Service Manual

2524
2524UK

10" AC/DC COLOUR TV

SPECIFICATIONS

POWER SUPPLY: ..... AC 230 V, 50 Hz
(AC240V for 2524UK)
DC 12 - 24V
(Automatic Voltage Selection)

POWER CONSUMPTION: ..... AC 50 W
DC 36 W

PICTURE TUBE: ..... 10"Picture (measured diagonally)
76°Deflection

RECEIVING SYSTEM:
Broadcast ..... PAL-B/G
(PAL-I for 2524UK)

AUDIO POWER OUTPUT: 1.5W

EARPHONE JACK: ..... CES 3.5mm

TERMINALS:
Video Input ..... 1 Vp-p/75 ohms
Audio Input ..... 300 mV

SPEAKER: ..... 70 x 40 mm
Oval Type

ANTENNA SOCKET: ..... 75 ohms DIN Type

DIMENSIONS: ..... 271(W) x 255(H) x 335 (D) mm

WEIGHT: ..... 6.5 kg

RECEIVING CHANNELS(Regular TV):
VHF Band CH2-12
(except for 2524UK)
UHF BAND CH21-69
CATV S1-S20
(except for 2524UK)

Specifications may be changed without notice.

METHOD OF DISASSEMBLING

CHASSIS REMOVAL

1. Remove 5 screws (A) and 2 screws (B) from Cabinet Back (AB) and slide Cabinet Back to rear.
2. Discharge anode lead at CRT to chassis ground through a 10k ohm resistor.
3. Disconnect CRT Socket P.C. Board (PCB-2) from CRT (V451).
4. Disconnect anode lead from CRT.
5. Disconnect 3 connectors (LCN501, LCN691 and LCN801) from Main P.C. Board (PCB-1).
6. When replacing chassis, reverse the above procedure making certain that all connectors and leads are fastened in their original places.

CRT REMOVAL

CAUTION: Wear shatter-proof goggles and exercise proper handling precautions when working around hight vacuum picture tubes.

1. Remove chassis per instructions under CHASSIS REMOVAL.
2. Remove Convergence Magnet Assembly (MG501) from neck of CRT.
3. Remove Deflection Yoke (DY501) from neck of CRT.
4. Remove 3 wedges (245) from CRT.
5. Remove braid wire (289) w/spring (230) from CRT.
6. Lay cabinet face down on some protective material.
7. Remove 4 CRT mounting screws (255).
8. Remove CRT from Cabinet Front (AA).
9. To install new CRT, reverse above procedure.
10. Perform purity and convergence adjustments.

INSTALLATION AND SERVICE INSTRUCTIONS

General Conditions (unless otherwise noted):

1. Brightness Control: maximum position
2. Color Control: maximum position
3. Contrast Control: maximum position
4. Service Switch: TV position

CAUTION: Use an isolation transformer when performing any service on this chassis.

SHUTDOWN CIRCUIT

When the high voltage rises, there are simultaneous voltage increases developed at terminal 2 of the Horizontal Output Transformer (T552) and applied to Base of Q192. If excessive high voltage is produced, the increased voltage developed exceeds the rating of zener diode D192 causing the Switching Voltage Regulator Control (IC651) to stop functionning and the high voltage system is then shut down. When the voltage of TP15 rises, turn on the transistors (Q192 and Q191), turn off the transistors (Q652 and Q653). The turn off the switch with built in the IC651 and switching circuit is then shut down.

+11.0V VOLTAGE ADJUSTMENT

Normally, this adjustment should not be required unless components have been replaced in the voltage regulator circuit.

1. Connect positive lead of DC Digital Voltmeter to TP11 and negative lead of DC Digital Voltmeter to TP12.
2. Connect Power Supply to the EXT. Power Jack (J651). Adjust its output control to produce 11.0V ±0.05V.
3. Connect TV Test Pattern Generator (Test Pattern signal) to Aerial Jack through TV Channel Signal Generator. (70 dBμ)
4. Rotate the Brightness and Tint controls to maximum position. (by Remote Control)
5. Adjust VR651 to obtain +11.0V reading.

CAUTION: To ensure proper operation and circuit reliability, do not exceed +11.0V.

VHF LOW, UHF HIGH LIMIT ADJUSTMENT

1. Connect Standard Signal Generator to Ext. Antenna Terminal.
   (70dBμ signal level, Standard modulation is 400Hz at AM 30% deviation for video signal.)
2. Set tuning position to VHF L position in manual tuning mode. (Channel location bar at lower left hand corner.)
3. Set Standard Signal Generator output frequency for 44 MHz.
4. Adjust VR101 to obtain a clear pattern.
5. Set tuning position to UHF H position. (Channel location bar at lower right hand corner.)
6. Set Standard Signal Generator output frequency for 870 MHz.
7. Adjust VR102 to obtain a clear pattern.

VIDEO IF (1) ADJUSTMENT

1. Remove solder between TP(A) and TP(B). (Refer to Fig. 1)
2. Connect positive lead of Video IF Sweep Marker Generator to TP1 and negative lead of Video IF Sweep Marker Generator to TP2. Adjust Video IF Sweep Marker Generator output level for 38 dBμ signal.
3. Connect positive lead of Monitor Scope to TP8 and negative lead of Monitor Scope to TP7 through decoupling pad.
4. Screw the core of T204 and insert it to the bottom.
5. Adjust T201 to the maximum amplitude at 38.8 MHz marker. (type: 2524) (Refer to Fig. 2)
5. Adjust T201 to maximum amplitude at 39.4 MHz marker. (type: 2524UK)
6. Adjust T204 for the half of the maximum amplitude at 38.8 MHz marker. (except for 2524UK)
7. Put solder between TP(A) and TP(B) after adjustment is made.

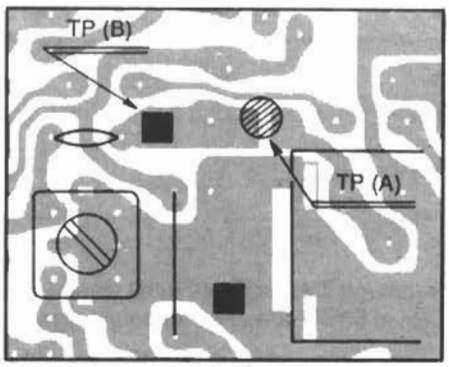


Fig. 1

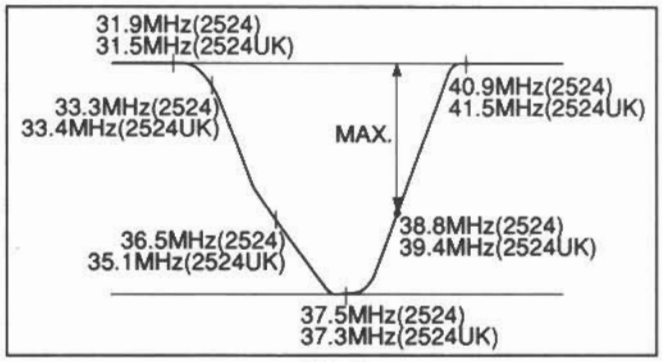


Fig. 2

AFT (AUTOMATIC FINE TUNING) ADJUSTMENT

1. Remove solder between TP(A) and TP(B).
2. Connect positive lead of Video IF Sweep Marker Generator to TP1 and negative lead of Video IF Sweep Marker Generator to TP2. Adjust the Video IF Sweep Marker Generator output level for 60 dBμ signal.
3. Connect positive lead of Monitor Scope to TP4 and negative lead of Monitor Scope to TP7 through decoupling pad.
4. Connect 1μ/50V capacitor between pin 1 of IC201 and GND.
5. Adjust T202 to place 39.5 MHz marker at zero reference line on response curve. (Refer to Fig. 3)
6. Remove Video IF Sweep Marker Generator and Monitor Scope.
7. Remove 1μ/50V capacitor.
8. Connect positive lead of TV Signal Generator (38.8 MHz, 90 dBμ) to TP1 and negative lead of TV Signal Generator to TP2.
9. Connect positive lead of DC Digital Voltmeter to TP4 and negative lead of DC Digital Voltmeter to TP7.
10. Adjust T202 so that the voltage reading is 2.6V ±0.4V.
11. Put solder between TP(A) and TP(B) after adjustment is made.

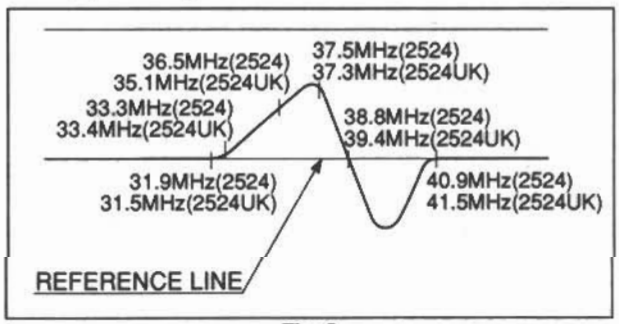


Fig. 3

BURST CLEANING ADJUSTMENT

1. Connect TV Color Bar Generator (Demo. pattern signal) to Tuner Aerial Jack through TV Channel Signal Generator (70 dBμ, P/S Ratio 10 dB). (Standard modulation is 400 Hz at 50 kHz deviation for sound signal.)
2. Connect positive lead of Oscilloscope to TP17 and negative lead of Oscilloscope to TP20 with 10:1 probe.
3. Adjust T301 so that waveform "A" may be the same as shown in Fig. 4.

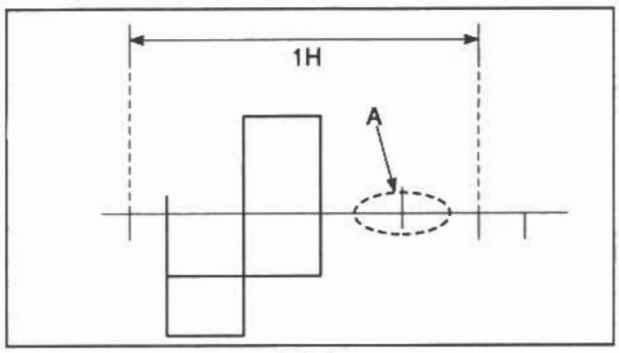


Fig. 4

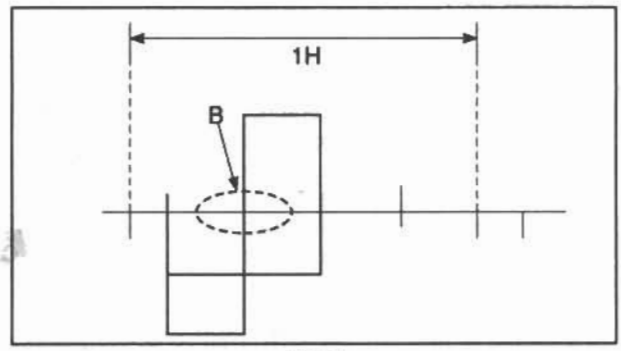


Fig. 5

CHROMA INPUT LEVEL ADJUSTMENT

1. Connect TV Color Bar Generator (Demo. pattern signal) to Tuner Aerial Jack through TV Channel Signal Generator (70 dBμ, P/S Ratio 10 dB). (Standard modulation is 400 Hz at 50 kHz deviation for sound signal.)
2. Connect positive lead of Oscilloscope to TP17 and negative lead of Oscilloscope to TP20 with 10:1 probe.
3. Adjust VR302 so that waveform "B" may be the same as shown in Fig. 5.

PHASE ADJUSTMENT

1. Connect TV Color Bar Generator (Demo. pattern signal) to Tuner Aerial Jack through TV Channel Signal Generator (70 dBμ, P/S Ratio 10 dB). (Standard modulation is 400 Hz at 50 kHz deviation for sound signal.)
2. Connect positive lead of Oscilloscope to TP17 and negative lead of Oscilloscope to TP20 with 10:1 probe.
3. Adjust T302 so that waveform "C" may be the same as shown in Fig. 6.

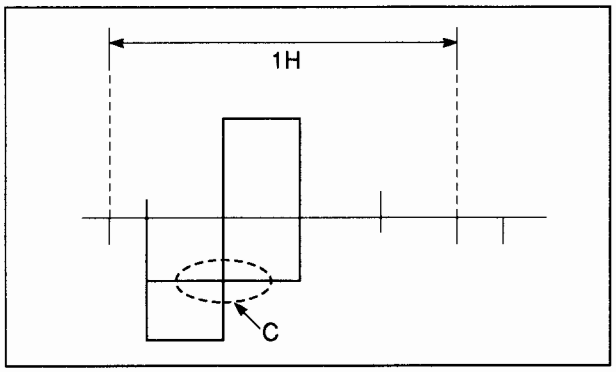


Fig. 6

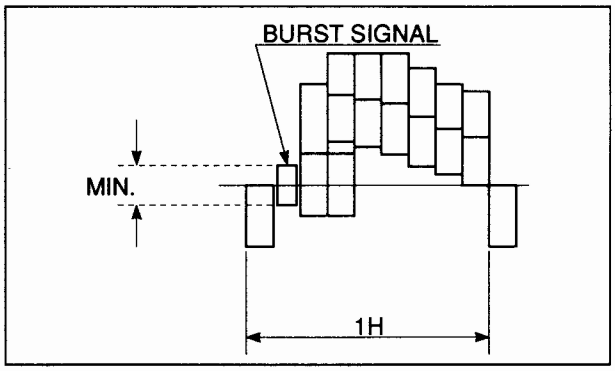


Fig. 7

SOUND IF ADJUSTMENT

1. Connect TV Test Pattern Generator (Test Pattern signal) to Tuner Aerial Jack through TV Channel Signal Generator. (70 dBμ, P/S Ratio 10 dB) (Standard modulation is 400 Hz at 50 kHz deviation for sound signal.)
2. Connect positive lead of DC Digital Voltmeter to TP5 and negative lead of DC Digital Voltmeter to TP6.
3. Adjust T203 so that the DC Digital Voltmeter reading is 4.0V.

VIDEO IF (2) ADJUSTMENT

1. Connect TV Color Bar Generator (Color Bar signal) to Tuner Aerial Jack through TV Channel Signal Generator (70 dBμ). (Standard modulation is 400 Hz at 50 kHz deviation for sound signal.)
2. Connect positive lead of Oscilloscope to TP8 and negative lead of Oscilloscope to TP7.
3. Adjust T201 so that the waveform becomes minimum. (Refer to Fig. 7)

XRAY PROTECTOR CIRCUIT CHECK

PERFORM WHENEVER HIGH VOLTAGE CIRCUITRY OR POWER SUPPLY CIRCUITRY IS SERVICED.

1. Plug the AC Line Cord (P1) into a AC 230V, 50 Hz receptacle.
2. Turn the Power Switch (S601) on and wait for about 10 minutes.
3. Connect the antenna leads to the Tuner Aerial Jack and select a broadcasting station.
4. Connect DC Digital Voltmeter to TP15 (positive lead) and TP16 (negative lead).
5. Increase the voltage between TP15 and TP16 and confirm that X-Ray Protector Circuit functions (picture and sound disappear) when the DC Digital Voltmeter reads 10.5V.
6. If picture and sound do not disappear check D191, D192, Q191, Q192, Q652, Q653, IC651, C191 and R193.

COLOR PURITY ADJUSTMENT

For best results, it is recommended that the purity adjustment be made in the final receiver location. If the receiver will be moved, perform this adjustment with the unit facing east. The receiver must have been operating 15 minutes prior to this procedure and the faceplate of the CRT must be at room temperature. The following procedure is recommended while using a TV Test Pattern Generator.

1. Check for correct location of all neck components. (Refer to Fig. 8)
2. Rough-in the static convergence at the center of the CRT, as explained in the static convergence procedure.
3. Rotate the Contrast control to minimum position and rotate Brightness control as far maximum as possible without causing the picture to "bloom".
4. Rotate the Blue Color Cut Off and Red Color Cut Off controls (VR455 and VR452) to maximum counterclockwise. Rotate the Green Color Cut off control (VR453) sufficiently in a clockwise direction to produce a green raster.
5. Loosen the deflection yoke clamp screw and pull the deflection yoke toward the rear of the CRT.
6. Begin the following adjustment with the tabs on the round purity magnet rings set together. Slowly separate the two tabs while at the same time rotating them to adjust for a uniform green vertical band at the center of the CRT screen.
7. Carefully slide the deflection yoke forward to achieve green purity (Uniform green screen).
   NOTE : Center purity is obtained by adjusting the tabs on the round purity magnet rings, outer edge purity is obtained by sliding the deflection yoke forward.
8. Check for red and blue field purity by reducing the setting of the Green Color Cut Off control (VR453) and alternately increasing the setting of the Blue and Red Color Cut Off controls (VR455 and VR452) and touch-up adjustments, if required.
9. Tighten deflection yoke clamp screw.
10. Perform BLACK AND WHITE ADJUSTMENT procedure.

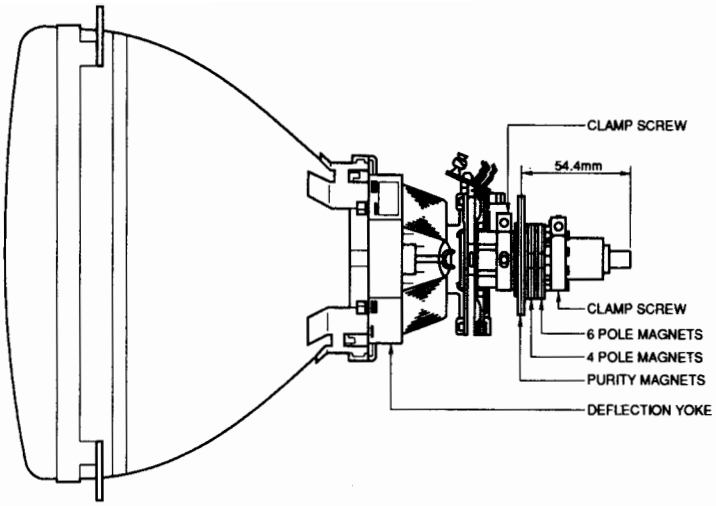


Fig. 8

STATIC CONVERGENCE ADJUSTMENT (Refer to Fig. 8 & Fig. 9)

IMPORTANT: Before proceeding, check location of the convergence magnet assembly on the neck of the CRT as shown in Fig. 8. The rear edge of this assembly must be Positioned 3/4 inch from the tip of the CRT base. If not properly positioned, convergence adjustment may be difficult, if not impossible.

1. Apply dot or crosshatch pattern from TV Test Pattern Generator to Tuner Aerial Jack through TV Channel Signal Generator. Reduce setting of Brightness and/or Contrast controls to eliminate any blooming in pattern.
2. Rotate Green Color Cut Off control (VR453) fully counterclockwise.
3. Observe the blue and red pattern now appearing on the CRT screen. Locate the 4 pole magnet rings and separate their adjusting tabs approximately the width of one tab.
4. Rotate this pair of magnet rings as a unit (do not change spacing between tabs) to minimize the separation between the blue and red dots (lines).
5. If the blue and red dots (lines) are not completely converged at these points, readjust the spacing between the two tabs to complete convergence of the blue and red dots (lines), thus producing magenta dots (lines)
6. If necessary, repeat steps 3, 4 and 5 until proper convergence is achieved.
7. Rotate Green Color Cut Off control (VR453) clockwise until proper green level is restored and observe the magenta (B/R) and green pattern now appearing on CRT screen.
8. Locate the 6 pole magnet rings and separate their adjusting tabs approximately the width of one tab.
9. Rotate this pair of magnet rings as a unit (do not change spacing between tabs) to minimize the separation between the magenta (B/R) and green dots (Lines.)
10. If the magenta and green dots (lines) are not completely converged at these points, readjust the spacing between the two tabs to complete convergence of the magenta and green dots (lines).
11. If necessary, repeat steps 8, 9 and 10 until proper convergence is obtained. To prevent accidental misadjustment of the magnets, apply a stripe of paint across all six rings and on the neck of the CRT.

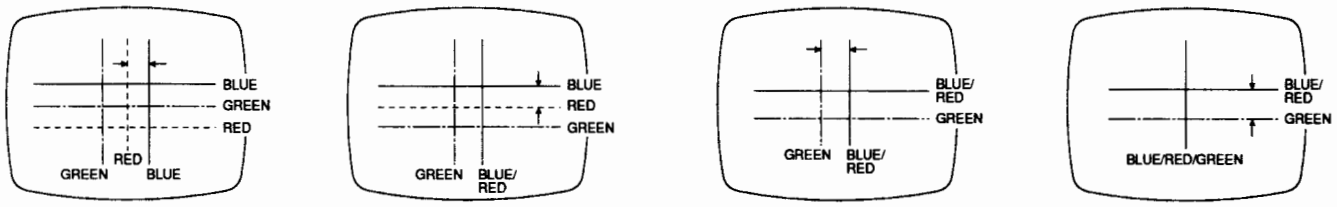


Fig. 9

DYNAMIC CONVERGENCE ADJUSTMENT (Refer to Fig. 10)

Dynamic convergence (convergence of the three color fields at the edges of the CRT screen) is accomplished by proper insertion and positioning of three rubber wedges between the edge of the deflection yoke and the funnel of the CRT. This is accomplished in the following manner.

1. Switch receiver ON and allow it to warm up for 15 minutes.
2. Apply crosshatch pattern from TV Test Pattern Generator to Tuner Aerial Jack through TV Channel Signal Generator. Observe spacing between lines around edges of CRT screen.
3. For the misconvergence shown in Fig. 10(A), tilt the deflection yoke down and insert wedge A between deflection yoke and CRT.
4. For the misconvergence shown in Fig. 10(B), tilt the deflection yoke up and insert wedge B between deflection yoke and CRT.
5. For the misconvergence shown in Fig. 10(C), tilt left side of the deflection yoke and slightly insert wedge C between deflection yoke and CRT. Then, deeply insert wedges A and B between deflection yoke and CRT.
6. For the misconvergence shown in Fig. 10(D), tilt right side of the deflection yoke and deeply insert wedge C between deflection yoke and CRT. Then, slightly insert and/or extract wedges A and B between deflection yoke and CRT.

7. Alternately change spacing between, and depth of inserting of, the three wedges until proper dynamic convergence is obtained.
8. Use a strong adhesive tape to firmly secure each of the three rubber wedges to the funnel of the CRT.

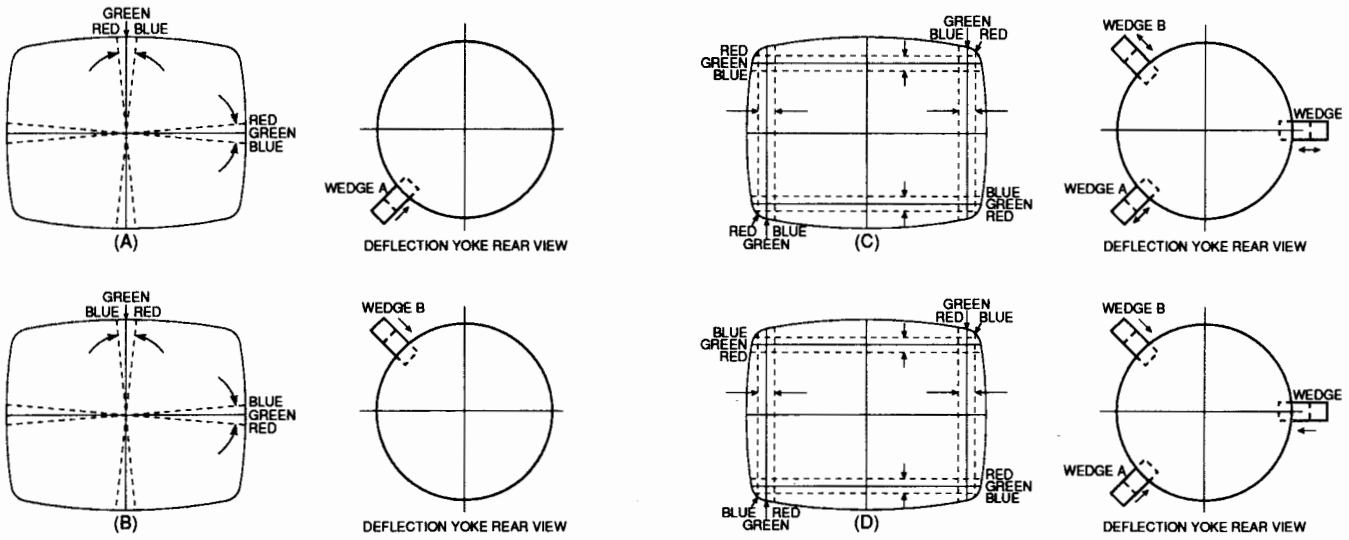


Fig. 10

FOCUS ADJUSTMENT

Adjust focus control, located on the Horizontal Output Transformer (T552), for maximum overall definition and fine picture detail with Brightness and Contrast controls set at normal viewing levels.

BLACK AND WHITE ADJUSTMENT

The purpose of this procedure is to adjust the biases applied to the picture tube to obtain good black and white picture reproduction at all brightness levels while at the same time achieving maximum useable brightness. Proper RF AGC control adjustment must be verified prior to performing this procedure.

1. With antenna connected to the receiver, tune in picture on a strongly received channel. Rotate the Color control to minimum position so that the receiver will not produce a color picture while the following adjustments are being performed.
2. Rotate the Blue color Driver (VR454) and Red color Driver (VR451) controls fully clockwise and then back counterclockwise to the center of their rotation ranges.
3. Rotate the Blue Color Cut Off (VR455), Green Color Cut Off (VR453) and Red Color Cut Off (VR452) controls to the fully counterclockwise end of their rotation.
4. Set Service switch (S301) to SERVICE position. Adjust the Green Color Cut Off Control (VR453) for DC15V ±1V at across R452.
5. Rotate the Screen control on Horizontal Output transformer to the fully counterclockwise end of its rotation. Then, rotate it clockwise until a dim line of one pronounced color (Blue, Green or Red) is obtained.
6. The other two color cut off controls must be rotated clockwise until a dim white line is obtained.
7. Set Service switch (S301) to TV position.
8. If necessary, touch-up adjustment of the Blue Color Drive (VR454) and Red Color Driver (VR451) controls to produce a uniform monochrome picture.
9. Rotate the Brightness and Contrast controls minimum position.
10. Rotate the Brightness control maximum position until a dim raster is obtained.
11. If the screen does not display good white uniformity, steps 2 through 10 of this procedure must be repeated.

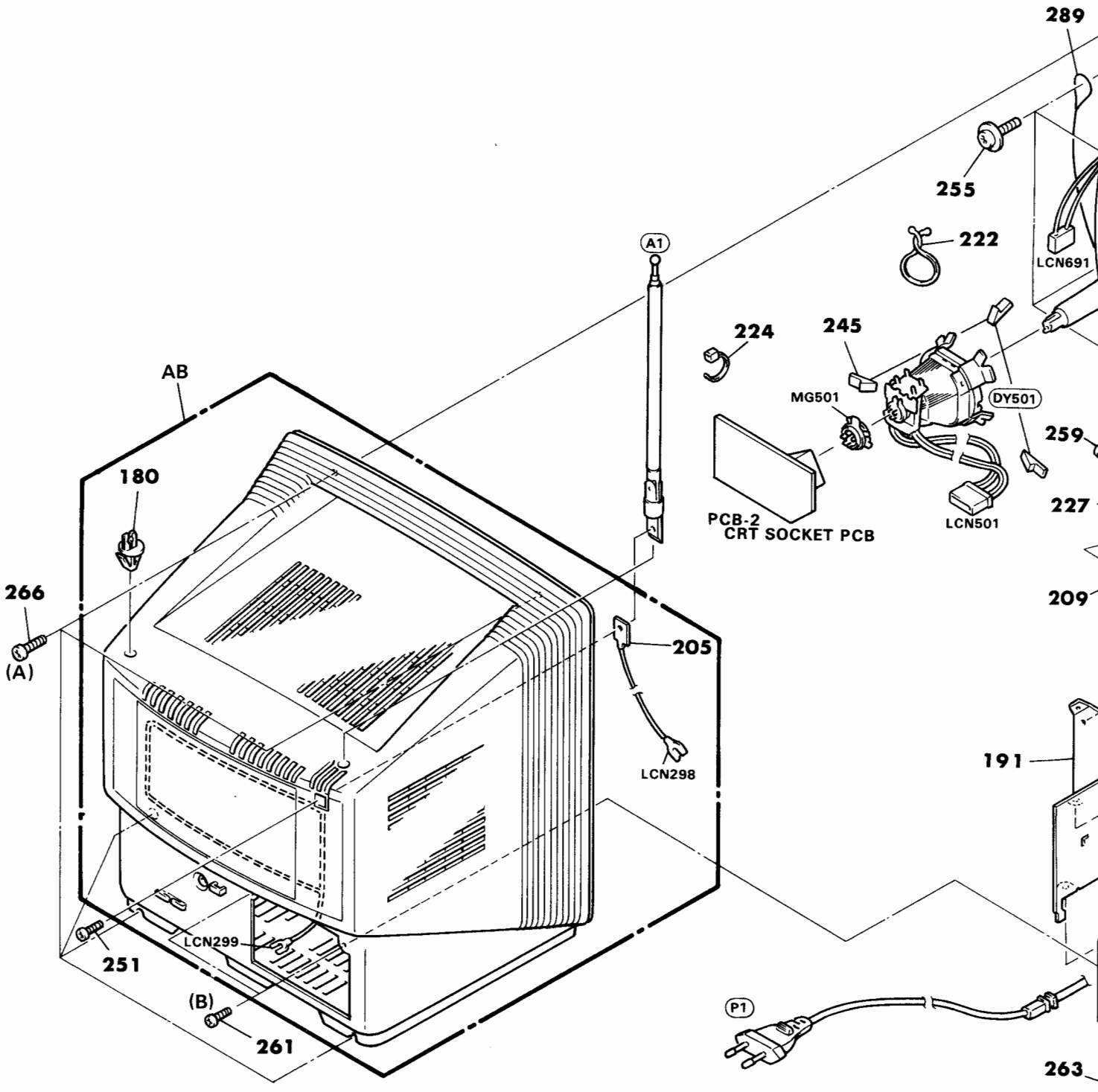
VERTICAL SIZE ADJUSTMENT

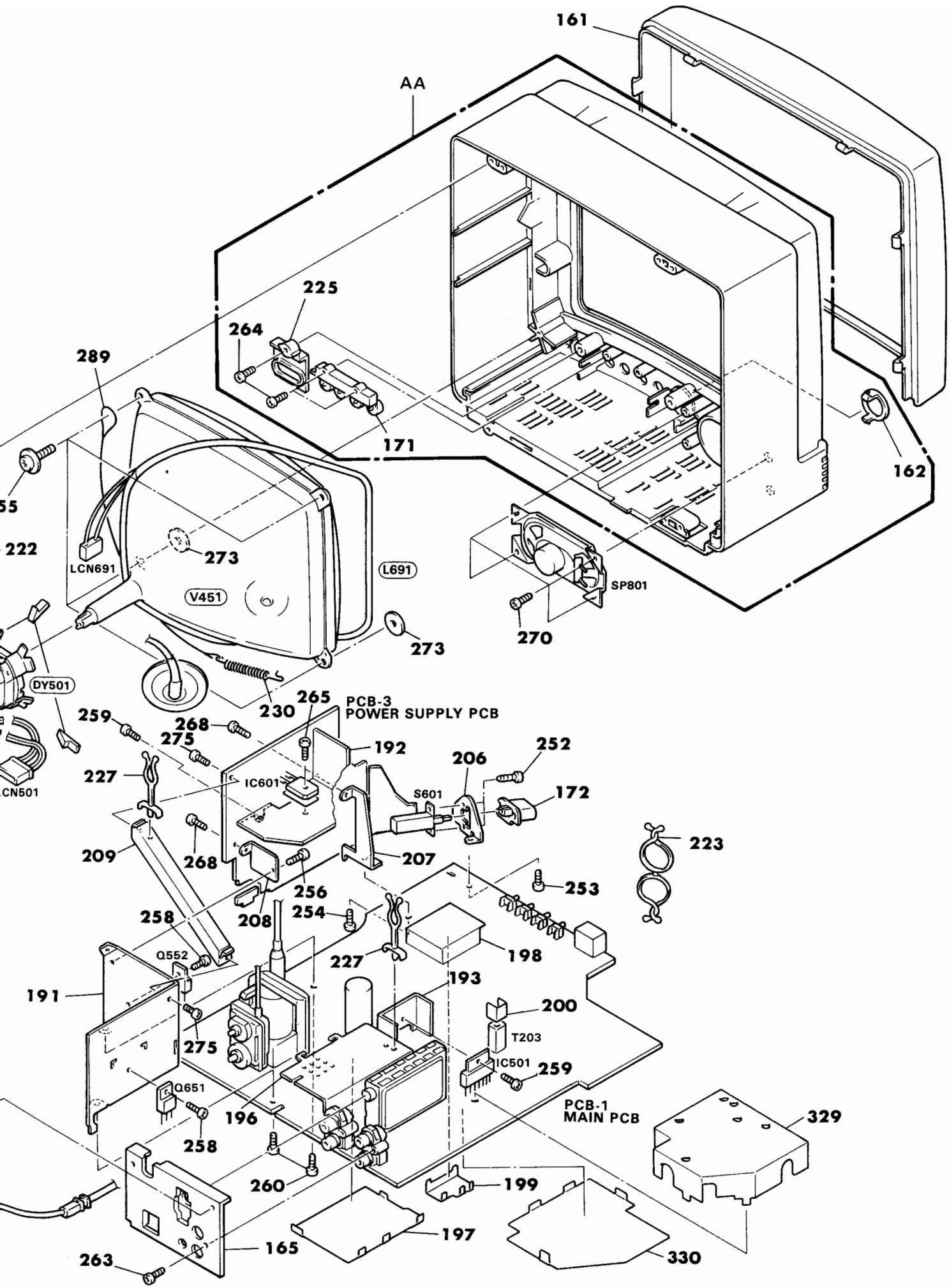
Adjust VR501 so that the picture fills the picture opening from top to bottom and is proportionate to the width.

SUB BRIGHTNESS ADJUSTMENT

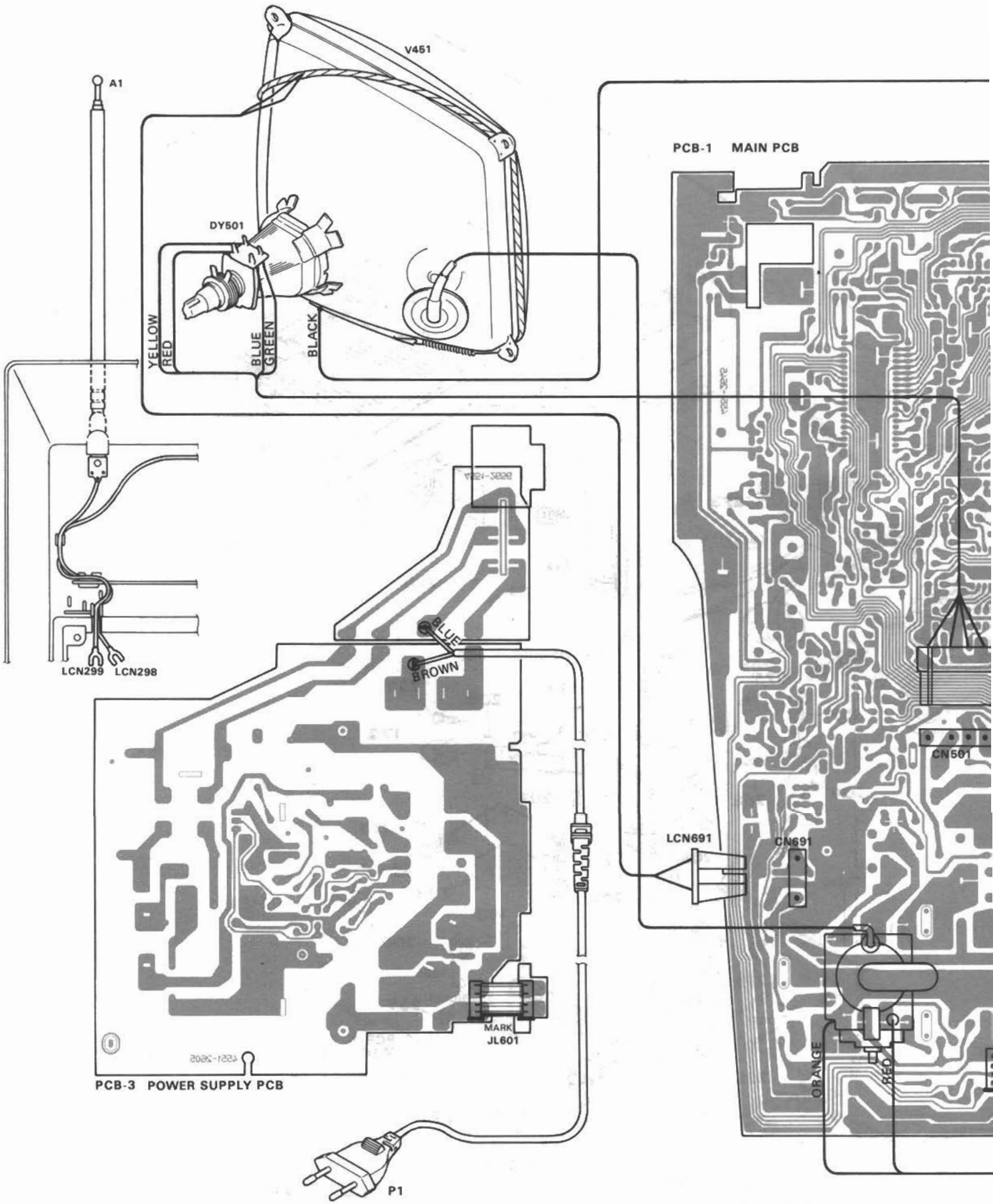
1. Connect TV Test Pattern Generator (Test Pattern signal) to Tuner Aerial Jack through TV Channel Signal Generator. (70 dBμ)
2. Set Contrast control to 70% position. Set Brightness control to center position. Set Color control to 70% position. (by Remote Control)
3. Set Service/TV Switch (S301) to Service position.
4. Connect positive lead of Oscilloscope to TP18 and negative lead of Oscilloscope to L451.
5. Adjust VR301 so that the Oscilloscope reading is 15 Vp-p.
6. Connect positive lead of Oscilloscope to TP17 and negative lead of Oscilloscope to L451.
7. Adjust VR452 so that the Oscilloscope reading is 15 Vp-p.
8. Connect positive lead of Oscilloscope to TP19 and negative lead of Oscilloscope to L451.
9. Adjust VR455 so that the Oscilloscope reading is 15 Vp-p.
10. Set Service/TV Switch (S301) to TV position.

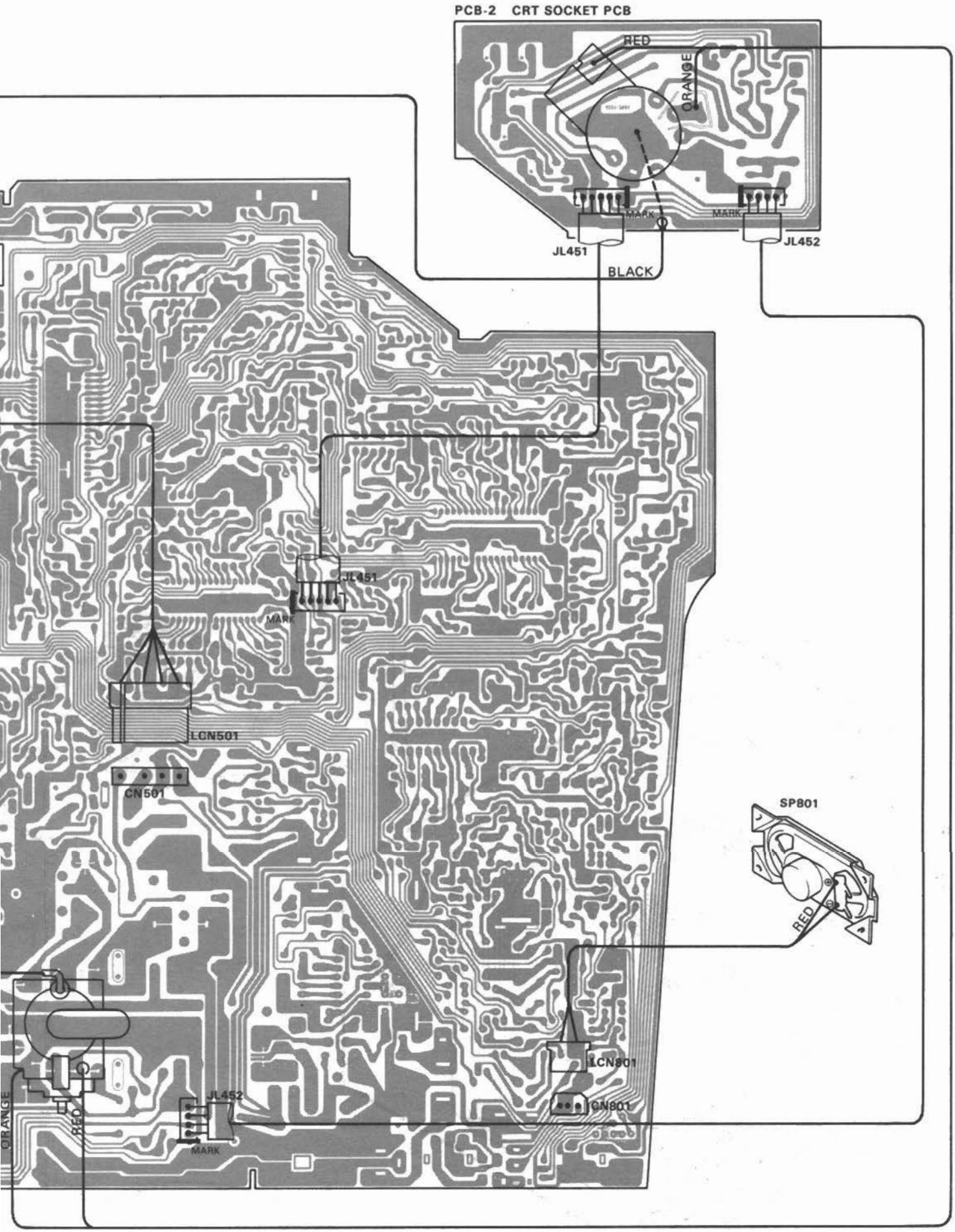
EXPLODED VIEW




161
AA
225
264
289
171
162
55
222
LCN691
273
V451
L691
SP801
270
273
DY501
230
265
PCB-3
POWER SUPPLY PCB
259
268
275
192
206
252
227
IC601
S601
172
LCN501
209
268
207
223
256
253
258
208
254
227
198
Q552
193
191
200
T203
275
IC501
259
Q651
196
PCB-1
MAIN PCB
329
258
260
199
197
165
330
263

WIRING DIAGRAM




PCB-2 CRT SOCKET PCB
RED
ORANGE
MARK
MARK
JL451
JL452
BLACK
JL451
MARK
LCN501
CN501
SP801
RED
LCN801
CN801
JL452
MARK
ORANGE
RED

GENERAL UNIT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
AA	A410-9V406PA	Cabinet Front Assembly
AA	A410-9V406PXB	Cabinet Front Assembly (brand: Nokia)
AA	A410-9V406PXC	Cabinet Front Assembly (brand: Salor)
AA	A410-9V406PXD	Cabinet Front Assembly (brand: Luxor)
AA	A410-9V406PXE	Cabinet Front Assembly (brand: Asa)
AB	A422-9V406PA	Cabinet Back Assembly (type: 2524)
AB	A422-9V406PB	Cabinet Back Assembly (type: 2524UK)
161	1532-20604	Window, Sun Screen
161	1532-20606	Window, Sun Screen (brand: Nokia)
161	1532-20607	Window, Sun Screen (brand: Salor)
161	1532-20608	Window, Sun Screen (brand: Luxor)
161	1532-20609	Window, Sun Screen (brand: Asa)
162	1532-20701	Window, Remote Sensor
165	1512-09101	Plate, Terminal
171	1662-64503	Push Button, Volume/Channel
172	1662-67101	Push Button, Power
180	1742-08001	Ornament, Ant Holder
191	2222-298	Heat Sink, Q552, 651
192	2222-308	Heat Sink, IC601
193	2222-306	Heat Sink, IC501
196	2216-513	Shield Plate, Main PCB
197	2216-514	Shield Plate, Main PCB
198	2216-524	Shield Plate, IC101
199	2216-525	Shield Plate, IC101
200	2216-376	Shield Plate, T203
205	2219-2350	Bracket, Antenna
206	2219-2373	Bracket, Power Switch
207	2219-2374	Bracket, Power PCB
208	2219-2375	Bracket, Power PCB
209	2219-2381	Bracket, Heat Sink
222	2240-7052	Holder, Anode Lead
223	2240-7047	Holder, Wiring
224	2240-R0101	Holder, Wiring (x3)
225	2240-593	Holder, Power Button
227	2240-7050	Holder, Wiring (x2)
230	2651-0000199	Spring, CRT Ground
245	2132-411	Spacer, DY Coil (x3)
251	2327-R0130104	Screw (+) (3x10mm)
252	2327-R0130062	Screw (+) (3x6mm) (x2)
253	2327-R0130062	Screw (+) (3x6mm)
254	2327-R0130062	Screw (+) (3x6mm)
255	2340-40	Special Self-Tapping Screw (+) (x4)
256	2347-R0130062	Self-Tapping Screw (+) (3x6mm)
258	2347-R0130082	Self-Tapping Screw (+) (3x8mm) (x2)
259	2347-R0130082	Self-Tapping Screw (+) (3x8mm) (x2)
260	2347-R0130082	Self-Tapping Screw (+) (3x8mm) (x2)
261	2347-R0130104	Self-Tapping Screw (+) (3x10mm) (x2)
263	2347-R0130104	Self-Tapping Screw (+) (3x10mm)
264	2347-R0130082	Self-Tapping Screw (+) (3x8mm) (x3)
265	2347-R0130102	Self-Tapping Screw (+) (3x10mm)
266	2347-R0140164	Self-Tapping Screw (+) (4x16mm) (x5)
268	2327-R0130062	Screw (+) (3x6mm) (x2)
270	2592-R0130102	Screw (+) (3x10mm) (x4)
273	2401-049	Washer, Metal (x2)
275	2327-R0130062	Screw (+) (3x6mm) (x2)
289	4105-01001	CRT Wire
329	2216-539	Shield Plate
330	2216-540	Shield Plate

ELECTRICAL PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
		MISCELLANEOUS
A1	1392-00701100	Telescopic Antenna
⚠ DY501	4993-063	Deflection Yoke Coil w/LCN501
⚠ L691	4994-029	Degaussing Coil w/LCN691
LCN298	4163-08204001	Connector with Wire, 1 Wire
LCN299	4163-08205001	Connector with Wire, 1 Wire
LCN801	4163-03909003	Connector with Lead Wire, 2 Wire
⚠ MG501	4291-025	Magnet Assembly
⚠ P1	4161-08501202	AC Line Cord (type: 2524)
⚠ P1	4132-01202202	AC Line Cord (type: 2524UK)
P601	1398-00701	Antenna Adapter (Accessary)
SP801	5812-0041C760	Speaker, 8 ohm, Oval
⚠ V451	5721-011ZN22N	CRT (2701B22)
⚠ 122	4161-08602212	Cord w/Plug, Car Cord (Accessary)
129	6142-07005	Remote Control Assembly (Accessary)
		PCB-1 MAIN P.C. BOARD
		CAPACITORS
C001	5345-225-50	2.2 µF ±20% 50V Electrolytic (type: 2524 only)
C002	5345-L474M50	0.47 µF ±20% 50V Electrolytic
C003	5345-225-50	2.2 µF ±20% 50V Electrolytic (type: 2524 only)
C004	5345-335-50	3.3 µF ±20% 50V Electrolytic
C005	5345-225-50	2.2 µF ±20% 50V Electrolytic (type: 2524 only)
C006	5345-105-50	1 µF ±20% 50V Electrolytic
C007	5345-477-16	470 µF ±20% 16V Electrolytic
C101	5352-S080J104	0.1 µF ±5% 50V Metalized Polyester
C102	5352-S080J474	0.47 µF ±5% 50V Metalized Polyester
C103	5361-221KB	220 pF ±10% 50V Ceramic
C104	5361-101KB	100 pF ±10% 50V Ceramic
C105	5361-101KB	100 pF ±10% 50V Ceramic
C106	5361-101KB	100 pF ±10% 50V Ceramic
C108	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C109	5345-227-16	220 µF ±20% 16V Electrolytic
C111	5369-S010M473	0.047 µF ±20% 25V Semiconductor
C113	5361-300JCH	30 pF ±5% 50V Ceramic
C114	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C116	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C117	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C118	5345-106-50	10 µF ±20% 50V Electrolytic
C141	5361-102KB	1000 pF ±10% 50V Ceramic
C142	5345-474-50	0.47 µF ±20% 50V Electrolytic
C143	5345-474-50	0.47 µF ±20% 50V Electrolytic
C144	5361-102KB	1000 pF ±10% 50V Ceramic
C145	5345-335-50	3.3 µF ±20% 50V Electrolytic
C147	5345-476-16	47 µF ±20% 16V Electrolytic
C148	5345-225-50	2.2 µF ±20% 50V Electrolytic
C149	5345-105-50	1 µF ±20% 50V Electrolytic
C150	5345-105-50	1 µF ±20% 50V Electrolytic
C151	5361-102KB	1000 pF ±10% 50V Ceramic
C152	5345-105-50	1 µF ±20% 50V Electrolytic
C153	5361-102KB	1000 pF ±10% 50V Ceramic
C156	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C171	5361-180KSL	18 pF ±10% 50V Ceramic
C172	5361-100KSL	10 pF ±10% 50V Ceramic
C174	5361-180KSL	18 pF ±10% 50V Ceramic
C175	5361-100KSL	10 pF ±10% 50V Ceramic
C178	5345-476-16	47 µF ±20% 16V Electrolytic
C179	5361-101KB	100 pF ±10% 50V Ceramic
C180	5361-101KB	100 pF ±10% 50V Ceramic
C181	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C191	5345-105-50	1 µF ±20% 50V Electrolytic
C192	5345-106-50	10 µF ±20% 50V Electrolytic

REF. NO.	PART NO.	DESCRIPTION
C193	5345-106-50	10 µF ±20% 50V Electrolytic
C201	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C202	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C203	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C204	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C205	5345-476-16	47 µF ±20% 16V Electrolytic
C206	5345-227-16	220 µF ±20% 16V Electrolytic
C209	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C210	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C211	5345-L224M50	0.22 µF ±20% 50V Electrolytic
C212	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C213	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C214	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C215	5345-227-16	220 µF ±20% 16V Electrolytic
C216	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C217	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C218	5369-S010M272	2700 pF ±20% 25V Semiconductor
C219	5361-470JCH	47 pF ±5% 50V Ceramic
C220	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C222	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C242	5361-470KSL	47 pF ±10% 50V Ceramic
C301	5361-471KB	470 pF ±10% 50V Ceramic
C302	5369-S010M223	0.022 µF ±20% 25V Semiconductor
C303	5361-681KB	680 pF ±10% 50V Ceramic
C304	5361-102KB	1000 pF ±10% 50V Ceramic
C306	5345-L105M50	1 µF ±20% 50V Electrolytic
C307	5369-S010M152	1500 pF ±20% 25V Semiconductor
C308	5345-105-50	1 µF ±20% 50V Electrolytic
C309	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C310	5361-470KSL	47 pF ±10% 50V Ceramic
C311	5361-101KSL	100 pF ±10% 50V Ceramic
C312	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C313	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C314	5361-820KSL	82 pF ±10% 50V Ceramic
C315	5345-106-50	10 µF ±20% 50V Electrolytic
C316	5345-105-50	1 µF ±20% 50V Electrolytic
C317	5345-474-50	0.47 µF ±20% 50V Electrolytic
C318	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C319	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C320	5345-105-50	1 µF ±20% 50V Electrolytic
C321	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C324	5352-S080J474	0.47 µF ±5% 50V Metalized Polyester
C325	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C326	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C327	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C328	5342-S06FM105	1 µF ±20% 50V Electrolytic (Bipolar type)
C329	5369-S010M153	0.015 µF ±20% 25V Semiconductor
C330	5345-227-16	220 µF ±20% 16V Electrolytic
C331	5342-S06FM105	1 µF ±20% 50V Electrolytic (Bipolar type)
C332	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C335	5369-S010M153	0.015 µF ±20% 25V Semiconductor
C336	5345-227-16	220 µF ±20% 16V Electrolytic
C337	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C338	5361-470KSL	47 pF ±10% 50V Ceramic
C339	5361-101KB	100 pF ±10% 50V Ceramic
C340	5361-101KB	100 pF ±10% 50V Ceramic
C341	5361-101KB	100 pF ±10% 50V Ceramic
C344	5361-470JCH	47 pF ±5% 50V Ceramic
C421	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C429	5345-477-16	470 µF ±20% 16V Electrolytic
C501	5361-471KB	470 pF ±10% 50V Ceramic
C502	5352-S080J104	0.1 µF ±5% 50V Metalized Polyester
C503	5369-S010M223	0.022 µF ±20% 25V Semiconductor
C504	5345-107-35	100 µF ±20% 35V Electrolytic
C505	5345-107-35	100 µF ±20% 35V Electrolytic
C506	5354-223K1HM	0.022 µF ±10% 50V Mylar
C507	5345-108-25	1000 µF ±20% 25V Electrolytic
C508	5345-L475M50	4.7 µF ±20% 50V Electrolytic
C509	5345-106-50	10 µF ±20% 50V Electrolytic

REF. NO.	PART NO.	DESCRIPTION
C551	5361-471KB	470 pF ±10% 50V Ceramic
C552	5369-S010M473	0.047 µF ±20% 25V Semiconductor
C553	5369-S010M333	0.033 µF ±20% 25V Semiconductor
C554	5345-476-16	47 µF ±20% 16V Electrolytic
C555	5359-S080J102	1000 pF ±5% 400V Polypropylene
C556	5359-S080J562	5600 pF ±5% 400V Polypropylene
C557	5359-S080J683	0.068 µF ±5% 400V Polypropylene
C558	5342-685D0356	6.8 µF ±20% 25V Electrolytic (Bipolar type)
C559	5361-R01BK681	680 pF ±10% 500V Ceramic
C651	5345-476-35	47 µF ±20% 35V Electrolytic
C652	5345-476-35	47 µF ±20% 35V Electrolytic
C653	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C654	5345-106-50	10 µF ±20% 50V Electrolytic
C655	5354-102K1HM	1000 pF ±10% 50V Mylar
C656	5361-102KB	1000 pF ±10% 50V Ceramic
C657	5361-102KB	1000 pF ±10% 50V Ceramic
C658	5361-101KB	100 pF ±10% 50V Ceramic
C659	5369-S010M103	0.01 µF ±20% 25V Semiconductor
C660	5352-S080J104	0.1 µF ±5% 50V Metalized Polyester
C661	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C662	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C663	5345-105-50	1 µF ±20% 50V Electrolytic
C664	5345-108-16	1000 µF ±20% 16V Electrolytic
C665	5345-228-16	2200 µF ±20% 16V Electrolytic
C666	5361-102KB	1000 pF ±10% 50V Ceramic
C671	5345-105-50	1 µF ±20% 50V Electrolytic
C672	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C673	5345-105-50	1 µF ±20% 50V Electrolytic
C674	5345-108-16	1000 µF ±20% 16V Electrolytic
C675	5345-108-16	1000 µF ±20% 16V Electrolytic
C676	5361-R01BK681	680 pF ±10% 500V Ceramic
C677	5345-475-160	4.7 µF ±20% 160V Electrolytic
C678	5361-103ZF	0.01 µF +80%-20% 50V Ceramic
C691	5345-476-16	47 µF ±20% 16V Electrolytic
C692	5342-106K0355	10 µF ±20% 160V Electrolytic (Bipolar type)
C693	5361-102KB	1000 pF ±10% 50V Ceramic
C701	5345-476-16	47 µF ±20% 16V Electrolytic
C702	5345-105-50	1 µF ±20% 50V Electrolytic
C703	5345-476-16	47 µF ±20% 16V Electrolytic
C706	5345-227-16	220 µF ±20% 16V Electrolytic
C709	5345-476-16	47 µF ±20% 16V Electrolytic
C710	5361-102KB	1000 pF ±10% 50V Ceramic
C711	5361-223ZF	0.022 µF +80%-20% 50V Ceramic
C801	5345-108-16	1000 µF ±20% 16V Electrolytic
C802	5345-107-16	100 µF ±20% 16V Electrolytic
C803	5345-105-50	1 µF ±20% 50V Electrolytic
C804	5369-S010M102	1000 pF ±20% 25V Semiconductor
C805	5345-105-50	1 µF ±20% 50V Electrolytic
C806	5345-106-50	10 µF ±20% 50V Electrolytic
C807	5345-106-50	10 µF ±20% 50V Electrolytic
C808	5369-S010M122	1200 pF ±20% 25V Semiconductor
C809	5352-S080J104	0.1 µF ±5% 50V Metalized Polyester
C810	5345-227-16	220 µF ±20% 16V Electrolytic
C811	5345-476-16	47 µF ±20% 16V Electrolytic

RESISTORS

R001	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon
R002	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon (type: 2524 only)
R003	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon (type: 2524 only)
R004	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon (type: 2524 only)
R005	5134-104J25P	100 k ohm ±5% 1/4W Carbon
R006	5232-104J16P	100 k ohm ±5% 1/6W Carbon
R007	5232-1R0J16P	1 ohm ±5% 1/6W Carbon
R101	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon
R102	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon

REF. NO.	PART NO.	DESCRIPTION
R103	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R104	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R105	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R106	5232-333J16P	33 k ohm ±5% 1/6W Carbon
R107	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R109	5134-333J25P	33 k ohm ±5% 1/4W Carbon
R110	5232-222J16P	2.2 k ohm ±5% 1/6W Carbon
R111	5232-333J16P	33 k ohm ±5% 1/6W Carbon
R112	5232-333J16P	33 k ohm ±5% 1/6W Carbon
R113	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R114	5134-103J25P	10 k ohm ±5% 1/4W Carbon
R115	5232-333J16P	33 k ohm ±5% 1/6W Carbon
R116	5232-272J16P	2.7 k ohm ±5% 1/6W Carbon
R118	5232-103J16P	10 k ohm ±5% 1/6W Carbon (type: 2524 only)
R119	5134-103J25P	10 k ohm ±5% 1/4W Carbon
R120	5134-391J25P	390 ohm ±5% 1/4W Carbon
R121	5232-222J16P	2.2 k ohm ±5% 1/6W Carbon
R122	5232-222J16P	2.2 k ohm ±5% 1/6W Carbon
R125	5134-102J25P	1 k ohm ±5% 1/4W Carbon
R127	5232-101J16P	100 ohm ±5% 1/6W Carbon
R128	5232-562J16P	5.6 k ohm ±5% 1/6W Carbon
R129	5232-562J16P	5.6 k ohm ±5% 1/6W Carbon
R141	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R142	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R143	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R144	5232-222J16P	2.2 k ohm ±5% 1/6W Carbon
R145	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R146	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R147	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon
R148	5232-563J16P	56 k ohm ±5% 1/6W Carbon
R149	5232-104J16P	100 k ohm ±5% 1/6W Carbon
R150	5232-393J16P	39 k ohm ±5% 1/6W Carbon
R151	5232-154J16P	150 k ohm ±5% 1/6W Carbon
R152	5232-104J16P	100 k ohm ±5% 1/6W Carbon
R153	5134-103J25P	10 k ohm ±5% 1/4W Carbon
R154	5232-563J16P	56 k ohm ±5% 1/6W Carbon
R155	5232-104J16P	100 k ohm ±5% 1/6W Carbon
R156	5232-562J16P	5.6 k ohm ±5% 1/6W Carbon
R157	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R161	5232-153J16P	15 k ohm ±5% 1/6W Carbon
R162	5232-822J16P	8.2 k ohm ±5% 1/6W Carbon
R163	5232-104J16P	100 k ohm ±5% 1/6W Carbon
R164	5232-562J16P	5.6 k ohm ±5% 1/6W Carbon
R165	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R171	5232-273J16P	27 k ohm ±5% 1/6W Carbon
R172	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R173	5232-102J16P	1 k ohm ±5% 1/6W Carbon
R174	5232-154J16P	150 k ohm ±5% 1/6W Carbon
R175	5232-152J16P	1.5 k ohm ±5% 1/6W Carbon
R176	5232-471J16P	470 ohm ±5% 1/6W Carbon
R177	5232-273J16P	27 k ohm ±5% 1/6W Carbon
R178	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R179	5134-102J25P	1 k ohm ±5% 1/4W Carbon
R180	5232-154J16P	150 k ohm ±5% 1/6W Carbon
R181	5232-152J16P	1.5 k ohm ±5% 1/6W Carbon
R182	5232-471J16P	470 ohm ±5% 1/6W Carbon
R183	5134-332J25P	3.3 k ohm ±5% 1/4W Carbon
R184	5134-101J25P	100 ohm ±5% 1/4W Carbon
R185	5232-473J16P	47 k ohm ±5% 1/6W Carbon
R186	5232-473J16P	47 k ohm ±5% 1/6W Carbon
R187	5232-333J16P	33 k ohm ±5% 1/6W Carbon
R191	5232-102J16P	1 k ohm ±5% 1/6W Carbon
R192	5232-182J16P	1.8 k ohm ±5% 1/6W Carbon
R193	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R194	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R195	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R196	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R201	5232-330J16P	33 ohm ±5% 1/6W Carbon
R202	5232-152J16P	1.5 k ohm ±5% 1/6W Carbon
R203	5232-103J16P	10 k ohm ±5% 1/6W Carbon

REF. NO.	PART NO.	DESCRIPTION
R204	5232-101J16P	100 ohm ±5% 1/6W Carbon
R205	5232-471J16P	470 ohm ±5% 1/6W Carbon
R206	5232-182J16P	1.8 k ohm ±5% 1/6W Carbon
R207	5232-152J16P	1.5 k ohm ±5% 1/6W Carbon
R208	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R209	5134-103J25P	10 k ohm ±5% 1/4W Carbon
R211	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R213	5232-392J16P	3.9 k ohm ±5% 1/6W Carbon
R214	5232-104J16P	100 k ohm ±5% 1/6W Carbon
R215	5232-223J16P	22 k ohm ±5% 1/6W Carbon
R216	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon
R217	5134-102J25P	1 k ohm ±5% 1/4W Carbon
R218	5232-182J16P	1.8 k ohm ±5% 1/6W Carbon
R219	5232-393J16P	39 k ohm ±5% 1/6W Carbon
R220	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R221	5232-102J16P	1 k ohm ±5% 1/6W Carbon
R222	5232-391J16P	390 ohm ±5% 1/6W Carbon
R223	5232-682J16P	6.8 k ohm ±5% 1/6W Carbon
R231	5232-101J16P	100 ohm ±5% 1/6W Carbon
R241	5232-471J16P	470 ohm ±5% 1/6W Carbon
R263	5232-181J16P	180 ohm ±5% 1/6W Carbon
R265	5232-102J16P	1 k ohm ±5% 1/6W Carbon
R301	5232-683J16P	68 k ohm ±5% 1/6W Carbon
R302	5232-684J16P	680 k ohm ±5% 1/6W Carbon
R303	5232-333J16P	33 k ohm ±5% 1/6W Carbon
R304	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R305	5232-271J16P	270 ohm ±5% 1/6W Carbon
R306	5134-103J25P	10 k ohm ±5% 1/4W Carbon
R307	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R308	5232-221J16P	220 ohm ±5% 1/6W Carbon
R309	5232-474J16P	470 k ohm ±5% 1/6W Carbon
R310	5232-184J16P	180 k ohm ±5% 1/6W Carbon
R311	5232-221J16P	220 ohm ±5% 1/6W Carbon
R312	5232-682J16P	6.8 k ohm ±5% 1/6W Carbon
R313	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R314	5232-152J16P	1.5 k ohm ±5% 1/6W Carbon
R315	5232-821J16P	820 ohm ±5% 1/6W Carbon
R316	5232-681J16P	680 ohm ±5% 1/6W Carbon
R317	5134-333J25P	33 k ohm ±5% 1/4W Carbon
R318	5232-153J16P	15 k ohm ±5% 1/6W Carbon
R325	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon
R326	5232-224J16P	220 k ohm ±5% 1/6W Carbon
R327	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R328	5232-333J16P	33 k ohm ±5% 1/6W Carbon
R330	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R331	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R332	5232-471J16P	470 ohm ±5% 1/6W Carbon
R333	5134-471J25P	470 ohm ±5% 1/4W Carbon
R335	5232-335J16P	3.3 M ohm ±5% 1/6W Carbon
R336	5232-272J16P	2.7 k ohm ±5% 1/6W Carbon
R338	5232-473J16P	47 k ohm ±5% 1/6W Carbon
R339	5232-102J16P	1 k ohm ±5% 1/6W Carbon
R340	5232-182J16P	1.8 k ohm ±5% 1/6W Carbon
R341	5232-223J16P	22 k ohm ±5% 1/6W Carbon
R342	5232-471J16P	470 ohm ±5% 1/6W Carbon
R343	5232-391J16P	390 ohm ±5% 1/6W Carbon
⚠ R345	5102-1005116	10 ohm ±5% 1/4W Fuse
R346	5232-822J16P	8.2 k ohm ±5% 1/6W Carbon
R347	5232-123J16P	12 k ohm ±5% 1/6W Carbon
R348	5232-185J16P	1.8 M ohm ±5% 1/6W Carbon
R349	5134-101J25P	100 ohm ±5% 1/4W Carbon
R350	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon
R351	5232-332J16P	3.3 k ohm ±5% 1/6W Carbon
R352	5232-332J16P	3.3 k ohm ±5% 1/6W Carbon
R353	5232-331J16P	330 ohm ±5% 1/6W Carbon
R354	5232-331J16P	330 ohm ±5% 1/6W Carbon
R356	5232-562J16P	5.6 k ohm ±5% 1/6W Carbon
R357	5232-223J16P	22 k ohm ±5% 1/6W Carbon
R360	5232-125J16P	1.2 M ohm ±5% 1/6W Carbon
R363	5134-151J25P	150 ohm ±5% 1/4W Carbon

REF. NO.	PART NO.	DESCRIPTION
⚠ R364	5102-1005116	10 ohm ±5% 1/4W Fuse
R365	5134-1R0J25P	1 ohm ±5% 1/4W Carbon
R370	5232-152J16P	1.5 k ohm ±5% 1/6W Carbon
R372	5232-331J16P	330 ohm ±5% 1/6W Carbon
R373	5232-332J16P	3.3 k ohm ±5% 1/6W Carbon
⚠ R413	5102-1005116	10 ohm ±5% 1/4W Fuse
R423	5232-331J16P	330 ohm ±5% 1/6W Carbon
R501	5232-153J16P	15 k ohm ±5% 1/6W Carbon
R502	5134-272J25P	2.7 k ohm ±5% 1/4W Carbon
R503	5134-391J25P	390 ohm ±5% 1/4W Carbon
R504	5134-122J25P	1.2 k ohm ±5% 1/4W Carbon
R505	5135-4R7J50P	4.7 ohm ±5% 1/2W Carbon
R506	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R507	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R508	5232-223J16P	22 k ohm ±5% 1/6W Carbon
R509	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon
⚠ R510	5102-1005116	10 ohm ±5% 1/4W Fuse
R511	5232-473J16P	47 k ohm ±5% 1/6W Carbon
R551	5232-181J16P	180 ohm ±5% 1/6W Carbon
R552	5134-560J25P	56 ohm ±5% 1/4W Carbon
R553	5135-150J50P	15 ohm ±5% 1/2W Carbon
R554	5134-1R0J25P	1 ohm ±5% 1/4W Carbon
⚠ R555	5102-1505117	15 ohm ±5% 1/2 W Fuse
R556	5135-120J50P	12 ohm ±5% 1/2W Carbon
⚠ R651	5102-2R25116	2.2 ohm ±5% 1/4W Fuse
R652	5232-222J16P	2.2 k ohm ±5% 1/6W Carbon
R653	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R654	5232-104J16P	100 k ohm ±5% 1/6W Carbon
R655	5135-680J50P	68 ohm ±5% 1/2W Carbon
⚠ R656	5102-6805117	68 ohm ±5% 1/2 W Fuse
R657	5134-102J25P	1 k ohm ±5% 1/4W Carbon
R658	5232-562J16P	5.6 k ohm ±5% 1/6W Carbon
R659	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R660	5232-333J16P	33 k ohm ±5% 1/6W Carbon
R661	5232-333J16P	33 k ohm ±5% 1/6W Carbon
R662	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R663	5232-102J16P	1 k ohm ±5% 1/6W Carbon
R664	5232-102J16P	1 k ohm ±5% 1/6W Carbon
R665	5232-333J16P	33 k ohm ±5% 1/6W Carbon
R666	5134-103J25P	10 k ohm ±5% 1/4W Carbon
R671	5134-103J25P	10 k ohm ±5% 1/4W Carbon
R672	5134-474J25P	470 k ohm ±5% 1/4W Carbon
R673	5171-S060J183	18 k ohm ±5% 1W Metal
R674	5171-S060J1R5	1.5 ohm ±5% 1W Metal
R675	5134-102J25P	1 k ohm ±5% 1/4W Carbon
R691	5232-272J16P	2.7 k ohm ±5% 1/6W Carbon
R692	5232-562J16P	5.6 k ohm ±5% 1/6W Carbon
R693	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R694	5232-471J16P	470 ohm ±5% 1/6W Carbon
R695	5232-102J16P	1 k ohm ±5% 1/6W Carbon
R696	5135-563J50P	56 k ohm ±5% 1/2W Carbon
R702	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon
R703	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R704	5232-104J16P	100 k ohm ±5% 1/6W Carbon
R705	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R706	5232-103J16P	10 k ohm ±5% 1/6W Carbon
R707	5232-104J16P	100 k ohm ±5% 1/6W Carbon
R708	5232-104J16P	100 k ohm ±5% 1/6W Carbon
R709	5232-102J16P	1 k ohm ±5% 1/6W Carbon
R710	5232-101J16P	100 ohm ±5% 1/6W Carbon
R718	5232-121J16P	120 ohm ±5% 1/6W Carbon
R719	5232-221J16P	220 ohm ±5% 1/6W Carbon
R720	5232-331J16P	330 ohm ±5% 1/6W Carbon
R721	5232-562J16P	5.6 k ohm ±5% 1/6W Carbon
R722	5232-332J16P	3.3 k ohm ±5% 1/6W Carbon
R723	5232-102J16P	1 k ohm ±5% 1/6W Carbon
R724	5232-471J16P	470 ohm ±5% 1/6W Carbon
R728	5134-680J25P	68 ohm ±5% 1/4W Carbon
R730	5232-391J16P	390 ohm ±5% 1/6W Carbon
R731	5232-473J16P	47 k ohm ±5% 1/6W Carbon
⚠ R801	5102-2R25116	2.2 ohm ±5% 1/4W Fuse
R802	5134-101J25P	100 ohm ±5% 1/4W Carbon
R803	5134-222J25P	2.2 k ohm ±5% 1/4W Carbon
R804	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon
R805	5134-102J25P	1 k ohm ±5% 1/4W Carbon
R806	5232-223J16P	22 k ohm ±5% 1/6W Carbon
R807	5232-472J16P	4.7 k ohm ±5% 1/6W Carbon
R808	5232-681J16P	680 ohm ±5% 1/6W Carbon
R809	5232-4R7J16P	4.7 ohm ±5% 1/6W Carbon
VR101	5101-50201934	Variable Resistor, 5 k ohm, VHF Low
VR102	5101-50401934	Variable Resistor, 500 k ohm, UHF High
VR301	5101-10301934	Variable Resistor, 10 k ohm, Sub Brightness
VR302	5101-10201934	Variable Resistor, 1 k ohm, Level
VR501	5101-20101934	Variable Resistor, 200 ohm, V. Size
VR651	5101-20201934	Variable Resistor, 2 k ohm, Voltage Regulator

INTEGRATED CIRCUITS

IC101	5654-M3430502	M34300-502SP
IC102	5654-MN1280R	MN1280R
IC103	5654-M6M800AP	M6M80011AP
IC201	5653-M51496P	M51496P
IC301	5653-M51413AP	M51413ASP
⚠ IC501	5652-AN5512	AN5512
IC651	5653-UPC494C	µPC494C
IC652	5652-TA78L005	TA78L005AP
IC701	5654-TC4066BP	TC4066BP
IC801	5653-AN5265	AN5265

TRANSISTORS

Q001	5611-933(R)	2SA933(R) (type: 2524 only)
Q002	5611-933(R)	2SA933(R) (type: 2524 only)
Q003	5611-933(R)	2SA933(R) (type: 2524 only)
Q101	5613-C143ZS	DTC143ZS
Q102	5613-1740(R)	2SC1740(R)
Q103	5613-C143ZS	DTC143ZS
Q104	5613-1740(R)	2SC1740(R)
Q105	5613-1740(R)	2SC1740(R)
Q107	5613-1740(R)	2SC1740(R)
Q108	5611-933(R)	2SA933(R)
Q109	5611-933(R)	2SA933(R)
Q141	5613-1740(R)	2SC1740(R)
Q142	5613-1740(R)	2SC1740(R)
Q143	5613-1740(R)	2SC1740(R)
Q145	5613-1740(R)	2SC1740(R)
Q171	5613-C143ZS	DTC143ZS
Q172	5611-933(R)	2SA933(R)
Q173	5613-C143ZS	DTC143ZS
Q174	5611-933(R)	2SA933(R)
Q191	5611-933(R)	2SA933(R)
Q192	5613-1740(R)	2SC1740(R)
Q201	5613-1923(Y)	2SC1923(Y)
Q202	5613-1740(R)	2SC1740(R)
Q241	5611-933(R)	2SA933(R)
Q247	5611-933(R)	2SA933(R)
Q301	5613-1740(R)	2SC1740(R)
Q303	5613-1740(R)	2SC1740(R)
Q304	5613-1740(R)	2SC1740(R)
Q305	5611-933(R)	2SA933(R)
Q308	5613-1740(R)	2SC1740(R)
Q551	5613-2120(Y)	2SC2120(Y)
Q552	5614-1274B	2SD1274B
Q651	5612-1135(R)	2SB1135(R)
Q652	5613-1740(R)	2SC1740(R)
Q653	5613-1740(R)	2SC1740(R)
Q654	5613-1740(R)	2SC1740(R)
Q691	5611-933(R)	2SA933(R)
Q692	5661-2P5M	SCR, 2P5M

REF. NO.	PART NO.	DESCRIPTION
Q701	5613-1740(R)	2SC1740(R)
Q702	5613-1740(R)	2SC1740(R)
Q703	5613-1740(R)	2SC1740(R)
Q706	5613-1740(R)	2SC1740(R)
Q707	5613-1740(R)	2SC1740(R)
	DIODES	
D101	5636-1SS133	1SS133
D102	5636-1SS133	1SS133
D103	5636-1SS133	1SS133
D104	5636-1SS133	1SS133
D105	5636-1SS133	1SS133
D106	5636-1SS133	1SS133
D107	5636-1SS133	1SS133
D108	5636-1SS133	1SS133 (type: 2524 only)
D109	5636-1SS133	1SS133
D111	5637-LN250RP	LED, LN250RP, Standby
D141	5636-1SS133	1SS133
D142	5636-1SS133	1SS133
D171	5636-1SS133	1SS133
D172	5636-1SS133	1SS133
D173	5636-1SS133	1SS133
D174	5636-1SS133	1SS133
D191	5636-1SS133	1SS133
D192	5635-RD9R1EB2	Zener, RD9.1EB2
D193	5636-1SS133	1SS133
D233	5636-1SS133	1SS133
D302	5636-1SS133	1SS133
D401	5636-1SS133	1SS133
D501	5632-S5566B	S5566B
D551	5632-ERA18-04	ERA18-04
D651	5632-RK44	RK44
D652	5632-S5566B	S5566B
D671	5635-HZT33	Zener, HZT33
D672	5636-1SS133	1SS133
D673	5632-BYW95C20	BYW95C20
D674	5632-ERA18-04	ERA18-04
D691	5635-RD6R2EB3	Zener, RD6.2EB3
D692	5632-ERA18-04	ERA18-04
D701	5635-RD4R7EB2	Zener, RD4.7EB2
	COILS AND TRANSFORMERS	
L001	5995-S18OOR33	Coil (type: 2524)
L001	5995-S1800R47	Coil (type: 2524UK)
L102	5995-S1800150	Coil
L103	5995-101274	Coil
L141	5995-101274	Coil
L201	5995-S18001R8	Coil
L203	5995-1R0274	Coil
L204	5995-S18001R8	Coil
L242	5995-S1800150	Coil
L244	5995-S1800100	Coil
L301	5995-S1800100	Coil
L302	5995-S1800560	Coil
L303	5995-S18008R2	Coil
L551	5995-S230N110	Coil
L651	5995-S260K720	Coil, DC Regulator
L652	5995-S270M100	Coil, DC Regulator
L653	5995-101274	Coil
L671	5995-331274	Coil
T201	5932-11101	Coil, VIF
T202	5933-04113	Coil, 38.9 MHz, AFT
T203	5562-0049	Transformer, SIF
T204	5932-11902	Coil, VIF
T301	5562-0019	Transformer, Burst Cleaning
T302	5562-10201	Transformer, Phase
T551	5581-00364	Transformer, Horizontal Driver
⚠ T552	4992-055	Transformer, Horizontal Output

REF. NO.	PART NO.	DESCRIPTION
	MISCELLANEOUS	
CF242	5671-0132	Ceramic Filter, 5.5 MHz (type: 2524)
CF242	5671-0153	Ceramic Filter, 6.0 MHz (type: 2524UK)
CF244	5671-0262	Ceramic Filter, 5.5MHz (type: 2524)
CF244	5671-0162	Ceramic Filter, 6.0 MHz (type: 2524UK)
CN501	4443-0401142	4-pin Connector, Male
CN691	4443-0201105	2-pin Connector, Male
CN801	4443-02801003	2-pin Connector, Male
DL301	5901-017	Delay Line, Y Delay
DL302	5901-015	Delay Line, 1H Delay
FB101	5597-50301	Ferrite Bead, IC101
FB551	5597-50301	Ferrite Bead, Q552
FB651	5597-50301	Ferrite Bead, Q651
FB652	5597-50301	Ferrite Bead, Q651
⚠ FH651	4472-0131	Fuse Holder, FU651
⚠ FH652	4472-0131	Fuse Holder, FU651
⚠ FU651	5732-01601402	Fuse, T4A/250V
J651	4451-00174	Jack, DC Input
J701/ 702	4489-03901002	Pin Jack, Video/Audio Input
J801	4451-00182	Jack, Earphone
JL451	4242-R0505251	Jumper Lead, 5-Wire
JL452	4242-R0504351	Jumper Lead, 4-Wire
LPF701	5214-14101	LC Composite
LPF702	5214-14101	LC Composite
RA101	5212-223J0903	R Components (22 k ohm ±5% x 9)
RX101	6143-01401	Remote Control Receiver, Remote Sensor
S101	4437-00802	Rubber Switch, Channel Up
S102	4437-00802	Rubber Switch, Channel Down
S103	4437-00802	Rubber Switch, Volume Up
S104	4437-00802	Rubber Switch, Volume Down
S301	4421-02101012	Slide Switch, Service
SF201	5679-00702390	Filter, SAW 38.9 MHz (type: 2524)
SF201	5679-3901	Filter, SAW 39.5 MHz (type: 2524UK)
TP1	4214-7012	Terminal
TP2	4214-7012	Terminal
TP3	4214-7012	Terminal
TP4	4214-7012	Terminal
TP5	4214-7012	Terminal
TP6	4214-7012	Terminal
TP7	4214-7012	Terminal
TP8	4214-7012	Terminal
TP9	4214-7012	Terminal
TP10	4214-7012	Terminal
TP13	4214-7012	Terminal
TP14	4214-7012	Terminal
TP15	4214-7012	Terminal
TP16	4214-7012	Terminal
TU001	6119-13101	VHF/UHF Tuner Assembly (type: 2524)
TU001	6116-00401	UHF Tuner Assembly (type: 2524UK)
X101	5693-CST4MGW	Ceramic Osc., 4.00 MHz
X301	5693-CSB500F9	Ceramic Osc., 500 kHz
X303	5691-S0101445	Crystal Osc., 4.43 MHz
336	2240-Z052	Holder, JL451
338	2240-Z042	Holder, JL452
	PCB-2 CRT SOCKET P.C. BOARD	
	CAPACITORS	
C451	5361-331KB	330 pF ±10% 50V Ceramic
C452	5361-331KB	330 pF ±10% 50V Ceramic
C453	5361-471KB	470 pF ±10% 50V Ceramic
C454	5361-1021427	1000 pF ±10% 2 kV Ceramic

REF. NO.	PART NO.	DESCRIPTION
C455	5361-R01BK102	1000 pF ±10% 500V Ceramic
C456	5361-101KB	100 pF ±10% 50V Ceramic
	RESISTORS	
R451	5171-S060J123	12 k ohm ±5% 1W Metal
R452	5171-S060J123	12 k ohm ±5% 1W Metal
R453	5171-S060J123	12 k ohm ±5% 1W Metal
R454	5134-272J25P	2.7 k ohm ±5% 1/4W Carbon
R455	5134-272J25P	2.7 k ohm ±5% 1/4W Carbon
R456	5134-272J25P	2.7 k ohm ±5% 1/4W Carbon
R457	5134-181J25P	180 ohm ±5% 1/4W Carbon
R458	5232-152J16P	1.5 k ohm ±5% 1/6W Carbon
R459	5232-331J16P	330 ohm ±5% 1/6W Carbon
R460	5232-152J16P	1.5 k ohm ±5% 1/6W Carbon
R461	5134-181J25P	180 ohm ±5% 1/4W Carbon
R462	5232-152J16P	1.5 k ohm ±5% 1/6W Carbon
VR451	5101-30102934	Variable Resistor, 300 ohm, Red Color Driver
VR452	5101-50202934	Variable Resistor, 5 k ohm, Red Color Cut Off
VR453	5101-50202934	Variable Resistor, 5 k ohm, Green Color Cut Off
VR454	5101-30102934	Variable Resistor, 300 ohm, Blue Color Driver
VR455	5101-50202934	Variable Resistor, 5 k ohm, Blue Color Cut Off
	TRANSISTORS	
Q451	5613-1473A(R)	2SC1473A(R)
Q452	5613-1473A(R)	2SC1473A(R)
Q453	5613-1473A(R)	2SC1473A(R)
	COIL	
L451	5995-101274	Coil
	MISCELLANEOUS	
FB451	5597-50301	Ferrite Bead
⚠ SO451	4474-204	Socket, CRT
337	2240-Z052	Holder, JL451
339	2240-Z042	Holder, JL452
	PCB-3 POWER SUPPLY P.C. BOARD	
	CAPACITORS	
⚠ C601	5352-S090M104	0.1 µF ±20% AC250V Metalized Polyester
⚠ C602	5352-S090M104	0.1 µF ±20% AC250V Metalized Polyester
⚠ C603	5361-1024427	1000 pF +80%-20% 2000V Ceramic
⚠ C604	5361-1024427	1000 pF +80%-20% 2000V Ceramic
⚠ C605	5361-1024427	1000 pF +80%-20% 2000V Ceramic
⚠ C606	5341-S19PM107	100 µF ±20% 400V Electrolytic
⚠ C607	5361-4710427	470 pF ±10% 2000V Ceramic
⚠ C608	5359-4731959	0.047 µF ±10% 400V Polypropylene
⚠ C609	5361-223ZF	0.022 µF +80%-20% 50V Ceramic
⚠ C610	5352-S080J104	0.1 µF ±5% 50V Metalized Polyester
⚠ C611	5361-2220426	2200 pF ±20% AC4000V Ceramic
⚠ C612	5361-1020427	1000 pF ±10% 2000V Ceramic
⚠ C613	5361-1010427	100 pF ±10% 2000V Ceramic
⚠ C614	5345-107-16	100 µF ±20% 16V Electrolytic
⚠ C615	5345-107-16	100 µF ±20% 16V Electrolytic
C631	5361-223ZF	0.022 µF +80%-20% 50V Ceramic
C632	5361-223ZF	0.022 µF +80%-20% 50V Ceramic
C634	5361-223ZF	0.022 µF +80%-20% 50V Ceramic
C635	5345-228-25	2200 µF ±20% 25V Electrolytic
C636	5361-R01BK681	680 pF ±10% 500V Ceramic

REF. NO.	PART NO.	DESCRIPTION
	RESISTORS	
⚠ R601	5275-2R2691	2.2 ohm ±10% 5W Cement
⚠ R602	5134-224J25P	220 k ohm ±5% 1/4W Carbon
⚠ R603	5134-224J25P	220 k ohm ±5% 1/4W Carbon
⚠ R604	5173-S040J473	47 k ohm ±5% 2W Metal
⚠ R605	5102-1R05117	1 ohm ±5% 1/2 W Fuse
⚠ R606	5171-S060JR47	0.47 ohm ±5% 1W Metal
⚠ R607	5171-S060J680	68 ohm ±5% 1W Metal
⚠ R611	5102-2R25116	2.2 ohm ±5% 1/4W Fuse
⚠ R612	5135-825J50P	8.2 M ohm ±5% 1/2W Carbon
⚠ R613	5135-825J50P	8.2 M ohm ±5% 1/2W Carbon
⚠ R614	5102-2R25116	2.2 ohm ±5% 1/4W Fuse
	INTEGRATED CIRCUIT	
⚠ IC601	5653-STR11006	STR11006
	DIODES	
⚠ D601	5632-ERA15-06	ERA15-06
⚠ D602	5632-ERA15-06	ERA15-06
⚠ D603	5632-ERA15-06	ERA15-06
⚠ D604	5632-ERA15-06	ERA15-06
⚠ D605	5632-BYD33M	BYD33M
⚠ D606	5632-ERA18-04	ERA18-04
⚠ D608	5632-ERA18-04	ERA18-04
⚠ D609	5632-ERA18-04	ERA18-04
⚠ D610	5636-1SS133	1SS133
⚠ D611	5636-1SS133	1SS133
D631	5632-BYW95C20	BYW95C20
	COIL AND TRANSFORMER	
⚠ L601	5583-51004	Coil, Line Filter
⚠ L602	5995-101K108	Coil
⚠ L603	5995-101K108	Coil
⚠ T601	5584-T0103	Transformer, Switching Regulator
	MISCELLANEOUS	
⚠ FB601	5597-50301	Ferrite Bead, IC601
⚠ FB602	5597-50301	Ferrite Bead, T601
FB632	5597-50301	Ferrite Bead, T601
FB633	5597-50301	Ferrite Bead, T601
⚠ FH601	4472-0131	Holder, FU601
⚠ FH602	4472-0131	Holder, FU601
⚠ FU601	5732-01701202	Fuse, T2AH/250V
JL601	4242-R0104500	Jumper Lead, 4-Wire
⚠ S601	4433-01401	Push Switch, Power
327	4214-122	Terminal, AC Cord (x2)

⚠ **SAFETY-REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS, THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.**

VOLTAGE CHART (all in volts)

OPERATION CONDITION PICTURE CONTROL.....RESET RECEIVING CHANNEL.....CH2 (48.25 MHz)
VOLUME.....MINIMUM

Since the voltage at the power supply section is a pulse voltage, it cannot be measured.

TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC101	2.5	0	0	0	0	0.5	5.0	2.8	5.0	0.5	0.4	1.3	0.3	4.9	3.9	4.9
TERMINAL NO.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
IC101	4.9	5.0	0	4.6	0	3.3	3.3	5.0	4.9	18.9	10.2	0.06	0	0.4	0.4	0.4
TERMINAL NO.	33	34	35	36	37	38	39	40	41	42						
IC101	0	2.2	2.3	0	0	4.5	3.8	0.5	0.2	5.0						
TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC102	0	5.0	5.0													
IC103	5.0	5.0	3.9	3.9	0	5.0	5.0	5.0								
IC201	5.0	5.0	3.0	2.4	2.4	0	8.4	7.5	3.9	3.6	4.8	5.1	2.6	4.5	4.5	2.7
TERMINAL NO.	17	18														
IC201	2.9	3.3														
TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC301	6.2	6.2	6.1	5.3	0	0.9	0	5.9	10.3	6.5	9.7	8.3	4.4	1.1	0.7	5.4
TERMINAL NO.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
IC301	5.5	8.5	5.1	1.1	2.2	6.3	5.9	10.2	2.4	4.6	9.7	5.1	6.7	6.5	6.8	8.4
TERMINAL NO.	33	34	35	36												
IC301	7.2	7.8	3.7	3.7												
TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC501	0	10.7	0	23.3	11.9	0.7	-0.3	0.6	23.4							
IC601	-6.2	-0.2	316	0.04	0											
IC651	4.0	4.0	2.5	0	1.7	3.9	0	8.8	0	0	8.8	17.0	0	5.0	1.3	4.0
IC652	16.9	0	5.0													
IC701	3.9	3.8	3.8	3.8	0.03	0.03	0	4.3	4.0	4.0	4.0	4.0	10.3	10.3	10.7	
IC801	10.0	4.4	0	5.7	4.9	4.9	0	5.0	11.0							

Q'NO.	Q001	Q002	Q003	Q101	Q102	Q103	Q104	Q105	Q107	Q108	Q109	Q141
BASE	10.1	10.1	10.1	1.4	0	0	0	0	0.7	10.0	18.9	0.6
COLL.	0	0.3	10.6	0.2	5.0	4.0	3.3	4.5	0	10.7	0	0
EMIT.	18.3	10.7	10.7	0	0	0	0	0	0	10.7	11.6	0

Q'NO.	Q142	Q143	Q145	Q171	Q172	Q173	Q174	Q191	Q192	Q201	Q202	Q241
BASE	0.6	0.3	0.2	0	10.0	0	10.2	4.0	0	1.1	9.1	3.3
COLL.	0	7.2	5.4	10.2	0	10.2	0	0	4.0	9.5	10.7	0
EMIT.	0	0	0	0	10.2	0	10.0	4.0	0	0.4	8.4	4.0

Q'NO.	Q247	Q301	Q303	Q304	Q305	Q308	Q451	Q452	Q453	Q551	Q552	Q651
BASE	3.3	0.6	-0.6	1.7	5.3	1.3	6.2	6.1	6.2	0.3	0	16.3
COLL.	0	0.1	1.7	10.7	0	2.2	98.0	92.3	92.4	9.0	24.6	11.2
EMIT.	4.0	0	0	1.6	5.8	0.7	6.1	6.0	6.1	0	0	17.0

Q'NO.	Q652	Q653	Q654	Q691	Q692	Q701	Q702	Q703	Q706	Q707
BASE	0.7	0.1	0	14.1	0	0.6	0	4.4	2.6	4.0
COLL.	0.1	1.7	0.3	0	120	0	10.3	10.4	4.3	6.2
EMIT.	0	0	0	6.3	0	0	0	3.8	1.6	3.3

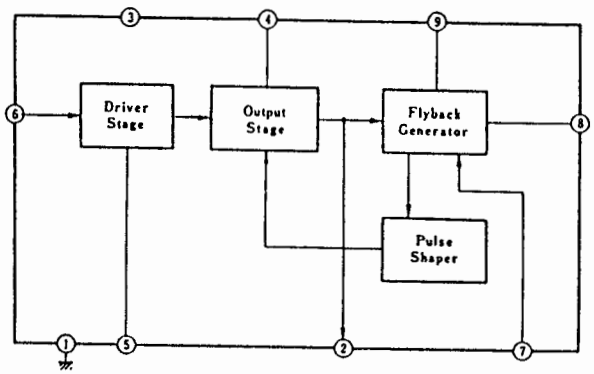
SCHEMATIC DIAGRAM NOTES

1. All resistors are carbon unless otherwise noted.
   - Ⓒ : Cement Resistor
   - Ⓜ : Metal Resistor
   - Ⓕ : Fuse Resistor
   - Ⓢ : Solid Resistor
2. All resistance values are in Ω. kΩ = 1000Ω MΩ = 1000kΩ
3. The wattage of resistor is 1/6W unless otherwise noted.
4. The marks of capacitors are as follows:
   - ⫫ : Ceramic Capacitor
   - Ⓐ : Al. Solid Capacitor
   - Ⓔ : Metalized Polyester Capacitor
   - Ⓜ : Mylar Capacitor
   - Ⓢ : Stylor Capacitor
   - ⫻ : Electrolytic Capacitor
   - Ⓒ : Semiconductor Capacitor
   - Ⓘ : Mica Capacitor
   - Ⓟ : Polypropylene Capacitor
   - Ⓣ : Tantalum Electrolytic Capacitor
5. All capacitance values are in μF unless otherwise noted. pF = μμF
6. The DC work voltage of capacitor is 50V unless otherwise noted.
7. Voltages reading from common ground are measured with V.T.V.M. under no signal conditions.
8. This is a standard schematic diagram. Some set may be modified slightly for better performance.
9. SERVICE/TV switch (S301) is in TV position.

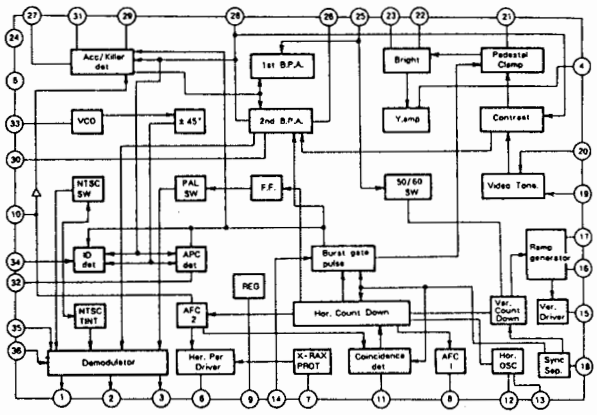
⚠ **SAFETY-REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS, THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.**

IC BLOCK DIAGRAM

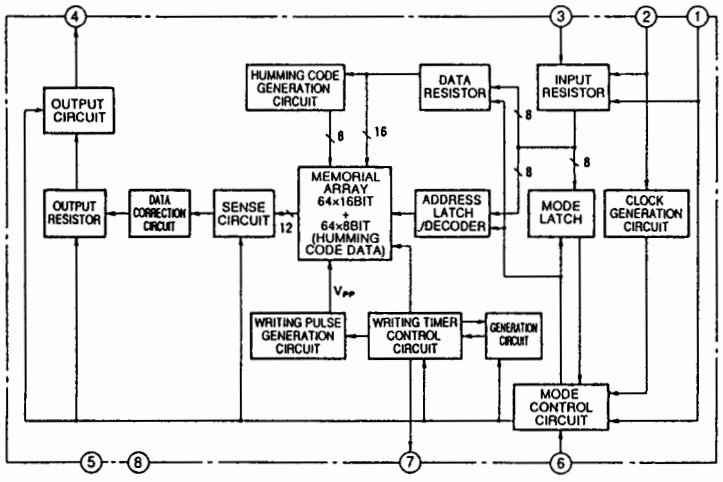
IC501
[AN5512]



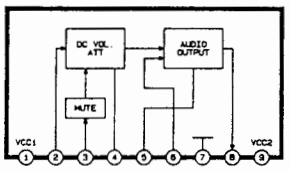
IC301
[M51413ASP]



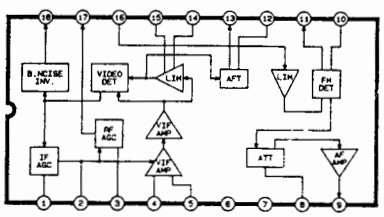
IC103
[M6M80011AP]



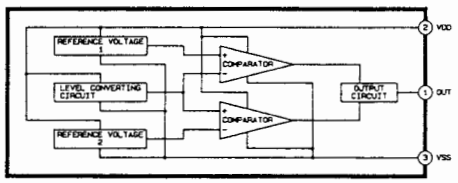
IC801
[AN5265]



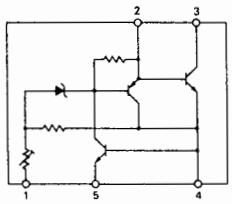
IC201
[M51496P]



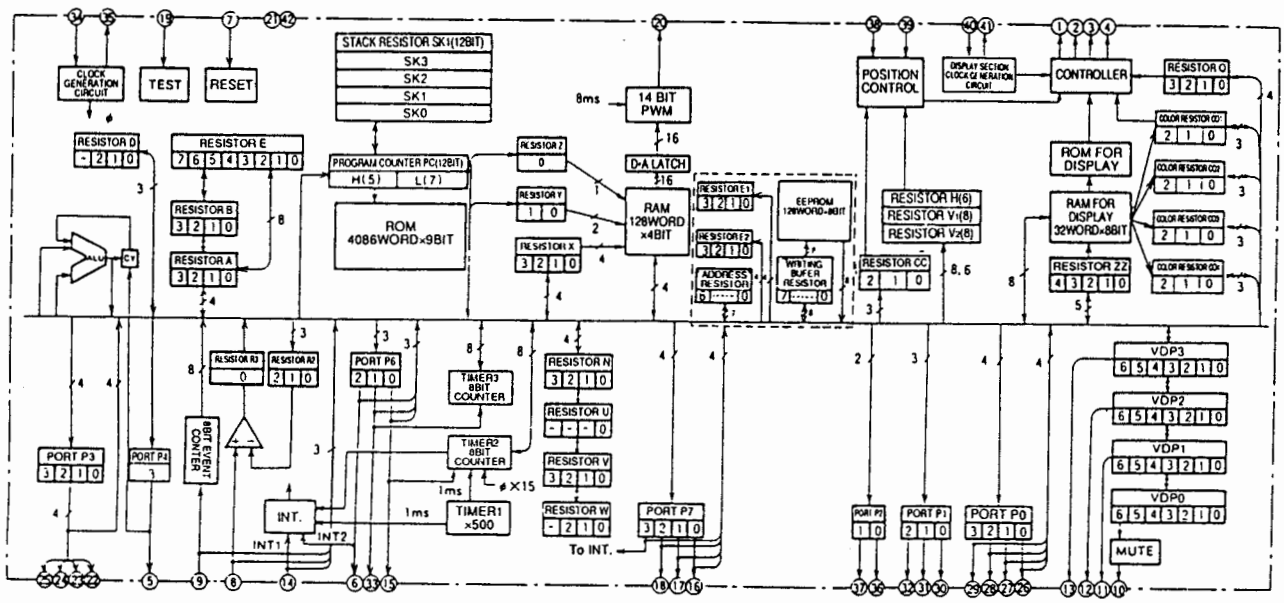
IC102
[MN1280R]



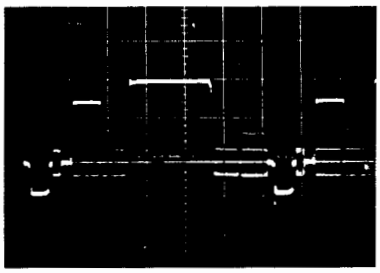
IC601
[STR11006]



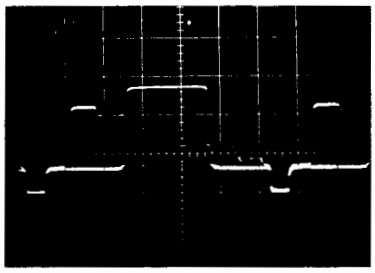
IC101
[M34300-502SP]



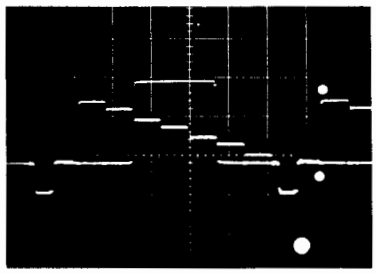
CHASSIS WAVEFORMS



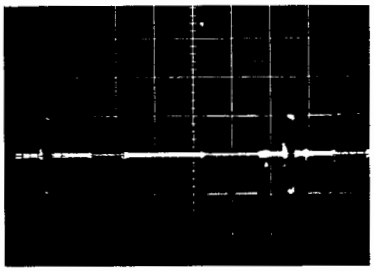
WF-1 (H) 1.5Vp-p



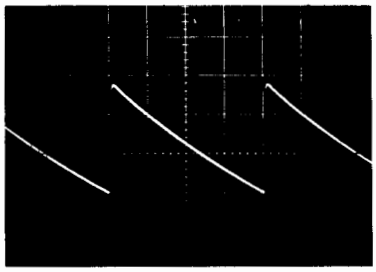
WF-2 (H) 1.35Vp-p



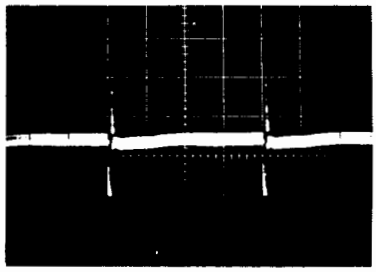
WF-3 (H) 0.29Vp-p



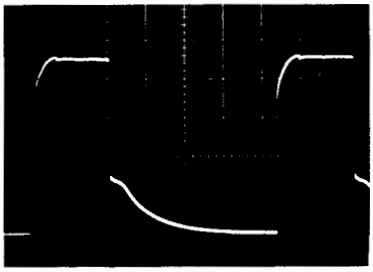
WF-4 (H) 0.24Vp-p



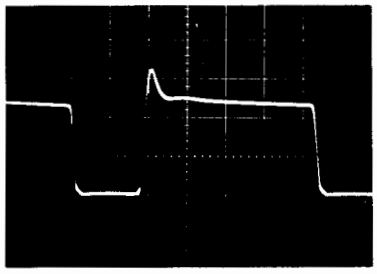
WF-5 (H) 1.4Vp-p



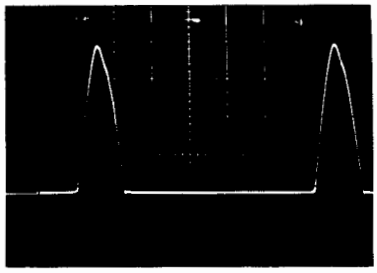
WF-6 (H) 1.5Vp-p



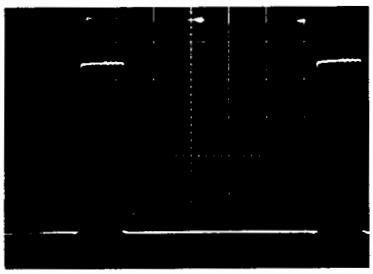
WF-7 (H) 2.2Vp-p



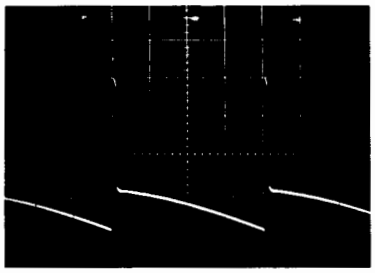
WF-8 (H) 16Vp-p



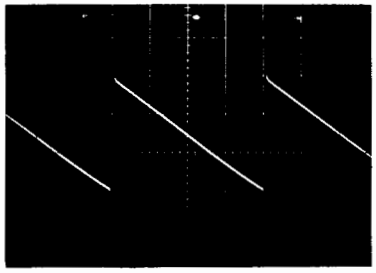
WF-9 (H) 200Vp-p



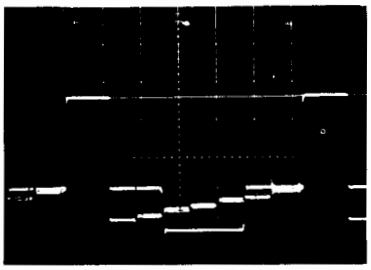
WF-10 (H) 8.4Vp-p



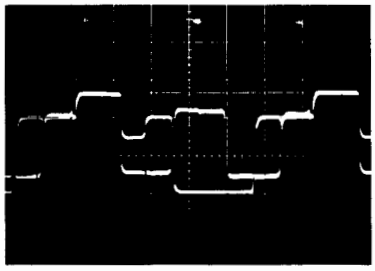
WF-11 (V) 45Vp-p



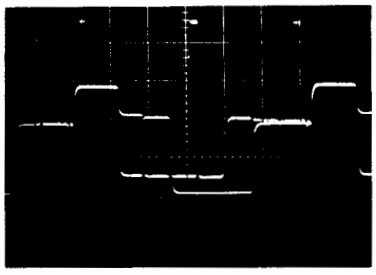
WF-12 (V) 3Vp-p



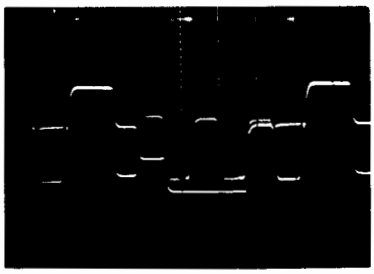
WF-13 (H) 3.6Vp-p



WF-14 (H) 51Vp-p



WF-15 (H) 57Vp-p



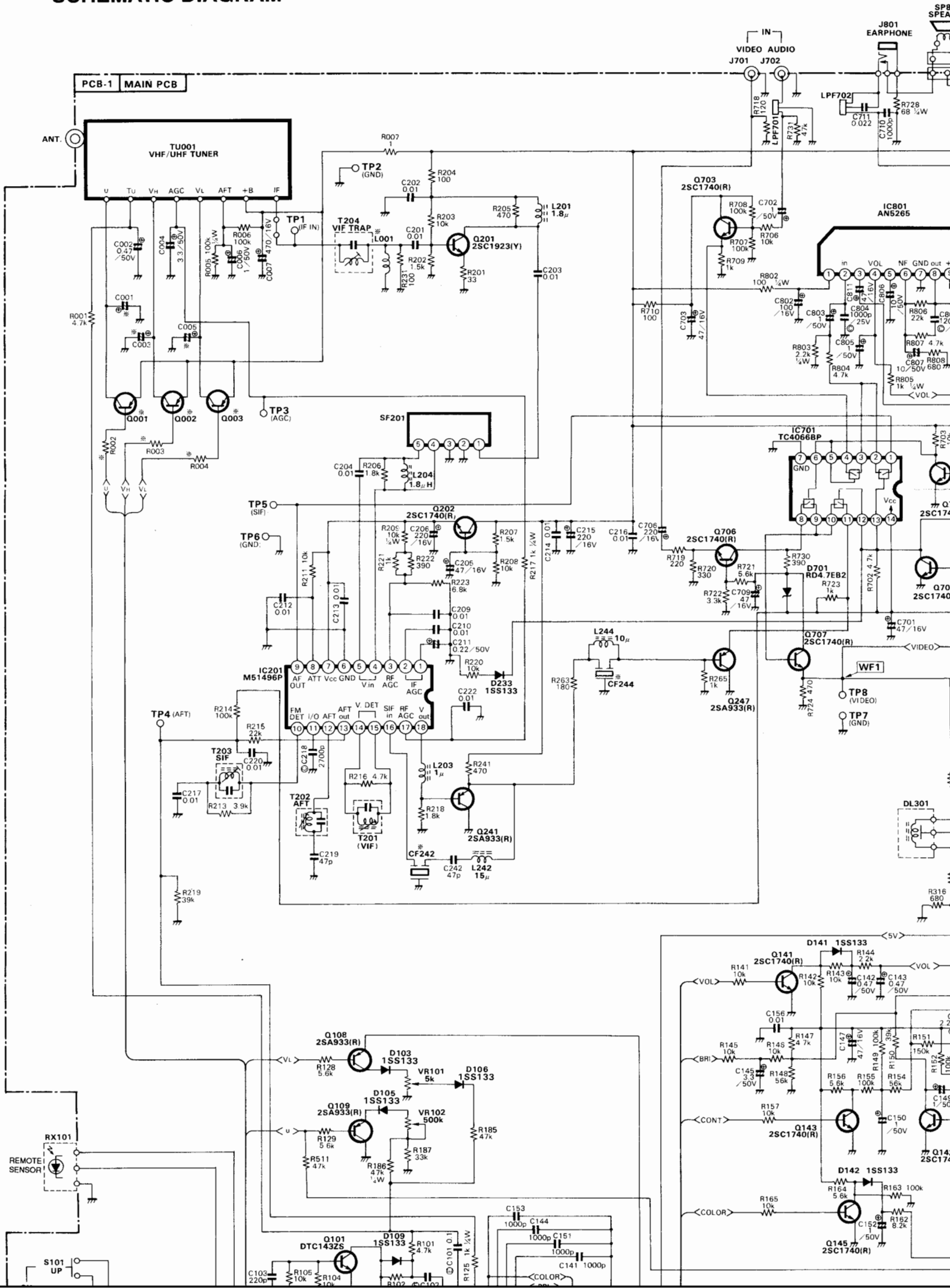
WF-16 (H) 56Vp-p

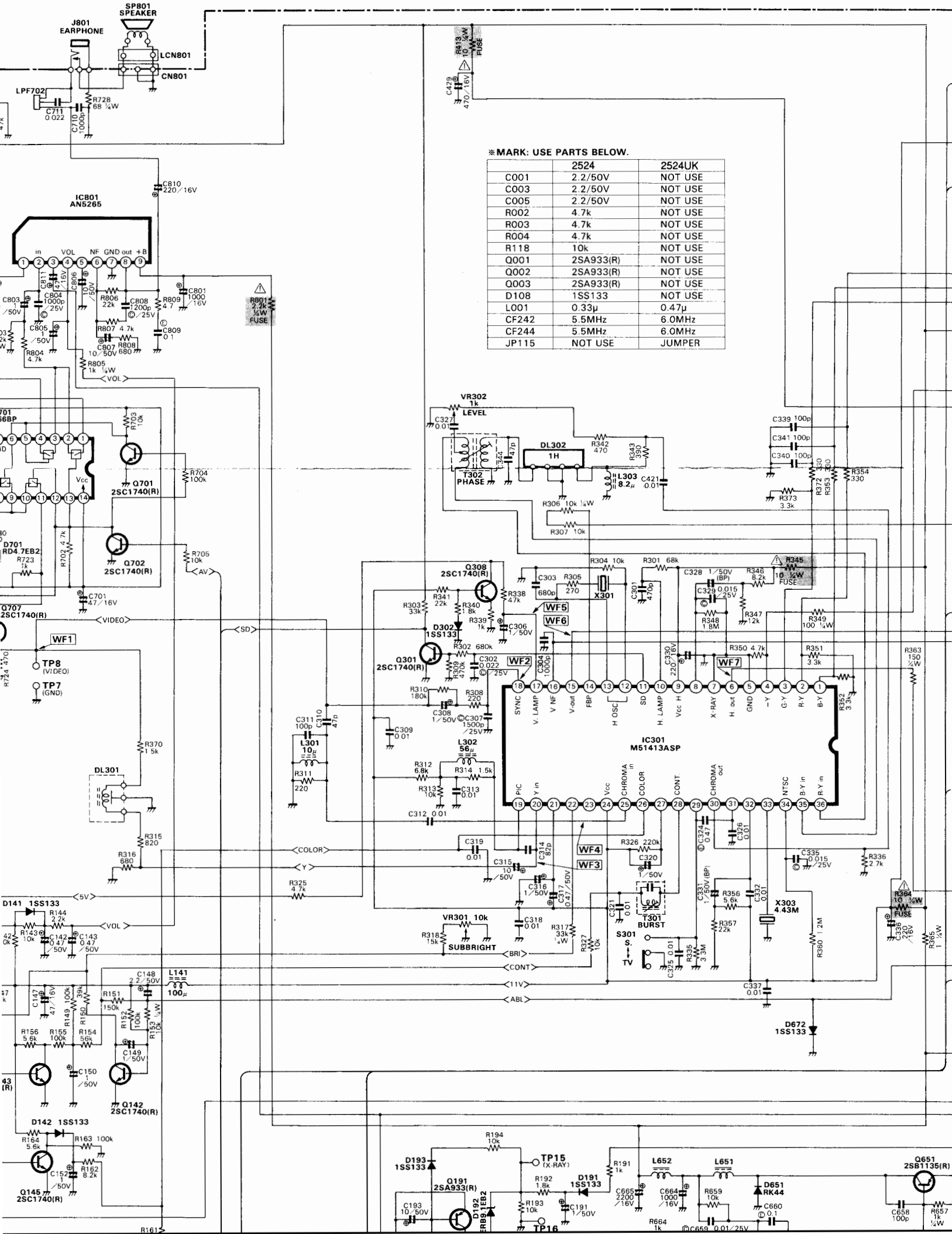
NOTE :

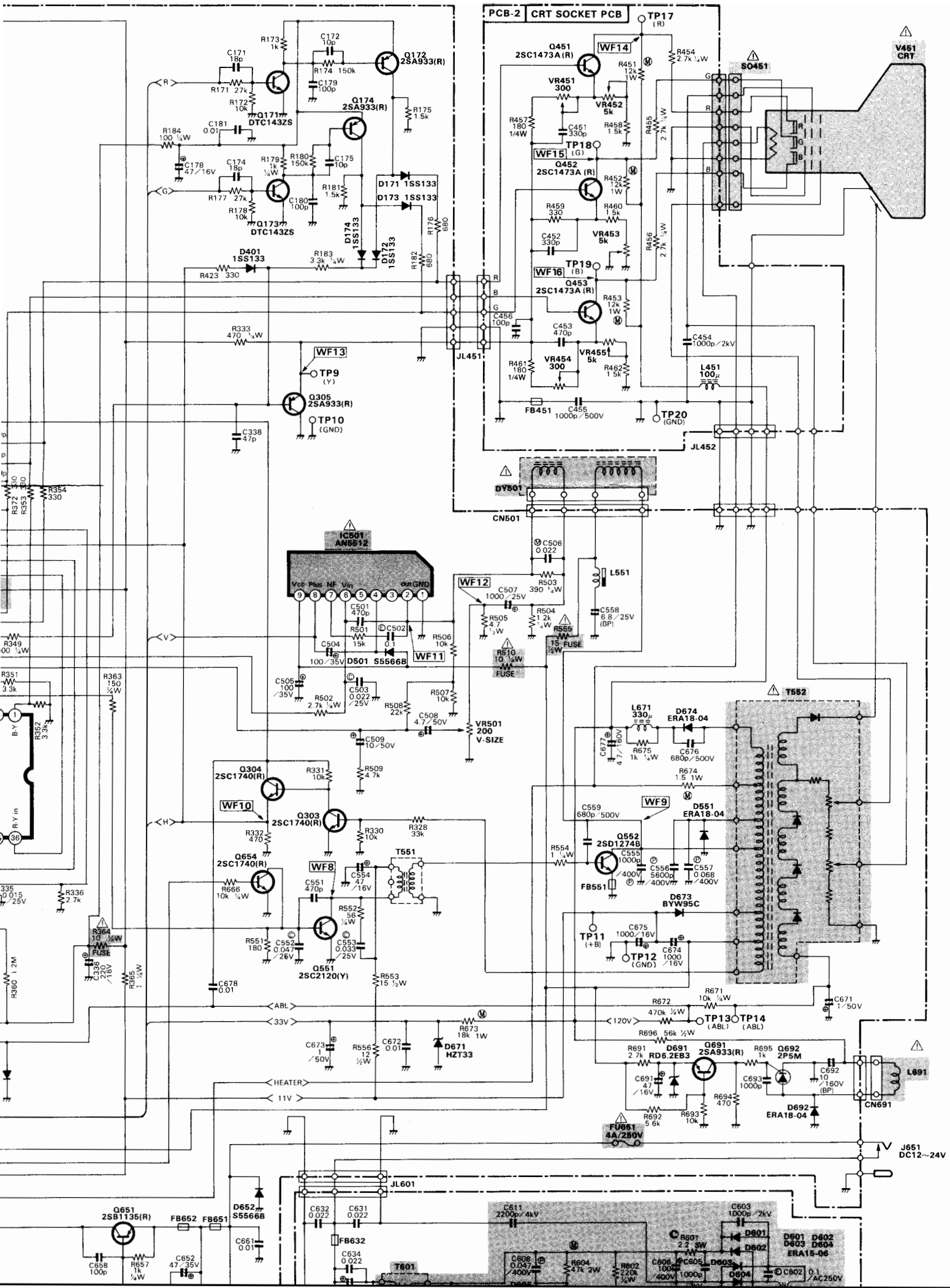
WAVEFORMS SHOWN WERE PRODUCED USING A PATTERN GENERATOR WITH ITS CONTROL SET TO PRODUCE A COLOR BAR SIGNAL AND A WIDEBAND OSCILLOSCOPE WITH LOW CAPACITY PROBE TO PREVENT LOADING. RECEIVER OPERATING CONTROLS WERE ADJUSTED TO PRODUCE A NORMAL PICTURE. OSCILLOSCOPE SWEEP WAS SET AT 5mS FOR VERTICAL WAVEFORMS AND 10μS FOR HORIZONTAL WAVEFORMS. PEAK-TO-PEAK VOLTAGES INDICATED MAY VARY DEPENDING ON CALIBRATION OF TEST EQUIPMENT, CHASSIS PARTS TOLERANCES AND CONTROL SETTINGS. ALL WAVEFORMS TAKEN WITH WIDEBAND OSCILLOSCOPE.

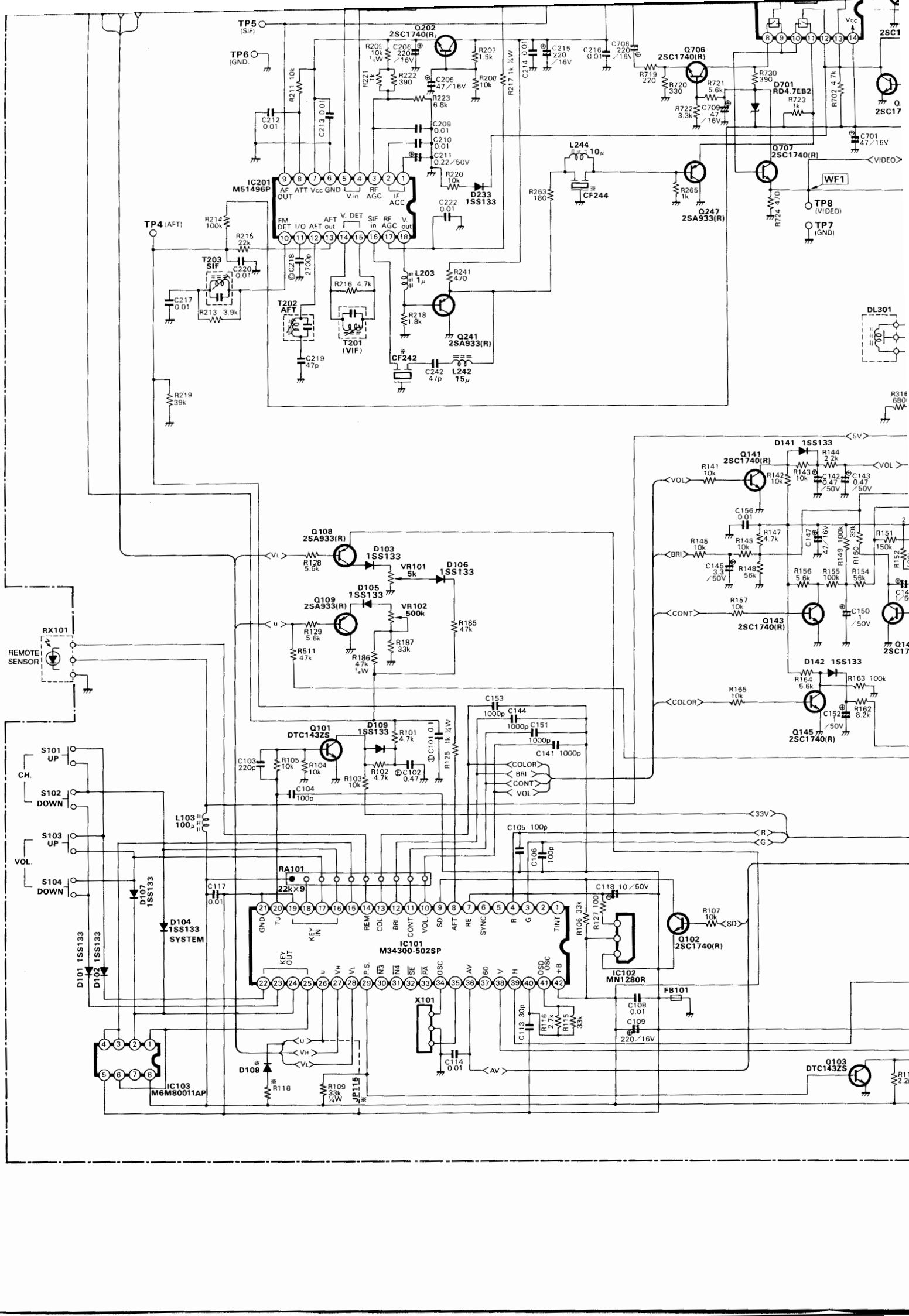
VOLTAGE AND WAVEFORMS ARE TAKEN WITH COLOR BAR SIGNAL GENERATOR APPLIED TO THE SET. WAVEFORMS 1 THRU 16 USE CHASSIS GROUND.

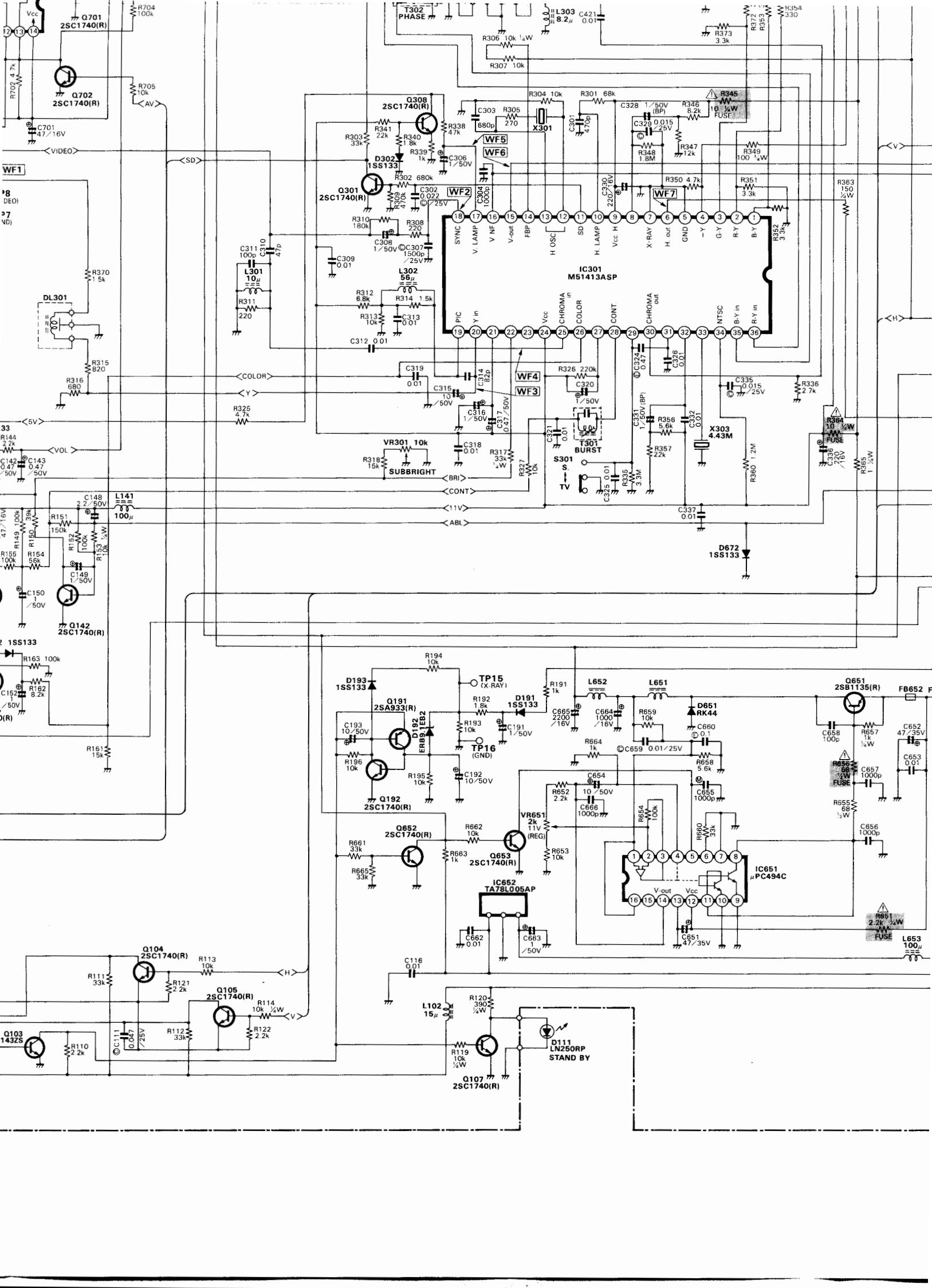
SCHEMATIC DIAGRAM

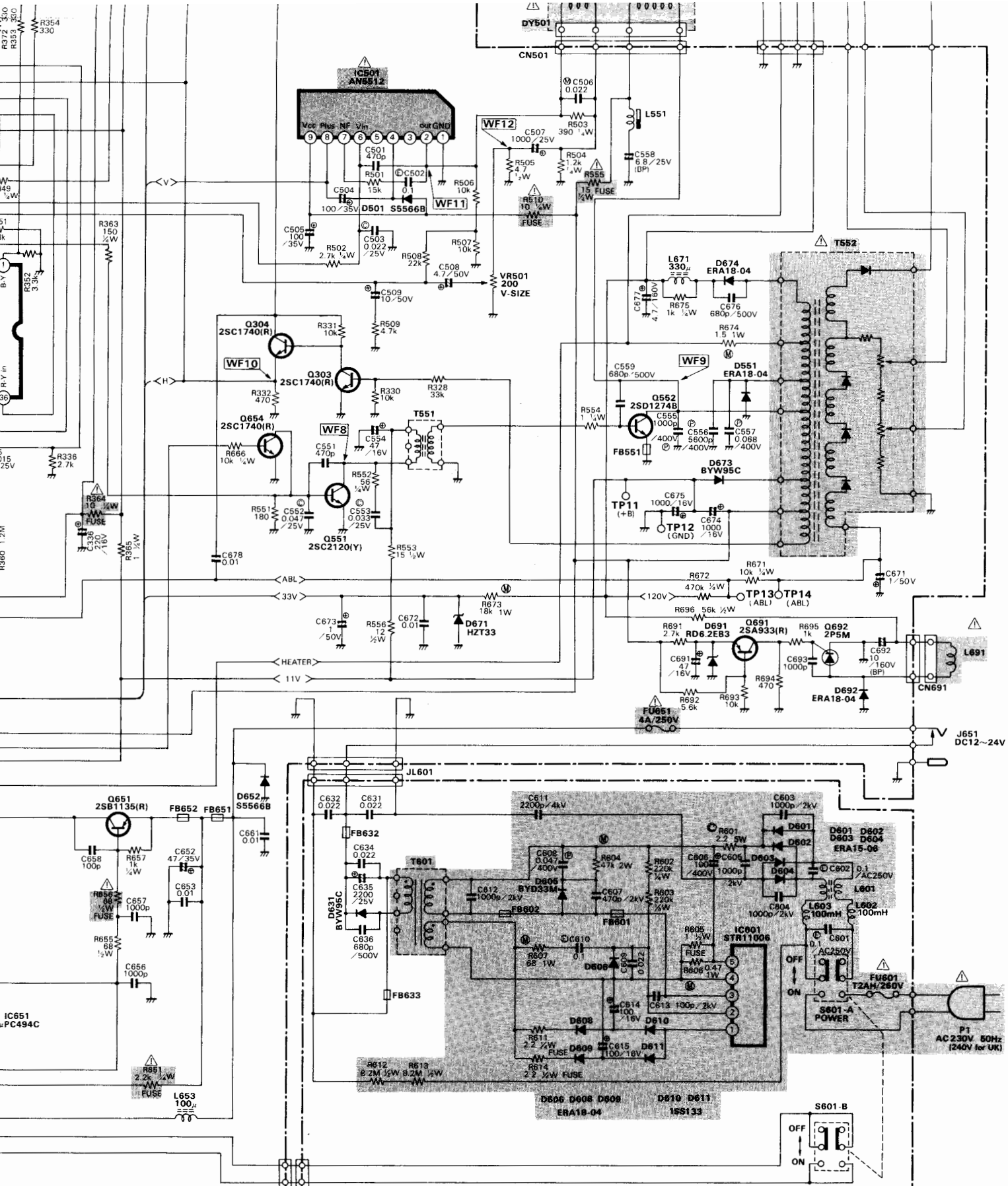



※MARK: USE PARTS BELOW.
2524 2524UK
C001 2.2/50V NOT USE
C003 2.2/50V NOT USE
C005 2.2/50V NOT USE
R002 4.7k NOT USE
R003 4.7k NOT USE
R004 4.7k NOT USE
R118 10k NOT USE
Q001 2SA933(R) NOT USE
Q002 2SA933(R) NOT USE
Q003 2SA933(R) NOT USE
D108 1SS133 NOT USE
L001 0.33μ 0.47μ
CF242 5.5MHz 6.0MHz
CF244 5.5MHz 6.0MHz
JP115 NOT USE JUMPER
SP801 SPEAKER
J801 EARPHONE
LCN801
CN801
LPF702
IC801 AN5265
IC301 M51413ASP
VR302 1k LEVEL
VR301 10k SUBBRIGHT
T302 PHASE
T301 BURST
DL302 1H
DL301
X301 4.43M
X303 4.43M
S301 S. TV
Q701 2SC1740(R)
Q702 2SC1740(R)
Q707 2SC1740(R)
Q308 2SC1740(R)
Q301 2SC1740(R)
Q145 2SC1740(R)
Q142 2SC1740(R)
Q191 2SA933(R)
Q651 2SB1135(R)
D701 RD4.7EB2
D302 1SS133
D141 1SS133
D142 1SS133
D193 1SS133
D191 1SS133
D672 1SS133
D651 RK44
TP8 (VIDEO)
TP7 (GND)
TP15 (X-RAY)
TP16
WF1
WF2
WF3
WF4
WF5
WF6
WF7
VIDEO
SD
COLOR
Y
5V
VOL
BRI
CONT
11V
ABL
AV
Vcc
SYNC V. LAMP V NF V-out FBP H OSC SD H. LAMP Vcc H X-RAY H out GND -Y G-Y R-Y B-Y
P/C Y in Vcc CHROMA in COLOR CONT CHROMA out NTSC B-Y in R-Y in


PCB-2 CRT SOCKET PCB
TP17 (R)
TP18 (G)
TP19 (B)
TP20 (GND)
WF14
WF15
WF16
Q451 2SC1473A(R)
Q452 2SC1473A(R)
Q453 2SC1473A(R)
VR451 300
VR452 5k
VR453 5k
VR454 300
VR455 5k
S0451
V451 CRT
JL451
JL452
WF13
TP9 (Y)
Q305 2SA933(R)
TP10 (GND)
DY501
CN501
IC501 AN5512
Vcc Plus NF Vin out GND
WF12
WF11
D501 S5566B
L551
T552
L671 330μ
D674 ERA18-04
D551 ERA18-04
WF9
Q552 2SD1274B
FB551
D673 BYW95C
TP11 (+B)
TP12 (GND)
WF10
Q303 2SC1740(R)
Q304 2SC1740(R)
Q654 2SC1740(R)
WF8
T551
Q551 2SC2120(Y)
VR501 200 V-SIZE
ABL
33V
120V
TP13 (ABL)
TP14 (ABL)
HEATER
11V
D671 HZT33
Q691 2SA933(R)
D691 RD6.2EB3
Q692 2P5M
D692 ERA18-04
L691
CN691
FU651 4A/250V
J651 DC12~24V
JL601
Q651 2SB1135(R)
FB652
FB651
D652 S5566B
FB632
T601
D601 D602 D603 D604 ERA15-06
Q171 DTC143ZS
Q172 2SA933(R)
Q173 DTC143ZS
Q174 2SA933(R)
D401 1SS133
D171 1SS133
D173 1SS133
D174 1SS133
D172 1SS133


TP5 (SIF)
TP6 (GND)
TP4 (AFT)
IC201 M51496P
AF OUT ATT Vcc GND V.in RF AGC IF AGC
FM DET I/O AFT out AFT V. DET SIF in RF AGC V. out
Q202 2SC1740(R)
Q706 2SC1740(R)
Q707 2SC1740(R)
Q247 2SA933(R)
Q241 2SA933(R)
D233 1SS133
D701 RD4.7EB2
L244 10μ
CF244
CF242
L203 1μ
L242 15μ
T203 SIF
T202 AFT
T201 (VIF)
DL301
WF1
TP8 (VIDEO)
TP7 (GND)
VIDEO
Vcc
5V
D141 1SS133
Q141 2SC1740(R)
Q143 2SC1740(R)
Q145 2SC1740(R)
D142 1SS133
VOL
BRI
CONT
COLOR
Q108 2SA933(R)
Q109 2SA933(R)
D103 1SS133
D105 1SS133
D106 1SS133
VR101 5k
VR102 500k
RX101
REMOTE SENSOR
Q101 DTC143ZS
D109 1SS133
S101 UP
S102 DOWN
S103 UP
S104 DOWN
CH.
VOL.
L103 100μ
RA101 22k×9
IC101 M34300-502SP
KEY IN
KEY OUT
IC102 MN1280R
Q102 2SC1740(R)
Q103 DTC143ZS
FB101
X101
IC103 M6M80011AP
D101 1SS133
D102 1SS133
D104 1SS133 SYSTEM
D107 1SS133
D108
JP115
33V
R
G
SD
AV


IC301
M51413ASP
SYNC
V. LAMP
V NF
V-out
FBP
H OSC
SD
H. LAMP
Vcc H
X-RAY
H out
GND
-Y
G-Y
R-Y
B-Y
PIC
Y in
Vcc
CHROMA in
COLOR
CONT
CHROMA out
NTSC
B-Y in
R-Y in
IC651
μPC494C
IC652
TA78L005AP
X301
X303
4.43M
T301
BURST
T302
PHASE
DL301
S301
S.
TV
VR301 10k
SUBBRIGHT
VR651
2k
11V
(REG)
WF1
WF2
WF3
WF4
WF5
WF6
WF7
Q701
2SC1740(R)
Q702
2SC1740(R)
Q142
2SC1740(R)
Q192
2SC1740(R)
Q652
2SC1740(R)
Q653
2SC1740(R)
Q104
2SC1740(R)
Q105
2SC1740(R)
Q107
2SC1740(R)
Q191
2SA933(R)
Q651
2SB1135(R)
Q301
2SC1740(R)
Q308
2SC1740(R)
Q103
143ZS
D302
1SS133
D672
1SS133
D193
1SS133
D191
1SS133
D192
ERB91EB2
D651
RK44
D111
LN250RP
STAND BY
TP15
(X-RAY)
TP16
(GND)
VIDEO
SD
AV
COLOR
Y
5V
VOL
BRI
CONT
11V
ABL
H
V
L301
10μ
L302
56μ
L303
8.2μ
L141
100μ
L102
15μ
L651
L652
L653
100μ
FB652
R345
10 1/4W
FUSE
R364
10 1/4W
FUSE
R656
68 1/4W
FUSE
R651
2.2k 1/4W
FUSE



PCB-3 POWER SUPPLY PCB

⚠ Safety Critical Device

SAFETY CRITICAL COMPONENTS

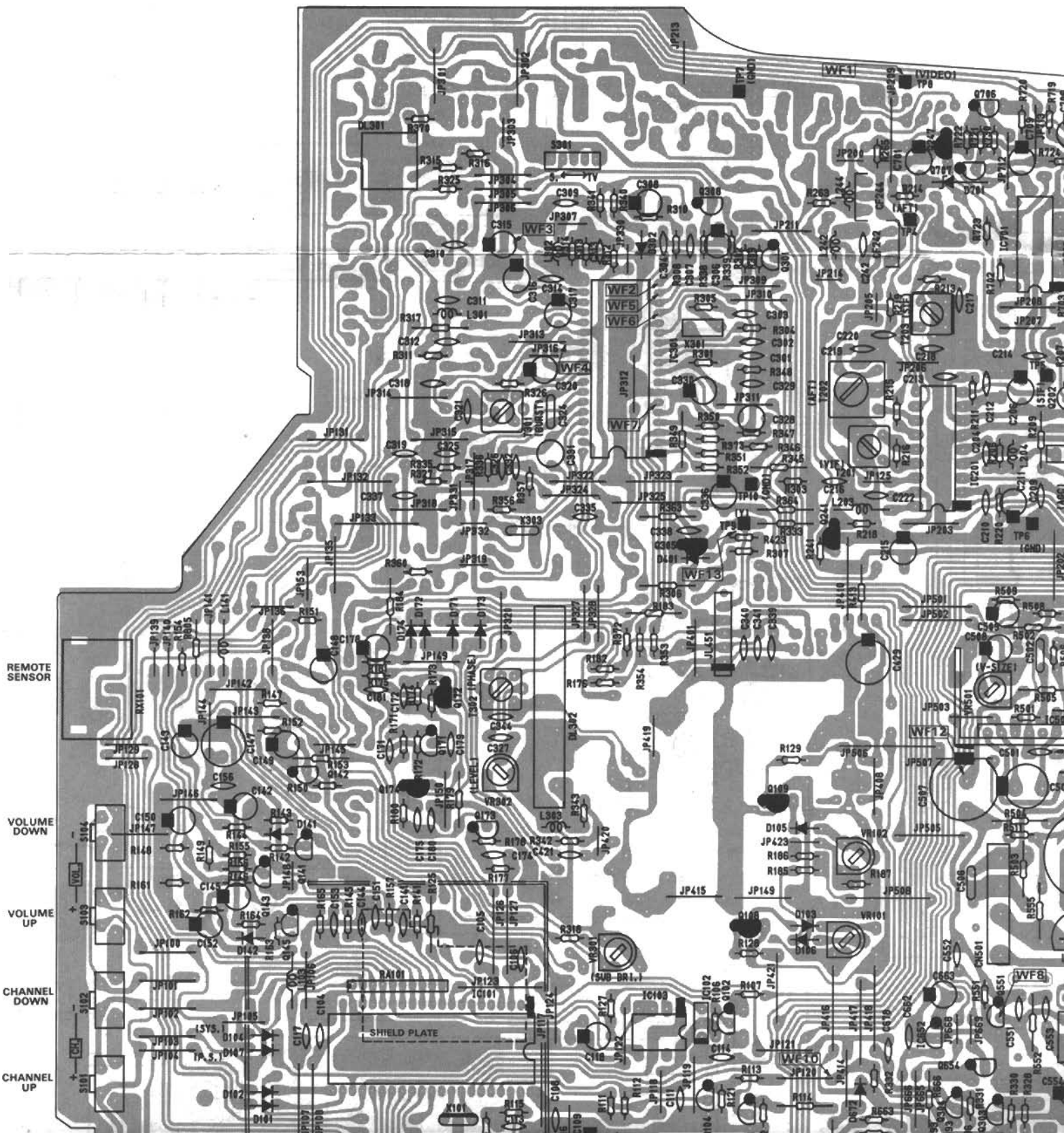
THE DESIGN OF THIS RECEIVER CONTAINS MANY CIRCUITS AND COMPONENTS INCLUDED SPECIFICALLY FOR SAFETY PURPOSES. FOR CONTINUED PROTECTION, NO CHANGES SHOULD BE MADE TO THE ORIGINAL DESIGN AND COMPONENTS SHOWN IN SHADED AREAS ON THE SCHEMATIC SHOULD BE REPLACED WITH EXACT FACTORY REPLACEMENT PARTS.
THE USE OF UNAUTHORIZED SUBSTITUTE PARTS MAY CREATE A SHOCK, FIRE, X-RAY RADIATION, OR OTHER HAZARD. SERVICE SHOULD BE PERFORMED BY QUALIFIED PERSONNEL ONLY.

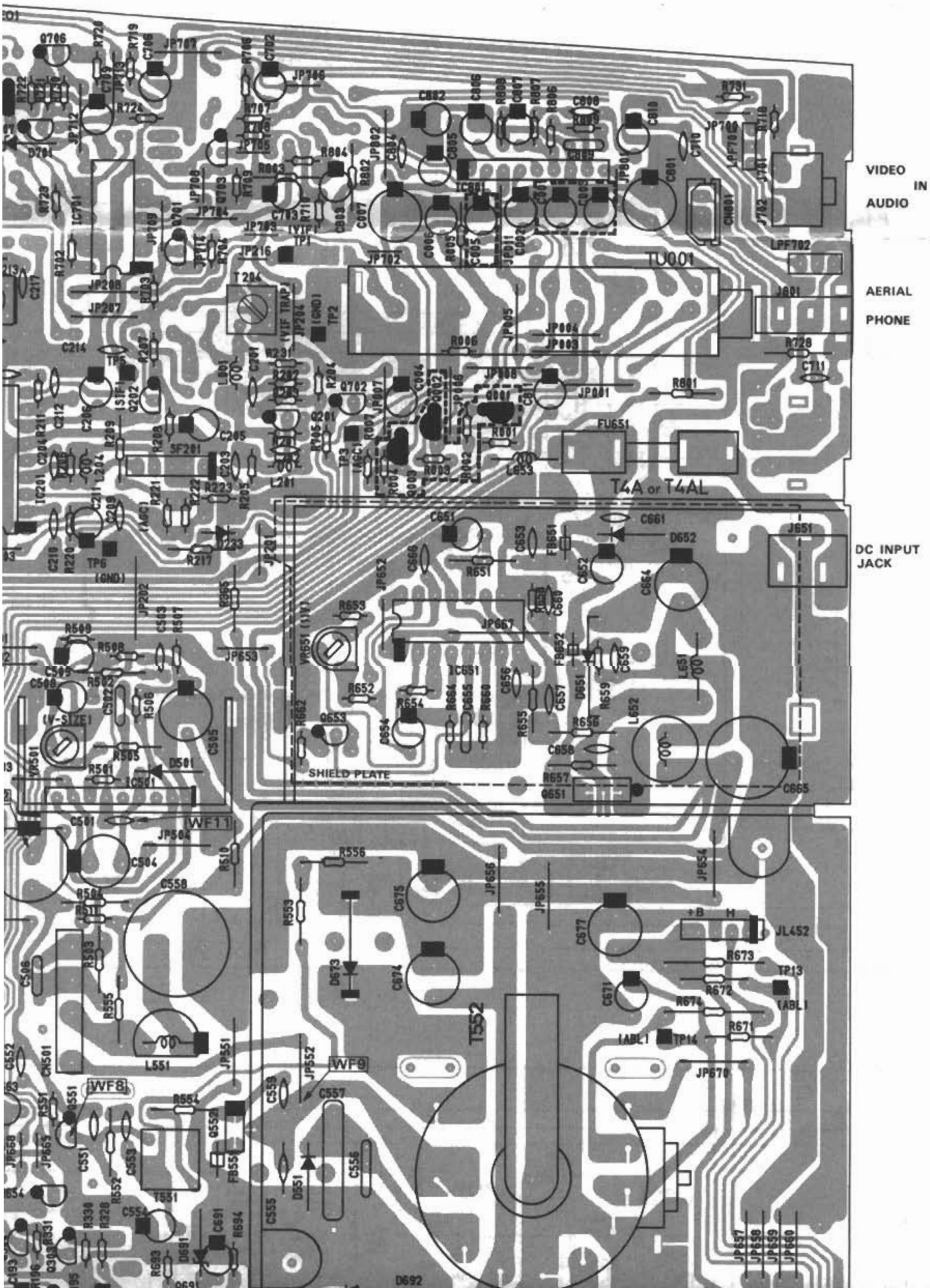
RELIABILITY AND PERFORMANCE

FOR CONTINUED RELIABILITY AND PERFORMANCE, EXACT FACTORY REPLACEMENTS ARE RECOMMENDED. FOR ALL OTHER PARTS REPLACED. IF A SUBSTITUTE MUST BE USED BE SURE ITS QUALITY AND SPECIFICATIONS ARE IDENTICAL TO THE ORIGINAL PART.

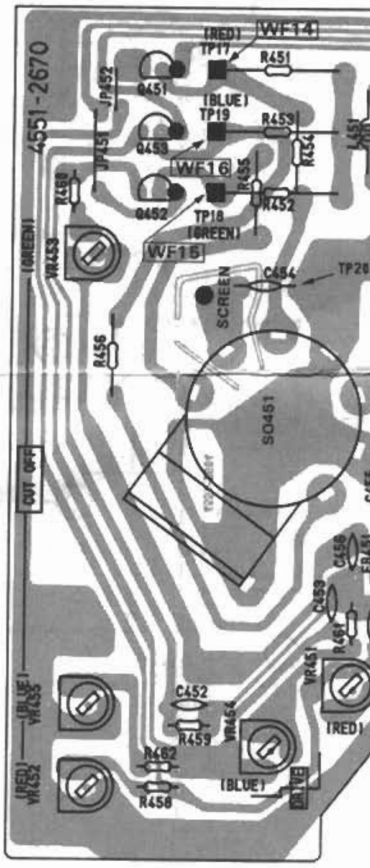
P.C. BOARDS

PCB-1 MAIN P.C. BOARD

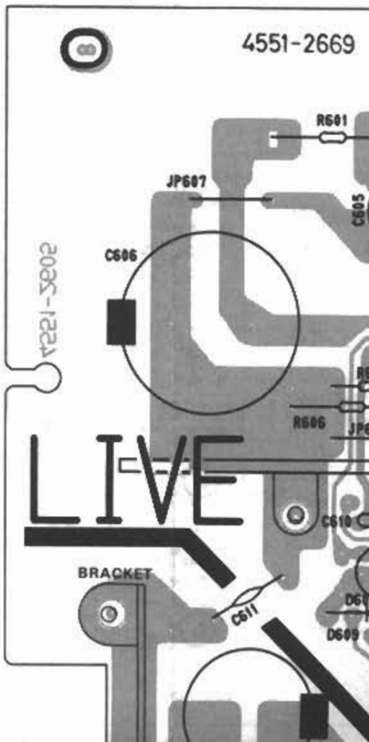




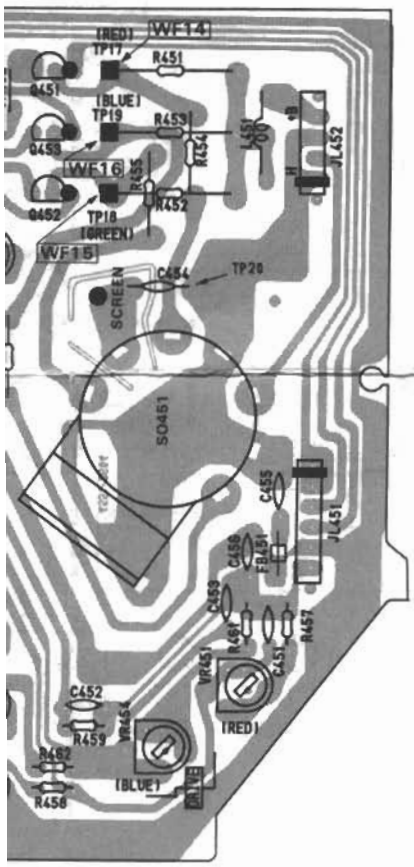
PCB-2 CRT SOCKET P.C



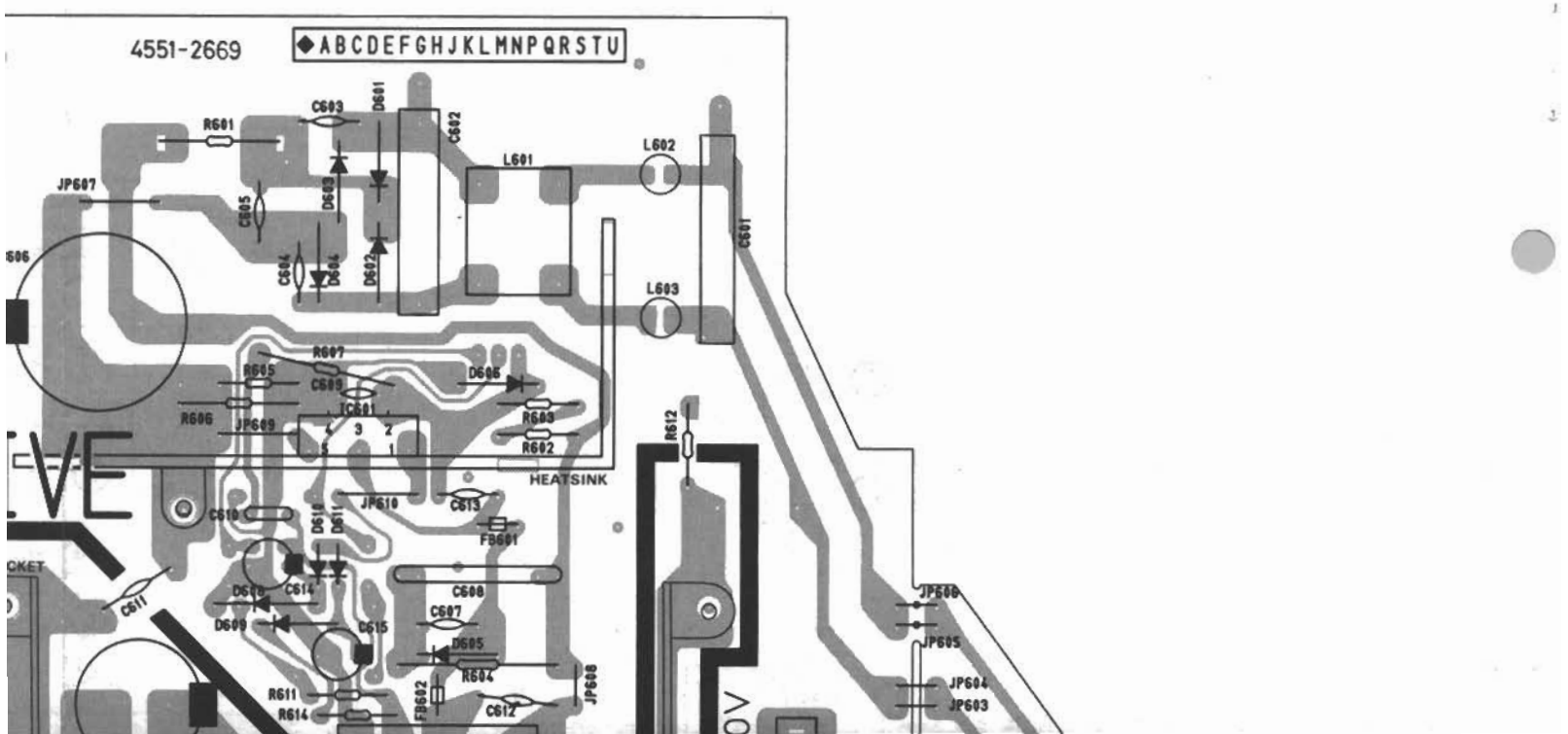
PCB-3 POWER SUPPLY P

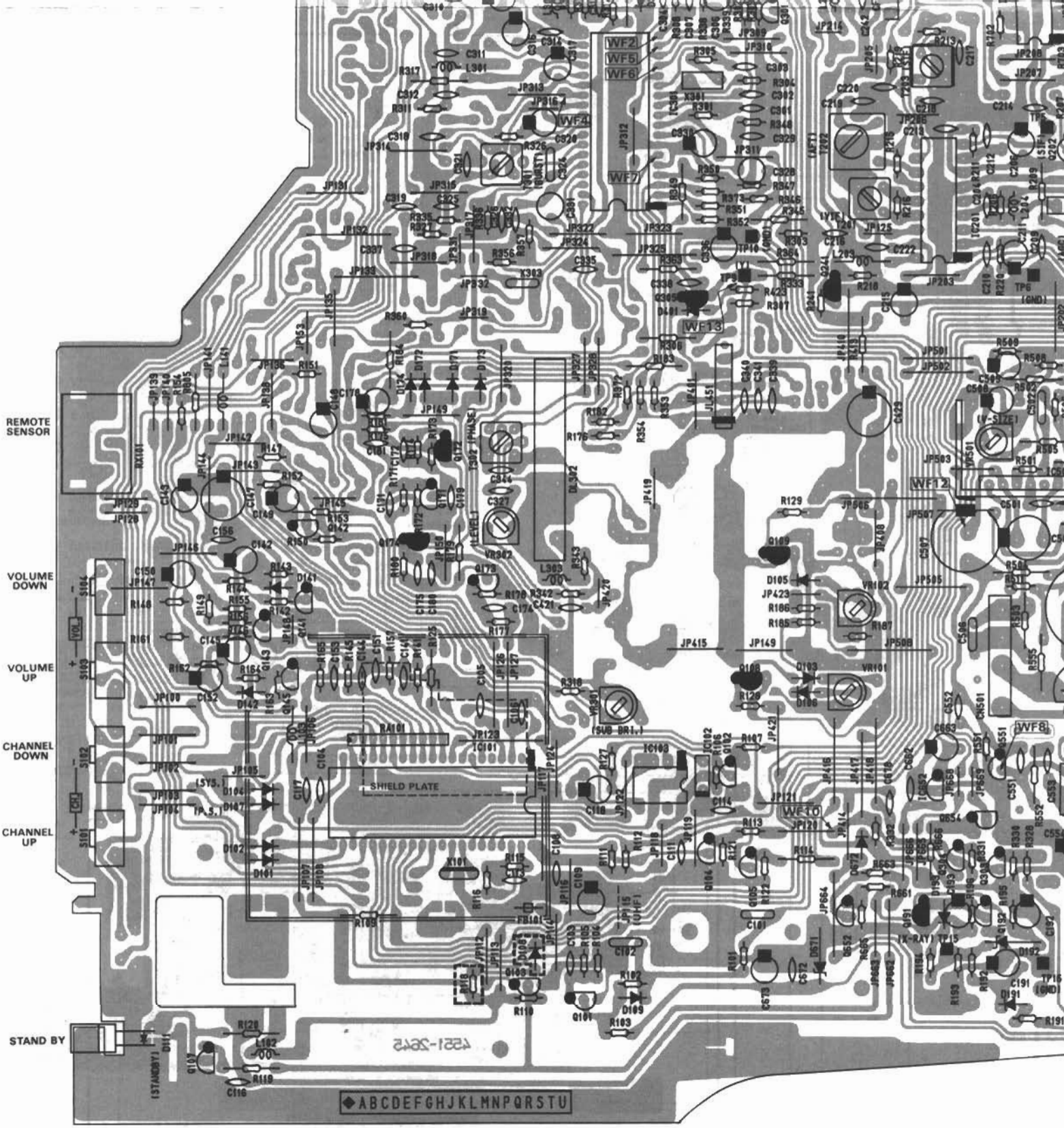


CRT SOCKET P.C. BOARD

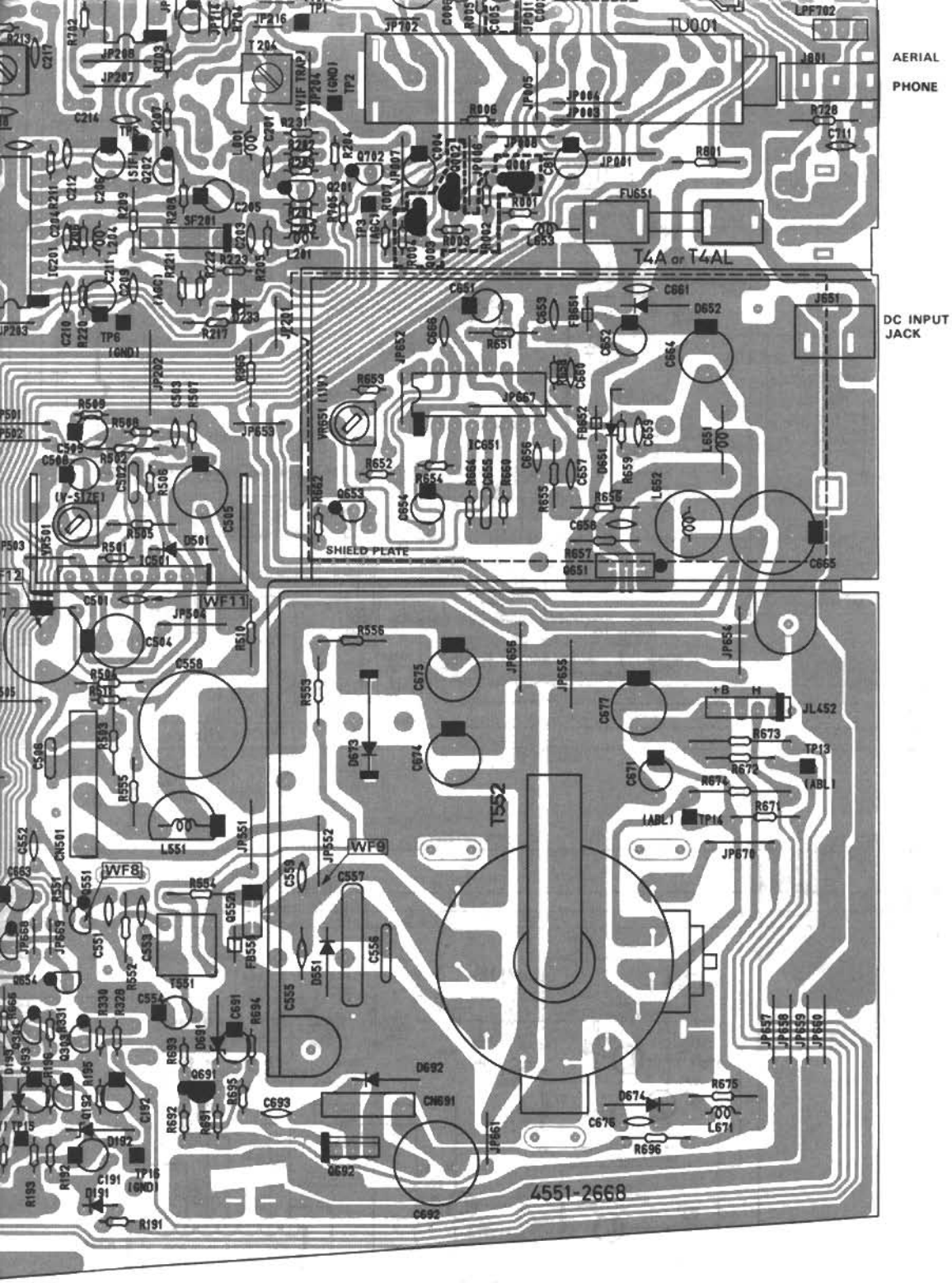


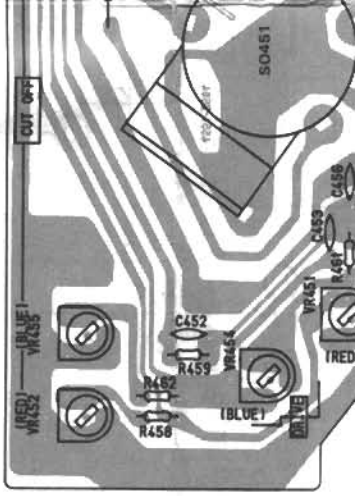
POWER SUPPLY P.C. BOARD



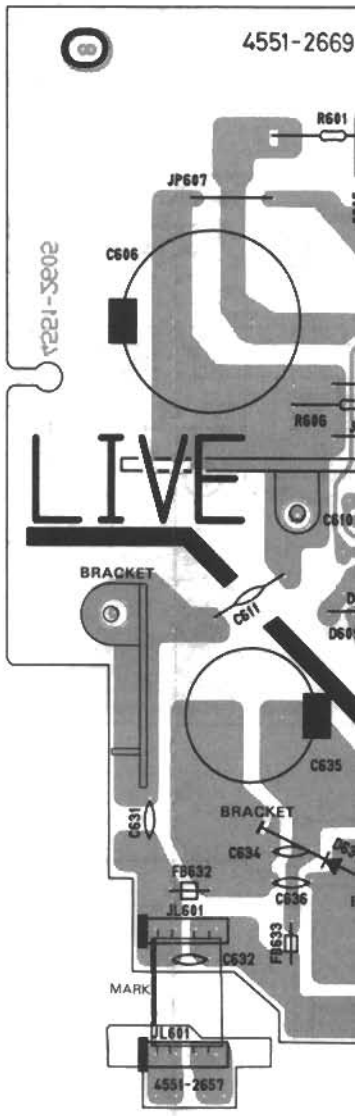


NOTE: [- - -] PARTS ARE NOT USED FOR 581

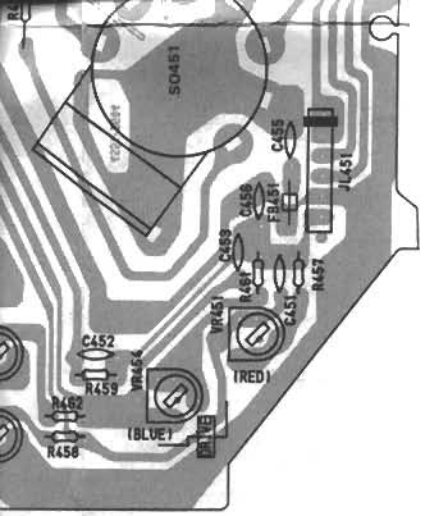




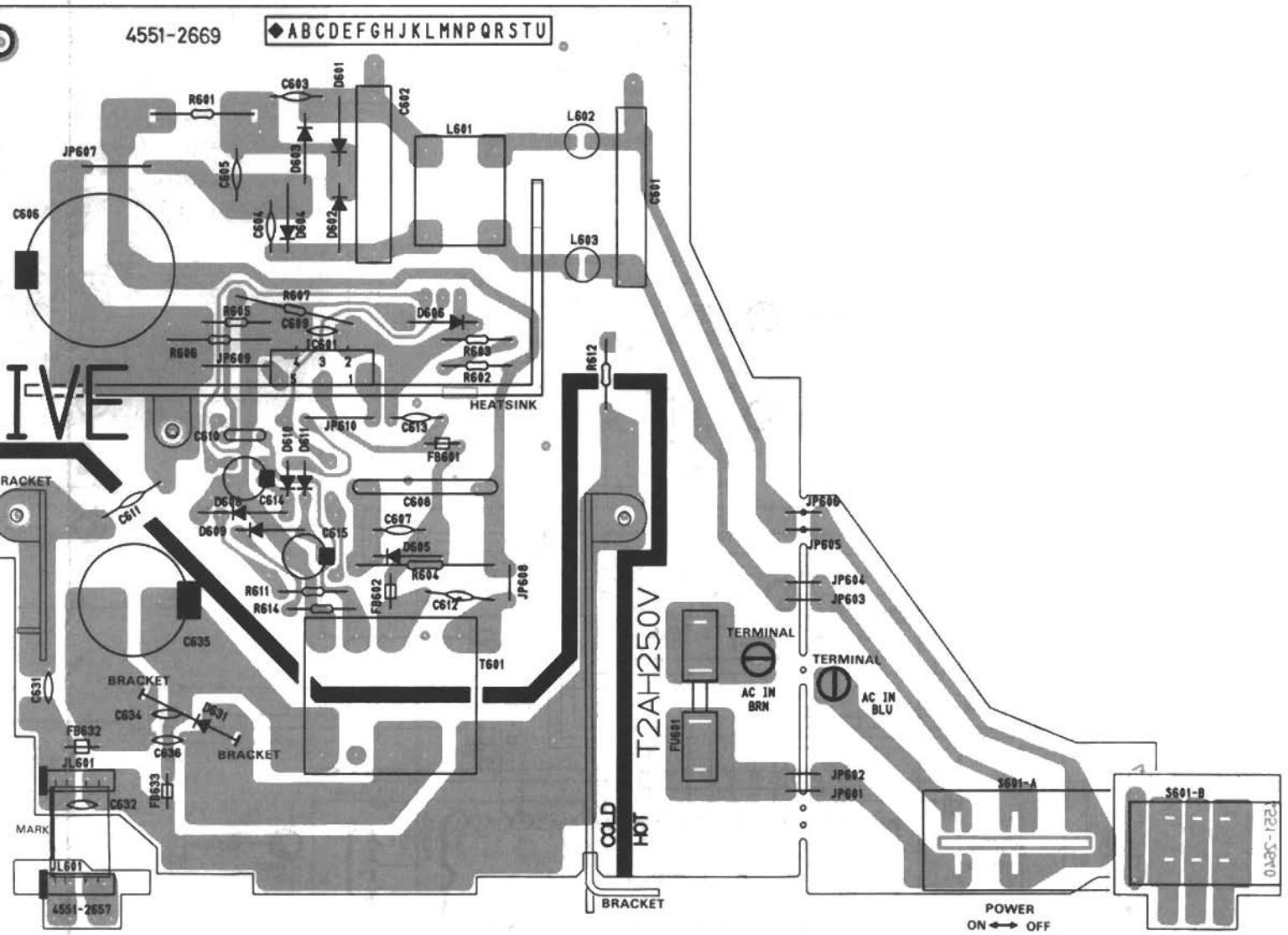
PCB-3 POWER SUPPLY



E NOT USED FOR 5810UK.



3 POWER SUPPLY P.C. BOARD



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