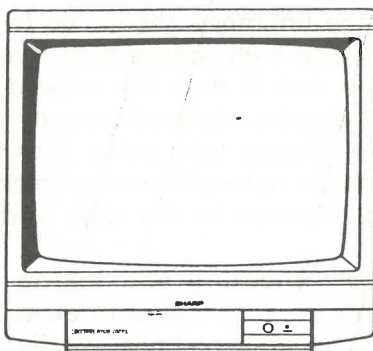
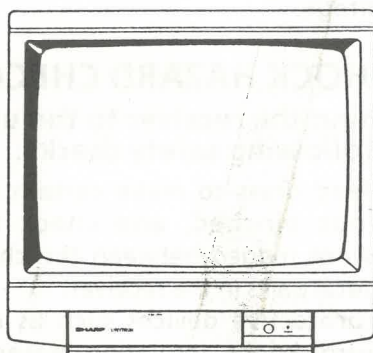


SHARP SERVICE MANUAL

S99N219RV69P/



19RV69P



19RV629P

I2

COLOR TELEVISION
SIGMA 9400 CHASSIS
Chassis No. 19R1

19RV69P
19RV629P
MODELS

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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SHARP ELECTRONICS CORPORATION

Service Headquarters: Sharp Plaza, Mahwah, New Jersey 07430-2135 Phone: (201) 512-0055

IMPORTANT SERVICE SAFETY PRECAUTION

- Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and servicing guidelines which follow:

WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.
3. Semiconductor heat sinks are potential shock hazards when the receiver is operating.
4. The chassis in this receiver is hot. (connected to one side of the AC line).
To prevent electrical shock use an isolation transformer between the line cord and power receptacle, when servicing this chassis.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

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

1. Note that the picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage anode completely.

X-RADIATION AND HIGH VOLTAGE LIMITS

1. All service personnel should be aware of the procedures and instructions covering X-radiation. The only potential source of X-ray in current solid state TV receivers is the picture tube. However, the picture tube does not emit measurable X-Ray radiation if the high voltage is as specified in the "High Voltage Check" instructions. It is only when high voltage is excessive that X-radiation is capable of penetrating the picture tube shell which includes lead in glass material. The important precaution is to keep high voltage below the maximum level specified.
2. It is essential that servicemen have available at all times an accurate high voltage meter. The calibration of this meter should be checked periodically.
3. High voltage should always be kept at the rated value – no higher. Operation at higher voltages may cause a failure of the picture tube or high voltage circuitry and, under certain conditions, may produce radiation in excess of desirable levels.

4. When the high voltage regulator is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be tested while monitoring high voltage with a meter to be certain that it does not exceed the specified value and is regulated correctly.
5. Do not use a picture tube other than that specified, and do not make unrecommended circuit modifications to the high voltage circuitry.
6. When trouble shooting and taking test measurements on a receiver with excessively high voltage, avoid being unnecessarily close to the receiver. Do not operate the receiver longer than is necessary to locate the cause of excessive voltage.

FIRE AND SHOCK HAZARD CHECKS

Before returning the receiver to the user, perform the following safety checks:

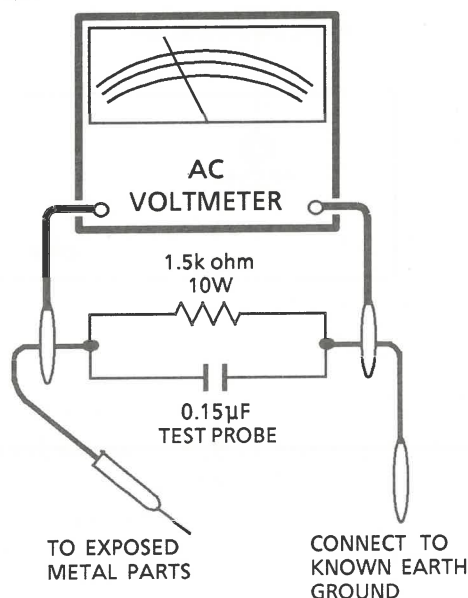
1. Inspect all lead dress to make certain that leads are not pinched, and check that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc.
3. To be sure that no shock hazard exists, check for current leakage in the following manner:
 - Plug the AC cord directly into a 120-volt AC outlet, (Do not use an isolation transformer for this test).
 - Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15 μ F capacitor in series with all exposed metal cabinet parts and a known earth ground, such as an electrical conduit or electrical ground connected to an earth ground.
 - Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor.
 - Make contact with the test probe on all exposed metal parts having a return path to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.

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

IMPORTANT SERVICE SAFETY PRECAUTION (Continued)

Any current measured must not exceed 0.5 milliamps.

Any measurements not within the limits outlined above are indicative of potential shock hazard and corrective action must be taken before returning the set to the customer.



SAFETY NOTICE

Many electrical and mechanical parts in television receivers have special safety-related characteristics.

These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.

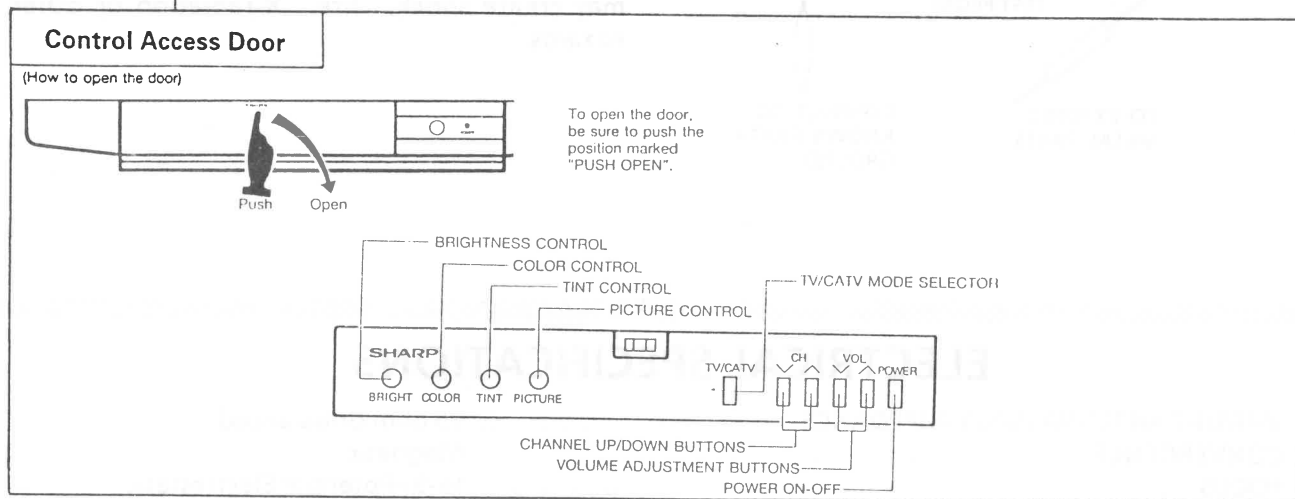
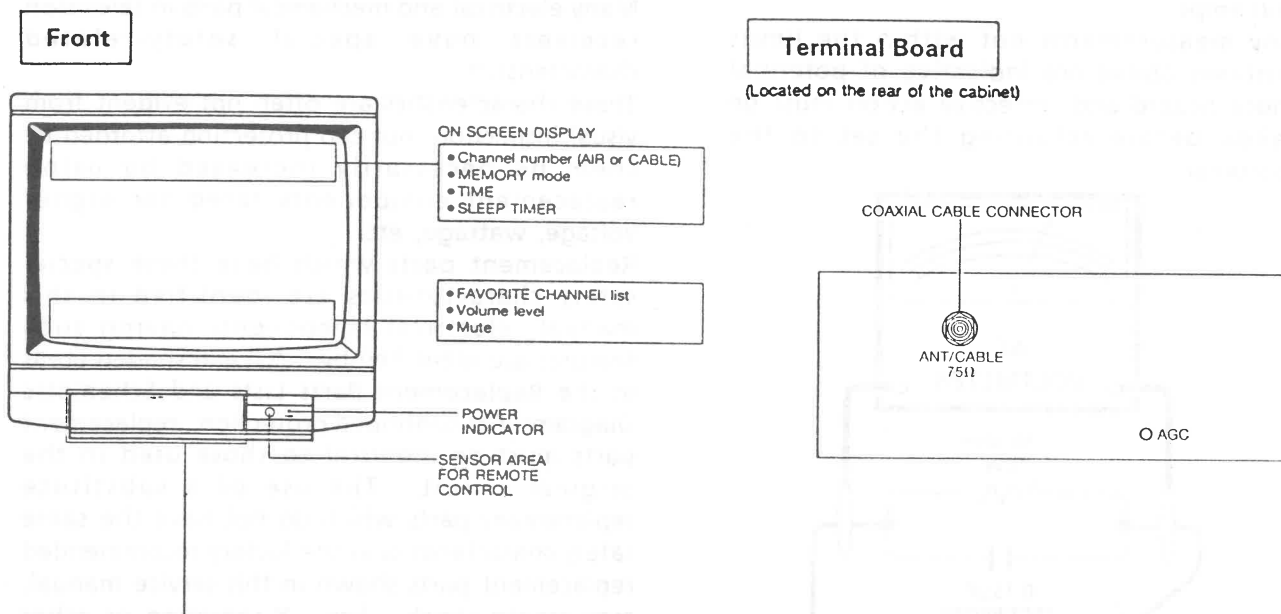
Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "Δ" and shaded areas in the Replacement Parts Lists and Schematic Diagrams. For continued protection, replacement parts must be identical to those used in the original circuit. The use of a substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-radiation or other hazards.

ELECTRICAL SPECIFICATIONS

VHF/UHF ANTENNA INPUT IMPEDANCE	75 ohm Unbalanced
CONVERGENCE	Magnetic
FOCUS	Hi-Bi-Potential Electrostatic
AUDIO POWER OUTPUT RATING	1.2 W (at 10% distortion)
INTERMEDIATE FREQUENCIES	
Picture IF Carrier Frequency	45.75 MHz
Sound IF Carrier Frequency	41.25 MHz
Color Sub-Carrier Frequency	42.17 MHz (Nominal)
PICTURE SIZE	185 sq. in.
POWER INPUT	120 V AC 60Hz
POWER RATING	85 W
SPEAKER SIZE	3.03" PM., (0.57 + 0.43) oz. Magnet
VOICE COIL IMPEDANCE	8 ohm at 400 Hz
SWEEP DEFLECTION	Magnetic
TUNING RANGES	VHF-Channels 2 thru 13
	UHF-Channels 14 thru 83
	CATV Channels 1 thru 139
	(EIA, Channel plan)

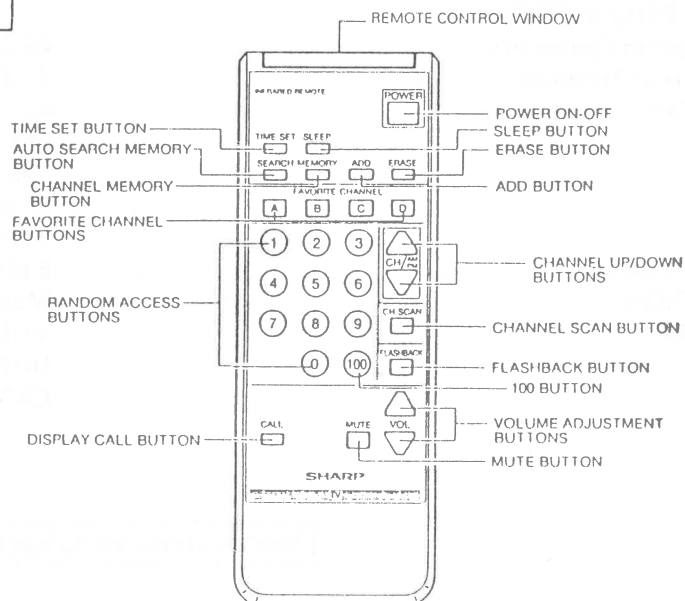
Specifications are subject to change without prior notice.

LOCATION OF USER'S CONTROL



Infrared Remote Control Unit

RRMCG0628CESA



INSTALLATION AND SERVICE INSTRUCTIONS

- Note:** (1) When performing any adjustments to resistor controls and transformers use non-metallic screwdriver or TV alignment tools.
(2) Before performing adjustment, TV set must be on at least 15 minutes.

CIRCUIT PROTECTION

The receiver is protected by a 4.0A fuse (F701), mounted on PWB-A, wired into one side of the AC line input.

+ 122V DC REGULATOR ADJUSTMENT

The +122V DC Adj. control (R707) is adjusted at the factory. However, should readjustment be required, proceed as follows:

1. Actuate the receiver with 120V AC input voltage.
2. Select a local channel.
3. Set the *Brightness* control (a part of R438) and *Picture* control (a part of R438) to maximum (CW).
4. Connect positive lead of Voltmeter to TP701 on PWB-A; negative lead to chassis ground (negative side of C706).
5. Adjust R707 to obtain a +122V DC reading.

CAUTION: To insure proper operation and circuit reliability, do not exceed +122V DC.

X-RADIATION PROTECTOR CIRCUIT TEST

After service has been performed on the horizontal deflection system, high voltage system, or +B system, test the X-Radiation protection circuit to ascertain proper operation as follows:

1. Apply 120V AC using a variac transformer for accurate input voltage.
2. Allow for warm up and adjust all customer controls for normal picture and sound.
3. Check the voltage of test points TP601 and TP602. (The voltage of these points should be about 18.1V DC and 19.1V DC respectively.)
4. Apply 26V DC of external bias to TP601. The works of horizontal oscillator stop this time.
5. To start operation, remove the above short clip lead and touch the TP602 to chassis ground (TP604) with a short clip lead. In this case, remove short clip lead as soon as the set operates again with a normal picture.

6. Make sure that the works of horizontal oscillator stop when 26V DC of external bias is applied to TP602.

Next, make sure that the set operates with a normal picture by the method of Step 5.

7. If the operation of the horizontal osc. does not stop in steps 4 and 6 the circuit must be repaired before the set is returned to the customer.

HIGH VOLTAGE CHECK

High voltage is not adjustable but must be checked to verify that the receiver is operating within safe and efficient design limitations as specified checks should be as follows:

1. Connect an accurate high voltage meter between ground and anode.
2. Operate receiver for at least 15 minutes at 120V AC line voltage, with strong air signal or properly tuned in test signal.
3. Set SW851 on PWB-B to "OFF" (center) position. Turn the *Color* control fully counterclockwise.
4. Turn *Screen* control (on T602) to maximum (CCW) end of its rotation.
5. The voltage should be approximately 26.5kV (at zero beam)

If a correct reading cannot be obtained, check circuitry for malfunctioning components. Upon completion of voltage check, readjust screen control for proper operation and set SW851 to "ON" position.

INSTALLATION AND SERVICE INSTRUCTIONS

(Continued)

FIELD ADJUSTMENT

■ RF-AGC Adjustment

1. Select a local channel.
2. Turn *RF-AGC* control (R231) fully clockwise. As a result noise appears on picture, then slowly turn the *RF-AGC* control (R231) counterclockwise until noise disappears.
3. Check that no noise appears on other channels.

■ Sound

1. Select a local channel.
2. Adjust volume so that sound is not distorted when the *Volume* switch is pressed.
3. Adjust sound det. coil (L303) to obtain max sound (after adjustment make sure that distortion buzz does not occur).

■ Sub-Brightness Control

1. Select a local channel.
2. Turn the *Picture* control (a part of R438) fully clockwise and set *Brightness* control (a part of R438) at the center position.
3. Turn the *Sub-Brightness* control (a part of R438) to obtain normal brightness of the picture.

■ Vertical Size Adjustment

1. Select a local channel.
2. Turn fully counterclockwise the *Picture* control (a part of R438), and turn the *Brightness* control (a part of R438) to dim screen (in the state where the top and bottom of picture can be recognized).
3. Adjust *Vertical Size* control (a part of R438) for approximately 1/8 to 1/4 inch over-scan at top and bottom of picture screen.

■ Focus Adjustment

1. Select a local channel.
2. Set *Brightness* and *Picture* control at a normal viewing level.
3. Adjust *Focus* control (part of T602) for sharp scanning lines and/or sharp picture.

■ Channel and Volume Display Position Adjustment

1. Operate Channel Call buttons on infrared remote control for a normal display.
2. Adjust *Sign Position* control (R1040) on PWB-A.

NOTE 1: In the case of no power supply or abnormal operation of Channel/Volume, be sure to unplug AC cord from the socket and short between TP1005 and chassis ground (Test points for All Clear) on PWB-A, before repairing the TV.

NOTE 2: As this model has "Built in AFT", AFT is always in "ON" position. If AFT should be "OFF", short between TP1003 and TP1004.

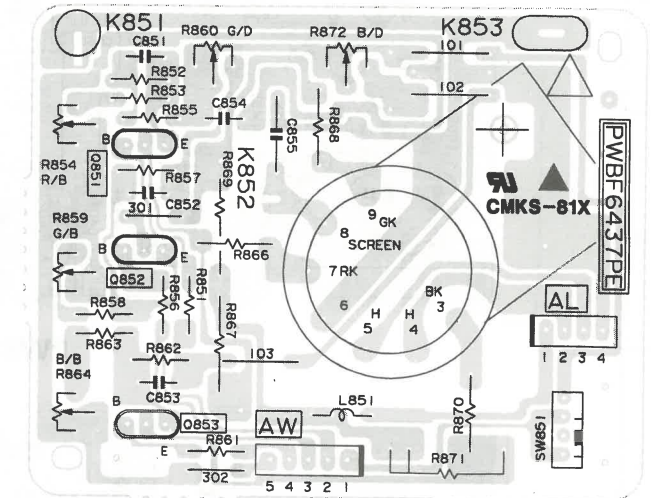
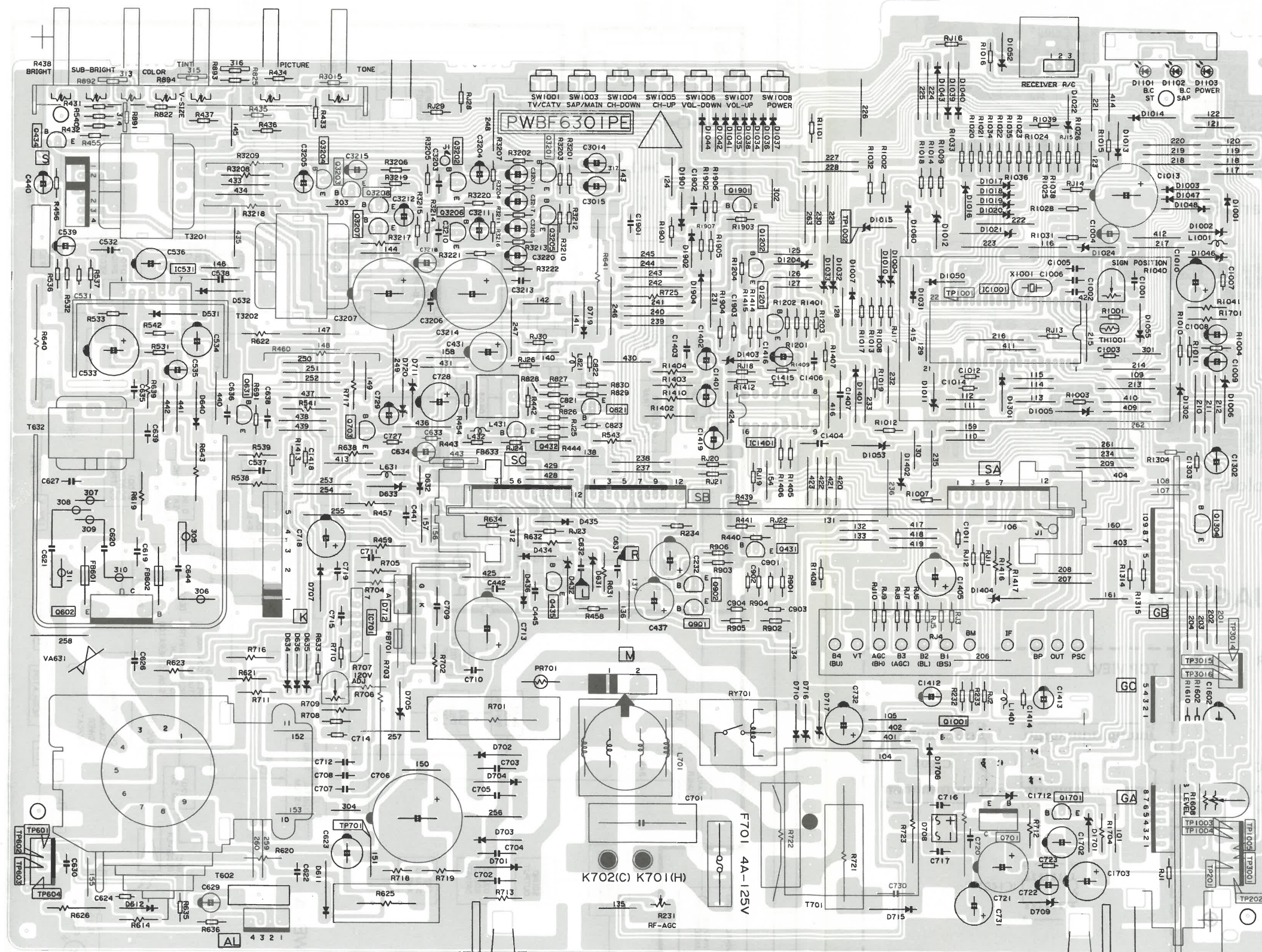
■ Clock Test

1. Make a short-circuit between test points TP1001 and TP1002, both of which are for checking the clock operation.
2. Unplug the AC line cord, and replug it about 2 seconds later.
3. Press the CALL button on the infrared remote control twice. ("----:--" will appear on the screen.)
4. Press the TIME SET button on the infrared remote control. (":" will appear on the screen.)
5. Press the numeric button "1" on the infrared remote control four times, and then the CH (AM). ("AM 11:11" will appear on the screen.)
6. Now press the TIME SET button on the infrared remote control again to make sure the on-screen display advances from AM 11:11 to AM 11:12 and on every second.
7. Then press the SLEEP button on the infrared remote control to be sure that the on-screen display comes to "30 REMAIN" and the figure 30 will count down every second.
8. Unplug the AC line cord.
9. Finally remove the short-circuit clip lead from TP1001 and TP1002.

PRINTED WIRING BOARD ASSEMBLIES

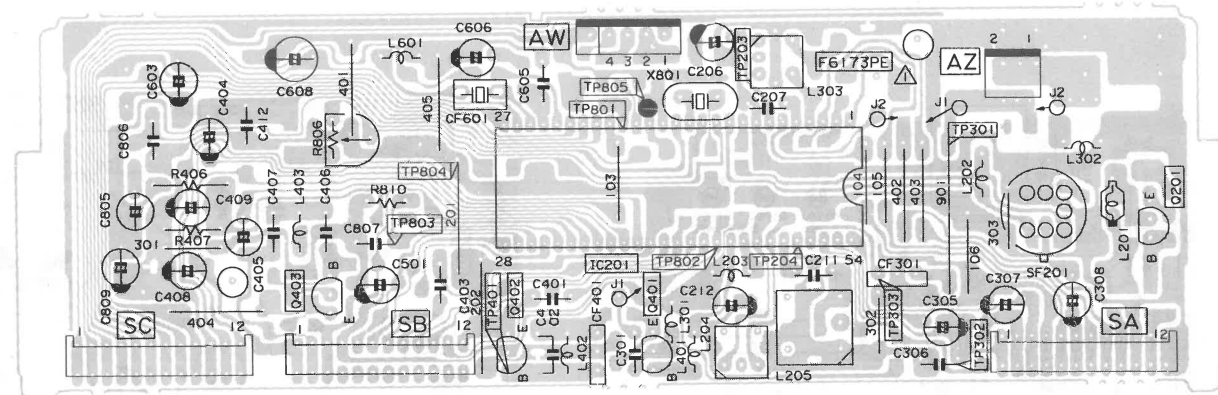
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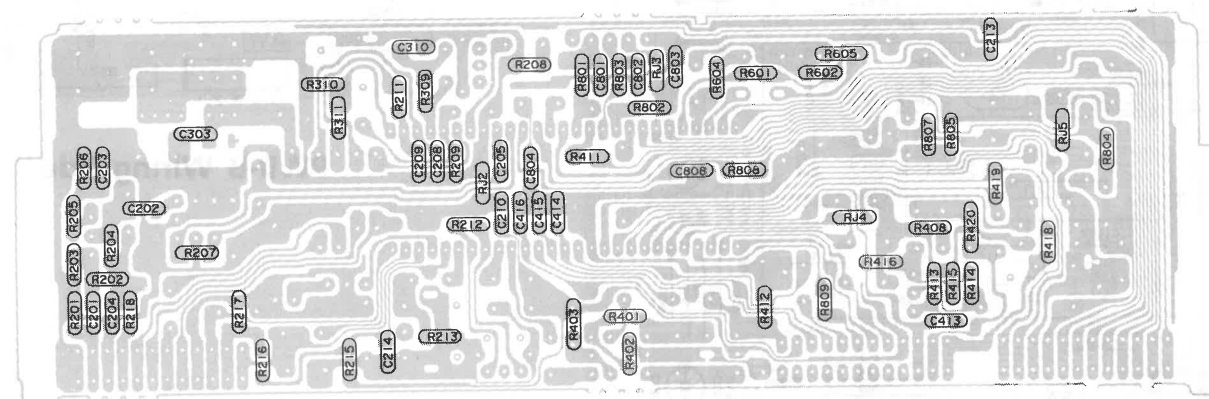


PWB-B Wiring Side

PWB-A Wiring Side

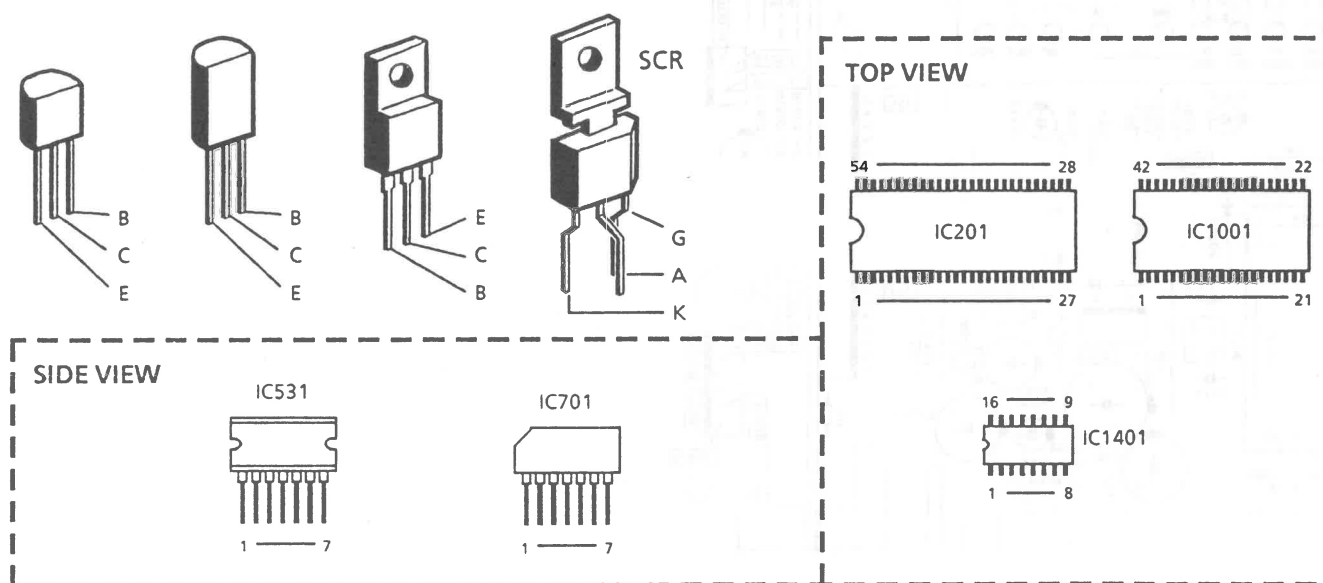


PWB-G Parts Side

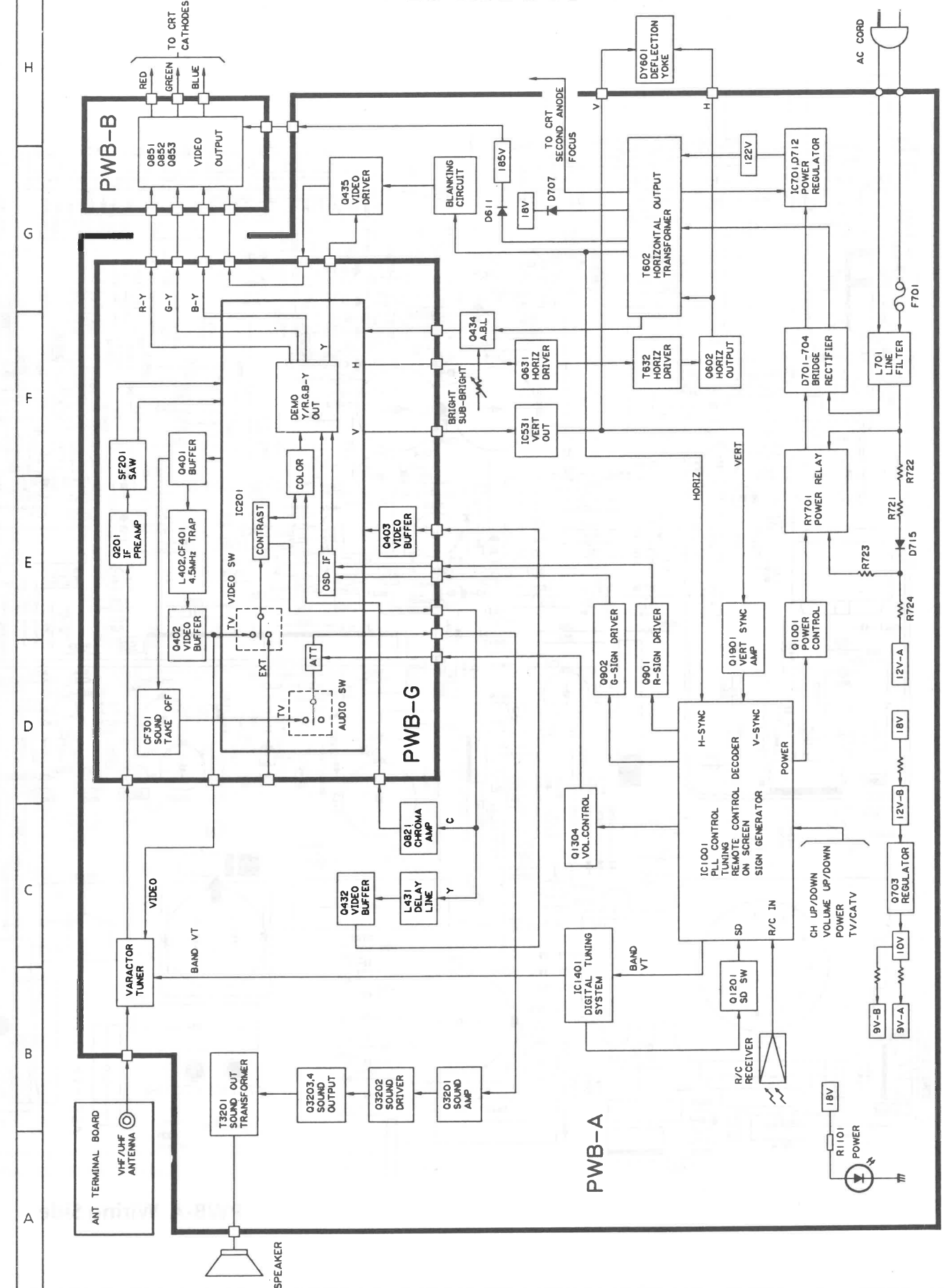


PWB-G Solder Side

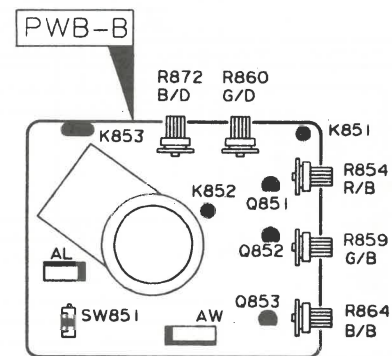
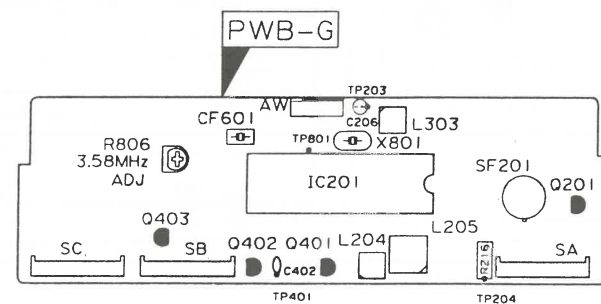
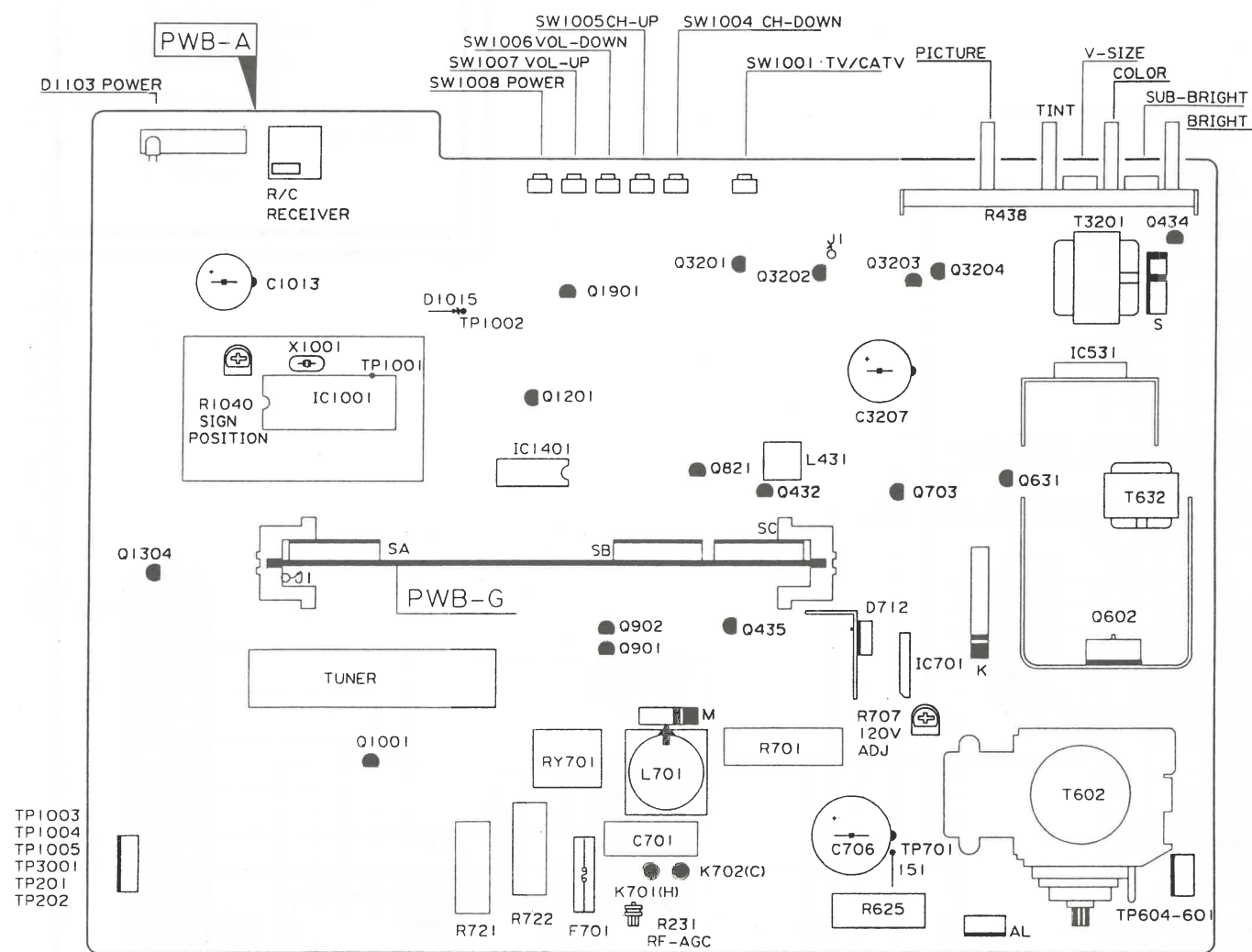
SOLID STATE DEVICE BASE DIAGRAM



BLOCK DIAGRAM



CHASSIS LAYOUT



DESCRIPTION OF SCHEMATIC DIAGRAM


NOTE:

1. The unit of resistance "ohm" is omitted (K:1000 ohms, M:1 Meg ohm).
2. All resistors are 1/8 watt, unless otherwise noted.
3. All capacitors are μF , unless otherwise noted P: $\mu\text{M}\mu\text{F}$.
4. (G) indicates $\pm 2\%$ tolerance may be used.

VOLTAGE MEASUREMENT CONDITIONS:

1. All DC voltages are measured with VTVM connected between points indicated and chassis ground, line voltage set at 120V AC and all controls set for normal picture unless otherwise indicated.
2. All voltages measured with 1000 μ V B & W or Color signal.

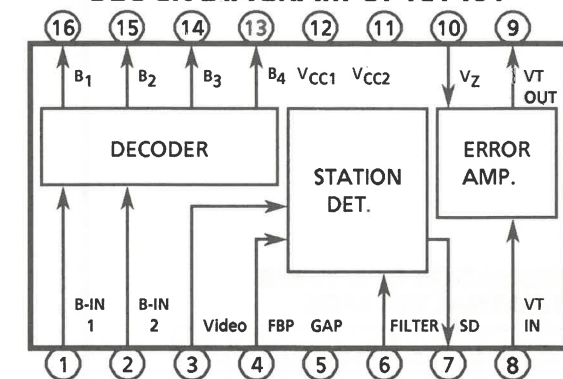
WAVEFORM MEASUREMENT CONDITIONS:

1. Photographs taken on a standard gated rainbow color bar signal, the tint setting adjusted for proper color. The wave shapes at the red, green and blue cathodes of the picture tube depend on the tint, color level and picture control.
2.  indicates waveform check points (See chart, waveforms are measured from point indicated to chassis ground.)

 **AND SHADED () COMPONENTS**
 = SAFETY RELATED PARTS.
 **MARK = X-RAY RELATED PARTS.**

This circuit diagram is a standard one, printed circuits may be subject to change for product improvement without prior notice.

BLOCK DIAGRAM OF IC1401



Memo

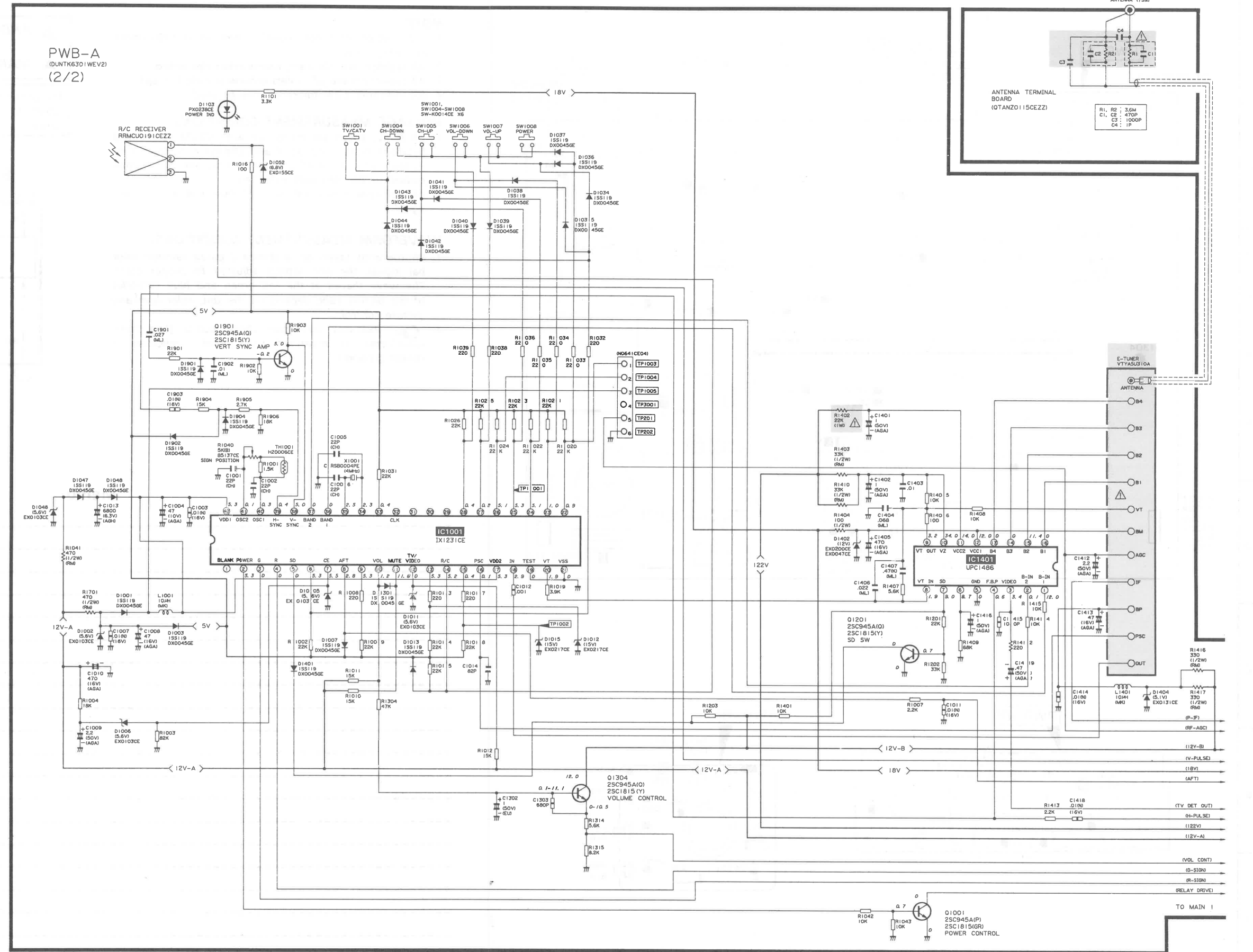
MAIN-2 CIRCUIT

INDICATION OF E-TUNER TERMINAL VOLTAGE

CH No.	V _T	B ₁	B ₂	B ₃	B ₄
2~6	1.6V~10V	12V	0V	0V	0V
A.5~13	1V~22.5V	0V	12V	0V	0V
J~FFF	3.5V~23.5V	0V	0V	12V	0V
14~69	1.2V~17V	0V	0V	0V	12V

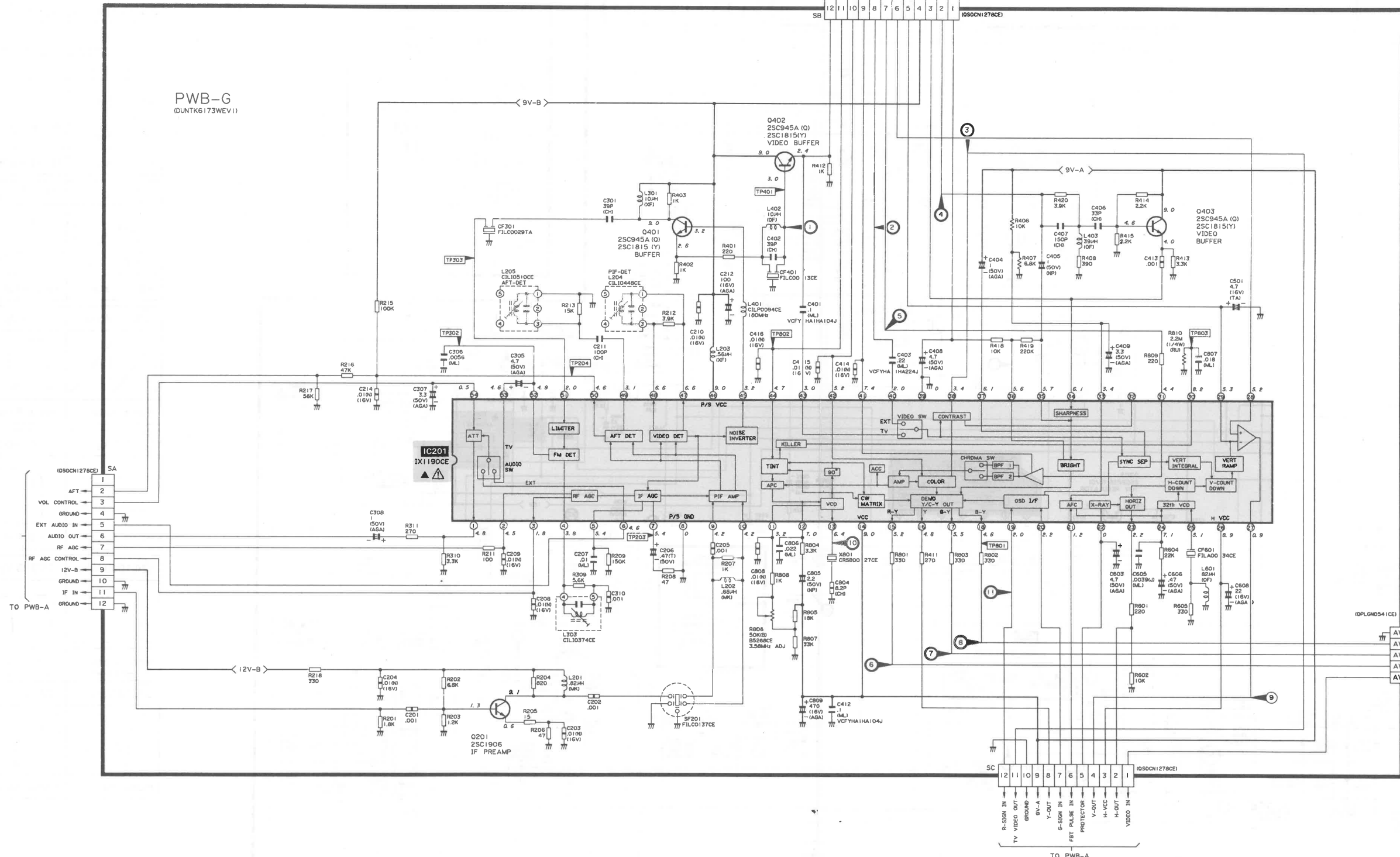
INDICATION OF SENSOR IC VOLTAGE (IC1001)

Pin No.	IC1001 Logic or Voltage Levels
1	Active High (Pulse)
2	5V(Power on) 0V(Power off)
3, 4	Active High (Pulse)
5	5D Input 5V or 0V
6	Key Input Active Low (Pulse)
7	4.8V (Active High)
8	2.0V~3.5V
9	Key Input Active Low (Pulse)
10	Pulse
11	0V(Mute on) 3.7V(Mute off)
12	0V
13	Key Input Active Low (Pulse)
14	Active Low (Pulse)
15	Key Input Active Low (Pulse)
16, 18	Pulse
20	Pulse
22~33	Key Input Active Low (Pulse)
34, 35	Osc. 4MHz
36, 37	5V or 0V
38	V-Sync. Pulse Input
39	H-Sync. Pulse Input
40	OSC 1 During ON SCREEN operation: Osc. On
41	OSC 2 During ON SCREEN inoperative: Osc. Off



SIGNAL CIRCUIT

H
G
F
E
D
C
B
A



① 1.1 Vp-p	② 0.6 Vp-p
Horiz. Rate	Horiz. Rate
③ 1.7 Vp-p	④ 1 Vp-p
Horiz. Rate	Horiz. Rate
⑤ 1.3 Vp-p	⑥ 2.8 Vp-p
Horiz. Rate	Horiz. Rate
⑦ 1.2 Vp-p	⑧ 3.2 Vp-p
Horiz. Rate	Horiz. Rate
⑨ 2.5 Vp-p	⑩ 0.1 Vp-p
Vert. Rate	Horiz. Rate
⑪ 1.3 Vp-p	
Horiz. Rate	

REPLACEMENT PARTS LIST

SAFETY NOTE — Components marked with a (▲) have special characteristics important to safety. Before replacing any of these components, read carefully the SAFETY NOTICE on page 3 of the Service Manual. Components marked with an (▲) are related to X-Ray Protection circuit.

HOW TO ORDER REPLACEMENT PARTS — To have your order filled promptly and correctly, please furnish the following information:

1. MODEL NO.

2. PART NO.

3. DESCRIPTION

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor, Please call Toll-Free; 800-447-4700

★ MARK: SPARE PARTS-DELIVERY SECTION

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
PICTURE TUBE					INTEGRATED CIRCUITS				
▲▲ V101	VBA 48 ABK 04 X-S or VB 48 JQH 90 X/*S	M	CRT		▲ IC531	RH-iX0238CEZZ	J		AK
		M			▲▲ IC701	RH-iX0137CEZZ	J		AH
▲▲ DY601	RCILH0023MEZZ	M	Deflection Yoke		IC1001	RH-iX1231CEZZ	J		AV
▲ L702	RCILG0014MEZZ	M	ADG Coil		IC1401	VH iUPC1486C-1	J		AK
	PSPAG0028MEZZ	M	Wedge (Gum) — Yoke Positioning (3pcs used)		TRANSISTORS				
	PMAGF3006CEZZ	J	Magnet Ass'y — Purity & Static Convergence	AK	Q432, 434, 821, 901, 902, 1201, 1304, 1901, 3201	VS2SC945AQ/-1 or VS2SC1815YW-1	J	2SC945A(Q) 2SC1815(Y)	AB AC
PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)					Q435	VS2SA854-Q/1E or VS2SA562TO/-1	J	2SA854(Q) 2SA562T(O)	AC AD
PWB-A	DUNTK 6301 WE V2	—	Mother Unit	—	Q631	VS2SC2482//1E	J	2SC2482	AD
PWB-B	DUNTK 6437 WE V1	—	CRT Socket Unit	—	▲ Q602	VS2SD1554//1E	J	2SD1554	AL
PWB-G	DUNTK 6173 WE V1	—	Signal Unit	—	Q703	VS2SC2236Y/-1 or VS2SC2236O/-1	J	2SC2236(Y) 2SC2236(O)	AD AD
PWB-A DUNTK6301WEV0 MOTHER UNIT					Q1001	VS2SC945AP/-1 or VS2SC1815GW-1	J	2SC945A(P) 2SC1815(GR)	AB AB
TUNER					Q3202	VS2SC1890AD-1	J	2SC1890A(D)	AC
NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.					Q3203	VS2SC2383//1E	J	2SC2383	AD
▲	VTU VTY A5U 310 A	J	Varactor Tuner	BS	Q3204	VS2SA1013//1E	J	2SA1013	AD

Ref. No.	Part No.	*	Description	Code
DIODES				
D434, 435, 436,	VHD 1 S S 1 1 9 // -1 or RH-DX 0 0 4 5 GEZZ	J	1SS119	AA
▲▲ 612, 632, ▲▲ 636, 710, 719, 1001, 1003, 1007, 1013, 1034 1044, 1047, 1048, 1301, 1401, 1901, 1902, 1904		J	1N4148	AA
D432 D531,	VHD 1 N 3 4 A /// -1 RH-DX 0 1 1 0 CEZZ	J	1N34A	AB
▲ 701, ▲ 702, ▲ 703, ▲ 704, 715 ▲ D532	or RH-DX 0 1 5 5 CEZZ	J	S5277G	AB
	RH-DX 0 1 3 1 CEZZ	J	DS135C-AT	AB
▲ D611, ▲ 640	or RH-DX 0 1 2 6 CEZZ	J	EU-1	AC
	RH-DX 0 1 3 1 CEZZ	J	TVR1G(TP)	AC
	or RH-DX 0 1 2 6 CEZZ	J	EU-1	AC
	or RH-DX 0 0 8 6 TAZZ	J	TVR1G(TP)	AC
D631, 716, 717, 718, 1402	RH-DX 0 0 8 6 TAZZ	J	RH1S	AC
	RH-EX 0 2 0 0 CEZZ	J	Zener Diode, 12V	AB
	or RH-EX 0 0 4 7 CEZZ	J		AB
D633	RH-EX 0 0 8 9 CEZZ	J	Zener Diode, 8.2V	AB
▲▲ D634	RH-EX 0 0 9 1 CEZZ	J	Zener Diode, 22V	AB
▲▲ D635	RH-EX 0 1 3 0 CEZZ	J	Zener Diode, 20V	AB
▲ D705	RH-EX 0 1 0 6 CEZZ	J	Zener Diode, 82V	AB
▲ D707	RH-DX 0 2 0 2 CEZZ	J	EU-2V	AD
	or RH-DX 0 2 2 6 CEZZ	J	RG10J	AC
	or RH-DX 0 1 8 1 CEZZ	J	RG2V	AE
D711	RH-EX 0 1 1 6 GEZZ	J	Zener Diode, 6.8V	AB
▲▲ D712	VHS 3S4 M // LB 1E	J	Silicon Controlled Rectifier	AK
	or VHSS 6 3 4 4 GLB1E	J		AH

Ref. No.	Part No.	*	Description	Code
D720 D1002, 1005, 1006, 1011, 1046, D1012, 1015 D1052 D1103 D1404	RH-EX 0 4 4 3 CEZZ RH-EX 0 1 0 3 CEZZ RH-EX 0 2 1 7 CEZZ RH-EX 0 1 5 5 CEZZ RH-PX 0 2 3 8 CEZZ RH-EX 0 1 3 1 CEZZ	J J J J J J	Zener Diode Zener Diode, 5.6V Zener Diode, 15V Zener Diode, 6.8V LED, Power Ind. Zener Diode, 5.1V	AC AB AB AB AD AB
PACKAGED CIRCUITS				
X1001 ▲ PR701	R CRS B 0 0 0 4 PEZZ RMPT P 0 0 2 6 CEZZ	R J	Crystal — 4 MHz Positive Coefficient Thermistor	AH AF
TH1001 ▲ VA631	RH-H Z 0 0 0 6 CEZZ RH-V X 0 0 0 6 CEZZ	J J	Thermistor Varistor	AB AE
COILS				
L431 L432 L631 ▲ L701 L821 L1001, 1401	RCi LZ 0 3 7 2 CEZZ VP -OF 1 5 1 K 0000 VP -XF 1 0 0 K 0000 RCi LF 0 0 8 7 CEZZ VP-MK 1 5 0 K 0000 VP-MK 1 0 0 K 0000	J J J J J J	Delay Line 150μH 10μH Line Filter 15μH 10μH	AH AC AB AL AB AB
TRANSFORMERS				
▲▲ T602	R TRN F 0 0 1 4 PEZZ or R TRN F 1 4 4 6 CEZZ	R J	Horizontal Output (W /Focus and Screen Controls and H.V. Rectifier)	BN BC
▲ T632 T3201	R TRN Z 0 3 6 7 CEZZ R TRN S 0 0 0 7 PEZZ or R TRN S 0 0 0 8 PEZZ	J R R	Horizontal Driver Sound Output	AK AP —

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
CONTROLS					C638	VCC SPA 2HL 100 D	J	10p 500V Ceramic	AA
R231	RVR-B 4 5 6 8 CEZZ	J	10k(B) RF-AGC	AC	C639,	VCK YPA 2HB 471K	J	470p 500V Ceramic	AA
R438	RVR-B 5 4 2 1 CEZZ	J	10k(B) Picture/ 10k(B) Tint/ 10k(B) Color/ 10k(B) Brightness/ 10k(B) Sub-Bright./ 30k(B) Vertical Size	AK	708, 710 712				
▲▲ R707	RVR-B 5 2 6 1 CEZZ	J	1k(B) 122V Adj.	AB	C644	VCQ PPD 2D B 474 J	J	0.47 200V Polypro Film	AE
R1040	RVR-B 5 1 3 7 CEZZ	J	5k(B) Sign Position	AB	▲ C701	RC-QZ 0 2 0 D CEZZ or RC-QZ 0 2 4 D CEZZ	J	0.1 AC125V Mylar	AE
CAPACITORS					▲ C706	RC-EZ 0 1 8 3 CEZZ	J	0.22 AC125V Mylar	AK
C232	VCEAGA1CW108M	J	1000 16V Electrolytic	AD	C707	VCK YPA 2HB 332K	J	620 200V Electrolytic	AN
C390, 702 705, 730	VCK YPB 2HE 103 P	J	0.01 500V Ceramic	AB	C709	VCQ PSB 2DA 473K	J	0.0033 500V Ceramic	AB
C431, 437, 728, 1010, 1405	VCEAGA1CW477M	J	470 16V Electrolytic	AC	▲ C713, 3207	VCEAAH2CW107M	J	0.047 200V Polypro Film	AB
C441	VCC SPA 2HL 470 K	J	47p 500V Ceramic	AB	▲▲ C715	VCQ YSH1HM103K	J	100 160V Electrolytic	AE
C533	VCEAGA1EW108M	J	1000 25V Electrolytic	AD	C718	VCEAGA1EW477M	J	0.01 50V Mylar	AA
C534	VCEAGA1VW107M	J	100 35V Electrolytic	AC	C719	VCK YPA 2HB 152K	J	470 25V Electrolytic	AD
C538	VCQ PSB 2JA 102 K	J	0.001 630V Polypro Film	AB	C1013	VCE AGH0JW688M	J	0.0015 500V Ceramic	AA
C539	VCS ATA 1VE 684 K	J	0.68 35V Tantalum	AC	C3203	VCC SPA 2H L 331 K	J	6800 6.3V Electrolytic	AH
▲▲ C619	RC-KZ 0 0 3 9 CEZZ	J	680p 2kV Ceramic	AB	C3205	VCEAGA2AW475M	J	330p 500V Ceramic	AA
▲▲ C620	VCF P P C 3CA 332 J	J	0.0033 1.6kV Metalized Polyester	AD	C3206	VCK YPA 2HB 391K	J	4.7 100V Electrolytic	AB
▲▲ C621	VCF P P C 3CA 362 J	J	0.0036 1.6kV Metalized Polyester	AD	C3215	VCEAGA2AW105M	J	390p 500V Ceramic	AA
C622, 627	VCK YPA 2HB 102K	J	0.001 500V Ceramic	AA				1 100V Electrolytic	AB
▲ C623, 731	VCEAGA2AW106M	J	10 100V Electrolytic	AC					
C635	VCK YPA 2HB 222K	J	0.0022 500V Ceramic	AA					
C636	VCC SPA 2HL 820 K	J	82p 500V Ceramic	AA					

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code	
RESISTORS					SWITCHES					
△ R457	VRS -VV 3AB 1 2 3 J	J	12k 1W Oxide Film	AA	SW1001, 1004, 1005, 1006, 1007, 1008	QSW-K 0 0 1 4 CEZZ	J	TV / CATV, Channel Down, Channel Up, Volume Down, Volume Up, Power ON-OFF	AC	
△ R460	VRS -S V 3LB 3 3 0 J	J	33 3W Oxide Film	AB	RELAY					
△ R541, △ 716	VRN-VV 3AB 1R0 J	J	1 1W Metal Coating	AA	△ RY701	RRLY U 0 0 2 4 CEZZ	J	Power Relay	AP	
▲△ R614	VRD-RA 2EE 2 7 0 J	J	27 1/4W Carbon	AA	MISCELLANEOUS PARTS					
△ R619	VRN-VV 3AB R22 J	J	0.22 1W Metal Coating	AA	△ F701	QFS - B 4 0 2 3 CEZZ or QFS - B 4 0 2 1 GEZZ QFSHD 1 0 0 2 CEZZ	J	Fuse — 4A (AC125V)	AC	
△ R620	VRS -S V 2HC 1 0 0 J	J	10 1/2W Oxide Film	AA	FB601, 602, 701	R BLN - 0 0 3 7 CEZZ	J	Fuse Holder — F701 (2 used)	AD AA	
△ R623	VRS -S V 2HC 1 0 3 J	J	10k 1/2W Oxide Film	AA			J	Ferrite Bead	AB	
△ R625	VRW-KV 3HC 6R8 K	J	6.8 5W Cement	AC			R R MCU 0191 CEZZ	J	Infrared Remote Control Receiver	AM
△ R626	VRN-V V 3AB 1R8 J	J	1.8 1W Metal Coating	AA						
▲△ R633	VRD-MN 2BE 5 6 2 J	J	5.6k 1/8W (Chip) Carbon	AA						
▲△ R634	VRD-MN 2BE 1 5 3 J	J	15k 1/8W (Chip) Carbon	AA						
▲△ R635	VRD-MN 2BE 1 0 2 J	J	1k 1/8W (Chip) Carbon	AA						
▲△ R636	VRD-MN 2BE 1 0 3 J	J	10k 1/8W (Chip) Carbon	AA						
△ R640	VRS -S V 3LB 1 8 2 J	J	1.8k 3W Oxide Film	AB						
△ R641	VRS -S V 3LB 8 2 2 J	J	8.2k 3W Oxide Film	AB						
△ R643	VRS -VV 3DB 3 3 1 J	J	330 2W Oxide Film	AA						
△ R701	VRW-KV 3NC 2R7 K	J	2.7 7W Cement	AC						
△ R702	VRS -S V 2HC 1 5 1 J	J	150 1/2W Oxide Film	AA						
△ R703	VRS -S V 3LB 3 3 1 J	J	330 3W Oxide Film	AC						
▲△ R706	VRD-RA 2EE 1 0 4 G	J	100k 1/4W Carbon	AA	PWB-B DUNTK6437WEV1 CRT SOCKET UNIT					
▲△ R708	VRD-MN 2BE 6 8 3 J	J	68k 1/8W (Chip) Carbon	AA	TRANSISTORS					
▲△ R709	VRD-RA 2EE 5 6 2 G	J	5.6k 1/4W Carbon	AA	Q851, 852, 853	VS 2SC 2 4 8 2 / - 1 or VS 2SC 2 6 1 0 / - 1 E	J	2SC2482 2SC2610	AD AD	
△ R713	VRD-RA2HD 8 2 4 J	J	820k 1/2W Carbon	AA	COIL					
△ R721, △ 722	RR-WZ 0 1 1 6 CEZZ	J	330 5W Cement	AE	L851	VP -MK 2 2 1 K 0000	J	220μH	AB	
R723	VRS -VV 3AB 8 2 1 J	J	820 1W Oxide Film	AA	CONTROLS					
R724	VRS -VV 3LB 5 6 1 J	J	560 3W Oxide Film	AB	R854, 859, 864 R860, 872	RVR - B 4 5 6 7 CEZZ RVR - B 4 5 6 2 CEZZ	J	5k(B) Red Bias, Green Bias, Blue Bias 300(B) Green Drive, Blue Drive	AC AC	
△ R1402	VRS -VV 3AB 2 2 3 J	J	22k 1W Oxide Film	AA						
△ R3209	VRS -VV 3DB 1 5 2 J	J	1.5k 2W Oxide Film	AA						

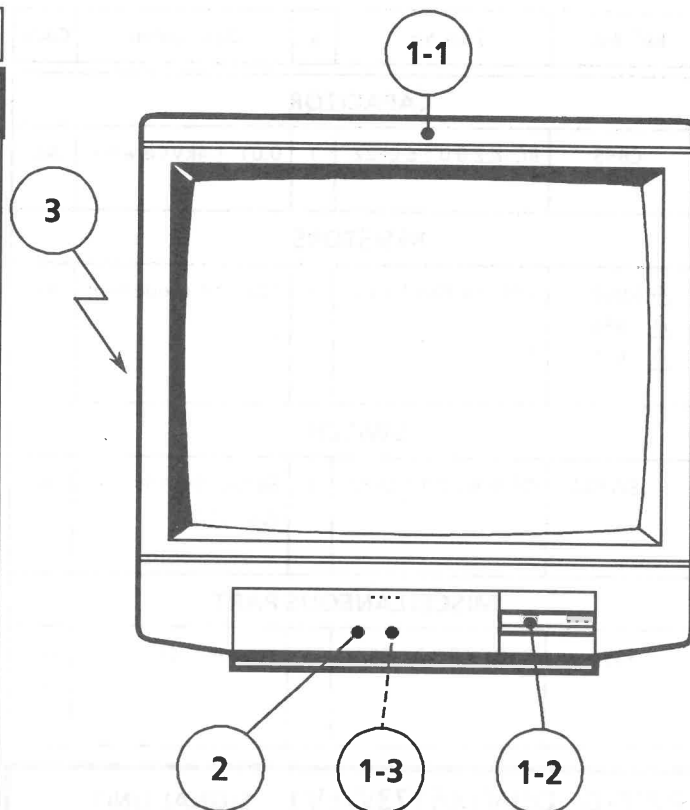
Ref. No.	Part No.	★	Description	Code
CAPACITOR				
C855	RC-KZ0016CEZZ	J	0.01 1.4kV Ceramic	AC
RESISTORS				
△ R867, △ 869, △ 871	VRS-VV3AB123J	J	12k 1W Oxide Film	AA
SWITCH				
SW851	QSW-B0015CEZZ	J	Service Switch (Cut-off)	AC
MISCELLANEOUS PART				
S851	QSOCV0826CEZZ	J	Socket — CRT	AK

PWB-G DUNTK6173WEV1 SIGNAL UNIT				
INTEGRATED CIRCUIT				
△△ IC201	RH-iX1190CEZZ	J		BB
TRANSISTORS				
Q201	VS25C1906//1E	J	25C1906	AC
Q401, 402, 403	VS25C945AQ/-1 or VS25C1815YW-1	J	25C945A(Q) 25C1815(Y)	AB AC
PACKAGED CIRCUIT				
X801	RCRSB0027CEZZ	J	Crystal — 3.58 MHz	AL
COILS				
L201	VP-MK R82M 0000	J	0.82μH	AB
L202	VP-MK R68M 0000	J	0.68μH	AB
L203	VP-XFR56K 0000	J	0.56μH	AB
L204	RCiLi0448CEZZ	J	PIF Detection	AD
L205	RCiLi0510CEZZ	J	AFT	AF
L301	VP-XF100K 0000	J	10μH	AB
L302	VP-MK 220K 0000	J	22μH	AB
L303	RCiLi0374CEZZ	J	Sound Detection	AD
L401	RCiLP0094CEZZ	J	180MHz Band Pass Filter	AB
L402	VP-OF100K 0000	J	10μH	AB
L403	VP-OF390K 0000	J	39μH	AC
L601	VP-OF820K 0000	J	82μH	AC

Ref. No.	Part No.	★	Description	Code
FILTERS				
SF201	RFiLC0137CEZZ	J	Surface Acoustic Wave Filter	AH
CF301	RFiLC0029TAZZ	J	Ceramic Filter — Sound Take-off	AD
CF401	RFiLC0013CEZZ	J	Ceramic Filter — 4.5 MHz Trap	AE
CF601	RFiLA0034CEZZ	J	Ceramic Filter — 503 kHz	AD
CONTROL				
R806	RVR-B5268CEZZ	J	50k(B) 3.58 MHz Adj.	AB
CAPACITORS				
C212	VCEAGA1CW107M	J	100 16V Electrolytic	AC
C405	VCE9AA1HW105M	J	1 50V (N.P) Electrolytic	AB
C501	VCSATA1CE475K	J	4.7 16V Tantalum	AC
C805	VCE9AA1HW225M	J	2.2 50V (N.P) Electrolytic	AB
C809	VCEAGA1CW477M	J	470 16V Electrolytic	AC

MISCELLANEOUS PARTS				
△	QACCD3014CESA	J	AC Line Cord — AC120V, 60Hz	AH
△	QTANZ0115CEZZ	J	Antenna Terminal Board Ass'y	AG
	VSP0080PB928A	M	Speaker — 8ohm	
	RRMCG0628CESA	M	Infrared Remote Control Unit	

Ref. No.	Part No.	★	Description	Code
CABINET PARTS				
1	CCAB A 1086 WE V0	M	Cabinet Complete — Front (19RV69P)	
1	CCAB A 1079 WE V0	M	Cabinet Complete — Front (19RV629P)	
1-1	<i>Not Available</i>	—	Cabinet — Front	—
1-2	GMADT 0037 MEKA	M	Window	
1-3	H i ND P 1144 MEKA	M	Indication Plate — in Door	
2	GDOR F 1078 MEKA	M	Door (19RV69P)	
2	GDOR F 1076 MEKA	M	Door (19RV629P)	
3	CCAB B 1055 WE V0	M	Cabinet — Rear	

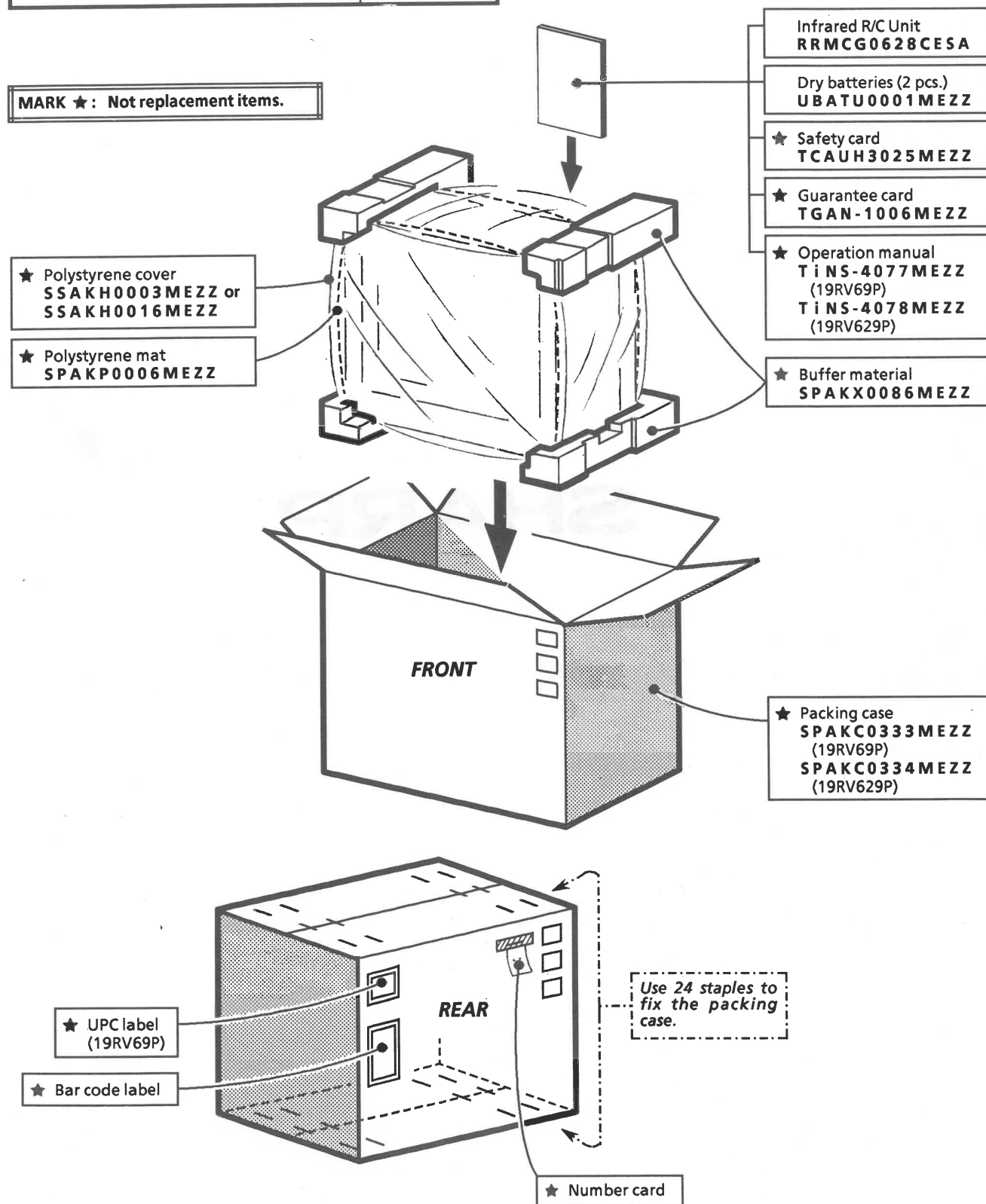


PACKING OF THE SET

● Setting positions of the knobs

BRIGHTNESS control position	5 / 10
COLOR control position	5 / 10
TINT control position	Best position
PICTURE control position	10 / 10

MARK ★: Not replacement items.



PACKING OF THE SET

1. Remote Control
2. Power Adapter
3. User's Manual
4. Quick Start Guide
5. Warrantee Card
6. Packing Materials

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SHARP

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For the best
viewing
angle



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