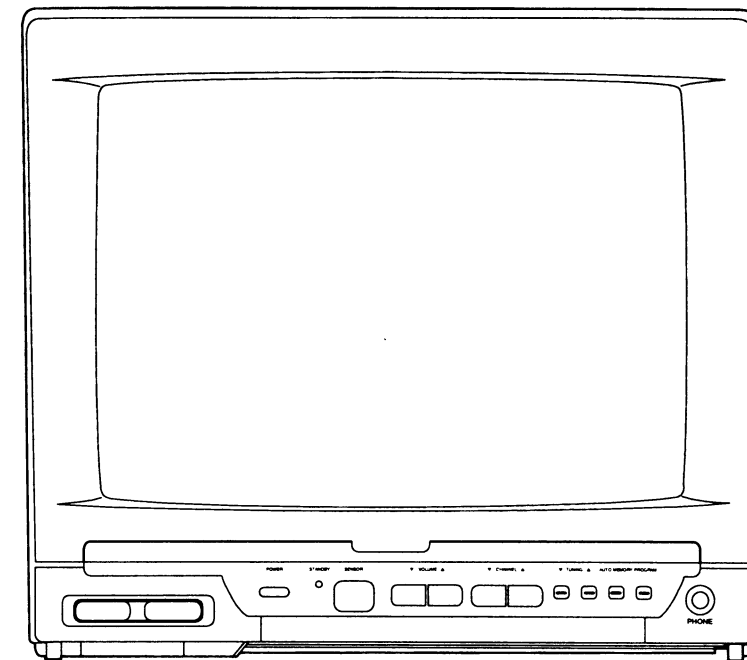




SERVICE MANUAL

14" COLOR TELEVISION

MS-14VN



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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GENERAL SPECIFICATIONS *

Feature and Specifications

Color System:	PAL - B/G, SECAM - B/G, D/K NTSC 3.58/4.43MHz (Video Playback)
Tuning System:	Voltage Synthesized
Receivable Channels: (OIRT + CCIR ch)	VHF-L; R1~R5 / E2~E4 ch (X~S2) VHF-H; R6~R12 E5~E12 ch (S6~S10) UHF; 21~69 CATV~MID
Number of Preset:	Up to 57
Antenna Impedance:	UHF/VHF 75Ω, Unbalanced
Picture Tube:	14", Tinted
Picture Control:	Color, Brightness, Contrast Game(ON/OFF), Sharp/Soft
Picture Control Memory:	Standard Select
Speaker:	77mm Round Type, 8Ω
Output Power:	3W
Other Features:	Automatic Channel Preset Automatic Degaussing
Power Source:	100V~270V, 50/60Hz AC (Auto Voltage)
Power Consumption:	68W
Cabinet Size:	362(W) x 327(H) x 354(D)mm
Weight:	8.5kg
Regurations:	IEC-65

Control and Switches

Power:	Push (Front)
Channel Up/Down:	Push (Front)
Volume Up/Down:	Push (Front)
Tuning Up/Down:	Push (Front)
Program:	Push (Front)
Auto Memo / Band:	Push (Front)
Remote Control: (20 keys)	Standby, 0/AV, 1~9, Cannel Up, Channel Down, Mute, Display Previous Picture Select (Bright / Contrast / Color / Video Mode) Control / Volume Up/Down Sleep

Display

LED Indicator:	Standby (Power ON, LED OFF) * When turning on the power button stand-by LED is put off.
On Screen Display:	Channel Volume GAME ON-OFF Brightness Color Contrast Sharp-Soft Sleep Timer (10~90 Minute) Tuning Indicator Band Position

Jack and Terminals

UHF/VHF Antenna:	IEC (75Ω)
Video In:	RCA
Audio In:	RCA - 2P
Earphone:	3.5m/m CES

Accessories

Remote Control Unit	
Battery:	(R6, UM3 x 2)
Owner's Manual	
Rod Antenna	

* Specifications are subject to change without notice.

PERFORMANCE SPECIFICATIONS

<Tuner>

VHF/UHF Input: 75Ω Unbalanced, IEC connector
Reference Level: 20Vp-p (CRT Green Cathode)
Input Signal: 400Hz, 30%AM

Description	Condition	Unit	Nominal	Limit
1. Intermediate Frequency	Picture	MHz	38.0	—
	Sound	MHz	31.5(D/K)	—
	Sound	MHz	32.5(B/G)	—
2. Peak Picture Sens.	VHF	dBμV	20	30
	UHF	dBμV	20	40
3. AFT Pull In Range (10mV Input)		MHz	+1.5	+1.0
		MHz	-0.7	-0.5

<Deflection>

Description	Condition	Unit	Nominal	Limit
1. Deflection Frequency	Horizontal (PAL/SECAM)	KHz	15.625	—
	(NTSC)	KHz	15.750	—
	Vertical (PAL/SECAM)	Hz	50	—
	(NTSC)	Hz	60	—
2. Linearity	Horizontal	%	—	15
	Vertical	%	—	10
3. High Voltage		KV	23	—
4. Over Scan	Horizontal	%	10	—
	Vertical	%	10	—

<Video & Chroma)

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	mm	—	0.4
	Side	mm	—	2.0
	Corner	mm	—	1.5
2. Brightness	APL100%	Ft-L	45	35
3. Color Temperature		°K	8000-10MPCD	—
4. Resolution	Horizontal	Line	300	—
	Vertical	Line	300	—

<Audio>

All items are measured across 8Ω load at speaker output terminal.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power	10%THD	W	3.0	2.5
2. Audio Distortion	50mW	%	2	5
3. Audio Frequency Response	-6dB	Hz	55-8.0K	—

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

1. Before returning an instrument to the customer, always make a safety check of the entire instrument, including, but not limited to, the following items:

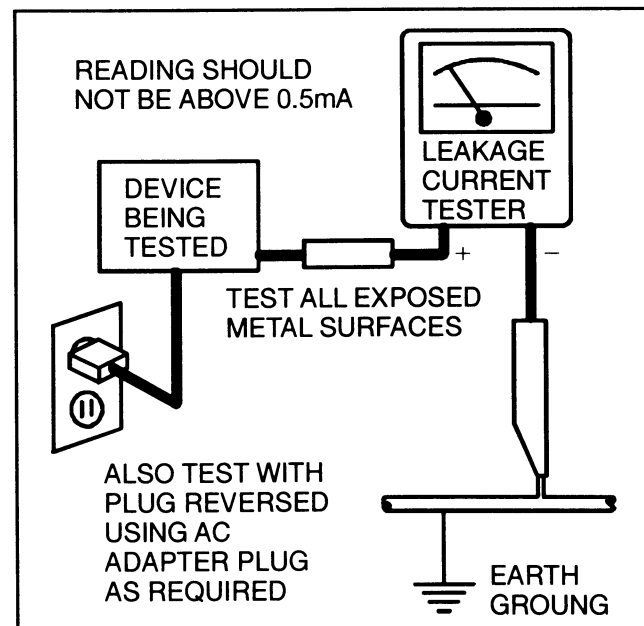
a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

c. **Antenna Cold Check** - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer.

Repeat this test with the instrument AC switch in the off position.

d. **Leakage Current Hot Check** - With the instrument completely reassembled, plug the AC line cord directly into a AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester. With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

e. **X-Radiation and High Voltage Limits** - Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servicing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called "horizontal disable" or "hold down.") Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. **Design Alteration Warning** - Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning** - The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle

the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such "permanently attached" yokes from the picture tube.

5. Hot Chassis Warning -

a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, *remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.

b. Some TV receiver chassis have a circuit which obtain voltage about 70% of AC voltage between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.

c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.

Note: * In case unit has no polarity AC plug only.

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.

7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

8. **Product Safety Notice** - Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual

inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a ($\triangle$) on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continu-

Precautions during Servicing

- A. Parts identified by the ($\triangle$) symbol are critical for safety.
Replace only with part number specified.
- B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.
- C. Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
- D. Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers
 - 4) Insulators for transistors.
- E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.
- F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)
- G. Check that replaced wires do not contact sharp edged or pointed parts.

ously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

- H. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.
- I. Also check areas surrounding repaired locations.
- J. Use care that foreign objects (screws, solder droplets. etc.) do not remain inside the set.
- K. Crimp type wire connector
When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.
Replacement procedure
 - 1) Remove the old connector by cutting the wires at a point close to the connector.Important: Do not re-use a connector (discard it).
 - 2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
 - 3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
 - 4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.
- L. When connecting or disconnecting the VCR connectors, first, disconnect the AC plug from AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1 : Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d) (d')
200 to 240 V	Europe	$\geq 4\text{mm (d)}$
	Australia	$\geq 6\text{mm (d')}$

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

2. Leakage Current Test

Confirm specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

Table 2 : Leakage current ratings for selected areas

AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
200 to 240 V	Europe Australia	2k Ω RES. in connected	$i \leq 0.7\text{mA rms}$ $i \leq 2\text{mA dc}$	Antenna terminals
		50k Ω RES. in connected	$i \leq 0.7\text{mA rms}$ $i \leq 2\text{mA dc}$	Other terminals

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

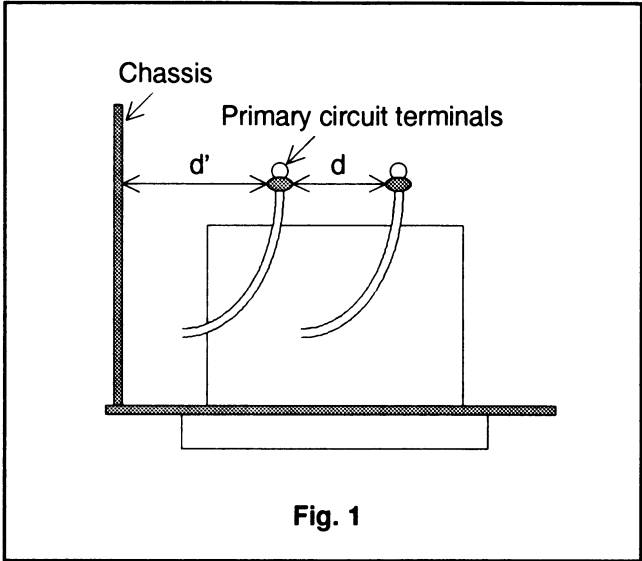


Fig. 1

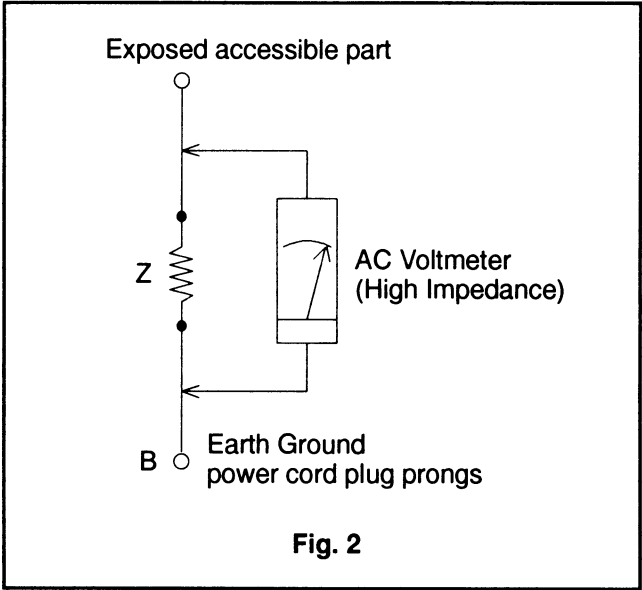


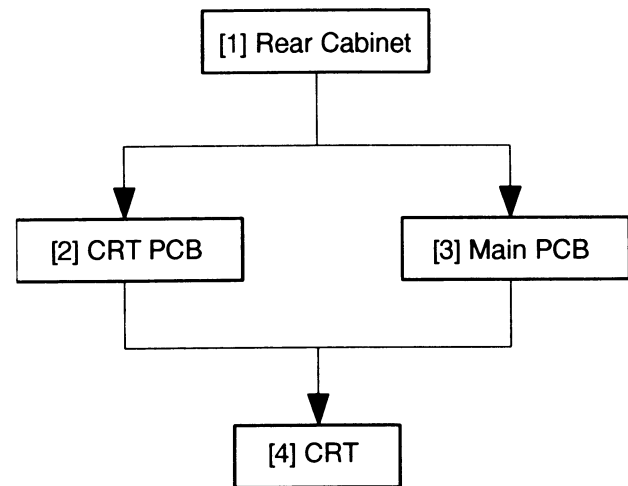
Fig. 2

DISASSEMBLY INSTRUCTIONS

1. Disassembly Flow Chart

This flow chart indicates the disassembly steps of the cabinet parts and PCB in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in the reverse order. Bend, route and dress the cables as they were originally.

CAUTION ! :
When removing the CRT, make sure to discharge Anode Lead of the CRT.
Use the CRT Ground Wire to discharge the CRT before removing the Anode Cap.



2. Disassembly Method

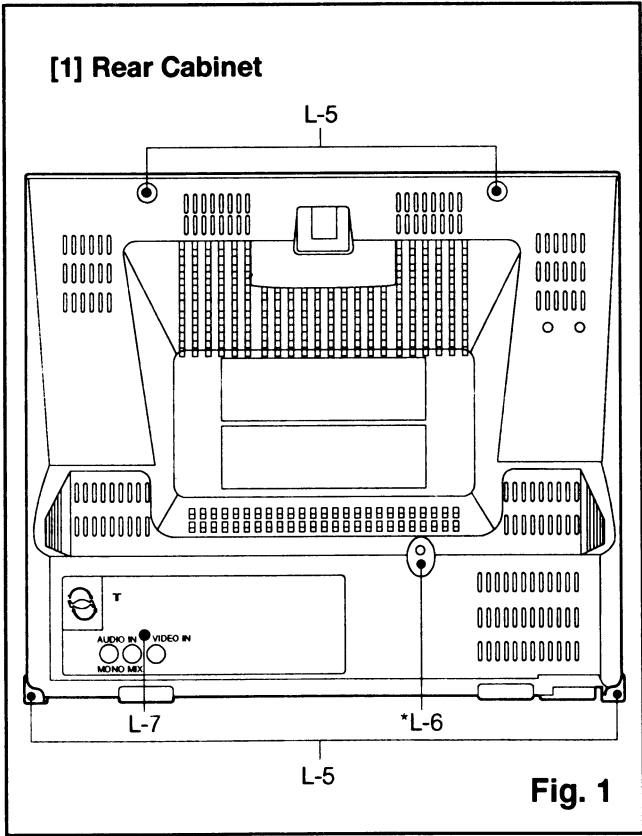
STEP/ LOC. NO.	PART	REMOVAL		
		FIG. NO.	REMOVE/*UNLOCK/ RELEASE/UNPLUG/ UNCLAMP/ DESOLDER	NOTE
[1]	Rear Cabinet	1, 2	L-5 (4pcs), L-6, L-7	1
[2]	CRT PCB	4, 5	CN451B, CN452B, CN453, FOCUS WIRE, SCREEN WIRE	2
[3]	Main PCB	3, 5	CN451A, CN452A, CN501, CN601, CN801, CN802, ANODE CAP, FOCUS WIRE, SCREEN WIRE	3
[4]	CRT	4, 5	B-2 (4pcs)	4

Reference <Notes> in Table

- 1. (1) Remove 6 screws (L-5, L-6, L-7) and slide the Rear Cabinet backward.
- 2. (1) If not already removed, first remove the Rear Cabinet.
- (2) Remove all relative wires, then pull the CRT PCB backward.
- 3. (1) If not already removed, first remove the Rear Cabinet.
- (2) Remove all relative wires on the Main PCB and remove the Anode Cap, then slide the Main PCB backward.

Caution !
Discharge Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

- 4. (1) If not already removed, first remove the Rear Cabinet and Main PCB.
- (2) Remove 4 screws (B-2), then the CRT can be removed.



*L-6
Lower: used FBT; LTF00EPSM006 (FCK-14B040)

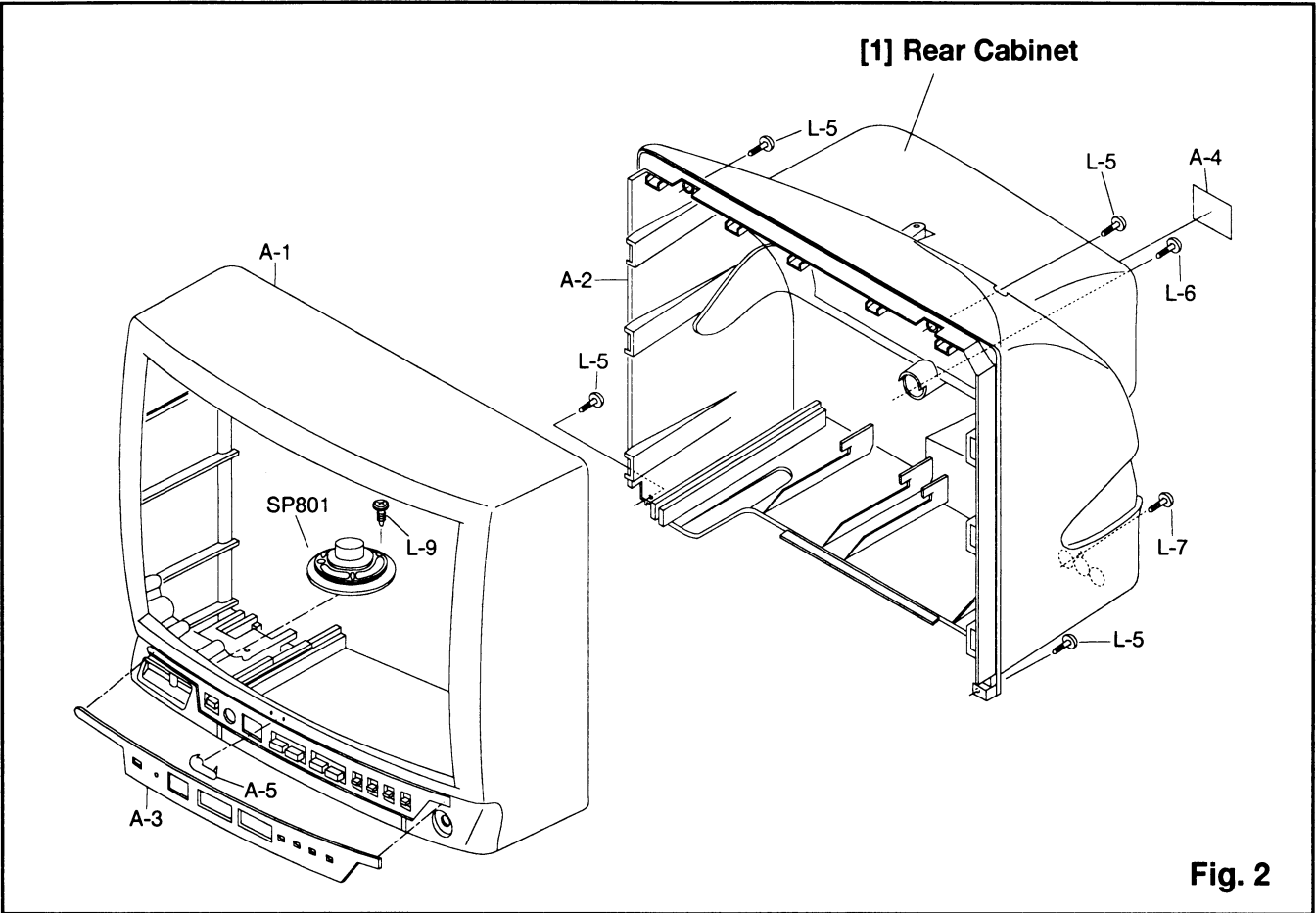


Fig. 2

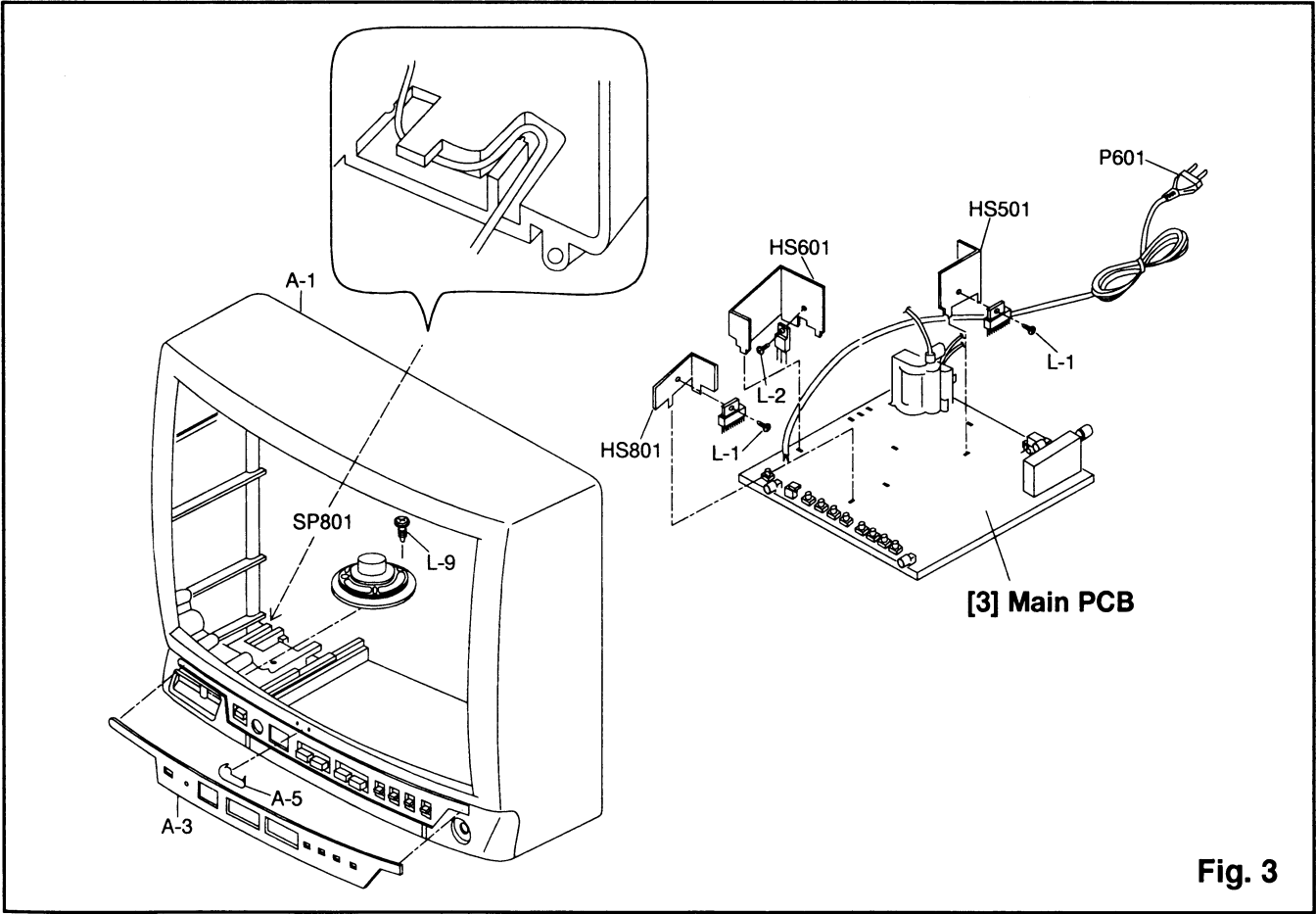


Fig. 3

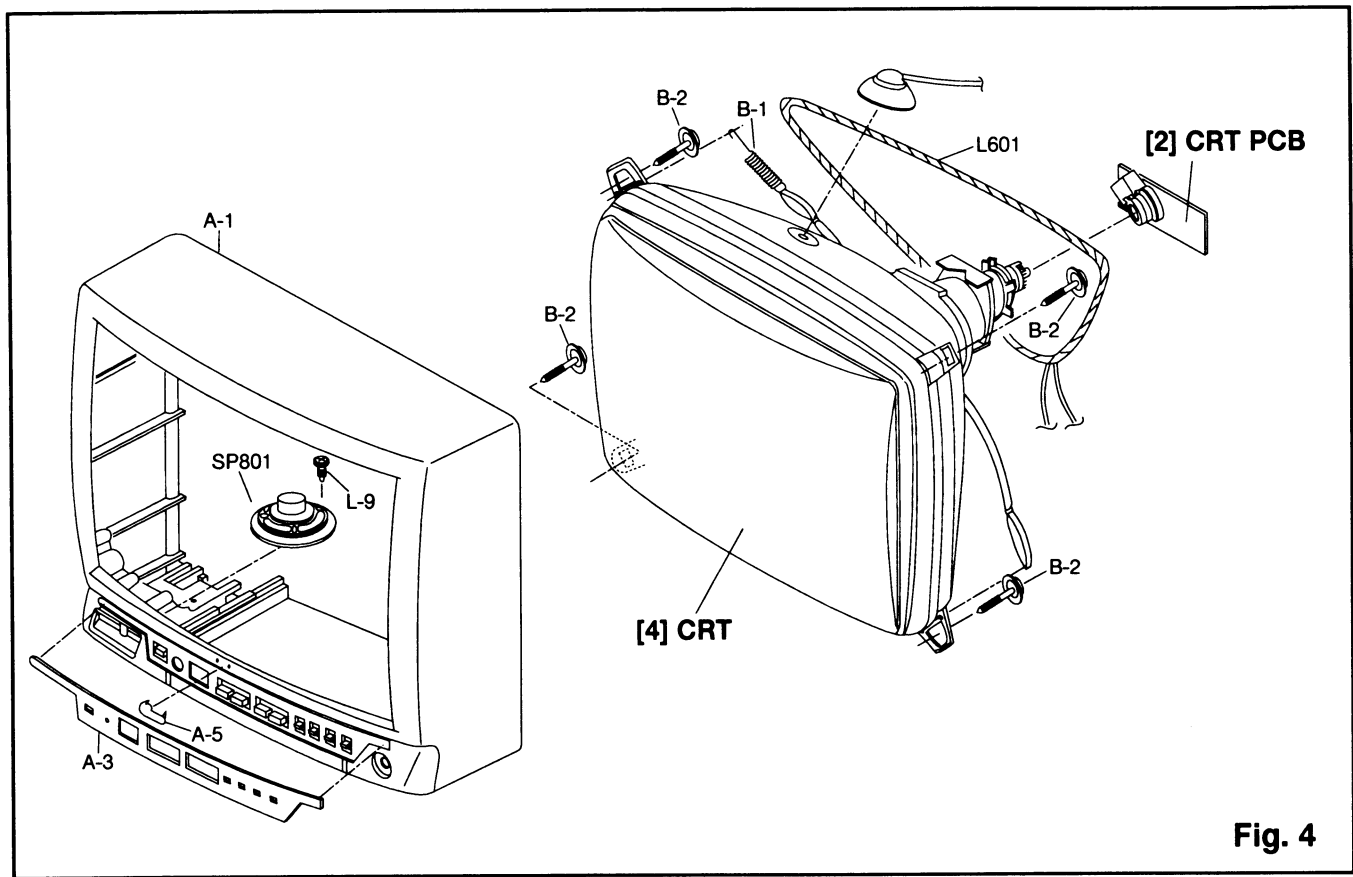


Fig. 4

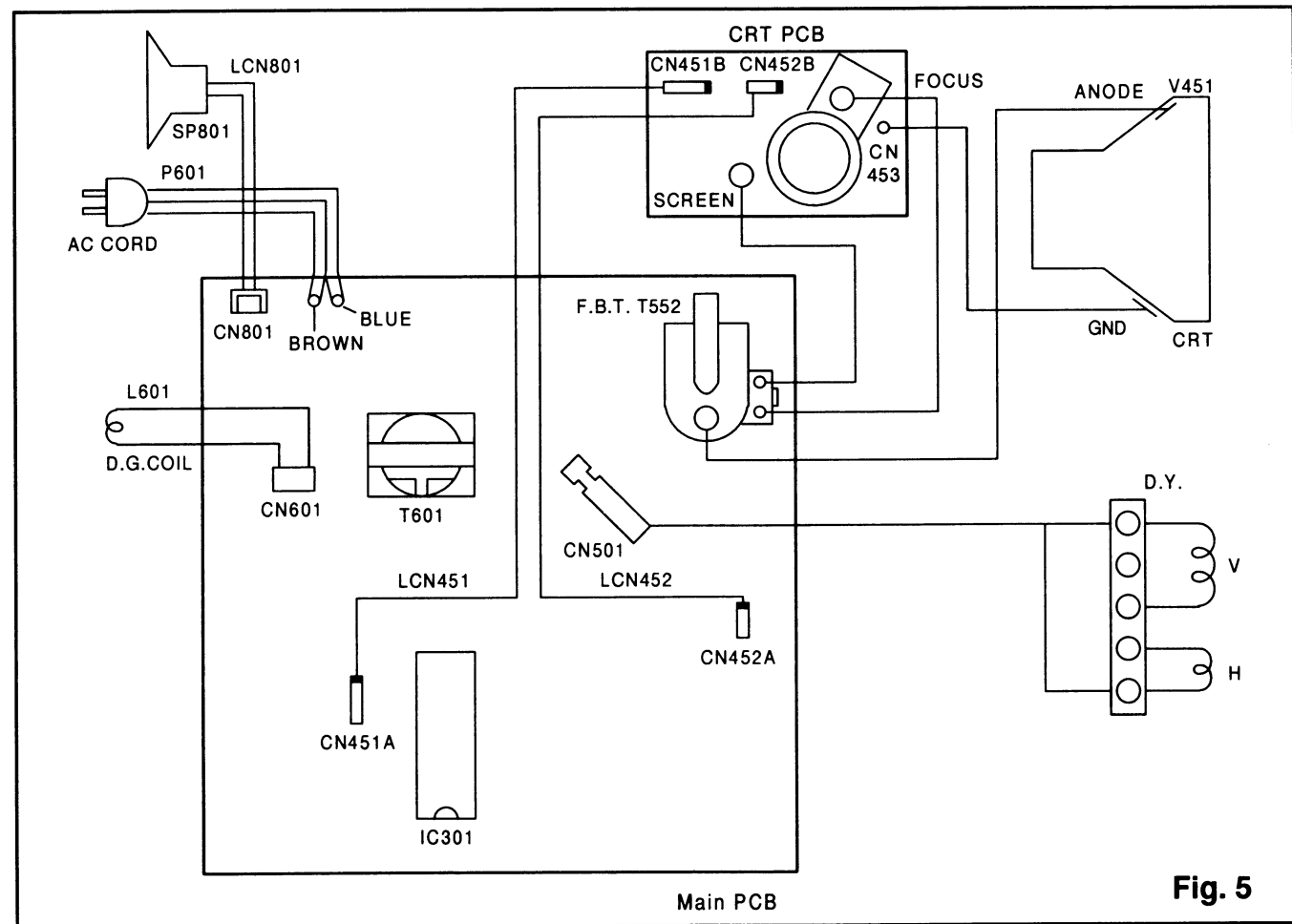


Fig. 5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

Note:

Electrical adjustments are required after replacing circuit components. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required:

1. Monoscope
2. PAL and SECAM Pattern Generator
3. IF Sweeper and Scope
4. Spectrum Analyzer
5. DC Volt Meter
6. Oscilloscope: Dual Trace with 10:1 probe
7. Color Analyzer
8. AM S.S.G. (Standard Signal Generator)

How to Set Up the Service Mode:

Preset Mode: Press Picture Select button on the remote control unit, then press the number "1" button.

- Brightness ——— Center
- Color ——— Center
- Contrast ——— Approx 70%

All adjustment procedures must be performed in order of numbering.

Operate the unit more than 20 minutes.

1. Power Supply DC Voltage Adjustment

Purpose: To get correct voltage.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test Point	Adjustment Point	Input
R621 TP1 (GND)	VR621	Monoscope Pattern
Equipment		Spec.
Monoscope DC Volt Meter		DC +112±0.5V

Reference Notes: R621, TP1, VR621 — Main PCB

- Adjust VR621 so that the + of C623 becomes DC +112±0.5V.

2. VCO Adjustment

Purpose: To set the IF (Intermediate Frequency).

Symptom of Misadjustment: Proper picture cannot be obtained.

Test Point	Adjustment Point	Input
T214	T214	—
Equipment		Spec.
Spectrum Analyzer		38.0±0.05MHz
Connections of M. EQ.		

Reference Notes: T214 — Main PCB

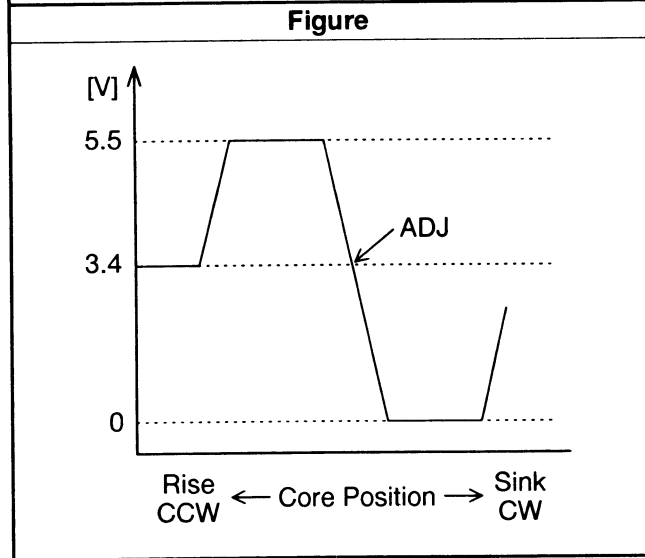
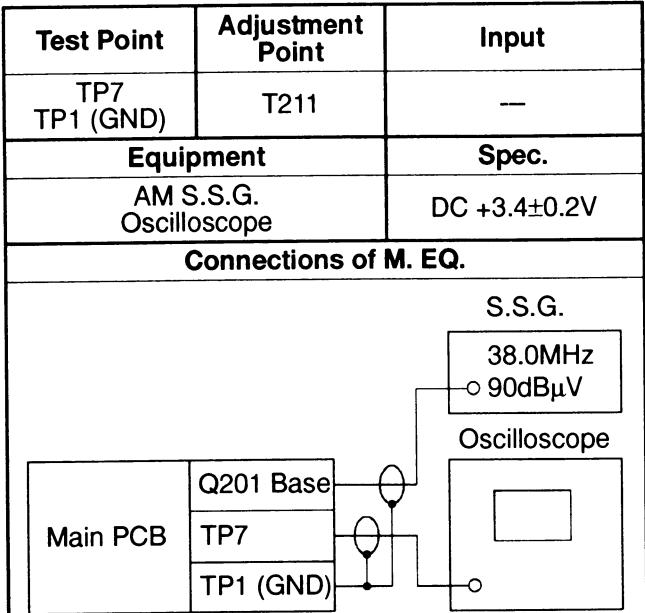
1. Short C214.
2. Set the Spectrum Analyzer as shown in the above table. (Make a loop by connecting both probes of the Spectrum Analyzer and bring the loop near T214 to pick up the leakage wave.)
3. Adjust T214 for reading 38.0±0.05MHz on the Spectrum Analyzer.

<without Spectrum Analyzer>

1. Turn T214 in both directions, right and left, far enough to find the point where Noise Bands or Beats appear on the TV Screen.
2. After finding those points in both directions, adjust T214 so that it is exactly half-way between those two points.
3. After the above adjustment, tune in another Local Broadcast. Then confirm that no Noise Bands or Beats appear on the TV Screen.

3. AFT Adjustment

Purpose: To operate AFT correctly.
Symptom of Misadjustment: AFT does not work correctly and/or synchronization is faulty.



- Reference Notes:** Q201, T211, TP1, TP7 — Main PCB
1. Input the 38.0MHz (90dBµV) no modulating signal from Q201 base.
 2. Turn the core inside of T211 counterclockwise until the top of core is the same height as metal case.
 3. Turn the core of T211 clockwise and find the point where the voltage drops from approximately 5.5V to 0V immediately on the oscilloscope.
 4. Turn the core of T211 little by little and find the point where DC +3.4±0.2V is obtained between the area mentioned in step 3.

Note: Before the adjustment, confirm that the tuner output does not have any noise except white noise.

4. AGC Adjustment

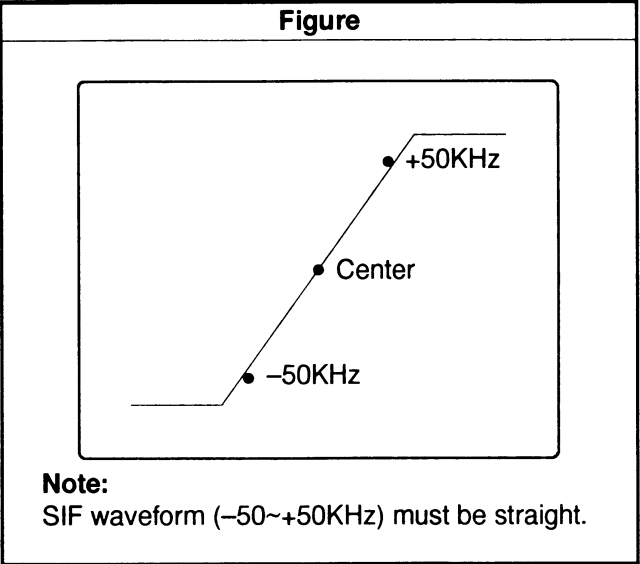
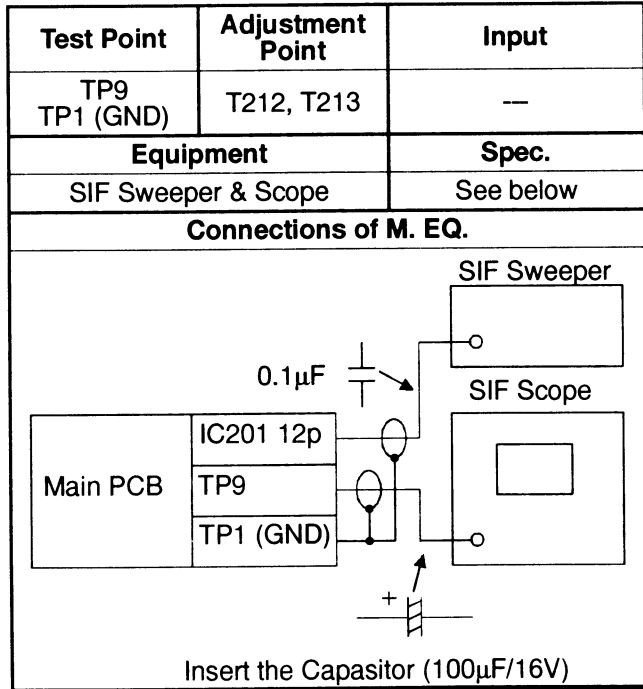
Purpose: Set AGC (Auto Gain Control) Level.
Symptom of Misadjustment: AGC does not synchronize correctly when RF Input Level is too weak and picture distortion may occur if it is too strong.

Test Point	Adjustment Point	Input
TP8 TP1 (GND)	VR211	PAL Color Bar
Equipment		Spec.
PAL Pattern Generator DC Volt Meter		DC +4.5±0.1V

- Reference Notes:** TP1, TP8, VR211 — Main PCB
1. Receive the PAL Color Bar signal for channel 2 (48.25MHz). (RF Input Level: 80dBµV)
 2. Adjust VR211 so that the voltage of TP8 becomes DC +4.5±0.1V. (ALPS TUNER)

5. SIF Adjustment

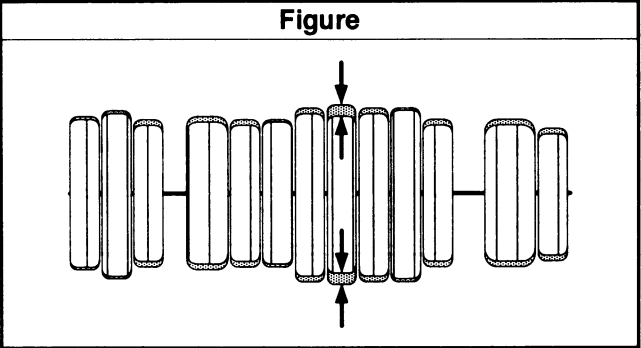
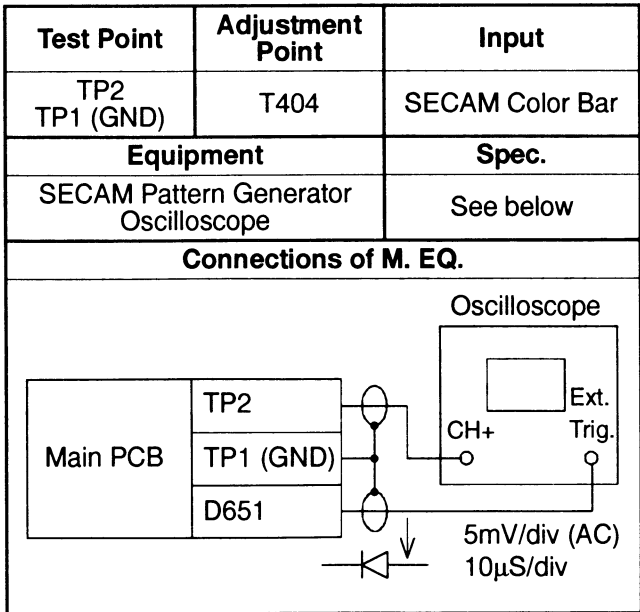
Purpose: To set the SIF (Sound Intermediate Frequency).
Symptom of Misadjustment: Not sound.



- Reference Notes:** TP1, TP9, T212, T213 — Main PCB
1. Connect SIF Sweeper & Scope shown in the above table.
 2. Adjust T212 (SIF=6.5MHz) so that the center mark will be center of SIF waveform and its waveform is straight.
 3. Adjust T213 (SIF=5.5MHz) so that the center mark will be center of SIF waveform and its waveform is straight.
 4. Repeat 2 & 3.

6. Bell Filter Adjustment

Purpose: To adjust the center frequency of SECAM bell filter.
Symptom of Misadjustment: The color will be reversed when the SECAM signal is entered.



- Reference Notes:** D651, TP1, TP2, T404 — Main PCB
- Adjust T404 so that the waveform will be flat shown in the above figure.

7. SECAM Ident Coil Adjustment

Purpose: To adjust the peak value of SECAM Ident signal.
Symptom of Misadjustment: The display is not colored when the SECAM signal is entered.

Test Point	Adjustment Point	Input
TP5 TP1 (GND)	T403	SECAM Color Bar
Equipment		Spec.
SECAM Pattern Generator Oscilloscope		See below

- Reference Notes:** TP1, TP5, T403 — Main PCB
1. Set oscilloscope to 10:1 probe, 0.2V/div (DC) and Range 5µS/div.
 2. Adjust T403 so that the TP5 will be peak DC Voltage.

8. SECAM Demodulate Coil Adjustment

Purpose: To adjust the level of R-Y and (B-Y) color difference signal.

Symptom of Misadjustment: The Red, Green and Blue will be unbalanced.

Test Point	Adjustment Point	Input
TP3 (R-Y) TP4 (B-Y) TP1 (GND)	T402 (R-Y) T401 (B-Y)	SECAM Black Raster
Equipment		Spec.
SECAM Pattern Generator Oscilloscope		See below

Connections of M. EQ.

Figure

- Reference Notes:
- D651, TP1, TP3, TP4, T401, T402 — Main PCB
- Adjust T402 with core driver so that (A) becomes center of (B) as shown in the above table. (TP3)
 - Adjust T401 with core driver so that (A) becomes center of (B) as shown in the above table. (TP4)

9. 1H Delay Line Adjustment

Purpose: To get correct 1H delay line when the PAL signal is entered.

Symptom of Misadjustment: The Anti-PAL signal part is colored when the Philips Pattern is entered. Each scanning line is colored on the color bar.

Test Point	Adjustment Point	Input
TP6 TP1 (GND)	T301, VR301	Philips Pattern
Equipment		Spec.
PAL Pattern Generator Oscilloscope		See below

Connections of M. EQ.

Figure

- Reference Notes:
- D651, TP1, TP6, T301, VR301 — Main PCB
- Adjust VR301 and T301 so that the amplitude at Anti-PAL signal part becomes minimum (no color) and the waveform at the color bar part is not seen in double ("Venetian Blind" does not appear at the color bar signal part).

10. Black Level Adjustment

Purpose: To obtain optimum picture quality.

Symptom of Misadjustment: Black color may not be properly displayed (lighter or darker).

Test Point	Adjustment Point	Input
TP6 TP1 (GND)	VR351	Black Raster
Equipment		Spec.
Pattern Generator Oscilloscope		DC +3.2±0.05V

Figure

- Reference Notes: TP1, TP6, VR351 — Main PCB
- Preset the picture control to initial position.
 - Receive the Black Raster pattern.
 - Adjust VR351 so that the TP6 becomes DC +3.2±0.05V as shown in the above table. (TP6 waveform)

11. Cut Off Adjustment

Purpose: To adjust the beam current of Red, Green, Blue and screen voltage.

Symptom of Misadjustment: White color may be red-dish, greenish or bluish. When the screen voltage is too high, the scanning line is appeared on the screen.

Test Point	Adjustment Point	Input
Screen	VR451 VR452 VR453 Screen-VR	Black Raster
Equipment		Spec.
Pattern Generator		See below

Figure

- Reference Notes:
- VR451, VR452, VR453, VR454, VR455 — CRT PCB
Screen-VR — Main PCB (FBT)
- Degauss the CRT using Degaussing Coil..
 - Set the Screen-VR to minimum. (Counterclockwise)
 - Set the drive VRs (VR454, VR455) to mechanical center, and cut off VRs (VR451, VR452, VR453) to 10 o'clock position.
 - Short the Emitter and Collector of Q125. (Horizontal One Line)
 - Slowly turn the Screen-VR (FBT) to the point where horizontal line is just visible.
 - Adjust VR451 (R. Cut Off), VR452 (G. Cut Off) and VR453 (B. Cut Off) so that horizontal line becomes pure white.
 - Re-adjust the Screen-VR (FBT) to the point where horizontal line is just visible.
 - Open the Emitter and Collector of Q125.

Note: Confirm that White Balance Adj. is correct after this adjustment, and attempt White Balance Adj. if needed.

12. White Balance Adjustment

Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adjustment Point	Input
Screen	VR454 VR455	White Raster (APL 100%)
Equipment		Spec.
Pattern Generator Color Analyzer		See below

- Reference Notes:** VR454, VR455 — CRT PCB
1. Degauss the CRT using Degaussing Coil..
 2. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical sensor into close contact with center on the CRT surface.
 3. Adjust VR454 (R. DRIVE) and VR455 (B. DRIVE) so that the respective chroma temperatures becomes 8000K-10MPCD (x : 0.300 / y : 0.290) ±3%.

Note: Confirm that Cut Off Adj. is correct after this adjustment, and attempt Cut Off Adj. if needed.

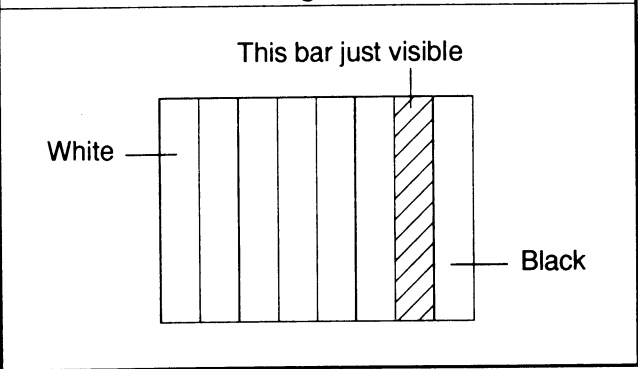
13. Sub Bright Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: Proper brightness cannot be obtained by adjusting the Brightness Control.

Test Point	Adjustment Point	Input
Screen	Screen-VR	Gray Scale (8 step)
Equipment		Spec.
Pattern Generator		See Below

Figure



- Reference Notes:** Screen-VR — Main PCB (FBT)
- Adjust Screen-VR so that the level of dark gray bar (as shown above) is just visible.
- Note: Use the Gray Scale Signal without set up.

14. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: Blurred images are shown on the display.

Test Point	Adjustment Point	Input
Screen	Focus VR	Monoscope Pattern
Equipment		Spec.
Monoscope		See below

- Reference Note:** Focus VR — Main PCB (FBT)
- Adjust Focus-VR (FBT) to be obtained clear picture.

15. V. Position & Size Adjustment

Purpose: To get correct vertical position and size of screen image.

Symptom of Misadjustment: Vertical position and size of screen image may not be properly displayed.

Test Point	Adjustment Point	Input
Screen	VR501, VR521	Monoscope Pattern
Equipment		Spec.
Monoscope		See below

- Reference Note:** VR501, VR521 — Main PCB
1. Adjust VR521 so that the top & bottom of Monoscope pattern will be equal.
 2. Adjust VR501 so that the vertical size will be 90±5% of Monoscope Pattern and the circle is round.

16. H. Position & Size* Adjustment

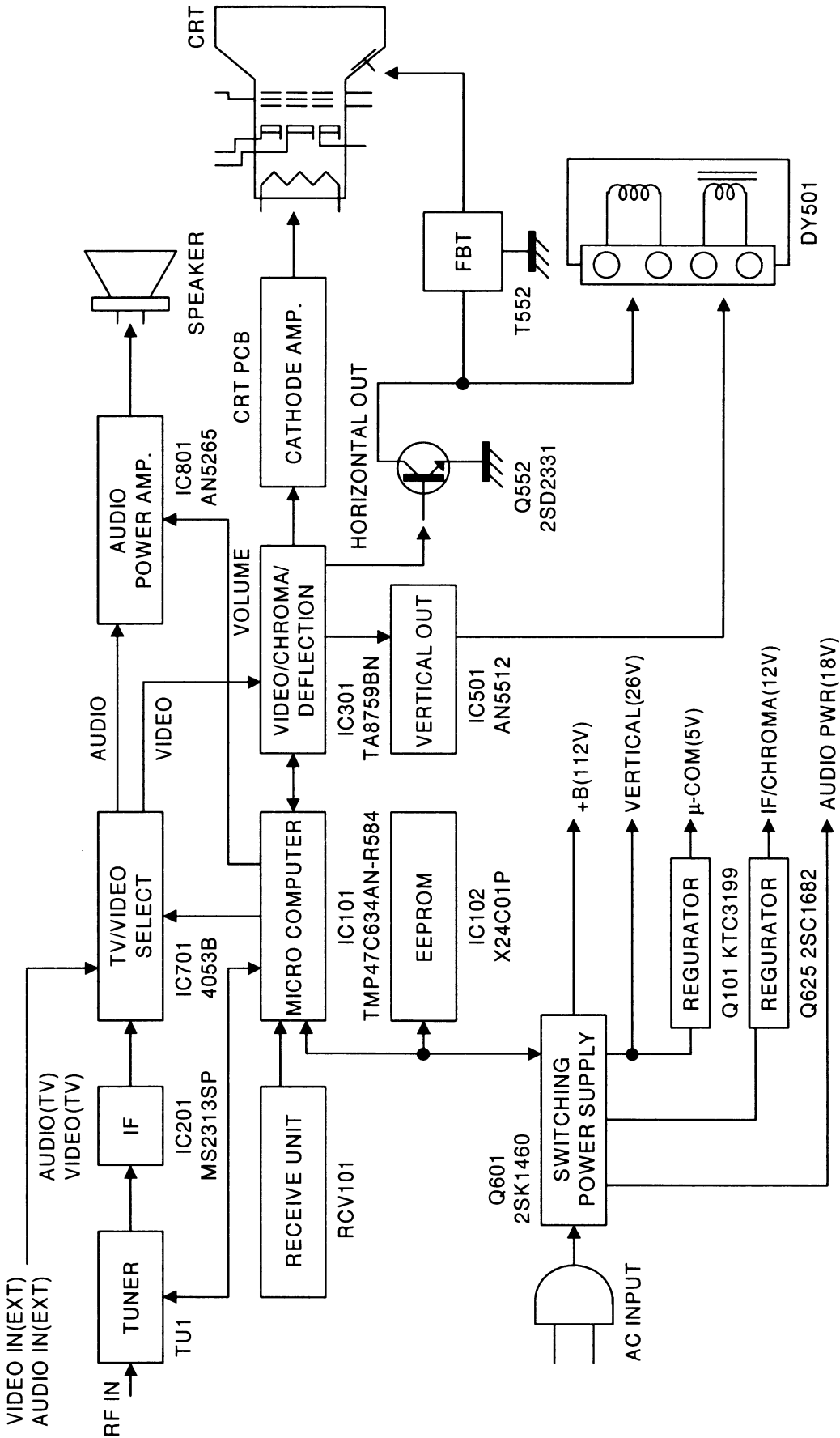
Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adjustment Point	Input
Screen	VR331 , L551	Monoscope Pattern
Equipment		Spec.
Monoscope		See below

- Reference Note:** VR331, L551 — Main PCB
1. Adjust VR331 so that the right & left of monoscope pattern will be equal.
 2. Adjust L551 so that the horizontal size will be 90±5% of Monoscope Pattern and the circle is round.
- * Only model with L551.

BLOCK DIAGRAM



SCHEMATIC DIAGRAMS / PCB'S AND TEST POINTS

Standard Notes

Warning

Critical components having special safety characteristics are identified with a  by the Ref. No. in the parts list and enclosed within a broken line * (where several critical components are grouped in one area) along with the safety symbol  on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Funai Electric Company. Funai assumes no liability,

express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

Notes:

- ① Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
- ② All resistance values are indicated in ohms (K=10³, M=10⁶).
- ③ Resistor wattages are 1/5W or 1/6W unless otherwise specified.
- ④ All capacitance values are indicated in μ F (P=10⁻⁶ μ F).

VOLTAGE CHART

(Unit: Volt)

Pin No.	IC101	IC102	IC201	IC501	IC601	IC701	IC801
1	2.4	0.0	2.1	0.0	44.0	5.9	0.0
2	4.5	0.0	5.9	14.2	42.9	6.1	5.0
3	4.4	0.0	5.0	0.0	0.0	2.5	0.0
4	3.8	0.0	2.7	27.6	0.6	2.5	7.3
5	1.3	4.9	1.9	15.3		0.7	9.0
6	0.0	4.9	1.5	0.7		0.0	9.0
7	0.0	0.0	0.0	-0.3		0.0	0.0
8	0.0	4.9	2.0	1.1		0.0	0.0
9	3.2		3.2	27.2		12.2	19.2
10	1.6		4.2			12.2	
11	1.6		3.6			12.2	
12	1.6		2.9			2.4	
13	0.0		5.3			2.4	
14	0.0		4.5			2.4	
15	0.0		4.4			5.9	
16	4.2		5.3			12.2	
17	0.2		2.6				
18	5.6		12.2				
19	6.0		2.6				
20	0.1		2.4				
21	0.0						
22	0.0						
23	0.0						
24	0.0						
25	0.0						
26	3.8						
27	4.7						
28	2.7						
29	2.8						
30	0.0						
31	2.1						
32	2.2						
33	4.9						
34	0.0						
35	4.0						
36	4.4						
37	0.0						
38	0.0						
39	4.9						
40	4.9						
41	4.9						
42	4.9						

Pin No.	IC301	Pin No.	IC301
1	8.8	33	7.0
2	8.2	34	3.2
3	8.8	35	0.8
4	6.6	36	7.9
5	6.6	37	
6	12.3	38	7.2
7	3.3	39	2.2
8	6.6	40	9.2
9	6.6	41	3.5
10	6.1	42	3.6
11	6.0	43	3.5
12	5.3	44	5.1
13	5.3	45	5.2
14	8.0	46	5.2
15	6.1	47	7.2
16	10.7	48	3.3
17	3.5	49	7.2
18	5.4	50	0.0
19	0.0	51	0.0
20	5.0	52	0.0
21	0.1	53	0.0
22	11.6	54	0.0
23	5.4	55	6.1
24	6.0	56	3.3
25	5.0	57	6.1
26	3.3	58	4.5
27	11.2	59	3.3
28	3.3	60	6.2
29	0.7	61	12.3
30	8.9	62	6.2
31	6.6	63	12.3
32	6.5	64	8.2

Input: PAL Color Bar Signal (with 1KHz Audio Signal)

Receiving Ch.: E2 ch (48.25MHz)

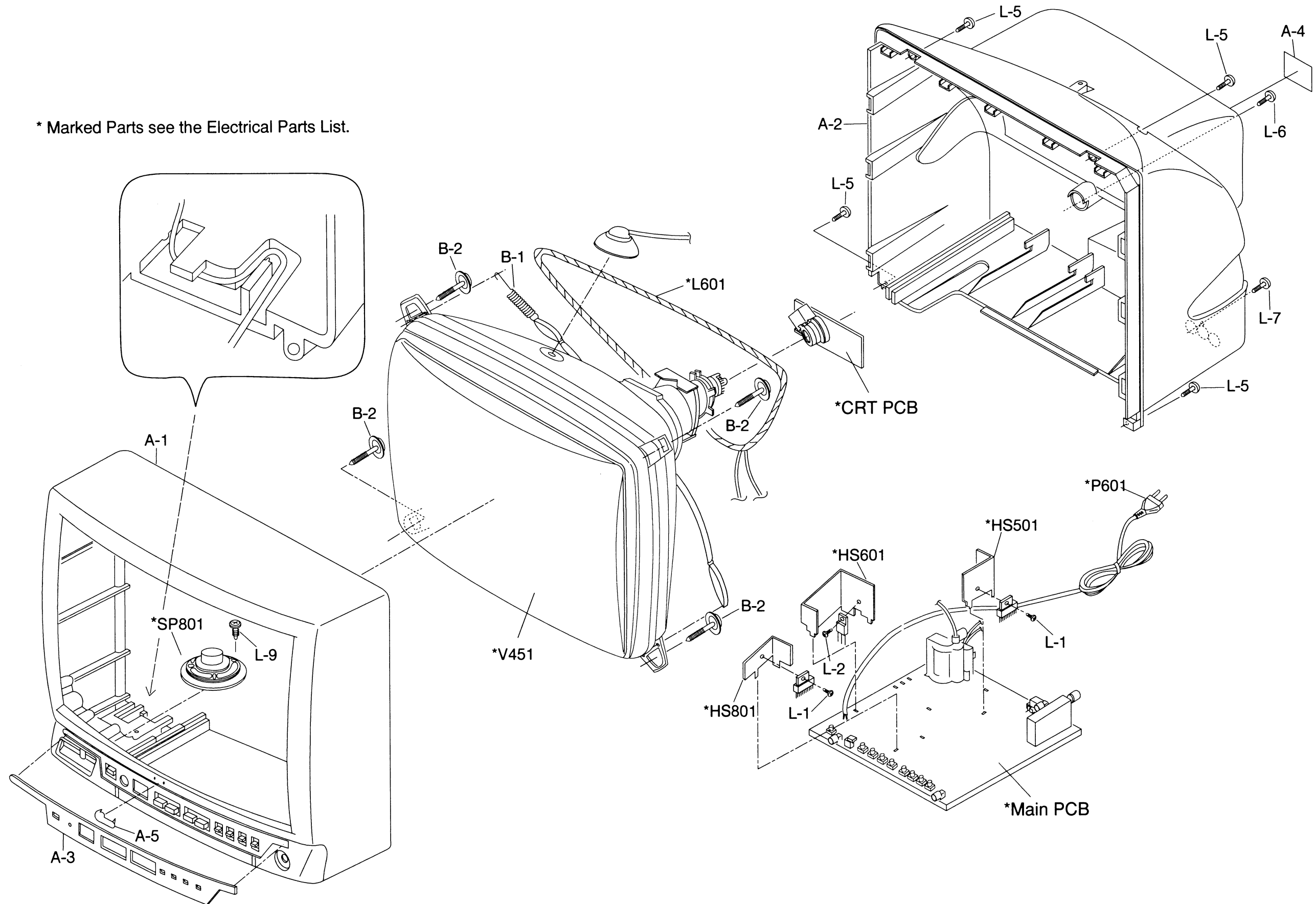
Preset Mode: Press Picture Select button on the remote control unit, then press the number "1" button.

Brightness— Center
Color— Center
Contrast— Approx 70%

Pin No.	E	C	B
Q1	0.0	2.9	0.6
Q2	12.2	0.1	11.8
Q3	12.1	0.0	12.1
Q4	12.1	12.1	11.4
Q101	4.9	9.3	5.5
Q102	5.5	5.5	4.8
Q103	0.0	4.1	0.1
Q104	27.7	9.4	27.3
Q105	0.0	27.2	0.0
Q121	0.0	4.7	0.0
Q122	0.0	3.8	0.0
Q123	0.0	4.4	0.1
Q125	0.0	0.7	0.0
Q201	0.9	9.5	1.6
Q281	0.0	4.2	0.0
Q301	0.0	12.2	0.1
Q381	0.0	2.2	0.0
Q391	0.0	0.1	0.7
Q393	5.2	0.0	4.6
Q394	5.2	0.0	6.2
Q395	0.0	6.4	0.0
Q396	0.0	5.4	0.0
Q397	6.6	0.0	0.9
Q451	3.2	125.2	3.5
Q452	3.2	129	3.5
Q453	3.3	125.4	3.5
Q551	0.0	72.7	0.4
Q552	-0.2	122.7	0.0
Q601	0.7	-	0.1
Q602	0.0	0.7	-0.1
Q603	0.0	0.7	-8.0
Q604	0.6	0.0	0.7
Q621	6.7	43.0	7.3
Q622	3.2	112	0.1
Q623	0.0	0.0	0.5
Q625	12.8	14.0	12.3
Q702	2.4	12.3	3.0
Q703	1.8	12.3	2.4
Q704	0.0	12.2	0.0
Q705	0.0	12.2	0.0
Q801	0.0	4.1	0.4

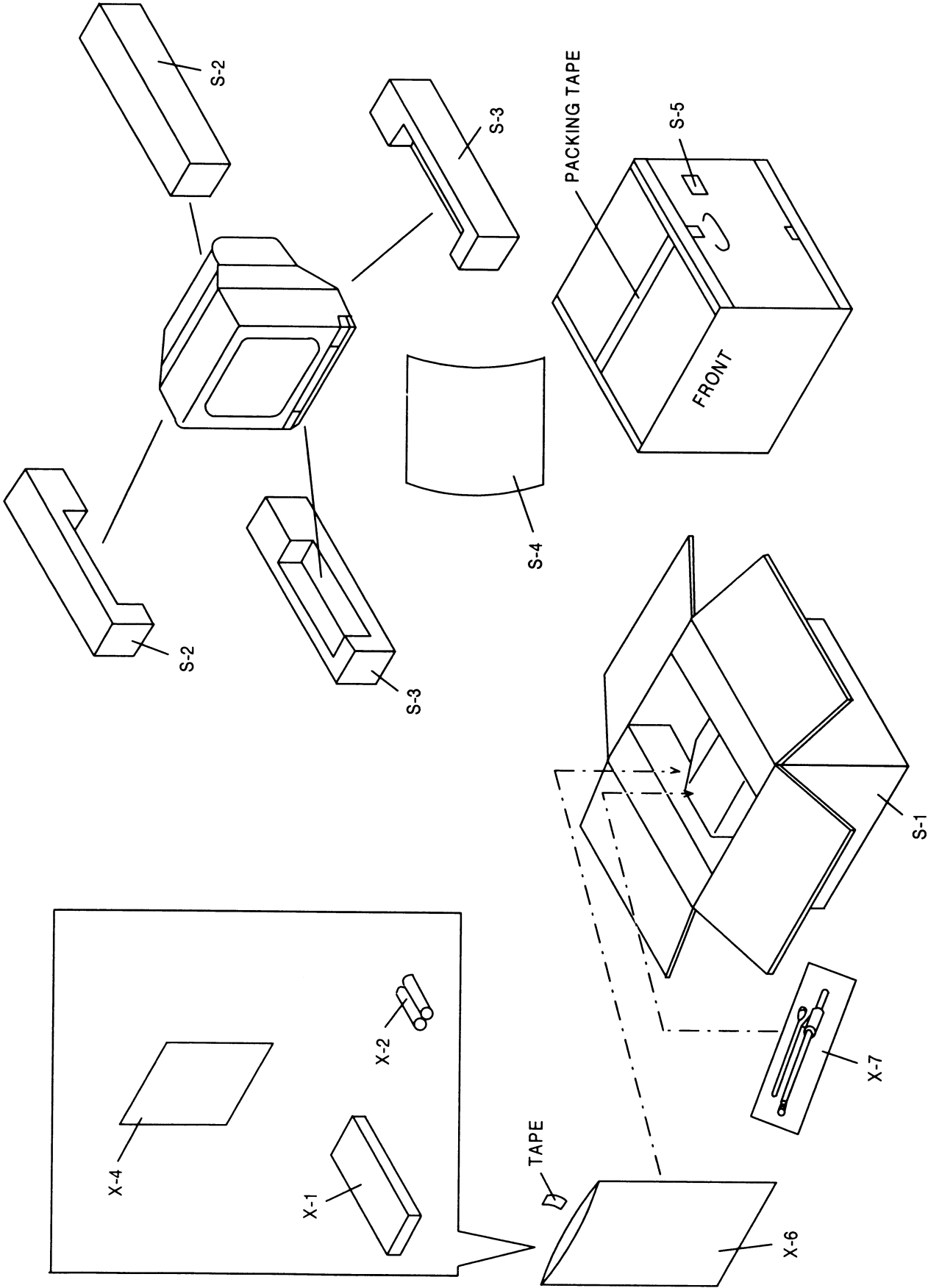
EXPLODED VIEW

* Marked Parts see the Electrical Parts List.



PACKING EXPLODED VIEW

MECHANICAL PARTS LIST



PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

Ref. No.	Description	Part No.
A-1	FRONT CABINET	0EM000162
A-2	REAR CABINET	0EM000163
A-3	CONTROL PLATE	0EM300797
A-4 	RATING LABEL	0EM402566
A-5	BRAND BADGE	0EM400975
B-1	TENTION SPRING	26WH006
B-2	CRT MOUNTING SCREW	8A00083
L-1	B-TIGHT SCREW 3X8 BIND HEAD+	GBMB3080
L-2	B-TIGHT SCREW 3X10 BIND HEAD+	GBMB3100
L-5	P-TIGHT SCREW 4X16 BIND HEAD+	GBMP4160
L-6	P-TIGHT SCREW 4X12 BIND HEAD+	GBKP4120
L-7	P-TIGHT SCREW 3X10 BIND HEAD+	GBKP3100
L-9	P-TIGHT SCREW 3X8 ø12-PAN HEAD+	GCMP3080
S-1	CARTON	0EM402567
S-2	STYROFORM TOP	0EM000165
S-3	STYROFORM BOTTOM	0EM000166
S-4	SET SHEET	0EM401153
S-5	SERIAL NO. LABEL	24LH033
X-1	REMOCON UNIT	UREMT20MM007
X-2	BATTERY UM-3X2 or	1790849
	BATTERY UM-3X2 or	1813020
	BATTERY UM-3X2	579W099
X-4 	OWNER'S MANUAL (E)	0EMN00938
X-6	POLYETHYLENE BAG	Z220300
X-7	ROD ANTENNA	0EMN00542

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

PCB Assembly

Ref. No.	Description	Part No.
	PCB Assembly	MMA-132C
	Consists of the following:	
	Main PCB Assembly	
	CRT PCB Assembly	

Main PCB Assembly

Ref. No.	Description	Part No.
	Main PCB Assembly	
	Consists of the following:	
CAPACITORS		
C 1	ELECTROLYTIC CAP. 10µF/50V	126F106S
C 2	CHIP CERAMIC CAP. CH 100pF/50V or CHIP CERAMIC CAP. CH 100pF/50V	12CH101C CHE1JJ8CH101
C 3	TF CAP. 0.1µF/50V or TF CAP. 0.1µF/50V	125U104S 122Z309S
C 4	TF CAP. 0.1µF/50V or TF CAP. 0.1µF/50V	125U104S 122Z309S
C 5	TF CAP. 0.1µF/50V or TF CAP. 0.1µF/50V	125U104S 122Z309S
C 6	ELECTROLYTIC CAP. 10µF/50V	126F106S
C 7	ELECTROLYTIC CAP. 10µF/50V	126F106S
C 8	ELECTROLYTIC CAP. 10µF/50V	126F106S
C 9	ELECTROLYTIC CAP. 1µF/50V	126F105S
C 10	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 11	ELECTROLYTIC CAP. 10µF/50V	126F106S
C 101	ELECTROLYTIC CAP. 47µF/16V	126C476S
C 102	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 103	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 105	ELECTROLYTIC CAP. 220µF/6.3V	126A227S
C 110	ELECTROLYTIC CAP. 47µF/16V	126C476S
C 111	CHIP CERAMIC CAP. F 0.022µF/50V or CHIP CERAMIC CAP. F 0.022µF/50V	12F3223C CHE1JZ80F223
C 155	ELECTROLYTIC CAP. 1µF/50V	126F105S
C 156	ELECTROLYTIC CAP. 1µF/50V	126F105S
C 171	CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V	1270101C CHE1JJ8SL101
C 172	CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V	1270101C CHE1JJ8SL101
C 173	CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V	1270101C CHE1JJ8SL101
C 174	CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V	1270101C CHE1JJ8SL101
C 175	CHIP CERAMIC CAP. CH 24pF/50V or CHIP CERAMIC CAP. CH 24pF/50V	12CH240C CHE1JJ8CH240
C 176	CHIP CERAMIC CAP. CH 24pF/50V or CHIP CERAMIC CAP. CH 24pF/50V	12CH240C CHE1JJ8CH240
C 185	CHIP CERAMIC CAP. SL 100pF/50V or	1270101C

NOTE: Parts that not assigned part numbers (-----) are not available.

Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%	D.....±0.5%	F.....±1%
G.....±2%	J.....±5%	K.....±10%
M.....±20%	N.....±30%	Z.....+80/-20%

Ref. No.	Description	Part No.
C 186	CHIP CERAMIC CAP. SL 100pF/50V CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V	CHE1JJ8SL101 1270101C CHE1JJ8SL101
C 187	CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V	1270101C CHE1JJ8SL101
C 188	CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V	1270101C CHE1JJ8SL101
C 204	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 205	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 206	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 207	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 210	CERAMIC CAP. CH 27pF	32CH270
C 211	CHIP CERAMIC CAP. CH 10pF/50V or CHIP CERAMIC CAP. CH 10pF/50V	12CH100C CHE1JD8CH100
C 212	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 213	TF CAP. 0.1µF/50V or TF CAP. 0.1µF/50V	125U104S 122Z309S
C 214	TF CAP. 0.47µF/50V or TF CAP. 0.47µF/50V	125U474S 122Z317S
C 215	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 216	ELECTROLYTIC CAP. 100µF/10V	126B107S
C 217	ELECTROLYTIC CAP. 0.47µF/50V	126F474S
C 219	CHIP CERAMIC CAP. SL 39pF/50V or CHIP CERAMIC CAP. SL 39pF/50V	1270390C CHE1JJ8SL390
C 220	CHIP CERAMIC CAP. SL 47pF/50V or CHIP CERAMIC CAP. SL 47pF/50V	1270470C CHE1JJ8SL470
C 221	CHIP CERAMIC CAP. SL 33pF/50V or CHIP CERAMIC CAP. SL 33pF/50V	1270330C CHE1JJ8SL330
C 223	ELECTROLYTIC CAP. 100µF/16V	126C107S
C 224	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 226	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 227	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 230	CHIP CERAMIC CAP. UJ 39pF	CHE1JJ8UJ390
C 281	ELECTROLYTIC CAP. 1µF/50V	126F105S
C 301	CERAMIC CAP. Z 0.022µF/50V	3F40223S
C 302	CHIP CERAMIC CAP. F 0.033µF/50V or CHIP CERAMIC CAP. F 0.033µF/50V	12F3333C CHE1JZ80F333
C 303	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 304	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 305	ELECTROLYTIC CAP. 0.47µF/50V	126F474S
C 306	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103

Ref. No.	Description	Part No.
C 307	*MYLAR CAP. 0.056µF K or MYLAR CAP. 0.056µF K	1250563S 2250563S
C 308	CHIP CERAMIC CAP. B 0.01µF/50V or CHIP CERAMIC CAP. B 0.01µF/50V	12B3103C CHE1JJ80B103
C 309	ELECTROLYTIC CAP. 2.2µF/50V	126X225S
C 310	CHIP CERAMIC CAP. SL 13pF/50V or CHIP CERAMIC CAP. SL 13pF/50V	1270130C CHE1JJ8SL130
C 311	CHIP CERAMIC CAP. CH 39pF/50V or CHIP CERAMIC CAP. CH 39pF/50V	12CH390C CHE1JJ8CH390
C 312	CHIP CERAMIC CAP. CH 27pF/50V or CHIP CERAMIC CAP. CH 27pF/50V	12CH270C CHE1JJ8CH270
C 313	SEMICONDUCTOR CAP. 0.027µF/25V K	CDA1EKS0X273
C 314	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 317	CHIP CERAMIC CAP. SL 33pF/50V or CHIP CERAMIC CAP. SL 33pF/50V	1270330C CHE1JJ8SL330
C 318	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 319	ELECTROLYTIC CAP. 100µF/16V	126C107S
C 331	SEMICONDUCTOR CAP. 0.015µF/25V K	CDA1EKS0X153
C 333	ELECTROLYTIC CAP. 0.47µF/50V (L.L) or ELECTROLYTIC CAP. 0.47µF/50V (L.L)	CE1JMAULLR47 CE1JMASLLR47
C 334	ELECTROLYTIC CAP. 100µF/16V	126C107S
C 335	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 336	SEMICONDUCTOR CAP. 0.022µF/25V K	CDA1EKS0X223
C 337	ELECTROLYTIC CAP. 3.3µF/50V	126F335S
C 338	CHIP CERAMIC CAP. B 0.01µF/50V or CHIP CERAMIC CAP. B 0.01µF/50V	12B3103C CHE1JJ80B103
C 339	CHIP CERAMIC CAP. B 330pF/50V or CHIP CERAMIC CAP. B 330pF/50V	12B3331C CHE1JJ80B331
C 340	CHIP CERAMIC CAP. B 0.001µF/50V or CHIP CERAMIC CAP. B 0.001µF/50V	12B3102C CHE1JJ80B102
C 341	CHIP CERAMIC CAP. SL 47pF or CHIP CERAMIC CAP. SL 47pF	1270470C CHE1JJ8SL470
C 351	CHIP CERAMIC CAP. CH 180pF/50V or CHIP CERAMIC CAP. CH 180pF/50V	12CH181C CHE1JJ8CH181
C 352	CHIP CERAMIC CAP. CH 180pF/50V or CHIP CERAMIC CAP. CH 180pF/50V	12CH181C CHE1JJ8CH181
C 353	SEMICONDUCTOR CAP. 0.1µF/25V K	CDA1EKS0X104
C 354	ELECTROLYTIC CAP. 4.7µF/50V	126F475S
C 355	SEMICONDUCTOR CAP. 0.1µF/25V K	CDA1EKS0X104
C 356	ELECTROLYTIC CAP. 10µF/50V	126F106S
C 357	CHIP CERAMIC CAP. CH 22pF/50V or CHIP CERAMIC CAP. CH 22pF/50V	12CH220C CHE1JJ8CH220
C 358	ELECTROLYTIC CAP. 1µF/50V	126F105S
C 359	CHIP CERAMIC CAP. SL 120pF/50V or CHIP CERAMIC CAP. SL 120pF/50V	1270121C CHE1JJ8SL121
C 360	CHIP CERAMIC CAP. SL 56pF/50V or CHIP CERAMIC CAP. SL 56pF/50V	1270560C CHE1JJ8SL560
C 361	ELECTROLYTIC CAP. 0.1µF/50V	126F104S
C 362	ELECTROLYTIC CAP. 0.1µF/50V	126F104S
C 363	ELECTROLYTIC CAP. 1µF/50V	126F105S
C 364	ELECTROLYTIC CAP. 0.1µF/50V	126F104S
C 365	ELECTROLYTIC CAP. 0.47µF/50V	126F474S
C 366	ELECTROLYTIC CAP. 0.47µF/50V	126F474S
C 367	ELECTROLYTIC CAP. 0.47µF/50V	126F474S
C 381	CHIP CERAMIC CAP. SL 68pF/50V or CHIP CERAMIC CAP. SL 68pF/50V	1270680C CHE1JJ8SL680
C 382	CHIP CERAMIC CAP. SL 33pF/50V or CHIP CERAMIC CAP. SL 33pF/50V	1270330C CHE1JJ8SL330
C 383	CHIP CERAMIC CAP. SL 47pF/50V or CHIP CERAMIC CAP. SL 47pF/50V	1270470C CHE1JJ8SL470
C 401	CHIP CERAMIC CAP. CH 180pF/50V or	12CH181C

* Mylar is a registered trademark of E. I. DuPont de Nemours and Company.

Ref. No.	Description	Part No.
C 402	CHIP CERAMIC CAP. CH 180pF/50V CHIP CERAMIC CAP. CH 180pF/50V or CHIP CERAMIC CAP. CH 180pF/50V	CHE1JJ8CH181 12CH181C CHE1JJ8CH181
C 403	CHIP CERAMIC CAP. CH 7pF/50V	12CH709C
C 404	CHIP CERAMIC CAP. CH 20pF/50V or CHIP CERAMIC CAP. CH 20pF/50V	12CH200C CHE1JJ8CH200
C 405	CHIP CERAMIC CAP. CH 6pF/50V	12CH609C
C 406	CHIP CERAMIC CAP. CH 20pF/50V or CHIP CERAMIC CAP. CH 20pF/50V	12CH200C CHE1JJ8CH200
C 407	MYLAR CAP. 0.056µF K or MYLAR CAP. 0.056µF K	1250563S 2250563S
C 408	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 409	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 410	CHIP CERAMIC CAP. SL 27pF/50V or CHIP CERAMIC CAP. SL 27pF/50V	1270270C CHE1JJ8SL270
C 412	CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V	12F3103C CHE1JZ80F103
C 501	CHIP CERAMIC CAP. B 0.001µF/50V or CHIP CERAMIC CAP. B 0.001µF/50V	12B3102C CHE1JJ80B102
C 502	ELECTROLYTIC CAP. 2.2µF/50V (L.L) or ELECTROLYTIC CAP. 2.2µF/50V (L.L)	CE1JMAULL2R2 CE1JMASLL2R2
C 503	TF CAP. 0.1µF/50V or TF CAP. 0.1µF/50V	125U104S 122Z309S
C 504	CHIP CERAMIC CAP. B 470pF/50V or CHIP CERAMIC CAP. B 470pF/50V	12B3471C CHE1JJ80B471
C 505	MYLAR CAP. 0.033µF K or MYLAR CAP. 0.033µF K	1250333S 2250333S
C 506	ELECTROLYTIC CAP. 100µF/35V	126E107S
C 507	ELECTROLYTIC CAP. 100µF/35V	126E107S
C 508	ELECTROLYTIC CAP. 3.3µF/50V (L.L) or ELECTROLYTIC CAP. 3.3µF/50V (L.L)	CE1JMAULL3R3 CE1JMASLL3R3
C 509	ELECTROLYTIC CAP. 1000µF/25V	626D108
C 510	TF CAP. 0.1µF/50V or TF CAP. 0.1µF/50V	125U104S 122Z309S
C 511	ELECTROLYTIC CAP. 3.3µF/50V (L.L) or ELECTROLYTIC CAP. 3.3µF/50V (L.L)	CE1JMAULL3R3 CE1JMASLL3R3
C 551	CHIP CERAMIC CAP. B 330pF/50V or CHIP CERAMIC CAP. B 330pF/50V	12B3331C CHE1JJ80B331
C 552	CERAMIC CAP. 330pF/500V	CCD2JKS0B331
C 553	CERAMIC CAP. 0.0022µF/500V	CCD2JKS0B222
C 554	P.P. CAP. 0.0082µF/1.6KV or P.P. CAP. 0.0082µF/1.6KV or P.P. CAP. 0.0082µF/1.6KV [used CRT: 370KRB22-TC09(SPYB)]	CA3C822DT007 122Z284 1220499
C 555	P.P. CAP. 0.0068µF/1.6KV or P.P. CAP. 0.0068µF/1.6KV or P.P. CAP. 0.0068µF/1.6KV [used CRT: A34KPU02XX48/ 37GDA85X-TC01]	CA3C682DT007 122Z283 1220498
C 556	CERAMIC CAP. 470pF/2KV BN TYPE [used CRT: 37GDA85X-TC01] CERAMIC CAP. 1000pF 2KV Bn [used CRT: A34KPU02XX48 [C555 Not used if the CRT:370KRB22-TC09 (SPYB) is used]]	CCD3DKA0B471 CCD3DKA0B102
C 557	P.P. CAP. 0.47µF/200V or P.P. CAP. 0.47µF/200V [used CRT: 370KRB22-TC09(SPYB)/ A34KPU02XX48] P.P. CAP. 0.56µF/200V or P.P. CAP. 0.56µF/200V [used CRT: 37GDA85X-TC01] ELECTROLYTIC CAP. 1µF/250V or	CT2E474DT003 122Z256 CT2E564DT003 122Z257 CE2EMZNTL010

Ref. No.	Description	Part No.
C 601	ELECTROLYTIC CAP. 1μF/250V or	122Z340
	ELECTROLYTIC CAP. 1μF/250V or	6220690
	ELECTROLYTIC CAP. 1μF/250V	CE2EMZDDL010
C 603	LINE ACROSS CAP. 0.1μF/250V or	CT2E104DT001
	LINE ACROSS CAP. 0.1μF/250V or	122Z181
	LINE ACROSS CAP. 0.1μF/250V	CA2E104MS005
C 604	CERAMIC CAP. 0.0022μF AC250V or	CCH2EZP0E222
	CERAMIC CAP. 0.0022μF AC250V	CCD2EZA0E222
	CERAMIC CAP. 0.0022μF AC250V	CCH2EZP0E222
C 605	CERAMIC CAP. 0.0022μF AC250V or	CCD2EZA0E222
	CERAMIC CAP. 0.0022μF AC250V	CCH2EZP0E222
	CERAMIC CAP. 0.0022μF AC250V	CCD2EZA0E222
C 606	CERAMIC CAP. 0.0022μF AC250V or	CCH2EZP0E222
	CERAMIC CAP. 0.0022μF AC250V	CCD2EZA0E222
	ELECTROLYTIC CAP. 100μF/400V	CA2H101NC008
C 607	ELECTROLYTIC CAP. 33μF/25V	126D336S
C 609	MYLAR CAP. 0.0082μF K or	1250823S
	MYLAR CAP. 0.0082μF K	2250823S
	MYLAR CAP. 0.01μF K or	1250103S
C 610	MYLAR CAP. 0.01μF K	2250103S
	MYLAR CAP. 0.033μF K or	1250333S
	MYLAR CAP. 0.033μF K	2250333S
C 611	MYLAR CAP. 0.033μF K or	1250222S
	MYLAR CAP. 0.0022μF K or	2250222S
	MYLAR CAP. 0.0022μF K	1250222S
C 613	MYLAR CAP. 0.0022μF K or	2250222S
	MYLAR CAP. 0.0022μF K	CCD3DKP0B221
	CERAMIC CAP. 220pF/2KV or	6220581
C 614	CERAMIC CAP. 220pF/2KV	CCG2HZP0Z472
	CERAMIC CAP. 0.0047μF AC400V or	1220353
	CERAMIC CAP. 0.0047μF AC400V	CCG2HZP0Z472
C 615	CERAMIC CAP. 0.0047μF AC400V or	1220353
	CERAMIC CAP. 0.0047μF AC400V	CCG2HZP0Z472
	CERAMIC CAP. 0.0047μF AC400V	1220353
C 617	ELECTROLYTIC CAP. 100μF/16V	126C107S
	ELECTROLYTIC CAP. 100μF/160V (105°C) or	CA2C101NC009
	ELECTROLYTIC CAP. 100μF/160V (105°C)	CE2CMZDEH101
C 618	CERAMIC CAP. 470pF/500V	CCD2JKS0B471
	ELECTROLYTIC CAP. 2200μF/16V or	CE1CMRDDL222
	ELECTROLYTIC CAP. 2200μF/16V	626C228
C 619	MYLAR CAP. 0.001μF K or	1250102S
	MYLAR CAP. 0.001μF K	2250102S
	ELECTROLYTIC CAP. 470μF/35V or	CE1GMRDDL471
C 620	ELECTROLYTIC CAP. 470μF/35V	626E477
	CERAMIC CAP. 0.001μF/500V	CCD2JKS0B102
	ELECTROLYTIC CAP. 470μF/25V or	CE1EMRDDL471
C 621	ELECTROLYTIC CAP. 470μF/25V	626D477
	ELECTROLYTIC CAP. 220μF/16V	126C227S
	CERAMIC CAP. SL 15pF	3S41150S
C 622	ELECTROLYTIC CAP. 47μF/160V (105°C) or	CA2C470NC009
	ELECTROLYTIC CAP. 47μF/160V (105°C)	CE2CMZDEH470
	CERAMIC CAP. 0.001μF/500V	CCD2JKS0B102
C 623	ELECTROLYTIC CAP. 4.7μF/100V	CE2AMASDL4R7
	CERAMIC CAP. 0.0047μF/500V	CCD2JKD0B472
	ELECTROLYTIC CAP. 47μF/16V	126C476S
C 624	ELECTROLYTIC CAP. 4.7μF/50V	126F475S
	SEMICONDUCTOR CAP. 0.056μF/25V K	CDA1EKS0X563
	ELECTROLYTIC CAP. 1μF/50V	126F105S
C 625	ELECTROLYTIC CAP. 10μF/50V	126F106S
	ELECTROLYTIC CAP. 2.2μF/50V	126F225S
	CHIP CERAMIC CAP. B 0.018μF/50V or	12B3183C
C 626	CHIP CERAMIC CAP. B 0.018μF/50V	CHE1JJ80B183
	ELECTROLYTIC CAP. 10μF/50V	126F106S
	ELECTROLYTIC CAP. 10μF/50V	126F106S
C 627	ELECTROLYTIC CAP. 470μF/25V or	CE1EMRDDL471
	ELECTROLYTIC CAP. 470μF/25V	626D477

Ref. No.	Description	Part No.
C 807	ELECTROLYTIC CAP. 470μF/10V	126B477S
C 808	ELECTROLYTIC CAP. 470μF/10V	126B477S
C 809	SEMICONDUCTOR CAP. 0.1μF/25V K	CDA1EKS0X104
CONNECTORS		
CN501	CONNECTOR BASE 5P or (for D.Y.)	J3RTC05JG001
	CONNECTOR BASE 5P or (for D.Y.)	J3RTC05MY002
	CONNECTOR BASE 5P (for D.Y.)	1730812
CN601	CONNECTOR BASE 2P or (for D.G.COIL)	J3RTC02JG001
	CONNECTOR BASE 2P or (for D.G.COIL)	J3RTC02MY002
	CONNECTOR BASE 2P (for D.G.COIL)	1780276
CN801	CONNECTOR BASE 2P or (for SPEAKER)	J383C02UG002
	CONNECTOR BASE 2P (for SPEAKER)	1770258
DIODES		
D 1	ZENER DIODE L5631	L5631
D 2	DIODE 1N4148M or	QDSZ01N4148M
	DIODE 1SS176	1SS176S
	DIODE 1N4148M or	QDSZ01N4148M
D 3	DIODE 1SS176	1SS176S
	DIODE 1SS176	QDSB0U7R5BS
	ZENER DIODE UZ-7.5BS (B)	QDSB0U7R5BS
D 4	ZENER DIODE UZ-7.5BS (B)	QDSB0U5R6BS
D 5	ZENER DIODE UZ-5.6BS (B)	QDSB0U4R3BS
D 101	ZENER DIODE UZ-4.3BS (B)	NP4Z0005132T
D 102	LED 5132T or	1401273
D 111	LED SLR-55VC 3F	QDSZ01N4148M
D 171	DIODE 1N4148M or	1SS176S
	DIODE 1SS176	QDSZ01N4148M
	DIODE 1SS176	1SS176S
D 173	DIODE 1N4148M or	QDSZ01N4148M
	DIODE 1SS176	1SS176S
	DIODE 1SS176	QDSZ01N4148M
D 174	DIODE 1N4148M or	1SS176S
	DIODE 1SS176	QDSB0U5R1BS
	ZENER DIODE UZ-5.1BS (B)	QDSB0U20BS
D 201	ZENER DIODE UZ-20BS (B)	QDSZ01N4148M
D 283	DIODE 1N4148M or	1SS176S
D 284	DIODE 1SS176	QDSZ01N4148M
	DIODE 1SS176	1SS176S
	DIODE 1SS176	QDSB0U212BS (B)
D 286	DIODE 1N4148M or	QDSZ01N4148M
D 287	DIODE 1SS176	1SS176S
	DIODE 1SS176	QDSB0U29R1BS
	ZENER DIODE UZ-7.5BS (B)	QDSB0U7R5BS
D 331	DIODE ERA15-02KFRB	QDNZ0ERA1502
D 501	DIODE 1N4148M	QDSZ01N4148M
D 502	DIODE ERA15-02KFRB	QDQZ0ERB4404
D 503	DIODE 1N4148M	QDQZ0ERB1210
D 555	DIODE ERB44-04L3	QDQZ0ERB1210
D 603	DIODE ERB12-10L3	QDQZ0ERB1210
D 604	DIODE ERB12-10L3	QDQZ0ERB1210
D 605	DIODE ERB12-10L3	QDQZ0ERB1210
D 606	DIODE ERB12-10L3	QDQZ0ERB1210
D 611	ZENER DIODE UZ-15BS (B)	QDSB0U215BS
D 612	DIODE 1N4148M or	QDSZ01N4148M
	DIODE 1SS176	1SS176S
	ZENER DIODE UZ-7.5BS (B)	QDSB0U7R5BS
D 613	DIODE 1N4148M	QDSZ01N4148M
D 615	DIODE 1N4148M	QDSZ01N4148M
D 616	DIODE 1N4148M	QDSZ01N4148M
D 621	DIODE ERD38-06L	AERD3806L000
D 622	DIODE ERB44-04L3	QDQZ0ERB4404
D 623	DIODE ERB44-04L3	QDQZ0ERB4404
D 624	DIODE ERB44-04L3	QDQZ0ERB4404
D 625	DIODE 1N4148M or	QDSZ01N4148M
	DIODE 1SS176	1SS176S
	DIODE 1N4148M or	QDSZ01N4148M
D 626	DIODE 1SS176	1SS176S
	DIODE 1N4148M or	QDSZ01N4148M
	DIODE 1SS176	1SS176S
D 627	DIODE 1Z150 (LC6) or	QD4Z0001Z150
	DIODE EQB01-150	AEQB01150000
	ZENER DIODE MTZ-6.8B	QDUB00MTZ6R8
D 628	DIODE 1N4148M or	QDSZ01N4148M
D 629	DIODE 1N4148M or	QDSZ01N4148M

Ref. No.	Description	Part No.
D 631	DIODE 1SS176	1SS176S
	ZENER DIODE UZ-12BS (B)	QDSB0U212BS
	DIODE 1N4148M or	QDSZ01N4148M
D 632	DIODE 1SS176	1SS176S
	ZENER DIODE UZ-3.9BS (B)	QDSB0U3R9BS
	DIODE 1N4148M or	QDSZ01N4148M
D 633	DIODE 1SS176	1SS176S
	DIODE 1N4148M or	QDSZ01N4148M
	DIODE 1SS176	1SS176S
D 634	DIODE 1N4148M or	QDSZ01N4148M
	DIODE 1SS176	1SS176S
	DIODE 1SS176	QDQZ0ERB4404
D 651	DIODE ERB44-04L3	QDSB0U212BS
D 652	ZENER DIODE UZ-12BS (B)	QDSZ01N4148M
D 701	DIODE 1N4148M or	1SS176S
	DIODE 1SS176	QDSZ01N4148M
	DIODE 1SS176	1SS176S
D 702	DIODE 1N4148M or	QDSZ01N4148M
	DIODE 1SS176	1SS176S
	DIODE 1N4148M or	QDSZ01N4148M
D 801	DIODE 1SS176	1SS176S
	DIODE 1SS176	QSMQA0ZTS045
	DIODE 1SS176	NSMMA0SMH002
ICS		
IC101	IC TMP47C634AN-R584	NSMMA0ZXC003
IC102	IC 24LC01B/P or	NSMMA0ZSS002
	IC X24C01AP or	NSMMA0ZAZ003
	IC ST24C01CB1 or	QSBLA0SMB011
IC201	IC AT24C01A-10PC	QSBLOZTS042
IC301	IC M52313SP	QSBLA0SMS006
IC501	IC TA8759BN	QPEZ00PC120F
IC601	IC AN5512	14DW168
IC701	PHOTO COUPLER PC120	14LF166
	IC TC4053BP or	14D0168
	IC BU4053B or	14D0436
IC801	IC MC14053BCP or	14LN160
	IC NJU4053BD	
	IC AN5265	
COILS		
L 171	MICRO INDUCTOR 39μH J	2164390S
L 201	MICRO INDUCTOR 1μH K	2165109S
L 202	MICRO INDUCTOR 2.2μH K	2165229S
L 212	MICRO INDUCTOR 10μH K	2165100S
L 213	MICRO INDUCTOR 8.2μH K	2165829S
L 301	MICRO INDUCTOR 8.2μH K	2165829S
L 351	MICRO INDUCTOR 68μH K	2165680S
L 352	MICRO INDUCTOR 33μH K	2165330S
L 353	MICRO INDUCTOR 68μH K	2165680S
L 381	MICRO INDUCTOR 18μH K	2165180S
T 211	CASING COIL or	LFA07V0MM041
	CASING COIL	LFA07V0SF097
	CASING COIL or	LFA07V0MM040
T 212	CASING COIL	LFA07V0SF099
	CASING COIL or	LFA07V0MM039
	CASING COIL	LFA07V0SF098
T 213	CASING COIL or	LFA07V0MM042
	CASING COIL	LFA07V0SF096
	CASING COIL	LLARZGZSF470
T 214	POT TYPE COIL 47μH or	LLBD**DMM001
	POT TYPE COIL 47μH	LFA07V0MM029
T 301	CASING COIL or	LFA07V0SF100
	CASING COIL or	LFA07V0SF105
	CASING COIL	LFA07V0MM031
T 401	CASING COIL or	LFA07V0SF103
	CASING COIL or	LFA07V0SF108
	CASING COIL	LFA07V0MM031
T 402	CASING COIL or	LFA07V0SF103
	CASING COIL or	LFA07V0SF108
	CASING COIL	LFA07V0MM030
T 403	CASING COIL or	LFA07V0SF102
	CASING COIL or	LFA07V0SF107
	CASING COIL	LFA07V0MM032
T 404	CASING COIL or	

Ref. No.	Description	Part No.
	CASING COIL or	LFA07V0SF101
	CASING COIL	LFA07V0SF106
TRANSISTORS		
Q 1	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
Q 2	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
	TRANSISTOR KTA1266 (GR) or	NQS40KTA1266
Q 3	TRANSISTOR KTA1267 (GR) or	NQS10KTA1267
	TRANSISTOR 2SA1318 (T) or	2SA1318TZ
	TRANSISTOR 2SA1318 (U) or	2SA1318UZ
Q 4	TRANSISTOR 2SA1015 (GR)	QQS102SA1015
	TRANSISTOR KTA1266 (GR) or	NQS40KTA1266
	TRANSISTOR KTA1267 (GR) or	NQS10KTA1267
Q 101	TRANSISTOR 2SA1318 (T) or	2SA1318TZ
	TRANSISTOR 2SA1318 (U) or	2SA1318UZ
	TRANSISTOR 2SA1015 (GR)	QQS102SA1015
Q 102	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
Q 103	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
	TRANSISTOR KTA1266 (GR) or	NQS40KTA1266
Q 104	TRANSISTOR KTA1267 (GR) or	NQS10KTA1267
	TRANSISTOR 2SA1318 (T) or	2SA1318TZ
	TRANSISTOR 2SA1318 (U) or	2SA1318UZ
Q 105	TRANSISTOR 2SA1015 (GR)	QQS102SA1015
	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
Q 121	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
Q 122	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
Q 123	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
Q 125	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA

Ref. No.	Description	Part No.
Q 201	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
Q 281	TRANSISTOR 2SC3000 (D) or	2SC3000DZ
	TRANSISTOR 2SC3000 (E)	2SC3000EZ
Q 301	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
Q 381	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
Q 391	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
Q 393	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
Q 394	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
Q 395	TRANSISTOR KTA1266 (GR) or	NQS40KTA1266
	TRANSISTOR KTA1267 (GR) or	NQS10KTA1267
Q 396	TRANSISTOR 2SA1318 (T) or	2SA1318TZ
	TRANSISTOR 2SA1318 (U) or	2SA1318UZ
Q 397	TRANSISTOR 2SA1015 (GR)	QQS102SA1015
	TRANSISTOR KTA1266 (GR) or	NQS40KTA1266
Q 551	TRANSISTOR KTA1267 (GR) or	NQS10KTA1267
	TRANSISTOR 2SA1318 (T) or	2SA1318TZ
Q 601	TRANSISTOR 2SA1318 (U) or	2SA1318UZ
	TRANSISTOR 2SA1015 (GR)	QQS102SA1015
Q 602	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
Q 603	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
Q 604	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
	TRANSISTOR 2SC2271 (D) or	2SC2271DZ
Q 605	TRANSISTOR 2SC2271 (E)	2SC2271EZ
	TRANSISTOR 2SD2331LS	QQPZ02SD2331
Q 606	FET 2SK1460	QF9Z02SK1460
	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
Q 607	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
Q 608	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
Q 609	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
Q 610	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
Q 611	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
	TRANSISTOR 2SB698 (F) or	QQS002SB698
Q 612	TRANSISTOR 2SB698 (G) or	QQS002SB698
	TRANSISTOR 2SA950 (Y)	Q2SA950YTPE2

Ref. No.	Description	Part No.
Q 621	TRANSISTOR 2SC2271 (D) or	2SC2271DZ
Q 622	TRANSISTOR 2SC2271 (E)	2SC2271EZ
	TRANSISTOR 2SC2271 (D) or	2SC2271DZ
Q 623	TRANSISTOR 2SC2271 (E)	2SC2271EZ
	TRANSISTOR 2SC2271 (D) or	2SC2271DZ
Q 625	TRANSISTOR 2SC2271 (E)	2SC2271EZ
	TRANSISTOR 2SD1682(S) or	QQ3S02SD1682
Q 702	TRANSISTOR 2SD1682(T)	QQ3T02SD1682
	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
Q 703	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
Q 704	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
Q 705	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
Q 801	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
Q 802	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
	TRANSISTOR KTC3198 (GR) or	NQS40KTC3198
Q 803	TRANSISTOR KTC3199 (GR) or	NQS10KTC3199
	TRANSISTOR 2SC3331 (T) or	QSC3331TNPAA
Q 804	TRANSISTOR 2SC3331 (U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815 (GR)	QQS102SC1815
RESISTORS		
R 1	CHIP RES. 1/10W 10KΩ or	134F103C
R 2	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
	CHIP RES. 1/10W 22KΩ or	134F223C
R 3	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
	CHIP RES. 1/10W 22KΩ or	134F223C
R 4	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
	CHIP RES. 1/10W 15KΩ or	134F153C
R 5	CHIP RES. 1/10W 15KΩ	RRXAJR8Z0153
	CHIP RES. 1/10W 15KΩ or	134F153C
R 6	CHIP RES. 1/10W 15KΩ	RRXAJR8Z0153
	CHIP RES. 1/10W 22KΩ or	134F223C
R 7	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
	CHIP RES. 1/10W 22KΩ or	134F223C
R 8	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
	CHIP RES. 1/10W 22KΩ or	134F223C
R 9	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
	CHIP RES. 1/10W 22KΩ or	134F223C
R 10	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
	CHIP RES. 1/10W 22KΩ or	134F223C
R 11	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
	CHIP RES. 1/10W 3.3KΩ or	134F332C
R 12	CHIP RES. 1/10W 3.3KΩ	RRXAJR8Z0332
	CHIP RES. 1/10W 3.3KΩ or	134F332C
R 13	CHIP RES. 1/10W 3.3KΩ	RRXAJR8Z0332
	CHIP RES. 1/10W 5.6KΩ or	134F562C
R 14	CHIP RES. 1/10W 5.6KΩ	RRXAJR8Z0562
	CHIP RES. 1/10W 5.6KΩ or	134F562C
R 15	CHIP RES. 1/10W 5.6KΩ	RRXAJR8Z0562
	CHIP RES. 1/10W 22KΩ or	134F223C
R 16	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
	CHIP RES. 1/10W 10KΩ or	134F103C
R 17	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103

Ref. No.	Description	Part No.
R 17	CHIP RES. 1/10W 4.7Ω	134F479C
R 101	CARBON RES. 1/4W 10Ω	RCX4JASZ0100
R 102	CARBON RES. 1/4W 330Ω	RCX4JASZ0331
R 103	CHIP RES. 1/10W 1KΩ or	134F102C
R 104	CHIP RES. 1/10W 1KΩ	RRXAJR8Z0102
	CHIP RES. 1/10W 1KΩ or	134F102C
R 105	CHIP RES. 1/10W 1KΩ	RRXAJR8Z0102
	CHIP RES. 1/10W 1KΩ or	134F102C
R 106	CHIP RES. 1/10W 1KΩ	RRXAJR8Z0102
	CHIP RES. 1/10W 8.2KΩ or	134F822C
R 107	CHIP RES. 1/10W 8.2KΩ	RRXAJR8Z0822
	CHIP RES. 1/10W 10KΩ or	134F103C
R 108	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
	CHIP RES. 1/10W 10KΩ or	134F103C
R 109	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
	CHIP RES. 1/10W 4.7KΩ or	134F472C
R 110	CHIP RES. 1/10W 4.7KΩ	RRXAJR8Z0472
	CARBON RES. 1/4W 1KΩ	RCX4JASZ0102
R 111	CHIP RES. 1/10W 1KΩ	134F223C
	CHIP RES. 1/10W 22KΩ or	RRXAJR8Z0223
R 112	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
	CHIP RES. 1/10W 22KΩ or	134F223C
R 113	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
	CHIP RES. 1/10W 220Ω or	134F221C
R 118	CHIP RES. 1/10W 220Ω	RRXAJR8Z0221
	CHIP RES. 1/10W 4.7KΩ or	134F472C
R 119	CHIP RES. 1/10W 4.7KΩ	RRXAJR8Z0472
	CARBON RES. 1/4W 10KΩ	RCX4JASZ0103
R 121	CHIP RES. 1/10W 10KΩ	134F223C
	CHIP RES. 1/10W 22KΩ or	RRXAJR8Z0223
R 122	CHIP RES. 1/10W 22KΩ	134F103C
	CHIP RES. 1/10W 10KΩ or	RRXAJR8Z0103
R 123	CHIP RES. 1/10W 1KΩ or	134F102C
	CHIP RES. 1/10W 1KΩ	RRXAJR8Z0102
R 124	CHIP RES. 1/10W 390Ω or	134F391C
	CHIP RES. 1/10W 390Ω	RRXAJR8Z0391
R 125	CHIP RES. 1/10W 47KΩ or	134F473C
	CHIP RES. 1/10W 47KΩ	RRXAJR8Z0473
R 127	CHIP RES. 1/10W 47KΩ	RRXAJR8Z0473
	CHIP RES. 1/10W 10KΩ or	134F103C
R 128	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
	CHIP RES. 1/10W 100Ω or	134F101C
R 130	CHIP RES. 1/10W 100Ω	RRXAJR8Z0101
	CHIP RES. 1/10W 100KΩ or	134F104C
R 133	CHIP RES. 1/10W 100KΩ	RRXAJR8Z0104
	CHIP RES. 1/10W 100KΩ or	134F223C
R 135	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 136	CHIP RES. 1/10W 2.2KΩ or	134F222C
	CHIP RES. 1/10W 2.2KΩ	RRXAJR8Z0222
R 139	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 145	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 146	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 152	CARBON RES. 1/4W 4.7KΩ	RCX4JASZ0472
	CHIP RES. 1/10W 4.7KΩ or	134F472C
R 153	CHIP RES. 1/10W 4.7KΩ	RRXAJR8Z0472
	CHIP RES. 1/10W 15KΩ or	134F153C
R 154	CHIP RES. 1/10W 15KΩ	RRXAJR8Z0153
	CHIP RES. 1/10W 15KΩ or	134F153C
R 155	CHIP RES. 1/10W 15KΩ	RRXAJR8Z0153
	CHIP RES. 1/10W 6.8KΩ or	134F682C
R 156	CHIP RES. 1/10W 6.8KΩ	RRXAJR8Z0682
	CHIP RES. 1/10W 6.8KΩ or	134F682C
R 158	CHIP RES. 1/10W 6.8KΩ	RRXAJR8Z0682
	CHIP RES. 1/10W 10KΩ or	134F103C
R 159	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103

Ref. No.	Description	Part No.
R 159	CARBON RES. 1/4W 10KΩ	RCX4JASZ0103
R 161	CHIP RES. 1/10W 6.8KΩ or	134F682C
	CHIP RES. 1/10W 6.8KΩ	RRXAJR8Z0682
R 162	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 164	CHIP RES. 1/10W 68KΩ or	134F683C
	CHIP RES. 1/10W 68KΩ	RRXAJR8Z0683
R 165	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 166	CHIP RES. 1/10W 15KΩ or	134F153C
	CHIP RES. 1/10W 15KΩ	RRXAJR8Z0153
R 167	CHIP RES. 1/10W 1.8KΩ or	134F182C
	CHIP RES. 1/10W 1.8KΩ	RRXAJR8Z0182
R 169	CHIP RES. 1/10W 47KΩ or	134F473C
	CHIP RES. 1/10W 47KΩ	RRXAJR8Z0473
R 171	CARBON RES. 1/4W 1.5KΩ	RCX4JASZ0152
R 172	CARBON RES. 1/4W 1.5KΩ	RCX4JASZ0152
R 173	CARBON RES. 1/4W 1.5KΩ	RCX4JASZ0152
R 174	CARBON RES. 1/4W 680Ω	RCX4JASZ0681
R 175	CHIP RES. 1/10W 68KΩ or	134F683C
	CHIP RES. 1/10W 68KΩ	RRXAJR8Z0683
R 178	CHIP RES. 1/10W 1KΩ or	134F102C
	CHIP RES. 1/10W 1KΩ	RRXAJR8Z0102
R 179	CHIP RES. 1/10W 220Ω or	134F221C
	CHIP RES. 1/10W 220Ω	RRXAJR8Z0221
R 180	CHIP RES. 1/10W 220Ω or	134F221C
	CHIP RES. 1/10W 220Ω	RRXAJR8Z0221
R 181	CHIP RES. 1/10W 220Ω or	134F221C
	CHIP RES. 1/10W 220Ω	RRXAJR8Z0221
R 185	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 186	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 187	CHIP RES. 1/10W 4.7KΩ or	134F472C
	CHIP RES. 1/10W 4.7KΩ	RRXAJR8Z0472
R 188	CHIP RES. 1/10W 47KΩ or	134F473C
	CHIP RES. 1/10W 47KΩ	RRXAJR8Z0473
R 189	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 190	CHIP RES. 1/10W 47KΩ or	134F473C
	CHIP RES. 1/10W 47KΩ	RRXAJR8Z0473
R 201	CHIP RES. 1/10W 82Ω or	134F820C
	CHIP RES. 1/10W 82Ω	RRXAJR8Z0820
R 202	CHIP RES. 1/10W 6.8KΩ or	134F682C
	CHIP RES. 1/10W 6.8KΩ	RRXAJR8Z0682
R 203	CHIP RES. 1/10W 1.5KΩ or	134F152C
	CHIP RES. 1/10W 1.5KΩ	RRXAJR8Z0152
R 204	CHIP RES. 1/10W 330Ω or	134F331C
	CHIP RES. 1/10W 330Ω	RRXAJR8Z0331
R 205	CHIP RES. 1/10W 33Ω or	134F330C
	CHIP RES. 1/10W 33Ω	RRXAJR8Z0330
R 206	CHIP RES. 1/10W 100Ω or	134F101C
	CHIP RES. 1/10W 100Ω	RRXAJR8Z0101
R 207	CHIP RES. 1/10W 2.2KΩ or	134F222C
	CHIP RES. 1/10W 2.2KΩ	RRXAJR8Z0222
R 211	CHIP RES. 1/10W 3.3KΩ or	134F332C
	CHIP RES. 1/10W 3.3KΩ	RRXAJR8Z0332
R 213	CHIP RES. 1/10W 15KΩ or	134F153C
	CHIP RES. 1/10W 15KΩ	RRXAJR8Z0153
R 214	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 215	CHIP RES. 1/10W 47Ω or	134F470C
	CHIP RES. 1/10W 47Ω	RRXAJR8Z0470
R 216	CHIP RES. 1/10W 560Ω or	134F561C
	CHIP RES. 1/10W 560Ω	RRXAJR8Z0561
R 217	CHIP RES. 1/10W 1KΩ or	134F102C

Ref. No.	Description	Part No.
R 218	CHIP RES. 1/10W 1KΩ	RRXAJR8Z0102
	CHIP RES. 1/10W 180Ω or	134F181C
	CHIP RES. 1/10W 180Ω	RRXAJR8Z0181
R 219	CHIP RES. 1/10W 4.7KΩ or	134F472C
	CHIP RES. 1/10W 4.7KΩ	RRXAJR8Z0472
R 220	CHIP RES. 1/10W 270KΩ or	134F274C
	CHIP RES. 1/10W 270KΩ	RRXAJR8Z0274
R 221	METAL RES. 1W 120Ω or	RN01JZDZ0121
	METAL RES. 1W 120Ω	RN01121KE004
R 222	CHIP RES. 1/10W 1.5KΩ or	134F152C
	CHIP RES. 1/10W 1.5KΩ	RRXAJR8Z0152
R 283	CARBON RES. 1/4W 10KΩ	RCX4JASZ0103
R 284	CARBON RES. 1/4W 1KΩ	RCX4JASZ0102
R 285	CARBON RES. 1/4W 220KΩ	RCX4JASZ0224
R 286	CARBON RES. 1/4W 27KΩ	RCX4JASZ0273
R 301	CHIP RES. 1/10W 560Ω or	134F561C
	CHIP RES. 1/10W 560Ω	RRXAJR8Z0561
R 302	CHIP RES. 1/10W 8.2KΩ or	134F822C
	CHIP RES. 1/10W 8.2KΩ	RRXAJR8Z0822
R 303	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 304	CHIP RES. 1/10W 6.8KΩ or	134F682C
	CHIP RES. 1/10W 6.8KΩ	RRXAJR8Z0682
R 305	CHIP RES. 1/10W 390Ω or	134F391C
	CHIP RES. 1/10W 390Ω	RRXAJR8Z0391
R 306	CHIP RES. 1/10W 2.2KΩ or	134F222C
	CHIP RES. 1/10W 2.2KΩ	RRXAJR8Z0222
R 307	CHIP RES. 1/10W 330KΩ or	134F334C
	CHIP RES. 1/10W 330KΩ	RRXAJR8Z0334
R 308	CHIP RES. 1/10W 3.3KΩ or	134F332C
	CHIP RES. 1/10W 3.3KΩ	RRXAJR8Z0332
R 309	CHIP RES. 1/10W 1.8MΩ or	134F185C
	CHIP RES. 1/10W 1.8MΩ	RRXAJR8Z0185
R 310	CHIP RES. 1/10W 1.2KΩ or	134F122C
	CHIP RES. 1/10W 1.2KΩ	RRXAJR8Z0122
R 311	CHIP RES. 1/10W 1.8KΩ or	134F182C
	CHIP RES. 1/10W 1.8KΩ	RRXAJR8Z0182
R 312	CHIP RES. 1/10W 5.6KΩ or	134F562C
	CHIP RES. 1/10W 5.6KΩ	RRXAJR8Z0562
R 313	CHIP RES. 1/10W 15KΩ or	134F153C
	CHIP RES. 1/10W 15KΩ	RRXAJR8Z0153
R 314	CHIP RES. 1/10W 5.6KΩ or	134F562C
	CHIP RES. 1/10W 5.6KΩ	RRXAJR8Z0562
R 315	CHIP RES. 1/10W 1KΩ or	134F102C
	CHIP RES. 1/10W 1KΩ	RRXAJR8Z0102
R 316	CHIP RES. 1/10W 33KΩ or	134F333C
	CHIP RES. 1/10W 33KΩ	RRXAJR8Z0333
R 321	CHIP RES. 1/10W 4.7MΩ or	134F475C
	CHIP RES. 1/10W 4.7MΩ	RRXAJR8Z0475
R 322	CHIP RES. 1/10W 15KΩ or	134F153C
	CHIP RES. 1/10W 15KΩ	RRXAJR8Z0153
R 331	CHIP RES. 1/10W 2.7KΩ or	134F272C
	CHIP RES. 1/10W 2.7KΩ	RRXAJR8Z0272
R 332	CHIP RES. 1/10W 4.7KΩ or	134F472C
	CHIP RES. 1/10W 4.7KΩ	RRXAJR8Z0472
R 333	CHIP RES. 1/10W 150Ω or	134F151C
	CHIP RES. 1/10W 150Ω	RRXAJR8Z0151
R 334	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 335	CHIP RES. 1/10W 270Ω or	134F271C
	CHIP RES. 1/10W 270Ω	RRXAJR8Z0271
R 336	CHIP RES. 1/10W 1KΩ or	134F102C
	CHIP RES. 1/10W 1KΩ	RRXAJR8Z0102
R 337	CHIP RES. 1/10W 470Ω or	134F471C
	CHIP RES. 1/10W 470Ω	RRXAJR8Z0471
R 338	CHIP RES. 1/10W 3.3KΩ or	134F332C

Ref. No.	Description	Part No.
R 339	CHIP RES. 1/10W 3.3KΩ	RRXAJR8Z0332
	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 340	CHIP RES. 1/10W 150Ω or	134F151C
	CHIP RES. 1/10W 150Ω	RRXAJR8Z0151
R 341	CHIP RES. 1/10W 120Ω or	134F121C
	CHIP RES. 1/10W 120Ω	RRXAJR8Z0121
R 342	CHIP RES. 1/10W 330KΩ or	134F334C
	CHIP RES. 1/10W 330KΩ	RRXAJR8Z0334
R 343	CHIP RES. 1/10W 120KΩ or	134F124C
	CHIP RES. 1/10W 120KΩ	RRXAJR8Z0124
R 351	CHIP RES. 1/10W 560Ω or	134F561C
	CHIP RES. 1/10W 560Ω	RRXAJR8Z0561
R 352	CHIP RES. 1/10W 8.2KΩ or	134F822C
	CHIP RES. 1/10W 8.2KΩ	RRXAJR8Z0822
R 353	CHIP RES. 1/10W 4.7KΩ or	134F472C
	CHIP RES. 1/10W 4.7KΩ	RRXAJR8Z0472
R 354	CHIP RES. 1/10W 33KΩ or	134F333C
	CHIP RES. 1/10W 33KΩ	RRXAJR8Z0333
R 355	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 357	CHIP RES. 1/10W 1KΩ or	134F102C
	CHIP RES. 1/10W 1KΩ	RRXAJR8Z0102
R 360	CARBON RES. 1/4W 680Ω	RCX4JASZ0681
R 361	CHIP RES. 1/10W 220Ω or	134F221C
	CHIP RES. 1/10W 220Ω	RRXAJR8Z0221
R 362	CHIP RES. 1/10W 220Ω or	134F221C
	CHIP RES. 1/10W 220Ω	RRXAJR8Z0221
R 363	CHIP RES. 1/10W 220Ω or	134F221C
	CHIP RES. 1/10W 220Ω	RRXAJR8Z0221
R 365	CHIP RES. 1/10W 1.2KΩ or	134F122C
	CHIP RES. 1/10W 1.2KΩ	RRXAJR8Z0122
R 366	CHIP RES. 1/10W 1.5KΩ or	134F152C
	CHIP RES. 1/10W 1.5KΩ	RRXAJR8Z0152
R 367	CHIP RES. 1/10W 12KΩ or	134F123C
	CHIP RES. 1/10W 12KΩ	RRXAJR8Z0123
R 368	CHIP RES. 1/10W 15KΩ or	134F153C
	CHIP RES. 1/10W 15KΩ	RRXAJR8Z0153
R 369	CHIP RES. 1/10W 15KΩ or	134F153C
	CHIP RES. 1/10W 15KΩ	RRXAJR8Z0153
R 370	CHIP RES. 1/10W 470Ω or	134F471C
	CHIP RES. 1/10W 470Ω	RRXAJR8Z0471
R 383	CHIP RES. 1/10W 470Ω or	134F471C
	CHIP RES. 1/10W 470Ω	RRXAJR8Z0471
R 385	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 386	CHIP RES. 1/10W 4.7KΩ or	134F472C
	CHIP RES. 1/10W 4.7KΩ	RRXAJR8Z0472
R 391	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 392	CHIP RES. 1/10W 8.2KΩ or	134F822C
	CHIP RES. 1/10W 8.2KΩ	RRXAJR8Z0822
R 393	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 394	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 395	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 396	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 397	CHIP RES. 1/10W 220KΩ or	134F224C
	CHIP RES. 1/10W 220KΩ	RRXAJR8Z0224
R 401	CHIP RES. 1/10W 3.3KΩ or	134F332C
	CHIP RES. 1/10W 3.3KΩ	RRXAJR8Z0332
R 402	CHIP RES. 1/10W 6.8KΩ or	134F682C
	CHIP RES. 1/10W 6.8KΩ	RRXAJR8Z0682

Ref. No.	Description	Part No.
R 403	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 404	CHIP RES. 1/10W 150Ω or	134F151C
	CHIP RES. 1/10W 150Ω	RRXAJR8Z0151
R 405	CHIP RES. 1/10W 4.7MΩ or	134F475C
	CHIP RES. 1/10W 4.7MΩ	RRXAJR8Z0475
R 501	CHIP RES. 1/10W 82KΩ or	134F823C
	CHIP RES. 1/10W 82KΩ	RRXAJR8Z0823
R 502	CHIP RES. 1/10W 1KΩ or	134F102C
	CHIP RES. 1/10W 1KΩ	RRXAJR8Z0102
R 503	CARBON RES. 1/4W 15KΩ	RCX4JASZ0153
R 504	CHIP RES. 1/10W 1KΩ or	134F102C
	CHIP RES. 1/10W 1KΩ	RRXAJR8Z0102
R 505	CARBON RES. 1/4W 68KΩ	RCX4JASZ0683
R 506	CARBON RES. 1/4W 6.8KΩ	RCX4JASZ0682
R 507	CARBON RES. 1/4W 1KΩ	RCX4JASZ0102
R 508	CARBON RES. 1/4W 56KΩ	RCX4JASZ0563
R 509	CARBON RES. 1/4W 3.3Ω	1345339S
R 510	CARBON RES. 1/4W 3.3Ω	1345339S
R 511	CARBON RES. 1/4W 1KΩ	RCX4JASZ0102
R 512	CARBON RES. 1/4W 1KΩ	RCX4JASZ0102
R 513	FUSE RES. 1/4W 4.7Ω or	RFX44R7MS002
	FUSE RES. 1/4W 4.7Ω or	5366479
	FUSE RES. 1/4W 4.7Ω	RFX44R7QJ001
R 514	CARBON RES. 1/4W 68KΩ	RCX4JASZ0683
R 521	CARBON RES. 1/4W 1KΩ	RCX4JASZ0102
R 522	CARBON RES. 1/4W 560Ω	RCX4JASZ0561
R 551	METAL RES. 3W 220Ω or	RN03JZDZ0221
	METAL RES. 3W 220Ω	RN03221KE003
R 552	CARBON RES. 1/4W 10KΩ	RCX4JASZ0103
R 553	CEMENT RES. 5W 1.8KΩ or	RW05182PG004
	CEMENT RES. 5W 1.8KΩ	RW05182UB004
	METAL RES. 1W 15KΩ or	RN01JZDZ0153
	METAL RES. 1W 15KΩ	RN01153KE004
R 554	CARBON RES. 1/4W 0.47Ω	1345478S
R 555	CARBON RES. 1/4W 10KΩ	RCX4JASZ0103
R 556	CHIP RES. 1/10W 330Ω or	134F331C
	CHIP RES. 1/10W 330Ω	RRXAJR8Z0331
R 558	CARBON RES. 1/4W 100KΩ	RCX4JASZ0104
R 559	CARBON RES. 1/4W 56KΩ	RCX4JASZ0563
R 560	CARBON RES. 1/4W 1KΩ	RCX4JASZ0102
R 561	CHIP RES. 1/10W 0Ω or	134F000C
	CHIP RES. 1/10W 0Ω	RRXAJR8Z0000
R 601	CEMENT RES. 5W 1.2Ω or	RW051R2PG001
	CEMENT RES. 5W 1.2Ω or	RW051R2UB001
	CEMENT RES. 5W 1.2Ω	RW051R2KA006
R 607	CARBON RES. 1/4W 560KΩ	RCX4JASZ0564
R 610	CARBON RES. 1/4W 330Ω	RCX4JASZ0331
R 611	CARBON RES. 1/4W 820KΩ	RCX4JASZ0824
R 612	CARBON RES. 1/4W 68KΩ	RCX4JASZ0683
R 613	CARBON RES. 1/4W 330Ω	RCX4JASZ0331
R 614	CEMENT RES. 5W 0.47Ω or	RW05R47PG001
	CEMENT RES. 5W 0.47Ω or	RW05R47UB001
	CEMENT RES. 5W 0.47Ω	RW05R47KA006
R 615	CARBON RES. 1/4W 220Ω	RCX4JASZ0221
R 616	CARBON RES. 1/4W 1MΩ	RCX4JASZ0105
R 617	CARBON RES. 1/4W 330Ω	RCX4JASZ0331
R 618	CARBON RES. 1/4W 1KΩ	RCX4JASZ0102
R 619	CARBON RES. 1/4W 220Ω	RCX4JASZ0221
R 620	CARBON RES. 1/4W 4.7MΩ	1345475S
R 621	METAL RES. 2W 0.68Ω	RN02JZDZ0R68
R 622	CARBON RES. 1/4W 680Ω	RCX4JASZ0681
R 623	CARBON RES. 1/4W 270Ω	RCX4JASZ0271
R 624	CARBON RES. 1/4W 2.2KΩ	RCX4JASZ0222
R 626	CARBON RES. 1/4W 4.7MΩ	1345475S

Ref. No.	Description	Part No.
R 628	CHIP RES. 1/10W 2.2Ω	134F229C
R 629	CARBON RES. 1/4W 220Ω	RCX4JASZ0221
R 631	CARBON RES. 1/4W 1KΩ	RCX4JASZ0102
R 632	METAL RES. 2W 4.7Ω	RN02JZDZ04R7
R 633	CARBON RES. 1/4W 100Ω	RCX4JASZ0101
R 634	CARBON RES. 1/4W 560Ω	RCX4JASZ0561
R 635	CARBON RES. 1/4W 6.8KΩ	RCX4JASZ0682
R 636	CARBON RES. 1/4W 15KΩ	RCX4JASZ0153
R 637	CARBON RES. 1/4W 33KΩ	RCX4JASZ0333
R 638	CARBON RES. 1/4W 33KΩ	RCX4JASZ0333
R 639	CARBON RES. 1/4W 18KΩ	RCX4JASZ0183
R 640	CARBON RES. 1/4W 6.8KΩ	RCX4JASZ0682
R 641	CARBON RES. 1/4W 220KΩ	RCX4JASZ0224
R 642	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 643	CHIP RES. 1/10W 47KΩ or	134F473C
	CHIP RES. 1/10W 47KΩ	RRXAJR8Z0473
R 644	CARBON RES. 1/4W 3.3KΩ	RCX4JASZ0332
R 645	CARBON RES. 1/4W 12KΩ	RCX4JASZ0123
R 647	CARBON RES. 1/4W 100Ω	RCX4JASZ0101
R 650	CARBON RES. 1/4W 1KΩ	RCX4JASZ0102
R 651	FUSE RES. 1/4W 2.2Ω or	RFX42R2MS002
	FUSE RES. 1/4W 2.2Ω or	5366229
	FUSE RES. 1/4W 2.2Ω	RFX42R2QJ001
R 652	CHIP RES. 1/10W 1MΩ or	134F105C
	CHIP RES. 1/10W 1MΩ	RRXAJR8Z0105
R 653	CARBON RES. 1/4W 4.7KΩ	RCX4JASZ0472
R 655	FUSE RES. 1W 3.3Ω or	RF013R3UB001
	FUSE RES. 1W 3.3Ω or	RF01339KA004
	FUSE RES. 1W 3.3Ω or	5363339
	FUSE RES. 1W 3.3Ω	RF013R3QJ001
R 701	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 702	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 703	CHIP RES. 1/10W 3.3KΩ or	134F332C
	CHIP RES. 1/10W 3.3KΩ	RRXAJR8Z0332
R 704	CHIP RES. 1/10W 2.2KΩ or	134F222C
	CHIP RES. 1/10W 2.2KΩ	RRXAJR8Z0222
R 705	CHIP RES. 1/10W 330Ω or	134F331C
	CHIP RES. 1/10W 330Ω	RRXAJR8Z0331
R 706	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 707	CHIP RES. 1/10W 10KΩ or	134F103C
	CHIP RES. 1/10W 10KΩ	RRXAJR8Z0103
R 708	CHIP RES. 1/10W 27KΩ or	134F273C
	CHIP RES. 1/10W 27KΩ	RRXAJR8Z0273
R 709	CHIP RES. 1/10W 2.2KΩ or	134F222C
	CHIP RES. 1/10W 2.2KΩ	RRXAJR8Z0222
R 710	CHIP RES. 1/10W 150KΩ or	134F154C
	CHIP RES. 1/10W 150KΩ	RRXAJR8Z0154
R 711	CHIP RES. 1/10W 120KΩ or	134F124C
	CHIP RES. 1/10W 120KΩ	RRXAJR8Z0124
R 712	CHIP RES. 1/10W 47KΩ or	134F473C
	CHIP RES. 1/10W 47KΩ	RRXAJR8Z0473
R 713	CHIP RES. 1/10W 47KΩ or	134F473C
	CHIP RES. 1/10W 47KΩ	RRXAJR8Z0473
R 714	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 715	CHIP RES. 1/10W 22KΩ or	134F223C
	CHIP RES. 1/10W 22KΩ	RRXAJR8Z0223
R 716	CHIP RES. 1/10W 1.5KΩ or	134F152C
	CHIP RES. 1/10W 1.5KΩ	RRXAJR8Z0152
R 718	CHIP RES. 1/10W 2.2KΩ or	134F222C
	CHIP RES. 1/10W 2.2KΩ	RRXAJR8Z0222
R 719	CHIP RES. 1/10W 47KΩ or	134F473C

Ref. No.	Description	Part No.
R 720	CHIP RES. 1/10W 47KΩ	RRXAJR8Z0473
	CHIP RES. 1/10W 1.5KΩ or	134F152C
R 724	CHIP RES. 1/10W 1.5KΩ	RRXAJR8Z0152
	CHIP RES. 1/10W 1.5KΩ or	134F152C
R 732	CHIP RES. 1/10W 10KΩ or	RRXAJR8Z0103
	CHIP RES. 1/10W 10KΩ	134F103C
R 801	CARBON RES. 1/4W 100Ω	RCX4JASZ0101
R 802	CHIP RES. 1/10W 5.6KΩ or	134F562C
R 804	CHIP RES. 1/10W 5.6KΩ	RRXAJR8Z0562
	CHIP RES. 1/10W 12KΩ or	134F123C
R 805	CHIP RES. 1/10W 12KΩ	RRXAJR8Z0123
	CHIP RES. 1/10W 0Ω or	134F000C
R 806	CHIP RES. 1/10W 0Ω	RRXAJR8Z0000
	CHIP RES. 1/10W 560Ω or	134F561C
R 807	CHIP RES. 1/10W 560Ω	RRXAJR8Z0561
	CARBON RES. 1/4W 10KΩ	RCX4JASZ0103
R 808	CARBON RES. 1/4W 4.7Ω	1345479S
R 809	METAL RES. 2W 5.6Ω	RN02JZDZ05R6
R 810	CARBON RES. 1/4W 100Ω	RCX4JASZ0101
R 813	CHIP RES. 1/10W 47KΩ or	RRXAJR8Z0473
C 315	CHIP RES. 1/10W 47KΩ	134F473C
	CHIP RES. 1/10W 0Ω or	134F000C
C 316	CHIP RES. 1/10W 0Ω	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω or	134F000C
C 413	CHIP RES. 1/10W 0Ω	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω or	134F000C
JC 11	CHIP RES. 1/10W 0Ω	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω or	134F000C
JC 12	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 13	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 14	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 15	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 16	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 17	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 18	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 19	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 20	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 21	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 22	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 23	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 24	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 25	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 26	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 27	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 29	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 30	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C

Ref. No.	Description	Part No.
JC 31	CHIP RES. 1/10W 0Ω or	134F000C
JC 33	CHIP RES. 1/10W 0Ω	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω or	134F000C
JC 34	CHIP RES. 1/10W 0Ω	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω or	134F000C
JC 35	CHIP RES. 1/10W 0Ω	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω or	134F000C
JC 36	CHIP RES. 1/10W 0Ω	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω or	134F000C
JC 38	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 40	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 41	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 42	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 43	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 47	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 48	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
JC 49	CHIP RES. 1/10W 0Ω or	RRXAJR8Z0000
	CHIP RES. 1/10W 0Ω	134F000C
SWITCHES		
SW101	TACT SWITCH or	SST0101AL013
	TACT SWITCH or	SST0101MS013
SW102	TACT SWITCH or	SST0101HH016
	TACT SWITCH or	SST0101AL013
SW103	TACT SWITCH or	SST0101MS013
	TACT SWITCH or	SST0101HH016
SW104	TACT SWITCH or	SST0101AL013
	TACT SWITCH or	SST0101MS013
SW105	TACT SWITCH or	SST0101HH016
	TACT SWITCH or	SST0101AL013
SW107	TACT SWITCH or	SST0101MS013
	TACT SWITCH or	SST0101HH016
SW108	TACT SWITCH or	SST0101AL013
	TACT SWITCH or	SST0101MS013
SW109	TACT SWITCH or	SST0101HH016
	TACT SWITCH or	SST0101AL013
SW110	TACT SWITCH or	SST0101MS013
	TACT SWITCH or	SST0101HH016
TRANSFORMERS		
T 551	H. DRIVE TRANS	1150325
T 552 	F.B.T. FCK-14B040	LTF00EPSM006
T 601 	POWER TRANS	LTT00EPMS015
T 602 	LINE FILTER or	LLBG00ZTZ001
	LINE FILTER	LLBG00ZMS008
VARIABLE RESISTORS		
VR211	SEMIFIXED RES. 10KΩ B or	138J781
VR301	SEMIFIXED RES. 10KΩ B	638A103
	SEMIFIXED RES. 1KΩ B or	138J777
VR331	SEMIFIXED RES. 1KΩ B	638A102
	SEMIFIXED RES. 200 Ω B or	238J113

Ref. No.	Description	Part No.
VR351	SEMIFIXED RES. 200 Ω B	638A221
	SEMIFIXED RES. 5KΩ B or	138J780
VR501	SEMIFIXED RES. 5KΩ B	638A472
	SEMIFIXED RES. 50KΩ B or	138J784
VR521	SEMIFIXED RES. 50KΩ B	638A473
	SEMIFIXED RES. 10KΩ B or	138J781
VR621	SEMIFIXED RES. 10KΩ B	638A103
	SEMIFIXED RES. 20KΩ B or	138J782
	SEMIFIXED RES. 20KΩ B	638A223
CRYSTAL OSCILLATOR		
X 101	CERAMIC RESONATOR 4.19MHz or	FY0415LMS002
	CERAMIC RESONATOR 4.19MHz or	1813682
X 301	CERAMIC RESONATOR 4.19MHz	1812885
	CRYSTAL OSCILLATOR 4.43MHz	1811387
X 302	CRYSTAL OSCILLATOR 3.58MHz	1811291
X 331	CERAMIC RESONATOR CSB503F30	1813527
MISCELLANEOUS		
	CABLE TIE or	1790256
	CABLE TIE	1790356
	LABEL 15mmX5mm	
	SUMI TUBE ø12X25mm	
	F2 TYPE (for C618 used)	
	LED HOLDER (for D111)	0EM300761
	SENSOR HOLDER (for RCV101)	0EM402360
BC551	BEADS CORE	1190038
	BEADS CORE	1190038
BC601	BEADS CORE	1190038
	BEADS CORE	1190038
BC621	BEADS CORE	1190038
	BEADS CORE	1190038
CF211	CERAMIC TRAP 5.5MHz+6.5MHz	FBE655PMR002
	CERAMIC FILTER 5.5MHz or	1812018
CF212	CERAMIC FILTER 5.5MHz	FBB555PMS001
	CERAMIC FILTER 6.5MHz or	1813595
CF213	CERAMIC FILTER 6.5MHz	FBB655PMS001
	CERAMIC FILTER 6.5MHz	1813595
CN451A	CABLE HOLDER 5P or	XW01D05NF001
	CABLE HOLDER 5P	XW01B05NF001
CN452A	CABLE HOLDER 4P or	XW01D04NF001
	CABLE HOLDER 4P	XW01B04NF001
DL301	DELAY LINE	113N852
	GLASS DELAY or	FD0445PXX001
DL311	GLASS DELAY	1812056
	GLASS DELAY	1812056
F 601 	FUSE T.04A 250V	1790998
	FUSE HOLDER or	XH01Z00DK001
FH601	FUSE HOLDER or	1790424
	FUSE HOLDER	1790848
FH602	FUSE HOLDER or	XH01Z00DK001
	FUSE HOLDER or	1790424
HS501	FUSE HOLDER	1790848
	HEAT SINK PH (for V OUT IC)	0EM400958
HS601	HEAT SINK OP ASSEMBLY (for POWER TR.)	0EM300771
	HEAT SINK MP (for POWER AMP)	0EM402332
J 701	RCA JACK (2 PIN) or	JXRL020JC013
	RCA JACK (2 PIN)	JXRL020MY001
J 702	RCA JACK (1 PIN) or	JXRL010JC018
	RCA JACK (1 PIN)	JXRL010MY001
J 801	EARPHONE JACK or	JYSL030HD002
	EARPHONE JACK	JYSL030SR001
LCN451	RIBBON WIRE 5P (for CRT PCB)	WX1L8400-002
	RIBBON WIRE 4P (for CRT PCB)	WX1L8400-001
LCN452	AC CORD	5750112
	THERMISTER or	QN4ZPA2A5200
P 601 	THERMISTER	5790117
PT601 	REMOCON RECEIVING UNIT	USESJRSKK011
RCV101	SAW FILTER KAF-38.0MR-MH	FBB386PKC001
SF201	TEST PIN or	1700093
TP 1	TEST PIN	1740354
TP 2	TEST PIN or	1700093

Ref. No.	Description	Part No.
TP 3	TEST PIN	1740354
	TEST PIN or	1700093
TP 4	TEST PIN	1740354
	TEST PIN or	1700093
TP 5	TEST PIN	1740354
	TEST PIN or	1700093
TP 6	TEST PIN	1740354
	TEST PIN or	1700093
TP 7	TEST PIN	1740354
	TEST PIN or	1700093
TP 8	TEST PIN	1740354
	TEST PIN or	1700093
TP 9	TEST PIN	1740354
	TEST PIN or	1740354
TU 1	TUNER TEKZ1-005A, 014A, 015A	UTUNPSDAL008

CRT PCB Assembly

Ref. No.	Description	Part No.
CRT PCB Assembly		
Consists of the following:		
CAPACITORS		
C 451	CERAMIC CAP. 220pF B or	3B42221
	CERAMIC CAP. 220pF B	12B3221
C 452	CERAMIC CAP. 220pF B or	3B42221
	CERAMIC CAP. 220pF B	12B3221
C 453	CERAMIC CAP. 330pF B or	3B42331
	CERAMIC CAP. 330pF B	12B3331
C 454	CERAMIC CAP. 0.001μF 2KV or	CCD3DKP0B102
	CERAMIC CAP. 0.001μF 2KV	6220585
C 455	ELECTROLYTIC CAP. 10μF/50V	126F106S
CONNECTOR		
CN453	CONNECTOR PIN 1P or (for CRT GND)	1700576
	CONNECTOR PIN 1P or (for CRT GND)	1730688
	CONNECTOR PIN 1P (for CRT GND)	JTEA000LC001
COIL		
L 451	MICRO INDUCTOR 180μH K	2162181S
TRANSISTORS		
Q 451	TRANSISTOR 2SC2271 (D) or	2SC2271DZ
	TRANSISTOR 2SC2271 (E) or	2SC2271EZ
Q 452	TRANSISTOR 2SC2482	QQS020SC2482
	TRANSISTOR 2SC2271 (D) or	2SC2271DZ
Q 453	TRANSISTOR 2SC2271 (E) or	2SC2271EZ
	TRANSISTOR 2SC2482	QQS020SC2482
	TRANSISTOR 2SC2271 (D) or	2SC2271DZ
	TRANSISTOR 2SC2271 (E) or	2SC2271EZ
	TRANSISTOR 2SC2482	QQS020SC2482
RESISTORS		
R 451	METAL RES. 1W 15KΩ or	RN01JZDZ0153
	METAL RES. 1W 15KΩ	RN01153KE004
R 452	METAL RES. 1W 15KΩ or	RN01JZDZ0153
	METAL RES. 1W 15KΩ	RN01153KE004
R 453	METAL RES. 1W 15KΩ or	RN01JZDZ0153
	METAL RES. 1W 15KΩ	RN01153KE004
R 454	CARBON RES. 1/4W 2.7KΩ	RCX4JASZ0272
R 456	CARBON RES. 1/4W 2.7KΩ	RCX4JASZ0272
R 458	CARBON RES. 1/4W 2.7KΩ	RCX4JASZ0272
R 460	CARBON RES. 1/4W 1.5KΩ	RCX4JASZ0152
R 461	CARBON RES. 1/4W 1.5KΩ	RCX4JASZ0152
R 462	CARBON RES. 1/4W 1.5KΩ	RCX4JASZ0152
R 463	CARBON RES. 1/4W 820Ω	RCX4JASZ0821
R 464	CARBON RES. 1/4W 820Ω	RCX4JASZ0821
R 465	CARBON RES. 1/4W 820Ω	RCX4JASZ0821
R 466	CARBON RES. 1/4W 220Ω	RCX4JASZ0221
R 467	CARBON RES. 1/4W 220Ω	RCX4JASZ0221
R 468	CARBON RES. 1/4W 220Ω	RCX4JASZ0221

Ref. No.	Description	Part No.
R 469	CARBON RES. 1/4W 1.5K Ω	RCX4JASZ0152
R 470	CARBON RES. 1/4W 1.5K Ω	RCX4JASZ0152
R 471	CARBON RES. 1/4W 1.5K Ω	RCX4JASZ0152
R 472	CARBON RES. 1/4W 390 Ω	RCX4JASZ0391
R 473	CARBON RES. 1/4W 390 Ω	RCX4JASZ0391
R 474	CARBON RES. 1/4W 390 Ω	RCX4JASZ0391
R 475	CARBON RES. 1/4W 560 Ω	RCX4JASZ0561
VARIABLE RESISTORS		
VR451	SEMIFIXED RES. 5K Ω B or SEMIFIXED RES. 5K Ω B	138J916 138A957
VR452	SEMIFIXED RES. 5K Ω B or SEMIFIXED RES. 5K Ω B	138J916 138A957
VR453	SEMIFIXED RES. 5K Ω B or SEMIFIXED RES. 5K Ω B	138J916 138A957
VR454	SEMIFIXED RES. 1K Ω B or SEMIFIXED RES. 1K Ω B	138J913 138A953
VR455	SEMIFIXED RES. 1K Ω B or SEMIFIXED RES. 1K Ω B	138J913 138A953
MISCELLANEOUS		
CN451B	CABLE HOLDER 5P or CABLE HOLDER 5P	XW01D05NF001 XW01B05NF001
CN452B	CABLE HOLDER 4P or CABLE HOLDER 4P	XW01D04NF001 XW01B04NF001
SO451 	CRT SOCKET or CRT SOCKET or CRT SOCKET	JSCC220PK001 1780080 1780218

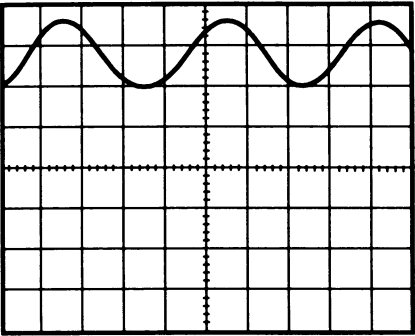
Chassis Electrical Parts

Ref. No.	Description	Part No.
V 451 	CRT 370KRB22-TC09(SPYB) or CRT 37GDA85X-TC01 or CRT A34KPU02XX48	1812341 1812724 TCRT190GS011
L 601 	DEGAUSING COIL	LLBH00ZTZ011
SP801	SPEAKER 8 Ω or SPEAKER 8 Ω	DSD0808SM002 DSD0808SY001
LCN453	WIRE ASSEMBLY (for CRT GND)	WX1L7401-001A
LCN801	WIRE ASSEMBLY (for SPEAKER)	WX1L5360-01

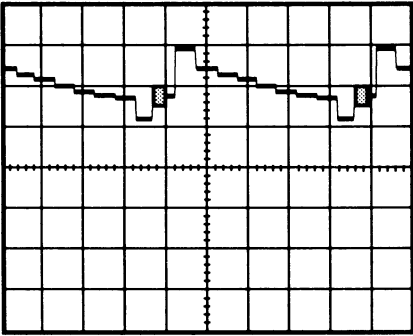
WAVEFORMS

Input: PAL Color Bar Signal (with 1KHz Audio Signal)
Receiving Ch.: E2 ch (48.25MHz)
Preset Mode: Press Picture Select button on the remote control unit,
then press the number "1" button.
(Brightness—Center Color—Center Contrast—Approx 70%)

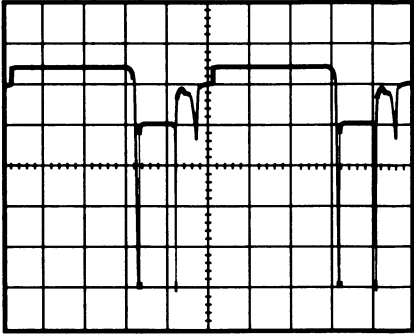
WFa ~ WFt = Waveforms to be observed at
Waveform check points.
(Shown in Schematic Diagram.)



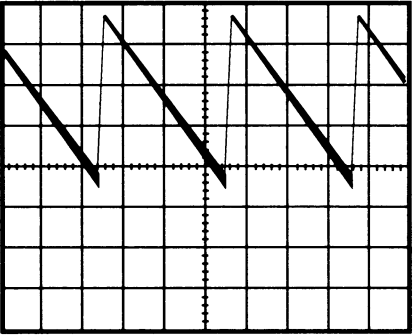
WFa 1DIV: 1V 0.2msec



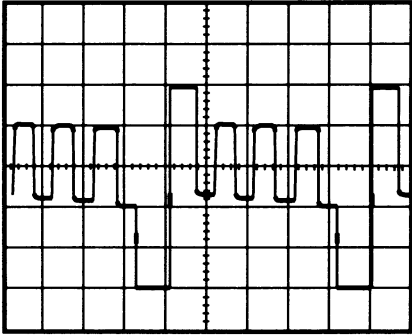
WFe 1DIV: 0.5V 10μsec



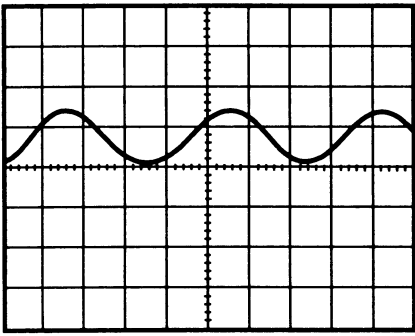
WFi 1DIV: 2V 10μsec



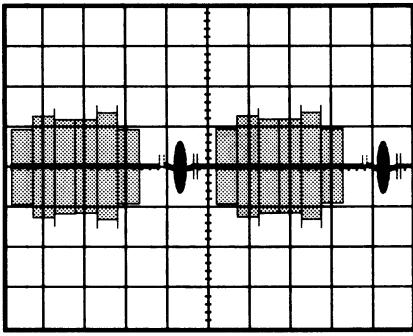
WFn 1DIV: 0.5V 5msec



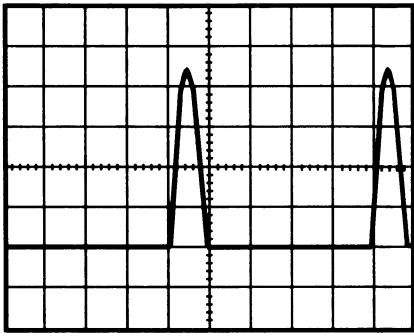
WFq 1DIV: 1V 10μsec



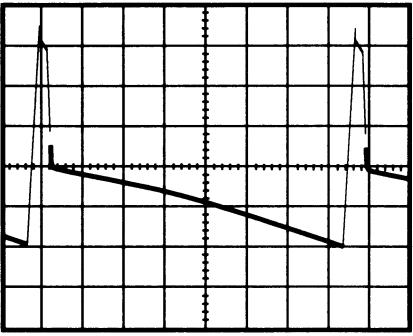
WFb 1DIV: 1V 0.2msec



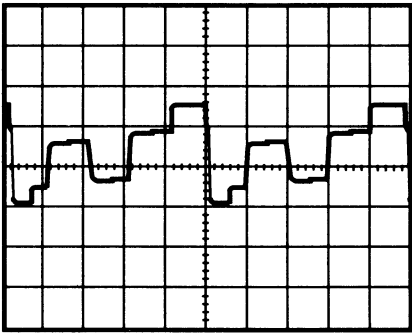
WFf 1DIV: 0.2V 10μsec



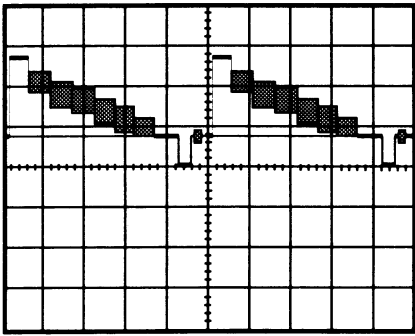
WFj 1DIV: 250V 10μsec



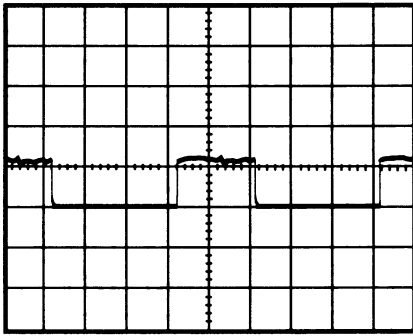
WFn 1DIV: 10V 2msec



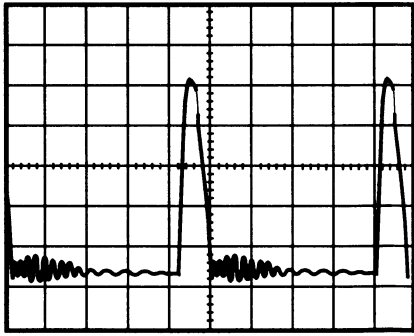
WFr 1DIV: 50V 10μsec



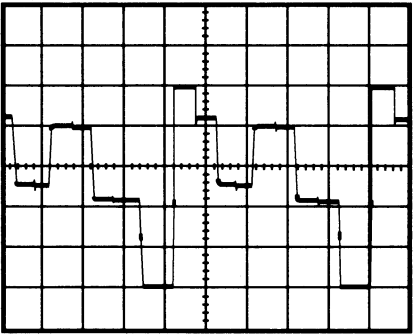
WFc 1DIV: 1V 10μsec



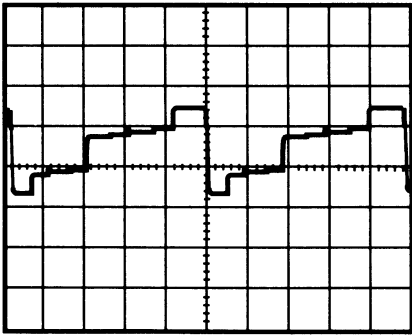
WFg 1DIV: 0.5V 10μsec



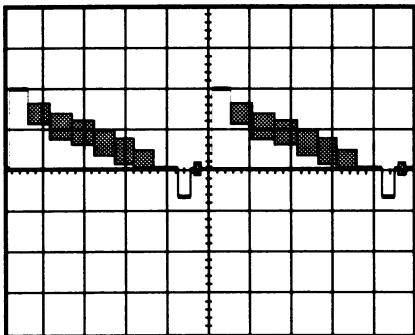
Wfk 1DIV: 5V 10μsec



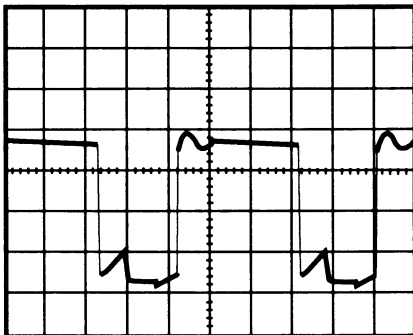
Wfo 1DIV: 1V 10μsec



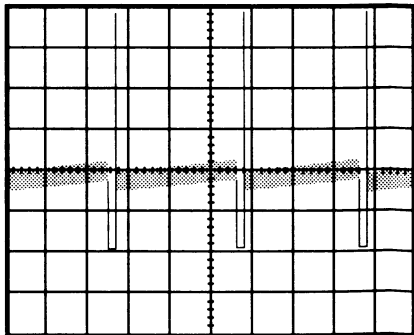
WFs 1DIV: 50V 10μsec



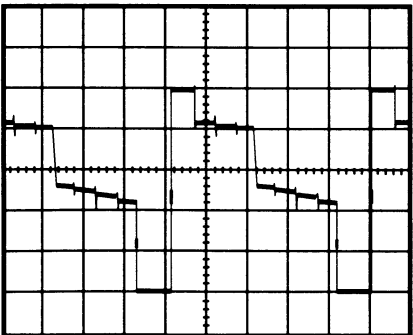
WFd 1DIV: 1V 10μsec



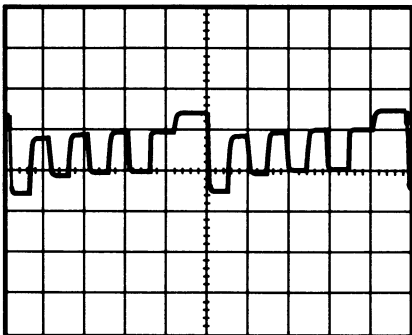
WFh 1DIV: 50V 10μsec



Wfi 1DIV: 0.5V 5msec

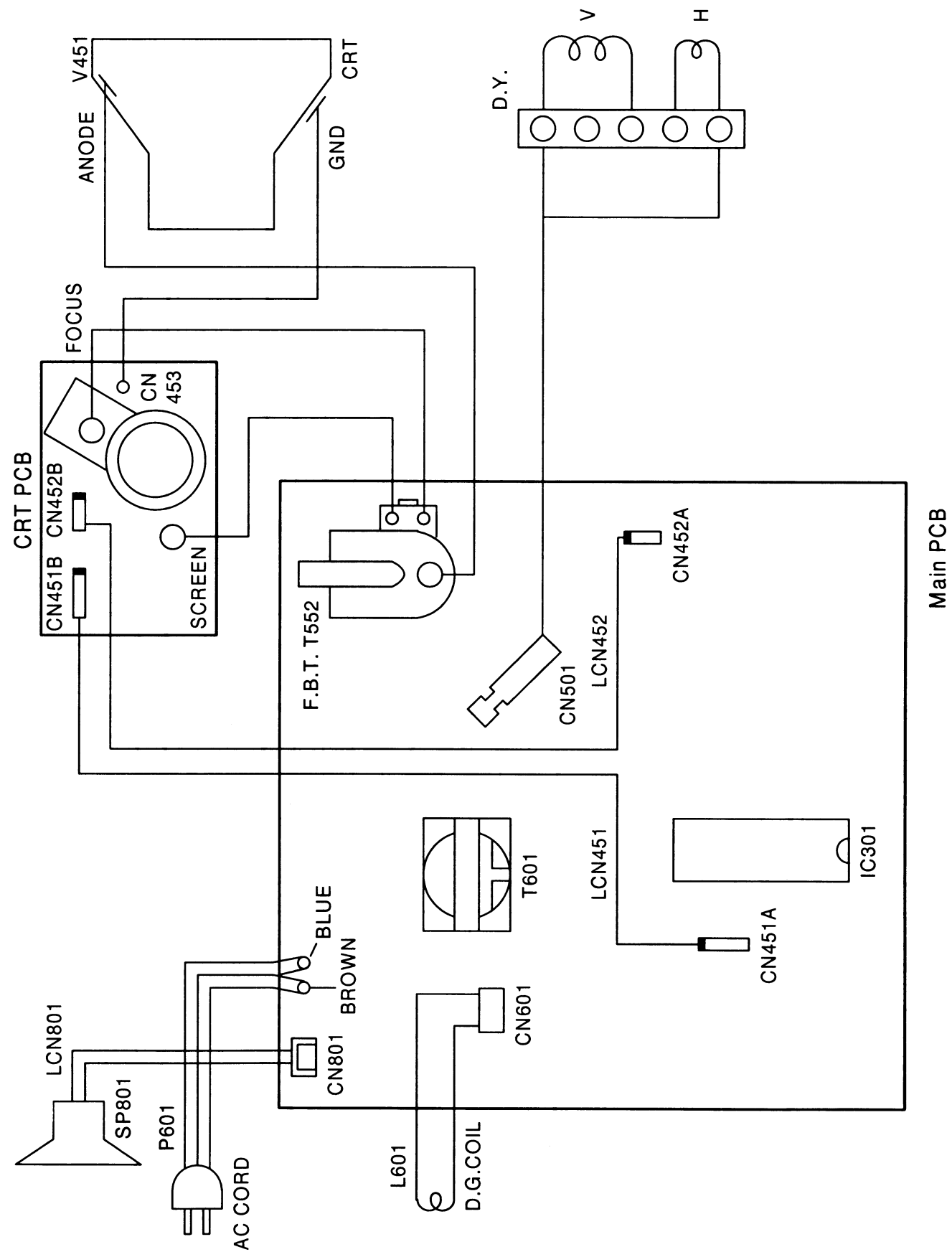


Wfp 1DIV: 1V 10μsec

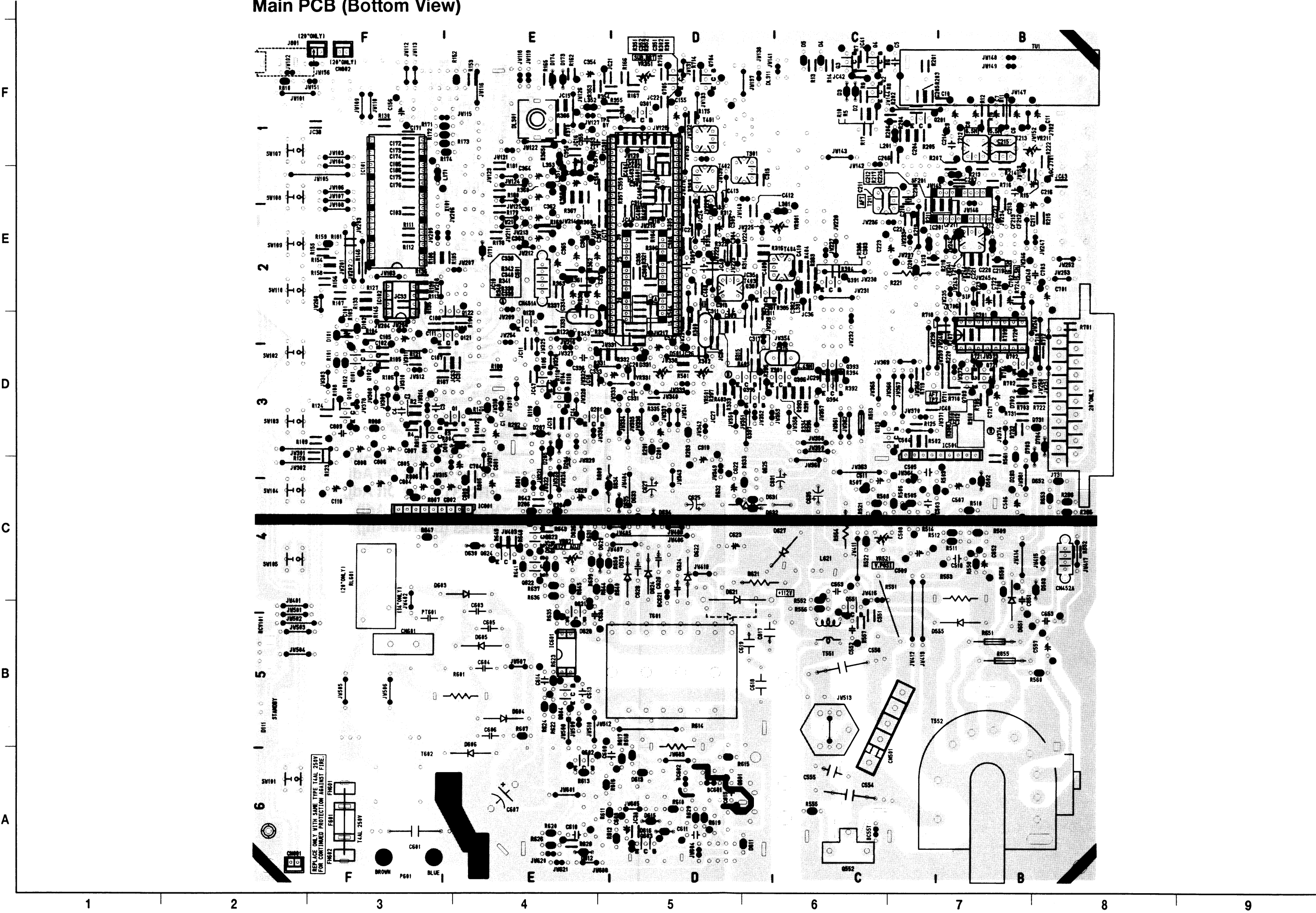


Wft 1DIV: 50V 10μsec

WIRING DIAGRAM

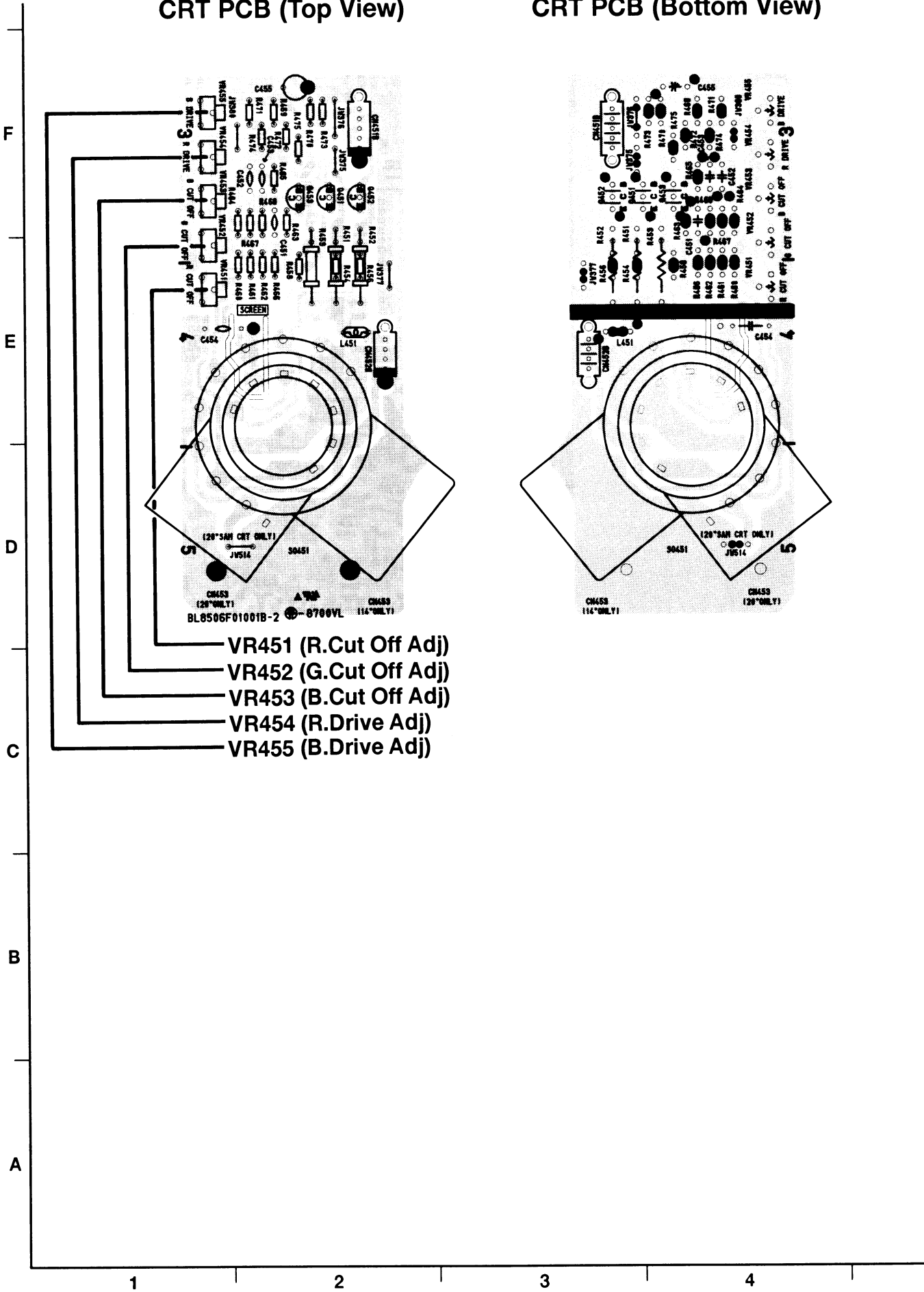


Main PCB (Bottom View)



CRT PCB (Top View)

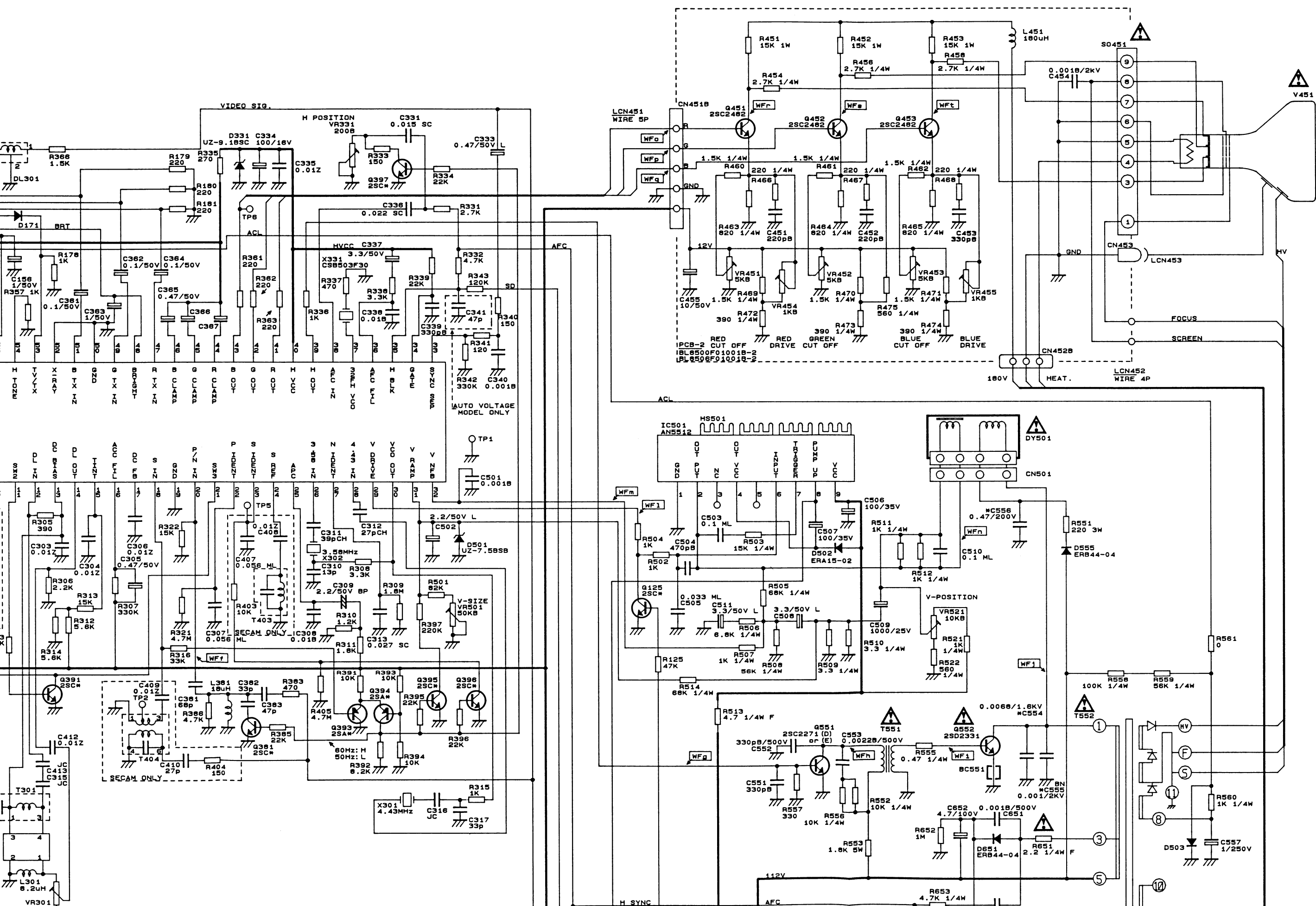
CRT PCB (Bottom View)



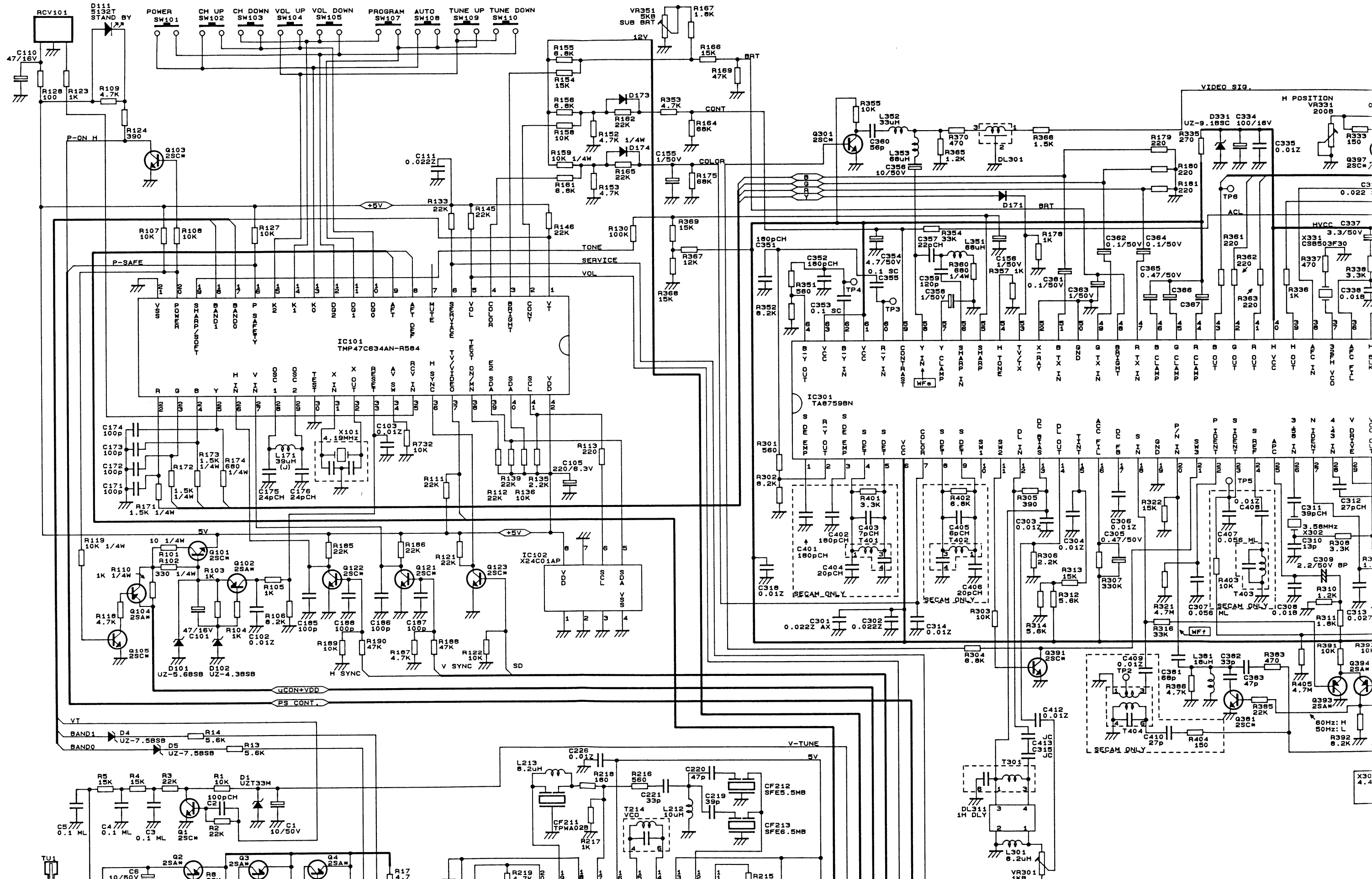
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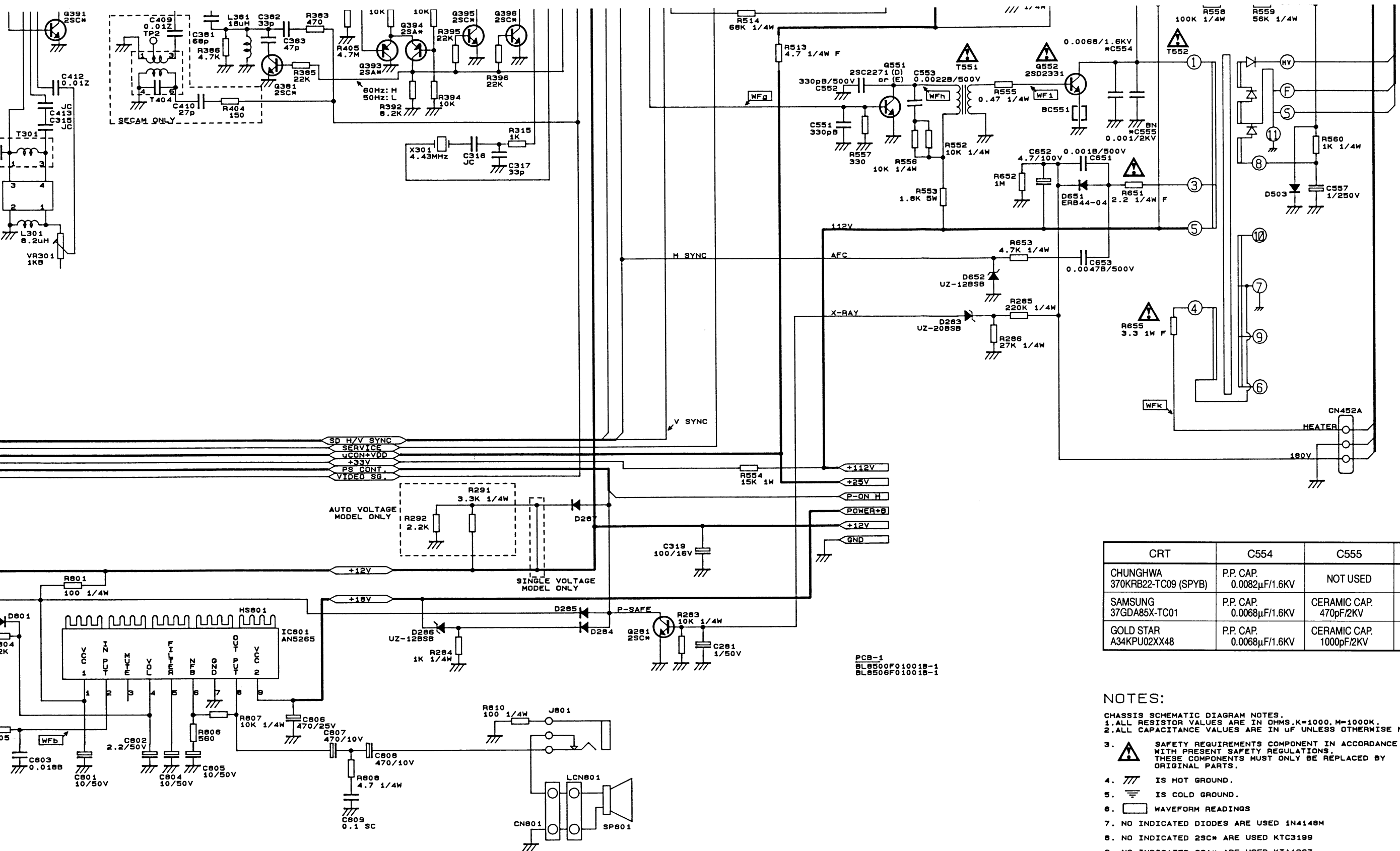
A

- 1



Main / CRT Schematic Diagram





D

C

B

A

