



Service Manual

14159

**SYNC MASTER
COLOR MONITOR
CN4551/CS4551**

CM 4551

CONTENTS

SPECIFICATIONS.....	3
IMPORTANT SERVICE SAFETY PRECAUTIONS.....	4
BLOCK DIAGRAM.....	6
ALIGNMENT INSTRUCTIONS.....	7
1. SMPS Adjustment	
2. DEFLECTION PWB Adjustment	
3. VIDEO PWB Adjustment	
4. MAIN PWB Adjustment	
5. FOCUS Adjustment	
6. PURITY Adjustment	
7. CONVERGENCE Adjustment	
8. SWITCHES and CONTROLS Operations	
9. SIGNALS Operations	
10. DATA FORMAT for using CHROMA-1000	
PIN ASSIGNMENTS and SIGNAL CONNECTOR.....	15
TROUBLE SHOOTING GUIDE.....	16
SEMICONDUCTOR LEAD IDENTIFICATION.....	32
WIRING DIAGRAM and PARTS LOCATION.....	33
PRINTED WIRING BOARDS(Top and Botton View).....	34
MAIN PWB/INTERFACE PWB/VIDEO PWB	
SMPS PWB/CRT-SOCKET PWB/CONTROL PWB	
CABINET EXPLODED VIEW/PARTS LIST.....	44
1. Cabinet Exploded View	
2. Cabinet Part List.....	45
3. Electrical Part List.....	47
SMPS PWB(SCD 0553AL;AC220V).....	71
1. PRINTED WIRING BOARD(Top View)	
2. Electrical Part List	
SCHEMATIC DIAGRAM.....	ATTACHMENT
INTERFACE-BLOCK/VIDEO-BLOCK/CRT SOCKET-BLOCK	
MAIN DEFLECTION-BLOCK/POWER-SUPPLY-BLOCK	

SPECIFICATIONS

- | | |
|--------------------------------|--|
| ● Video input signal | TTL, POSITIVE |
| | ANALOG 0.7Vp-p/POSITIVE 75Ω TERMINATED |
| ● Sync. input signal | |
| separate sync. | TTL, POSITIVE/NEGATIVE |
| composite sync. | TTL, POSITIVE/NEGATIVE |
| composite sync. on green video | SYNC.: 0.3Vp-p, NEGATIVE |
| | VIDEO: 0.7Vp-p, POSITIVE |
| ● CRT. size | 14 inch, 90° |
| ● CRT. screen | NON-GLARE |
| ● Dot pitch | 0.31mm |
| ● Display color | |
| TTL input | 8/16/64 COLORS |
| ANALOG input | UNLIMITED COLORS |
| ● Scanning frequency | |
| Horizontal | 15.5KHz-35KHz (AUTOMATICALLY) |
| Vertical | 58Hz-72Hz (MANUALLY) |
| ● Power input | AC 120V ± 10%, 60Hz for Model No. CN4551 |
| | AC 220V/240 ± 10%, 50Hz for Model No. CS4551 |
| ● Power consumption | 90 Watts MAX. |
| ● Dimensions | 368 (W) x 356.5 (H) x 381 (D) mm |
| ● Weight | 17.5Kg |

IMPORTANT SERVICE SAFETY PRECAUTIONS

Service work should be performed only by qualified service technicians who are thoroughly familiar with all of the following safety checks and servicing guidelines:

WARNING

1. For continued safety, do not attempt to modify the circuit.
2. Disconnect the AC power before servicing.
3. Semiconductor heat sinks are potential shock hazards when the chassis is operating.

SERVICING THE HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove the static charge by connecting a 10k ohm resistor in series with an insulated wire (such as a test probe) between the chassis and the anode lead. (The AC line cord should be disconnected from the AC outlet.)

1. The picture tube in this display monitor employs integral implosion protection.
2. Replace with a tube of the same type and number for continued safety.
3. Do not lift the picture tube by the neck.
4. Handle the picture tube only when wearing shatter proof goggles and after discharging the high-voltage anode completely.

X-RADIATION AND HIGH VOLTAGE LIMITS

1. Be sure all service personnel are aware of the procedures and instructions covering X-radiation. The only potential source of X-ray in a current solidstate display monitor is the picture tube. However, the picture tube does not emit measurable X-ray radiation if the high voltage is as specified in the "high-voltage check" instructions.

It is only when high voltage is excessive that X-radiation is capable of penetrating the shell of the picture tube, including the lead in glass material. The important precaution is to keep the high voltage below the maximum level specified.

2. It is essential that servicemen have available at all times an accurate high-voltage meter. The calibration of this meter should be checked periodically.
3. High voltage should always be kept at the rated value—no higher. Operation at higher voltages may cause a failure of the picture tube or high voltage circuitry and, also under certain conditions, may produce radiation in excess of desirable levels.
4. When the high voltage regulator is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be tested while monitoring the high voltage with a meter to be certain that the high voltage does not

exceed the specified value and that it is regulating correctly.

5. Do not use a picture tube other than that specified or make unrecommended circuit modifications to the high voltage circuitry.
6. When troubleshooting and taking test measurements on a display monitor with excessive high voltage, avoid being unnecessarily close to the display monitor. Do not operate the display monitor longer than is necessary to locate the cause of excessive voltage.

BEFORE RETURNING THE DISPLAY MONITOR

Fire and Shock Hazard

Before returning the display monitor to the user, perform the following safety checks:

1. Inspect all lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the display monitor.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner:
 - Plug the AC line cord directly into a specified AC outlet. (Do not use an isolation transformer for this test.)
 - Using two clip leads, connect 1.5k ohms, 10-watt resistor paralleled by a 0.15uF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to earth ground.
 - Use a SSVM or VOM with 1000 ohms-per-volt or higher sensitivity to measure the AC voltage drop across the resistor. (See Figure 1.)
 - Connect the resistor connection to all exposed metal parts having a return path to the chassis (metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.

All checks must be repeated with the AC line cord plug connection reversed. (If necessary, a non-polarized adapter plug must be used only for the purpose of completing these checks.)

Any reading of 0.75 volts RMS at AC 120 volts input or 1.125 volts RMS at AC 220 volts input (this corresponds to 0.5 milliamp, or 0.75 milliamp. AC respec-

tively) or more is excessive and indicates a potential shock hazard which must be corrected before returning the display monitor to the user.

SAFETY NOTICE

Many electrical and mechanical parts in monitors have special safety-related characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual; electrical components having such features are identified by a Δ and shaded in the Replacement Parts Lists and Schematic Diagrams. For continued protection, replacement parts must be identical to those used in the original circuit. The use of a substitute replacement part that does not have the same safety characteristics as specified in this service manual, may create shock, fire, X-radiation or other hazards.

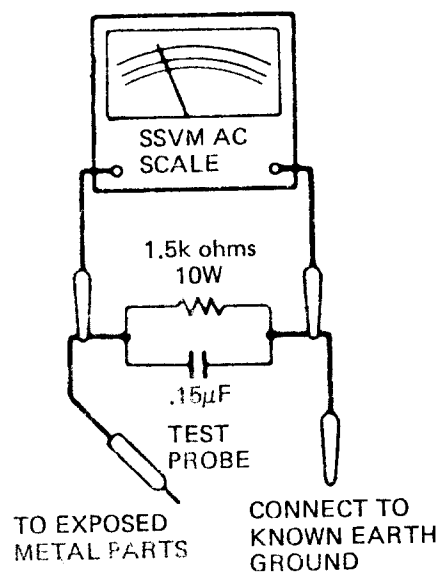
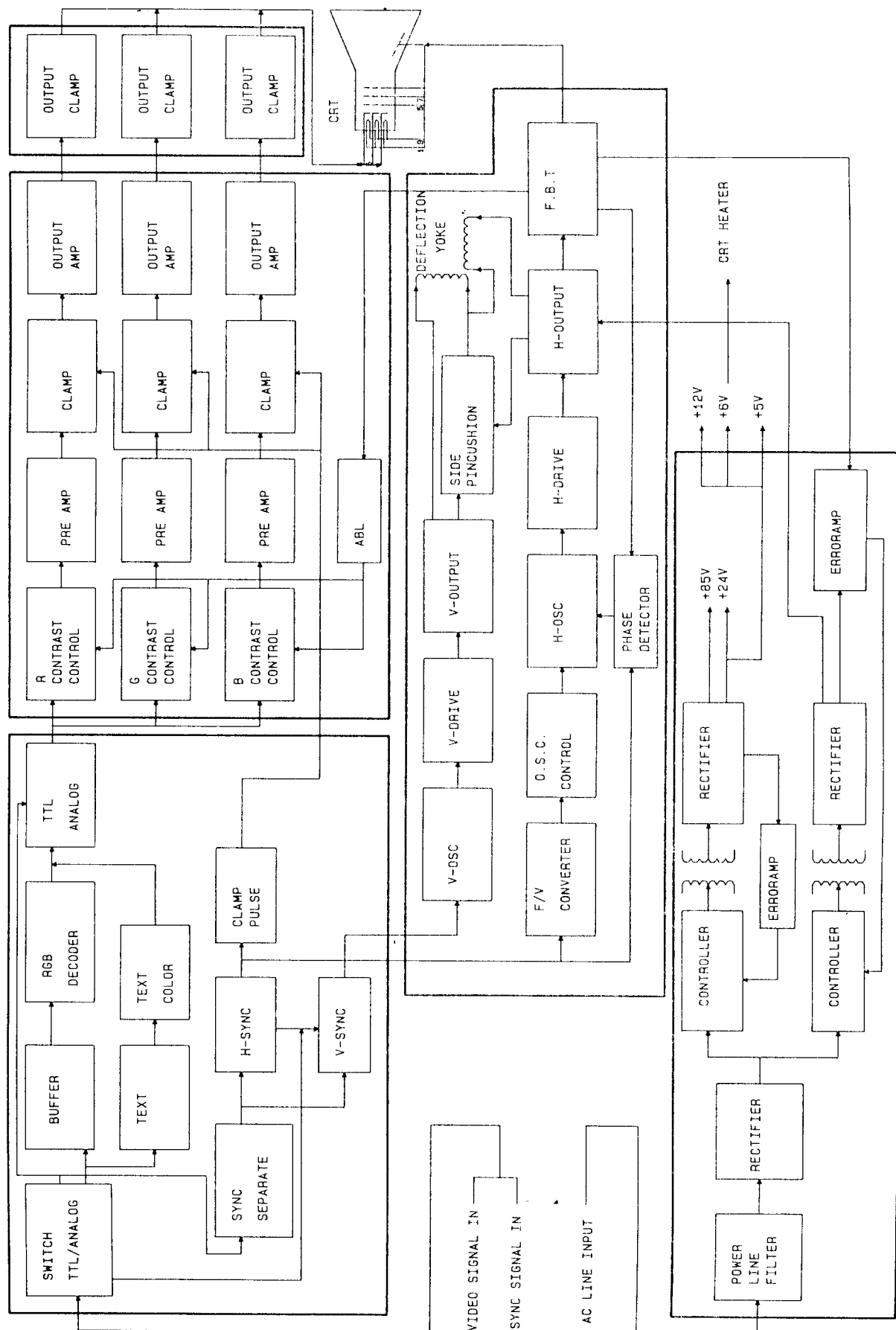


Figure 1. Leakage Current Test Circuit.

BLOCK DIAGRAM



ALIGNMENT PROCEDURE

Adjustment conditions and precatutions

1. Power supply voltage: AC 120V, 60Hz
2. Warm up time: The display must be on for 20 minutes before starting alignments. This is especially critical in color temperature and white balance adjustments.
3. Signals Video: Analog 0.7 Vp-p, 75 Ohm, positive
analog sync. on green
video: 0.7 Vp-p
synchronizing: 0.3 Vp-p
Sync.: TTL level negative/positive
separate/composite
Scanning frequency: H 15.5KHz - 35KHz
V 58Hz - 72Hz
Unless otherwise specified, adjust at signal 6 (22KHz) or EGA signals.

1. SMPS Ajustment

- 1) +B (VR651) +85V LINE
Adjust VR651 to be 85V DC
 - 2) H.V. (VR652) High Voltage control
This control is permanently sealed at factory.
Do not attempt to readjust.
 - 3) VR653 V. limit (C1-Gnd Voltage)
Remove C-connector (3-pin).
Adjust VR653 to be 122V DC
- Note: Do not operate the SMPS unit itself without any load.

2. DEFELECTION PWB Adjustment

Remove K and C connectors, and Apply 24V DC between K2 and K3. Or just only remove C connector.

- 1) +16V adjustment: Adjust VR551 so that $16 \pm 0.05V$ DC is at TP551-GND.
- 2) Receive signal 6(22KHz) and adjust VR552 so that the voltage between TP552 and GROUND is 8.7-8.8V.

3. VIDEO PWB Adjustment

- 1) Adjust VR707 so that the voltage between TP701 and GND is $6 \pm 0.05V$ DC.

4. MAIN PWB Adjustment

Unless otherwise specified, adjust the EXT. VR and SW. as shown below:

- VR1 CONT. : MAX. (fully clockwise)
- VR2 BRIT. : So that no background raster appears
- VR3 V-POS. : Center
- VR4 H-POS. : Center
- VR5 V-SIZE : Center
- VR6 V-HOLD : Proper position
- SW1 MANUAL/PRESET SW.: MANUAL
- SW2 H-SIZE : OFF
- SW3 TEXT SW: OFF (normal)
- Focus control : Adjust for the optimum picture.
(Signal 5, pattern-6, char-13.23, at full 'H' or CGA full character pattern)

1. H. raster centering

Turn the EXT. VR2 (BRIT) fully clockwise so that background raster can be seen, then connect the H connector in the position so that the background raster is in the center of the GRT screen.

2. Horizontal and vertical deflection

- 1) H. hold
 - (1) Short between TP501 and GND.
 - (2) Apply signal 3 (30.48KHz) and adjust H. hold VR502 so that the entire picture appears.
 - (3) Apply signal 2 (20KHz) and adjust H. hold VR555 so that the entire picture appears.
- 2) H.linearity

Adjust L504 for the optimum H. linearity.

If at this time the picture is horizontally mispositioned, readjust step 4-1.
- 3) H. Position (Adjust to the center of the raster)
 - (1) Adjust VR501 to the center the picture when signal 3 (30.48KHz) is applied.
 - (2) Adjust VR554 to the center the picture when signal 6 (22KHz) is applied.
 - (3) Adjust VR553 to the center the picture when signal 5 (15.85KHz) is applied.
 - (4) Check that the picture is centered when the signals in (1), (2) and (3) above are applied.
- 4) Side pincushion

Adjust VR404 for the optimum side pincushion distortion.
- 5) H. width
 - (1) Perform this adjustment with the H. width switch SW2 off
 - (2) Adjust H. width L505 so that the size of the picture when signal 5 (CGA) is applied is 240mm. If the size cannot be adjusted to 240mm even if H. width L505 is turned fully, turn L504 slightly to correct this.
 - (3) Adjust H. width L511 so that the size of signal 6 (EGA) is 240mm.
 - (4) Repeatedly check that the size of signal 5 and signal 6 is equal.
- 6) V. position

Vertically center the picture using EXT. VR3 (V.POSI) when signal 6 (22KHz) is applied.
- 7) V. linearity

Adjust VR401 for center and VR402 for corner so that the vertical linearity is optimum when signal 6 (22KHz) is applied.
- 8) V. size/ V. bias
 - (1) Apply signal 3 (30.48KHz) and adjust V. bias VR405 so that the voltage between DY4 and GND is 11.5V DC.
 - Also adjust sub height VR403 so that the vertical amplitude is 180mm.
 - (2) Adjust sub height VR452 so that the vertical amplitude is 180mm when signal 5 (15.85KHz) is applied.
 - (3) Adjust V. mode VR451 so that the vertical amplitude is 180mm when V. mode signal 4 (30.48KHz. 400 lines. H output: H/V sync., V output: GND) is applied.
 - (4) Apply the signals in the above steps, (2) and (3), check and readjust that the vertical amplitude for each is 180mm \pm 3mm.
- 9) PS mode V. SIZE adjustment
 - (1) Set switch MANUAL/PRESET to the PRESET mode and apply signal 9 (60Hz. 480lines) then adjust vertical size to 180mm when picture is centered by EXT. VR3 (V. POSI) and EXT. VR4 (H.POSI).
 - (2) Adjust VR302 so that vertical size is 180mm when signal 10 (70Hz, 400lines) is applied.
 - (3) Adjust VR301 so that vertical size is 180mm when signal 11 (70Hz, 350lines) is applied.

3. Adjustment of video amplitude and white balance

NOTE: Be sure to set the TTL/ANALOG SW to ANALOG position.

Video: analog 0.7 Vp-p

Sync.: separate TTL level

Unless otherwise specified, use signal 8 for the adjustments.

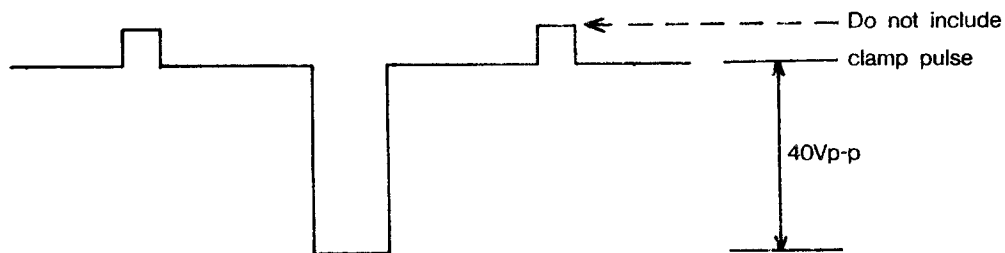
1) Initial setting of adjustment VR

- | | |
|------------------------------------|--------------------------|
| VR701-VR703 SUB contrast control | : center |
| VR704-VR706 GAIN control | : center |
| VR901-VR903 BIAS control | : fully counterclockwise |
| VR904-VR906 SUB brightness control | : fully clockwise |

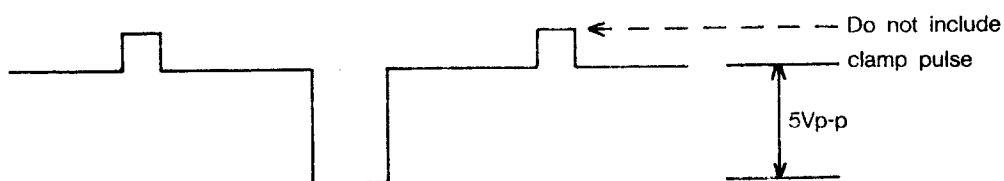
2) Video Contrast adjustment

- (1) Adjustment of gain control-use signal 7 (15.85KHz)
 - a) Receive a window pattern (within a range for which ABL does not function even with a maximum contrast, and preferably with a video range of 1/3 to 1/2 H \times 1/2 V).
 - b) Turn the contrast fully clockwise and the brightness control fully counterclockwise.

- c) Adjust VR704, VR705 and VR706 so that R, G and B OUT respectively on the video PWB become 40Vp-p excluding blanking pulse. After adjusting, check each Vp-p, and if not proper readjust.



- (2) Adjustment of SUB-contrast control - use signal 7 (15.85KHz)
- Turn both the contrast and brightness controls fully counterclockwise.
 - Adjust VR701, VR702 and VR703 so that R, G and B OUT respectively on the video PWB become 5 Vp-p excluding blanking pulse. After adjusting, check each Vp-p, and if not proper readjust.



- 3) Cut-off adjustment (All black signals: signal 8. pattern-6, char-13.5)
- Turn the EXT. VR1 (CONT) and screen control of FBT fully counterclockwise.
- Turn off the switch SW401.
 - Turn the screen control clockwise gradually and set to the position at which a single horizontal color appears faintly.
Take this color as the reference color for cut-off adjustment.
 - Turn the bias controls for a color other than the reference color clockwise until it is as bright as the reference color.
 - Turn the switch SW401 off.
- 4) Adjustment of SUB-brightness VR
- Receive the signal 8 (15.85KHz), pattern-12.0.
If the signal generator does not function white H grey scale (16 grades), apply a 0.2V video input instead of 5/16 grades.
 - Turn the EXT. VR1 (CONT) fully clockwise and the EXT. VR2 (BRIT) control fully counterclockwise.
 - Adjust SUB-brightness VR905 so that the 5/16 grade appears faintly.
From this point on, leave VR905 in this positions.
 - Turn the EXT. VR1 (CONT) fully counterclockwise and the EXT. VR2 (BRIT) fully clockwise.
 - Receive all black signals (pattern-6, char-13.5)
 - Adjust VR904 and VR906 so that the background raster becomes white.
- 5) Fine adjustment of white balance
- Receive the white H grey scale (16 grades).
if the signal generator does not function white H grey scale (16 grades), apply white window pattern (signal7, pattern-11.4.) within a range for which ABL does not function.
 - Turn the EXT. VR1 (CONT) fully clockwise.
Adjust the EXT. VR2 (BRIT) so that no background raster appears and check that the white balance is proper for each grade.
If the white balance is off for the upper grades, fine adjust the gain control, VR704 and VR706 to match the white.

Do not touch VR705.

- (3) Turn the EXT. VR1(CONT) fully counterclockwise and the EXT. VR2 (BRIT) fully clockwise.
Check that the white balance is proper for each grade.
If the balance is off, fine adjust SUB-contrast VR701 and VR703 to match the white.

Do not touch VR702.

If the background raster and the white for the different grades are off, fine adjust SUB-brightness VR904 and VR906.

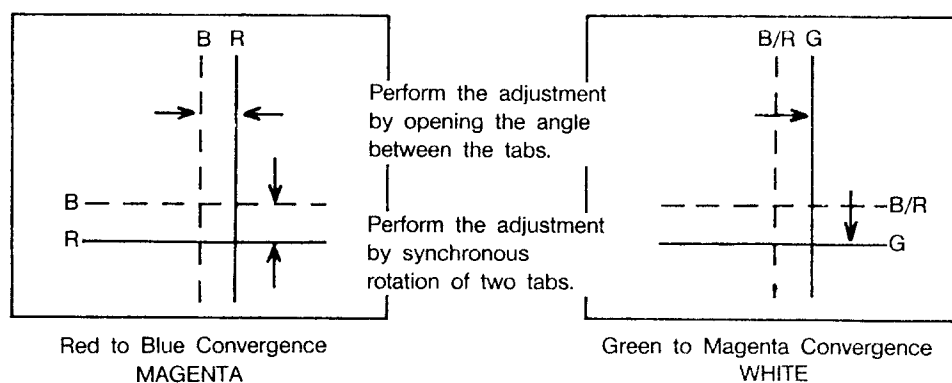
Do not touch VR905.

5. FOCUS Adjustment (Use signal 5)

Turn the EXT. VR1(CONT) fully clockwise, and set the EXT. VR2(BRIT) to a suitable position(signal 5,pattern-11.6).
Adjust the focus control to the optimum position.

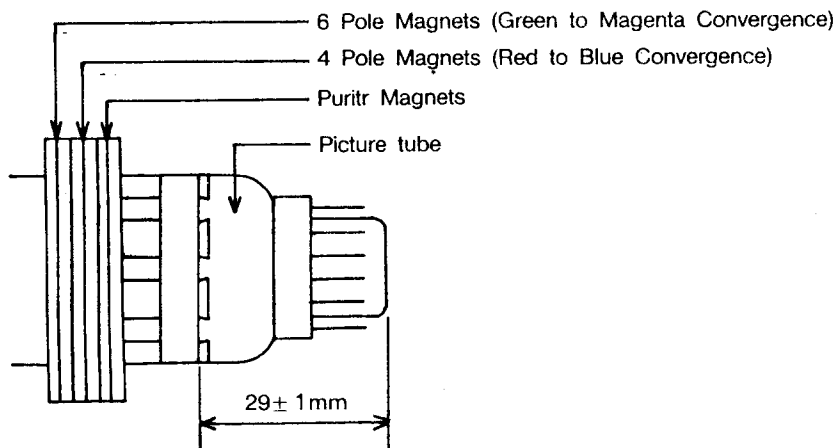
6. PURITY Adjustment

- 1) Be sure that the display is not being exposed to any external magnetic fields.
- 2) Ensure that the spacing between the purity, convergence magnet (PCM) assembly and the CRT stem is $29\text{mm} \pm 1\text{mm}$.
- 3) Produce a complete, red pattern on the display. Adjust the purity magnet rings on the PCM assembly to obtain a complete field of the color red. This is done by moving the two tabs in such a manner that they advance in an opposite direction but at the same time to obtain the same angle between the two tabs, which should be approximately 180 degrees.
- 4) Check the complete blue and complete green patterns to observe their respective color purity. Make minor adjustments if needed.



7. CONVERGENCE Adjustment

- 1) Produce a magenta crosshatch on the display.
- 2) Adjust the focus for the best overall focus on the display.
Also adjust the EXT. VR2 (BRIT) to the desired condition.
- 3) Vertical red and blue lines are converged by varying the angle between the two tabs of the 4-pole magnets on the PCM assembly.
- 4) Horizontal red and blue lines are converged by varying the two tabs together, keeping the angle between them constant.
- 5) Produce a white crosshatch pattern on the display.
- 6) Vertical green and magenta lines are converged by varying the angle between the two tabs of the 6-pole magnets.
- 7) Horizontal green and magenta lines are converged by varying the two tabs together, keeping the angle between them constant.



Purity Convergence Magnet Assembly (PCM).

8. SWITCHES and CONTROLS Operations

Confirm the following switches and controls operate correctly.

1) Switches

- (1) TTL/ANALOG SW
- (2) MANUAL/PRESET SW (PRESET: IBM-CGA, EGA, PGA, VGA, MCGA or compatible graphic cards)
(MANUAL: Other PC)
- (3) 8/16/64 COLOR SW (TTL only, operating when MANUAL SW is ON)
- (4) TEXT SW (TTL only)
- (5) H. WIDTH SW (use when H. frequency is 22KHz to 35KHz).

2) Controls

- (1) Brightness
- (2) Contrast
- (3) V. size
- (4) V. position
- (5) V. hold
- (6) H. position

9. SIGNALS Operations

Confirm that the monitor operates correctly with the below signals.

- (1) IBM PC with CGA
- IBM PC with EGA
- IBM PC with PGA
- IBM PS/2 - 50 with VGA/MCGA
- 2) signal 3 (PGA compatible)
- signal 4 (PGA compatible, composite sync)
- signal 5 (CGA compatible)
- signal 6 (EGA compatible)
- signal 9 (VGA mode 1 compatible)
- signal 10 (VGA mode 2 compatible)
- signal 11 (VGA mode 3 compatible)

10. DATA FORMAT FOR USING CHROMA-1000

2) SIGNAL DESCRIPTION

1) TIMING PARAMETERS

(1) Real Time Parameters

Dot Rate (Fd)	MHz
Horizontal Rate (Fh)	KHz
Vertical Rate (Fv)	Hz

(2) Non-Real Time Parameters

Horizontal	Vertical
Dots/Character (Ndc)	Lines/Character (Nlc)
Total (Nht)	Total (Nvt)
Characters (Nhc)	Rows (Nvr)
Drive Delay (Nhd)	Drive Delay (Nvr)
Drive Width (Nhw)	Drive Width (Nvw)
	Step Width (STEP)

SIG. #	Description
1	H:25KHz
2	H:20KHz
3	H:30.48KHz (480 lines)
4	H:30.48KHz (400 lines)
5	H:15.85KHz (200 lines)
6	H:22KHz (350 lines)
7	H:15.85KHz WINDOW PATTERN
8	H:15.85KHz
9	H:31.5KHz (480 lines)
10	H:31.5KHz (70Hz) (400 lines)
11	H:31.5KHz (70Hz) (350 lines)

3) OPTION PARAMETERS

Description	Option	Mode
Composite Sync Output	1.x	0: Off, Low
Vertical Step Output	2.x	1: Off, High
Horizontal Drive Output	3.x	2: On, Non-inverted
Vertical Drive Output	4.x	3: On, Inverted
Intensity Video Output (TTL-I, R', G', B')	5.x	0: Off 1: On
Video Output	6.x	0: TTL-I, R', G', B' 1: TTL-RGBI, TTL-MONO 2: ANALOG-RGB, Mono Comp 3: Option 6.1 + 6.2
Interlace Mode	7.x	0: Non-interlace 1: Interlace Sync Only 2: Interlace Sync & Video
Polarity of Video Output	8.x	0: Non-inverted/Positive 1: Inverted/Positive 2: Non-inverted/Negative 3: Inverted/Negative
Vertical Skew	9.x	: Skew down 0-9 lines
Horizontal Skew	10.x	: Skew Right 0-3 dots
Cursor	11.x	: Mode of Cursor Blink
Duty Cycle of Mono Video	12.x	0: 100% 1: 50% ($F_d \leq 32.768 \text{ MHz}$) 100% ($F_d > 32.768 \text{ MHz}$)
Keypad Lock	13.x	0: Lockout 1: Unlock

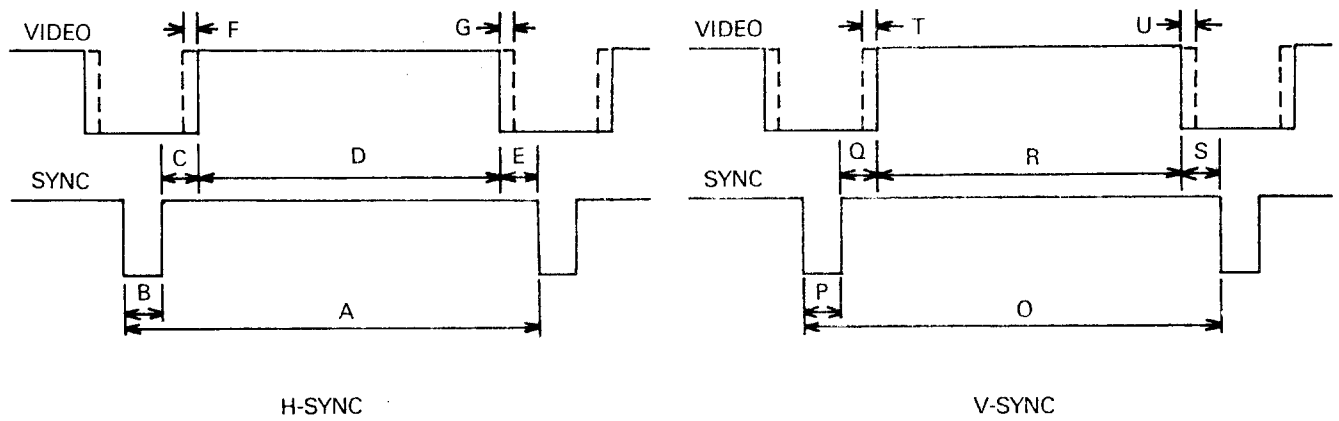
4) TIMING DATA

SIG. #	Ndc	Nht	Nhc	Nhd	Nhw	FH. KHz	Nlc	Nvt	Nvr	Nvd	Nvw	FV. Hz
1	8	104	80	88	8	25	10	417	38	38	3	59.95
2	8	104	80	88	8	20	10	333	30	30	3	60.06
3	8	103	80	80	14	30.476	10	508	48	48.03	2	59.99
4	8	103	80	80	14	30.476	10	508	40	44.01	2	59.99
5	8	112	80	90	7	15.848	10	264	20	22.05	1	60.03
6	8	93	80	79	10	22	10	366	35	34.10	13	60.11
7	8	112	20	62	7	15.848	10	264	10	18	1	60.03
8	8	112	80	90	7	15.848	10	264	20	22.05	1	60.03
9	8	100	80	82	12	31.49	16	525	30	30.10	2	59.98
10	8	100	80	82	12	31.49	16	450	25	25.09	2	69.98
11	8	100	80	82	12	31.49	14	450	25	27.06	2	69.98

5) OPTION DATA

SIG. #	OP.1	OP. 2	OP. 3	OP. 4	OP. 5	OP. 6	OP. 7	OP. 8	OP. 9	OP. 10	OP. 11	OP. 12	OP. 13
1,2,9	1.3	2.0	3.3	4.3	5.1	6.2	7.0	8.0	9.0	10.0	11.0	12.1	13.1
3-8	1.3	2.0	3.2	4.2	5.1	6.2	7.0	8.0	9.0	10.0	11.0	12.1	13.1
4	1.2	2.0	3.0	4.0	5.1	6.2	7.0	8.0	9.0	10.0	11.0	12.1	13.1
10	1.3	2.0	3.3	4.2	5.1	6.2	7.0	8.0	9.0	10.0	11.0	12.1	13.1
11	1.3	2.0	3.2	4.3	5.1	6.2	7.0	8.0	9.0	10.0	11.0	12.1	13.1

TIMING CHART



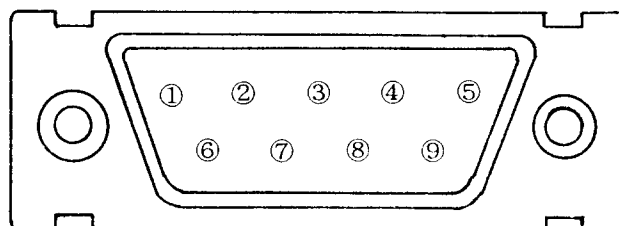
MODE SYNC	LOCATION ITEM (T)	IBM CGA	IBM EGA	IBM EGA	IBM PGA	VGA 350	VGA 400	VGA 480	REMAKER
H	A μ S	63.5	45.76	46.23	32.7	31.48	31.48	31.48	64.5-28.6 μ Sec
O	B μ S	4.5	4.8	4.5	4.48	3.78	3.78	3.78	2-10 μ Sec
R	C μ S	7.8	1.6	2.4	2.36	1.89	1.89	1.89	2-8 μ Sec
I	D μ S	44.5	39.36	39.36	25.66	25.17	25.17	25.17	20-48 μ Sec
Z	E μ S	6.7	-0.15	-0.40	0.2	0.94	0.94	0.94	1-6 μ Sec
	F μ S	3.3	-	-	-	-	-	-	
	G μ S	4.5	-	-	-	-	-	-	
V	O mS	16.67	16.75	16.93	16.65	14.26	14.26	16.68	13.8-17.2m Sec
E	P mS	0.19	0.60	0.60	0.065	0.06	0.06	0.06	0.05-0.19m Sec
R	Q mS	2.3	0.14	0.14	0.816	1.87	1.08	1.02	0.8-2.2m Sec
T	R mS	12.58	16.01	16.18	15.572	11.12	12.71	15.25	12-17m Sec
	S mS	1.6	0	0	0.697	1.21	0.41	0.35	0-1.6m Sec
	T mS	1.53	-	-	-	-	-	-	
	U mS	1.55	-	-	-	-	-	-	

PIN ASSIGNMENT OF SIGNAL CONNECTOR

SIGNAL PIN NO.	ANALOG SIGNAL			TTL SIGNAL		
	SEPARATE SYNC	COMPOSITE SYNC	SYNC ON GRN	64 COLORS	16 COLORS	8 COLORS
1	**RED			GND	GND	GND
2	**GREEN		*GREEN + SYNC	RED'	GND	GND
3	**BLUE			RED	RED	RED
4	H-SYNC	H/V-SYNC	NC	GREEN	GREEN	GREEN
5	V-SYNC	LOW MODE	NC	BLUE	BLUE	BLUE
6	GND	GND	GND	GREEN'	INTENSITY	NC
7	GND	GND	GND	BLUE'	NC	NC
8	GND	GND	GND	H or H/V SYNC	H or H/V SYNC	H or H/V SYNC
9	GND	GND	GND	V-SYNC or NC	V-SYNC or NC	V-SYNC or NC

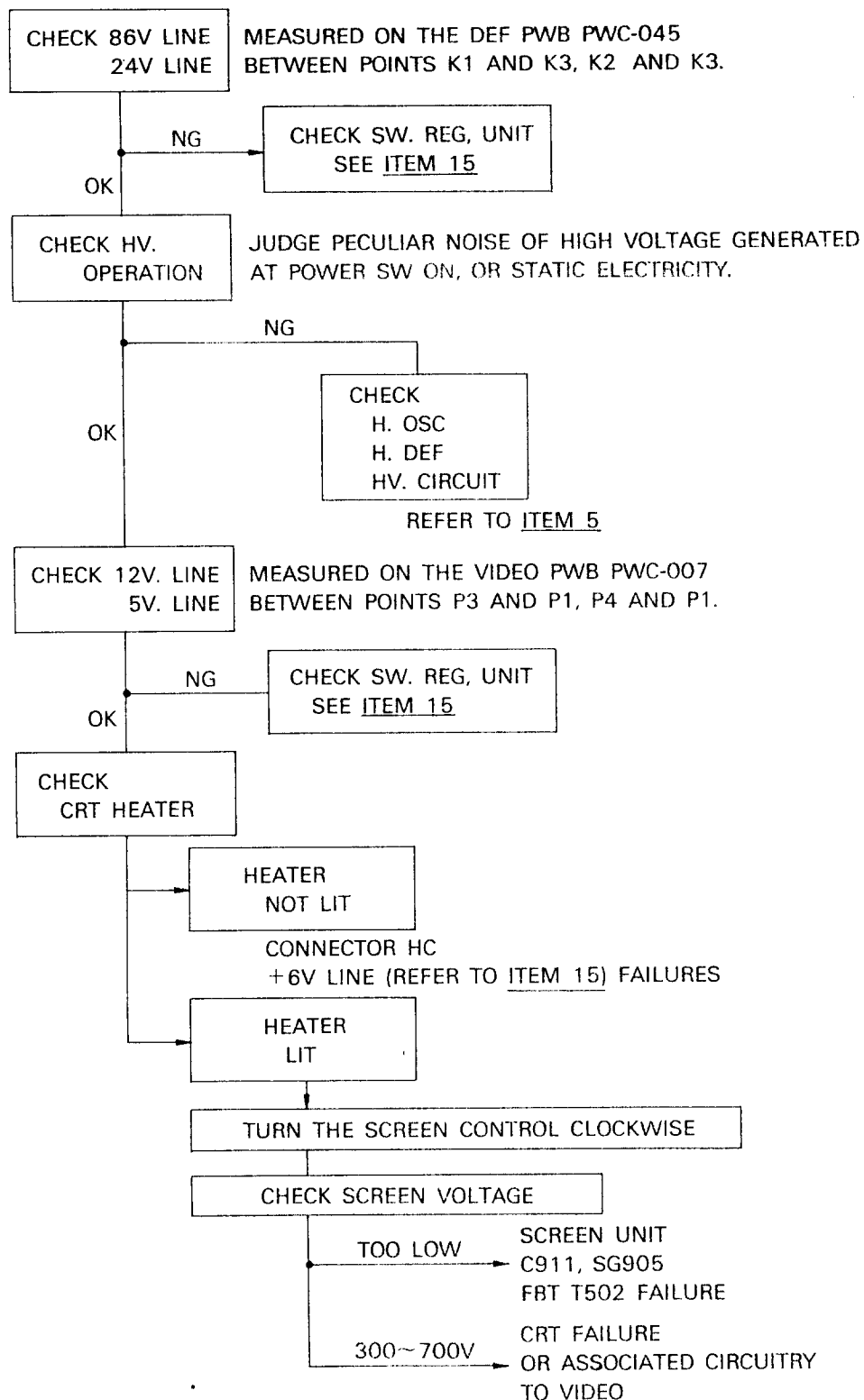
- "NC" means GROUND or NON-CONNECTION.
- "," means secondary video signal.
- INPUT SIGNAL LEVEL
- All signal levels, except for those listed below, are TTL
- "*" means 0.7Vpp (VIDEO)

D-SUB Type 9P

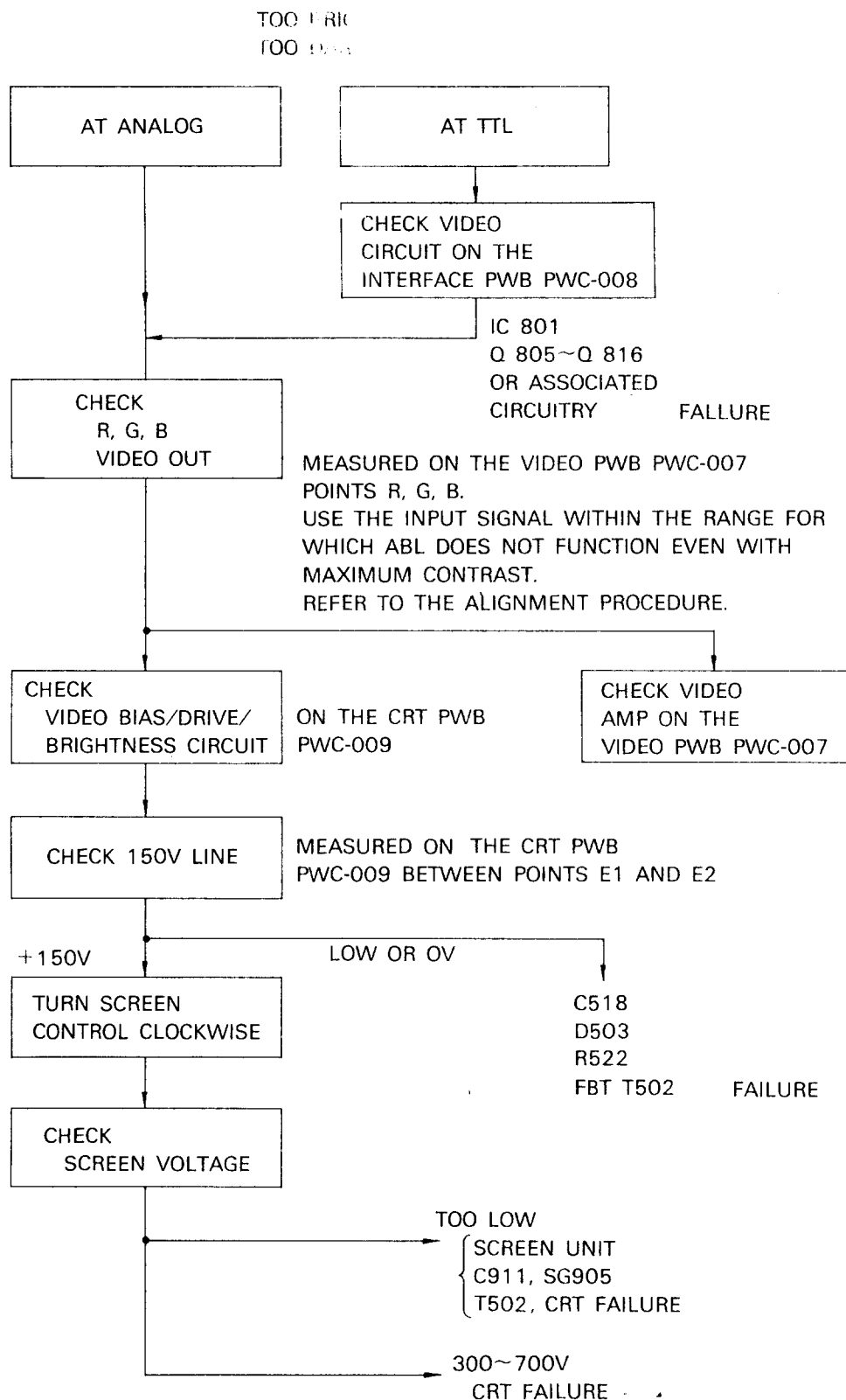


TROUBLE SHOOTING

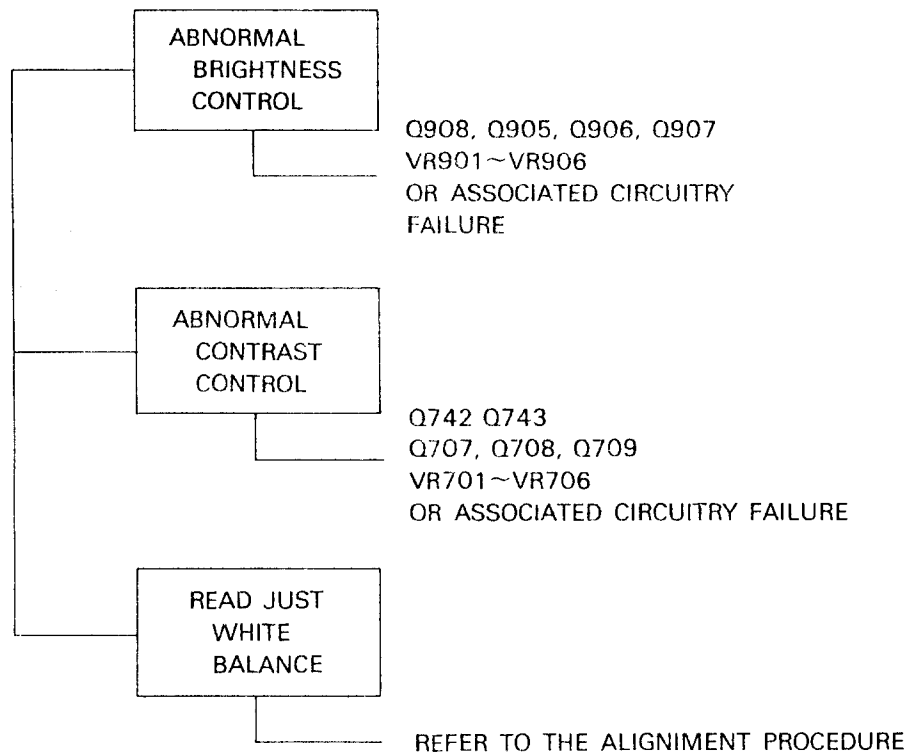
1. NO RASTER



2. ABNORMAL VIDEO ON CRT SCREEN

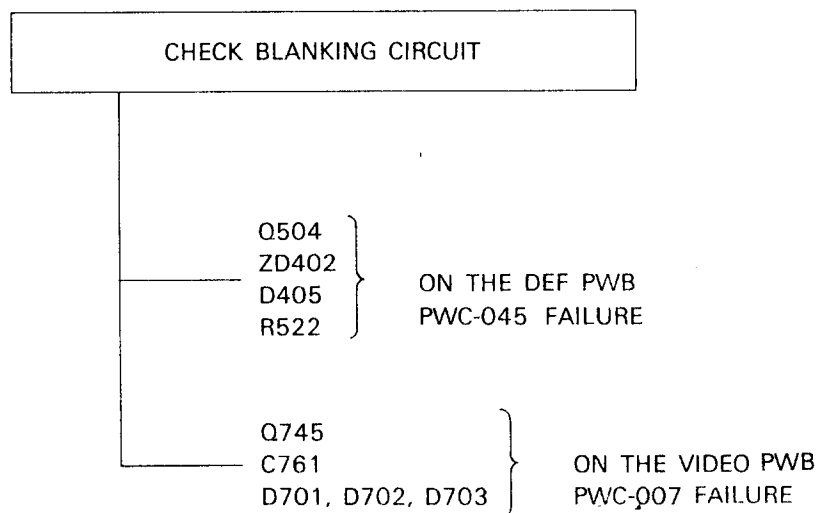


3. ABNORMAL WHITE BALANCE AND TRACKING



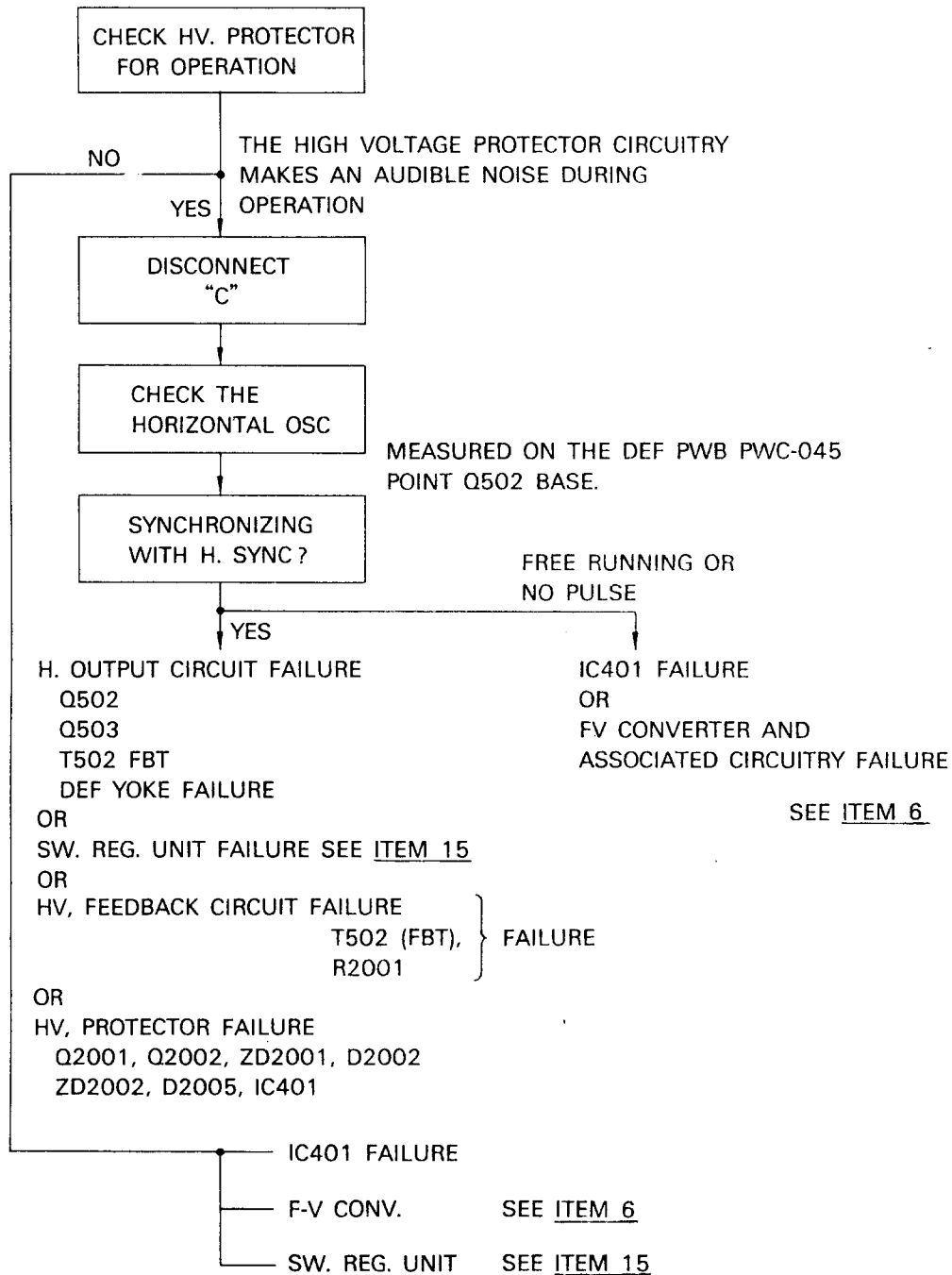
4. NO BLANKING WORKS

VISIBLE RETRACE LINE ON THE BACK RASTER

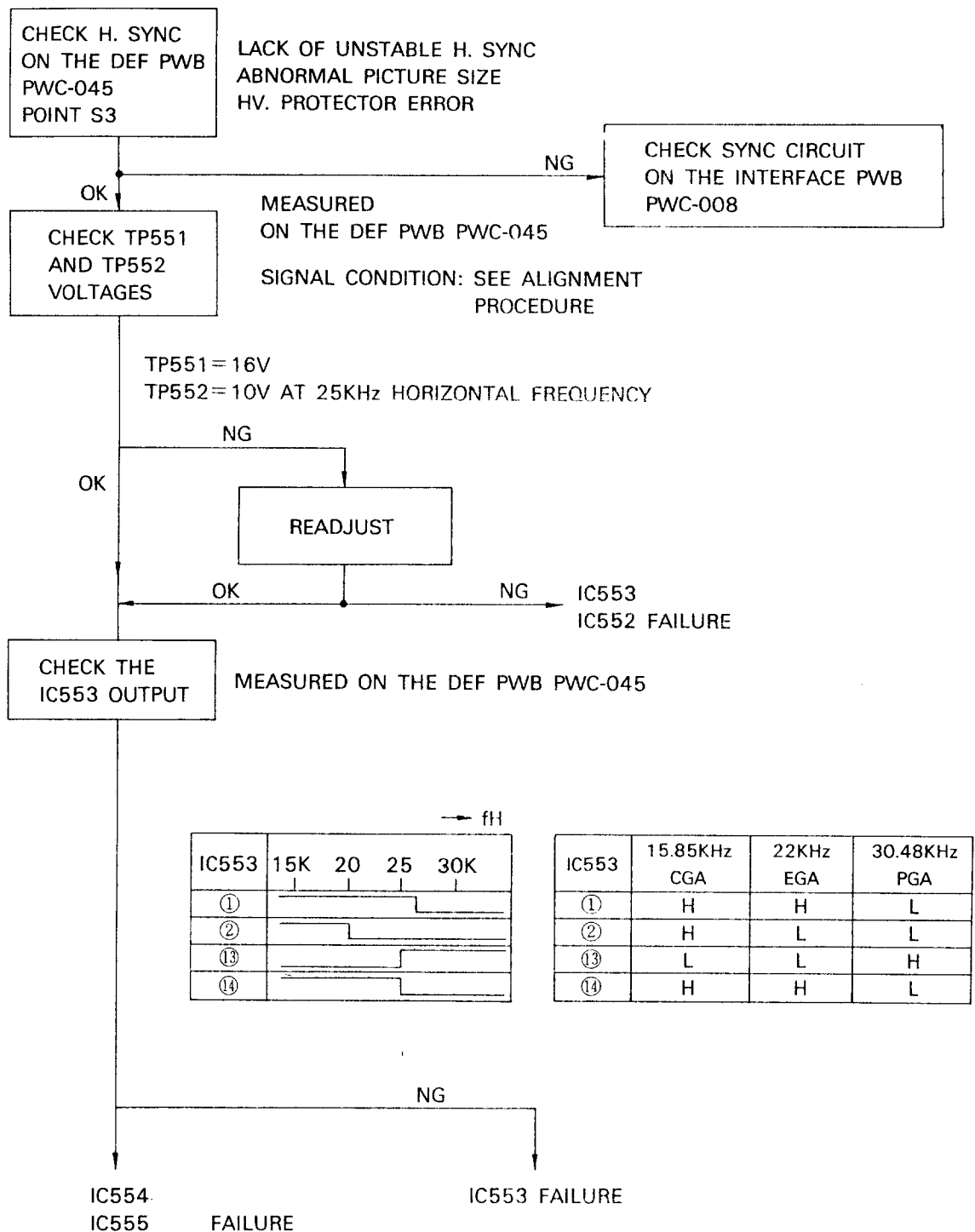


5. H. OSC/DEF/HV. CIRCUIT FAULT

NO RASTER
ABNORMAL PICTURE SIZE
ABNORMAL VIDEO ON THE CRT SCREEN

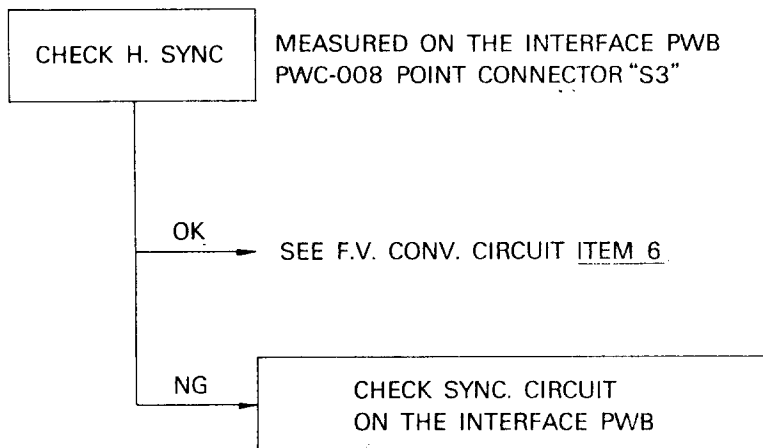


6. F-V CONVERTER AND ASSOCIATED CIRCUITRY

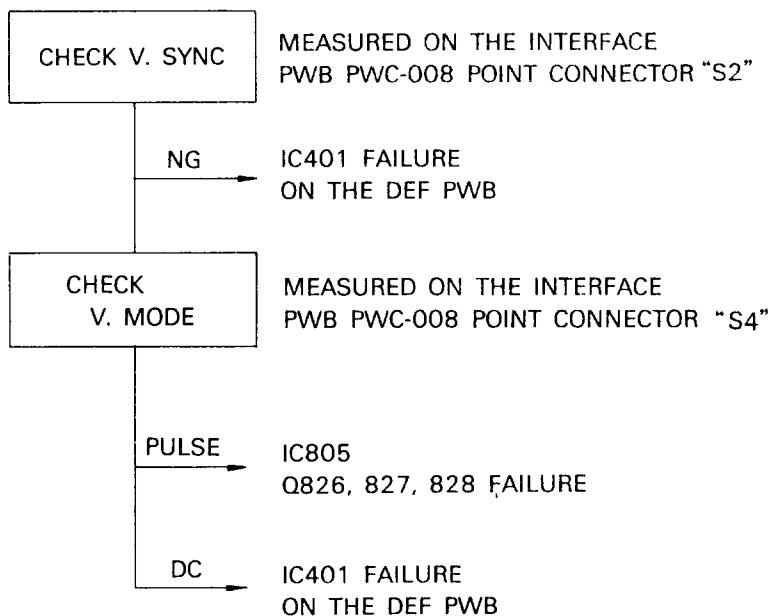


7. LACK OF UNSTABLE SYNCHRONIZATION

HORIZONTAL

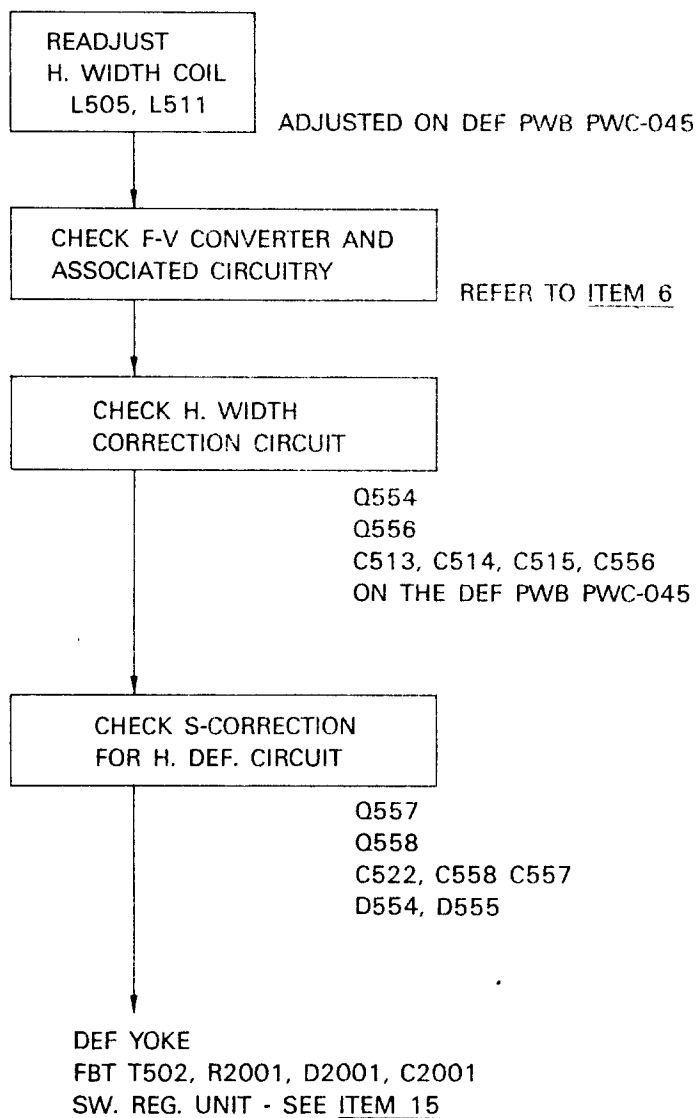


VERTICAL

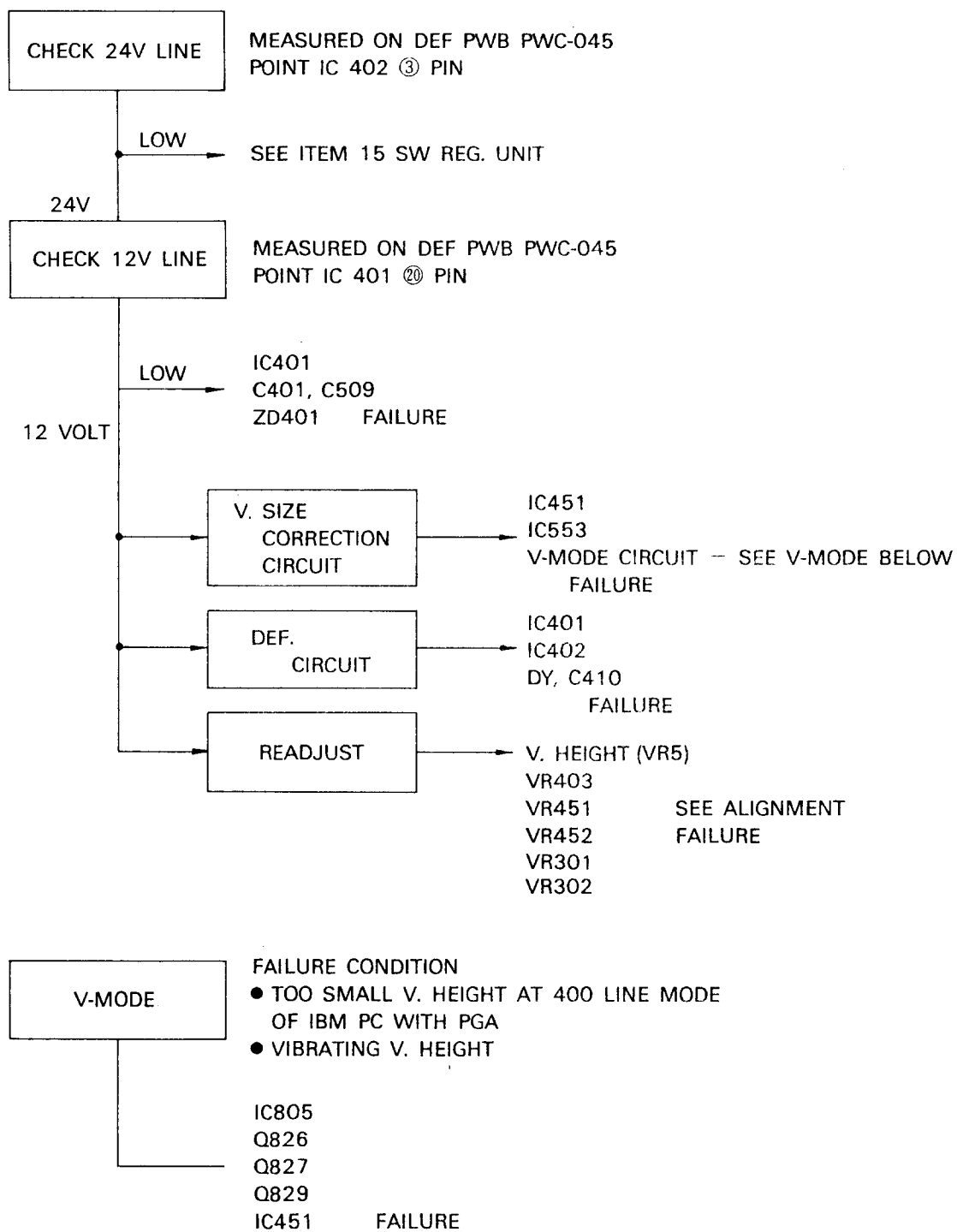


8. PICTURE SIZE

8-1. ABNORMAL HORIZONTAL WIDTH



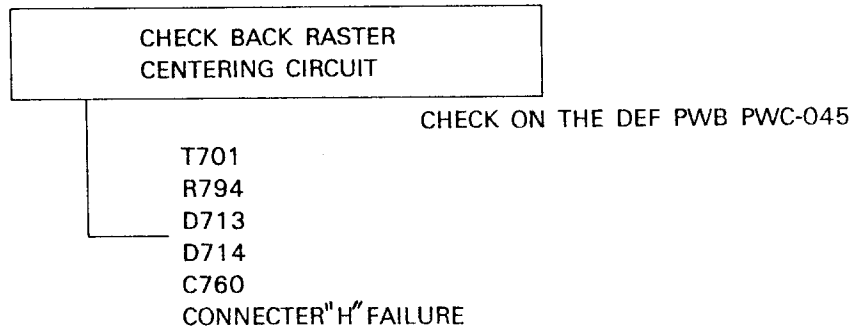
8-2. ABNORMAL VERTICAL HEIGHT



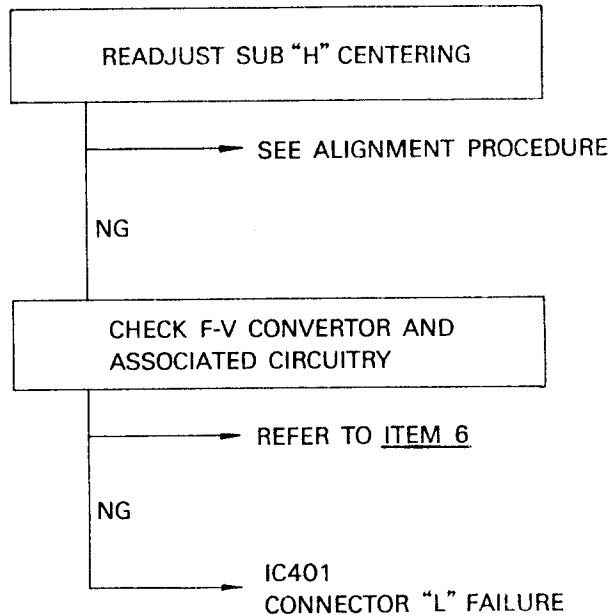
9. CENTERING

9-1. HORIZONTAL

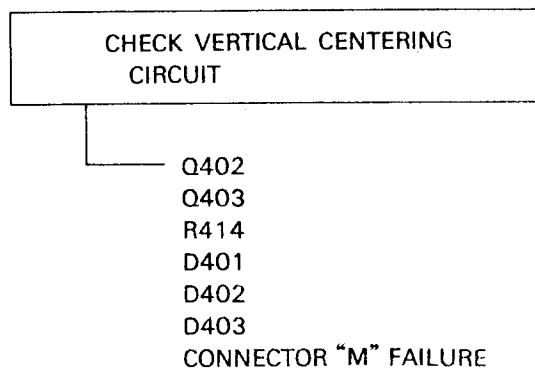
a) BACK RASTER CENTERING



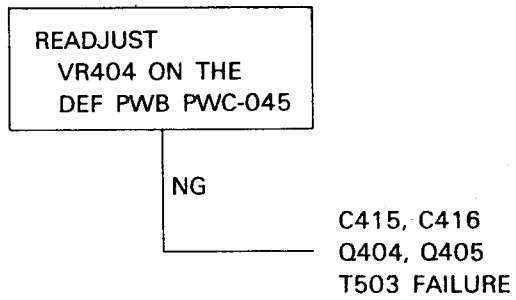
b) PICTURE CENTERING



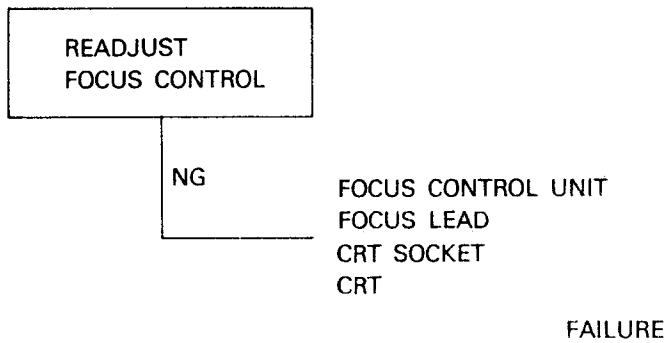
9-2. VERTICAL



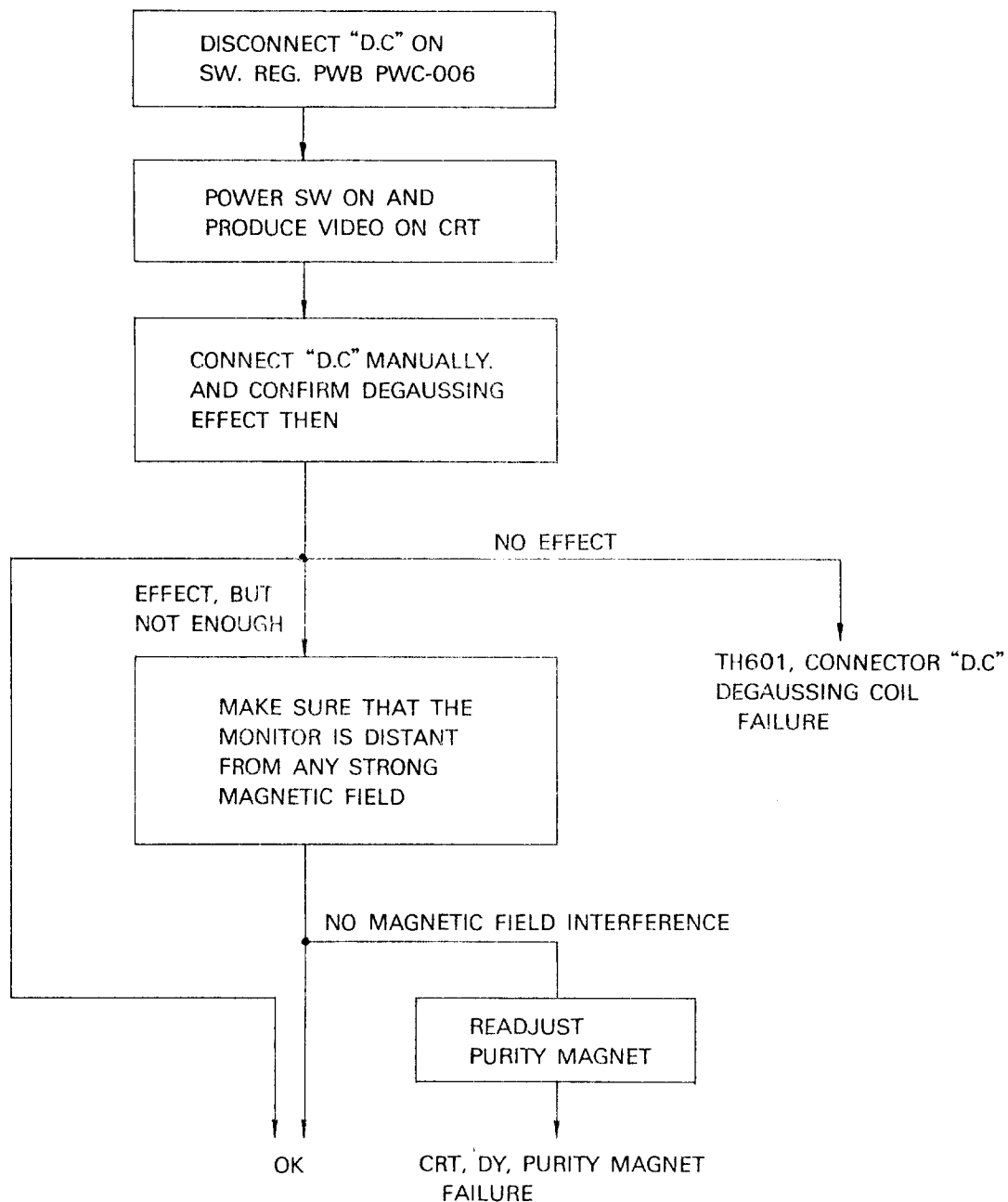
10. SIDE PINCUSHION DISTORTION FAILURE



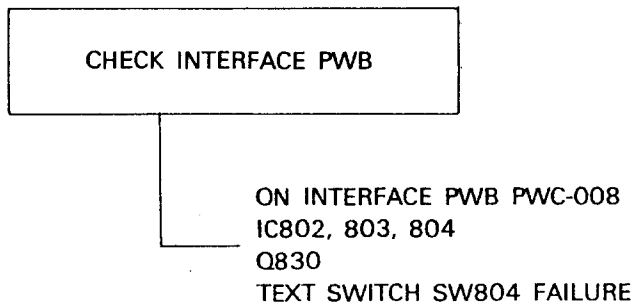
11. POOR FOCUS



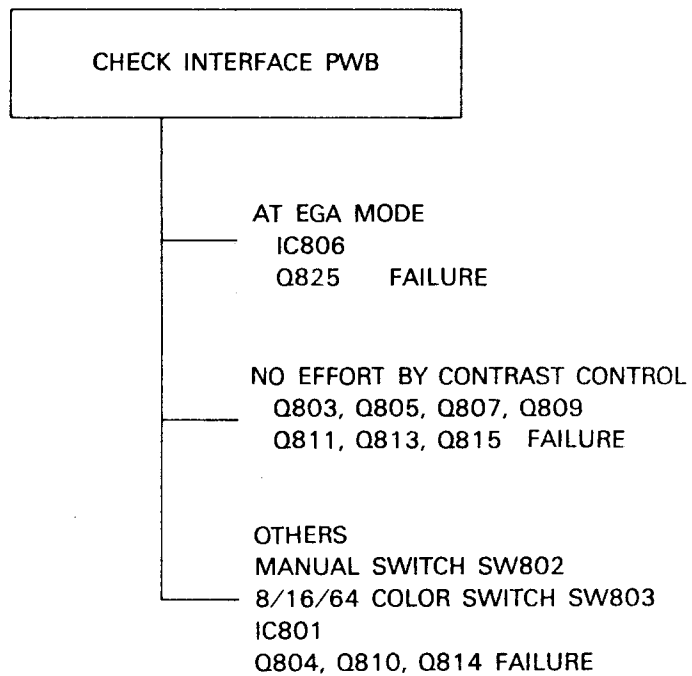
12. IMPURITY ON CRT SCREEN



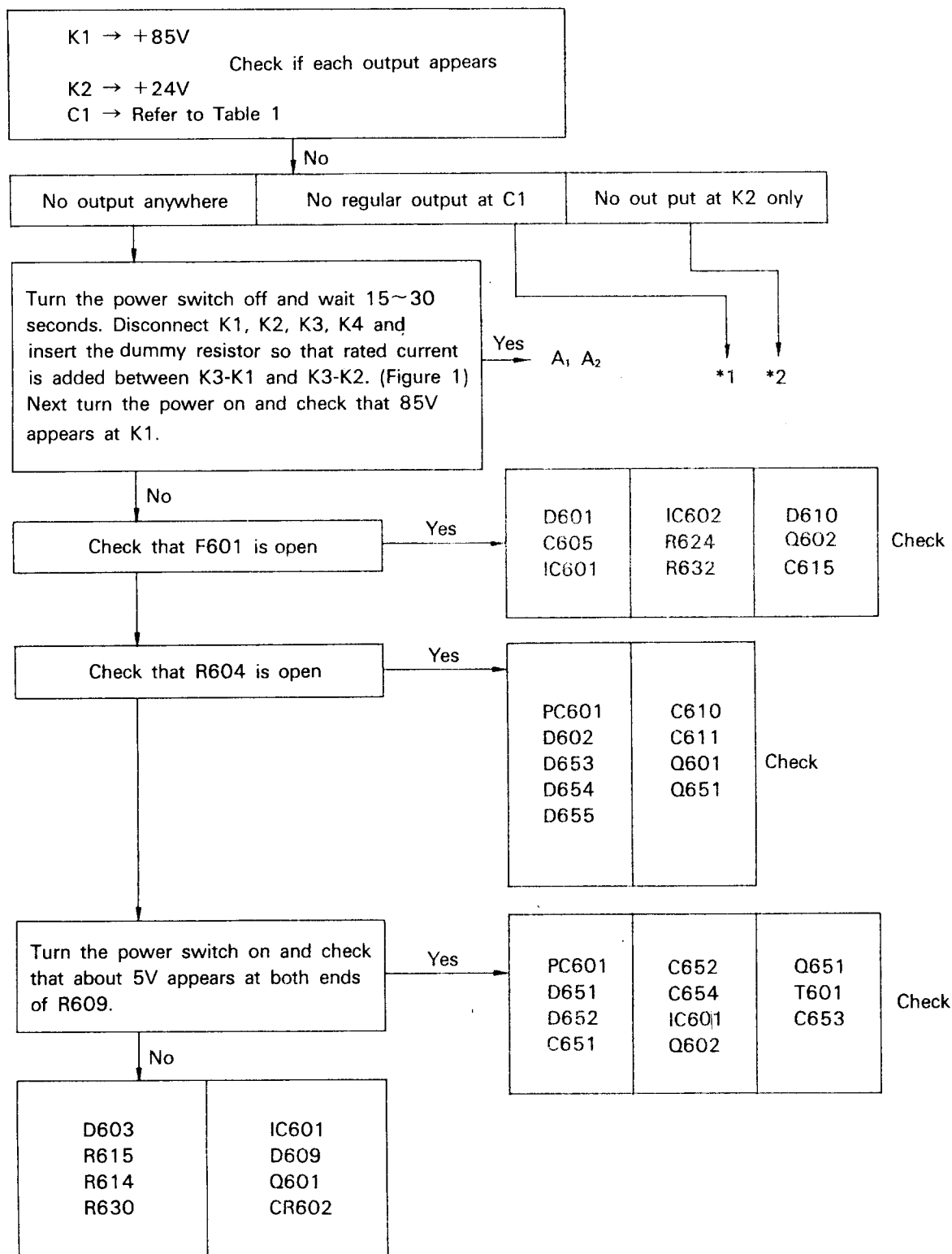
13. ABNORMAL TEXT MODE OPERATION

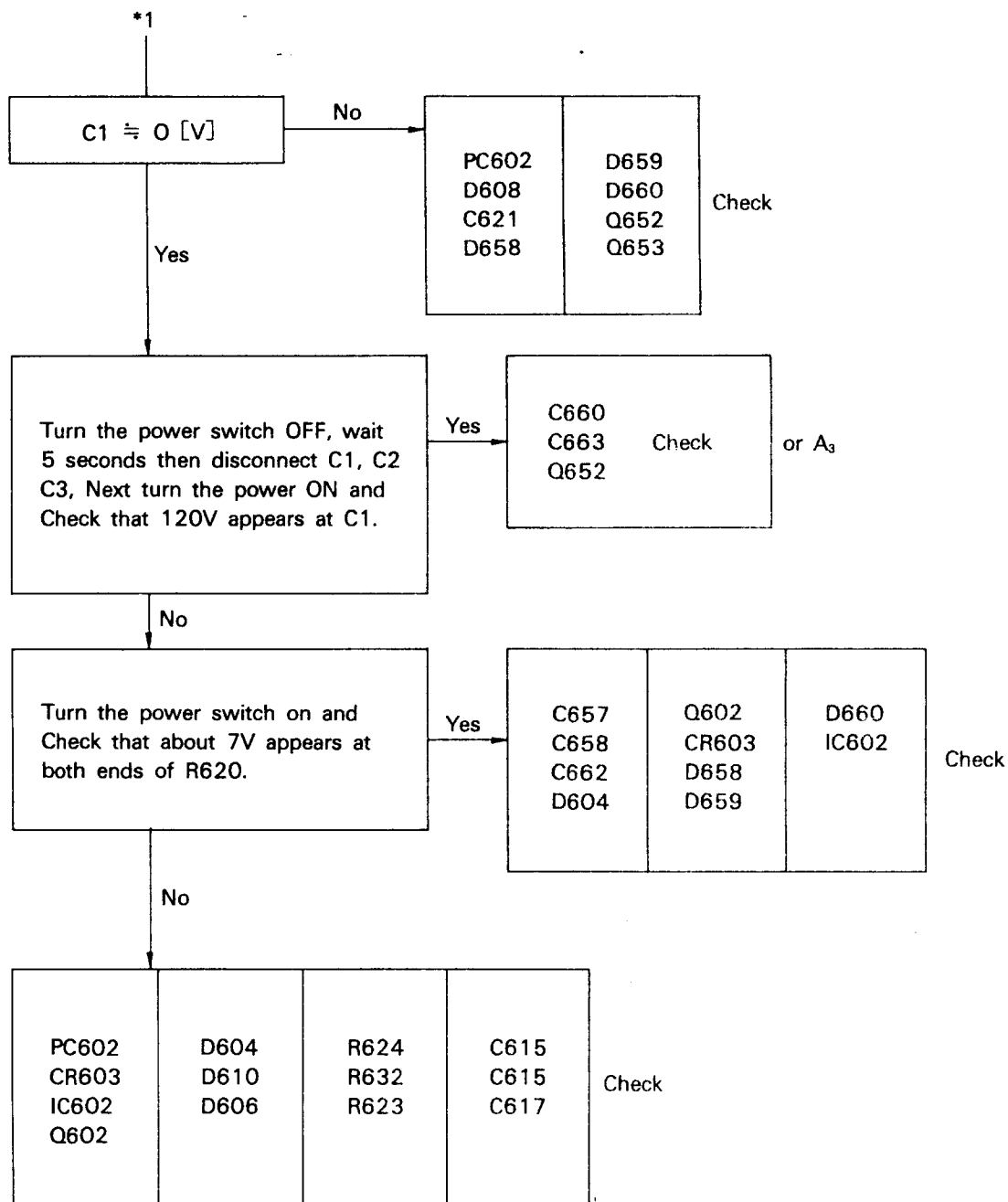


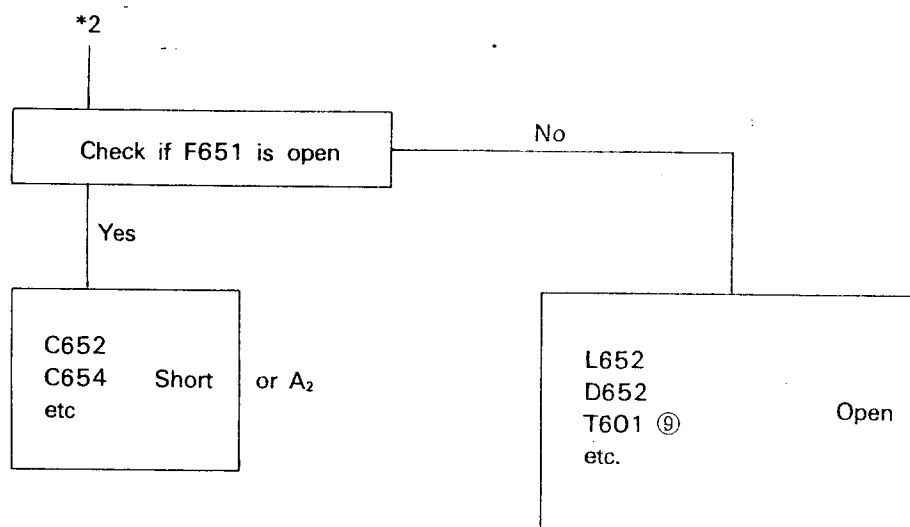
14. ABNORMAL COLOR AT TTL MODE



15. SWITCHING REGULATOR UNIT







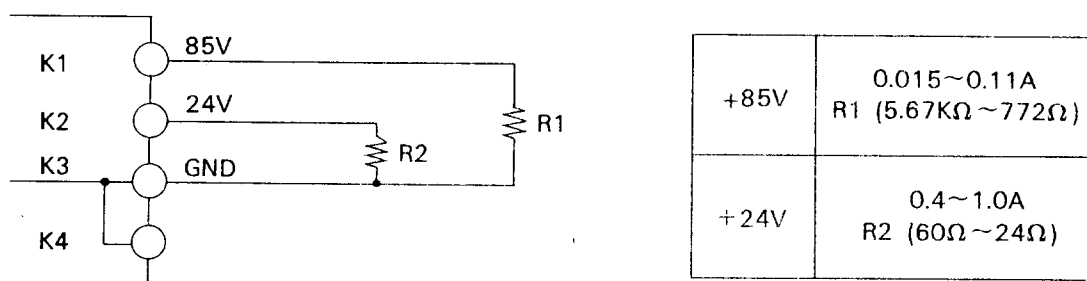
An: Trouble excluding Switching Regulator (see next page)

Table. C1 output voltage

Horizontal Frequency [KHz]	C1 Voltage [V]
15.85 (CGA)	51 ± 2.6
22 (EGA)	64 ± 3.2
30.48 (PGA)	93 ± 4.7

With no input signal, about 45V should appear at C1.

Figure 1. Rated load current at K1 and K2 terminal

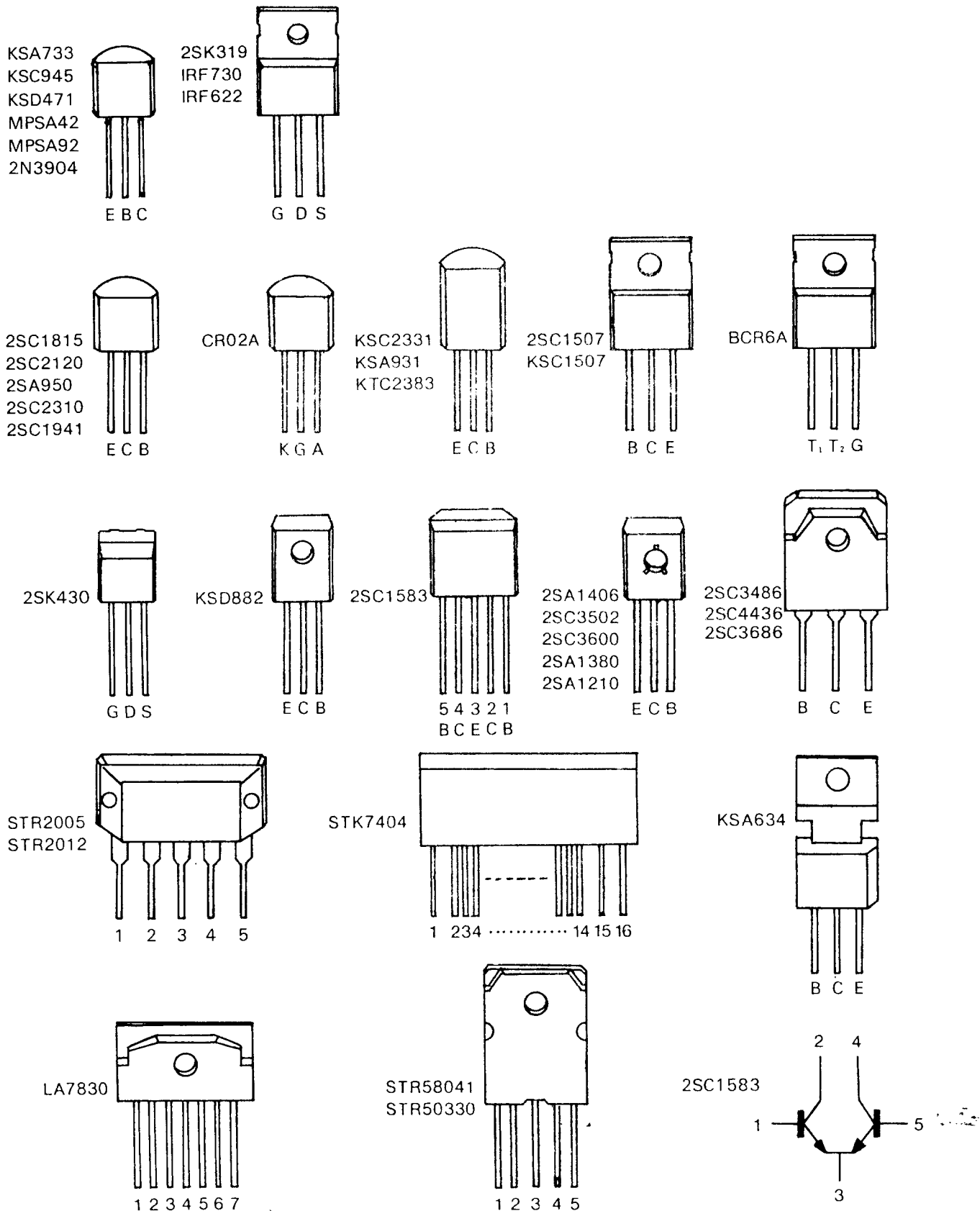


Attention) Do not power on SW, REG, unit itself without the load at K1, K2 or it may misoperate protector.

MAIN VOLTAGE LINE FAILURE EXCEPT SW. REG. UNIT

VOLTAGE LINE		FAILURE PARTS	PWB ASSY	REMARKS
A1 85V CONNECTOR K1-K3		D554, D555 Q501 Q502	DEF PWB PWC-045	
		Q728~Q733 R770~R775 C742,C743,C745	VIDEO PWB PWC-007	
A2 24V K2-K3 AND ASSOCI- ATED VOLTAGE LINES	24V CONNEC TOR K2-K3	D404, IC402, C409	DEF PWB PWC-045	BECAUSE FAILURE BELOW PART MAY BE DAMAGE 1. F651 1.6A 2. R780 2.2Ω 1/2W 3. R781 4.7Ω 1/2W 4. Q741
		Q741, IC701, IC702 ZD702 C752, C758, C759, T701	VIDEO PWB PWC-007	
	12V CONNEC- TOR P3-P1	C704~706 AND ASSOCIATED CIRCUITRY OF VIDEO AMP CIRCUIT USING 12 Volts Supply	VIDEO PWB PWC-007	
		C810, C829, Q801, Q802 ZD801, C801	INTERFACE PWB PWC-008	
	6V CONNEC- TOR HC2-HC3	CRT HEATER	CRT PWB PWC-009	
		C759	VIDEO PWB PWC-007	
		INTERFACE CIRCUIT BASED ON 5V LINE BETWEEN CONNECTOR P4 AND P1 TTL ICs	PWC PWC-008	
A3 45~120V CONNECTOR C1-C3		C516,C513,C514,C515 FBT D501 Q503 DEFLECTION YOKE	DEF PWB PWC-045	
A3 HIGH VOLTAGE FEEDBACK VOLTAGE CONNECTOR C2-C3		FBT C2001 D2001 OTHERS	DEF PWB PWC-045	SEE ITEM 5

SEMICONDUCTOR LEAD IDENTIFICATION



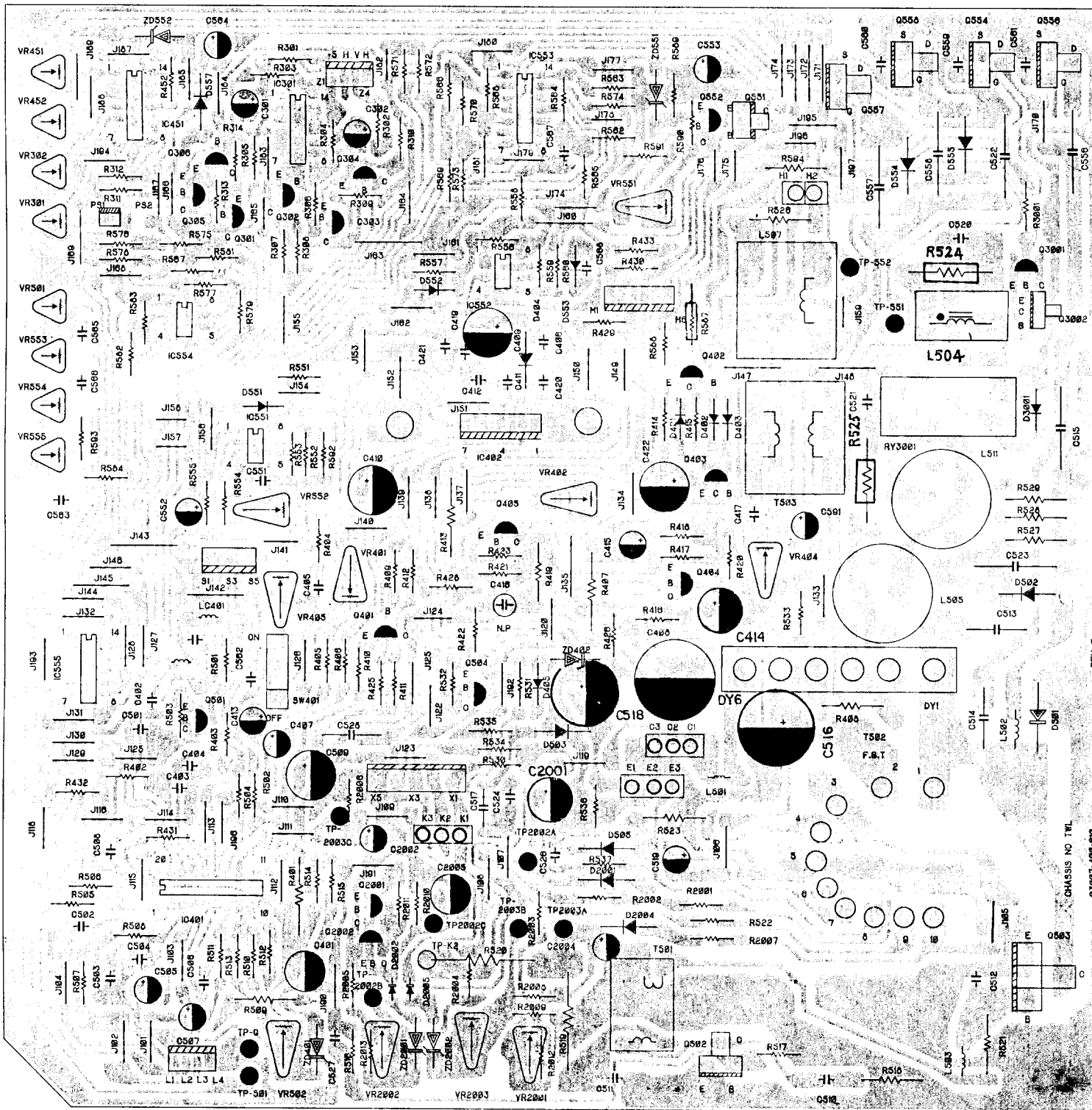
The diagram illustrates the internal layout of a color television set, showing the placement of various electronic components across four main printed circuit boards (PCBs): SMPS PCB, VIDEO PCB, MAIN PCB, and INTERFACE PCB. The layout is organized to show the physical arrangement of parts within the chassis.

Key Components and Layout:

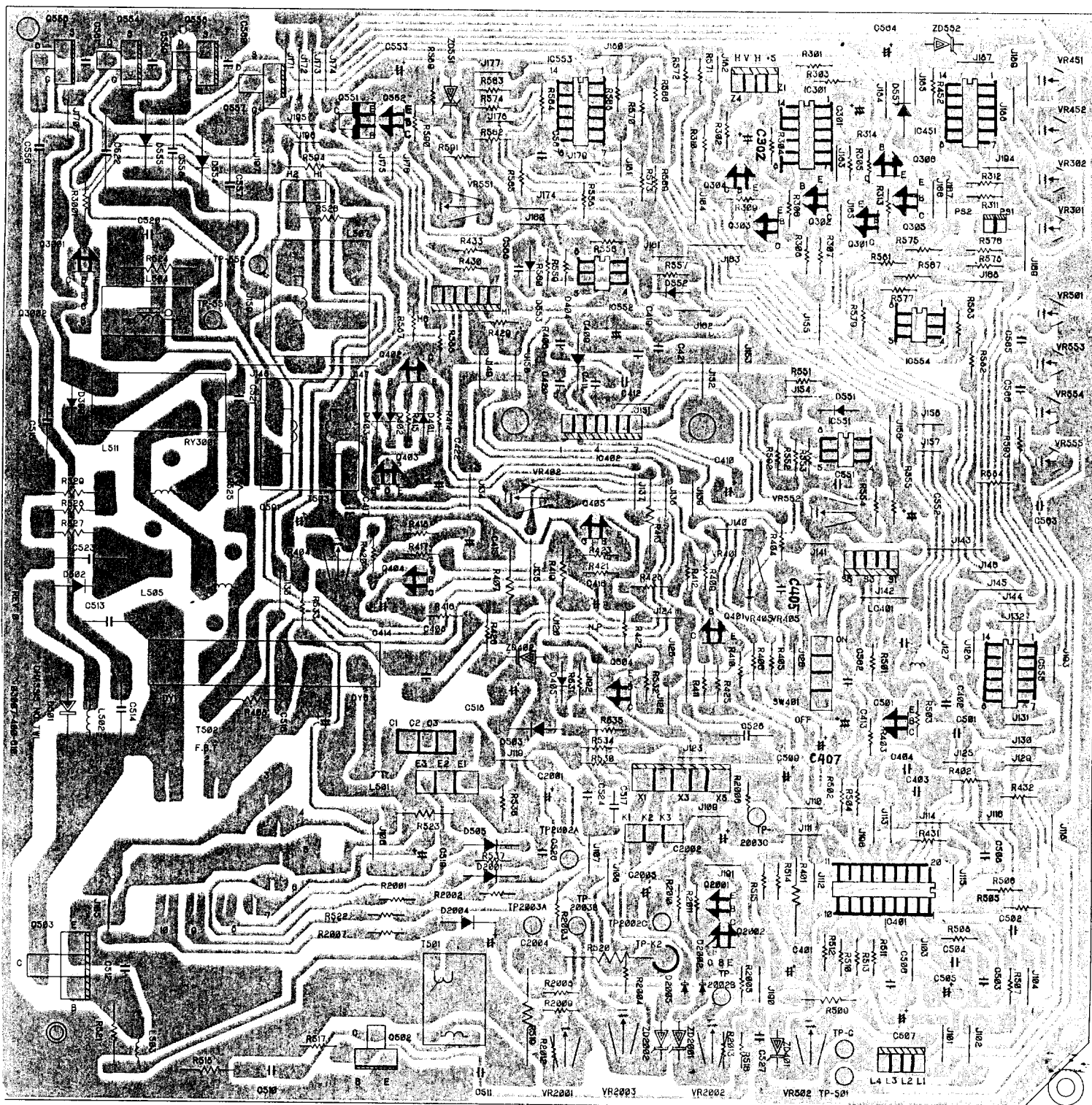
- SMPS PCB (Switching Mode Power Supply):** Located on the left side, it includes a power switch, AC power cord, and components like IC801, IC802, and IC803. It also features a heat sink and various capacitors and resistors.
- VIDEO PCB:** Located in the center, it contains video processing components such as IC701, IC702, IC703, IC704, IC705, IC706, IC707, IC708, IC709, IC710, IC711, IC712, IC713, IC714, IC715, IC716, IC717, IC718, IC719, IC720, IC721, IC722, IC723, IC724, IC725, IC726, IC727, IC728, IC729, IC730, IC731, IC732, IC733, IC734, IC735, IC736, IC737, IC738, IC739, IC740, IC741, IC742, IC743, IC744, IC745, IC746, IC747, IC748, IC749, IC750, IC751, IC752, IC753, IC754, IC755, IC756, IC757, IC758, IC759, IC760, IC761, IC762, IC763, IC764, IC765, IC766, IC767, IC768, IC769, IC770, IC771, IC772, IC773, IC774, IC775, IC776, IC777, IC778, IC779, IC780, IC781, IC782, IC783, IC784, IC785, IC786, IC787, IC788, IC789, IC790, IC791, IC792, IC793, IC794, IC795, IC796, IC797, IC798, IC799, IC800.
- MAIN PCB:** Located in the center-right, it contains the main processing components, including IC401, IC402, IC403, IC404, IC405, IC406, IC407, IC408, IC409, IC410, IC411, IC412, IC413, IC414, IC415, IC416, IC417, IC418, IC419, IC420, IC421, IC422, IC423, IC424, IC425, IC426, IC427, IC428, IC429, IC430, IC431, IC432, IC433, IC434, IC435, IC436, IC437, IC438, IC439, IC440, IC441, IC442, IC443, IC444, IC445, IC446, IC447, IC448, IC449, IC450, IC451, IC452, IC453, IC454, IC455, IC456, IC457, IC458, IC459, IC460, IC461, IC462, IC463, IC464, IC465, IC466, IC467, IC468, IC469, IC470, IC471, IC472, IC473, IC474, IC475, IC476, IC477, IC478, IC479, IC480, IC481, IC482, IC483, IC484, IC485, IC486, IC487, IC488, IC489, IC490, IC491, IC492, IC493, IC494, IC495, IC496, IC497, IC498, IC499, IC500.
- INTERFACE PCB:** Located at the bottom, it contains interface components, including IC601, IC602, IC603, IC604, IC605, IC606, IC607, IC608, IC609, IC610, IC611, IC612, IC613, IC614, IC615, IC616, IC617, IC618, IC619, IC620, IC621, IC622, IC623, IC624, IC625, IC626, IC627, IC628, IC629, IC630, IC631, IC632, IC633, IC634, IC635, IC636, IC637, IC638, IC639, IC640, IC641, IC642, IC643, IC644, IC645, IC646, IC647, IC648, IC649, IC650, IC651, IC652, IC653, IC654, IC655, IC656, IC657, IC658, IC659, IC660, IC661, IC662, IC663, IC664, IC665, IC666, IC667, IC668, IC669, IC670, IC671, IC672, IC673, IC674, IC675, IC676, IC677, IC678, IC679, IC680, IC681, IC682, IC683, IC684, IC685, IC686, IC687, IC688, IC689, IC690, IC691, IC692, IC693, IC694, IC695, IC696, IC697, IC698, IC699, IC700.
- Control PCB:** Located at the bottom right, it contains control components, including IC801, IC802, IC803, IC804, IC805, IC806, IC807, IC808, IC809, IC810, IC811, IC812, IC813, IC814, IC815, IC816, IC817, IC818, IC819, IC820, IC821, IC822, IC823, IC824, IC825, IC826, IC827, IC828, IC829, IC830, IC831, IC832, IC833, IC834, IC835, IC836, IC837, IC838, IC839, IC840, IC841, IC842, IC843, IC844, IC845, IC846, IC847, IC848, IC849, IC850, IC851, IC852, IC853, IC854, IC855, IC856, IC857, IC858, IC859, IC860, IC861, IC862, IC863, IC864, IC865, IC866, IC867, IC868, IC869, IC870, IC871, IC872, IC873, IC874, IC875, IC876, IC877, IC878, IC879, IC880, IC881, IC882, IC883, IC884, IC885, IC886, IC887, IC888, IC889, IC890, IC891, IC892, IC893, IC894, IC895, IC896, IC897, IC898, IC899, IC900.

PRINTED CIRCUIT BOARD

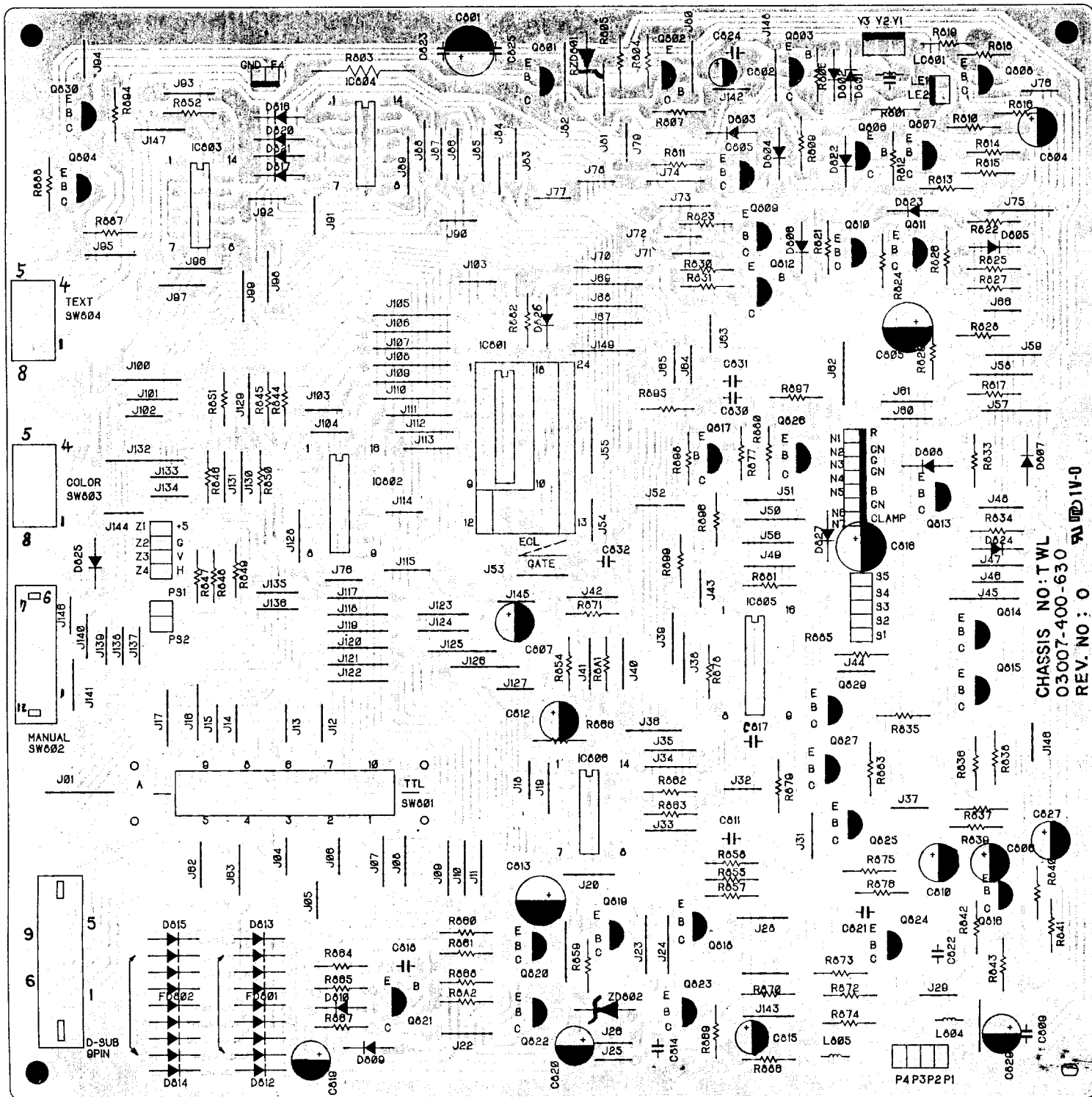
Main PCB (Top View)-



Main PCB (Bottom View)

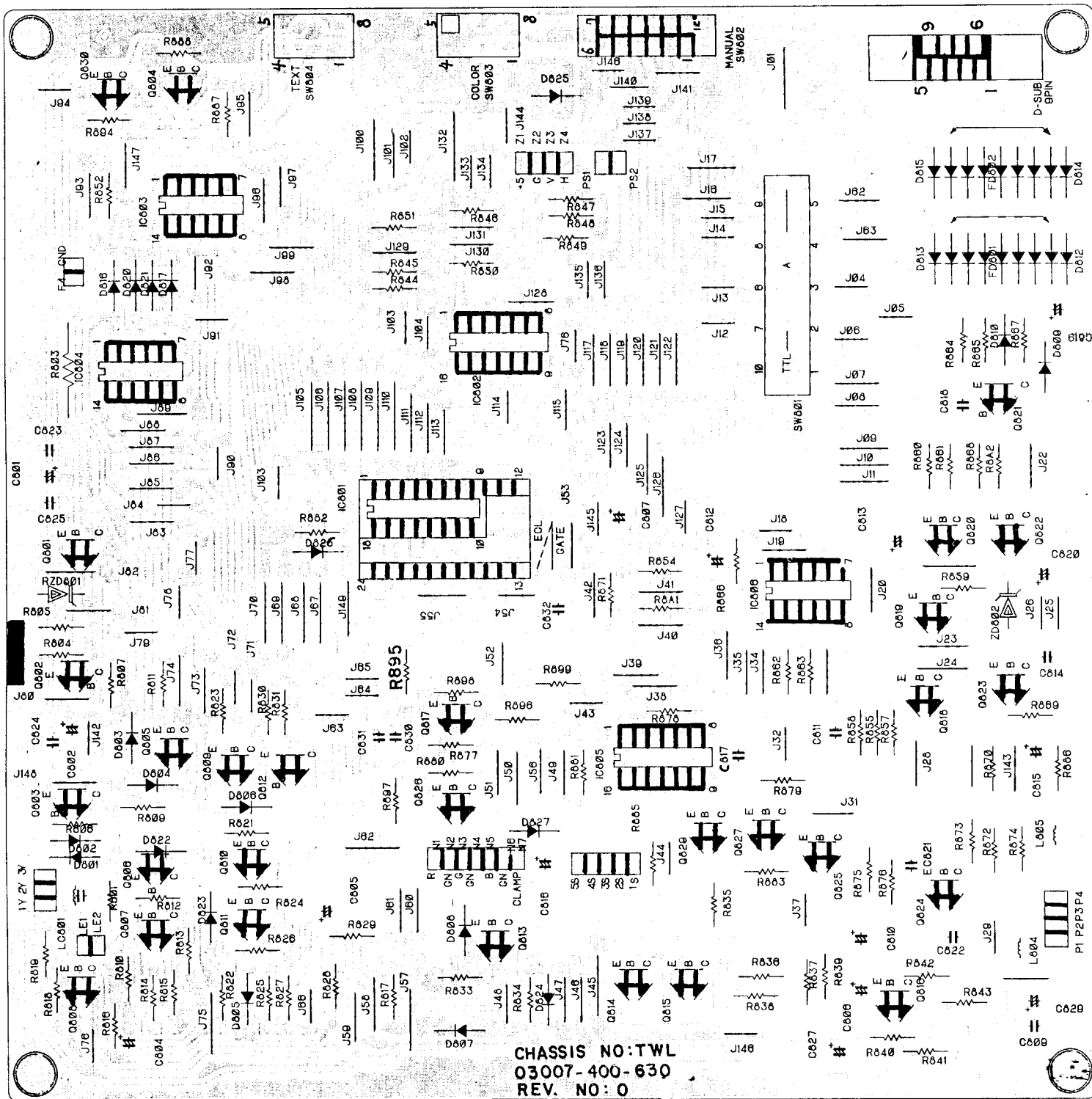


INTERFACE PWB (Top view)

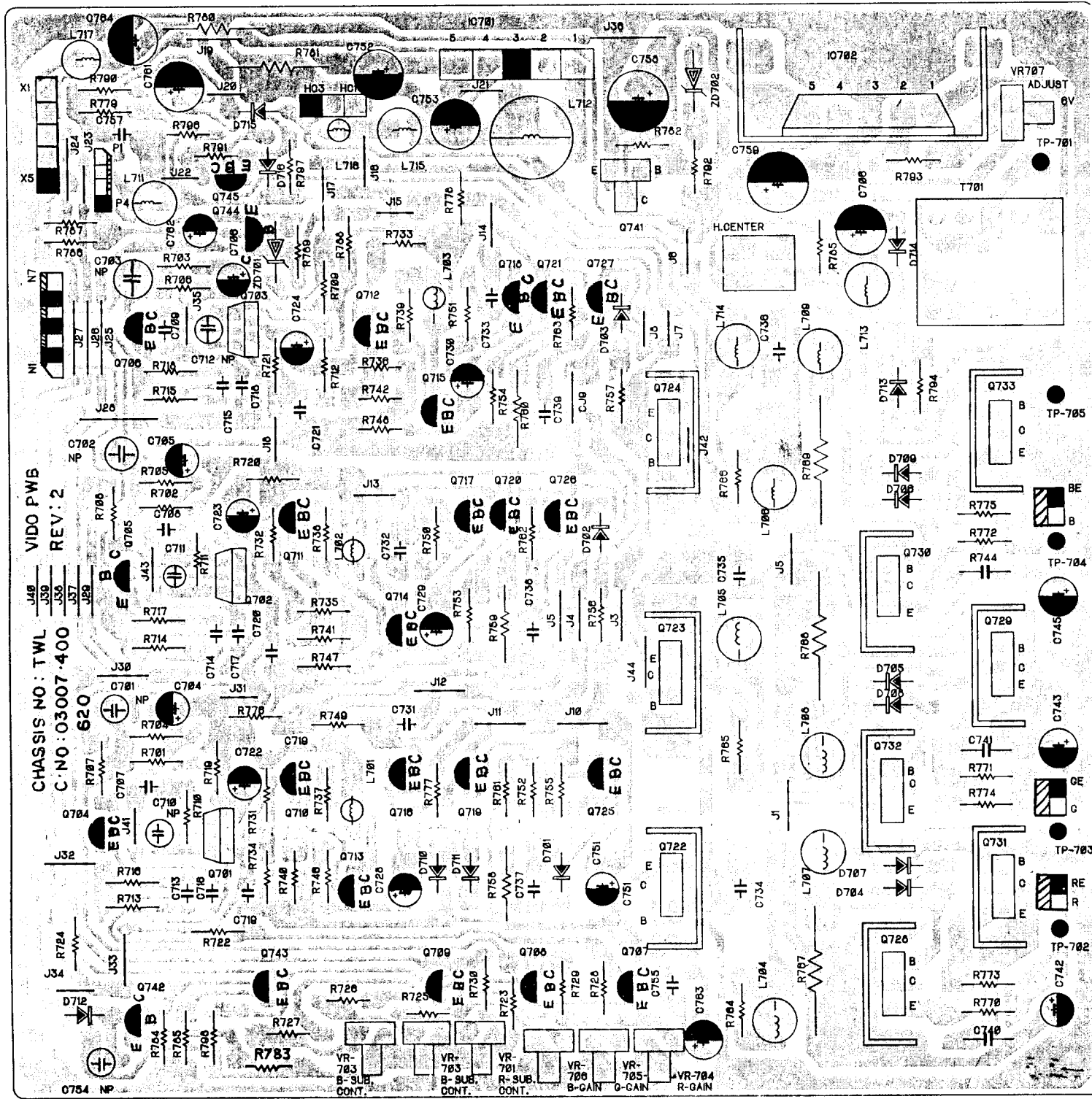


CHASSIS NO: TWL
03007-400-630
REV. NO: 0

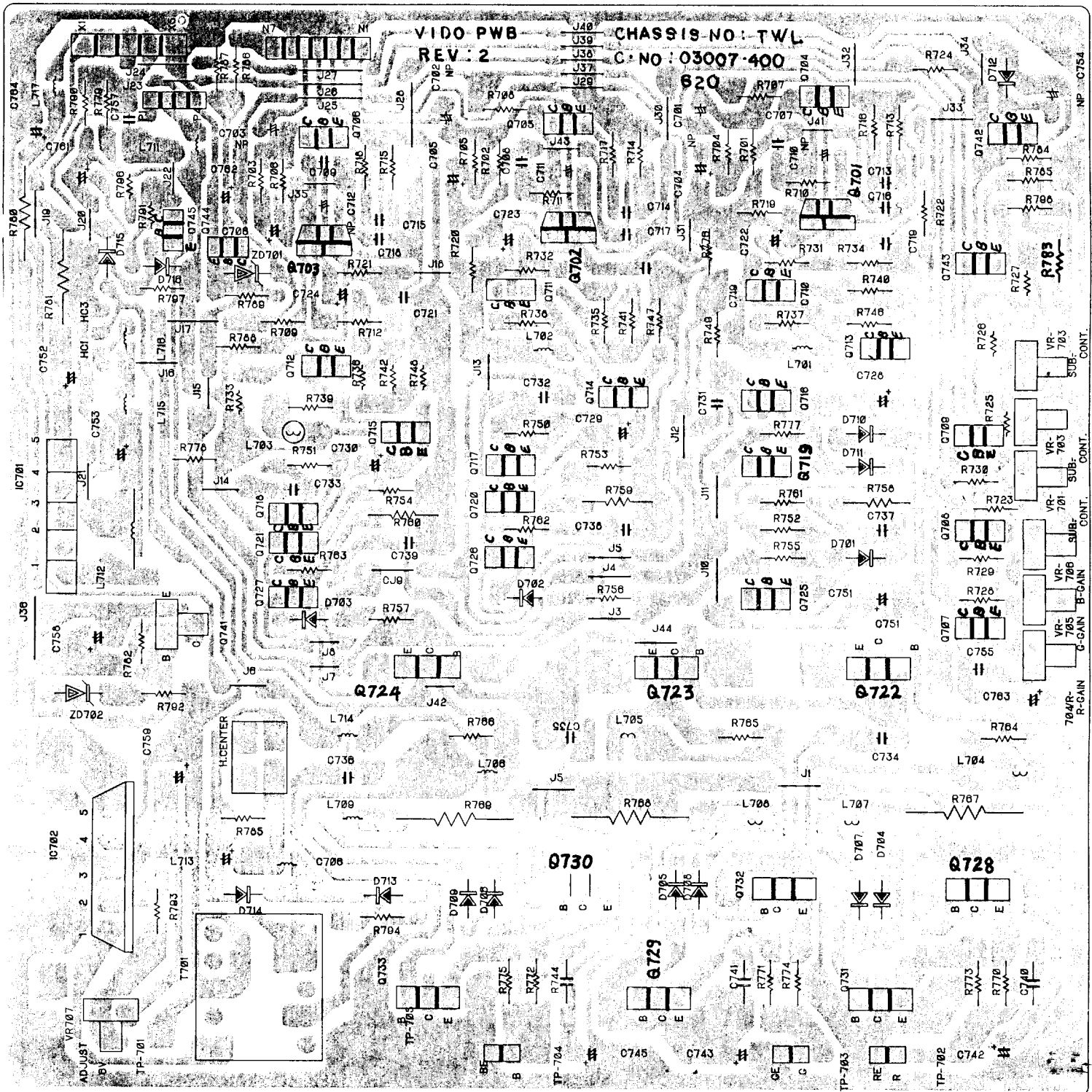
INTERFACE PWB (Bottom view)



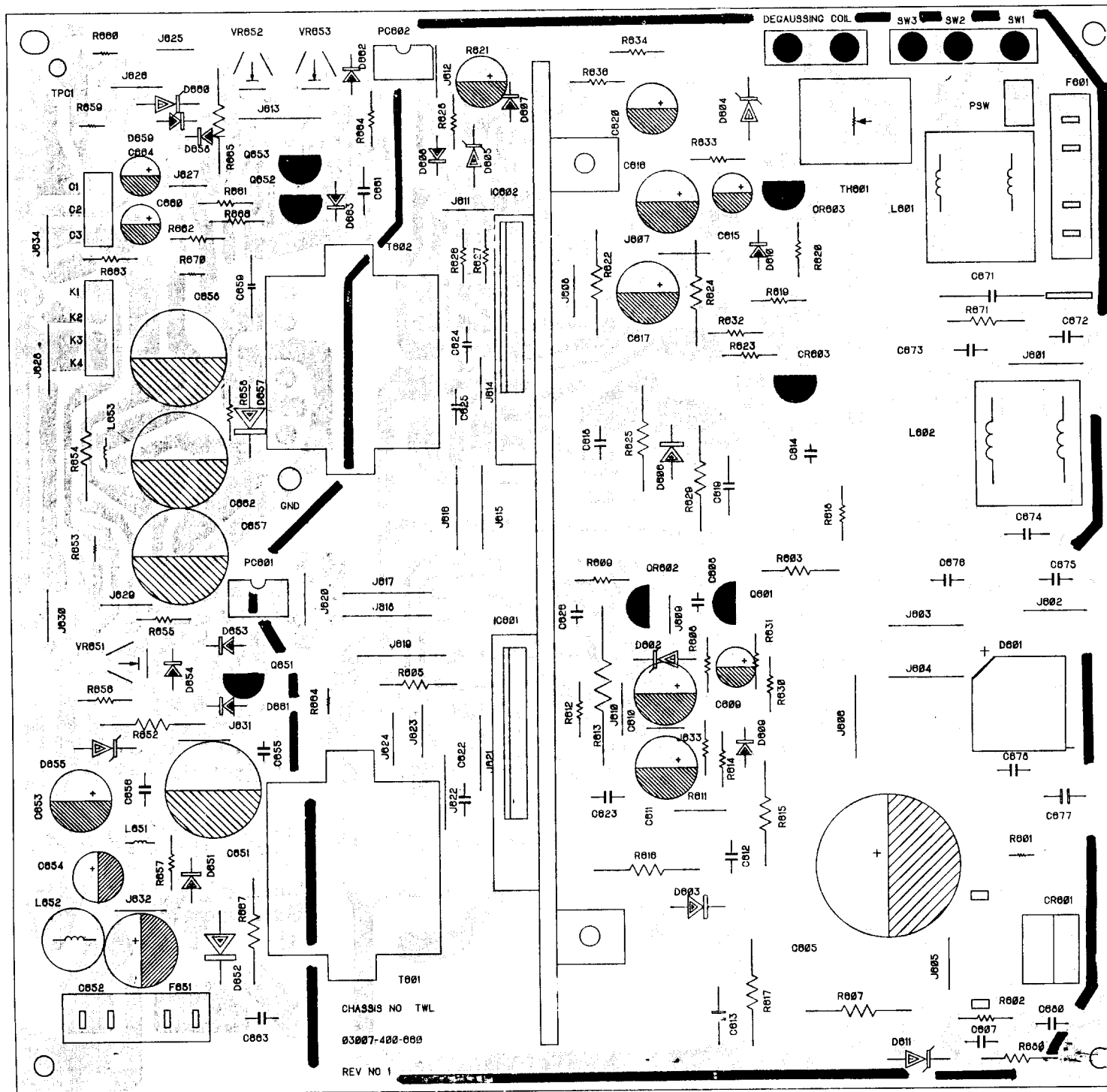
Video PCB (Top View)



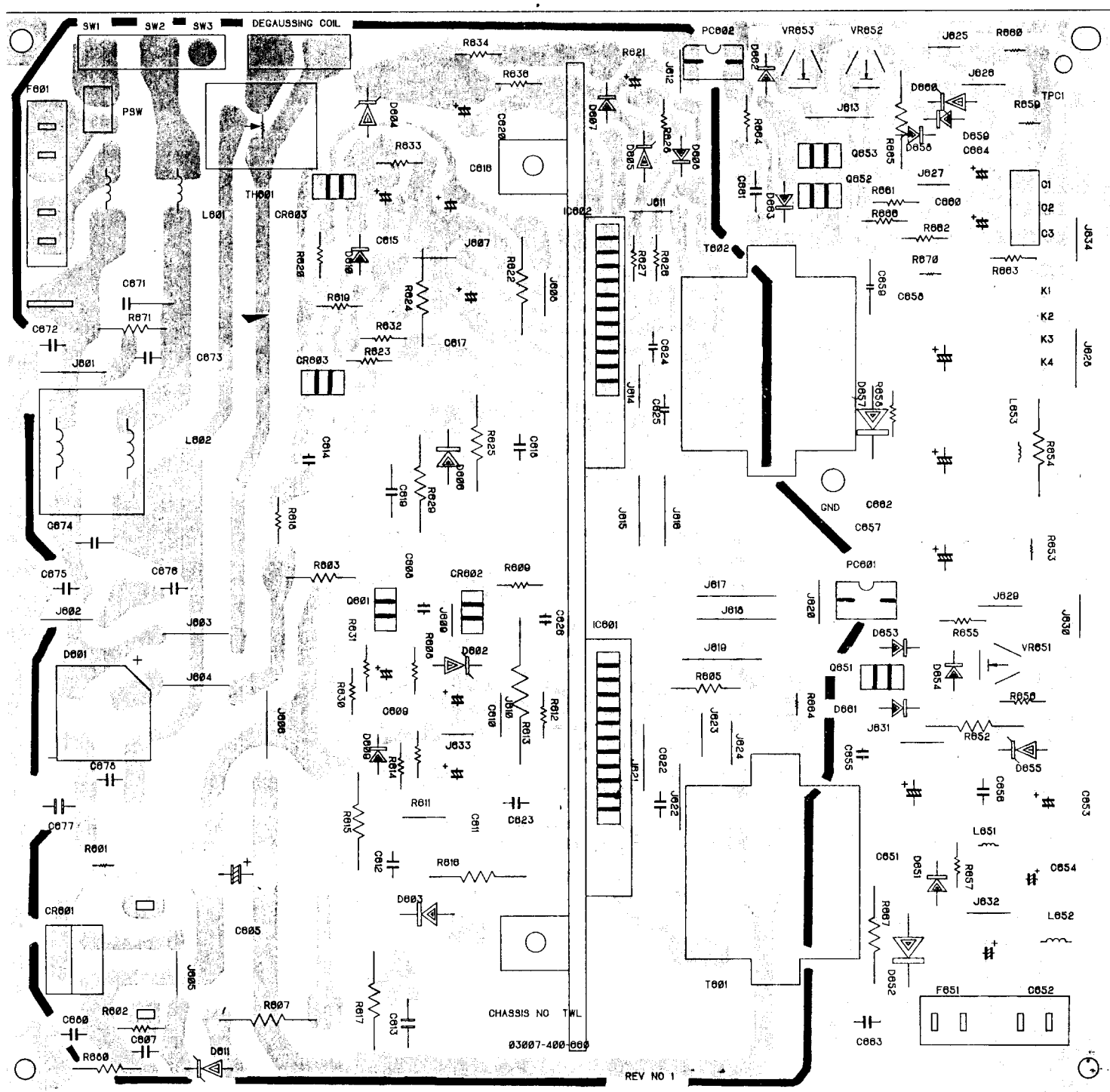
Video PCB (Bottom View)



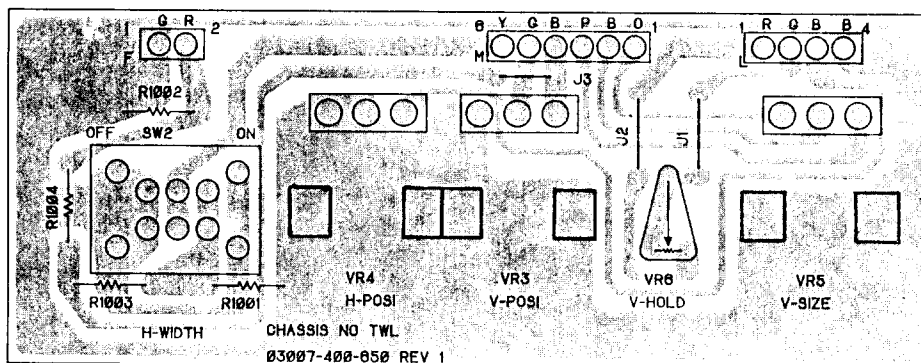
Power PCB (Top View)



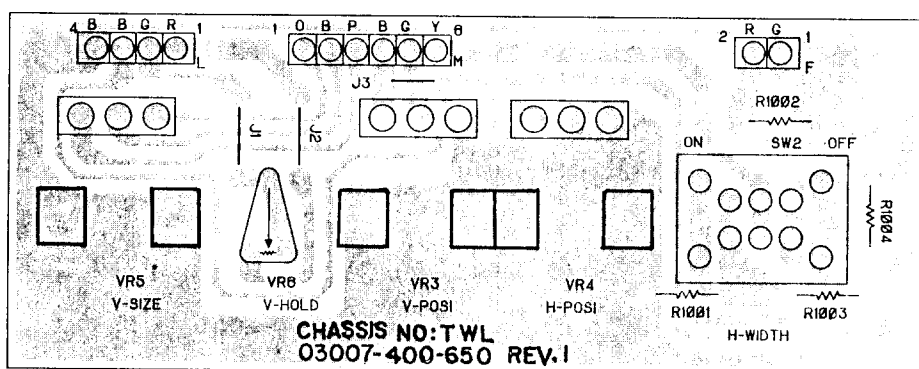
Power PCB (Bottom View)



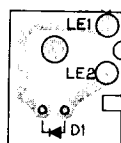
Rear PCB (Top View)



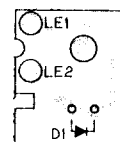
Rear PCB (Bottom View)



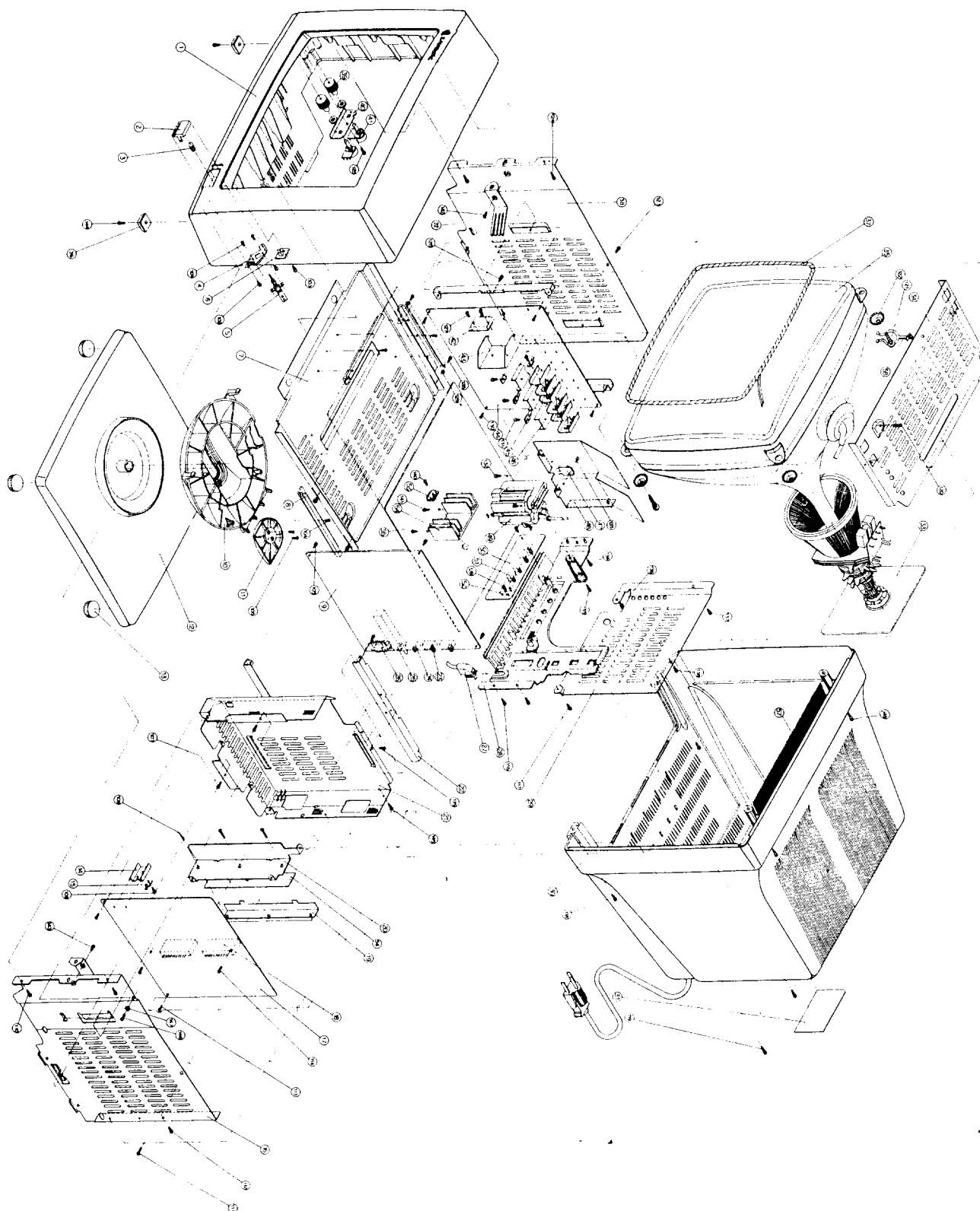
LED PCB (Top View)



LED PCB (Bottom View)



CABINET EXPLODED VIEW



NO.	PARTS NAME	CODE NUMBER	SPECIFICATION	Q'TY	REMARK
1	COVER-FRONT	06001-888-510	NORYL V _o GREY	1	
2	KNOB-POWER	07623-709-020	NORYL V _o GREY	1	
3	SPRING-POWER	06674-715-220	SUS-382 WPA P0.5	1	
4	BRACKET-POWER	06614-725-510	SECC-1 (EG1) T1.0	1	
5	SWITCH-PUSH	03529-702-210	ESB8213 V	1	
6	PWB-LED	03007-400-640		1	
7	CHASSIS-BOTTOM	06121-703-110	SECC-1 (EG1) T1.2	1	
8	RAIL-PCB	06023-702-020	NORYL V _o BLK	3	
9	PWB-INTERFACE	03007-400-630	197(W)x197(H)	1	
10	STAND-TOP	08301-702-120	NORYL V _o GREY	1	
11	STAND-STOPPER	08302-700-110	ACETAL HB NTR	1	
12	STAND-BASE	08301-701-030	NORYL BGE	1	
13	FOOT-STAND	06834-702-710	CR HB GREY	4	
14	HEAT-SINK, V OUT	05684-705-010	SPC-1 T 1.0 FT-2	1	
15	TRIAC	02179-002-010	BUR 6 AM-8L	1	
16	BRACKET-RIGHT	06611-702-510	SECC-1 (EG1) T1.0	1	
17	PWB-SMPS	03007-400-660	197(W)x190(H)	1	
18	IC	02119-601-970	STK 7404-105	2	
19	HOLDER-TR	06603-703-910	SECC-1 (EG1) T0.5	1	
20	HEAT-SINK, POWER	05683-705-010	A1050S H-14 T2.0	1	
21	BRACKET-INTERFACE	06611-702-710	SECC-1 (EG1) T1.0	1	
22	BRACKET-PCB	06613-716-110	SECC-1 (EG1) T1.0	1	
23	SWITCH-SLIDE	03519-106-310	KSA 2317	2	
24	SWITCH-SLIDE	03519-106-410	SSS U 14	1	
25	SWITCH-LEVER	03549-016-510	SLLROA	1	
26	D-SUB. CONNECTOR	03344-154-520	9 PIN DELC-J9 SAF-13 L9	1	
27	HOLDER-CORD	06603-703-010	PP V _o BLX	1	
28	PANEL-REAR	07601-734-020	NORYL V _o GREY	1	
29	SHIELD-REAR	04542-704-710	SECC-1 (EG1) T0.5	1	
30	COVER-REAR	06001-889-210	NORYL V _o GREY	1	
31	LABEL-PRODUCT	08033-722-840	POLYESTER T1.0	1	
32	EARTH-PLATE	04554-702-210	PBP3 SP-H T0.3	2	
33	PWB-CRT. SOCKET	03007-400-640	130(W)x130(H)	1	
34	BRACKET-TOP	06611-702-810	SECC-1, (EG1) T1.0	1	
35	CRT - COLOR	02019-234-310	3709B 22(ST)-TC09	1	
36	RUBBER-FOOT	08464-702-810	RUBBER V _o GREY	2	
37	DEGAUSING-COIL	02479-014-110	AC120V 60HZ ONLY	1	
38	BRACKET-LEFT	06611-702-610	SECC-1 (EG1) T1.0	1	
39	KNOB-VR	07623-707-610	ABS V _o GREY (#8240)	2	
40	BRACKET-CONTROL	06613-711-910	SBHG-1 T1.0	1	
41	VR-ROUND, SGL	01201-102-005	18SN 20F B10K	2	
42	IC	02119-610-960	STR2005	1	
43	HEAT-SINK, 2005	05683-705-110	SPC-1 T1.0 FT-2	1	
44	PWB-VIDEO	03007-400-620	197(W)x197(H)	1	
45	TRANSISTOR	02149-302-190	2SC3600-D	9	
46	HEAT-SINK, VIDEO	05684-706-410	SPC-1 T1.0, FT-2	9	
47	TRANSISTOR	02149-302-200	2SC3486-YB	1	
48	HEAT-SINK, FBT	05682-702-210	A1050S H-14 T1.0	1	
49	TRANS-FLYBACK	02859-129-110	FCO-1412-L02	1	
50	PWB-CONTROL. VR	03007-400-650	122(W)x47(H)	1	
51	VR-ROUND, SGL	01201-102-005	18RN-03 10SKB 20K	4	
52	SWITCH-SLIDE	03519-106-310	KSA2222	1	
53	IC	02119-101-490	LA7830	1	
54	HEAT-SINK, TR	05683-702-810	A6063 EXTR	1	

NO.	PARTS NAME	CODE NUMBER	SPECIFICATION	QTY	REMARK
55	PWB-MAIN	03007-400-610	245(W)X245(D)	1	
56	RUBBER-HEATSINK	06834-702-918	SILICON RUBBER T0.45	1	
57	SHIELD-TOP	04541-701-810	SBC-1 T0.5 FZW	1	
58	HOLDER-WIRE	06604-706-911	DAWN-18NB	1	
101	SCREW-RH	07048-130-081	+M3x8 FE FZY	2	P/ S/W+B/PWR
102	SCREW-TAP. RH	07148-230-081	2-3x8 FE FZY	2	B/PWR+F/C
103	SCREW-TAP. RH	07148-230-081	2-3x8 FE FZY	1	LED+F/C
104	SCREW-TAP. RH	07148-230-081	2-3x8 FE FZY	3	CHA/B+RAIL
105	SCREW-TAP. PH	07154-230-081	2-3x8 FE FZY W/WASHER	4	PCB/1N+B/PCB
106	SCREW-TAP. RH	07148-530-161	2S-3x16 FE FZY	2	S/BASE1STP
107	SCREW-TAP. PH	07148-230-081	2S-3x8 FE FZY W/WASHER	2	B/P+/INT
108	SCREW-RH	07048-130-202	+M3x20 FE FZY	3	H/S P+HLD
109	SCREW-TAP. RH	07148-230-081	2-3x8 FE FZY	2	TR+H/S V.O
110	SCREW-TAP. RH	07148-540-121	2S-4x12 FE FZY	2	B/R+F/C
111	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	R/TOP+B/R
112	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	B/INT+B/R
113	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	B/INT+PCB/P
114	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	PCB/P+H/S
115	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	B/INT+B/PCB
116	SCREW-TAP. RH	07128-540-121	2S-4x12 FE FZY	2	REAR/R+B/R
117	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	SHI/P+REAR/P
118	SCREW-TAP. RH	07154-540-161	2S-4x16 FE FZY	4	F/C+B/C
119	SCREW-TAP. PH	07118-540-152	1-4x15 FE FZY	2	B/C+REAR/P
120	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	B/INT+B/TOP
121	SCREW-TAP. RH	07128-550-201	2S-5x20 FE FZY	4	CRT+F/C
122	WASHER-SPRING	07334-700-710	SPC-1 T1.6	4	CRT+F/C
123	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	B/TOP+B/L
124	SCREW-TAP. RH	07148-540-121	2S-4x12 FE FZY	2	B/L+F/C
125	SCREW-TAP. RH	07148-540-121	2S-4x12 FE FZY	2	B/CNTL+F/C
126	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	B/L+B/PCB
127	SCREW-TAP. RH	07148-230-101	2-3x10 FE FZY	2	TR+H/S 2005
128	SCREW-TAP. RH	07148-540-121	2S-4x12 FE FZY	4	CHA/B+B/R.L
129	WASHER-TOOTHED	07324-100-320	AB-PI4.3, FE FZY	4	CHA/B+B/R.L
130	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	4	PCB/V+B/PCB
131	SCREW-TAP. RH	07148-230-081	2-3x8 FE FZY	9	TR+H/S V
132	SCREW-TAP. PH	07154-230-081	2S-4x8 FE FZY W/WASHER	2	PCB/M+H/S FBT
133	SCREW-TAP. RH	07148-230-081	2-3x8 FE FZY	4	TR+H/S FBT
134	SCREW-TAP. TH	07128-540-121	2S-4x12 FZY	1	REAR/R+B/L
135	SCREW-TAP. TH	07128-540-121	2S-4x12 FZY	1	REAR/R+FBT
136	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	SHI/R+H/S FBT
137	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	SHI/R+B/L
138	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	SHI/R+B/TOP
139	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	2	PCB/C+REAR/P
140	SCREW-TAP. RH	07148-230-081	2S-3x8 FZY	1	TR+H/S TR
141	SCREW-TAP. RH	07148-540-121	2-4x12 FE FZY	2	PCB/M+H/S TR
142	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	B/L+E/P
143	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	B/R+E/P
144	SCREW-TAP. TH	07128-540-121	2S-4x12 FE FZY	2	F/C+FOOT
145	SCREW-TAP. PH	07154-230-081	2S-3x8 FE FZY W/WASHER	1	PWR GND+B/INT
146	SCREW-RH	07148-140-081	+M4x8 FE FZY	1	PWB GND+B/R
147	WASHER-TOOTHED	07324-100-320	AB-PI 8.5 FE FZY	1	PWB GND+B/R

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Components marked with a have special characteristics important to safety. Before replacing any of these components, read carefully the SAFETY NOTICE on page 4 of this service manual. Do not degrade the safety of the product through improper servicing. Components marked with an ▲ are related to the X-ray protection circuit.

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
R 301	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 302	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 303	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 304	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 305	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 306	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 307	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 308	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 309	01018-277-224	R-CARBON	RD 1/4T 220K-J
R 310	01018-277-224	R-CARBON	RD 1/4T 220K-J
R 311	01018-277-224	R-CARBON	RD 1/4T 220K-J
R 312	01018-277-224	R-CARBON	RD 1/4T 220K-J
R 313	01018-277-183	R-CARBON	RD 1/4T 18K-J
R 314	01018-277-183	R-CARBON	RD 1/4T 18K-J
R 401	01045-527-221	R-METAL, OXIDE	RS 2P 220-J
R 402	01018-277-204	R-CARBON	RD 1/4T 200K-J
R 403	01018-277-563	R-CARBON	RD 1/4T 56K-J
R 404	01018-277-563	R-CARBON	RD 1/4T 56K-J
R 405	01018-277-331	R-CARBON	RD 1/4T 330-J
R 406	01018-277-561	R-CARBON	RD 1/4T 560-J
R 407	01045-527-279	R-METAL, OXIDE	RS 2P 2.7-J
R 408	01018-377-471	R-CARBON	RD 1/2T 470-J
R 409	01018-277-472	R-CARBON	RD 1/4T 4.7K-J
R 410	01018-277-152	R-CARBON	RD 1/4T 1.5K-J
R 411	01018-277-322	R-CARBON	RD 1/4T 3.3K-J
R 412	01018-277-153	R-CARBON	RD 1/4T 15K-J
R 413	01045-527-221	R-METAL, OXIDE	RS 2P 220-J
R 414	01048-275-220	R-METAL, FILE	RM 1/4T 22-F
R 415	01018-277-333	R-CARBON	RD 1/4T 33K-J
R 416	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 417	01018-277-104	R-CARBON	RD 1/4T 100K-J
R 418	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 419	01018-377-102	R-CARBON	RD 1/2T 1K-J
R 420	01018-277-221	R-CARBON	RD 1/4T 220-J
R 421	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 422	01018-277-223	R-CARBON	RD 1/4T 22K-J
R 423	01018-275-151	R-METAL, FILM	RM 1/4T 150-F
R 425	01018-277-183	R-CARBON	RD 1/4T 18K-J
R 426	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 428	01018-277-223	R-CARBON	RD 1/4T 22K-J
R 429	01018-277-151	R-CARBON	RD 1/4T 150-J
R 430	01018-277-120	R-CARBON	RD 1/4T 120-J
R 431	01018-277-823	R-CARBON	RD 1/4T 82K-J
R 432	01018-277-824	R-CARBON	RD 1/4T 820K-J
R 433	01018-277-271	R-CARBON	RD 1/4T 270-J

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
R 453	01018-277-560	R-CARBON	RD 1/4T 56-J
R 501	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 502	01018-277-682	R-CARBON	RD 1/4T 6.8K-J
R 503	01018-277-122	R-CARBON	RD 1/4T 1.2K-J
R 504	01018-277-392	R-CARBON	RD 1/4T 3.9K-J
R 505	01018-277-223	R-CARBON	RD 1/4T 22K-J
R 506	01018-277-123	R-CARBON	RD 1/4T 12K-J
R 507	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 508	01018-277-223	R-CARBON	RD 1/4T 22K-J
R 509	01018-277-823	R-CARBON	RD 1/4T 82K-J
R 510	01018-277-333	R-CARBON	RD 1/4T 33K-J
R 511	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 512	01018-277-123	R-CARBON	RD 1/4T 1K-J
R 513	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 514	01048-275-123	R-METAL, FILM	RM 1/4T 12K-F
R 515	01048-275-122	R-METAL, FILM	RM 1/4T 12K-F
R 516	01018-277-123	R-CARBON	RD 1/4T 1K-J
R 517	01018-277-471	R-CARBON	RD 1/4T 470-J
R 518	01018-377-472	R-CARBON	RD 1/2T 4.7K-J
△R 519	01039-427-391	R-CEMENT, WIRE	RS 3P 390-J
△R 520	01039-427-471	R-CEMENT, WIRE	RS 3P 470-J
R 521	01018-377-829	R-CARBON	RD 1/2T 8.2-J
△R 522	01048-275-479	R-METAL, FILM	RM 1/4T 4.7-F
△R 523	01048-275-229	R-METAL, FILM	RM 1/4T 2.2-F
R 524	01057-327-471	R-FUSIBLE	RF 1/2P 470-J
R 525	01057-327-331	R-FUSIBLE	RF 1/2P 330-J
R 526	01045-427-680	R-METAL, OXIDE	RS 1P 68-J
R 527	01018-377-105	R-CARBON	RD 1/2T 1M-J
R 528	01018-377-105	R-CARBON	RD 1/2T 1M-J
R 529	01018-377-105	R-CARBON	RD 1/2T 1M-J
△R 530	01018-277-154	R-CARBON	RD 1/4T 150K-J
R 531	01018-277-103	R-CARBON	RD 1/4P 10K-J
R 532	01018-277-152	R-CARBON	RD 1/4T 1.5K-J
R 533	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 534	01018-277-102	R-CARBON	RD 1/4T 1K-J
△R 535	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 536	01018-277-105	R-CARBON	RD 1/4T 1M-J
R 537	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 551	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 552	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 553	01018-277-124	R-CARBON	RD 1/4T 120K-J
R 554	01018-277-472	R-CARBON	RD 1/4T 4.7K-J
R 555	01018-277-823	R-CARBON	RD 1/4T 82K-J
R 556	01018-277-392	R-CARBON	RD 1/4T 3.9K-J
R 557	01018-277-273	R-CARBON	RD 1/4T 27K-J
R 558	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 559	01048-275-203	R-METAL, FILM	RM 1/4T 20K-F
R 560	01018-275-123	R-METAL, FILM	RM 1/4T 12K-F
R 562	01048-275-124	R-METAL, FILM	RM 1/4T 120K-F
R 563	01018-277-153	R-CARBON	RD 1/4T 15K-J
R 564	01018-277-475	R-CARBON	RD 1/4T 4.7M-J
R 565	01048-275-204	R-METAL, FILM	RM 1/4T 200K-F
R 566	01048-275-124	R-METAL, FILM	RM 1/4T 120K-F

R 851	01018-277-362	R-CARBON	RD 1/4T 10K-J
R 852	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 853	01018-277-103	R-CARBON	RD 1/4T 10K-J

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
R 567	01048-277-153	R-CARBON	RD 1/4T 15K-J
R 568	01048-277-475	R-CARBON	RD 1/4T 4.7M-J
R 569	01048-275-124	R-METAL, FILM	RM 1/4T 120K-F
R 570	01048-275-134	R-METAL, FILM	RM 1/4T 130K-F
R 571	01018-277-153	R-CARBON	RD 1/4T 15K-J
R 572	01018-277-475	R-CARBON	RD 1/4T 4.7M-J
R 573	01048-275-274	R-METAL, FILM	RM 1/4T 270K-F
R 574	01018-277-153	R-CARBON	RD 1/4T 15K-J
R 575	01018-277-561	R-CARBON	RD 1/4T 560-J
R 576	01048-275-683	R-METAL, FILM	RM 1/4T 68K-F
R 577	01048-275-124	R-METAL, FILM	RM 1/4T 120K-F
R 578	01048-275-474	R-METAL, FILM	RM 1/4T 470K-F
R 579	01048-275-753	R-METAL, FILM	RM 1/4T 75K-F
R 581	01048-275-104	R-METAL, FILM	RM 1/4T 100K-F
R 582	01048-275-104	R-METAL, FILM	RM 1/4T 100K-F
R 583	01048-275-104	R-METAL, FILM	RM 1/4T 100K-F
R 584	01048-275-473	R-METAL, FILM	RM 1/4T 47K-F
R 587	01057-327-479	R-FUSIBLE	RF 1/2T 4.7-J
R 588	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 589	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 590	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 591	01018-277-682	R-CARBON	RD 1/4T 6.8K-J
R 592	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 593	01018-277-333	R-CARBON	RD 1/4T 33K-J
R 594	01018-277-101	R-CARBON	RD 1/4T 100-J
△R 601	01039-597-150	R-CEMENT, WIRE	RW 5V 15-J
R 602	01018-277-102	R-CARBON	RD 1/4T 1K-J
△R 603	01018-377-394	R-CARBON	RD 1/2T 390K-J
△R 604	01037-327-222	R-CEMENT, WIRE FUSE	RR 2P 2.2K-J/250V2A 130°C
△R 605	01018-378-104	R-CARBON	RD 1/2T 100K-K
R 607	01045-527-820	R-METAL, OXIDE	RS 2P 82-J
R 608	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 609	01018-277-122	R-CARBON	RD 1/4T 1.2K-J
R 611	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 612	01018-277-392	R-CARBON	RD 1/4T 3.9K-J
R 613	01039-427-220	R-CEMENT, WIRE	RP 3P 22-J
R 614	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 615	01045-527-109	R-METAL, OXIDE	RS 2P 1-J
△R 616	01045-527-470	R-METAL, OXIDE	RS 2P 47-J
△R 617	01045-527-683	R-METAL, OXIDE	RS 2P 68K-J
△R 618	01018-277-105	R-CARBON	RD 1/4T 1M-J
R 619	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 620	01018-277-122	R-CARBON	RD 1/4T 1.2K-J
R 622	01045-528-330	R-METAL, OXIDE	RS 2P 33-K
R 623	01018-277-472	R-CARBON	RD 1/4T 4.7K-J
R 624	01045-527-109	R-METAL, OXIDE	RS 2P 1-J
R 625	01045-527-470	R-METAL, OXIDE	RS 2P 47-J
R 626	01018-277-221	R-CARBON	RD 1/4T 220-J
R 627	01018-277-333	R-CARBON	RD 1/4T 33K-J
R 628	01018-277-152	R-CARBON	RD 1/4T 1.5K-J
R 629	01045-527-683	R-METAL, OXIDE	RS 2P 68K-J
R 630	01018-277-560	R-CARBON	RD 1/4T 56-J
R 631	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 632	01018-277-560	R-CARBON	RD 1/4T 56-J

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
R 633	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 634	01018-277-560	R-CARBON	RD 1/4T 56-J
R 636	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 652	01045-527-183	R-METAL, OXIDE	RS 2P 18K-J
△ R 653	01039-527-822	R-CEMENT, WIRE	RW 5V 8.2K-J
R 654	01045-527-223	R-METAL, OXIDE	RS 2P 22K-J
R 655	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 656	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 657	01018-277-124	R-CARBON	RD 1/4T 120K-J
R 658	01018-277-331	R-CARBON	RD 1/4T 330-J
△ R 659	01039-597-183	R-CEMENT, WIRE	RW 5V 18K-J
△ R 660	01039-597-103	R-CEMENT, WIRE	RW 5V 10K-J
R 661	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 662	01018-277-182	R-CARBON	RD 1/4T 1.8K-J
R 663	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 664	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
△ R 665	01045-527-333	R-METAL, OXIDE	RS 2P 33K-J
R 666	01018-277-272	R-CARBON	RD 1/4T 2.7K-J
R 667	01045-528-330	R-METAL, OXIDE	RS 2P 33-K
R 670	01039-597-183	R-CEMENT, WIRE	RW 5V 18K-J
△ R 671	01018-377-105	R-CARBON	RD 1/2T 1M-J
△ R 680	01028-378-335	R-COMPOSITION	RC 1/2T 3.3M-K
R 701	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 702	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 703	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 704	01018-277-122	R-CARBON	RD 1/4T 1.2K-J
R 705	01018-277-122	R-CARBON	RD 1/4T 1.2K-J
R 706	01018-277-122	R-CARBON	RD 1/4T 1.2K-J
R 707	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 708	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 709	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 710	01018-277-101	R-CARBON	RD 1/4T 100-J
R 711	01018-277-101	R-CARBON	RD 1/4T 100-J
R 712	01018-277-101	R-CARBON	RD 1/4T 100-J
R 713	01018-277-271	R-CARBON	RD 1/4T 270-J
R 714	01018-277-271	R-CARBON	RD 1/4T 270-J
R 715	01018-277-271	R-CARBON	RD 1/4T 270-J
R 716	01018-277-221	R-CARBON	RD 1/4T 220-J
R 717	01018-277-221	R-CARBON	RD 1/4T 220-J
R 718	01018-277-221	R-CARBON	RD 1/4T 220-J
R 719	01018-277-561	R-CARBON	RD 1/4T 560-J
R 720	01018-277-561	R-CARBON	RD 1/4T 560-J
R 721	01018-277-561	R-CARBON	RD 1/4T 560-J
R 722	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 723	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 724	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 725	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 726	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 727	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 728	01018-277-272	R-CARBON	RD 1/4T 2.7K-J
R 729	01018-277-272	R-CARBON	RD 1/4T 2.7K-J
R 730	01018-277-272	R-CARBON	RD 1/4T 2.7K-J
R 731	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 732	01018-277-103	R-CARBON	RD 1/4T 10K-J

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
R 733	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 734	01018-277-182	R-CARBON	RD 1/4T 1.8K-J
R 735	01018-277-182	R-CARBON	RD 1/4T 1.8K-J
R 736	01018-277-182	R-CARBON	RD 1/4T 1.8K-J
R 737	01018-277-471	R-CARBON	RD 1/4T 470-J
R 738	01018-277-471	R-CARBON	RD 1/4T 470-J
R 739	01018-277-471	R-CARBON	RD 1/4T 470-J
R 740	01018-277-101	R-CARBON	RD 1/4T 100-J
R 741	01018-277-101	R-CARBON	RD 1/4T 100-J
R 742	01018-277-101	R-CARBON	RD 1/4T 100-J
R 746	01018-277-681	R-CARBON	RD 1/4T 680-J
R 747	01018-277-681	R-CARBON	RD 1/4T 680-J
R 748	01018-277-681	R-CARBON	RD 1/4T 680-J
R 749	01018-277-104	R-CARBON	RD 1/4T 100K-J
R 750	01018-277-104	R-CARBON	RD 1/4T 100K-J
R 751	01018-277-104	R-CARBON	RD 1/4T 100K-J
R 752	01018-277-681	R-CARBON	RD 1/4T 680-J
R 753	01018-277-681	R-CARBON	RD 1/4T 680-J
R 754	01018-277-681	R-CARBON	RD 1/4T 680-J
R 755	01018-277-820	R-CARBON	RD 1/4T 82-J
R 756	01018-277-820	R-CARBON	RD 1/4T 82-J
R 757	01018-277-820	R-CARBON	RD 1/4T 82-J
R 758	01018-377-121	R-CARBON	RD 1/2T 120-J
R 759	01018-377-121	R-CARBON	RD 1/2T 120-J
R 760	01018-377-121	R-CARBON	RD 1/2T 120-J
R 761	01018-277-820	R-CARBON	RD 1/4T 82-J
R 762	01018-277-820	R-CARBON	RD 1/4T 82-J
R 763	01018-277-820	R-CARBON	RD 1/4T 82-J
R 764	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 765	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 766	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 767	01039-527-182	R-CEMENT, WIRE	RC 5P 1.8K-J
R 768	01039-527-182	R-CEMENT, WIRE	RC 5P 1.8K-J
R 769	01039-527-182	R-CEMENT, WIRE	RC 5P 1.8K-J
R 770	01048-275-470	R-METAL, FILM	RM 1/4T 47-F
R 771	01048-275-470	R-METAL, FILM	RM 1/4T 47-F
R 772	01048-275-470	R-METAL, FILM	RM 1/4T 47-F
R 773	01048-275-470	R-METAL, FILM	RM 1/4T 47-F
R 774	01048-275-470	R-METAL, FILM	RM 1/4T 47-F
R 775	01048-275-470	R-METAL, FILM	RM 1/4T 47-F
R 776	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 777	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 778	01018-277-331	R-CARBON	RD 1/4T 330-J
R 779	01018-277-182	R-CARBON	RD 1/4T 1.8K-J
△ R 780	01057-327-229	R-FUSIBLE	RF 1/2P 2.2-J
△ R 781	01057-327-479	R-FUSIBLE	RF 1/2P 4.7-J
R 782	01018-277-101	R-CARBON	RD 1/4T 100-J
R 783	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 784	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 785	01018-277-272	R-CARBON	RD 1/4T 2.7K-J
R 786	01018-277-272	R-CARBON	RD 1/4T 2.7K-J
R 787	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 788	01018-277-152	R-CARBON	RD 1/4T 1.5K-J
R 789	01018-277-821	R-CARBON	RD 1/4T 820-J

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
R 790	01018-277-272	R-CARBON	RD 1/4T 2.7K-J
R 791	01018-277-183	R-CARBON	RD 1/4T 18K-J
R 792	01018-277-470	R-CARBON	RD 1/4T 47-J
R 793	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 794	01048-275-229	R-METAL, FILM	RM 1/4T 2.2-F
R 795	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 796	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 797	01018-277-681	R-CARBON	RD 1/4T 680-J
R 798	01018-277-272	R-CARBON	RD 1/4T 2.7K-J
R 801	01018-277-122	R-CARBON	RD 1/4T 1.2K-J
R 803	01045-527-331	R-METAL, OXIDE	RS 2P 330-J
R 804	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 805	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 806	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 807	01018-277-392	R-CARBON	RD 1/4T 3.9K-J
R 809	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 810	01048-275-221	R-METAL, FILM	RM 1/4T 220-F
R 811	01048-275-751	R-METAL, FILM	RM 1/4T 750-F
R 812	01048-275-561	R-METAL, FILM	RM 1/4T 560-F
R 813	01018-277-152	R-CARBON	RD 1/4T 1.5K-J
R 814	01048-275-681	R-METAL, FILM	RM 1/4T 680-F
R 815	01018-277-152	R-CARBON	RD 1/4T 1.5K-J
R 816	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 817	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 818	01048-275-111	R-METAL, FILM	RM 1/4T 110-F
R 819	01048-275-820	R-METAL, FILM	RM 1/4T 82-F
R 821	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 822	01048-275-221	R-METAL, FILM	RM 1/4T 220-F
R 823	01048-275-751	R-METAL, FILM	RM 1/4T 750-F
R 824	01048-275-561	R-METAL, FILM	RM 1/4T 560-F
R 825	01018-277-152	R-CARBON	RD 1/4T 1.5K-J
R 826	01048-275-681	R-METAL, FILM	RM 1/4T 680-F
R 827	01018-277-152	R-CARBON	RD 1/4T 1.5K-J
R 828	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 829	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 830	01048-275-111	R-METAL, FILM	RM 1/4T 110-F
R 831	01048-275-820	R-METAL, FILM	RM 1/4T 82-F
R 833	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 834	01048-275-221	R-METAL, FILM	RM 1/4T 220-F
R 835	01048-275-751	R-METAL, FILM	RM 1/4T 750-F
R 836	01048-275-561	R-METAL, FILM	RM 1/4T 560-F
R 837	01018-277-152	R-CARBON	RD 1/4T 1.5K-J
R 838	01048-275-681	R-METAL, FILM	RM 1/4T 680-F
R 839	01018-277-152	R-CARBON	RD 1/4T 1.5K-J
R 840	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 841	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 842	01048-275-110	R-METAL, FILM	RM 1/4T 110-F
R 843	01048-275-820	R-METAL, FILM	RM 1/4T 82-F
R 844	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 845	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 846	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 847	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 848	01018-277-562	R-CARBON	RD 1/4T 5.6K-J

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
R 849	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 850	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 851	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 852	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 853	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 854	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 855	01018-277-823	R-CARBON	RD 1/4T 82K-J
R 857	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 858	01018-277-221	R-CARBON	RD 1/4T 220-J
R 859	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 860	01018-277-563	R-CARBON	RD 1/4T 56K-J
R 861	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 862	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 863	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 864	01018-277-331	R-CARBON	RD 1/4T 330-J
R 865	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 866	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 867	01018-277-272	R-CARBON	RD 1/4T 2.7K-J
R 868	01018-277-123	R-CARBON	RD 1/4T 12K-J
R 869	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 870	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 871	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 872	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 873	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 874	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 875	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 876	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 877	01018-277-473	R-CARBON	RD 1/4T 47K-J
R 878	01018-277-472	R-CARBON	RD 1/4T 4.7K-J
R 879	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 880	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 881	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 882	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 883	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 885	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 886	01018-277-109	R-CARBON	RD 1/4T 1-J
R 887	01018-277-392	R-CARBON	RD 1/4T 3.9K-J
R 888	01018-277-272	R-CARBON	RD 1/4T 2.7K-J
R 894	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 895	01018-277-822	R-CARBON	RD 1/4T 8.2K-J
R 896	01018-277-394	R-CARBON	RD 1/4T 390K-J
R 897	01018-277-223	R-CARBON	RD 1/4T 22K-J
R 898	01018-277-223	R-CARBON	RD 1/4T 22K-J
R 899	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 8A1	01018-277-103	R-CARBON	RD 1/4T 10K-J
R 8A2	01018-277-272	R-CARBON	RD 1/4T 2.7K-J
R 901	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 902	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 903	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 904	01018-377-101	R-CARBON	RD 1/2T 100-J
R 905	01018-377-101	R-CARBON	RD 1/2T 100-J
R 906	01018-377-101	R-CARBON	RD 1/2T 100-J
R 908	01018-277-224	R-CARBON	RD 1/4T 220K-J

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
R 909	01018-277-224	R-CARBON	RD 1/4T 220K-J
R 910	01018-277-224	R-CARBON	RD 1/4T 220K-J
R 911	01018-277-274	R-CARBON	RD 1/4T 270K-J
R 912	01018-277-274	R-CARBON	RD 1/4T 270K-J
R 913	01018-277-274	R-CARBON	RD 1/4T 270K-J
R 914	01018-277-184	R-CARBON	RD 1/4T 180K-J
R 915	01018-277-184	R-CARBON	RD 1/4T 180K-J
R 916	01018-277-184	R-CARBON	RD 1/4T 180K-J
R 917	01018-277-333	R-CARBON	RD 1/4T 33K-J
R 918	01018-277-333	R-CARBON	RD 1/4T 33K-J
R 919	01018-277-333	R-CARBON	RD 1/4T 33K-J
R 920	01018-277-104	R-CARBON	RD 1/4T 10K-J
R 921	01018-277-123	R-CARBON	RD 1/4T 12K-J
R 922	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 923	01018-277-333	R-CARBON	RD 1/4T 33K-J
R 924	01018-277-333	R-CARBON	RD 1/4T 33K-J
R 925	01018-277-333	R-CARBON	RD 1/4T 33K-J
R 926	01018-277-683	R-CARBON	RD 1/4T 68K-J
R 927	01018-277-683	R-CARBON	RD 1/4T 68K-J
R 928	01018-277-683	R-CARBON	RD 1/4T 68K-J
R 929	01018-277-562	R-CARBON	RD 1/4T 5.6K-J
R 930	01018-277-332	R-CARBON	RD 1/4T 3.3K-J
R 931	01018-277-222	R-CARBON	RD 1/4T 2.2K-J
R 932	01018-377-273	R-CARBON	RD 1/2T 27K-J
R 933	01018-377-562	R-CARBON	RD 1/2T 5.6K-J
R 934	01018-277-102	R-CARBON	RD 1/4T 1K-J
R 935	01018-277-331	R-CARBON	RD 1/4T 330-J
R 1001	01018-277-333	R-CARBON	RD 1/4T 33K-J
R 1002	01018-277-153	R-CARBON	RD 1/4T 15K-J
R 1003	01018-277-153	R-CARBON	RD 1/4T 15K-J
R 1004	01018-277-472	R-CARBON	RD 1/4T 4.7K-J
△ R 2001	01048-275-229	R-METAL, FILM	RM 1/4T 2.2-F
△ R 2002	01018-277-182	R-CARBON	RD 1/4T 1.8K-J
△ R 2003	01018-277-103	R-CARBON	RD 1/4T 10K-J
△ R 2004	01018-277-682	R-CARBON	RD 1/4T 6.8K-J
△ R 2005	01048-277-272	R-CARBON	RD 1/4T 2.7K-J
R 2006	01048-277-104	R-CARBON	RD 1/4T 10K-J
△ R 2007	01048-275-229	R-METAL, FILM	RM 1/4T 2.2-F
△ R 2008	01048-277-682	R-CARBON	RD 1/4T 6.8K-J
△ R 2009	01018-277-302	R-CARBON	RD 1/4T 3K-J
△ R 2010	01048-277-104	R-CARBON	RD 1/4T 10K-J
R 2011	01018-277-123	R-CARBON	RD 1/4T 12K-J
△ R 2012	01018-277-622	R-CARBON	RD 1/4T 6.2K-J
R 2013	01018-277-820	R-CARBON	RD 1/4T 82-J
R 3001	01018-277-304	R-CARBON	RD 1/4T 300K-J

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
VR 1	01201-102-005	VR-ROUND, SGL (CONT)	18SN 20F B10K
VR 2	01201-102-032	VR-ROUND, SGL (BRIT)	18SN 20F B10K (TAP)
VR 3	01201-112-103	VR-ROUND, SGL (V-POS)	18RN-03 10SK B20K
VR 4	01201-112-102	VR-ROUND, SGL (H-POS)	18RN-03 10SK B10K
VR 5	01201-112-104	VR-ROUND, SGL (V-SIZE)	18RN-03 10SK B500
VR 6	01241-108-008	VR-SEMI (V-HOLD)	CET 92A B200K
VR 301	01241-110-001	VR-SEMI (PS/2, V-MODE)	CET 117A B500
VR 302	01241-110-002	VR-SEMI (PS/2, V-MODE)	CET 117A B1K
VR 401	01241-108-006	VR-SEMI (V-LIN-CORNER)	CET 92A B100K
VR 402	01241-108-001	VR-SEMI (V-LIN-CENTER)	CET 92A B200
VR 404	01241-108-002	VR-SEMI (SIDE-PINCUSHION)	CET 92A B500
VR 405	01241-108-013	VR-SEMI (V-BIAS)	CET 92A B50K
VR 451	01241-110-002	VR-SEMI (V-MODE)	CET 117A B1K
VR 452	01241-110-002	VR-SEMI (SUB-HEIGHT)	CET 117A B1K
VR 501	01241-110-005	VR-SEMI (SUB-H-CENT)	CET 117A B50K
VR 502	01241-108-003	VR-SEMI (H-HOLD)	CET 92A B5K
VR 551	01241-108-011	VR-SEMI (+B 16V ADJ)	CET 92A B1K
VR 552	01241-108-005	VR-SEMI (F-V ADJ)	CET 92A B3K
VR 553	01241-110-005	VR-SEMI (SUB-H-CENT)	CET 117A B50K
VR 554	01241-110-005	VR-SEMI (SUB-H-CENT)	CET 117A B50K
VR 555	01241-110-006	VR-SEMI (H-HOLD)	CET 117A B500K
△ VR 651	01241-110-003	VR-SEMI (+B 24V ADJ)	CET 117A B5K
△ VR 652	01241-110-003	VR-SEMI (HV 23KV ADJ)	CET 117A B5K
△ VR 653	01241-110-003	VR-SEMI (+B 122V ADJ)	CET 117A B5K
VR 701	01241-110-012	VR-SEMI (R-SUB-CONT)	CET 117A B3K
VR 702	01241-110-012	VR-SEMI (G-SUB-CONT)	CET 117A B3K
VR 703	01241-110-012	VR-SEMI (B-SUB-CONT)	CET 117A B3K
VR 704	01241-110-003	VR-SEMI (R-GAIN)	CET 117A B5K
VR 705	01241-110-003	VR-SEMI (G-GAIN)	CET 117A B5K
VR 706	01241-110-003	VR-SEMI (B-GAIN)	CET 117A B5K
VR 707	01241-110-003	VR-SEMI (+B 6V ADJ)	CET 117A B5K
VR 901	01241-110-010	VR-SEMI (R-BIAS)	CET 117A B100K
VR 902	01241-110-010	VR-SEMI (G-BIAS)	CET 117A B100K
VR 903	01241-110-010	VR-SEMI (B-BIAS)	CET 117A B100K
VR 904	01241-110-010	VR-SEMI (R-SUB-BRIT)	CET 117A B100K
VR 905	01241-110-010	VR-SEMI (G-SUB-BRIT)	CET 117A B100K
VR 906	01241-110-010	VR-SEMI (B-SUB-BRIT)	CET 117A B100K

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
C 301	01608-906-109	C-ELECTROLYTIC	CE04W(T) 50V 1uF
C 302	01608-906-109	C-ELECTROLYTIC	CE04W(T) 50V 1uF
C 401	01608-903-221	C-ELECTROLYTIC	CE04W(T) 16V 220uF
C 402	01504-723-122	C-POLYESTER	CQ921M(T) 100V 1200pF-J
C 403	01505-723-104	C-POLYESTER	CQ921M(T) 100V 0.1uF-J
C 404	01504-723-682	C-POLYESTER	CQ921M(T) 100V 6800pF-J
C 405	01504-723-223	C-POLYESTER	CQ921M(T) 100V 0.022uF-J
C 406	01507-723-473	C-POLYESTER	CQ921M(T) 100V 0.047uF-J
C 407	01628-375-684	C-TANTALIUM SOLID	CS 35V 0.68uF-K
C 408	01609-401-720	C-ELECTROLYTIC	CE04W 25V 1000uF
C 409	01603-905-471	C-ELECTROLYTIC	CE04W 35V 470uF
C 410	01609-402-100	C-ELECTROLYTIC	CE04W 35V 100uF
C 411	01417-468-561	C-CERAMIC, HK	CK45(T) B500V 560pF-K
C 412	01419-901-420	C-CERAMIC, HK	CK45 B1KV 100pF-K
C 413	01629-201-380	C-TANTALIUM SOLID	CS 35V 0.47uF-K
C 414	01608-904-101	C-ELECTROLYTIC	CE04W (T) 25V 100uF
C 415	01607-906-109	C-ELECTROLYTIC	CE04W 50V 1uF, 105 °C
C 416	01606-903-229	C-ELECTROLYTIC, NP	CE04W 16V 22uF
C 417	01505-723-472	C-POLYESTER	CQ921M(T) 100V 4700pF-J
C 419	01417-318-102	C-CERAMIC, HK	CK45(T) B50V 1000pF-K
C 420	01417-468-561	C-CERAMIC, HK	CK45(T) B500V 560pF-K
C 421	01505-723-104	C-POLYESTER	CQ921M(T) 100V 0.1uF-J
C 422	01609-402-100	C-ELECTROLYTIC	CE04W 35V 100uF
C 501	01407-017-101	C-CERAMIC, TEMP	CC45(T) SL50V 100pF-J
C 502	01505-723-222	C-POLYESTER	CQ921M(T) 100V 2200uF-J
C 503	01407-017-271	C-CERAMIC, TEMP	CC45(T) SL50V 270pF-J
C 504	01505-723-682	C-POLYESTER	CQ921M(T) 100V 6800pF-J
C 505	01608-906-109	C-ELECTROLYTIC	CE04W(T) 50V 1uF
C 506	01505-723-103	C-POLYESTER	CQ921M(T) 100V 0.01uF-J
C 507	01608-906-109	C-ELECTROLYTIC	CE04W(T) 50V 1uF
C 508	01507-523-332	C-POLYPROPYLENE	CQ922M(T) 100V 3300pF-G
C 509	01608-903-101	C-ELECTROLYTIC	CE04W(T) 16V 100uF
C 510	01417-468-561	C-CERAMIC, HK	CK45(T) B500V 560pF-K
C 511	01419-106-250	C-CERAMIC, HK	CK45 B500V 1000pF-K
C 512	01419-106-250	C-CERAMIC, HK	CK45 B500V 1000pF-K
△ C 513	01502-573-332	C-POLYPROPYLENE	CQ922M 1.6KV 3300pF-J
△ C 514	01502-573-332	C-POLYPROPYLENE	CQ922M 1.6KV 3300pF-J
△ C 515	01502-543-183	C-POLYPROPYLENE	CQ922M 400V 0.018uF-J
△ C 516	01603-909-100	C-ELECTROLYTIC, HR	CE04W 160V 10uF, (HI, RIPPLE)
C 517	01502-534-223	C-POLYPROPYLENE	CQ922M(T) 200V 0.022uF-K
C 518	01609-403-490	C-ELECTROLYTIC	CE04W 250V 10uF
C 519	01607-906-220	C-ELECTROLYTIC	CE04W 50V 22uF, 105 °C
C 520	01417-468-561	C-CERAMIC, HK	CK45(T) B500V 560pF-K
C 521	01417-468-152	C-CERAMIC, HK	CK45(T) B500V 1500pF-K
C 522	01518-343-474	C-M. POLYPROPYLENE	CF922M 400V 0.47uF-J
C 523	01518-394-683	C-M. POLYPROPYLENE	CF922M 1KV 0.068uF-J
C 524	01417-468-471	C-CERAMIC, HK	CK45(T) B500V 470pF-K
C 526	01505-723-104	C-POLYESTER	CQ922M(T) 100V 0.1uF-J
C 527	01419-318-102	C-CERAMIC, HK	CK45(T) B50V 1000pF-K
C 528	01517-323-109	C-M. POLYESTER	CF922M 100V 1uF-J
C 551	01505-723-152	C-POLYESTER	CQ921M(T) 100V 1500pF-J
C 552	01629-201-560	C-TANTALIUM SOLID	CS35V 2.2uF-M
C 553	01608-904-470	C-ELECTROLYTIC	CE04W(T) 25V 47uF
C 556	01502-573-472	C-POLYPROPYLENE	CQ922M 1.6KV 4700pF-J
C 557	01518-343-644	C-M. POLYPROPYLENE	CF922M 400V 0.64uF-J

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
C 558	01518-343-644	C-M. POLYPROPYLENE	CF922M 400V 0.64uF-J
C 559	01417-344-103	C-CERAMIC. HK	CK45(T) F50V 0.01uF-Z
C 560	01417-344-103	C-CERAMIC. HK	CK45(T) F50V 0.01uF-Z
C 561	01417-344-104	C-CERAMIC. HK	CK45(T) F50V 0.1uF-Z
C 562	01407-017-101	C-CERAMIC. TEMP	CK45(T) SL50V 100pF-J
C 563	01502-512-222	C-POLYPROPYLENE	CQ922M 100V 2200pF-G
C 564	01608-904-220	C-ELECTROLYTIC	CE04W(T) 25V 22uF
C 565	01505-723-103	C-POLYESTER	CQ921M(T) 100V 0.01uF-J
C 566	01505-724-392	C-POLYESTER	CQ921M(T) 100V 3900pF-K
C 567	01417-318-102	C-CERAMIC. HK	CK45(T) B50V 1000pF-K
C 568	01417-318-681	C-CERAMIC. HK	CK45(T) B50V 680pF-K
C 591	01608-906-109	C-ELECTROLYTIC	CE04(T) 50V 1uF
△ C 605	01607-915-471	C-ELECTROLYTIC,	CE04W 200V 470uF, 105 °C
C 607	01505-723-104	C-POLYESTER	CQ921M(T) 100V 0.1uF-J
C 608	01505-723-104	C-POLYESTER	CQ921M(T) 100V 0.1uF-J
C 609	01607-906-479	C-ELECTROLYTIC	CE04W 50V 4.7uF, 105 °C
C 610	01607-909-471	C-ELECTROLYTIC	CE04W 16V 470uF, 105 °C
C 611	01607-909-221	C-ELECTROLYTIC	CE04W 16V 220uF, 105 °C
△ C 612	01410-768-561	C-CERAMIC, HK	CK45 B2KV 560pF-J
△ C 613	01517-383-104	C-M. POLYESTER	CF922M 250V 0.1uF-J
C 614	01505-723-104	C-POLYESTER	CQ921M(T) 100V 0.1uF-J
C 615	01607-906-479	C-ELECTROLYTIC	CE04W 50V 4.7uF, 105 °C
C 616	01607-909-471	C-ELECTROLYTIC	CE04W 16V 470uF, 105 °C
C 617	01607-909-221	C-ELECTROLYTIC	CE04W 16V 220uF, 105 °C
C 618	01410-768-561	C-CERAMIC, HK	CK45 B2KV 560pF-J
C 619	01517-383-104	C-M. POLYESTER	CF922M 250V 0.1uF-J
C 620	01607-906-220	C-ELECTROLYTIC	CE04W 50V 22uF, 105 °C
C 621	01607-906-220	C-ELECTROLYTIC	CE04W 50V 22uF, 105 °C
C 622	01410-768-561	C-CERAMIC, HK	CK45 B2KV 560pF-J
C 623	01410-768-561	C-CERAMIC, HK	CK45 B2KV 560pF-J
C 624	01410-768-561	C-CERAMIC, HK	CK45 B2KV 560pF-J
C 625	01410-768-561	C-CERAMIC, HK	CK45 B2KV 560pF-J
C 626	01417-468-181	C-CERAMIC, HK	CK45(T) 500V 180pF-K
△ C 651	01607-908-331	C-ELECTROLYTIC	CE04W 100V 330uF, 105 °C
C 652	01607-905-471	C-ELECTROLYTIC	CE04W 35V 470uF, 105 °C
△ C 653	01607-908-101	C-ELECTROLYTIC	CE04W 100V 100uF, 105 °C
C 654	01607-905-101	C-ELECTROLYTIC	CE04W 35V 100uF, 105 °C
△ C 655	01505-723-562	C-POLYESTER	CQ921M(T) 100V 5600pF-J
C 656	01505-723-683	C-POLYESTER	CQ921M(T) 100V, 0.068uF-J
△ C 657	01607-909-101	C-ELECTROLYTIC	CE04W 160V 100uF, 105 °C
△ C 658	01607-909-101	C-ELECTROLYTIC	CE04W 160V 100uF, 105 °C
C 659	01517-383-104	C-M. POLYESTER	CF922M 250V 0.1uF-J
C 660	01607-906-474	C-ELECTROLYTIC	CE04W 50V 0.47uF, 105 °C
C 661	01517-384-683	C-M. POLYESTER	CF922M 250V 0.068uF-K
△ C 662	01607-909-101	C-ELECTROLYTIC	CE04W 160V 100uF, 105 °C
△ C 663	01410-768-152	C-CERAMIC, HK	CK45 B2K 1500pF-J
△ C 664	01607-909-109	C-ELECTROLYTIC	CE04W 160V 1uF, 105 °C
△ C 671	01566-513-224	C-M. POLYESTER	CQS22M 250V 0.22uF-M
△ C 672	01416-649-472	C-CERAMIC, AC	DE7150 F 4700pF VA1-KC
△ C 673	01416-649-472	C-CERAMIC, AC	DE7150 F 4700pF VA1-KC
△ C 674	01566-513-224	C-M. POLYESTER	CQS22M 250V 0.22uF-M
△ C 675	01416-649-472	C-CERAMIC, AC	DE7150 F 4700pF VA1-KC
△ C 676	01416-649-472	C-CERAMIC, AC	DE7150 F 4700pF VA1-KC
△ C 677	01461-137-806	C-CERAMIC, AC	DE7100 F 2200pF VA1-KC
△ C 678	01416-123-210	C-CERAMIC, AC	DE7150 FZ 0.01uF VA1-KC
△ C 680	01416-649-472	C-CERAMIC, AC	DE7150 F 4700pF VA1-KC

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
C 701	01606-903-470	C-ELECTROLYTIC, NP	CE04W 16V 47uF
C 702	01606-903-470	C-ELECTROLYTIC, NP	CE04W 16V 47uF
C 703	01606-903-470	C-ELECTROLYTIC, NP	CE04W 16V 47uF
C 704	01608-903-470	C-ELECTROLYTIC	CE04W 16V 47uF
C 705	01608-903-470	C-ELECTROLYTIC	CE04W 16V 47uF
C 706	01608-903-470	C-ELECTROLYTIC	CE04W 16V 47uF
C 707	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 708	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 709	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 710	01606-906-479	C-ELECTROLYTIC, NP	CE04W 50V 4.7uF
C 711	01606-906-479	C-ELECTROLYTIC, NP	CE04W 50V 4.7uF
C 712	01606-906-479	C-ELECTROLYTIC, NP	CE04W 50V 4.7uF
C 713	01407-207-470	C-CERAMIC, TEMP	CC45(T) CH 50V 47pF-J
C 714	01407-207-470	C-CERAMIC, TEMP	CC45(T) CH 50V 47pF-J
C 715	01407-207-470	C-CERAMIC, TEMP	CC45(T) CH 50V 47pF-J
C 716	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 717	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 718	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 719	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 720	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 721	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 722	01608-903-470	C-ELECTROLYTIC	CE04W(T) 16V 47uF
C 723	01608-903-470	C-ELECTROLYTIC	CE04W(T) 16V 47uF
C 724	01608-903-470	C-ELECTROLYTIC	CE04W(T) 16V 47uF
C 728	01608-906-047	C-ELECTROLYTIC	CE04W(T) 50V 0.47uF
C 729	01608-906-047	C-ELECTROLYTIC	CE04W(T) 50V 0.47uF
C 730	01608-906-047	C-ELECTROLYTIC	CE04W(T) 50V 0.47uF
C 731	01505-723-103	C-POLYESTER	CQ921M(T) 100V 0.01uF-J
C 732	01505-723-103	C-POLYESTER	CQ921M(T) 100V 0.01uF-J
C 733	01505-723-103	C-POLYESTER	CQ921M(T) 100V 0.01uF-J
C 734	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 735	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 736	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 737	01407-057-820	C-CERAMIC, TEMP	CC45(T) CH50V 82pF-J
C 738	01407-057-820	C-CERAMIC, TEMP	CC45(T) CH50V 82pF-J
C 739	01407-057-820	C-CERAMIC, TEMP	CC45(T) CH50V 82pF-J
C 740	01419-106-250	C-CERAMIC, HK	CK45(T) B500V 0.01uF-K
C 741	01419-106-250	C-CERAMIC, HK	CK45(T) B500V 0.01uF-K
C 742	01607-909-109	C-ELECTROLYTIC	CE04W 160V 1uF, 105 °C
C 743	01607-909-109	C-ELECTROLYTIC	CE04W 160V 1uF, 105 °C
C 744	01419-106-250	C-CERAMIC, HK	CK45(T) B500V 0.01uF-K
C 745	01607-909-109	C-ELECTROLYTIC	CE04W 160V 1uF, 105 °C

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
C 751	01607-903-470	C-ELECTROLYTIC	CE04W 16V 47uF, 105 °C
C 752	01609-402-100	C-ELECTROLYTIC	CE04W 35V 100uF
C 753	01609-401-700	C-ELECTROLYTIC	CE04W 25V 330uF
C 754	01606-906-479	C-ELECTROLYTIC, NP	CE04W 50V 4.7uF
C 755	01419-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 757	01419-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 758	01607-905-331	C-ELECTROLYTIC	CE04W 35V 330uF, 105 °C
C 759	01607-902-102	C-ELECTROLYTIC	CE04W 10V 1000uF, 105 °C
C 760	01608-902-221	C-ELECTROLYTIC	CE04W(T) 10V 220uF
C 761	01608-903-101	C-ELECTROLYTIC	CE04W(T) 16V 100uF
C 762	01608-903-330	C-ELECTROLYTIC	CE04W(T) 16V 33uF
C 763	01608-906-109	C-ELECTROLYTIC	CE04W(T) 50V 1uF
C 764	01609-402-110	C-ELECTROLYTIC	CE04W 35V 220uF
C 801	01608-903-101	C-ELECTROLYTIC	CE04W 16V 100uF
C 802	01607-902-101	C-ELECTROLYTIC	CE04W 10V 100uF, 105 °C
C 804	01607-903-470	C-ELECTROLYTIC	CE04W 16V 47uF, 105 °C
C 805	01607-903-470	C-ELECTROLYTIC	CE04W 16V 47uF, 105 °C
C 806	01607-903-470	C-ELECTROLYTIC	CE04W 16V 47uF, 105 °C
C 807	01607-902-101	C-ELECTROLYTIC	CE04W 10V 100uF, 105 °C
C 809	01417-344-103	C-CERAMIC, HK	CK45(T) F50V 0.01uF-Z
C 810	01608-903-221	C-ELECTROLYTIC	CE04W(T) 16V 220uF
C 811	01407-017-271	C-CERAMIC, TEMP	CC45(T) SL50V 270pF-J
C 812	01608-903-110	C-ELECTROLYTIC	CE04W(T) 16V 10uF
C 813	01608-903-110	C-ELECTROLYTIC	CE04W(T) 16V 10uF
C 814	01417-344-103	C-CERAMIC, HK	CK45(T) F50V 0.01uF-Z
C 815	01608-902-221	C-ELECTROLYTIC	CE04W(T) 10V 220uF
C 816	01628-345-229	C-TANTALIUM, SOLID	CS 16V 2.2uF-K
C 817	01505-724-102	C-POLYESTER	CQ921M(T) 100V 0.001uF-K
C 818	01417-344-104	C-CERAMIC, HK	CK46(T) F50V 0.1uF-Z
C 819	01608-906-109	C-ELECTROLYTIC	CE04W 50V 1uF
C 820	01608-906-229	C-ELECTROLYTIC	CE04W 50V 2.2uF
C 821	01505-723-152	C-POLYESTER	CQ921M(T) 100V 0.0015uF-J
C 822	01505-724-102	C-POLYESTER	CQ921M(T) 100V 0.001uF-K
C 823	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 824	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 825	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 827	01608-903-470	C-ELECTROLYTIC	CE04W 16V 47uF
C 829	01608-903-110	C-ELECTROLYTIC	CE04W 16V 10uF
C 830	01407-057-120	C-CERAMIC, TEMP	CC45(T) CH50V 12pF-J
C 831	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 832	01416-318-103	C-CERAMIC, HK	CK45 B50V 10000pF-K
C 901	01517-383-224	C-M, POLYESTER	CF922M 250V 0.22uF-J
C 902	01517-383-224	C-M, POLYESTER	CF922M 250V 0.22uF-J
C 903	01517-383-224	C-M, POLYESTER	CF922M 250V 0.22uF-J
C 904	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 905	01417-468-222	C-CERAMIC, HK	CK45(T) B500V 2200pF-K
C 906	01417-468-222	C-CERAMIC, HK	CK45(T) B500V 2200pF-K
C 907	01417-468-222	C-CERAMIC, HK	CK45(T) B500V 2200pF-K
C 908	01417-468-222	C-CERAMIC, HK	CK45(T) B500V 2200pF-K
C 909	01417-468-222	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 910	01416-768-102	C-CERAMIC, HK	CK45 B2KV 1000pF-K

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
C 911	01416-780-103	C-CERAMIC, HK	CK45 E2KV 0.01uF-P
C 912	01417-468-102	C-CERAMIC, HK	CK45(T) B500V 1000pF-K
C 913	01419-468-102	C-CERAMIC, HK	CK45(T) B500V 1000pF-K
C 914	01419-468-102	C-CERAMIC, HK	CK45(T) B500V 1000pF-K
C 915	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 916	01417-344-104	C-CERAMIC, HK	CK45(T) F50V 0.1uF-Z
C 2001	01607-906-470	C-ELECTROLYTIC	CE04W 50V 47uF, 105°C
C 2002	01608-902-470	C-ELECTROLYTIC	CE04W(T) 10V 47uF
C 2004	01608-906-100	C-ELECTROLYTIC	CE04W(T) 50V 10uF
C 2005	01608-902-470	C-ELECTROLYTIC	CE04W(T) 10V 47uF
IC 301	02109-303-020	IC-TTL	SN74LS 136P (EX-OR)
△ IC 401	02119-101-080	IC-LINEAR	LA7851
△ IC 402	02119-101-490	IC-LINEAR	LA7830
IC 451	02109-309-300	IC-CMOS	UPD4066B (ESD)
△ IC 551	02109-303-010	IC-LINEAR	IR9331
IC 552	02119-301-440	IC-LINEAR	UPC4557C (OP-AMP)
IC 553	02119-301-330	IC-LINEAR	LM339
IC 554	02119-301-440	IC-LINEAR	UR4557C (OP-AMP)
IC 555	02109-307-130	IC-CMOS	MC14066B
△ IC 601	02119-601-970	IC-REGULATOR	STK7404-105
△ IC 602	02119-601-970	IC-REGULATOR	STK7404-105
IC 701	02119-601-950	IC-REGULATOR	STK2012
IC 702	02119-601-960	IC-REGULATOR	STR2005 (WITH MICA)
IC 801	02109-301-540	IC-GATE	SL205
IC 802	02109-302-200	IC-TTL	SN74LS367AN (BUFF)
IC 803	02109-302-210	IC-TTL	SN74LS32N (OR)
IC 804	02109-101-880	IC-TTL	SN74LS07N (BUFF)
IC 805	02109-101-230	IC-TTL	SN74LS123N (MONO-MULT)
IC 806	02109-303-020	IC-TTL	SN74LS136P (EX-OR)
△ PC 601	02189-601-270	PHOTOCOUPLER	TLP-521 GR
△ PC 602	02189-601-270	PHOTOCOUPLER	TLP-521 GR
△ CR 601	02179-002-010	TRIAC	BCR6AM-8L
△ CR 602	02189-601-340	THYRISTOR	CR02AM-8
△ CR 603	02189-601-340	THYRISTOR	CR02AM-8
Q 301	02139-302-747	TRANSISTOR	KSC945-Y(T)
Q 302	02139-302-747	TRANSISTOR	KSC945-Y(T)
Q 303	02139-302-747	TRANSISTOR	KSC945-Y(T)
Q 304	02139-302-747	TRANSISTOR	KSC945-Y(T)
Q 305	02139-302-747	TRANSISTOR	KSC945-Y(T)
Q 306	02139-302-747	TRANSISTOR	KSC945-Y(T)
Q 401	02139-302-747	TRANSISTOR	KSC945-Y(T)
Q 402	02139-304-570	TRANSISTOR	2SC2120-Y
Q 403	02149-101-900	TRANSISTOR	2SA950-Y
Q 404	02139-302-747	TRANSISTOR	KSC945-Y(T)
Q 405	02149-101-050	TRANSISTOR	KSA634Y

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
Q 501	02139-302-747	TRANSISTOR	KSC945-Y(T)
Q 502	02139-301-240	TRANSISTOR	KSC1507-Y
△ Q 503	02149-302-200	TRANSISTOR	2SC3486-Y (WITH MICA)
Q 504	02139-302-747	TRANSISTOR	KSC945-Y
Q 551	02149-401-030	TRANSISTOR	KSD882-Y
Q 552	02139-302-747	TRANSISTOR	KSC945-Y
△ Q 554	02149-601-520	TRANSISTOR, FET	2SK319
△ Q 556	02149-601-520	TRANSISTOR, FET	2SK319
△ Q 557	02149-601-530	TRANSISTOR, FET	2SK430-L
△ Q 558	02149-601-530	TRANSISTOR, FET	2SK430-L
△ Q 601	02139-304-190	TRANSISTOR	2SC1815-Y
△ Q 602	02139-304-190	TRANSISTOR	2SC1815-Y
△ Q 651	02139-302-247	TRANSISTOR	KSC2310-Y(T)
△ Q 652	02139-302-247	TRANSISTOR	KSC2310-Y(T)
△ Q 653	02139-302-247	TRANSISTOR	KSC2310-Y(T)
Q 701	02149-302-150	TRANSISTOR	2SC1583-G
Q 702	02149-302-150	TRANSISTOR	2SC1583-G
Q 703	02149-302-150	TRANSISTOR	2SC1583-G
Q 704	02139-301-347	TRANSISTOR	2N3904(T)
Q 705	02139-301-347	TRANSISTOR	2N3904(T)
Q 706	02139-301-347	TRANSISTOR	2N3904(T)
Q 707	02139-103-387	TRANSISTOR	KSA733-Y (T)
Q 708	02139-103-387	TRANSISTOR	KSA733-Y (T)
Q 709	02139-103-387	TRANSISTOR	KSA733-Y (T)
Q 710	02139-103-347	TRANSISTOR	2N3904(T)
Q 711	02139-103-347	TRANSISTOR	2N3904(T)
Q 712	02139-103-347	TRANSISTOR	2N3904(T)
Q 713	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 714	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 715	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 716	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 717	02139-103-387	TRANSISTOR	KSA945-Y (T)
Q 718	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 719	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 720	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 721	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 722	02149-302-020	TRANSISTOR	2SC3502-E
Q 723	02149-302-020	TRANSISTOR	2SC3502-E
Q 724	02149-302-020	TRANSISTOR	2SC3502-E
Q 725	02139-301-347	TRANSISTOR	2N3904(T)
Q 726	02139-301-347	TRANSISTOR	2N3904(T)
Q 727	02139-301-347	TRANSISTOR	2N3904(T)
Q 728	02149-302-190	TRANSISTOR	2SC3600-D
Q 729	02149-302-190	TRANSISTOR	2SC3600-D
Q 730	02149-302-190	TRANSISTOR	2SC3600-D
Q 731	02149-101-140	TRANSISTOR	2SA1406-D
Q 732	02149-101-140	TRANSISTOR	2SA1406-D
Q 733	02149-101-140	TRANSISTOR	2SA1406-D
Q 741	02149-401-040	TRANSISTOR	KSD882-O
Q 742	02139-103-387	TRANSISTOR	KSA733-Y

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
Q 743	02139-302-747	TRANSISTOR	KSC945-Y
Q 744	02149-301-347	TRANSISTOR	2N3904(T)
Q 745	02139-103-387	TRANSISTOR	KSA733-Y
Q 801	02149-401-467	TRANSISTOR	KSD471A-G
Q 802	02139-302-747	TRANSISTOR	KSC945-Y(T)
Q 803	02139-103-387	TRANSISTOR	KSA733-Y (T)
Q 804	02139-302-747	TRANSISTOR	KSC945-Y(T)
Q 805	02139-301-347	TRANSISTOR	2N3904 (T)
Q 806	02139-301-347	TRANSISTOR	2N3904 (T)
Q 807	02139-301-347	TRANSISTOR	2N3904 (T)
Q 808	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 809	02139-301-347	TRANSISTOR	2N3904 (T)
Q 810	02139-301-347	TRANSISTOR	2N3904 (T)
Q 811	02139-301-347	TRANSISTOR	2N3904 (T)
Q 812	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 813	02139-301-347	TRANSISTOR	2N3904 (T)
Q 814	02139-301-347	TRANSISTOR	2N3904 (T)
Q 815	02139-301-347	TRANSISTOR	2N3904 (T)
Q 816	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 817	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 818	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 819	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 820	02139-301-347	TRANSISTOR	2N3904 (T)
Q 821	02139-302-347	TRANSISTOR	KSC945-Y (T)
Q 822	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 823	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 824	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 825	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 826	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 827	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 829	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 830	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 901	02139-101-340	TRANSISTOR	2SA1210-R
Q 902	02139-101-340	TRANSISTOR	2SA1210-R
Q 903	02139-101-340	TRANSISTOR	2SA1210-R
Q 904	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 905	02139-204-037	TRANSISTOR	MPSA42(T)
Q 906	02139-204-037	TRANSISTOR	MPSA42(T)
Q 907	02139-204-037	TRANSISTOR	MPSA42(T)
Q 908	02139-302-747	TRANSISTOR	KSC945-Y (T)
△ Q 2001	02139-103-387	TRANSISTOR	KSA733-Y (T)
Q 2002	02139-302-747	TRANSISTOR	KSC945-Y (T)
Q 3001	02139-302-747	TRANSISTOR	KSC945-Y (T)
△ Q 3002	02139-301-240	TRANSISTOR	KSC1507-Y

LOC. NO	- CODE-NO.	DESCRIPTION	SPECIFICATION
ZD 401	02169-404-677	DIODE-ZENER	UZ-12BM.
ZD 402	02169-404-900	DIODE-ZENER	MTZ27C
ZD 551	02169-403-830	DIODE-ZENER	ZPD8.2
ZD 552	02169-403-220	DIODE-ZENER	ZPD 18.
ZD 701	02169-404-620	DIODE-ZENER	ZPD 6.2
ZD 702	02169-403-730	DIODE-ZENER	RD 6.8EB3(T)
ZD 801	02169-403-400	DIODE-ZENER	RD 9.1EB-3
ZD 802	02169-403-580	DIODE-ZENER	RD 5.1EB-2
△ ZD 2001	02169-403-830	DIODE-ZENER	ZPD 8.2
ZD 2002	02169-403-830	DIODE-ZENER	ZPD 8.2
D 401	02169-301-340	DIODE-SWITCHING	1SS 132
D 402	02169-301-340	DIODE-SWITCHING	1SS 132
D 403	02169-301-340	DIODE-SWITCHING	1SS 132
D 404	02169-302-060	DIODE-RECTIFIER	TVR-06G
D 405	02169-301-340	DIODE-SWITCHING	1SS 132
D 501	02169-206-050	DIODE-RECTIFIER	CGJ-1
D 502	02169-304-040	DIODE-RECTIFIER	P513
D 503	02169-304-270	DIODE-RECTIFIER	BA158
△ D 505	02169-302-060	DIODE-RECTIFIER	TVR-06G
D 551	02169-301-340	DIODE-SWITCHING	1SS 132
D 552	02169-301-340	DIODE-SWITCHING	1SS 132
D 553	02169-301-340	DIODE-SWITCHING	1SS 132
D 554	02169-302-060	DIODE-RECTIFIER	TVR-06G
D 555	02169-302-060	DIODE-RECTIFIER	TVR-06G
D 557	02169-301-340	DIODE-SWITCHING	1SS 132
△ D 601	02169-219-390	DIODE-BRIDGE	RB40C
D 602	02169-404-890	DIODE-ZENER	MTZ10C
△ D 603	02169-206-240	DIODE-RECTIFIER	SI. RU1P
△ D 604	02169-404-900	DIODE-ZENER	MTZ27C
D 605	02169-404-880	DIODE-ZENER	MTZ7.5Z
D 606	02169-206-240	DIODE-RECTIFIER	SI. RUIP
△ D 607	02169-301-357	DIODE-SWITCHING	1SS143
D 608	02169-301-357	DIODE-SWITCHING	1SS143
△ D 609	02169-301-367	DIODE-SWITCHING	1SS136
D 610	02169-301-367	DIODE-SWITCHING	1SS136
D 611	02169-404-297	DIODE-ZENER	ZPD2.7(T)
△ D 651	02169-219-540	DIODE-RECTIFIER	RU3AM, LFB2
△ D 652	02169-206-260	DIODE-RECTIFIER	SI. RL4Z. LFK2
D 653	02169-301-367	DIODE-SWITCHING	1SS136
D 654	02169-301-367	DIODE-SWITCHING	1SS136
D 655	02169-404-910	DIODE-ZENER	MTZ6.8C
△ D 657	02169-206-250	DIODE-RECTIFIER	SI. RG4C. LFK2
D 658	02169-301-367	DIODE-SWITCHING	1SS136
D 659	02169-301-367	DIODE-SWITCHING	1SS136
D 660	02169-404-910	DIODE-ZENER	MTZ6.8C
D 661	02169-301-367	DIODE-SWITCHING	1SS136
D 662	02169-301-367	DIODE-SWITCHING	1SS136
D 663	02169-301-367	DIODE-SWITCHING	1SS136

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
D 701	02169-103-167	DIODE-SWITCHING	1S2473 (T)
D 702	02169-103-167	DIODE-SWITCHING	1S2473 (T)
D 703	02169-103-167	DIODE-SWITCHING	1S2473 (T)
D 704	02169-103-167	DIODE-SWITCHING	1S2473 (T)
D 705	02169-103-167	DIODE-SWITCHING	1S2473 (T)
D 706	02169-103-167	DIODE-SWITCHING	1S2473 (T)
D 707	02169-103-167	DIODE-SWITCHING	1S2473 (T)
D 708	02169-103-167	DIODE-SWITCHING	1S2473 (T)
D 709	02169-103-167	DIODE-SWITCHING	1S2473 (T)
D 710	02169-103-150	DIODE-SWITCHING	1S2472 (T)
D 711	02169-103-150	DIODE-SWITCHING	1S2472 (T)
D 712	02169-103-150	DIODE-SWITCHING	1S2472 (T)
D 713	02169-302-060	DIODE-RECTIFIER	TVR-06G
D 714	02169-302-060	DIODE-RECTIFIER	TVR-06G
D 715	02169-302-060	DIODE-RECTIFIER	TVR-06G
D 716	02169-103-167	DIODE-SWITCHING	1SS2473 (T)
D 801	02169-301-340	DIODE-SWITCHING	1SS132
D 802	02169-301-340	DIODE-SWITCHING	1SS132
D 803	02169-301-340	DIODE-SWITCHING	1SS132
D 804	02169-301-340	DIODE-SWITCHING	1SS132
D 805	02169-301-340	DIODE-SWITCHING	1SS132
D 806	02169-301-340	DIODE-SWITCHING	1SS132
D 807	02169-301-340	DIODE-SWITCHING	1SS132
D 808	02169-301-340	DIODE-SWITCHING	1SS132
D 809	02169-301-340	DIODE-SWITCHING	1SS132
D 810	02169-301-340	DIODE-SWITCHING	1SS132
D 812	02169-301-340	DIODE-SWITCHING	1SS132
D 813	02169-301-340	DIODE-SWITCHING	1SS132
D 814	02169-301-340	DIODE-SWITCHING	1SS132
D 815	02169-301-340	DIODE-SWITCHING	1SS132
D 816	02169-301-340	DIODE-SWITCHING	1SS132
D 817	02169-301-340	DIODE-SWITCHING	1SS132
D 820	02169-301-340	DIODE-SWITCHING	1SS132
D 821	02169-301-340	DIODE-SWITCHING	1SS132
D 822	02169-301-340	DIODE-SWITCHING	1SS132
D 823	02169-301-340	DIODE-SWITCHING	1SS132
D 824	02169-301-340	DIODE-SWITCHING	1SS132
D 825	02169-301-340	DIODE-SWITCHING	1SS132
D 826	02169-301-340	DIODE-SWITCHING	1SS132
D 827	02169-301-340	DIODE-SWITCHING	1SS132
D 901	02169-202-087	DIODE-SWITCHING	1SS83 (T)
D 902	02169-202-087	DIODE-SWITCHING	1SS83 (T)
D 903	02169-202-087	DIODE-SWITCHING	1SS83 (T)
D 2001	02169-302-060	DIODE-RECTIFIER	TVR-06G
D 2002	02189-106-050	VARISTOR	KB262
D 2004	02169-302-060	DIODE-RECTIFIER	TVR06G
D 2005	02189-106-050	VARISTOR	KB262
D 3001	02169-301-410	DIODE-SWITCHING	1N4148 (T)

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
FD 801	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 802	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 803	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 804	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 805	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 806	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 807	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 808	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 809	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 810	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 811	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 812	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 813	02169-103-167	DIODE-SWITCHING	1S2473 (T)
FD 814	02169-103-167	DIODE-SWITCHING	1S2473 (T)
LED	02309-110-090	LED-GREEN	KLG 208E
LC 401	02429-253-410	COIL-FILTER, EMI	DSS 310-55 Y5S 2200pF
LC 802	02429-253-510	COIL-FILTER, EMI	DSS 310-55 Y5S 0.022uF
L 401	02429-053-010	COIL-CHOKE	90uH
L 501	02429-230-010	COIL-FILTER	50uH-K.500mA
L 502	02429-240-010	COIL-FILTER	5.6uH-K
L 503	02429-855-210	COIL-PEAKING	2.7uH
△ L 504	02449-734-210	COIL-HORIZ, LINEARITY	45uH
△ L 505	02449-434-310	COIL-HORIZ, WIDTH	26uH
△ L 507	02429-060-410	COIL-CHOKE	15mH
△ L 511	02429-434-310	COIL-HORIZ, WIDTH	26uH
△ L 601	02449-622-018	COIL-FILTER, LINE	HL38
△ L 602	02429-639-010	COIL-FILTER, LINE	15mH
△ L 651	02429-060-510	COIL-FILTER, LINE	33uH
L 652	02429-052-020	COIL-CHOKE	100uH-K
L 653	02429-060-510	COIL-FILTER	33uH-K
L 701	02429-855-310	COIL-PEAKING	1.5uH
L 702	02429-855-310	COIL-PEAKING	1.5uH
L 703	02429-855-310	COIL-PEAKING	1.5uH
L 704	02429-855-210	COIL-PEAKING	2.7uH
L 705	02429-855-210	COIL-PEAKING	2.7uH
L 706	02429-855-210	COIL-PEAKING	2.7uH
L 707	02429-855-210	COIL-PEAKING	2.7uH
L 708	02429-855-210	COIL-PEAKING	2.7uH
L 709	02429-855-210	COIL-PEAKING	2.7uH
L 711	02429-230-010	COIL-FILTER	50uH-K, 500mA
L 712	02429-253-710	COIL-FILTER	SF471M 1R0 (500uH)
L 713	02429-060-310	COIL-CHOKE	1mH
L 714	02429-240-010	COIL-FILTER	5.6uH-K
L 715	02429-060-310	COIL-CHOKE	1mH
L 716	02429-240-010	COIL-FILTER	5.6uH-K
L 717	02429-230-010	COIL-FILTER	50uH-K, 500mA
L 804	02429-240-010	COIL-FILTER	5.6uH-K
L 805	02429-240-010	COIL-FILTER	5.6uH-K
L 901	02429-852-010	COIL-PEAKING	3.3uH-K
L 902	02429-852-010	COIL-PEAKING	3.3uH-K
L 903	02429-852-010	COIL-PEAKING	3.3uH-K
△ T 501	02849-032-410	TRANS-HOR, DRIVE	19X7.6m/m

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
△ T 502	02859-129-310	TRANS-FLYBACK	MSUIFDU56 (See ALT. part)
△ T 503	02779-111-110	TRANS-SIDE PINCUSHING	20 x 20 m/m
△ T 701	02899-004-210	TRANS-CONVERTER	20 x 20 m/m
△ T 601	02879-001-810	TRANS-SWITCH, MODE	See "Parts Comparison Table for the AC Power Inputs"
△ T 602	02879-001-910	TRANS-SWITCH, MODE	See "Parts Comparison Table for the AC Power Inputs"
△ SOCKET	03354-705-310	SOCKET-CRT	I-CSH 6112 V-O WHT (W/CAP)
SG 901	04569-001-010	SPARK GAP	AG20F 1000 +/- 250V
SG 902	04569-001-010	SPARK GAP	AG20F 1000 +/- 250V
SG 903	04569-001-010	SPARK GAP	AG20F 1000 +/- 250V
SG 904	04569-001-010	SPARK GAP	AG20F 1000 +/- 250V
SG 905	04569-001-010	SPARK GAP	AG20F 1000 +/- 250V
△ D.COIL	02479-014-110	COIL-DEGAUSSING	5.8mH, 15 oHm
△ RY 301	04724-102-510	RELAY	HR-CR313 DC024
△ CRT	02019-234-310	CRT-COLOR	3709B22 (ST) TC-09 (See ALT. part)
CNI	03344-156-410	CONNECTOR-D.SUB	DE-09 SLUCL 02
△ TH 601	02189-605-040	POSISTOR	PTH451 CO6BG080 N140
△ F 601	04709-088-060	FUSE	250V, 3A 51S
△ F 651	04709-088-070	FUSE	250V, 1.6A 51S
F 601A	03364-700-210	HOLD-FUSE	FC51E, 20M/M FUSE-CLIPPER
F 651A	03364-700-210	HOLD-FUSE	FC51E, 20M/M FUSE-CLIPPER
△ SW 1	03529-702-210	SW-PUSH (POWER-SW)	ESB8213V
SW 2	03519-106-210	SW-SLIDE (H, SIZE-SW)	KSA2222
SW 401	03549-015-010	SW-LEVER (WHT-LEVEL)	EVQ-R1A L13
SW 801	03549-106-510	SW-LEVER (INPUT-SW)	SLLROA
SW 802	03519-106-410	SW-SLIDE (MANUAL-SW)	SSSU14
SW 803	03519-106-310	SW-SLIDE (COLOR-SW)	KSA2317
SW 804	03519-106-310	SW-SLIDE (TEXT-SW)	KSA2317

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
Y	03054-645-920	CON-3P ASSY H-5264/03	L450mm
	03044-156-130	CONNECTOR-WAFER	5267-03(2.5)
F	03054-640-610	CON-2P ASSY XHP-2	L450mm
	03044-153-010	CONNECTOR-WAFER	B2B-XH (2.5)
Z	03054-645-130	CON-4P ASSY H-5264/04	L400mm
	03044-156-140	CONNECTOR-WAFER	5267-04(2.5)
PS	03054-617-620	CON-2P ASSY XHP-2	L340mm
	03044-153-010	CONNECTOR-WAFER	B2B-XH(2.5)
N	03054-645-810	CON-7P ASSY H-5264/07	L460mm
	03044-156-170	CONNECTOR-WAFER	5267-07(2.5)
P	03054-646-110	CON-4P ASSY H-5264/04	L400mm
	03044-156-140	CONNECTOR-WAFER	5267-04
S	03054-645-610	CON-5P ASSY H-5264/05	L300mm
	03044-156-150	CONNECTOR-WAFER	5267-05(2.5)
X	03054-645-510	CON-5P ASSY M-VHR-5N	L350mm
	03044-131-050	CONNECTOR-WAFER	B5P-VH (3.96)
R	03054-642-230	CON-2P ASSY XHP-2	L360mm
	03044-153-010	CONNECTOR-WAFER	B2B-XH (2.5)
B	03054-642-250	CON-2P ASSY XHP-2	L360mm
	03044-153-010	CONNECTOR-WAFER	B2B-XH(2.5)
H	03054-104-120	CON-2P ASSY SVF-2	L300mm
	03044-120-710	CONNECTOR-WAFER	RTB-1.5-2(7.5)
HC	03054-641-210	CON-3P ASSY XHP-3	L300mm
	03044-153-020	CONNECTOR-WAFER	B3B-XH (2.5)
E	03054-645-210	CON-3P ASSY M-VHR-3N	L300mm
	03044-131-020	CONNECTOR-WAFER	B3P-VH (3.96)
D	03054-645-910	CON-3P ASSY H-5264/03	L450mm
	03044-156-130	CONNECTOR-WAFER	5267-03(2.5)
J	03054-645-110	CON-2P ASSY M-VHR-2N	L400mm
	03044-131-010	CONNECTOR-WAFER	B2P-VH (3.96)
C	03054-645-220	CON-3P ASSY M-VHR-3N	L400mm
	03044-131-021	CONNECTOR-WAFER	B3PS-VH
M	03054-645-710	CON-6P ASSY H-5264/06	L300mm
	03044-156-160	CONNECTOR-WAFER	5267-06 (2.5)
L	03054-615-220	CON-4P ASSY XHP-4	L340mm
	03044-153-030	CONNECTOR-WAFER	B4B-XH (2.5)
I	03054-617-620	CON-2P ASSY XHP-2	L340mm
	03044-153-010	CONNECTOR-WAFER	B2B-XH (2.5)
CE	03054-615-720	CON-2P ASSY SVF-2	L320mm
	03044-156-320	CONNECTOR-WAFER	B2P-LV-TN(10)
CRT	03054-223-610	CROUND CRT ASSY	TBC-WIRE
△ AC	03053-816-110	POWER CORD ASSY	See "Parts Comparison Table for the Ac Power Inputs"
AC	03344-156-330	CONNECTOR-WAFER	B3P-LV, TN(10)
DY	03344-156-360	CONNECTOR-WAFER	B6P-LV, TN(10)
Q	03344-156-320	CONNECTOR-WAFER	B2P-LV, TN(10)
G1	03054-222-010	LUG-TERMINAL ASSY	L80mm
G2	03054-222-030	LUG-TERMINAL ASSY	L60mm

LOC. NO	CODE-NO.	DESCRIPTION	SPECIFICATION
Miscellaneous			
△	07623-709-020	KNOB-POWER	ABS CN4551/CS4551
	06674-715-220	SPRING-POWER	SUS-302 WPA 0.5 φ
	07623-707-610	KNOB-VR	ABS CN4551/CS4551
	03053-402-210	CABLE-SIGNAL ASSY	TTL MODE (9DM-9DM)
	03053-402-310	CABLE-SIGNAL ASSY	PS/2 MODE (See ALT. Parts)
	08136-400-140	USER'S MANUAL	CN4551
	06603-703-010	HOLDER-CORD	PP VO BLK
	08144-726-210	SERVICE MANUAL	CN4551/CS4551
	08611-703-230	PACKING-CASE	CN4551
	08711-714-510	CUSHION-P/L	CN4551/CS4551
	07601-734-020	PANEL-REAL	CN4551/CS4551
	08301-702-810	STAND-ASSY	CN4551/CS4551
	OC903-000-072	COVER-MAIN, ASSY	CN4551/CS4551
	OC906-000-084	COVER-FRONT, ASSY	CN4551/CS4551
Sub Assemblies			
	OC906-000-085	CONTROL VR(COUNT/BRIT) ASSY	CN4551/CS4551
	OC907-000-020	VERTICAL (IC 402) ASSY	CN4551/CS4551
	OC907-000-024	VIDEO TR (Q722) ASSY	CN4551/CS4551
	OC907-000-025	VIDEO TR (Q728) ASSY	CN4551/CS4551
	OC907-000-026	VIDEO TR (Q731) ASSY	CN4551/CS4551
	OC907-000-027	REGULATOR IC (702) ASSY	CN4551/CS4551
	OC907-000-029	REGULATOR IC (601) ASSY	CN4551/CS4551
	OC907-000-030	TRIAC (CR601) ASSY	CN4551/CS4551
	OC906-000-087	POWER SW (AC) ASSY	CN4551
	OC906-000-106	POWER SW (AC) ASSY	CS4551
PWBOARD Assmbles			
	OC906-000-086	LED-BOARD, ASSY	CN4551/CS4551
	OC905-000-148	MAIN-BOARD, ASSY (W/CRT-SOC-KET)	CN4551/CS4551
	OC906-000-098	CRT-SOCKET BOARD, ASSY	CN4551/CS4551
	OC905-000-149	VIDEO BOARD, ASSY	CN4551/CS4551
	OC905-000-151	INTERFACE-BOARD, ASSY	CN4551/CS4551
	OC905-000-152	CONTROL-REAR BOARD, ASSY	CN4551/CS4551
	OC905-000-150	POWER-BOARD, ASSY	CN4551
	OC905-000-211	POWER-BOARD, ASSY (NON-TUV)	CS4551
	04749-015-210	POWER-BOARD, ASSY (W/TUV)	CS4551 (SCD-0553AL)

ALTERNATE PARTS LIST

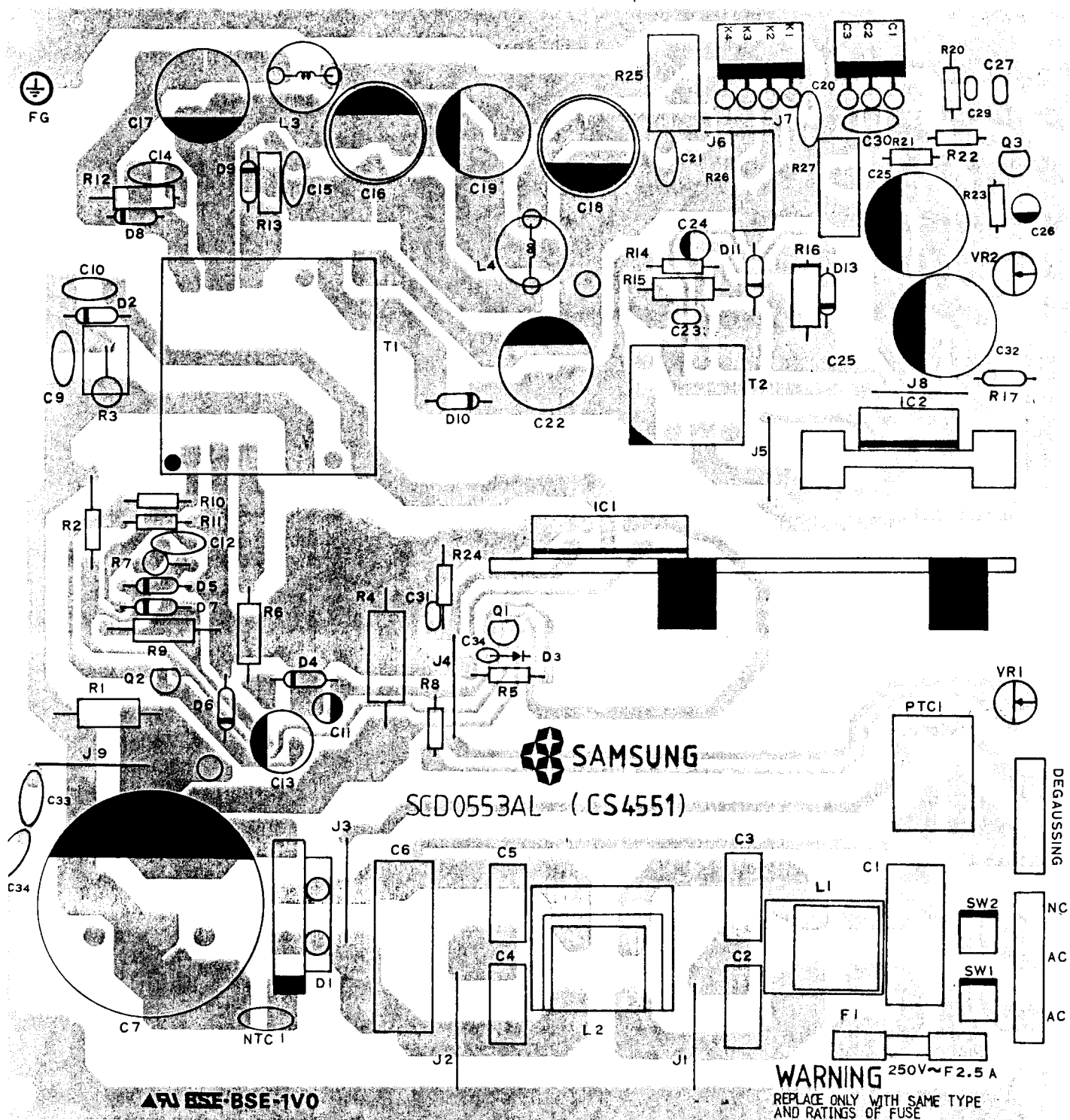
LOC. NO	CODE NO.	DESCRIPTION	SPECIFICATION
Q 402	02139-302-260	TRANSISTOR	KSC2331-Y
Q 403	02139-103-930	TRANSISTOR	KSA931-Y
Q 555, Q556	02149-601-410	TRANSISTOR(FET)	IRF 730
Q 557, Q558	02149-601-420	TRANSISTOR(FET)	IRF 621
Q 728-Q730	02149-302-020	TRANSISTOR	2SC 3502-E
Q 731-Q733	02149-101-010	TRANSISTOR	2SA 1380-E
Q 741	02139-302-260	TRANSISTOR	KSC2331-Y
Q901,Q902,Q903	02139-204-030	TRANSISTOR	MPSA 92
ZD 401	02169-403-767	DIODE-ZENER	RD 12EB 3(T)
ZD 402	02169-404-690	DIODE-ZENER	UZ-27BM
ZD 551	02169-403-837	DIODE-ZENER	ZPD 8.2(T)
ZD 552	02169-403-227	DIODE-ZENER	ZPD 18(T)
ZD 701	02169-403-847	DIODE-ZENER	ZPD 6.2(T)
ZD 702	02169-404-787	DIODE-ZENER	UZ-6.8 BL(T)
ZD 801	02169-404-597	DIODE-ZENER	ZPDM 9.1(T)
ZD 802	02169-404-610	DIODE-ZENER	ZPD 5.1
ZD 2001, ZD2002	02169-403-837	DIODE-ZENER	ZPD 8.2(T)
D 401, D403	02169-301-410	DIODE, SWITCHING	IN4148
D 405	02169-301-410	DIODE, SWITCHING	IN4148
D 552, D553	02169-301-410	DIODE, SWITCHING	IN4148
D 557	02169-301-410	DIODE, SWITCHING	IN4148
D 602	02169-403-260	DIODE-ZENER	RD 10 EB3
D 604	02169-404-690	DIODE-ZENER	UZ-27BM
D 605	02169-403-097	DIODE-ZENER	RD 7.5 BE2(T)
D 701-D 712	02169-301-410	DIODE, SWITCHING	IN 4148
D 716	02169-301-410	DIODE, SWITCHING	IN 4148
D 801-D 810	02169-301-410	DIODE, SWITCHING	IN 4148
D 812-D 817	02169-301-410	DIODE, SWITCHING	IN 4148
D 820-D 827	02169-301-410	DIODE, SWITCHING	IN 4148
FD 801-FD 814	02169-301-410	DIODE, SWITCHING	IN 4148
Δ T 502	02859-129-110	TRANS-FLYBACK (W/CASE)	FCO-1412 L02
Δ CRT+DY	02019-234-410	CRT+DY	M34JCA 30x34
Δ TH 601	02189-605-600	POSISTOR(rms;140V)	Ptc:2322-662-96125
Δ TH 601	02189-605-610	POSISTOR(rms;270V)	Ptc:2322-662-96124
IC 552,IC 554	02109-104-860	IC-LINEAR	MC 1458 CPI
ADAPTER	03344-156-310	CONNECTOR-ADAPTER	9P-15P ADAPER(PS/2)

PARTS COMPARISON TABLE FOR AC POWER INPUTS

PARTS & LOCATION		AC POWER INPUT			
		100V/ 110V/ 120V		220V/240V	
LOC. NO.	DESCRIPTION	CODE NO.	SPECIFICATION	CODE NO.	SPECIFICATION
R 605	R-CARBON	01018-378-104	RD 1/2 T 100K-J	01045-527-104	RS 2P 100K-J
R 613	R-CEMENT, WIRE	01039-427-220	RP 3P 22-J	01039-427-680	RP 3P 68-J
R 614	R-CARBON	01018-277-222	RD 1/4 T 2.2K-J	01018-277-272	RD 1/4T 2.7K-J
R 622	R-METAL, OXIDE	01045-528-330	RS 2P 33-K	01039-427-680	RP 3P 68-J
R 623	R-CARBON	01018-277-472	RD 1/4 T 4.7K-J	01018-277-272	RD 1/4 T 2.7K-J
R 664	R-CEMENT, WIRE	01037-327-222	RF 2P 2.2K-J	01039-597-332	RW 5P 3.3K-J
R 680	R-COMPOSITION	01028-378-335	RC 1/2 T 3.3M-K	01028-327-825	RC 1/2 T 8.2M-M
R 605	C-ELECTROLYTIC	01607-915-471	CE04W 200V 470uF	01603-512-221	CE04W 400V 200uF
T 601	TRANSFORMER	02879-001-810	EE405-PL3	02879-002-310	EE405-PL3
T 602	TRANSFORMER	02879-001-910	EE405-PL3	02879-002-410	EE405-PL3
TH 601	POSISTOR	02189-605-040	PTH 451C	02199-003-120	PTH 451C
			06BG080 N140		02BG200 N270
SW 901	SWITCH-PUSH	03529-702-210	ESB 8213V	03529-703-610	ESB 90702V
AC-CORD	POWER-CORD, ASSY	03053-816-110	NORTH AMERICA	03054-811-720	UK-VERSION
		03053-816-120	PROTECTOR-CAP	03054-811-730	VDE-VERSION
				03054-811-740	VDE-VERSION
				03054-811-750	PROTECTOR-CAP
				03054-811-760	CP-21-VERSION
D-COIL	COIL-DEGAU- SSING	02479-014-110	5.8mH 15 ohm	02479-014-120	5.8mH 15 ohm
J-CON	CON-2P ASSY	03054-645-110	CON-2P,ASSY M-VHR-2N,L400	03054-645-120	CON-2P,ASSY M-VHR-2N,L400

Power Supply AC 220V Version(SCD 0553AL)

Power PCB (Top View) For Europe



POWER-BOARD [SCD 0553AL] VERSION

ELECTRICAL PARTS LIST

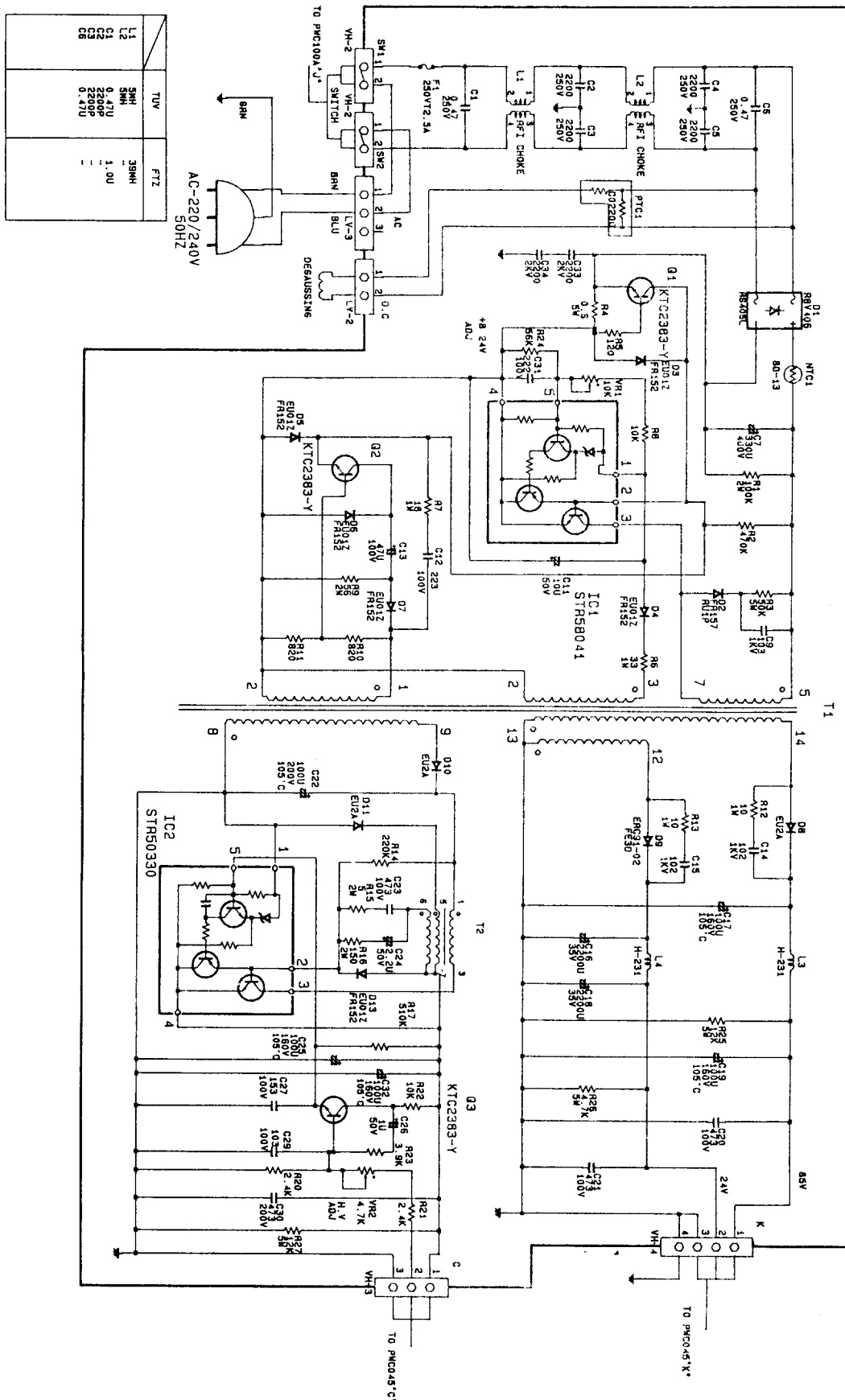
LOCATION-NO	CODE-NO.	DESCRIPTION	SPECIFICATION
Q1, Q2, Q3	21-13-238330-1	TRANSISTOR	KTC2383-Y
IC1	21-10-580410-1	IC-REGULATOR	STR58041
IC2	21-10-503300-1	IC-REGULATOR	STR50330(WITH MICA)
D1	22-43-600444-2	DIODE-BRIDGE	RBV406 or RS-405L
D2	22-74-800010-2	DIODE-RECTIFIER	RU1P or FR157
D3, D4, D5, D6	22-74-2005-10-2	DIODE-RECTIFIER	EU01Z or FR152
D7, D13			
D8, D10, D11	22-74-300220-2	DIODE-RECTIFIER	EU2A or EU2Z
D9	22-74-400220-2	DIODE-RECTIFIER	ERC91-02 or FE 3D
C1, C6	48-04-474420-2	C-M, POLYESTER AC	KNB1530 0.47 μ F 250VAC
C2, C3, C4, C5	48-04-222420-2	KNC-M, PLOYESTER AC	KNB2520 2200pF 250VAC
C7	17-04-330150-1	C-ELECTROLYTIC	FSS 400V 330 μ F
C9	01419-901-100	C-CERAMIC	CK45B 1KV 0.01 μ F-K
C11	01609-402-250	C-ELECTROLYTIC	CE04W 50V 10 μ F
C12	01509-335-490	C-POLYESTER	CQ921M 200V 0.022 μ F-K
C13	01609-403-090	C-ELECTROLYTIC	CE04W 100V 47 μ F
C14, C15	01416-618-102	C-CERAMIC	CK45B 1KV 1000pF-K
C16, C18	41-04-220528-1	C-ELECTROLYTIC	CEO4W 35V 2200 μ F
C17, C19, C25, C32	01607-909-101	C-ELECTROLYTIC	CE04W 160V 100 μ F 105°C
C22	01609-915-101	C-ELECTROLYTIC	CE04W 200V 100 μ F 105°C
C20, C21, C23	01509-121-220	C-POLYESTER	CQ921M 100V 0.047 μ F-J
C24	01609-402-220	C-ELECTROLYTIC	CE04W 50V 2.2 μ F
C26	01609-402-210	C-ELECTROLYTIC	CE04W 50V 1 μ F
C27	01509-121-150	C-POLYESTER	CQ921M 100V 0.015 μ F-J
C29	01509-121-140	C-POLYESTER	CQ921M 100V 0.01 μ F-J
C30	01505-334-473	C-POLYESTER	CQ921M 200V 0.047 μ F-J
C31	01509-121-390	C-POLYESTER	CQ921M 100V 2200pF-K
C33, C34	01416-768-470	C-CERAMIC	CK45B 2KV 2200pF-K
R1	01045-527-104	R-METAL, OXIDE	RS 2W 100K-J
R2	01018-277-474	R-CARBON	RD 1/4T 470K-J
R3	23-58-503061-1	R-CEMENT, WIRE	RW 5V 50K-J
R4	01039-528-060	R-CEMENT, WIRE	RW 5P 0.6-K
R5	01048-277-121	R-METAL, FILM	RM 1/4 T 120-J
R6	01045-427-330	R-METAL, OXIDE	RS 1W 33-J
R7	01045-427-180	R-METAL, OXIDE	RS 1W 18-J
R8	01048-275-103	R-METAL, FILM	RM 1/4T 10K-F
R9	01045-527-560	R-METAL, OXIDE	RS 2W 56-J
R10, R11	01018-277-821	R-CARBON	RD 1/4T 820-J
R12, R13	01045-427-100	R-METAL, OXIAE	RS 1W 10-J
R14	01018-277-224	R-CARBON	RD 1/4 220K-J
R15	01045-527-509	R-METAL, OXIDE	RS 2W 5-J

LOCATION.NO.	CODE. NO.	DESCRIPTION	SPECIFICATION
R16	01045-527-151	R-METAL, OXIDE	RS 2W 150-J
R17	01018-277-514	R-CARBON	RD 1/4T 510K-J
R20, R21	01018-277-242	R-CARBON	RD 1/4T 2.4K-J
R23	01018-277-392	R-CARBON	RD 1/4T 3.9K-J
R25, R27	23-58-123060-1	R-CEMENT, WIRE	RW 5V 12K-J
R26	23-58-472060-1	R-CEMENT, WIRE	RW 5V 4.7K-J
R24	01018-277-563	R-CARBON	RD 1/4T 56K-J
VR1	23-34-103060-1	VR-SEMI	10K-B
VR2	23-34-472060-1	VR-SEMI	4.7K-B
L1, L2	17-24-125420-1	COIL-FILTER	SCH-055
L3, L4	17-24-412210-1	COIL-CHOKE	CORE 12 ϕ ×5
T1	17-21-424010-1	TRANSFORMER-MAIN	EER 424015 (SCP 0552)
T2	17-21-252010-1	TRANSFORMER-SUB	E125 (SCP8503)
NTC1	24-13-130007-2	THERMISTOR	8D-13
PTC1	24-14-451400-2	POSISTOR	PTH 41C40
F1	17-71-211258-2	FUSE	T2.5A 250VAC
D-COIL-CON	03344-156-320	CONNECTOR-WAFER	B2P-LV, TN
AC INPUT-CON	03344-156-330	CONNECTOR-WAFER	B3P-LV, TN
SW -CON	03444-131-010	CONNECTOR-WAFER	B2P-VH
C-CON	03344-131-021	CONNECTOR-WAFER	B3PS-VH
K-CON	03344-131-061	CONNECTOR-WAFER	B4PS-VH
	17-72-112227-1	HOLDER-FUSE	FC51AZ TS-203
	17-41-055300-1	HEAT-SINK	AL:STR58041
	17-41-055301-1	HEAT-SINK	AL:STR50330
	17-54-055300-1	CLAMP-IC	SUB304-CSP 3/4H
	17-55-620300-1	RUBBER-SILICON	30× 40

SCHEMATIC DIAGRAM

MODEL NO: CS4551

CHASSIS NO: T.M.L (SCD0553AL)



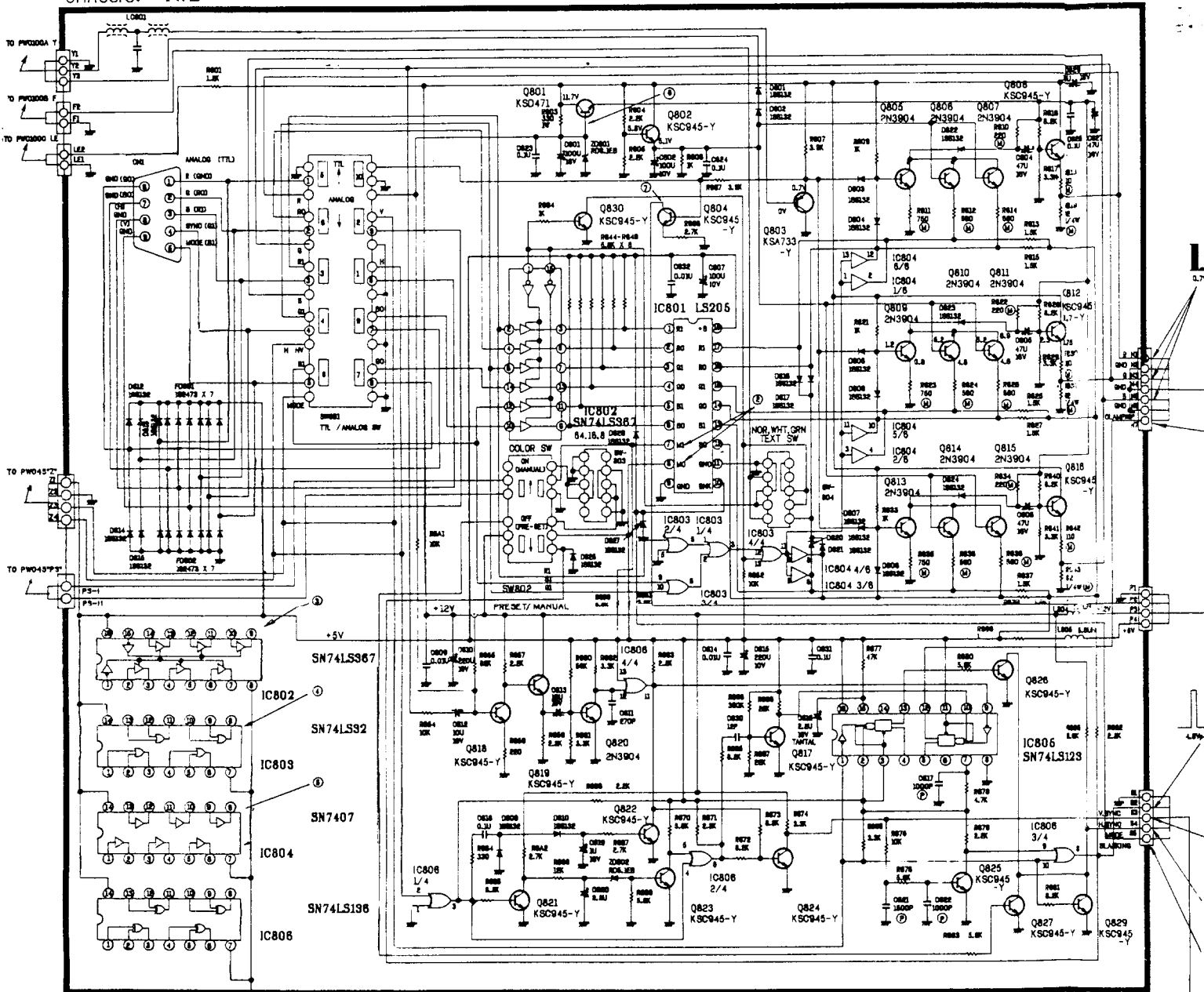
MODE	B	E	C	C1	C2
15. BK	7.14B	58.36	4.51V	17.8V	
22. OK	7.13B	58.51	4.64V	18.0V	
30. 4K	7.10B	58.64	7.93V	18.2V	

SCHEMATIC DIAGRAM

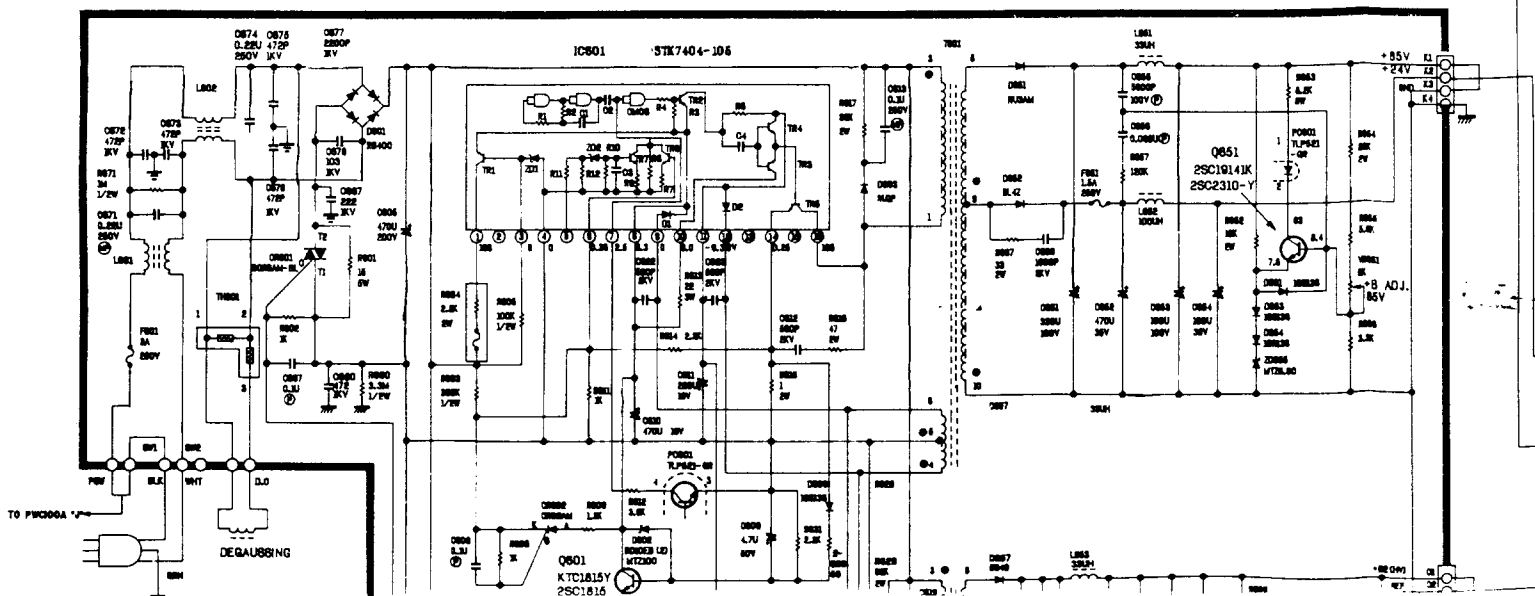
MODEL : CN4551 / CS4551

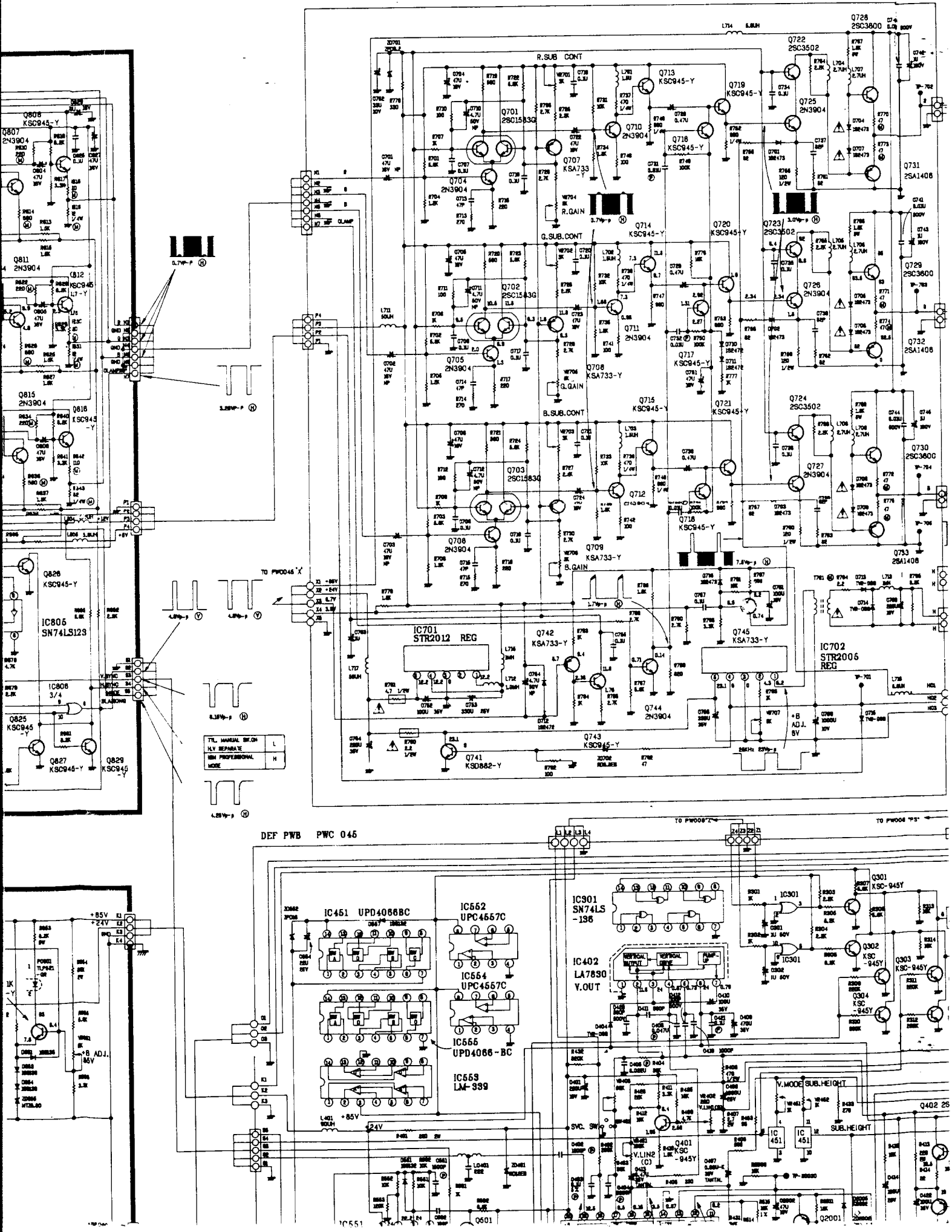
CHASSIS: TWL

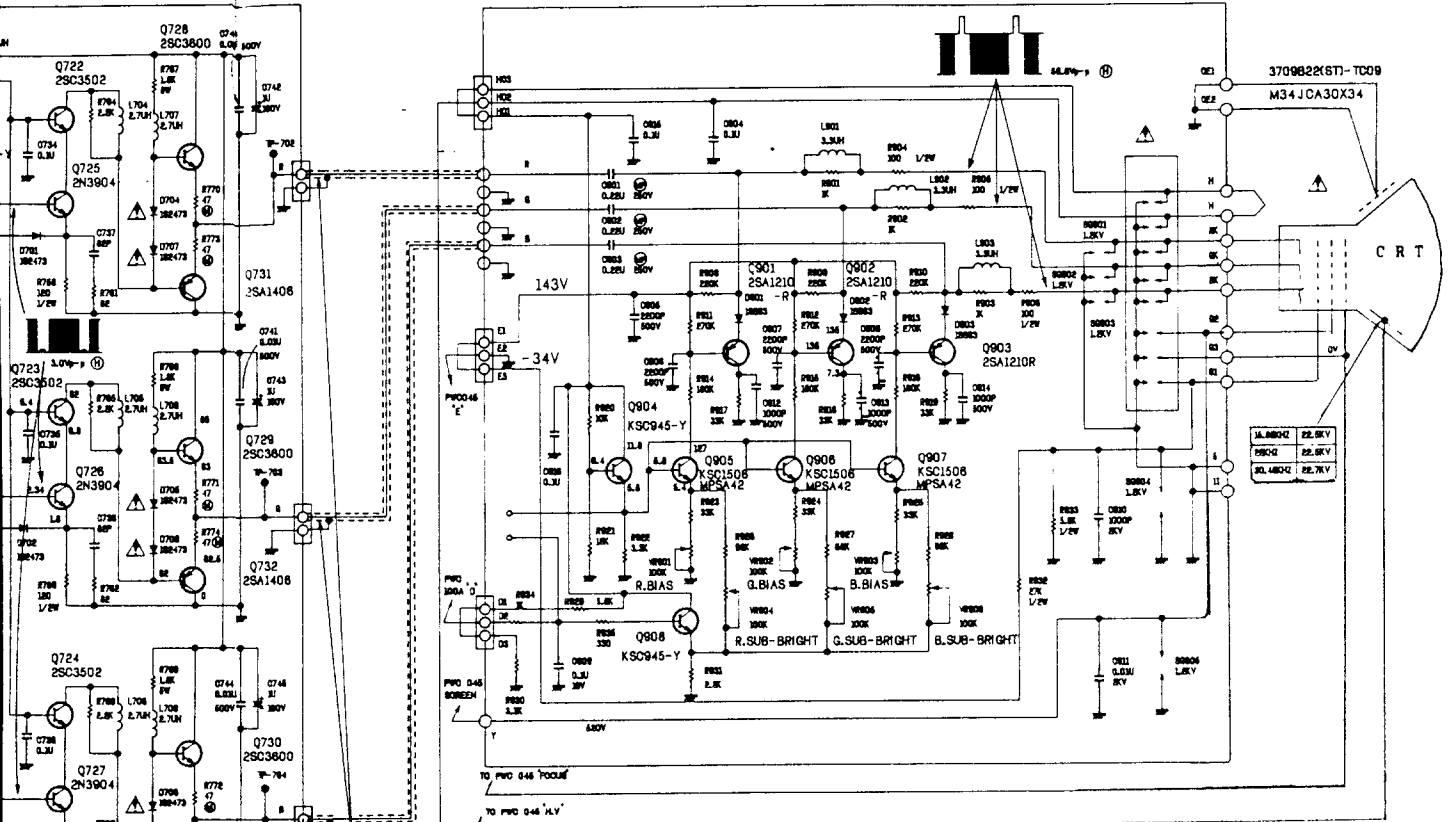
PWC 008 INTERFACE PWB



SW.REG.PWB PWC008





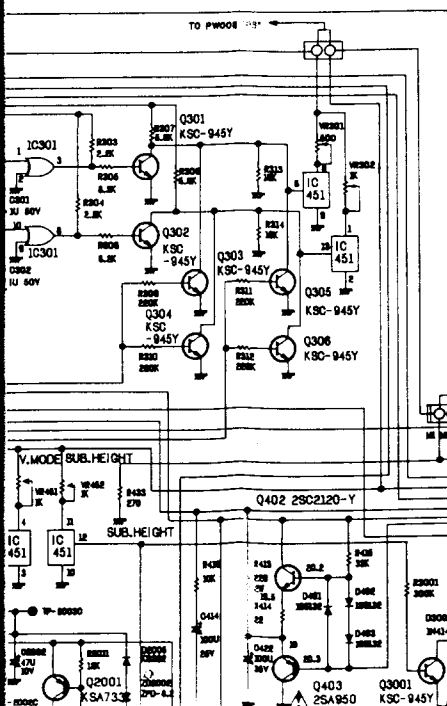


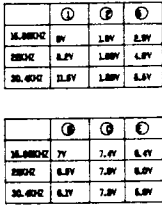
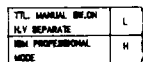
IC801				IC802				IC803				IC804			
TEXT	SW	OFF	ON	TEXT	SW	OFF	ON	TEXT	SW	OFF	ON	TEXT	SW	OFF	ON
1	2.0V	OFF	ON	1	2.0V	OFF	ON	1	2.0V	OFF	ON	1	2.0V	OFF	ON
2	0V	OFF	ON	2	0V	OFF	ON	2	0V	OFF	ON	2	0V	OFF	ON
3	2.0V	OFF	ON	3	2.0V	OFF	ON	3	2.0V	OFF	ON	3	2.0V	OFF	ON
4	0V	OFF	ON	4	0V	OFF	ON	4	0V	OFF	ON	4	0V	OFF	ON
5	2.0V	OFF	ON	5	2.0V	OFF	ON	5	2.0V	OFF	ON	5	2.0V	OFF	ON
6	0V	OFF	ON	6	0V	OFF	ON	6	0V	OFF	ON	6	0V	OFF	ON
7	2.0V	OFF	ON	7	2.0V	OFF	ON	7	2.0V	OFF	ON	7	2.0V	OFF	ON
8	0V	OFF	ON	8	0V	OFF	ON	8	0V	OFF	ON	8	0V	OFF	ON
9	2.0V	OFF	ON	9	2.0V	OFF	ON	9	2.0V	OFF	ON	9	2.0V	OFF	ON
10	0V	OFF	ON	10	0V	OFF	ON	10	0V	OFF	ON	10	0V	OFF	ON
11	2.0V	OFF	ON	11	2.0V	OFF	ON	11	2.0V	OFF	ON	11	2.0V	OFF	ON
12	0V	OFF	ON	12	0V	OFF	ON	12	0V	OFF	ON	12	0V	OFF	ON

- NOTES
1. RESISTOR VALUES ARE IN Ω OHM K=1,000 M=1,000,000 C.
 2. ALL RESISTORS ARE 1/4 WATT EXCEPT WHERE OTHERWISE INDICATED.
 3. CAPACITOR VALUES ARE IN μ F UNLESS OTHERWISE INDICATED. P=PF
 4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
 5. VOLTAGES AND WAVEFORMS ARE MEASURED UNDER THE INVERTED H CHARACTER SIGNALS. THE CONTRAST CONTROL IS MAXIMUM THE BRIGHTNESS CONTROL IS MAXIMUM AND ALL OTHER CONTROLS ARE NORMAL OPERATION.
 6. VOLTAGES AND WAVEFORMS ARE MEASURED UNDER THE FOLLOWING SYNC. AND VIDEO. EXCEPT WHERE OTHERWISE INDICATED.
SYNC: HORIZONTAL RATE 15.625KHZ SEPARATE SYNC TTL LEVEL POSITIVE VIDEO TTL LEVEL POSITIVE
 7. H.....HORIZONTAL RATE V.....VERTICAL RATE

WARNING
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY Δ SHOWN ON THE SCHEMATICS. REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING. CONTROL (S) MARKED * IS PERMANENTLY FROZEN.
DO NOT ATTEMPT TO DEFEAT OR IMPROPERLY REPLACE.

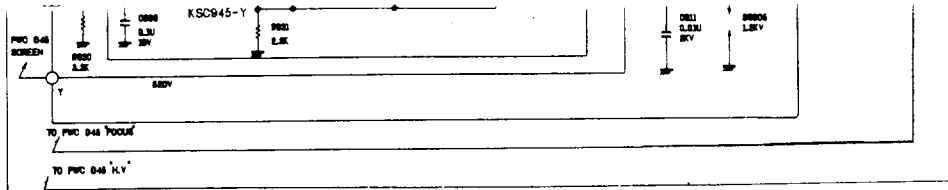
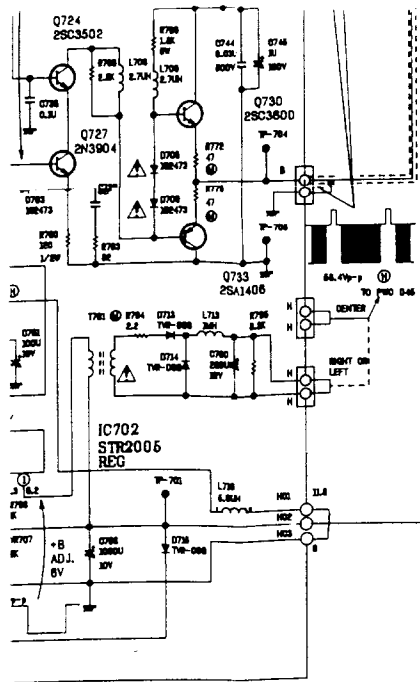
IC801				IC802				IC803				IC804			
TEXT	SW	OFF	ON	TEXT	SW	OFF	ON	TEXT	SW	OFF	ON	TEXT	SW	OFF	ON
1	2.0V	OFF	ON	1	2.0V	OFF	ON	1	2.0V	OFF	ON	1	2.0V	OFF	ON
2	0V	OFF	ON	2	0V	OFF	ON	2	0V	OFF	ON	2	0V	OFF	ON
3	2.0V	OFF	ON	3	2.0V	OFF	ON	3	2.0V	OFF	ON	3	2.0V	OFF	ON
4	0V	OFF	ON	4	0V	OFF	ON	4	0V	OFF	ON	4	0V	OFF	ON
5	2.0V	OFF	ON	5	2.0V	OFF	ON	5	2.0V	OFF	ON	5	2.0V	OFF	ON
6	0V	OFF	ON	6	0V	OFF	ON	6	0V	OFF	ON	6	0V	OFF	ON
7	2.0V	OFF	ON	7	2.0V	OFF	ON	7	2.0V	OFF	ON	7	2.0V	OFF	ON
8	0V	OFF	ON	8	0V	OFF	ON	8	0V	OFF	ON	8	0V	OFF	ON
9	2.0V	OFF	ON	9	2.0V	OFF	ON	9	2.0V	OFF	ON	9	2.0V	OFF	ON
10	0V	OFF	ON	10	0V	OFF	ON	10	0V	OFF	ON	10	0V	OFF	ON
11	2.0V	OFF	ON	11	2.0V	OFF	ON	11	2.0V	OFF	ON	11	2.0V	OFF	ON
12	0V	OFF	ON	12	0V	OFF	ON	12	0V	OFF	ON	12	0V	OFF	ON





	①	②	③
15.000G	0.3V	0.3V	0.6V
500G	0.7V	0.7V	0.9V
30.000G	12.2V	12.2V	11.8V

Q863		Q862		Q1	Q2
A	E	O			
2V	7.8V	8.80V	6TV	17.8V	
3V	7.85V	8.4V	64V	18.8V	
4V	7.85V	8.8V	88V	18.8V	



10B01				10B02				10B03				10B04			
TEXT	SW	ON	OFF	TEXT	SW	ON	OFF	TEXT	SW	ON	OFF	TEXT	SW	ON	OFF
1	0V	4.7V	34	2	0V	4.7V	34	3	0V	4.7V	34	4	0V	4.7V	34
5	0V	4.7V	34	6	0V	4.7V	34	7	0V	4.7V	34	8	0V	4.7V	34
9	0V	4.7V	34	10	0V	4.7V	34	11	0V	4.7V	34	12	0V	4.7V	34
13	0V	4.7V	34	14	0V	4.7V	34	15	0V	4.7V	34	16	0V	4.7V	34
17	0V	4.7V	34	18	0V	4.7V	34	19	0V	4.7V	34	20	0V	4.7V	34
21	0V	4.7V	34	22	0V	4.7V	34	23	0V	4.7V	34	24	0V	4.7V	34
25	0V	4.7V	34	26	0V	4.7V	34	27	0V	4.7V	34	28	0V	4.7V	34
29	0V	4.7V	34	30	0V	4.7V	34	31	0V	4.7V	34	32	0V	4.7V	34
33	0V	4.7V	34	34	0V	4.7V	34	35	0V	4.7V	34	36	0V	4.7V	34
37	0V	4.7V	34	38	0V	4.7V	34	39	0V	4.7V	34	40	0V	4.7V	34
41	0V	4.7V	34	42	0V	4.7V	34	43	0V	4.7V	34	44	0V	4.7V	34
45	0V	4.7V	34	46	0V	4.7V	34	47	0V	4.7V	34	48	0V	4.7V	34
49	0V	4.7V	34	50	0V	4.7V	34	51	0V	4.7V	34	52	0V	4.7V	34
53	0V	4.7V	34	54	0V	4.7V	34	55	0V	4.7V	34	56	0V	4.7V	34
57	0V	4.7V	34	58	0V	4.7V	34	59	0V	4.7V	34	60	0V	4.7V	34
61	0V	4.7V	34	62	0V	4.7V	34	63	0V	4.7V	34	64	0V	4.7V	34
65	0V	4.7V	34	66	0V	4.7V	34	67	0V	4.7V	34	68	0V	4.7V	34
69	0V	4.7V	34	70	0V	4.7V	34	71	0V	4.7V	34	72	0V	4.7V	34
73	0V	4.7V	34	74	0V	4.7V	34	75	0V	4.7V	34	76	0V	4.7V	34
77	0V	4.7V	34	78	0V	4.7V	34	79	0V	4.7V	34	80	0V	4.7V	34
81	0V	4.7V	34	82	0V	4.7V	34	83	0V	4.7V	34	84	0V	4.7V	34
85	0V	4.7V	34	86	0V	4.7V	34	87	0V	4.7V	34	88	0V	4.7V	34
89	0V	4.7V	34	90	0V	4.7V	34	91	0V	4.7V	34	92	0V	4.7V	34
93	0V	4.7V	34	94	0V	4.7V	34	95	0V	4.7V	34	96	0V	4.7V	34
97	0V	4.7V	34	98	0V	4.7V	34	99	0V	4.7V	34	100	0V	4.7V	34

NOTES

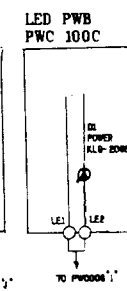
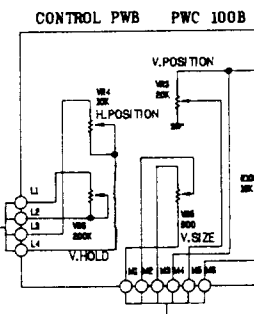
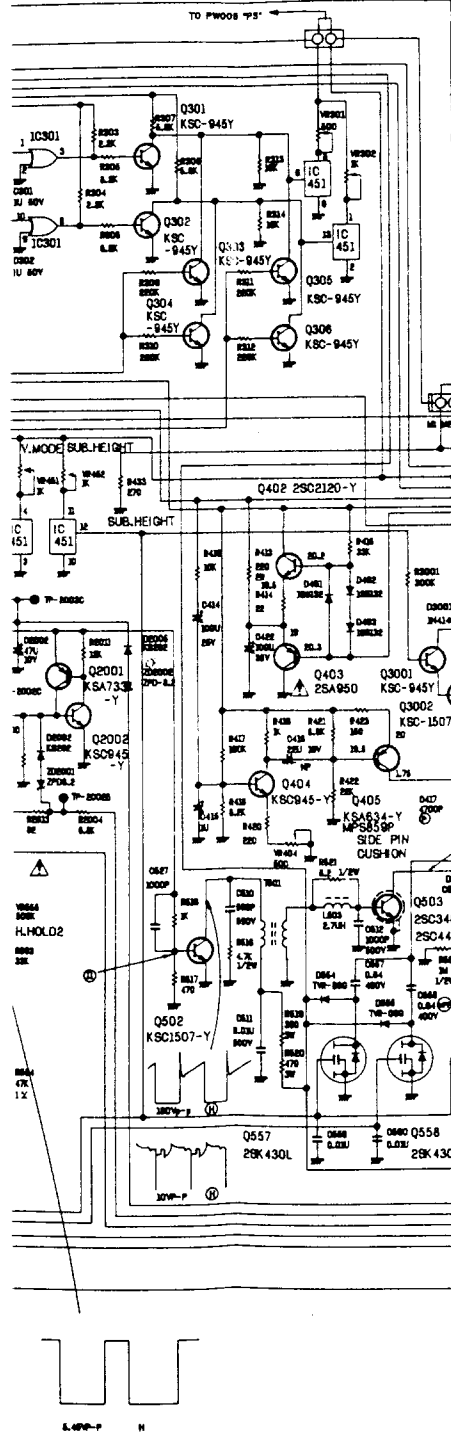
1. RESISTOR VALUES ARE IN OHMS UNLESS OTHERWISE INDICATED.
2. ALL RESISTORS ARE 1/4 WATT EXCEPT WHERE OTHERWISE INDICATED.
3. CAPACITOR VALUES ARE IN UF UNLESS OTHERWISE INDICATED. P-PF
4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
5. VOLTAGES AND WAVEFORMS ARE MEASURED UNDER THE INVERTED H CHARACTER SIGNALS. THE CONTRAST CONTROL IS MAXIMUM THE BRIGHTNESS CONTROL IS MAXIMUM AND ALL OTHER CONTROLS ARE NORMAL OPERATION.
6. VOLTAGES AND WAVEFORMS ARE MEASURED UNDER THE FOLLOWING SYNC. AND VIDEO. EXCEPT WHERE OTHERWISE INDICATED.
SYNC : HORIZONTAL RATE 15.625KHZ SEPARATE SYNC TTL LEVEL POSITIVE
VIDEO TTL LEVEL POSITIVE
7. H...HORIZONTAL RATE V...VERTICAL RATE

WARNING

REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A SHAWING ON THE SCHEMATICS. REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.

DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING. CONTROL (S) MARKED * IS PERMANENTLY FROZEN. DO NOT ATTEMPT TO DEFEAT OR IMPROPERLY REPLACE.

10B01				10B02				10B03				10B04			
TEXT	SW	ON	OFF	TEXT	SW	ON	OFF	TEXT	SW	ON	OFF	TEXT	SW	ON	OFF
1	0V	4.7V	34	2	0V	4.7V	34	3	0V	4.7V	34	4	0V	4.7V	34
5	0V	4.7V	34	6	0V	4.7V	34	7	0V	4.7V	34	8	0V	4.7V	34
9	0V	4.7V	34	10	0V	4.7V	34	11	0V	4.7V	34	12	0V	4.7V	34
13	0V	4.7V	34	14	0V	4.7V	34	15	0V	4.7V	34	16	0V	4.7V	34
17	0V	4.7V	34	18	0V	4.7V	34	19	0V	4.7V	34	20	0V	4.7V	34
21	0V	4.7V	34	22	0V	4.7V	34	23	0V	4.7V	34	24	0V	4.7V	34
25	0V	4.7V	34	26	0V	4.7V	34	27	0V	4.7V	34	28	0V	4.7V	34
29	0V	4.7V	34	30	0V	4.7V	34	31	0V	4.7V	34	32	0V	4.7V	34
33	0V	4.7V	34	34	0V	4.7V	34	35	0V	4.7V	34	36	0V	4.7V	34
37	0V	4.7V	34	38	0V	4.7V	34	39	0V	4.7V	34	40	0V	4.7V	34
41	0V	4.7V	34	42	0V	4.7V	34	43	0V	4.7V	34	44	0V	4.7V	34
45	0V	4.7V	34	46	0V	4.7V	34	47	0V	4.7V	34	48	0V	4.7V	34
49	0V	4.7V	34	50	0V	4.7V	34	51	0V	4.7V	34	52	0V	4.7V	34
53	0V	4.7V	34	54	0V	4.7V	34	55	0V	4.7V	34	56	0V	4.7V	34
57	0V	4.7V	34	58	0V	4.7V	34	59	0V	4.7V	34	60	0V	4.7V	34
61	0V	4.7V	34	62	0V	4.7V	34	63	0V	4.7V	34	64	0V	4.7V	34
65	0V	4.7V	34	66	0V	4.7V	34	67	0V	4.7V	34	68	0V	4.7V	34
69	0V	4.7V	34	70	0V	4.7V	34	71	0V	4.7V	34	72	0V	4.7V	34
73	0V	4.7V	34	74	0V	4.7V	34	75	0V	4.7V	34	76	0V	4.7V	34
77	0V	4.7V	34	78	0V	4.7V	34	79	0V	4.7V	34	80	0V	4.7V	34
81	0V	4.7V	34	82	0V	4.7V	34	83	0V	4.7V	34	84	0V	4.7V	34
85	0V	4.7V	34	86	0V	4.7V	34	87	0V	4.7V	34	88	0V	4.7V	34
89	0V	4.7V	34	90	0V	4.7V	34	91	0V	4.7V	34	92	0V	4.7V	34
93	0V	4.7V	34	94	0V	4.7V	34	95	0V	4.7V	34	96	0V	4.7V	34
97	0V	4.7V	34	98	0V	4.7V	34	99	0V	4.7V	34	100	0V	4.7V	34



PH	NO	10B01	10B02	10B03	10B04
1	1	0.5V	0.5V	0.5V	0.5V
1	2	0.5V	0.5V	0.5V	0.5V
1	3	0.5V	0.5V	0.5V	0.5V
1	4	0.5V	0.5V	0.5V	0.5V
1	5	0.5V	0.5V	0.5V	0.5V
1	6	0.5V	0.5V	0.5V	0.5V
1	7	0.5V	0.5V	0.5V	0.5V
1	8	0.5V	0.5V	0.5V	0.5V
1	9	0.5V	0.5V	0.5V	0.5V
1	10	0.5V	0.5V	0.5V	0.5V
1	11	0.5V	0.5V	0.5V	0.5V
1	12	0.5V	0.5V	0.5V	0.5V
1	13	0.5V	0.5V	0.5V	0.5V
1	14	0.5V	0.5V	0.5V	0.5V
1	15	0.5V	0.5V	0.5V	0.5V
1	16	0.5V	0.5V	0.5V	0.5V
1	17	0.5V	0.5V	0.5V	0.5V
1	18	0.5V	0.5V	0.5V	0.5V
1	19	0.5V	0.5V	0.5V	0.5V
1	20	0.5V	0.5V	0.5V	0.5V
1	21	0.5V	0.5V	0.5V	0.5V
1	22	0.5V	0.5V	0.5V	0.5V
1	23	0.5V	0.5V	0.5V	0.5V
1	24	0.5V	0.5V	0.5V	0.5V
1	25	0.5V	0.5V	0.5V	0.5V
1	26	0.5V	0.5V	0.5V	0.5V
1	27	0.5V	0.5V	0.5V	0.5V
1	28	0.5V	0.5V	0.5V	0.5V
1	29	0.5V	0.5V	0.5V	0.5V
1	30	0.5V	0.5V	0.5V	0.5V
1	31	0.5V	0.5V	0.5V	0.5V
1	32	0.5V	0.5V	0.5V	0.5V
1	33	0.5V	0.5V	0.5V	0.5V
1	34	0.5V	0.5V	0.5V	0.5V
1	35	0.5V	0.5V	0.5V	0.5V
1	36	0.5V	0.5V	0.5V	0.5V
1	37	0.5V	0.5V	0.5V	0.5V
1	38	0.5V	0.5V	0.5V	0.5V
1	39	0.5V	0.5V	0.5V	0.5V
1	40	0.5V	0.5V	0.5V	0.5V
1	41	0.5V	0.5V	0.5V	0.5V
1	42	0.5V	0.5V	0.5V	0.5V
1	43	0.5V	0.5V	0.5V	0.5V
1	44	0.5V	0.5V	0.5V	0.5V
1	45	0.5V	0.5V	0.5V	0.5V
1	46	0.5V	0.5V	0.5V	0.5V