6PF		0.50PF 50V	
R9515	1-216-295-11	SHORT	0			C5332	1-163-231-11	CERAMIC CHIP 15PF		5.00% 50V	
R9516	1-216-295-11	SHORT	0			C5333	1-163-035-00	CERAMIC CHIP 0.047UF		50V	
R9517	1-216-295-11	SHORT	0			C5334	1-163-113-00	CERAMIC CHIP 68PF		5.00% 50V	
R9518	1-216-049-11	RES-CHIP	1K	5%	1/10W						
R9519	1-216-039-00	RES-CHIP	390	5%	1/10W						
R9520	1-216-039-00	RES-CHIP	390	5%	1/10W						
R9521	1-216-039-00	RES-CHIP	390	5%	1/10W						
R9522	1-216-295-11	SHORT	0								
R9523	1-216-295-11	SHORT	0								
R9524	1-216-295-11	SHORT	0								
R9525	1-216-057-00	RES-CHIP	2.2K	5%	1/10W						

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C5350	1-107-907-11	ELECT 22UF	20.00% 50V	< SOCKET >			
C5351	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V				
C5352	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V	J5375	$\Delta$ 1-540-071-22	SOCKET, CRT	
C5353	1-163-075-00	CERAMIC CHIP 0.047UF	50V	< COIL >			
C5354	1-128-528-11	ELECT 470UF	20.00% 16V				
C5355	1-107-967-11	ELECT 1UF	20.00% 400V	L5300	1-408-591-11	INDUCTOR 1UH	
C5356	1-136-207-11	MYLAR 0.047UF	10.00% 400V	L5325	1-408-591-11	INDUCTOR 1UH	
C5357	1-163-231-11	CERAMIC CHIP 15PF	5.00% 50V	L5350	1-408-591-11	INDUCTOR 1UH	
C5358	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V	L5375	1-410-671-31	INDUCTOR 47UH	
C5359	1-163-035-00	CERAMIC CHIP 0.047UF	50V	L5376	1-532-637-00	LINK, IC 1A/150V	
C5360	1-163-113-00	CERAMIC CHIP 68PF	5.00% 50V	L5377	1-414-183-41	INDUCTOR 10UH	
C5375	1-107-902-11	ELECT 1UF	20.00% 50V	< TRANSISTOR >			
C5376	1-102-106-00	CERAMIC 100PF	10.00% 50V	Q5300	8-729-255-12	TRANSISTOR 2SC25510-TPE2	
C5377	1-104-331-11	CERAMIC 0.0022UF	10.00% 1KV	Q5301	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
C5378	1-162-116-00	CERAMIC 680PF	10.00% 2KV	Q5325	8-729-255-12	TRANSISTOR 2SC25510-TPE2	
C5379	1-162-114-00	CERAMIC 0.0047UF	2KV	Q5326	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
C5380	1-107-652-11	ELECT 10UF	20.00% 250V	Q5350	8-729-029-56	TRANSISTOR DTA144ESA-TP	
C5381	1-117-214-11	CERAMIC 0.001UF	10.00% 2KV	Q5351	8-729-255-12	TRANSISTOR 2SC25510-TPE2	
C5382	1-162-114-00	CERAMIC 0.0047UF	2KV	Q5352	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
< CONNECTOR >				Q5375	8-729-119-78	TRANSISTOR 2SC1740S-RT	
CN5400	1-564-511-51	PLUG, CONNECTOR 8P		Q5376	8-729-026-39	TRANSISTOR 2SA933AS-RT	
CN5511	1-695-915-11	TAB (CONTACT)		< RESISTOR >			
CN5600	1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P		R5300	1-249-417-11	CARBON 1K 5% 1/4W	
< DIODE >				R5301	1-247-807-31	CARBON 100 5% 1/4W	
D5300	8-719-911-19	DIODE 1SS119-25TD		R5302	1-535-143-61	LEAD, JUMPER (5.0MM)	
D5302	8-719-901-83	DIODE 1SS83TD		R5303	1-208-790-11	METAL CHIP 2.2K 0.5% 1/10W	
D5325	8-719-911-19	DIODE 1SS119-25TD		R5304	1-202-557-00	SOLID 220 20% 1/2W	
D5327	8-719-901-83	DIODE 1SS83TD		R5305	1-215-929-11	METAL OXIDE 100K 5% 3W	
D5350	8-719-911-19	DIODE 1SS119-25TD		R5306	1-249-424-11	CARBON 3.9K 5% 1/4W	
D5351	8-719-991-33	DIODE 1SS133T-77		R5307	1-249-433-11	CARBON 22K 5% 1/4W	
D5353	8-719-901-83	DIODE 1SS83TD		R5308	1-216-057-00	RES-CHIP 2.2K 5% 1/10W	
D5375	8-719-991-33	DIODE 1SS133T-77		R5309	1-216-658-11	METAL CHIP 2K 0.5% 1/10W	
D5376	8-719-991-33	DIODE 1SS133T-77		R5310	1-216-059-00	RES-CHIP 2.7K 5% 1/10W	
D5377	8-719-908-03	DIODE GP08DPKG23		R5325	1-249-417-11	CARBON 1K 5% 1/4W	
D5378	8-719-921-88	DIODE MTZJ-T-77-13B		R5326	1-247-807-31	CARBON 100 5% 1/4W	
D5379	8-719-982-96	DIODE MTZJ-T-77-2.2A		R5327	1-535-143-61	LEAD, JUMPER (5.0MM)	
D5380	8-719-982-96	DIODE MTZJ-T-77-2.2A		R5328	1-208-790-11	METAL CHIP 2.2K 0.5% 1/10W	
D5381	8-719-031-34	DIODE RGP02-20EG23		R5329	1-202-557-00	SOLID 220 20% 1/2W	
< IC >				R5330	1-215-929-11	METAL OXIDE 100K 5% 3W	
IC5300	8-759-360-83	IC TDA6111Q/N4		R5331	1-249-424-11	CARBON 3.9K 5% 1/4W	
IC5325	8-759-360-83	IC TDA6111Q/N4		R5332	1-249-433-11	CARBON 22K 5% 1/4W	
IC5350	8-759-360-83	IC TDA6111Q/N4		R5333	1-216-057-00	RES-CHIP 2.2K 5% 1/10W	
				R5334	1-216-059-00	RES-CHIP 2.7K 5% 1/10W	
				R5335	1-216-658-11	METAL CHIP 2K 0.5% 1/10W	
				R5350	1-249-417-11	CARBON 1K 5% 1/4W	

The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

C

D

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R5351	1-247-807-31	CARBON	100 5% 1/4W	< CAPACITOR >			
R5352	1-249-416-11	CARBON	820 5% 1/4W	C6600	$\Delta$ 1-113-927-11	CERAMIC 10000PF	20.00% 250V
R5353	1-249-421-11	CARBON	2.2K 5% 1/4W	C6603	1-126-933-11	ELECT 100UF	20.00% 16V
R5354	1-249-418-11	CARBON	1.2K 5% 1/4W	C6604	1-126-767-11	ELECT 1000UF	20.00% 16V
R5355	1-535-143-61	LEAD, JUMPER (5.0MM)		C6605	$\Delta$ 1-119-888-51	CERAMIC 2200PF	20.00% 250V
R5356	1-208-790-11	METAL CHIP	2.2K 0.5% 1/10W	C6606	$\Delta$ 1-119-888-51	CERAMIC 2200PF	20.00% 250V
R5357	1-202-557-00	SOLID	220 20% 1/2W	C6607	$\Delta$ 1-107-565-11	FILM 0.33UF	20.00% 300V
R5358	1-215-929-11	METAL OXIDE	100K 5% 3W	C6608	$\Delta$ 1-161-964-91	CERAMIC 0.0047UF	250V
R5359	1-249-433-11	CARBON	22K 5% 1/4W	C6609	$\Delta$ 1-161-964-91	CERAMIC 0.0047UF	250V
R5360	1-249-424-11	CARBON	3.9K 5% 1/4W	C6610	$\Delta$ 1-161-964-91	CERAMIC 0.0047UF	250V
R5361	1-249-431-11	CARBON	15K 5% 1/4W	C6611	$\Delta$ 1-161-964-91	CERAMIC 0.0047UF	250V
R5362	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	C6612	1-113-927-11	CERAMIC 10000PF	20.00% 250V
R5363	1-216-059-00	RES-CHIP	2.7K 5% 1/10W	C6616	1-164-625-11	CERAMIC 680PF	10.00% 500V
R5364	1-216-658-11	METAL CHIP	2K 0.5% 1/10W	C6617	1-164-625-11	CERAMIC 680PF	10.00% 500V
R5375	1-249-435-11	CARBON	33K 5% 1/4W	C6618	1-136-175-00	FILM 0.68UF	5.00% 50V
R5376	1-249-429-11	CARBON	10K 5% 1/4W	C6619	1-137-194-81	FILM 0.47UF	5.00% 50V
R5377	1-249-430-11	CARBON	12K 5% 1/4W	C6620	1-136-618-11	FILM 0.047UF	5.00% 1.25KV
R5378	1-249-429-11	CARBON	10K 5% 1/4W	C6621	1-136-175-00	FILM 0.68UF	5.00% 50V
R5379	1-249-438-11	CARBON	56K 5% 1/4W	C6622	1-164-625-11	CERAMIC 680PF	10.00% 500V
R5380	1-249-433-11	CARBON	22K 5% 1/4W	C6623	1-137-194-81	FILM 0.47UF	5.00% 50V
R5381	1-216-055-00	RES-CHIP	1.8K 5% 1/10W	C6624	1-126-968-11	ELECT 100UF	20.00% 50V
R5382	1-202-549-00	SOLID	100 20% 1/2W	C6626	1-164-625-11	CERAMIC 680PF	10.00% 500V
R5383	1-216-399-00	METAL OXIDE	6.8 5% 3W	C6627	1-164-625-11	CERAMIC 680PF	10.00% 500V
R5384	1-216-399-00	METAL OXIDE	6.8 5% 3W	C6628	1-126-936-11	ELECT 3300UF	20.00% 16V
R5385	1-202-549-00	SOLID	100 20% 1/2W	C6629	1-128-548-11	ELECT 4700UF	20.00% 25V
R5386	1-202-884-11	SOLID	820K 20% 1/2W	C6630	1-110-626-11	ELECT 330UF	20.00% 160V
R5387	1-202-884-11	SOLID	820K 20% 1/2W	C6631	1-126-955-11	ELECT 4700UF	20.00% 35V
R5388	1-215-911-11	METAL OXIDE	100 5% 3W	C6632	1-126-955-11	ELECT 4700UF	20.00% 35V
R5389	1-249-417-11	CARBON	1K 5% 1/4W	C6634	1-136-165-00	FILM 0.1UF	5.00% 50V
< VARIABLE RESISTOR >				C6635	1-104-664-11	ELECT 47UF	20.00% 25V
RV5375	1-241-656-21	RES, ADJ, METAL FILM 110M		C6636	1-102-129-00	CERAMIC 0.01UF	10.00% 50V
RV5376	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M		C6637	1-102-129-00	CERAMIC 0.01UF	10.00% 50V
<b>*A-1640-328-A D Board, Complete (KV-28FX65)</b> <b>*A-1640-399-A D Board, Complete (KV-32FX65B/32FX65E/32FX65K)</b> <b>*A-1640-323-A D Board, Complete (KV-32FX65U)</b>				C6638	1-137-368-11	MYLAR 0.0047UF	5.00% 50V
<b>D Board, Common Parts</b>				C6639	1-102-228-00	CERAMIC 470PF	10.00% 500V
1-695-915-11	TAB (CONTACT)			C6641	1-126-967-11	ELECT 47UF	20.00% 50V
4-201-023-01	SPACER, INSULATING			C6642	1-128-551-11	ELECT 22UF	20.00% 25V
4-202-373-01	SPRING, IC			C6647	1-104-664-11	ELECT 47UF	20.00% 25V
4-382-854-11	SCREW (M3X10), P, SW (+)			C6649	1-126-965-11	ELECT 22UF	20.00% 50V
*4-931-401-01	HEAT SINK, V.OUT			C6651	1-161-964-91	CERAMIC 0.0047UF	250V
C6653	1-126-968-11	ELECT 100UF	20.00% 50V	C6653	1-126-968-11	ELECT 100UF	20.00% 50V
C6654	1-162-117-00	CERAMIC 100PF	10.00% 500V	C6654	1-162-117-00	CERAMIC 100PF	10.00% 500V
C6655	1-107-974-11	CERAMIC 47PF	5.00% 2KV	C6655	1-107-974-11	CERAMIC 47PF	5.00% 2KV
C6656	1-126-967-11	ELECT 47UF	20.00% 50V	C6656	1-126-967-11	ELECT 47UF	20.00% 50V
C6657	1-126-941-11	ELECT 470UF	20.00% 25V	C6657	1-126-941-11	ELECT 470UF	20.00% 25V
C6658	1-104-665-11	ELECT 100UF	20.00% 25V	C6658	1-104-665-11	ELECT 100UF	20.00% 25V
C6659	1-104-665-11	ELECT 100UF	20.00% 25V	C6659	1-104-665-11	ELECT 100UF	20.00% 25V

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C6661	1-117-753-11	ELECT (BLOCK) 470UF	20.00% 450V	C6832	1-126-941-11	ELECT 470UF	20.00% 25V
C6662	1-136-165-00	FILM 0.1UF	5.00% 50V	C6833	1-126-941-11	ELECT 470UF	20.00% 25V
C6664	1-136-153-00	FILM 0.01UF	5.00% 50V	C6834	1-102-228-00	CERAMIC 470PF	10.00% 500V
C6665	1-136-165-00	FILM 0.1UF	5.00% 50V	C6835	1-102-228-00	CERAMIC 470PF	10.00% 500V
C6666	1-136-165-00	FILM 0.1UF	5.00% 50V	C6836	1-123-024-21	ELECT 33UF	160V
C6667	1-126-933-11	ELECT 100UF	20.00% 16V	C6837	1-106-375-12	MYLAR 0.022UF	10.00% 250V
C6668	1-126-933-11	ELECT 100UF	20.00% 16V	C6840	1-137-150-11	MYLAR 0.01UF	5.00% 50V
C6669	1-136-165-00	FILM 0.1UF	5.00% 50V	C6841	1-104-664-11	ELECT 47UF	20.00% 16V
C6670	1-136-165-00	FILM 0.1UF	5.00% 50V	C6844	1-115-513-21	FILM 0.18UF	5.00% 250V
C6671	1-104-664-11	ELECT 47UF	20.00% 16V	C6851	1-162-131-11	CERAMIC 220PF	10.00% 2KV
C6672	1-104-664-11	ELECT 47UF	20.00% 16V	C6852	1-162-129-00	CERAMIC 150PF	10.00% 2KV
C6677	1-136-165-00	FILM 0.1UF	5.00% 50V	C6853	1-129-898-00	FILM 0.0022UF	5.00% 630V
C6679	1-130-495-00	MYLAR 0.1UF	5.00% 50V	C6855	1-136-205-11	MYLAR 0.022UF	10.00% 400V
C6680	1-137-150-11	MYLAR 0.01UF	5.00% 50V	C6856	1-102-030-00	CERAMIC 330PF	10.00% 500V
C6681	1-126-964-11	ELECT 10UF	20.00% 50V	C6857	1-130-785-11	MYLAR 0.47UF	10.00% 100V
C6700	1-102-129-00	CERAMIC 0.01UF	10.00% 50V	C6861	1-130-471-00	MYLAR 0.001UF	5.00% 50V
C6703	1-128-527-11	ELECT 330UF	20.00% 25V	C6862	1-130-471-00	MYLAR 0.001UF	5.00% 50V
C6704	1-126-968-11	ELECT 100UF	20.00% 50V	< CONNECTOR >			
C6705	1-128-527-11	ELECT 330UF	20.00% 25V	CN6100	1-785-802-11	PIN, CONNECTOR (WITH PWB) 20P	
C6706	1-137-401-11	MYLAR 0.22UF	10.00% 100V	CN6101	1-785-802-11	PIN, CONNECTOR (WITH PWB) 20P	
C6707	1-129-702-00	MYLAR 0.001UF	10.00% 400V	CN6102	1-785-802-11	PIN, CONNECTOR (WITH PWB) 20P	
C6708	1-106-220-00	MYLAR 0.1UF	10.00% 100V	CN6500	1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P	
C6709	1-102-129-00	CERAMIC 0.01UF	10.00% 50V	CN6600	1-695-299-11	CONNECTOR, BOARD TO BOARD 50P	
C6710	1-130-785-11	MYLAR 0.47UF	10.00% 100V	CN6611	*1-785-270-12	PIN, DY CONNECTOR (PC BOARD)	
C6727	1-102-228-00	CERAMIC 470PF	10.00% 500V	CN6620	$\Delta$ 1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
C6801	1-104-664-11	ELECT 47UF	20.00% 25V	CN6666	$\Delta$ *1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
C6802	1-126-960-11	ELECT 1UF	20.00% 50V	CN6700	$\Delta$ *1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P	
C6803	1-126-960-11	ELECT 1UF	20.00% 50V	< DIODE >			
C6804	1-102-114-00	CERAMIC 470PF	10.00% 50V	D6600	8-719-911-19	DIODE 1SS119-25TD	
C6805	1-102-114-00	CERAMIC 470PF	10.00% 50V	D6601	8-719-063-73	DIODE D1NL20U-TR	
C6808	1-102-030-00	CERAMIC 330PF	10.00% 500V	D6602	8-719-109-89	DIODE MTZJ-T-77-5.6B	
C6809	1-102-030-00	CERAMIC 330PF	10.00% 500V	D6603	8-719-911-19	DIODE 1SS119-25TD	
C6810	1-107-368-11	MYLAR 0.047UF	10.00% 200V	D6604	8-719-510-53	DIODE D4SB60L-F	
C6811	1-107-368-11	MYLAR 0.047UF	10.00% 200V	D6605	8-719-991-33	DIODE 1SS133T-77	
C6812	1-162-131-11	CERAMIC 220PF	10.00% 2KV	D6610	8-719-063-73	DIODE D1NL20U-TR	
C6813	1-162-134-11	CERAMIC 470PF	10.00% 2KV	D6613	8-719-911-19	DIODE 1SS119-25TD	
C6816	1-130-471-00	MYLAR 0.001UF	5.00% 50V	D6615	8-719-911-19	DIODE 1SS119-25TD	
C6817	1-125-893-11	FILM 680PF	3.00% 1.5KV	D6616	8-719-510-12	DIODE D10SC4M-F	
C6818	1-125-893-11	FILM 680PF	3.00% 1.5KV	D6617	8-719-500-71	DIODE D8LC40F	
C6819	1-125-893-11	FILM 680PF	3.00% 1.5KV	D6618	8-719-079-50	DIODE RBV-402L	
C6820	1-125-893-11	FILM 680PF	3.00% 1.5KV	D6619	8-719-510-12	DIODE D10SC4M-F	
C6824	1-107-846-11	FILM 0.1UF	5.00% 250V	D6621	8-719-991-33	DIODE 1SS133T-77	
C6827	1-107-846-11	FILM 0.1UF	5.00% 250V	D6622	8-719-991-33	DIODE 1SS133T-77	
C6828	1-127-681-11	FILM MELF 10000PF	2% 100V	D6623	8-719-911-19	DIODE 1SS119-25TD	
C6829	1-127-680-11	FILM MELF 4700PF	2% 100V	D6624	8-719-991-33	DIODE 1SS133T-77	
C6830	1-107-655-11	ELECT 47UF	20.00% 250V				
C6831	1-102-228-00	CERAMIC 470PF	10.00% 500V				

The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

D

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
D6625	8-719-991-33	DIODE 1SS133T-77		IC6801	8-759-103-93	IC LM393P	
D6626	8-719-991-33	DIODE 1SS133T-77				< COIL >	
D6627	8-719-982-27	DIODE MTZJ-T-77-33C					
D6628	8-719-109-97	DIODE MTZJ-T-77-6.8		L6604	1-412-525-31	INDUCTOR 10UH	
D6629	8-719-991-33	DIODE 1SS133T-77		L6605	1-412-523-41	INDUCTOR 6.8UH	
				L6606	1-412-525-31	INDUCTOR 10UH	
D6630	8-719-991-33	DIODE 1SS133T-77		L6651	1-414-183-41	INDUCTOR 10UH	
D6631	8-719-991-33	DIODE 1SS133T-77		L6700	1-412-524-11	INDUCTOR 8.2UH	
D6651	8-719-068-00	DIODE ERC04-06SE					
D6653	8-719-063-73	DIODE D1NL20U-TR		L6801	1-412-519-11	INDUCTOR 3.3UH	
D6654	8-719-059-23	DIODE P6KE200AG23		L6802	1-412-519-11	INDUCTOR 3.3UH	
				L6803	1-412-533-41	INDUCTOR 47UH	
D6655	8-719-979-64	DIODE UF4005PKG23		L6805	1-408-947-00	INDUCTOR 2.2MH	
D6656	8-719-063-73	DIODE D1NL20U-TR		L6806	1-535-143-61	LEAD, JUMPER (5.0MM)	
D6658	8-719-068-00	DIODE ERC04-06SE					
D6659	8-719-063-73	DIODE D1NL20U-TR		L6807	1-410-397-21	FERRITE 1.1UH	
D6676	8-719-991-33	DIODE 1SS133T-77		L6851	1-535-143-61	LEAD, JUMPER (5.0MM)	
						< FILTER >	
D6677	8-719-921-40	DIODE MTZJ-T-77-4.7B					
D6678	8-719-921-40	DIODE MTZJ-T-77-4.7B		LF6603	1-406-659-11	INDUCTOR 10UH	
D6679	8-719-991-33	DIODE 1SS133T-77		LF6604	1-406-659-11	INDUCTOR 10UH	
D6681	8-719-991-33	DIODE 1SS133T-77		LF6801	1-406-985-11	INDUCTOR 2.2MH	
D6700	8-719-200-02	DIODE ERA15-02TP1		LF6851	1-406-674-11	INDUCTOR 3.3MH	
						< IC LINK >	
D6701	8-719-110-41	DIODE MTZJ-T-77-15B		PS6601 $\Delta$	1-801-550-21	PROTECTOR, MODULE 2.5A MP250	
D6803	8-719-920-35	DIODE ERA15-02TP1		PS6602 $\Delta$	1-801-550-21	PROTECTOR, MODULE 2.5A MP250	
D6804	1-535-143-11	LEAD, JUMPER (10.0MM)		PS6603 $\Delta$	1-801-549-21	PROTECTOR, MODULE 4.0A MP250	
D6805	8-719-302-43	DIODE RGP10GPKG23		PS6604 $\Delta$	1-801-550-21	PROTECTOR, MODULE 2.5A MP250	
D6806	8-719-979-85	DIODE RGP15GPKG23					
						< TRANSISTOR >	
D6807	8-719-510-73	DIODE S3L20UF4		Q6600	8-729-046-47	TRANSISTOR KSC2500-BTA	
D6808	8-719-510-73	DIODE S3L20UF4		Q6602	8-729-026-39	TRANSISTOR 2SA933AS-RT	
D6809	8-719-991-33	DIODE 1SS133T-77		Q6603	8-729-119-78	TRANSISTOR 2SC1740S-RT	
D6810	1-247-895-91	CARBON 470K 5% 1/4W		Q6605	8-729-046-47	TRANSISTOR KSC2500-BTA	
D6811	8-719-110-41	DIODE MTZJ-T-77-15B		Q6606	8-729-029-56	TRANSISTOR DTA144ESA-TP	
D6851	8-719-970-87	DIODE ERA38-06TP1		Q6607	8-729-119-78	TRANSISTOR 2SC1740S-RT	
D6852	8-719-970-87	DIODE ERA38-06TP1		Q6608	8-729-029-66	TRANSISTOR DTC114ESA-TP	
				Q6611	8-729-029-66	TRANSISTOR DTC114ESA-TP	
		< FERRITE BEAD >		Q6651	8-729-026-39	TRANSISTOR 2SA933AS-RT	
FB6602	1-410-396-41	FERRITE 0.45UH		Q6652	8-729-029-86	TRANSISTOR DTC124ESA-TP	
FB6603	1-410-396-41	FERRITE 0.45UH					
		< IC >		Q6667	8-729-026-39	TRANSISTOR 2SA933AS-RT	
IC6600	1-810-051-11	POWER MODULE DM-48		Q6676	8-729-119-78	TRANSISTOR 2SC1740S-RT	
IC6604	8-729-045-40	TRANSISTOR MX0842A-F		Q6677	8-729-119-78	TRANSISTOR 2SC1740S-RT	
IC6651	8-759-468-89	IC TOP209P		Q6678	8-729-119-78	TRANSISTOR 2SC1740S-RT	
IC6652	8-759-394-35	IC BA12T		Q6679	8-729-026-39	TRANSISTOR 2SA933AS-RT	
IC6653	8-759-574-77	IC KA78R09-YDTU					
				Q6680	8-729-029-66	TRANSISTOR DTC114ESA-TP	
IC6654	8-759-574-76	IC KA78R05-SYDTU		Q6681	8-729-029-66	TRANSISTOR DTC114ESA-TP	
IC6667	8-759-908-15	IC TL431CZ		Q6700	8-729-039-68	TRANSISTOR IRF620	
IC6676	8-759-908-15	IC TL431CZ					
IC6700	8-759-192-71	IC STV9379					

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
Q6801	8-729-119-80	TRANSISTOR 2SC2688-LK		R6648	1-249-433-11	CARBON 22K 5%	1/4W
Q6802	8-729-119-80	TRANSISTOR 2SC2688-LK		R6649	1-215-926-00	METAL OXIDE 33K 5%	3W
Q6803	8-729-046-18	TRANSISTOR 2SC5480-01		R6651	1-247-791-91	CARBON 22 5%	1/4W
Q6804	8-729-046-18	TRANSISTOR 2SC5480-01		R6652	1-249-389-11	CARBON 4.7 5%	1/4W
Q6805	8-729-038-83	TRANSISTOR 2SK2251-01-F19		R6653	1-249-421-11	CARBON 2.2K 5%	1/4W
Q6806	8-729-047-59	TRANSISTOR STP5NB40FP		R6655	1-249-429-11	CARBON 10K 5%	1/4W
Q6807	8-729-030-02	TRANSISTOR DTC144ESA-TP		R6656 $\Delta$	1-218-265-11	METAL 8.2M 5%	1W
Q6851	8-729-043-95	TRANSISTOR 2SC3840K		R6657	1-215-421-00	METAL 1K 1%	1/4W
< RESISTOR >				R6666	1-202-933-61	FUSIBLE 0.1 10%	1/2W
R6601 $\Delta$	1-202-968-11	CEMENTED 1.2 5%	10W	R6667	1-215-441-00	METAL 6.8K 1%	1/4W
R6602	1-249-433-11	CARBON 22K 5%	1/4W	R6668	1-249-428-11	CARBON 8.2K 5%	1/4W
R6603	1-249-430-11	CARBON 12K 5%	1/4W	R6669	1-249-413-11	CARBON 470 5%	1/4W
R6604	1-249-421-11	CARBON 2.2K 5%	1/4W	R6676	1-249-417-11	CARBON 1K 5%	1/4W
R6605	1-249-417-11	CARBON 1K 5%	1/4W	R6677	1-249-417-11	CARBON 1K 5%	1/4W
R6606 $\Delta$	1-202-968-11	CEMENTED 1.2 5%	10W	R6678	1-249-417-11	CARBON 1K 5%	1/4W
R6608 $\Delta$	1-220-797-11	CEMENTED 0.47 5%	10W	R6679	1-215-479-00	METAL 270K 1%	1/4W
R6611	1-260-125-11	CARBON 150K 5%	1/2W	R6681	1-215-467-00	METAL 82K 1%	1/4W
R6612	1-260-125-11	CARBON 150K 5%	1/2W	R6682	1-215-447-00	METAL 12K 1%	1/4W
R6613	1-216-369-00	METAL OXIDE 1 5%	2W	R6683	1-215-429-00	METAL 2.2K 1%	1/4W
R6614	1-260-125-11	CARBON 150K 5%	1/2W	R6684	1-247-807-31	CARBON 100 5%	1/4W
R6615	1-260-125-11	CARBON 150K 5%	1/2W	R6685	1-249-417-11	CARBON 1K 5%	1/4W
R6616	1-216-369-00	METAL OXIDE 1 5%	2W	R6686	1-215-449-00	METAL 15K 1%	1/4W
R6619	1-249-425-11	CARBON 4.7K 5%	1/4W	R6687	1-249-431-11	CARBON 15K 5%	1/4W
R6620	1-249-443-11	CARBON 0.47 5%	1/4W	R6688	1-249-417-11	CARBON 1K 5%	1/4W
R6624	1-249-425-11	CARBON 4.7K 5%	1/4W	R6689	1-247-843-11	CARBON 3.3K 5%	1/4W
R6625	1-249-429-11	CARBON 10K 5%	1/4W	R6690	1-249-429-11	CARBON 10K 5%	1/4W
R6626	1-247-807-31	CARBON 100 5%	1/4W	R6691	1-215-446-00	METAL 11K 1%	1/4W
R6627	1-249-429-11	CARBON 10K 5%	1/4W	R6692	1-215-445-00	METAL 10K 1%	1/4W
R6628	1-260-129-11	CARBON 330K 5%	1/2W	R6700	1-215-441-00	METAL 6.8K 1%	1/4W
R6629	1-260-129-11	CARBON 330K 5%	1/2W	R6701	1-215-437-00	METAL 4.7K 1%	1/4W
R6630	1-249-417-11	CARBON 1K 5%	1/4W	R6702	1-215-441-00	METAL 6.8K 1%	1/4W
R6631	1-249-425-11	CARBON 4.7K 5%	1/4W	R6703	1-215-437-00	METAL 4.7K 1%	1/4W
R6632	1-207-905-00	WIREWOUND 0.27 10%	2W	R6704	1-249-383-11	CARBON 1.5 5%	1/4W
R6633	1-249-429-11	CARBON 10K 5%	1/4W	R6705	1-247-791-91	CARBON 22 5%	1/4W
R6635	1-535-143-11	LEAD, JUMPER (10.0MM)		R6706	1-249-389-11	CARBON 4.7 5%	1/4W
R6637	1-249-421-11	CARBON 2.2K 5%	1/4W	R6707	1-215-888-00	METAL OXIDE 220 5%	2W
R6638	1-247-895-91	CARBON 470K 5%	1/4W	R6708	1-214-798-21	METAL 1.8 1%	1/2W
R6639	1-249-416-11	CARBON 820 5%	1/4W	R6709	1-214-798-21	METAL 1.8 1%	1/2W
R6640	1-249-417-11	CARBON 1K 5%	1/4W	R6710	1-247-843-11	CARBON 3.3K 5%	1/4W
R6641	1-260-127-11	CARBON 220K 5%	1/2W	R6711	1-249-418-11	CARBON 1.2K 5%	1/4W
R6642	1-249-389-11	CARBON 4.7 5%	1/4W	R6801	1-215-440-00	METAL 6.2K 1%	1/4W
R6643	1-249-417-11	CARBON 1K 5%	1/4W	R6802	1-214-915-00	METAL 120K 1%	1/2W
R6644	1-249-429-11	CARBON 10K 5%	1/4W	R6803	1-249-421-11	CARBON 2.2K 5%	1/4W
R6645	1-260-131-11	CARBON 470K 5%	1/2W	R6804	1-249-408-11	CARBON 180 5%	1/4W
R6646	1-249-429-11	CARBON 10K 5%	1/4W	R6805	1-249-408-11	CARBON 180 5%	1/4W
R6647	1-249-410-11	CARBON 270 5%	1/4W	R6806	1-249-411-11	CARBON 330 5%	1/4W
				R6807	1-249-411-11	CARBON 330 5%	1/4W

The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

D

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R6808	1-260-340-11	CARBON	10K 5% 1/2W	< TRANSFORMER >			
R6809	1-260-340-11	CARBON	10K 5% 1/2W	T6600	$\Delta$ 1-431-616-11	TRANSFORMER, CONVERTER	
R6811	1-216-461-00	METAL OXIDE	5.6K 5% 2W	T6601	$\Delta$ 1-433-516-11	TRANSFORMER, CONVERTER (PIT)	
R6812	1-215-895-11	METAL OXIDE	3.3K 5% 2W	T6651	1-431-732-21	TRANSFORMER, CONVERTER (SRT)	
R6813	1-215-920-11	METAL OXIDE	3.3K 5% 3W	T6801	1-433-489-31	TRANSFORMER, FERRITE (HDT)	
R6814	1-215-880-00	METAL OXIDE	10 5% 2W	T6802	1-433-489-31	TRANSFORMER, FERRITE (HDT)	
R6815	1-215-880-00	METAL OXIDE	10 5% 2W	T6804	$\Delta$ 1-453-340-21	TRANSFORMER ASSY, FLYBACK (NX4522//U214)	
R6816	1-216-361-00	METAL OXIDE	0.22 5% 2W	T6852	1-433-487-11	TRANSFORMER, FERRITE (DFT)	
R6817	1-216-361-00	METAL OXIDE	0.22 5% 2W	< THERMISTOR >			
R6818	1-249-405-11	CARBON	100 5% 1/4W	TH6600	$\Delta$ 1-809-827-11	THERMISTOR, POSITIVE	
R6819	1-247-807-31	CARBON	100 5% 1/4W	TH6700	1-800-193-00	THERMISTOR	
R6820	1-535-143-51	LEAD, JUMPER	(20.0MM)	<b>D Board Variant Parts KV-28FX65</b>			
R6821	1-535-143-51	LEAD, JUMPER	(20.0MM)	< CAPACITOR >			
R6831	1-260-124-11	CARBON	120K 5% 1/2W	C6652	1-107-678-11	ELECT 4.7UF 20.00% 450V	
R6832	1-216-434-11	METAL OXIDE	1.8K 5% 1W	C6682	1-535-143-61	LEAD, JUMPER (5.0MM)	
R6833	1-202-972-61	FUSIBLE	1 5% 1/4W	C6814	1-117-641-11	FILM 7500PF 3.00% 1.2KV	
R6834	1-535-143-21	LEAD, JUMPER	(12.5MM)	C6815	1-117-836-11	FILM 6800PF 3.00% 1.5KV	
R6835	1-260-288-11	CARBON	0.47 5% 1/2W	C6825	1-115-514-11	FILM 0.22UF 5.00% 250V	
R6837	1-215-919-11	METAL OXIDE	2.2K 5% 3W	C6826	1-115-520-11	FILM 0.68UF 5.00% 250V	
R6838	1-214-905-11	METAL	47K 1% 1/2W	< DIODE >			
R6839	1-215-919-11	METAL OXIDE	2.2K 5% 3W	D6652	8-719-923-78	DIODE MTZJ-T-77-12	
R6840	1-247-843-11	CARBON	3.3K 5% 1/4W	< RESISTOR >			
R6842	1-260-123-11	CARBON	100K 5% 1/2W	R6810	1-215-920-11	METAL OXIDE 3.3K 5% 3W	
R6843	1-249-429-11	CARBON	10K 5% 1/4W	R6836	1-249-432-11	CARBON 18K 5% 1/4W	
R6844	1-249-441-11	CARBON	100K 5% 1/4W	R6856	1-216-486-00	METAL OXIDE 8.2K 5% 3W	
R6845	1-249-433-11	CARBON	22K 5% 1/4W	R6857	1-216-486-00	METAL OXIDE 8.2K 5% 3W	
R6851	1-260-123-11	CARBON	100K 5% 1/2W	R6858	1-216-486-00	METAL OXIDE 8.2K 5% 3W	
R6852	1-260-123-11	CARBON	100K 5% 1/2W	R6859	1-216-486-00	METAL OXIDE 8.2K 5% 3W	
R6853	1-260-123-11	CARBON	100K 5% 1/2W	R6897	1-215-485-00	METAL 470K 1% 1/4W	
R6854	1-249-417-11	CARBON	1K 5% 1/4W	<b>D Board Variant Parts KV-32FX65</b>			
R6880	1-215-436-00	METAL	4.3K 1% 1/4W	< CAPACITOR >			
R6885	1-215-493-00	METAL	1M 1% 1/4W	C6652	1-107-679-91	ELECT 10UF 20.00% 450V (KV-32FX65B/32FX65E/32FX65K)	
R6886	1-215-477-00	METAL	220K 1% 1/4W		1-107-678-11	ELECT 4.7UF 20.00% 450V (KV-32FX65U)	
R6887	1-215-461-00	METAL	47K 1% 1/4W	C6682	1-107-679-91	ELECT 10UF 20.00% 450V (KV-32FX65B/32FX65E/32FX65K)	
R6888	1-249-441-11	CARBON	100K 5% 1/4W		1-535-143-61	LEAD, JUMPER (5.0MM) (KV-32FX65U)	
R6891	1-535-143-61	LEAD, JUMPER	(5.0MM)	< RELAY >			
R6892	1-535-143-61	LEAD, JUMPER	(5.0MM)	RY6601	$\Delta$ 1-755-266-11	RELAY, AC POWER	
R6895	1-249-443-11	CARBON	0.47 5% 1/4W	RY6602	$\Delta$ 1-755-167-11	RELAY, AC POWER	
R6896	1-249-443-11	CARBON	0.47 5% 1/4W				
R6898	1-215-493-00	METAL	1M 1% 1/4W				
R6899	1-215-493-00	METAL	1M 1% 1/4W				

D

D1

REF.NO.	PART.NO	DESCRIPTION	REMARK
C6814	1-117-640-11	FILM 6800PF	3.00% 1.2KV
C6815	1-117-835-11	FILM 6200PF	3.00% 1.5KV
C6825	1-117-662-11	FILM 0.18UF	5.00% 250V
C6826	1-115-519-11	FILM 0.56UF	5.00% 250V
< DIODE >			
D6652	8-719-923-79	DIODE MTZJ-T-77-12A (KV-32FX65B/32FX65E/32FX65K)	
	8-719-923-78	DIODE MTZJ-T-77-12 (KV-32FX65U)	
< RESISTOR >			
R6810	1-215-484-00	METAL OXIDE 3.9K 5%	3W
R6836	1-249-431-11	CARBON 15K 5%	1/4W
R6856	1-216-485-00	METAL OXIDE 5.6K 5%	3W
R6857	1-216-485-00	METAL OXIDE 5.6K 5%	3W
R6858	1-216-485-00	METAL OXIDE 5.6K 5%	3W
R6859	1-216-485-00	METAL OXIDE 5.6K 5%	3W
R6897	1-215-489-00	METAL 680K 1%	1/4W

**\*A-1640-382-A D1 Board, Complete  
(KV-28FX65)**  
**\*A-1640-322-A D1 Board, Complete  
(KV-32FX65B/32FX65E/32FX65K)**  
**\*A-1640-385-A D1 Board, Complete  
(KV-32FX65U)**

#### D1 Board, Common Parts

4-382-854-11 SCREW (M3X10), P, SW (+)

< CAPACITOR >

C6100	1-136-165-00	FILM 0.1UF	5.00% 50V
C6101	1-136-165-00	FILM 0.1UF	5.00% 50V
C6102	1-136-165-00	FILM 0.1UF	5.00% 50V
C6103	1-163-205-00	CERAMIC CHIP 0.001UF	5.00% 50V
C6104	1-163-205-00	CERAMIC CHIP 0.001UF	5.00% 50V
C6105	1-126-967-11	ELECT 47UF	20.00% 50V
C6106	1-163-133-00	CERAMIC CHIP 470PF	5.00% 50V
C6108	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C6109	1-126-967-11	ELECT 47UF	20.00% 50V
C6110	1-126-967-11	ELECT 47UF	20.00% 50V
C6112	1-163-037-11	CERAMIC CHIP 0.022UF	10.00% 50V
C6113	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C6114	1-126-964-11	ELECT 10UF	20.00% 50V
C6115	1-163-005-11	CERAMIC CHIP 470PF	10.00% 50V
C6116	1-163-275-11	CERAMIC CHIP 0.001UF	5.00% 50V
C6117	1-163-275-11	CERAMIC CHIP 0.001UF	5.00% 50V
C6119	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C6120	1-163-809-11	CERAMIC CHIP 0.047UF	10.00% 25V

REF.NO.	PART.NO	DESCRIPTION	REMARK
C6121	1-126-964-11	ELECT 10UF	20.00% 50V
C6122	1-126-967-11	ELECT 47UF	20.00% 50V
C6125	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C6126	1-163-809-11	CERAMIC CHIP 0.047UF	10.00% 25V
C6127	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C6128	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C6129	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C6131	1-126-964-11	ELECT 10UF	20.00% 50V
C6132	1-163-259-91	CERAMIC CHIP 220PF	5.00% 50V
C6199	1-163-229-11	CERAMIC CHIP 12PF	5.00% 50V
C6207	1-126-967-11	ELECT 47UF	20.00% 50V
C6208	1-126-967-11	ELECT 47UF	20.00% 50V
C6210	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
C6250	1-104-664-11	ELECT 47UF	20.00% 16V
C6253	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C6254	1-136-177-00	FILM 1UF	5.00% 50V
C6255	1-136-177-00	FILM 1UF	5.00% 50V
C6256	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C6257	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C6258	1-163-127-00	CERAMIC CHIP 270PF	5.00% 50V
C6259	1-110-501-11	CERAMIC CHIP 0.33UF	10.00% 16V
C6260	1-104-664-11	ELECT 47UF	20.00% 16V
C6261	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C6262	1-136-165-00	FILM 0.1UF	5.00% 50V
C6263	1-163-109-00	CERAMIC CHIP 47PF	5.00% 50V
C6264	1-126-964-11	ELECT 10UF	20.00% 50V
C6306	1-126-964-11	ELECT 10UF	20.00% 50V
C6307	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C6350	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C6351	1-126-967-11	ELECT 47UF	20.00% 50V
C6353	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C6354	1-136-159-00	FILM 0.033UF	5.00% 50V
C6355	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C6356	1-163-809-11	CERAMIC CHIP 0.047UF	10.00% 25V
C6357	1-136-165-00	FILM 0.1UF	5.00% 50V
C6358	1-104-329-11	CERAMIC CHIP 0.1UF	10.00% 50V
C6359	1-104-329-11	CERAMIC CHIP 0.1UF	10.00% 50V
C6360	1-107-714-11	ELECT 10UF	20.00% 50V
C6361	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C6362	1-164-182-11	CERAMIC CHIP 0.0033UF	10.00% 50V
C6363	1-104-665-11	ELECT 100UF	20.00% 25V
C6364	1-136-347-11	FILM 0.0047UF	5.00% 630V
C6365	1-163-809-11	CERAMIC CHIP 0.047UF	10.00% 25V
C6367	1-104-329-11	CERAMIC CHIP 0.1UF	10.00% 50V
C6368	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C6370	1-136-347-11	FILM 0.0047UF	5.00% 630V
C6373	1-136-153-00	FILM 0.01UF	5.00% 50V



The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

D1

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C6374	1-129-716-00	FILM 0.015UF	5.00% 630V	D6402	8-719-982-03	DIODE MTZJ-T-77-3.6A	
C6375	1-102-110-00	CERAMIC 220PF	10.00% 50V	D6403	8-719-921-63	DIODE MTZJ-T-77-7.5B	
C6376	1-104-664-11	ELECT 47UF	20.00% 16V	D6404	8-719-914-43	DIODE DAN202K-T-146	
C6377	1-128-551-11	ELECT 22UF	20.00% 25V	D6405	8-719-921-63	DIODE MTZJ-T-77-7.5B	
C6378	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V				
						< IC >	
C6380	1-136-165-00	FILM 0.1UF	5.00% 50V	IC6100	8-759-450-95	IC LM393N	
C6381	1-126-960-11	ELECT 1UF	20.00% 50V	IC6101	8-759-450-95	IC LM393N	
C6385	1-104-664-11	ELECT 47UF	20.00% 25V	IC6102	8-759-638-79	IC NJM3404AD-W	
C6386	1-104-664-11	ELECT 47UF	20.00% 25V	IC6103	8-759-450-95	IC LM393N	
C6388	1-126-964-11	ELECT 10UF	20.00% 50V	IC6251	8-759-903-16	IC LM318P	
C6389	1-126-964-11	ELECT 10UF	20.00% 50V				
C6392	1-104-664-11	ELECT 47UF	20.00% 25V	IC6302	8-752-072-94	IC CXA1875AM-T4	
C6401	1-126-964-11	ELECT 10UF	20.00% 50V	IC6350	8-759-008-70	IC LM358N	
C6402	1-107-714-11	ELECT 10UF	20.00% 50V	IC6351	8-759-450-95	IC LM393N	
C6407	1-136-161-00	FILM 0.047UF	5.00% 50V	IC6352	8-759-450-95	IC LM393N	
				IC6353	8-759-231-53	IC L7805CV	
C6408	1-136-161-00	FILM 0.047UF	5.00% 50V				
C6409	1-126-964-11	ELECT 10UF	20.00% 50V	IC6354	8-759-325-48	IC CA0005AD	
				IC6355	8-759-008-70	IC LM358N	
				IC6356	8-759-822-38	IC LA6510	
						< FILTER >	
CN6502	*1-564-509-11	PLUG, CONNECTOR 6P		LF6350	1-406-989-21	INDUCTOR 10MH	
CN6600	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		LF6351	1-406-989-21	INDUCTOR 10MH	
CN6601	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P					
CN6622	*1-564-506-11	PLUG, CONNECTOR 3P					
CN6633	*1-564-506-11	PLUG, CONNECTOR 3P					
						< IC LINK >	
				PS6376 $\Delta$	1-532-637-00	LINK, IC 1A (ICP-N25)	
						< TRANSISTOR >	
D6102	8-719-914-43	DIODE DAN202K-T-146		Q6100	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D6104	8-719-914-43	DIODE DAN202K-T-146		Q6101	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D6105	8-719-914-43	DIODE DAN202K-T-146		Q6102	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D6107	8-719-914-43	DIODE DAN202K-T-146		Q6103	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D6108	8-719-921-40	DIODE MTZJ-T-77-4.7B		Q6104	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D6127	8-719-914-43	DIODE DAN202K-T-146		Q6105	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D6128	8-719-914-43	DIODE DAN202K-T-146		Q6106	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D6129	8-719-914-43	DIODE DAN202K-T-146		Q6107	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D6198	1-535-143-61	LEAD, JUMPER (5.0MM)		Q6108	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
D6253	8-719-911-19	DIODE 1SS119-25TD		Q6110	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
D6254	1-535-143-61	LEAD, JUMPER (5.0MM)		Q6112	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D6255	8-719-914-43	DIODE DAN202K-T-146		Q6113	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D6350	8-719-914-43	DIODE DAN202K-T-146		Q6118	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D6351	8-719-914-43	DIODE DAN202K-T-146		Q6119	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
D6352	8-719-914-43	DIODE DAN202K-T-146		Q6120	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
D6353	8-719-987-87	DIODE ERA82-004TP1		Q6122	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
D6354	8-719-914-43	DIODE DAN202K-T-146		Q6123	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
D6355	8-719-914-43	DIODE DAN202K-T-146		Q6125	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D6358	8-719-914-43	DIODE DAN202K-T-146		Q6126	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
D6359	8-719-302-43	DIODE RGP10GPKG23					
D6401	8-719-914-43	DIODE DAN202K-T-146					

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
Q6127	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R6123	1-216-089-11	RES-CHIP 47K 5%	1/10W
Q6128	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R6124	1-216-089-11	RES-CHIP 47K 5%	1/10W
Q6129	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R6125	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
Q6201	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R6126	1-216-037-00	RES-CHIP 330 5%	1/10W
Q6202	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R6128	1-208-822-11	METAL CHIP 47K 0.5%	1/10W
Q6250	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R6129	1-208-822-11	METAL CHIP 47K 0.5%	1/10W
Q6251	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R6131	1-216-037-00	RES-CHIP 330 5%	1/10W
Q6252	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R6132	1-216-037-00	RES-CHIP 330 5%	1/10W
Q6253	8-729-045-04	TRANSISTOR 2SC5511		R6133	1-216-037-00	RES-CHIP 330 5%	1/10W
Q6254	8-729-045-05	TRANSISTOR 2SA2005		R6135	1-163-021-91	CERAMIC CHIP 0.01UF 10.00% 50V	
Q6350	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R6136	1-208-822-11	METAL CHIP 47K 0.5%	1/10W
Q6351	8-729-119-78	TRANSISTOR 2SC1740S-RT		R6137	1-208-822-11	METAL CHIP 47K 0.5%	1/10W
Q6352	8-729-140-97	TRANSISTOR 2SB734-T-3		R6138	1-208-822-11	METAL CHIP 47K 0.5%	1/10W
Q6353	8-729-140-97	TRANSISTOR 2SB734-T-3		R6139	1-208-822-11	METAL CHIP 47K 0.5%	1/10W
Q6354	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R6140	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
Q6356	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R6143	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
Q6358	8-729-038-83	TRANSISTOR 2SK2251-01-F19		R6146	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
Q6401	1-801-806-11	TRANSISTOR DTC144EKA-T146		R6148	1-216-295-11	SHORT 0	
Q6402	1-801-806-11	TRANSISTOR DTC144EKA-T146		R6149	1-216-025-11	RES-CHIP 100 5%	1/10W
Q6403	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R6155	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
Q6404	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R6160	1-216-295-11	SHORT 0	
Q6405	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R6162	1-216-049-11	RES-CHIP 1K 5%	1/10W
Q6455	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R6165	1-216-699-91	METAL CHIP 100K 0.5%	1/10W
Q6465	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R6168	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
< RESISTOR >				R6169	1-216-699-91	METAL CHIP 100K 0.5%	1/10W
R6100	1-216-033-00	RES-CHIP 220 5%	1/10W	R6170	1-216-037-00	RES-CHIP 330 5%	1/10W
R6101	1-216-033-00	RES-CHIP 220 5%	1/10W	R6171	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
R6102	1-216-057-00	RES-CHIP 2.2K 5%	1/10W	R6177	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R6103	1-216-057-00	RES-CHIP 2.2K 5%	1/10W	R6180	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
R6104	1-216-057-00	RES-CHIP 2.2K 5%	1/10W	R6182	1-216-089-11	RES-CHIP 47K 5%	1/10W
R6105	1-216-049-11	RES-CHIP 1K 5%	1/10W	R6183	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
R6106	1-216-057-00	RES-CHIP 2.2K 5%	1/10W	R6188	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R6109	1-208-814-91	METAL CHIP 22K 0.5%	1/10W	R6190	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
R6110	1-208-814-91	METAL CHIP 22K 0.5%	1/10W	R6191	1-215-925-11	METAL OXIDE 22K 5%	3W
R6111	1-216-057-00	RES-CHIP 2.2K 5%	1/10W	R6194	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R6112	1-216-057-00	RES-CHIP 2.2K 5%	1/10W	R6195	1-208-814-91	METAL CHIP 22K 0.5%	1/10W
R6113	1-216-073-00	RES-CHIP 10K 5%	1/10W	R6196	1-249-377-11	CARBON 0.47 5%	1/4W
R6114	1-216-073-00	RES-CHIP 10K 5%	1/10W	R6199	1-216-081-00	RES-CHIP 22K 5%	1/10W
R6115	1-216-089-11	RES-CHIP 47K 5%	1/10W	R6205	1-216-025-11	RES-CHIP 100 5%	1/10W
R6116	1-216-089-11	RES-CHIP 47K 5%	1/10W	R6208	1-216-089-11	RES-CHIP 47K 5%	1/10W
R6117	1-216-073-00	RES-CHIP 10K 5%	1/10W	R6210	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
R6118	1-216-073-00	RES-CHIP 10K 5%	1/10W	R6211	1-216-073-00	RES-CHIP 10K 5%	1/10W
R6119	1-216-073-00	RES-CHIP 10K 5%	1/10W	R6212	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
R6120	1-216-057-00	RES-CHIP 2.2K 5%	1/10W	R6216	1-216-089-11	RES-CHIP 47K 5%	1/10W
R6121	1-216-057-00	RES-CHIP 2.2K 5%	1/10W	R6217	1-216-073-00	RES-CHIP 10K 5%	1/10W
R6122	1-216-057-00	RES-CHIP 2.2K 5%	1/10W	R6218	1-216-295-11	SHORT 0	
				R6254	1-216-049-11	RES-CHIP 1K 5%	1/10W

REF. NO.	PART.NO	DESCRIPTION	REMARK			REF. NO.	PART.NO	DESCRIPTION	REMARK		
R6255	1-216-061-00	RES-CHIP	3.3K	5%	1/10W	R6374	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R6256	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R6375	1-216-041-00	RES-CHIP	470	5%	1/10W
R6257	1-216-061-00	RES-CHIP	3.3K	5%	1/10W	R6377	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R6258	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R6378	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6259	1-216-097-11	RES-CHIP	100K	5%	1/10W	R6379	1-216-295-11	SHORT	0		
R6260	1-216-049-11	RES-CHIP	1K	5%	1/10W	R6380	1-218-754-11	METAL CHIP	120K	0.5%	1/10W
R6261	1-216-097-11	RES-CHIP	100K	5%	1/10W	R6381	1-216-045-00	RES-CHIP	680	5%	1/10W
R6262	1-260-321-71	CARBON	270	5%	1/2W	R6382	1-218-754-11	METAL CHIP	120K	0.5%	1/10W
R6263	1-216-025-11	RES-CHIP	100	5%	1/10W	R6383	1-216-687-11	METAL CHIP	33K	0.5%	1/10W
R6264	1-216-025-11	RES-CHIP	100	5%	1/10W	R6384	1-216-043-91	RES-CHIP	560	5%	1/10W
R6267	1-216-049-11	RES-CHIP	1K	5%	1/10W	R6385	1-216-295-11	SHORT	0		
R6269	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W	R6386	1-216-699-91	METAL CHIP	100K	0.5%	1/10W
R6270	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W	R6387	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R6271	1-208-814-91	METAL CHIP	22K	0.5%	1/10W	R6391	1-249-417-11	CARBON	1K	5%	1/4W
R6278	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R6394	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R6279	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R6395	1-216-081-00	RES-CHIP	22K	5%	1/10W
R6280	1-212-849-00	FUSIBLE	4.7	5%	1/4W	R6397	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6281	1-212-849-00	FUSIBLE	4.7	5%	1/4W	R6398	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6282	1-215-886-11	METAL OXIDE	100	5%	2W	R6401	1-216-295-11	SHORT	0		
R6283	1-216-393-00	METAL OXIDE	2.2	5%	3W	R6402	1-216-295-11	SHORT	0		
R6285	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R6403	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R6313	1-216-295-11	SHORT	0			R6404	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6322	1-216-049-11	RES-CHIP	1K	5%	1/10W	R6405	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6323	1-216-049-11	RES-CHIP	1K	5%	1/10W	R6409	1-216-025-11	RES-CHIP	100	5%	1/10W
R6324	1-216-025-11	RES-CHIP	100	5%	1/10W	R6410	1-216-073-00	RES-CHIP	10K	5%	1/10W
R6325	1-216-025-11	RES-CHIP	100	5%	1/10W	R6411	1-216-073-00	RES-CHIP	10K	5%	1/10W
R6350	1-216-089-11	RES-CHIP	47K	5%	1/10W	R6412	1-216-073-00	RES-CHIP	10K	5%	1/10W
R6351	1-218-762-11	METAL CHIP	270K	0.5%	1/10W	R6413	1-216-679-11	METAL CHIP	15K	0.5%	1/10W
R6353	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W	R6414	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6355	1-218-774-11	METAL CHIP	820K	0.5%	1/10W	R6415	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6356	1-208-806-11	METAL CHIP	10K	0.5%	1/10W	R6416	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6357	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R6418	1-216-091-00	RES-CHIP	56K	5%	1/10W
R6358	1-216-047-91	RES-CHIP	820	5%	1/10W	R6419	1-216-073-00	RES-CHIP	10K	5%	1/10W
R6359	1-216-097-11	RES-CHIP	100K	5%	1/10W	R6420	1-216-089-11	RES-CHIP	47K	5%	1/10W
R6360	1-216-073-00	RES-CHIP	10K	5%	1/10W	R6421	1-216-637-11	METAL CHIP	270	0.5%	1/10W
R6361	1-216-097-11	RES-CHIP	100K	5%	1/10W	R6422	1-208-770-11	METAL CHIP	330	0.5%	1/10W
R6362	1-216-687-11	METAL CHIP	33K	0.5%	1/10W	R6423	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W
R6363	1-208-806-11	METAL CHIP	10K	0.5%	1/10W	R6426	1-216-081-00	RES-CHIP	22K	5%	1/10W
R6364	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R6427	1-216-081-00	RES-CHIP	22K	5%	1/10W
R6365	1-216-033-00	RES-CHIP	220	5%	1/10W	R6429	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6366	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R6430	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6367	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	R6432	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6368	1-218-760-11	METAL CHIP	220K	0.5%	1/10W	R6433	1-216-073-00	RES-CHIP	10K	5%	1/10W
R6369	1-218-762-11	METAL CHIP	270K	0.5%	1/10W	R6437	1-249-422-11	CARBON	2.7K	5%	1/4W
R6371	1-216-474-11	METAL OXIDE	82	5%	3W	R6438	1-249-421-11	CARBON	2.2K	5%	1/4W
R6372	1-216-033-00	RES-CHIP	220	5%	1/10W	R6439	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6373	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	R6440	1-208-814-91	METAL CHIP	22K	0.5%	1/10W

REF.NO.	PART.NO	DESCRIPTION	REMARK		
R6441	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6442	1-216-039-00	RES-CHIP	390	5%	1/10W
R6455	1-216-295-11	SHORT	0		
R6456	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6457	1-216-075-00	RES-CHIP	12K	5%	1/10W
R6458	1-216-089-11	RES-CHIP	47K	5%	1/10W
R6459	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6460	1-249-393-11	CARBON	10	5%	1/4W
R6461	1-249-411-11	CARBON	330	5%	1/4W
R6462	1-249-406-11	CARBON	120	5%	1/4W
R6463	1-216-095-00	RES-CHIP	82K	5%	1/10W
R6464	1-216-079-00	RES-CHIP	18K	5%	1/10W

### D1 Board Variant Parts KV-28FX65

#### < CAPACITOR >

C6130	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C6134	1-102-508-91	CERAMIC	10PF	0.50PF	50V
C6209	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C6251	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C6252	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C6420	1-136-165-00	FILM	0.1UF	5.00%	50V
C6421	1-136-165-00	FILM	0.1UF	5.00%	50V

#### < IC >

IC6250	8-759-595-52	IC CXA8070AP
--------	--------------	--------------

#### < RESISTOR >

R6107	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W
R6108	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W
R6127	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R6130	1-218-768-11	METAL CHIP	470K	0.5%	1/10W
R6141	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6142	1-216-670-11	METAL CHIP	6.2K	0.5%	1/10W
R6144	1-216-105-91	RES-CHIP	220K	5%	1/10W
R6145	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R6154	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R6158	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R6159	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R6161	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R6174	1-216-075-00	RES-CHIP	12K	5%	1/10W
R6175	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6176	1-216-295-11	SHORT	0		
R6179	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6186	1-216-045-00	RES-CHIP	680	5%	1/10W
R6189	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R6192	1-208-814-91	METAL CHIP	22K	0.5%	1/10W

R6193	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
R6198	1-216-089-11	RES-CHIP	47K	5%	1/10W
R6200	1-216-695-11	METAL CHIP	68K	0.5%	1/10W
R6206	1-216-107-00	RES-CHIP	270K	5%	1/10W
R6207	1-216-113-00	RES-CHIP	470K	5%	1/10W
R6215	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R6265	1-216-101-00	RES-CHIP	150K	5%	1/10W
R6268	1-216-081-00	RES-CHIP	22K	5%	1/10W
R6276	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R6277	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R6284	1-216-113-00	RES-CHIP	470K	5%	1/10W
R6286	1-216-073-00	RES-CHIP	10K	5%	1/10W
R6287	1-216-073-00	RES-CHIP	10K	5%	1/10W
R6370	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6399	1-218-756-11	METAL CHIP	150K	0.5%	1/10W
R6400	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6428	1-216-103-00	RES-CHIP	180K	5%	1/10W
R6431	1-216-115-00	RES-CHIP	560K	5%	1/10W

### D1 Board Variant Parts KV-32FX65

#### < CAPACITOR >

C6209	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C6251	1-216-295-11	SHORT	0		(KV-32FX65B/32FX65E/32FX65K)
	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
					(KV-32FX65U)
C6252	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C6420	1-136-165-00	FILM	0.1UF	5.00%	50V
					(KV-32FX65U)
C6421	1-136-165-00	FILM	0.1UF	5.00%	50V
					(KV-32FX65U)

#### < IC >

IC6250	8-759-478-66	IC CXA8070P	(KV-32FX65B/32FX65E/32FX65K)		
	8-759-595-52	IC CXA8070AP	(KV-32FX65U)		

#### < RESISTOR >

R6107	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R6108	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R6127	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W
R6130	1-218-769-11	METAL CHIP	510K	0.5%	1/10W
R6141	1-216-679-91	METAL CHIP	15K	0.5%	1/10W
R6142	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R6144	1-216-099-00	RES-CHIP	120K	5%	1/10W
R6145	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R6154	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6158	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R6159	1-216-295-11	SHORT	0	C4331	1-126-959-11	ELECT 0.47UF	20.00% 50V
R6161	1-216-673-11	METAL CHIP	8.2K 0.5% 1/10W	C4332	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6174	1-216-081-00	RES-CHIP	22K 5% 1/10W	C4333	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6175	1-216-069-00	RES-CHIP	6.8K 5% 1/10W	C4334	1-126-967-11	ELECT 47UF	20.00% 50V
R6176	1-216-071-00	RES-CHIP	8.2K 5% 1/10W	C4336	1-126-967-11	ELECT 47UF	20.00% 50V
R6179	1-216-295-11	SHORT	0	C4338	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6186	1-216-063-91	RES-CHIP	3.9K 5% 1/10W	C4340	1-126-967-11	ELECT 47UF	20.00% 50V
R6189	1-216-295-11	SHORT	0	C4342	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
R6192	1-208-806-11	METAL CHIP	10K 0.5% 1/10W	C4343	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6198	1-216-081-11	RES-CHIP	22K 5% 1/10W	C4344	1-163-809-11	CERAMIC CHIP 0.047UF	10.00% 25V
R6206	1-216-105-91	RES-CHIP	220K 5% 1/10W	C4345	1-126-967-11	ELECT 47UF	20.00% 50V
R6207	1-216-105-91	RES-CHIP	220K 5% 1/10W	C4346	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6215	1-216-089-11	RES-CHIP	47K 5% 1/10W	C4347	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6265	1-216-105-91	RES-CHIP	220K 5% 1/10W	C4348	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6266	1-216-113-00	RES-CHIP	470K 5% 1/10W	C4349	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6268	1-216-093-00	RES-CHIP	68K 5% 1/10W	C4350	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6276	1-216-686-11	METAL CHIP	30K 0.5% 1/10W	C4351	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
R6277	1-216-686-11	METAL CHIP	30K 0.5% 1/10W	C4352	1-126-967-11	ELECT 47UF	20.00% 50V
R6284	1-216-109-00	RES-CHIP	330K 5% 1/10W	C4353	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
R6286	1-216-071-00	RES-CHIP	8.2K 5% 1/10W	C4354	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
R6287	1-216-081-00	RES-CHIP	22K 5% 1/10W	C4355	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6370	1-216-677-11	METAL CHIP	12K 0.5% 1/10W	C4356	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6399	1-216-695-11	METAL CHIP	68K 0.5% 1/10W	C4357	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6400	1-216-677-11	METAL CHIP	12K 0.5% 1/10W	C4358	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
R6428	1-216-101-00	RES-CHIP	150K 5% 1/10W	C4359	1-164-161-11	CERAMIC CHIP 0.0022UF	10.00% 50V
R6431	1-216-113-00	RES-CHIP	470K 5% 1/10W	C4360	1-126-963-11	ELECT 4.7UF	20.00% 50V
*A-1640-383-A E Board, Complete (KV-28FX65) *A-1640-381-A E Board, Complete (KV-32FX65B/32FX65E/32FX65K) *A-1640-384-A E Board, Complete (KV-32FX65U)				C4362	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
E Board, Common Parts				C4363	1-126-967-11	ELECT 47UF	20.00% 50V
< CAPACITOR >				C4364	1-126-967-11	ELECT 47UF	20.00% 50V
C4316	1-104-664-11	ELECT	47UF 20.00% 25V	C4366	1-163-059-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4317	1-164-004-11	CERAMIC CHIP	0.1UF 10.00% 25V	C4367	1-104-760-11	CERAMIC CHIP 0.047UF	10.00% 50V
C4318	1-164-004-11	CERAMIC CHIP	0.1UF 10.00% 25V	C4369	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C4319	1-164-004-11	CERAMIC CHIP	0.1UF 10.00% 25V	C4370	1-126-967-11	ELECT 47UF	20.00% 50V
C4320	1-164-004-11	CERAMIC CHIP	0.1UF 10.00% 25V	C4371	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C4321	1-164-004-11	CERAMIC CHIP	0.1UF 10.00% 25V	C4377	1-126-960-11	ELECT 1UF	20.00% 50V
C4322	1-164-004-11	CERAMIC CHIP	0.1UF 10.00% 25V	C4519	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C4324	1-164-004-11	CERAMIC CHIP	0.1UF 10.00% 25V	< CONNECTOR >			
C4325	1-163-227-11	CERAMIC CHIP	10PF 0.50PF 50V	CN4101	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P	
C4329	1-126-963-11	ELECT	4.7UF 20.00% 50V	CN4500	*1-564-511-11	PLUG, CONNECTOR 8P	
C4330	1-137-581-11	FILM	0.1UF 5.00% 100V	CN4502	*1-564-506-11	PLUG, CONNECTOR 3P	
				< DIODE >			
				D4304	8-719-923-60	DIODE MTZJ-T-77-9.1	
				D4305	8-719-923-60	DIODE MTZJ-T-77-9.1	
				D4311	8-719-914-43	DIODE DAN202K-T-146	
				D4312	8-719-914-43	DIODE DAN202K-T-146	

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
D4313	8-719-401-63	DIODE MA3062M-TX		R4332	1-216-073-00	RES-CHIP 10K 5%	1/10W
	< FERRITE BEAD >			R4333	1-216-073-00	RES-CHIP 10K 5%	1/10W
FB4387	1-414-234-22	INDUCTOR CHIP 0UH		R4334	1-216-025-11	RES-CHIP 100 5%	1/10W
FB4388	1-414-234-22	INDUCTOR CHIP 0UH		R4335	1-216-025-11	RES-CHIP 100 5%	1/10W
FB4389	1-414-234-22	INDUCTOR CHIP 0UH		R4336	1-216-025-11	RES-CHIP 100 5%	1/10W
	< IC >			R4337	1-216-025-11	RES-CHIP 100 5%	1/10W
IC4301	8-752-090-88	IC CXA2100AQ-TL		R4339	1-216-049-11	RES-CHIP 1K 5%	1/10W
	< COIL >			R4340	1-216-111-00	RES-CHIP 390K 5%	1/10W
L4301	1-414-183-41	INDUCTOR 10UH		R4341	1-216-295-11	SHORT 0	
L4302	1-414-183-41	INDUCTOR 10UH		R4343	1-216-025-11	RES-CHIP 100 5%	1/10W
L4303	1-414-183-41	INDUCTOR 10UH		R4344	1-216-025-11	RES-CHIP 100 5%	1/10W
L4304	1-414-183-41	INDUCTOR 10UH		R4345	1-216-677-11	METAL CHIP 12K 0.5%	1/10W
L4305	1-414-183-41	INDUCTOR 10UH		R4346	1-216-681-11	METAL CHIP 18K 0.5%	1/10W
L4306	1-414-183-41	INDUCTOR 10UH		R4347	1-216-025-11	RES-CHIP 100 5%	1/10W
L4308	1-414-186-31	INDUCTOR 33UH		R4348	1-216-025-11	RES-CHIP 100 5%	1/10W
L4309	1-414-186-31	INDUCTOR 33UH		R4350	1-216-025-11	RES-CHIP 100 5%	1/10W
	< TRANSISTOR >			R4354	1-208-806-11	METAL CHIP 10K 0.5%	1/10W
Q4304	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R4355	1-216-009-91	RES-CHIP 22 5%	1/10W
Q4307	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R4356	1-216-009-91	RES-CHIP 22 5%	1/10W
Q4308	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R4357	1-216-009-91	RES-CHIP 22 5%	1/10W
Q4309	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R4358	1-216-071-00	RES-CHIP 8.2K 5%	1/10W
Q4310	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R4359	1-216-041-00	RES-CHIP 470 5%	1/10W
Q4311	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R4360	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
Q4312	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R4361	1-216-133-00	RES-CHIP 3.3M 5%	1/10W
Q4313	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R4363	1-216-025-11	RES-CHIP 100 5%	1/10W
Q4315	1-801-806-11	TRANSISTOR DTC144EKA-T146		R4365	1-216-025-11	RES-CHIP 100 5%	1/10W
Q4316	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R4366	1-216-025-11	RES-CHIP 100 5%	1/10W
Q4317	8-729-900-53	TRANSISTOR DTC114EKA-T146		R4367	1-216-025-11	RES-CHIP 100 5%	1/10W
	< RESISTOR >			R4370	1-216-089-11	RES-CHIP 47K 5%	1/10W
R4301	1-216-025-11	RES-CHIP 100 5%	1/10W	R4371	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
R4302	1-216-025-11	RES-CHIP 100 5%	1/10W	R4372	1-216-049-11	RES-CHIP 1K 5%	1/10W
R4303	1-216-025-11	RES-CHIP 100 5%	1/10W	R4373	1-216-073-00	RES-CHIP 10K 5%	1/10W
R4304	1-216-025-11	RES-CHIP 100 5%	1/10W	R4374	1-216-049-11	RES-CHIP 1K 5%	1/10W
R4305	1-216-025-11	RES-CHIP 100 5%	1/10W	R4375	1-216-049-11	RES-CHIP 1K 5%	1/10W
R4306	1-216-025-11	RES-CHIP 100 5%	1/10W	R4376	1-216-049-11	RES-CHIP 1K 5%	1/10W
R4307	1-216-045-00	RES-CHIP 680 5%	1/10W	R4377	1-216-049-11	RES-CHIP 1K 5%	1/10W
R4308	1-216-045-00	RES-CHIP 680 5%	1/10W	R4378	1-216-101-00	RES-CHIP 150K 5%	1/10W
R4309	1-216-045-00	RES-CHIP 680 5%	1/10W	R4379	1-216-091-00	RES-CHIP 56K 5%	1/10W
R4313	1-216-065-91	RES-CHIP 4.7K 5%	1/10W	R4380	1-216-073-00	RES-CHIP 10K 5%	1/10W
R4314	1-216-057-00	RES-CHIP 2.2K 5%	1/10W	R4382	1-216-073-00	RES-CHIP 10K 5%	1/10W
R4331	1-216-073-00	RES-CHIP 10K 5%	1/10W	R4384	1-216-025-11	RES-CHIP 100 5%	1/10W
				R4387	1-216-031-00	RES-CHIP 180 5%	1/10W
				R4388	1-216-031-00	RES-CHIP 180 5%	1/10W
				R4389	1-216-031-00	RES-CHIP 180 5%	1/10W
				R4394	1-216-025-11	RES-CHIP 100 5%	1/10W
				R4395	1-216-295-11	SHORT 0	
				R4396	1-216-295-11	SHORT 0	

REF.NO.	PART.NO	DESCRIPTION				REMARK	REF.NO.	PART.NO	DESCRIPTION				REMARK
R4398	1-216-025-11	RES-CHIP	100	5%	1/10W		R4407	1-216-091-91	RES-CHIP	56K	5%	1/10W (KV-32FX65U)	
R4399	1-216-025-11	RES-CHIP	100	5%	1/10W		R4507	1-216-129-91	RES-CHIP	2.2M	5%	1/10W (KV-32FX65B/E/K)	
R4518	1-216-025-11	RES-CHIP	100	5%	1/10W		<div>*A-1646-229-A H8 Board, Complete (KV-28FX65/32FX65U)</div> <div>*A-1646-217-A H8 Board, Complete (KV-32FX65B/32FX65E/32FX65K)</div>						
R4519	1-216-073-00	RES-CHIP	10K	5%	1/10W								
R4520	1-216-295-11	SHORT	0										
R4521	1-216-295-11	SHORT	0										
R4522	1-216-073-00	RES-CHIP	10K	5%	1/10W		<div>H8 Board, Common Parts</div>						
< CRYSTAL >													
X4300	1-767-127-11	VIBRATOR, CERAMIC											
E Board Variant Parts KV-28FX65													
< CAPACITOR >							4-205-711-01 HOLDER, LED						
							8-719-109-89 DIODE MTZJ-T-77-5.6B						
< RESISTOR >							< CAPACITOR >						
C4379	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V		C7150	1-126-969-11	ELECT	220UF	20.00%	50V	
< RESISTOR >							< CONNECTOR >						
R4383	1-216-079-00	RES-CHIP	18K	5%	1/10W		CN7150	*1-564-519-11	PLUG, CONNECTOR 4P				
R4401	1-216-105-91	RES-CHIP	220K	5%	1/10W		< DIODE >						
R4404	1-216-073-00	RES-CHIP	10K	5%	1/10W		D7150	8-719-081-56	DIODE L-59SRGC-CC				
E Board Variant Parts KV-32FX65							< IC >						
< CAPACITOR >							IC7150	8-749-014-59	IC TSOP1740KS1				
C4379	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V (KV-32FX65U)		< RESISTOR >						
C4380	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V (KV-32FX65U)		R7150	1-249-409-11	CARBON	220	5%	1/4W	
C4518	1-162-638-11	CERAMIC CHIP	1UF	16V (KV-32FX65B/32FX65E/32FX65K)		R7151	1-249-411-11	CARBON	330	5%	1/4W		
< TRANSISTOR >							H8 Board Variant Parts KV-28FX65						
Q4318	8-719-026-49	TRANSISTOR 2SA1037AK-T146-R (KV-32FX65U)					< DIODE >						
< RESISTOR >							D7152	8-719-923-38	DIODE MTZJ-T-77-5.6B				
R4381	1-216-125-00	RES-CHIP	1.5K	5%	1/10W (KV-32FX65B/32FX65E/32FX65K)		< TRANSISTOR >						
R4383	1-216-089-11	RES-CHIP	47K	5%	1/10W (KV-32FX65B/32FX65E/32FX65K)		Q7150	8-729-029-57	TRANSISTOR DTA144ESA-TP				
	1-216-079-00	RES-CHIP	18K	5%	1/10W (KV-32FX65U)		< RESISTOR >						
R4401	1-216-107-00	RES-CHIP	270K	5%	1/10W (KV-32FX65B/32FX65E/32FX65K)		R7152	1-535-465-11	LEAD, JUMPER (5.0MM)				
	1-216-105-91	RES-CHIP	220K	5%	1/10W (KV-32FX65U)		R7153	1-249-425-11	CARBON	4.7K	5%	1/4W	
R4403	1-216-073-00	RES-CHIP	10K	5%	1/10W (KV-32FX65U)		R7154	1-247-817-91	CARBON	270	5%	1/4W	
R4404	1-216-073-00	RES-CHIP	10K	5%	1/10W (KV-32FX65U)								
R4405	1-216-689-11	RES-CHIP	39K	5%	1/10W (KV-32FX65U)								
R4406	1-216-105-91	RES-CHIP	220K	5%	1/10W (KV-32FX65U)								

**H8****J**

REF.NO.	PART.NO	DESCRIPTION	REMARK
<b>H8 Board Variant Parts KV-32FX65</b>			
< DIODE >			
D7152	8-719-923-38	DIODE MTZJ-T-77-5.6B	(KV-32FX65U)
< TRANSISTOR >			
Q7150	8-729-029-57	TRANSISTOR DTA144ESA-TP	(KV-32FX65U)
< RESISTOR >			
R7152	1-535-465-11	LEAD, JUMPER (5.0MM)	(KV-32FX65U)
R7153	1-247-817-91	CARBON 4.7K 5% 1/4W	(KV-32FX65U)
R7154	1-247-817-91	CARBON 270 5% 1/4W	(KV-32FX65U)

**\*A-1651-142-A J Board, Complete  
(KV-28FX65/32FX65U)**  
**\*A-1651-137-A J Board, Complete  
(KV-32FX65B/32FX65E/32FX65K)**

**J Board, Common Parts**

< CAPACITOR >			
C8105	1-126-933-11	ELECT 100UF	20.00% 16V
C8106	1-126-933-11	ELECT 100UF	20.00% 16V
C8107	1-126-935-11	ELECT 470UF	20.00% 16V
C8108	1-126-933-11	ELECT 100UF	20.00% 16V
C8109	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8110	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8111	1-126-933-11	ELECT 100UF	20.00% 16V
C8112	1-107-715-11	ELECT 22UF	20.00% 16V
C8144	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C8145	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C8200	1-104-664-11	ELECT 47UF	20.00% 16V
C8201	1-163-241-11	CERAMIC CHIP 39PF	5.00% 50V
C8202	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8203	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8204	1-164-506-11	CERAMIC CHIP 4.7UF	16V
C8205	1-165-319-11	CERAMIC CHIP 0.1UF	50V
C8208	1-164-506-11	CERAMIC CHIP 4.7UF	16V
C8209	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C8210	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8211	1-163-243-11	CERAMIC CHIP 47PF	5.00% 50V
C8212	1-163-243-11	CERAMIC CHIP 47PF	5.00% 50V
C8213	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V
C8214	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V
C8215	1-163-243-11	CERAMIC CHIP 47PF	5.00% 50V
C8216	1-126-933-11	ELECT 100UF	20.00% 16V

REF.NO.	PART.NO	DESCRIPTION	REMARK
C8217	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8218	1-126-964-11	ELECT 10UF	20.00% 50V
C8219	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8220	1-126-964-11	ELECT 10UF	20.00% 50V
C8221	1-104-664-11	ELECT 47UF	20.00% 16V
C8222	1-104-664-11	ELECT 47UF	20.00% 16V
C8223	1-104-664-11	ELECT 47UF	20.00% 16V
C8224	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8225	1-104-664-11	ELECT 47UF	20.00% 16V
C8227	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
C8228	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
C8229	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
C8230	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
C8231	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
C8232	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8233	1-104-664-11	ELECT 47UF	20.00% 16V
C8234	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C8235	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C8236	1-126-933-11	ELECT 100UF	20.00% 16V
C8237	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C8238	1-164-505-11	CERAMIC CHIP 2.2UF	16V
C8239	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C8240	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C8241	1-126-964-11	ELECT 10UF	20.00% 50V
C8242	1-104-664-11	ELECT 47UF	20.00% 16V
C8301	1-163-037-11	CERAMIC CHIP 0.022UF	10.00% 50V
C8302	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C8303	1-126-933-11	ELECT 100UF	20.00% 16V
C8304	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
C8305	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C8306	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C8307	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
C8308	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
C8309	1-126-961-11	ELECT 2.2UF	20.00% 50V
C8311	1-104-664-11	ELECT 47UF	20.00% 16V
C8313	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C8314	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C8318	1-104-664-11	ELECT 47UF	20.00% 16V
C8321	1-104-664-11	ELECT 47UF	20.00% 16V
C8322	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
C8323	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8324	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8325	1-126-964-11	ELECT 10UF	20.00% 50V
C8326	1-104-664-11	ELECT 47UF	20.00% 16V
C8328	1-104-664-11	ELECT 47UF	20.00% 16V
C8329	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C8335	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V



REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C8336	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8853	1-126-967-11	ELECT 47UF	20.00% 50V
C8337	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8854	1-164-346-11	CERAMIC CHIP 1UF	16V
C8338	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8855	1-164-346-11	CERAMIC CHIP 1UF	16V
C8345	1-164-346-11	CERAMIC CHIP 1UF	16V	C8856	1-164-346-11	CERAMIC CHIP 1UF	16V
C8346	1-126-963-11	ELECT 4.7UF	20.00% 50V	C8857	1-164-346-11	CERAMIC CHIP 1UF	16V
C8601	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8858	1-164-346-11	CERAMIC CHIP 1UF	16V
C8602	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8859	1-164-346-11	CERAMIC CHIP 1UF	16V
C8605	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8860	1-164-346-11	CERAMIC CHIP 1UF	16V
C8606	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8861	1-164-346-11	CERAMIC CHIP 1UF	16V
C8607	1-104-664-11	ELECT 47UF	20.00% 16V	C8862	1-164-346-11	CERAMIC CHIP 1UF	16V
C8608	1-104-664-11	ELECT 47UF	20.00% 16V	C8863	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8609	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8864	1-164-346-11	CERAMIC CHIP 1UF	16V
C8610	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8865	1-104-664-11	ELECT 47UF	20.00% 16V
C8611	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8866	1-164-346-11	CERAMIC CHIP 1UF	16V
C8612	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8867	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8613	1-104-664-11	ELECT 47UF	20.00% 16V	C8868	1-126-964-11	ELECT 10UF	20.00% 50V
C8614	1-104-664-11	ELECT 47UF	20.00% 16V	C8869	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8804	1-126-933-11	ELECT 100UF	20.00% 16V	C8896	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C8812	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V	C8897	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C8814	1-104-664-11	ELECT 47UF	20.00% 25V	C8898	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
C8822	1-126-933-11	ELECT 100UF	20.00% 16V	C8899	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
C8825	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8900	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C8826	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V	C8901	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C8827	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8902	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C8828	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8903	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C8829	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8904	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C8830	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8905	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C8831	1-126-964-11	ELECT 10UF	20.00% 50V	C8906	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C8832	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8907	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C8833	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8908	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C8834	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8909	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C8835	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8910	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C8836	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8911	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C8837	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8914	1-126-933-11	ELECT 100UF	20.00% 16V
C8838	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8977	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
C8839	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V	C8978	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
C8840	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	< FILTER >			
C8841	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	CF8200	1-409-327-00	TRAP, CERAMIC (6.5MHZ)	
C8842	1-104-664-11	ELECT 47UF	20.00% 16V	< CONNECTOR >			
C8843	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	CN8101	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P	
C8844	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V	CN8900	1-561-534-41	SOCKET, PIN 21P	
C8846	1-126-933-11	ELECT 100UF	20.00% 16V	CN8901	1-695-293-11	SOCKET 21P	
C8847	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	CN8902	1-695-293-11	SOCKET 21P	
C8849	1-164-346-11	CERAMIC CHIP 1UF	16V				
C8850	1-164-346-11	CERAMIC CHIP 1UF	16V				
C8851	1-126-967-11	ELECT 47UF	20.00% 50V				
C8852	1-164-346-11	CERAMIC CHIP 1UF	16V				

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
< DIODE >				< IC >			
D8153	8-719-056-83	DIODE UDZ-TE-17-6.8B		IC8101	8-759-576-76	IC TDA2822D013TR	
D8200	8-719-158-49	DIODE UDZ-TE-17-12B		IC8151	8-752-072-94	IC CXA1875AM-T4	
D8201	8-719-158-49	DIODE UDZ-TE-17-12B		IC8200	8-759-654-42	IC MSP3410D-C5QA-B4	
D8202	8-719-158-49	DIODE UDZ-TE-17-12B		IC8201	8-759-701-36	IC MC3403NS-E20	
D8203	8-719-158-49	DIODE UDZ-TE-17-12B		IC8202	8-759-908-15	IC TL431CZ	
D8801	8-719-158-49	DIODE UDZ-TE-17-12B		IC8301	8-752-096-06	IC CXA2163Q-T6	
D8802	8-719-158-49	DIODE UDZ-TE-17-12B		IC8302	8-759-485-79	IC TC7SET08FU(TE85R)	
D8803	8-719-158-49	DIODE UDZ-TE-17-12B		IC8601	8-759-182-88	IC PQ09TZ5U	
D8804	8-719-158-49	DIODE UDZ-TE-17-12B		IC8602	8-759-576-72	IC LF50CDT-TR	
D8805	8-719-158-49	DIODE UDZ-TE-17-12B		IC8603	8-759-576-72	IC LF50CDT-TR	
D8806	8-719-158-49	DIODE UDZ-TE-17-12B		IC8604	8-759-576-72	IC LF50CDT-TR	
D8807	8-719-158-49	DIODE UDZ-TE-17-12B		IC8801	8-752-096-83	IC CXA2149AQ-TL	
D8808	8-719-158-49	DIODE UDZ-TE-17-12B		< SOCKET >			
D8809	8-719-158-49	DIODE UDZ-TE-17-12B		J8901	1-774-747-11	JACK BLOCK, PIN	
D8810	8-719-158-49	DIODE UDZ-TE-17-12B		< COIL >			
D8811	8-719-158-49	DIODE UDZ-TE-17-12B		L8150	1-414-757-11	INDUCTOR 100UH	
D8812	8-719-158-49	DIODE UDZ-TE-17-12B		L8200	1-412-006-31	INDUCTOR CHIP 10UH	
D8813	8-719-158-49	DIODE UDZ-TE-17-12B		L8201	1-412-064-11	INDUCTOR CHIP 100UH	
D8814	8-719-158-49	DIODE UDZ-TE-17-12B		< TRANSISTOR >			
D8900	8-719-056-85	DIODE UDZS-TE-17-8.2B		Q8100	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D8901	8-719-158-49	DIODE UDZ-TE-17-12B		Q8101	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D8902	8-719-056-85	DIODE UDZS-TE-17-8.2B		Q8156	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D8903	8-719-056-85	DIODE UDZS-TE-17-8.2B		Q8157	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D8904	8-719-056-85	DIODE UDZS-TE-17-8.2B		Q8200	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D8905	8-719-056-85	DIODE UDZS-TE-17-8.2B		Q8201	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D8906	8-719-056-85	DIODE UDZS-TE-17-8.2B		Q8202	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D8907	8-719-158-49	DIODE UDZ-TE-17-12B		Q8303	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D8909	8-719-056-85	DIODE UDZS-TE-17-8.2B		Q8305	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D8910	8-719-056-85	DIODE UDZS-TE-17-8.2B		Q8306	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
D8911	8-719-056-85	DIODE UDZS-TE-17-8.2B		Q8308	8-729-038-96	TRANSISTOR IMZ1A-T109	
D8912	8-719-158-49	DIODE UDZ-TE-17-12B		Q8309	8-729-038-96	TRANSISTOR IMZ1A-T109	
D8913	8-719-158-49	DIODE UDZ-TE-17-12B		Q8310	8-729-038-96	TRANSISTOR IMZ1A-T109	
D8914	8-719-158-49	DIODE UDZ-TE-17-12B		Q8809	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
D8915	8-719-158-49	DIODE UDZ-TE-17-12B		Q8817	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
< FILTER >				Q8818	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
FL8200	1-236-071-11	ENCAPSULATED COMPONENT		Q8819	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
FL8201	1-233-764-21	FILTER		Q8901	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R	
FL8203	1-236-071-11	ENCAPSULATED COMPONENT		Q8902	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
FL8302	1-236-071-11	ENCAPSULATED COMPONENT		< RESISTOR >			
FL8304	1-236-071-11	ENCAPSULATED COMPONENT		R8103	1-216-075-00	RES-CHIP 12K 5% 1/10W	
FL8308	1-236-071-11	ENCAPSULATED COMPONENT		R8104	1-216-075-00	RES-CHIP 12K 5% 1/10W	
FL8801	1-236-071-11	ENCAPSULATED COMPONENT					
FL8802	1-236-071-11	ENCAPSULATED COMPONENT					

REF. NO.	PART.NO	DESCRIPTION	REMARK			REF. NO.	PART.NO	DESCRIPTION	REMARK		
R8105	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R8232	1-216-089-11	RES-CHIP	47K	5%	1/10W
R8106	1-216-081-00	RES-CHIP	22K	5%	1/10W	R8233	1-216-089-11	RES-CHIP	47K	5%	1/10W
R8107	1-216-081-00	RES-CHIP	22K	5%	1/10W	R8234	1-216-089-11	RES-CHIP	47K	5%	1/10W
R8108	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R8235	1-216-089-11	RES-CHIP	47K	5%	1/10W
R8109	1-249-389-11	CARBON	4.7	5%	1/4W	R8236	1-216-089-11	RES-CHIP	47K	5%	1/10W
R8110	1-249-389-11	CARBON	4.7	5%	1/4W	R8237	1-216-043-91	RES-CHIP	560	5%	1/10W
R8111	1-216-033-00	RES-CHIP	220	5%	1/10W	R8238	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R8112	1-216-033-00	RES-CHIP	220	5%	1/10W	R8239	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R8115	1-216-029-00	RES-CHIP	150	5%	1/10W	R8240	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R8116	1-216-029-00	RES-CHIP	150	5%	1/10W	R8243	1-216-021-00	RES-CHIP	68	5%	1/10W
R8117	1-216-029-00	RES-CHIP	150	5%	1/10W	R8300	1-216-295-11	SHORT	0		
R8118	1-216-029-00	RES-CHIP	150	5%	1/10W	R8302	1-216-017-91	RES-CHIP	47	5%	1/10W
R8165	1-216-295-11	SHORT	0			R8306	1-216-083-00	RES-CHIP	27K	5%	1/10W
R8167	1-216-025-11	RES-CHIP	100	5%	1/10W	R8308	1-216-039-00	RES-CHIP	390	5%	1/10W
R8168	1-216-025-11	RES-CHIP	100	5%	1/10W	R8310	1-216-037-00	RES-CHIP	330	5%	1/10W
R8174	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R8312	1-216-091-00	RES-CHIP	56K	5%	1/10W
R8175	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R8313	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8178	1-216-073-00	RES-CHIP	10K	5%	1/10W	R8314	1-216-295-11	SHORT	0		
R8200	1-216-049-11	RES-CHIP	1K	5%	1/10W	R8315	1-216-121-11	RES-CHIP	1M	5%	1/10W
R8201	1-216-295-11	SHORT	0			R8316	1-216-037-00	RES-CHIP	330	5%	1/10W
R8202	1-216-021-00	RES-CHIP	68	5%	1/10W	R8317	1-216-295-11	SHORT	0		
R8203	1-216-069-00	RES-CHIP	6.8K	5%	1/10W	R8318	1-216-295-11	SHORT	0		
R8204	1-216-049-11	RES-CHIP	1K	5%	1/10W	R8319	1-216-295-11	SHORT	0		
R8205	1-216-069-00	RES-CHIP	6.8K	5%	1/10W	R8320	1-216-041-00	RES-CHIP	470	5%	1/10W
R8206	1-216-049-11	RES-CHIP	1K	5%	1/10W	R8322	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8208	1-216-037-00	RES-CHIP	330	5%	1/10W	R8323	1-216-017-91	RES-CHIP	47	5%	1/10W
R8209	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W	R8324	1-216-041-00	RES-CHIP	470	5%	1/10W
R8210	1-216-025-11	RES-CHIP	100	5%	1/10W	R8326	1-216-017-91	RES-CHIP	47	5%	1/10W
R8211	1-216-295-11	SHORT	0			R8328	1-216-025-11	RES-CHIP	100	5%	1/10W
R8212	1-216-295-11	SHORT	0			R8329	1-216-025-11	RES-CHIP	100	5%	1/10W
R8213	1-216-295-11	SHORT	0			R8330	1-216-041-00	RES-CHIP	470	5%	1/10W
R8216	1-216-025-11	RES-CHIP	100	5%	1/10W	R8331	1-216-041-00	RES-CHIP	470	5%	1/10W
R8217	1-216-025-11	RES-CHIP	100	5%	1/10W	R8332	1-216-041-00	RES-CHIP	470	5%	1/10W
R8218	1-216-049-11	RES-CHIP	1K	5%	1/10W	R8333	1-216-041-00	RES-CHIP	470	5%	1/10W
R8219	1-216-025-11	RES-CHIP	100	5%	1/10W	R8334	1-216-041-00	RES-CHIP	470	5%	1/10W
R8220	1-216-025-11	RES-CHIP	100	5%	1/10W	R8336	1-216-041-00	RES-CHIP	470	5%	1/10W
R8221	1-216-025-11	RES-CHIP	100	5%	1/10W	R8337	1-216-041-00	RES-CHIP	470	5%	1/10W
R8222	1-216-295-11	SHORT	0			R8338	1-216-017-91	RES-CHIP	47	5%	1/10W
R8223	1-216-089-11	RES-CHIP	47K	5%	1/10W	R8339	1-216-017-91	RES-CHIP	47	5%	1/10W
R8224	1-216-089-11	RES-CHIP	47K	5%	1/10W	R8340	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R8225	1-216-089-11	RES-CHIP	47K	5%	1/10W	R8341	1-216-041-00	RES-CHIP	470	5%	1/10W
R8226	1-216-089-11	RES-CHIP	47K	5%	1/10W	R8344	1-216-091-00	RES-CHIP	56K	5%	1/10W
R8227	1-216-089-11	RES-CHIP	47K	5%	1/10W	R8345	1-216-079-00	RES-CHIP	18K	5%	1/10W
R8228	1-216-089-11	RES-CHIP	47K	5%	1/10W	R8346	1-216-091-00	RES-CHIP	56K	5%	1/10W
R8229	1-216-295-11	SHORT	0			R8347	1-216-079-00	RES-CHIP	18K	5%	1/10W
R8230	1-216-081-00	RES-CHIP	22K	5%	1/10W	R8806	1-216-085-00	RES-CHIP	33K	5%	1/10W
R8231	1-216-089-11	RES-CHIP	47K	5%	1/10W	R8807	1-216-089-11	RES-CHIP	47K	5%	1/10W

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R8820	1-216-295-11	SHORT	0	R8913	1-216-022-00	RES-CHIP	75 5% 1/10W
R8826	1-216-051-00	RES-CHIP	1.2K 5% 1/10W	R8914	1-216-071-00	RES-CHIP	8.2K 5% 1/10W
R8836	1-216-025-11	RES-CHIP	100 5% 1/10W	R8915	1-216-022-00	RES-CHIP	75 5% 1/10W
R8846	1-216-295-11	SHORT	0	R8916	1-216-017-91	RES-CHIP	47 5% 1/10W
R8854	1-216-029-00	RES-CHIP	150 5% 1/10W	R8917	1-216-017-91	RES-CHIP	47 5% 1/10W
R8855	1-216-031-00	RES-CHIP	180 5% 1/10W	R8918	1-216-113-00	RES-CHIP	470K 5% 1/10W
R8856	1-216-055-00	RES-CHIP	1.8K 5% 1/10W	R8919	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R8857	1-216-089-11	RES-CHIP	47K 5% 1/10W	R8922	1-216-022-00	RES-CHIP	75 5% 1/10W
R8858	1-216-079-00	RES-CHIP	18K 5% 1/10W	R8923	1-216-022-00	RES-CHIP	75 5% 1/10W
R8859	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	R8924	1-216-022-00	RES-CHIP	75 5% 1/10W
R8861	1-216-295-11	SHORT	0	R8925	1-216-022-00	RES-CHIP	75 5% 1/10W
R8863	1-216-295-11	SHORT	0	R8926	1-216-017-91	RES-CHIP	47 5% 1/10W
R8865	1-216-022-00	RES-CHIP	75 5% 1/10W	R8927	1-216-017-91	RES-CHIP	47 5% 1/10W
R8866	1-216-022-00	RES-CHIP	75 5% 1/10W	R8928	1-216-017-91	RES-CHIP	47 5% 1/10W
R8867	1-216-049-11	RES-CHIP	1K 5% 1/10W	R8929	1-216-039-00	RES-CHIP	390 5% 1/10W
R8868	1-216-017-91	RES-CHIP	47 5% 1/10W	R8930	1-216-049-11	RES-CHIP	1K 5% 1/10W
R8869	1-216-017-91	RES-CHIP	47 5% 1/10W	R8931	1-216-039-00	RES-CHIP	390 5% 1/10W
R8871	1-216-049-11	RES-CHIP	1K 5% 1/10W	R8932	1-216-049-11	RES-CHIP	1K 5% 1/10W
R8872	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	R8933	1-216-089-11	RES-CHIP	47K 5% 1/10W
R8873	1-216-113-00	RES-CHIP	470K 5% 1/10W	R8934	1-216-089-11	RES-CHIP	47K 5% 1/10W
R8874	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	R8935	1-216-113-00	RES-CHIP	470K 5% 1/10W
R8875	1-216-113-00	RES-CHIP	470K 5% 1/10W	R8936	1-216-113-00	RES-CHIP	470K 5% 1/10W
R8876	1-216-093-91	RES-CHIP	68K 5% 1/10W	R8937	1-216-035-00	RES-CHIP	270 5% 1/10W
R8877	1-216-093-91	RES-CHIP	68K 5% 1/10W	R8938	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R8878	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	R8939	1-216-035-00	RES-CHIP	270 5% 1/10W
R8879	1-208-820-11	METAL CHIP	39K 0.5% 1/10W	R8940	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R8880	1-216-295-11	SHORT	0	R8941	1-216-025-11	RES-CHIP	100 5% 1/10W
R8881	1-216-089-11	RES-CHIP	47K 5% 1/10W	R8942	1-216-009-91	RES-CHIP	22 5% 1/10W
R8882	1-216-079-00	RES-CHIP	18K 5% 1/10W	R8943	1-216-022-00	RES-CHIP	75 5% 1/10W
R8883	1-208-776-11	METAL CHIP	560 0.5% 1/10W	R8944	1-216-071-00	RES-CHIP	8.2K 5% 1/10W
R8885	1-208-776-11	METAL CHIP	560 0.5% 1/10W	R8945	1-216-022-00	RES-CHIP	75 5% 1/10W
R8888	1-216-033-00	RES-CHIP	220 5% 1/10W	R8946	1-216-017-91	RES-CHIP	47 5% 1/10W
R8889	1-216-033-00	RES-CHIP	220 5% 1/10W	R8947	1-216-039-00	RES-CHIP	390 5% 1/10W
R8890	1-216-295-11	SHORT	0	R8948	1-216-049-11	RES-CHIP	1K 5% 1/10W
R8892	1-216-295-11	SHORT	0	R8949	1-216-022-00	RES-CHIP	75 5% 1/10W
R8893	1-216-295-11	SHORT	0	R8950	1-216-089-11	RES-CHIP	47K 5% 1/10W
R8900	1-216-039-00	RES-CHIP	390 5% 1/10W	R8951	1-216-017-91	RES-CHIP	47 5% 1/10W
R8901	1-216-049-11	RES-CHIP	1K 5% 1/10W	R8952	1-216-113-00	RES-CHIP	470K 5% 1/10W
R8902	1-216-039-00	RES-CHIP	390 5% 1/10W	R8953	1-216-035-00	RES-CHIP	270 5% 1/10W
R8903	1-216-089-11	RES-CHIP	47K 5% 1/10W	R8954	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R8904	1-216-089-11	RES-CHIP	47K 5% 1/10W	R8955	1-216-039-00	RES-CHIP	390 5% 1/10W
R8905	1-216-113-00	RES-CHIP	470K 5% 1/10W	R8956	1-216-049-11	RES-CHIP	1K 5% 1/10W
R8906	1-216-035-00	RES-CHIP	270 5% 1/10W	R8957	1-216-025-11	RES-CHIP	100 5% 1/10W
R8907	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	R8958	1-216-089-11	RES-CHIP	47K 5% 1/10W
R8908	1-216-035-00	RES-CHIP	270 5% 1/10W	R8959	1-216-022-00	RES-CHIP	75 5% 1/10W
R8909	1-216-049-11	RES-CHIP	1K 5% 1/10W	R8960	1-216-017-91	RES-CHIP	47 5% 1/10W
R8911	1-216-025-11	RES-CHIP	100 5% 1/10W	R8961	1-216-022-00	RES-CHIP	75 5% 1/10W

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R8962	1-216-071-00	RES-CHIP	8.2K 5% 1/10W	C8332	1-216-025-11	RES-CHIP 100 5% 1/10W (KV-32FX65B/32FX65E/32FX65K)	
R8963	1-216-113-00	RES-CHIP	470K 5% 1/10W		1-164-004-91	CERAMIC CHIP 0.1UF 10.00% 25V (KV-32FX65U)	
R8964	1-216-035-00	RES-CHIP	270 5% 1/10W	C8333	1-216-025-11	RES-CHIP 100 5% 1/10W (KV-32FX65B/32FX65E/32FX65K)	
R8965	1-216-057-00	RES-CHIP	2.2K 5% 1/10W		1-164-004-91	CERAMIC CHIP 0.1UF 10.00% 25V (KV-32FX65U)C8334	
R8968	1-216-022-00	RES-CHIP	75 5% 1/10W	1-216-025-11	RES-CHIP 100 5% 1/10W (KV-32FX65B/32FX65E/32FX65K)		
R8969	1-216-017-91	RES-CHIP	47 5% 1/10W		1-164-004-91	CERAMIC CHIP 0.1UF 10.00% 25V (KV-32FX65U)	
R8974	1-216-057-00	RES-CHIP	2.2K 5% 1/10W				
R8977	1-216-037-00	RES-CHIP	330 5% 1/10W				
R8978	1-216-037-00	RES-CHIP	330 5% 1/10W				
R8979	1-216-045-00	RES-CHIP	680 5% 1/10W				
R8980	1-216-045-00	RES-CHIP	680 5% 1/10W				
R8981	1-216-089-11	RES-CHIP	47K 5% 1/10W				
R8982	1-216-079-00	RES-CHIP	18K 5% 1/10W				
R8996	1-216-059-00	RES-CHIP	2.7K 5% 1/10W				
R8997	1-216-071-00	RES-CHIP	8.2K 5% 1/10W				
R8998	1-216-041-00	RES-CHIP	470 5% 1/10W				
< CRYSTAL >				< RESISTOR >			
X8200	1-781-148-21	VIBRATOR, CRYSTAL		JR8401	1-216-295-11	SHORT 0 (KV-32FX65U)	
X8301	1-781-612-11	VIBRATOR, CRYSTAL		JR8402	1-216-295-11	SHORT 0 (KV-32FX65B/32FX65E/32FX65K)	
<b>J Board Variant Parts KV-28FX65</b>				R8176	1-216-295-11	SHORT 0 (KV-32FX65B/32FX65E/32FX65K)	
< CAPACITOR >				R8177	1-216-295-11	SHORT 0 (KV-32FX65U)	
C8243	1-110-501-11	CERAMIC CHIP 0.33UF	10.00% 16V	R8303	1-216-295-11	SHORT 0 (KV-32FX65B/32FX65E/32FX65K)	
C8327	1-107-682-11	CERAMIC CHIP 1UF	10.00% 16V	R8309	1-216-295-11	SHORT 0 (KV-32FX65B/32FX65E/32FX65K)	
C8331	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V	R8551	1-216-295-11	SHORT 0 (KV-32FX65B/32FX65E/32FX65K)	
C8332	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	R8552	1-216-295-11	SHORT 0 (KV-32FX65B/32FX65E/32FX65K)	
C8333	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	R8553	1-216-295-11	SHORT 0 (KV-32FX65B/32FX65E/32FX65K)	
C8334	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	R8841	1-216-295-11	SHORT 0 (KV-32FX65B/32FX65E/32FX65K)	
< RESISTOR >				R8852	1-216-295-11	SHORT 0 (KV-32FX65U)	
JR8401	1-216-295-11	SHORT 0		<b>*A-1644-108-A VM Board, Complete</b>			
R8177	1-216-295-11	SHORT 0		4-382-854-11	SCREW (M3X10), P, SW (+)		
R8852	1-216-295-11	SHORT 0		< CAPACITOR >			
<b>J Board Variant Parts KV-32FX65</b>				C5400	1-107-883-11	ELECT 330UF 20.00% 16V	
< CAPACITOR >				C5401	1-126-935-11	ELECT 470UF 20.00% 16V	
C8243	1-110-501-11	CERAMIC CHIP 0.33UF	10.00% 16V	C5402	1-137-150-11	MYLAR 0.01UF 5.00% 50V	
C8327	1-107-682-11	CERAMIC CHIP 1UF	10.00% 16V	C5403	1-126-935-11	ELECT 470UF 20.00% 6.3V	
C8331	1-216-025-11	RES-CHIP 100 5% 1/10W (KV-32FX65B/32FX65E/32FX65K)		C5405	1-126-933-11	ELECT 100UF 20.00% 16V	
	1-163-021-91	CERAMIC CHIP 0.01UF 10.00% 50V (KV-32FX65U)		C5406	1-126-935-11	ELECT 470UF 20.00% 6.3V	
				C5407	1-107-364-11	MYLAR 0.01UF 10.00% 200V	
				C5408	1-107-364-11	MYLAR 0.01UF 10.00% 200V	
				C5409	1-107-649-11	ELECT 2.2UF 20.00% 250V	
				C5410	1-130-471-00	MYLAR 0.001UF 5.00% 50V	
				C5411	1-130-471-00	MYLAR 0.001UF 5.00% 50V	
				C5412	1-126-935-11	ELECT 470UF 20.00% 16V	
				C5413	1-126-935-11	ELECT 470UF 20.00% 16V	
				C5414	1-107-652-11	ELECT 10UF 20.00% 250V	
				C5415	1-107-363-91	MYLAR 0.0068UF 10.00% 200V	
				C5417	1-102-514-91	CERAMIC 22PF 5.00% 50V	
				C5418	1-102-947-00	CERAMIC 10PF 0.50PF 50V	

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
< CONNECTOR >				R5412	1-249-429-11	CARBON 10K 5%	1/4W
CN5402	*1-564-506-11	PLUG, CONNECTOR 3P		R5413	1-249-414-11	CARBON 560 5%	1/4W
CN5444	*1-770-723-11	CONNECTOR, BOARD TO BOARD 8P		R5414	1-249-432-11	CARBON 18K 5%	1/4W
CN5602	*1-564-509-11	PLUG, CONNECTOR 6P		R5415	1-247-739-11	CARBON 100 5%	1/2W
< DIODE >				R5416	1-249-389-11	CARBON 4.7 5%	1/4W
D5400	8-719-991-33	DIODE 1SS133T-77		R5417	1-249-432-11	CARBON 18K 5%	1/4W
D5401	8-719-510-02	DIODE D1NS4-TR		R5418	1-249-414-11	CARBON 560 5%	1/4W
D5402	1-535-143-61	LEAD, JUMPER (5.0MM)		R5419	1-249-421-11	CARBON 2.2K 5%	1/4W
D5403	8-719-991-33	DIODE 1SS133T-77		R5420	1-249-421-11	CARBON 2.2K 5%	1/4W
D5404	8-719-991-33	DIODE 1SS133T-77		R5421	1-249-387-11	CARBON 3.3 5%	1/4W
D5405	8-719-924-11	DIODE MTZJ-T-77-22		R5422	1-249-405-11	CARBON 100 5%	1/4W
D5406	8-719-924-11	DIODE MTZJ-T-77-22		R5423	1-215-915-11	METAL OXIDE 470 5%	3W
< FERRITE BEAD >				R5425	1-535-143-61	LEAD, JUMPER (5.0MM)	
FB5400	1-535-143-61	LEAD, JUMPER (5.0MM)		R5427	1-249-401-11	CARBON 47 5%	1/4W
FB5401	1-535-143-61	LEAD, JUMPER (5.0MM)		R5428	1-249-413-11	CARBON 470 5%	1/4W
< COIL >				R5429	1-249-413-11	CARBON 470 5%	1/4W
L5400	1-410-784-41	INDUCTOR 0.18UH		R5430	1-249-417-11	CARBON 1K 5%	1/4W
L5401	1-408-602-31	INDUCTOR 8.2UH		R5432	1-249-415-11	CARBON 680 5%	1/4W
< TRANSISTOR >				R5433	1-249-400-11	CARBON 39 5%	1/4W
Q5400	8-729-119-78	TRANSISTOR 2SC1740S-RT		R5434	1-249-395-11	CARBON 15 5%	1/4W
Q5401	8-729-119-78	TRANSISTOR 2SC1740S-RT					
Q5402	8-729-119-78	TRANSISTOR 2SC1740S-RT					
Q5403	8-729-119-78	TRANSISTOR 2SC1740S-RT					
Q5404	8-729-026-39	TRANSISTOR 2SA933AS-RT					
Q5405	8-729-026-39	TRANSISTOR 2SA933AS-RT					
Q5406	8-729-045-05	TRANSISTOR 2SA2005					
Q5407	8-729-045-04	TRANSISTOR 2SC5511					
Q5408	8-729-026-39	TRANSISTOR 2SA933AS-RT					
Q5409	8-729-119-78	TRANSISTOR 2SC1740S-RT					
< RESISTOR >							
R5401	1-247-843-11	CARBON 3.3K 5%	1/4W				
R5402	1-249-413-11	CARBON 470 5%	1/4W				
R5403	1-249-393-11	CARBON 10 5%	1/4W				
R5404	1-249-420-11	CARBON 1.8K 5%	1/4W				
R5405	1-249-425-11	CARBON 4.7K 5%	1/4W				
R5406	1-249-425-11	CARBON 4.7K 5%	1/4W				
R5407	1-249-399-11	CARBON 33 5%	1/4W				
R5408	1-247-807-31	CARBON 100 5%	1/4W				
R5409	1-249-409-11	CARBON 220 5%	1/4W				
R5410	1-249-401-11	CARBON 47 5%	1/4W				
R5411	1-249-401-11	CARBON 47 5%	1/4W				

The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
<b>MISCELLANEOUS</b>							
	$\Delta$ 1-416-466-11	COIL DEMAGNETIC (KV-28FX65)		*4-205-503-01	INDIVIDUAL CARTON (KV-28FX65)		
	$\Delta$ 1-416-769-11	COIL DEMAGNETIC (KV-32FX65)		*4-205-512-01	INDIVIDUAL CARTON (KV-32FX65B/32FX65E/32FX65K)		
	1-452-032-00	MAGNET, DISK; 10MM		*4-205-530-01	INDIVIDUAL CARTON (KV-32FX65U)		
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM		*4-205-504-01	CUSHION (UPPER) (ASSY) (KV-28FX65)		
	$\Delta$ 1-453-340-21	TRANSFORMER ASSY, FLYBACK (NX4522//U214)		*4-205-505-01	CUSHION (LOWER) (ASSY) (KV-32FX65B/32FX65E/32FX65K)		
	1-529-899-11	SPEAKER (24x4.2CM)		*4-205-513-01	CUSHION (UPPER) (ASSY) (KV-32FX65B/32FX65E/32FX65K)		
	1-529-417-11	SPEAKER (8CM)		*4-205-513-01	CUSHION (UPPER) (ASSY) (KV-32FX65U)		
	1-419-363-11	COIL, NA ROTATION		*4-205-505-01	CUSHION (LOWER) (ASSY) (KV-28FX65)		
	$\Delta$ 1-571-433-21	SWITCH, PUSH (AC POWER)		*4-205-514-01	CUSHION (LOWER) (ASSY) (KV-32FX65B/32FX65E/32FX65K)		
	$\Delta$ 1-792-389-11	CORD, POWER (KV-28FX65B/28FX65E/32FX65B/32FX65E/32FX65K)		*4-205-532-01	CUSHION (LOWER) (ASSY) (KV-32FX65U)		
	$\Delta$ 1-792-592-11	CORD, PLUG WITH POWER (KV-28FX65U/32FX65U)		<b>REMOTE COMMANDER</b>			
	$\Delta$ 8-453-011-11	NECK ASSY, (NA-299-M)		1-418-476-21	REMOTE COMMANDER (RM-887)		
	1-693-340-11	TUNER/VIF (FR) (KV-28FX65B/32FX65B)					
	1-693-338-21	TUNER/VIF (AEP) (KV-28FX65E/32FX65E/32FX65K)					
	1-693-339-11	TUNER/VIF (KV-28FX65U/32FX65U)					
	$\Delta$ 8-737-786-05	PICTURE TUBE (W66LLX060X) (KV-28FX65)					
	$\Delta$ 8-735-054-05	PICTURE TUBE (W76LLZ060X) (KV-32FX65)					
	$\Delta$ 1-451-481-11	DEFLECTION YOKE (Y28RVC2) (KV-28FX65)					
	$\Delta$ 1-451-480-11	DEFLECTION YOKE (Y32RVC2) (KV-32FX65)					
	$\Delta$ 1-251-317-63	CAP ASSY, HIGH VOLTAGE					
	1-790-082-11	CABLE, RF					
<b>ACCESSORIES AND PACKAGING MATERIALS</b>							
	*4-205-744-51	MANUAL, INSTRUCTION (KV-28FX65B) (GERMAN/FRENCH/ENGLISH/ITALIAN/DUTCH)					
	*4-205-744-71	MANUAL, INSTRUCTION (KV-28FX65E) (GERMAN/GREEK/ITALIAN)					
	*4-205-744-81	MANUAL, INSTRUCTION (KV-28FX65E) (DANISH/SPANISH/FINNISH/NORWEGIAN/PORTUGUESE/ SWEDISH)					
	*4-205-744-61	MANUAL, INSTRUCTION (KV-28FX65U/32FX65U) (ENGLISH)					
	*4-205-753-31	MANUAL, INSTRUCTION (KV-32FX65B) (GERMAN/FRENCH/ITALIAN/DUTCH)					
	*4-205-753-41	MANUAL, INSTRUCTION (KV-32FX65B) (ENGLISH)					
	*4-205-753-11	MANUAL, INSTRUCTION (KV-32FX65E) (DANISH/SPANISH/NORWEGIAN/PORTUGUESE/FINNISH/ SWEDISH)					
	*4-205-753-21	MANUAL, INSTRUCTION (KV-32FX65E) (GERMAN/GREEK/ITALIAN)					
	*4-205-753-41	MANUAL, INSTRUCTION (KV-32FX65B) (CZECH/ENGLISH/HUNGARIAN/POLISH)					
	*4-395-957-01	BAG, PROTECTION (KV-28FX65)					
	*4-046-772-01	BAG, PROTECTION (KV-32FX65)					

# TRACE

A new TV Repair Assistance Tool that combines ease of use and powerful PC software tools to allow you to save valuable time during many TV repairs.



The TRACE interface connects to the PC's serial port. It provides connection to the TV's I<sup>2</sup>C bus and can be provided with an InfraRed transmitter (optional).

The interface is powered by a standard 9 V PP3 battery for portable use, and can also be powered by an external 9V/25mA DC power supply.

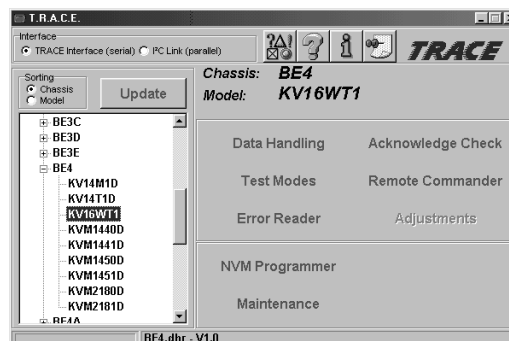
The TRACE software that is supplied with the interface allows you to:

- Read, restore and compare NVM contents via the I<sup>2</sup>C bus
- Acknowledge check of all I<sup>2</sup>C devices in the TV set
- Read Error Codes (emulation of the Error Reader tool)

With the optional IR Add-on kit, the following features can be added:

- Remote Commander emulation
- User programmable Functional Check through Infrared
- Fast and documented Test Mode setting of all Sony TV chassis

Additional features such as Adjustments and Troubleshooting are available in chassis-dependent software modules. Please contact your local Sony Service organisation for the latest information.



*Note: For workshops already using the existing I<sup>2</sup>C Link parallel port interface (9-948-320-30), this software can be used as well, replacing the TV Data Handling software (9-948-340-50), but Error Reader and IR functions can only be accessed with the TRACE interface.*

Partnumbers: TRACE Starter Kit (TRACE interface + software): 9-948-320-70  
 TRACE Software (for users of the I<sup>2</sup>C Link interface): 9-948-340-80  
 TRACE IR Add-on (IR interface + Remote Commander software): 9-948-320-80

PC requirements: IBM-compatible PC with operating system Windows95, Windows98, or WindowsNT\*.

\* WindowsNT only supported with TRACE interface

**Sony Corporation**  
**Sony UK**  
**Service Promotions Dept.**

9-974-999-01

**English**  
 00IP7173-1  
 Printed in U.K.  
 © 2000.9