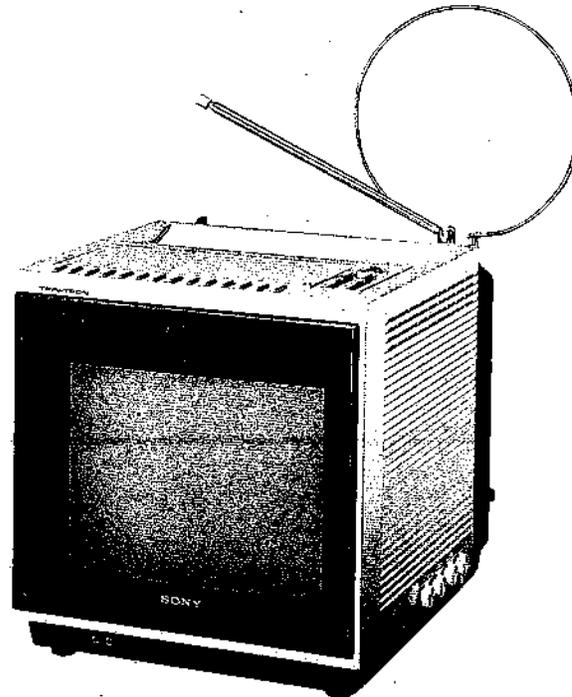


2350

KV-9400

US Model

Chassis No. SCC-274A-A



TRINITRON® COLOR TV

SPECIFICATIONS

Television System:	American TV standards
Color System:	NTSC
Picture Tube:	22 cm, 9" (screen measured diagonally), 90° deflection TRINITRON system
Semiconductors:	22 transistors, 1 FET, 8 ICs and 39 diodes
Antennas:	VHF: 300 Ω balanced 75 Ω unbalanced (telescopic antenna) (including slide switch) UHF: 300 Ω balanced (loop antenna*) *Note: Supplied with accessories
Channel Coverage:	VHF channels: 2 - 13 UHF channels: 14 - 83 (a total of up to 14 preselected channels)
Intermediate Frequencies:	Picture i-f carrier: 45.75 MHz Color subcarrier: 42.17 MHz Sound i-f carrier: 41.25 MHz
Sound System:	4.5 MHz intercarrier Output power: 1W (max.) Speaker: 8 x 12 cm (3 $\frac{1}{8}$ x 4 $\frac{3}{4}$ inches) oval, 8 Ω

- Continued on page 2 -

WARNING

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

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

SONY®

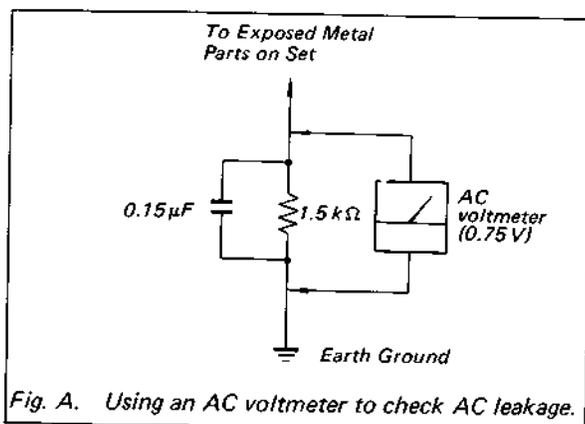
SERVICE MANUAL

Video System: R, G, B cathode drive
Automatic Controls: ABL (automatic brightness limiter)
ACC (automatic color control)
ACK (automatic color killer)
ADG (automatic degaussing)
AFC (automatic frequency control)
AFT (automatic fine tuning)
AGC (automatic gain control)
ANC (automatic noise canceller)
AVR (automatic voltage regulator)
Anode Voltage: 20 kV at zero beam current
Power Requirements: 120 V ac, 60 Hz
Power Consumption: 77 W ac (max.)
57 W ac (average)
Dimensions: Approx. 267(w) x 285(h) x 333(d) mm
10½(w) x 11¼(h) x 33¹/₈(d) inches
Net Weight: Approx. 8.3 kg (18 lb 5 oz)
Accessories Supplied: Earphone (ME-20B)
UHF loop antenna (AN-15)
Label indicator
Instruction manual

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).
Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.



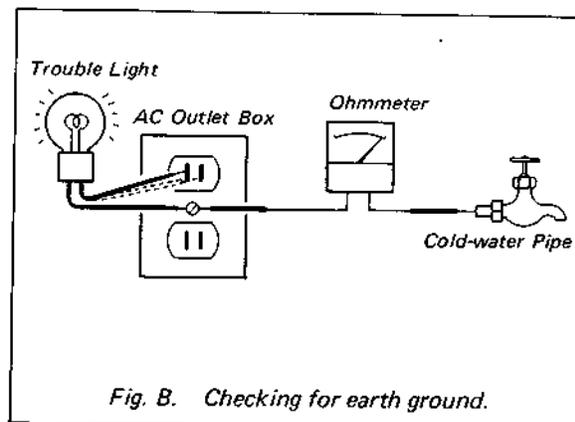
LEAKAGE TEST

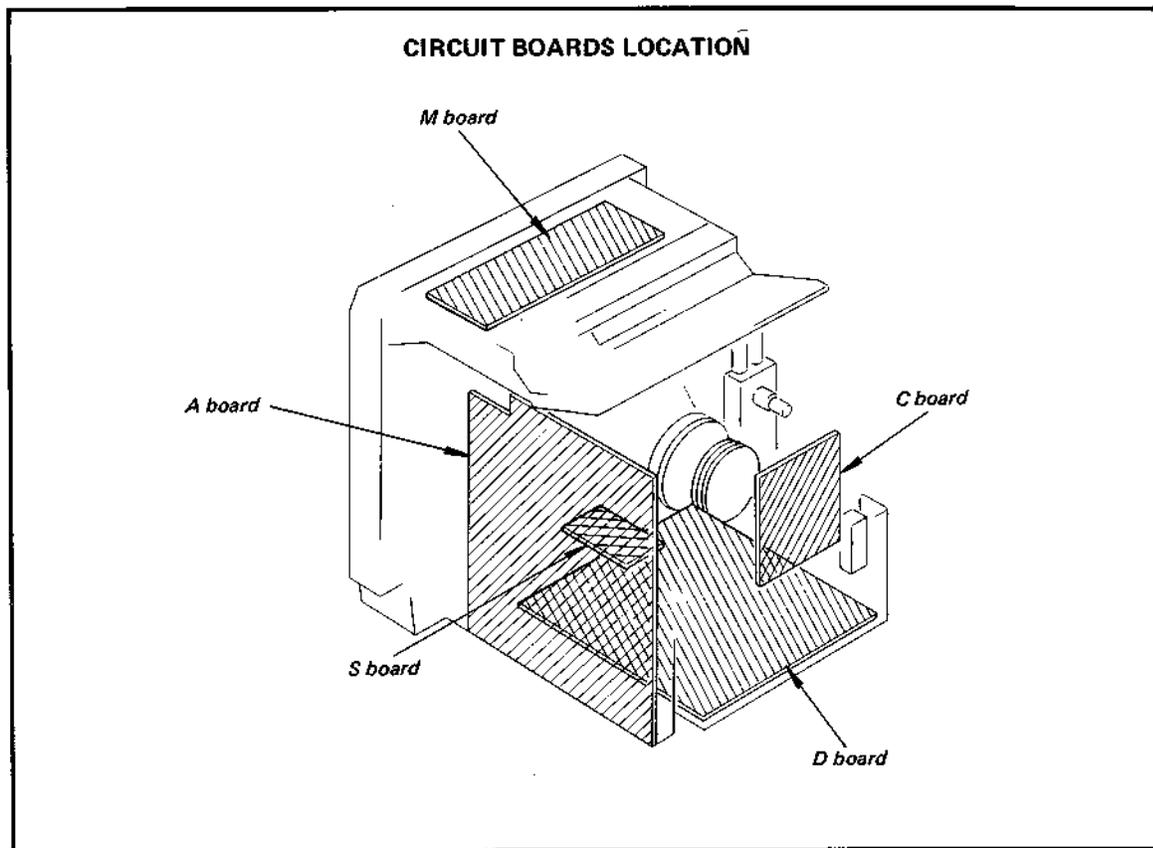
The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

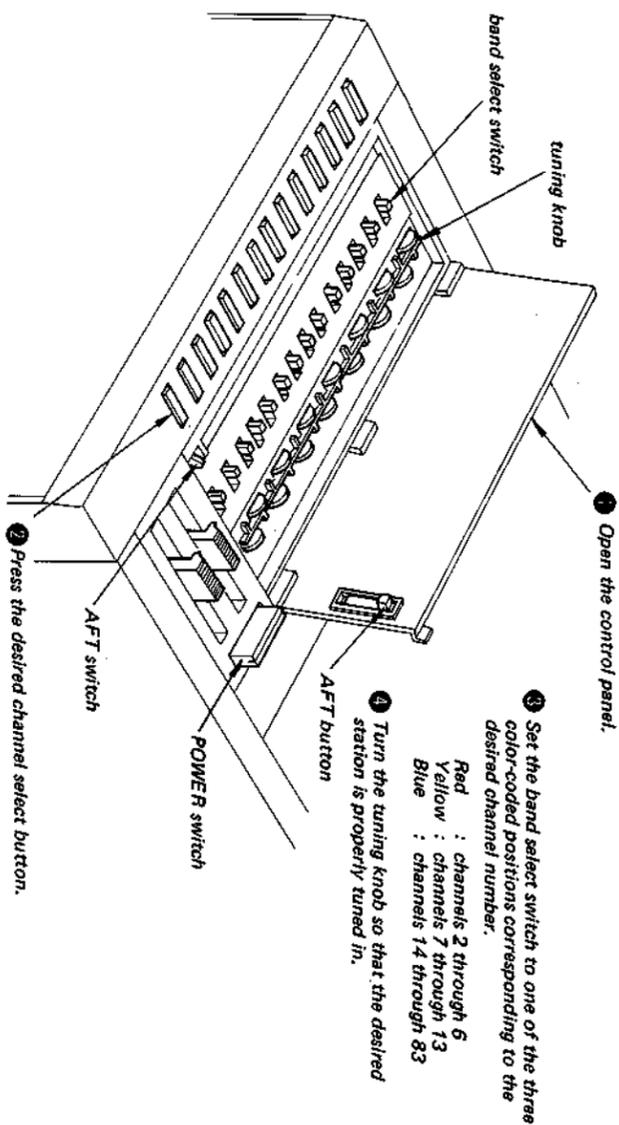
A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)



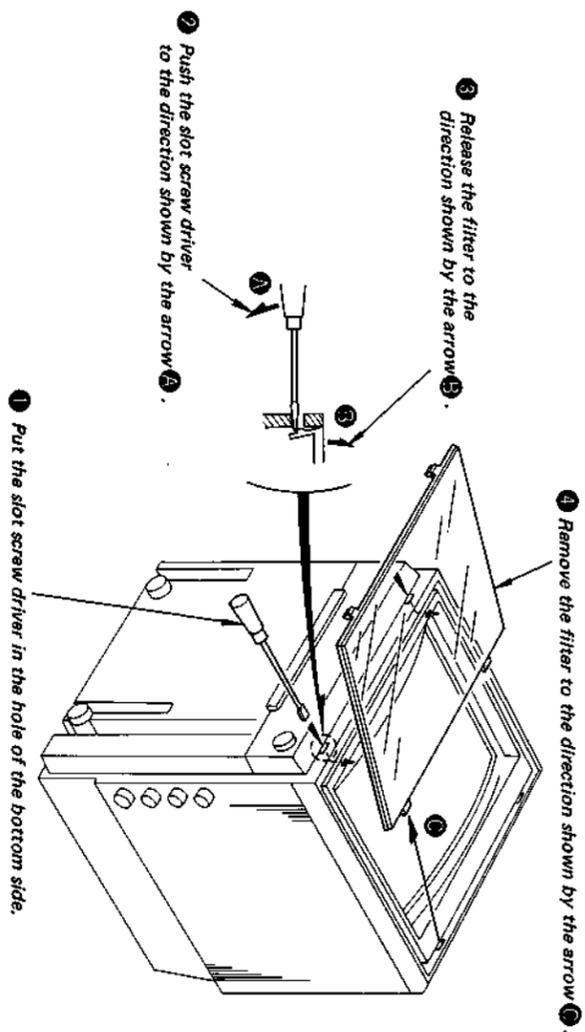


**SECTION 2
DISASSEMBLY**

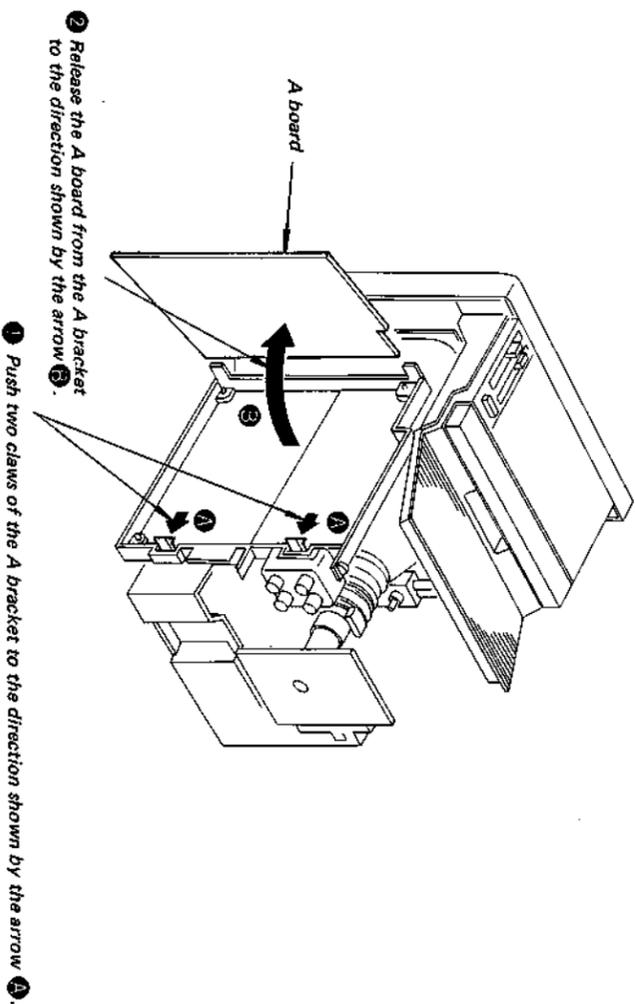
1-2 CHANNEL PRESETTING



2-1. FILTER REMOVAL



2-2. FOR CHECKING A BOARD UP



SECTION 3 SETUP ADJUSTMENTS

SCC-274A-A

KV-9400 KV-9400

SCC-274A-A

- (1) The following adjustments should be made when a complete realignment is required on a new picture tube is installed.
- (2) These adjustments should be performed with the rated power supply voltage unless otherwise noted.

Controls and switches should be set as follows:

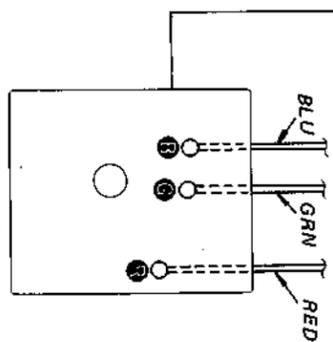
PICTURE control . . . fully clockwise (maximum)
 BRIGHT control . . . fully leftwards (maximum)
 AUTO, AFT switches . . . ON

3-1. BEAM LANDING

Preparation:

- Feed in the white pattern.
- Before starting, degauss the entire screen.

1. Loosen deflection yoke screw.
2. Set purity control as shown in Fig. 3-1.
3. Slide deflection yoke as far forward as it will go.
4. Position neck ass'y as shown in Fig. 3-2.
5. Disconnect leads ① and ② on the C board.
6. Adjust purity control to center vertical red band as shown in Fig. 3-3.
7. Slide deflection yoke back for a uniform red screen.
8. Check green and blue rasters for uniformity by performing the same way as steps 5, 6 and 7.
 To get a uniform green screen,
 connect lead ③ and disconnect leads ④ and ⑤ on the C board.
 To get a uniform blue screen,
 connect lead ⑥ and disconnect leads ⑦ and ⑧ on the C board.
 After these checks, connect the leads ⑨, ⑩ and ⑪.
9. Tighten the deflection yoke screw.
10. Check if mislanding appears at corners a-d as shown in Fig. 3-4. If mislanding is observed, correct it as shown in Fig. 3-4.
11. Confirm that beam landing is correct when the receiver is faced in all direction.

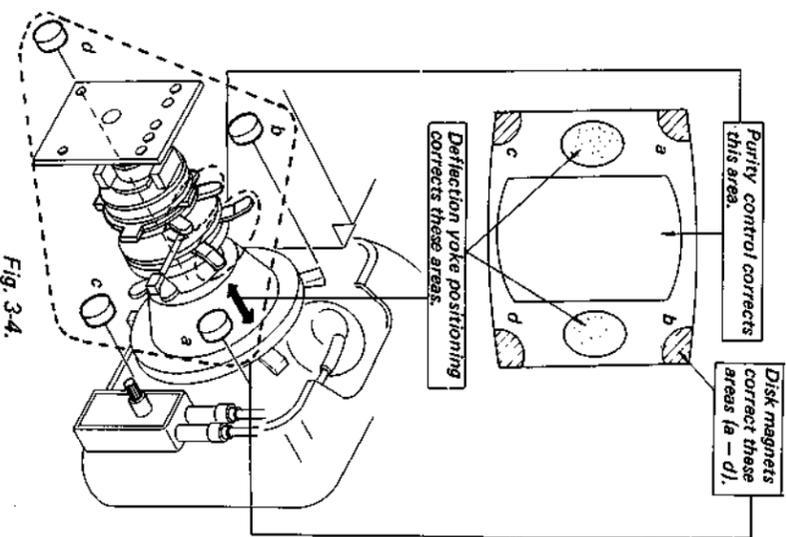
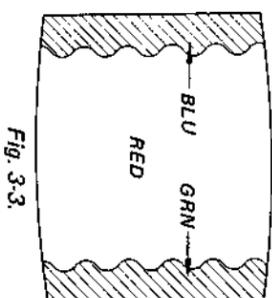
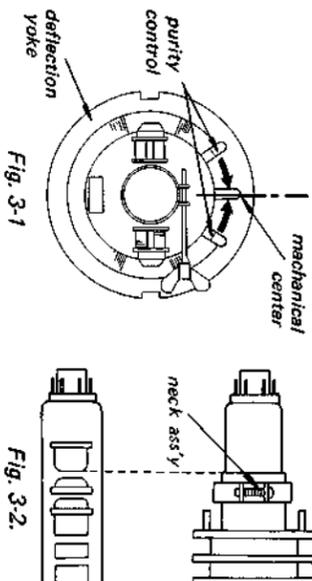


Make the following adjustments in the order as follows given:

1. Beam Landing
2. Convergence
3. White Balance

Note: Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser

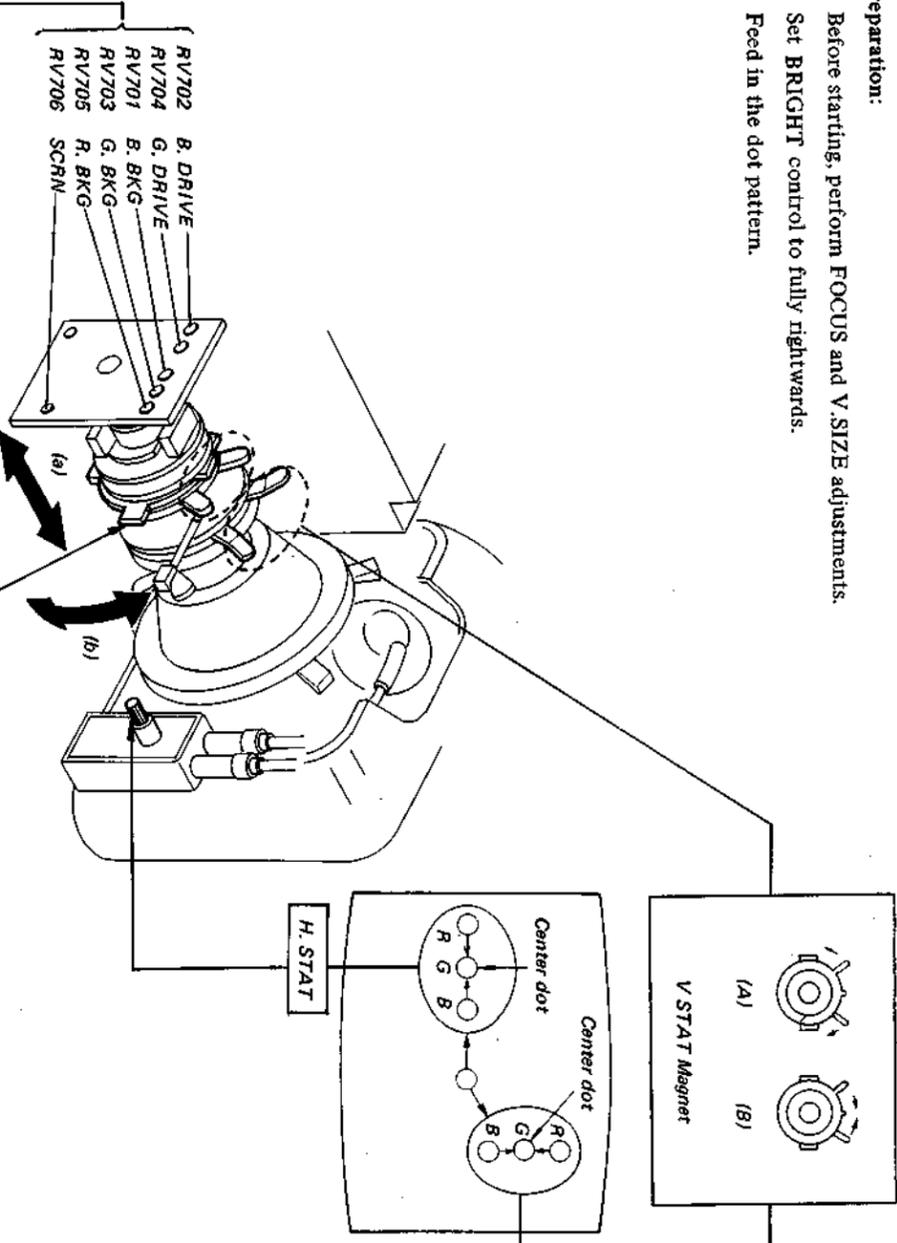


3-2. CONVERGENCE

Preparation:

- Before starting, perform FOCUS and V SIZE adjustments.
- Set BRIGHT control to fully rightwards.
- Feed in the dot pattern.

(1) Horizontal and Vertical Static Convergence



If blue dot does not coincide with red and green dots,
 Move BMC magnet (a) to correct insufficient H. static convergence.
 Rotate BMC magnet (b) to correct insufficient V. static convergence.

In either case, repeat Beam Landing Adjustment.

3-3. WHITE BALANCE

Feed in the cross-hatch pattern.

1. Turn PICTURE control fully counterclockwise, and set BRIGHT control to fully rightwards.
2. Turn RV702 (B. DRIVE) and RV704 (G. DRIVE) fully clockwise.
3. Set RV701 (B. BKG), RV703 (G. BKG), and RV705 (R. BKG) to mechanical center.
4. Turn RV706 (SCRN) slowly to obtain a faintly visible cross-hatch. Note the color that first becomes visible by turning RV706. Do not turn a BKG control for this color.
5. Adjust the other two BKG controls for best white balance (neutral gray) of the faint cross-hatch.
6. Turn PICTURE control fully clockwise, and set BRIGHT control to fully leftwards. Observe the screen and adjust the DRIVE controls for best white balance.
7. Repeat Steps 1 through 6 several times.

(2) Dynamic Convergence Adjustment

Preparation:

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.
1. Loosen deflection yoke screw.
 2. Remove deflection yoke spacers.
 3. Move the deflection yoke for best convergence as shown in Fig. 3-5.
 4. Tighten the deflection yoke screw.
 5. Install the deflection yoke spacers.

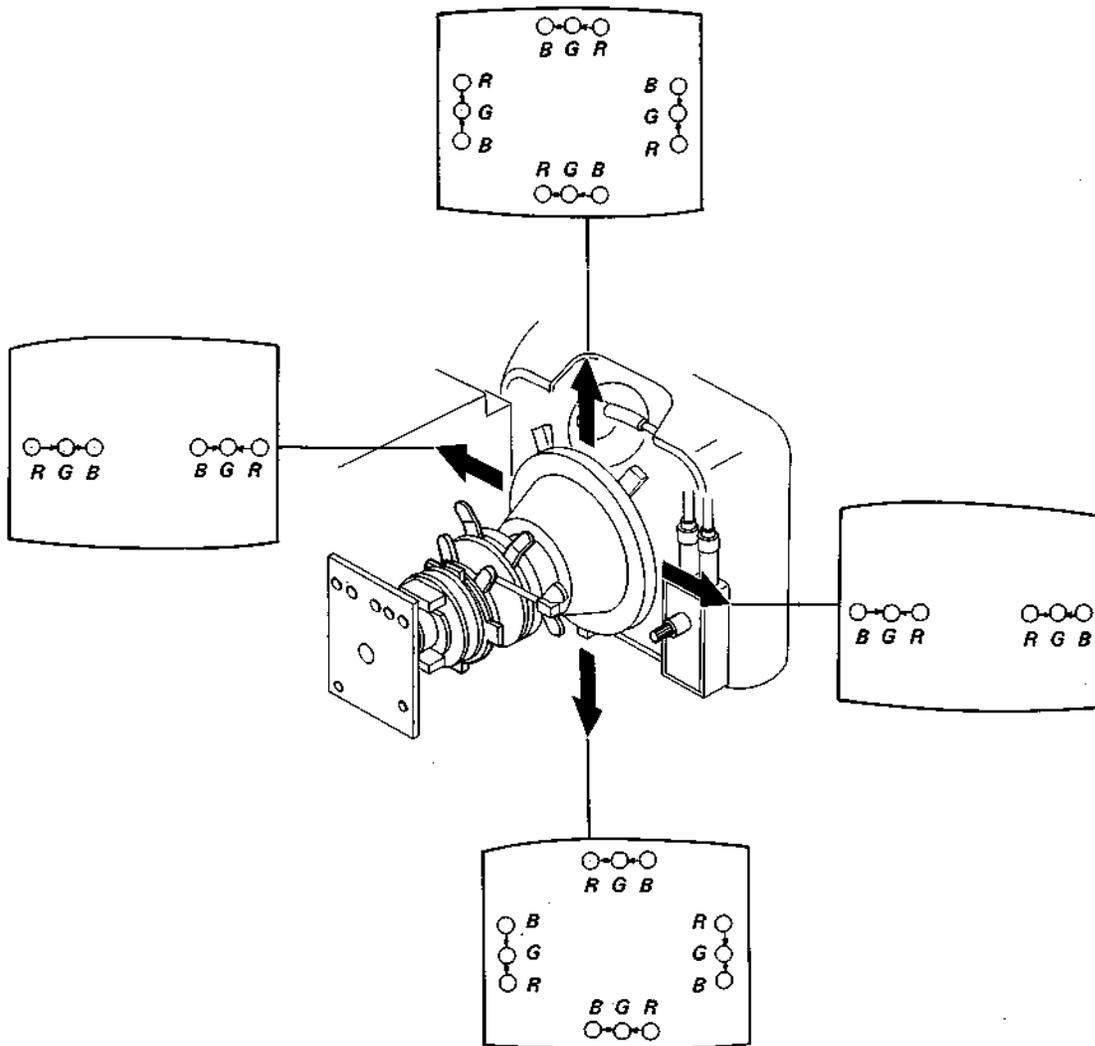


Fig. 3-5

SECTION 4 CIRCUIT ADJUSTMENTS

Note: (1) TEST EQUIPMENT REQUIRED

1. Oscilloscope
2. Digital multimeter
3. Color-bar/pattern generator
4. Variable auto-transformer.
5. Isolation transformer
6. Regurated-dc power supply

(2) INPUT SIGNAL

When making these adjustments, feed in a cross-hatch, color-bar or an off-air signal.

(3) CONTROL AND SWITCH SETTINGS

Controls and switches should be set as follows when making checks and adjustments unless otherwise noted.

- | | | |
|---|---|----------------------|
| PICTURE contrl
HUE control
BRIGHT control
COLOR control
AUTO switch . . . ON
AFT switch . . . ON | } | Set for best picture |
|---|---|----------------------|

(4) These adjustment should be performed with the rated power supply voltage unless otherwise noted.

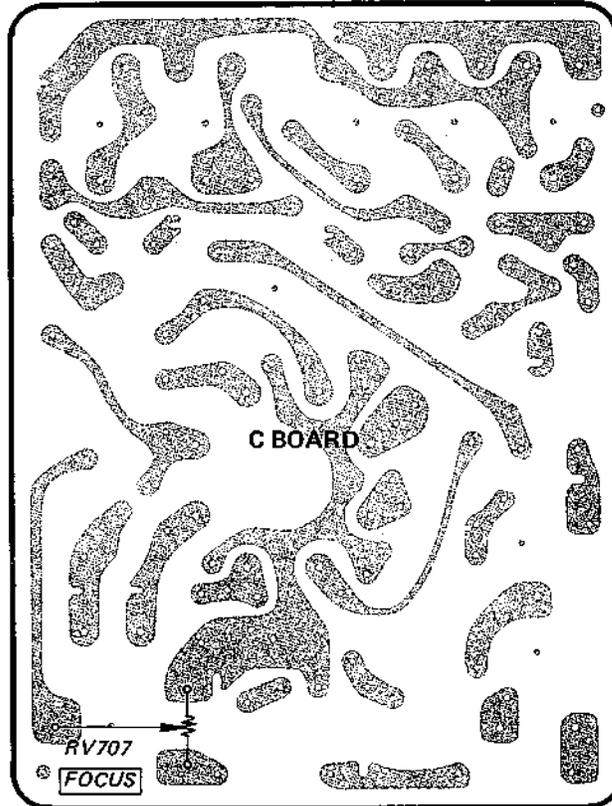
(5) CIRCUIT ADJUSTMENTS

Adjustment	Circuit Board	Page
FOCUS	C	14
SIF	A	15 and 16
AFT		
SUB BRT		
RF AGC		
SUB CONTRAST		
ACC		
COLOR SYNC	D	17 and 18
PIN AMP		
H. FREQ		
CHECK AFTER IC601 REPLACED		
R563 ADJUSTMENT		

4-1. C BOARD ADJUSTMENT

FOCUS

Adjust RV707 for best Focus.



4.3. D BOARD ADJUSTMENT

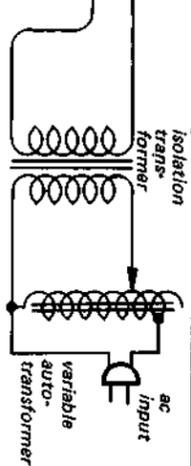
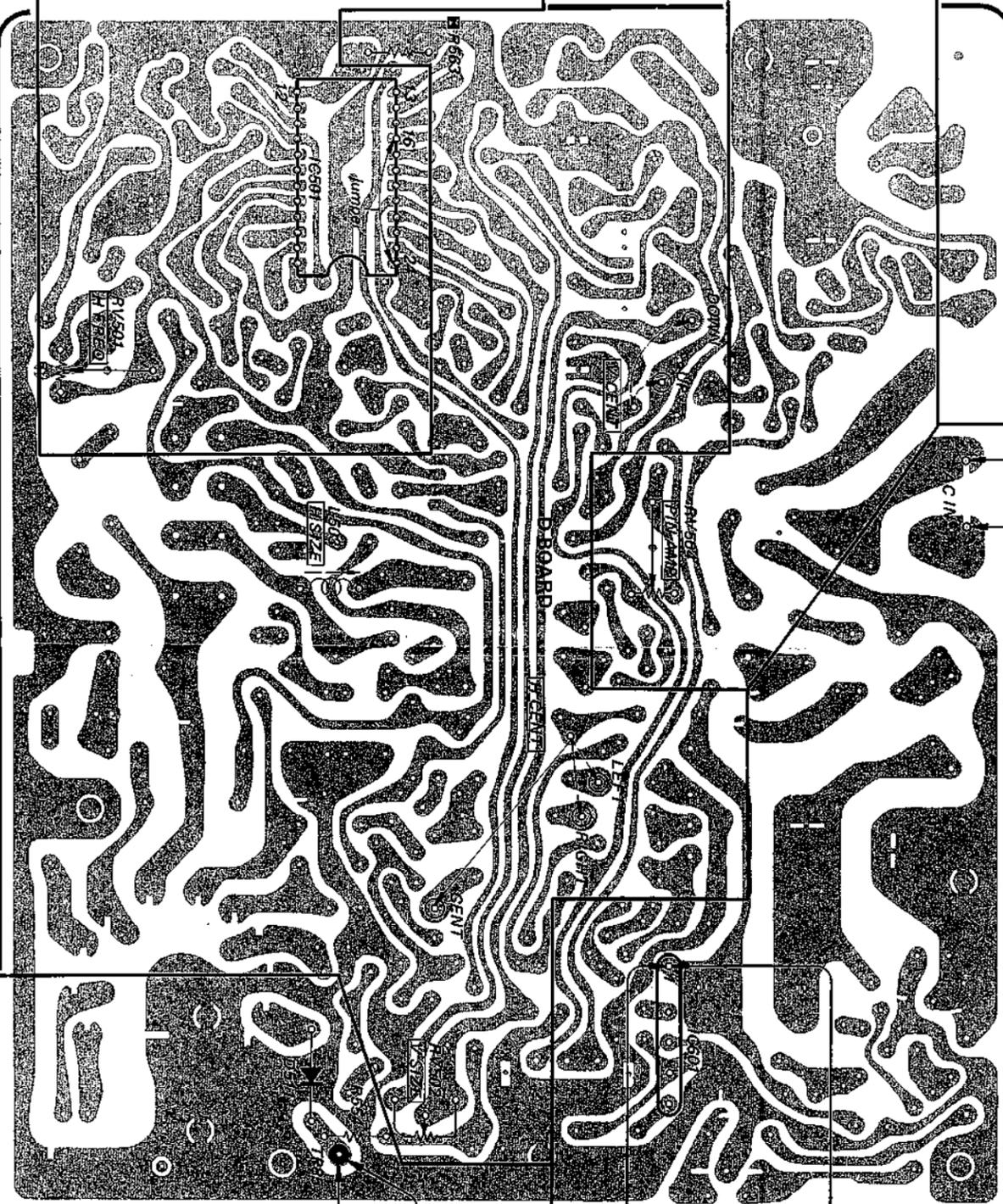
PIN AMP

Adjust RV504 to make vertical lines straight as shown below.



H FREQ

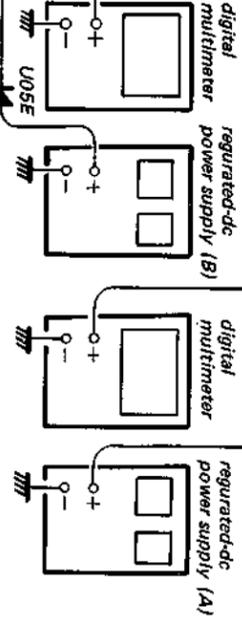
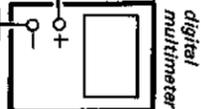
1. Tune in a strong off-air signal.
2. Adjust PICTURE, BRIGHT and V.HOLD controls for the suitable and stable picture.
3. Short circuit between the pins 24 and 16 of IC501 with a jumper during this adjustment.
4. Adjust RV501 for the stable picture as shown.
5. Confirm that the stable picture is obtained on other channels.



CHECK AFTER IC601 REPLACED

When IC601 is replaced, make this check certainly.

1. Feed in a dot pattern signal from color-bar/pattern generator.
2. Set the PICTURE control to the MIN position and turn the BRIGHT control fully counter-clockwise.
3. Supply 130 V ac to the point as shown with variable auto-transformer.
4. Confirm the voltage on digital multimeter is less than 117 V dc.
5. If step 4 is not satisfied, replace IC601 and repeat above steps.



R563 ADJUSTMENT

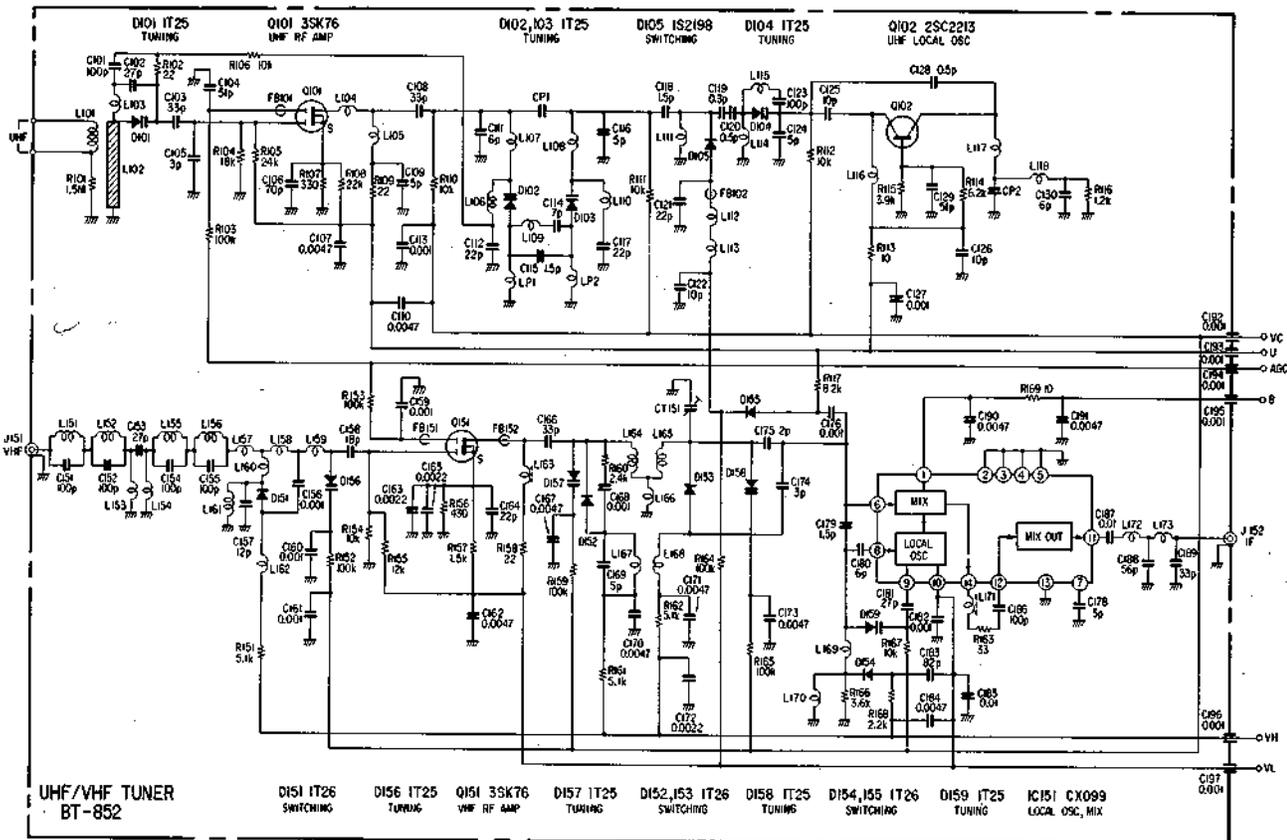
When replacing the following components, make this adjustment.

1. Set the PICTURE control to the MAX position and turn the BRIGHT control fully clockwise.
 2. When the set is normally operated with 120 V ac, confirm that the voltage at TP95 is 13 to 15 V dc.
 3. Supply the 115 to 119 V dc to PIN ① IC601 with the regulated-dc power supply (A) and confirm that the set is normally operated on any all channels.
(The HV hold down circuit does not operate.)
 4. Supply the 16.4 to 16.6 V dc to TP95 with the regulated-dc power supply (B) and confirm that the HV hold down circuit operates.
(When the HV hold down circuit operates, raster disappears.)
- Note: As soon as the HV hold down circuit operates, turn the POWER switch to OFF.
5. If steps 2 to 4 are not satisfied, select the resistance value of R563 and repeat above steps.



SECTION 5
DIAGRAMS

5-1. UHF AND VHF TUNER SCHEMATIC DIAGRAM
- BT-852 -



• Tuner reference numbers are not included in the Electrical Parts List (Page 37-43)

5-2. MOUNTING DIAGRAMS

[R, G, B OUT]

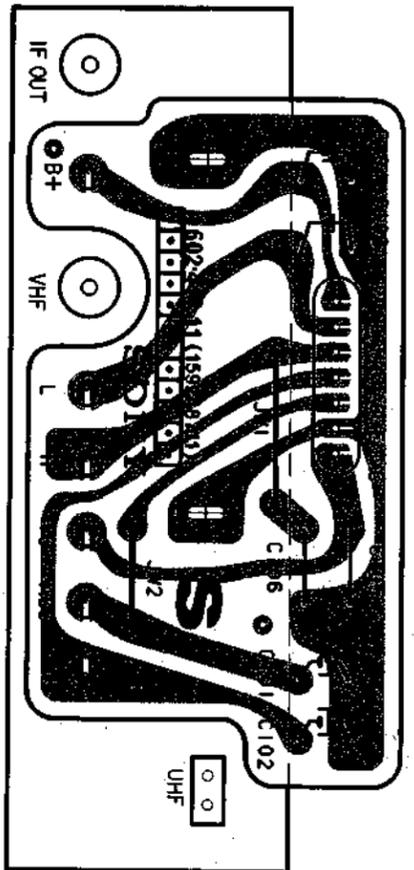
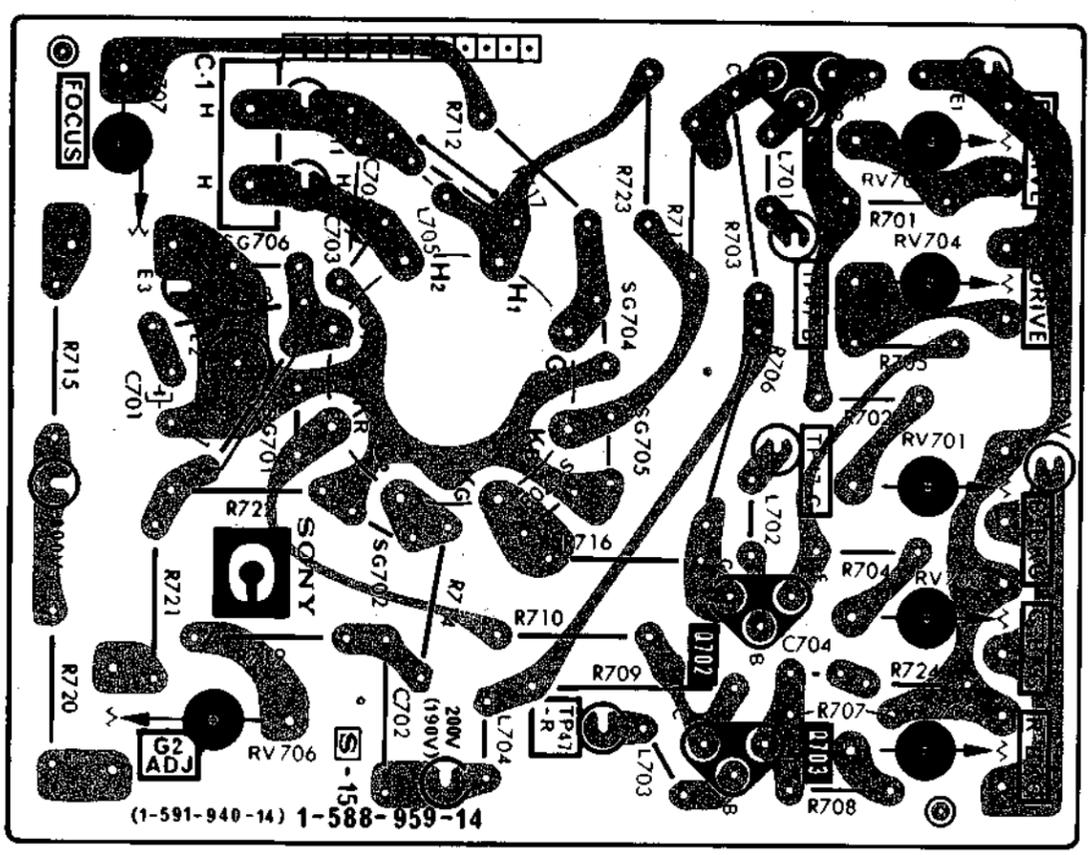
C

S

[TUNER]

- C Board -

- S Board -



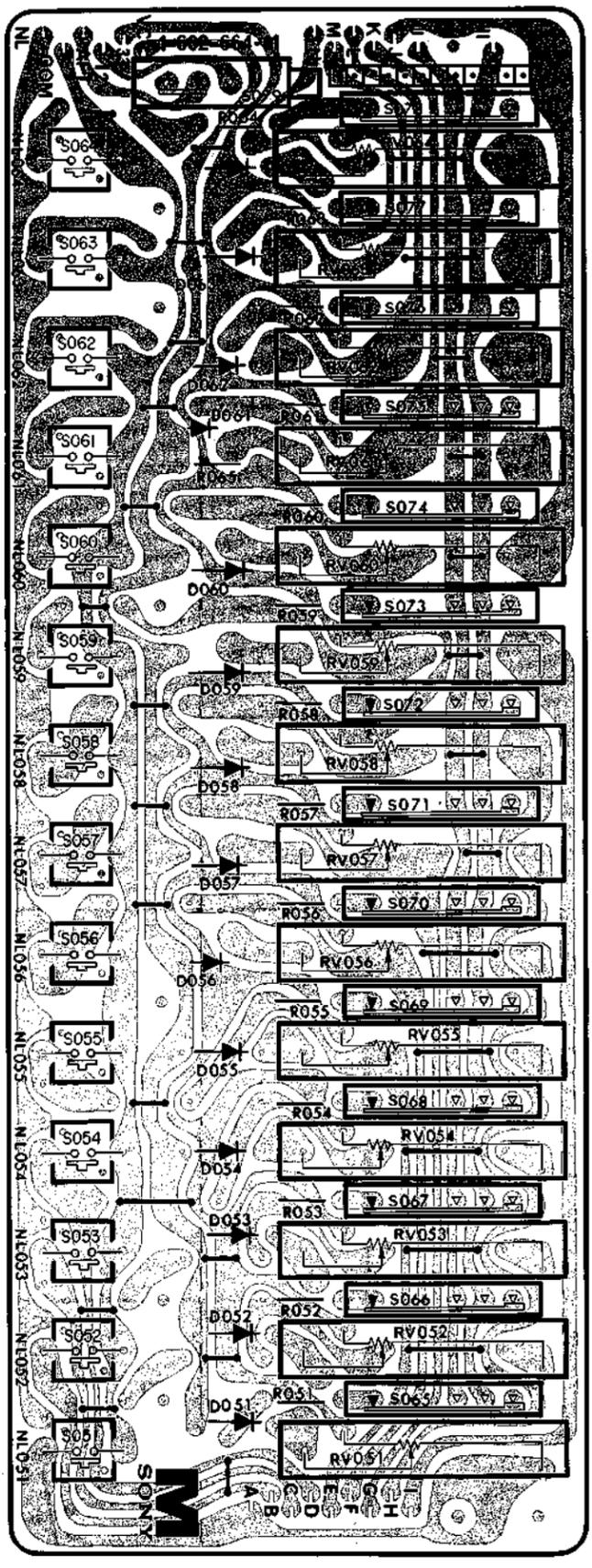
M

M

[BAND SELECT,
CHANNEL PRESET]

- M Board -

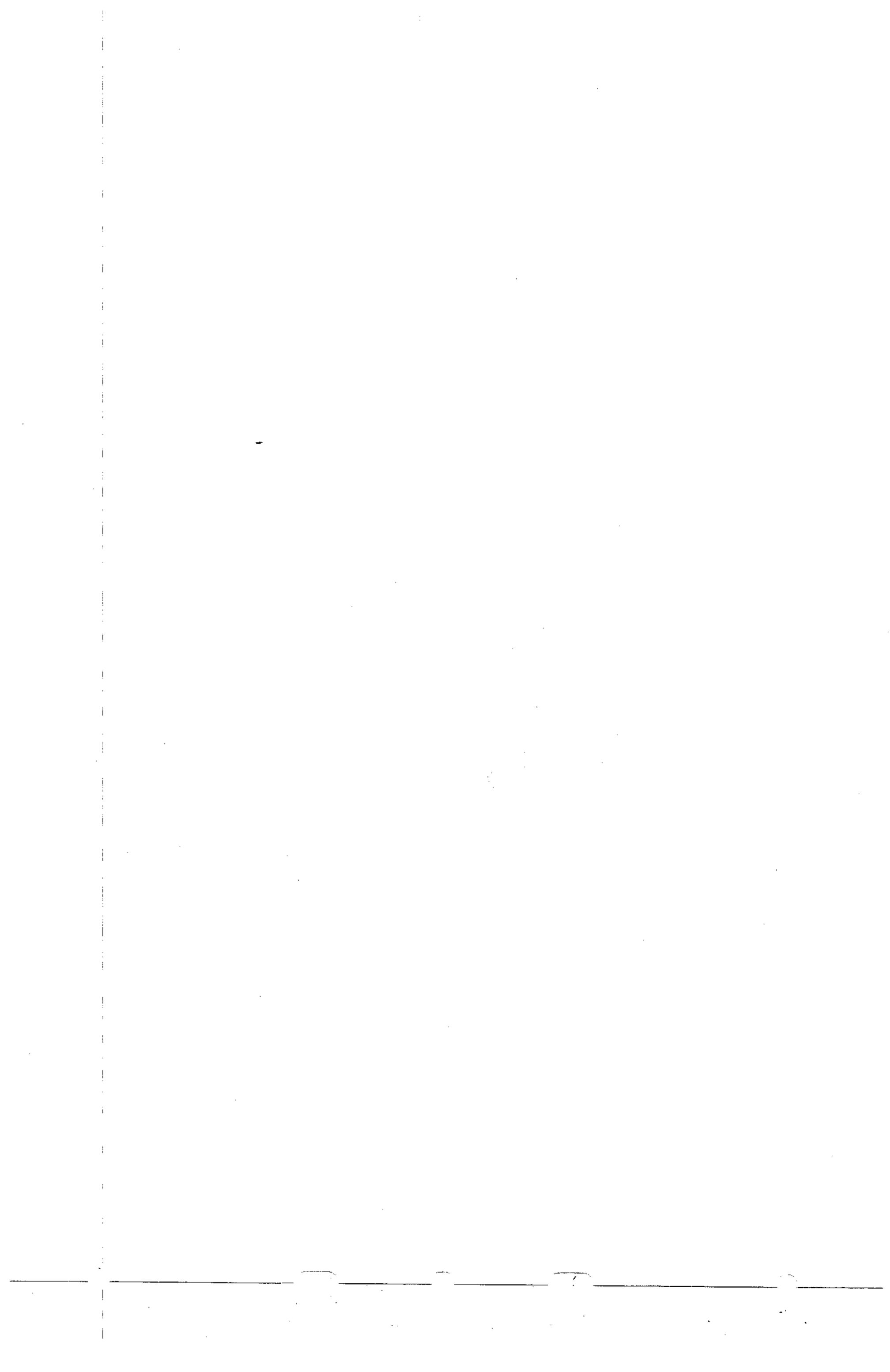
A B C D E F



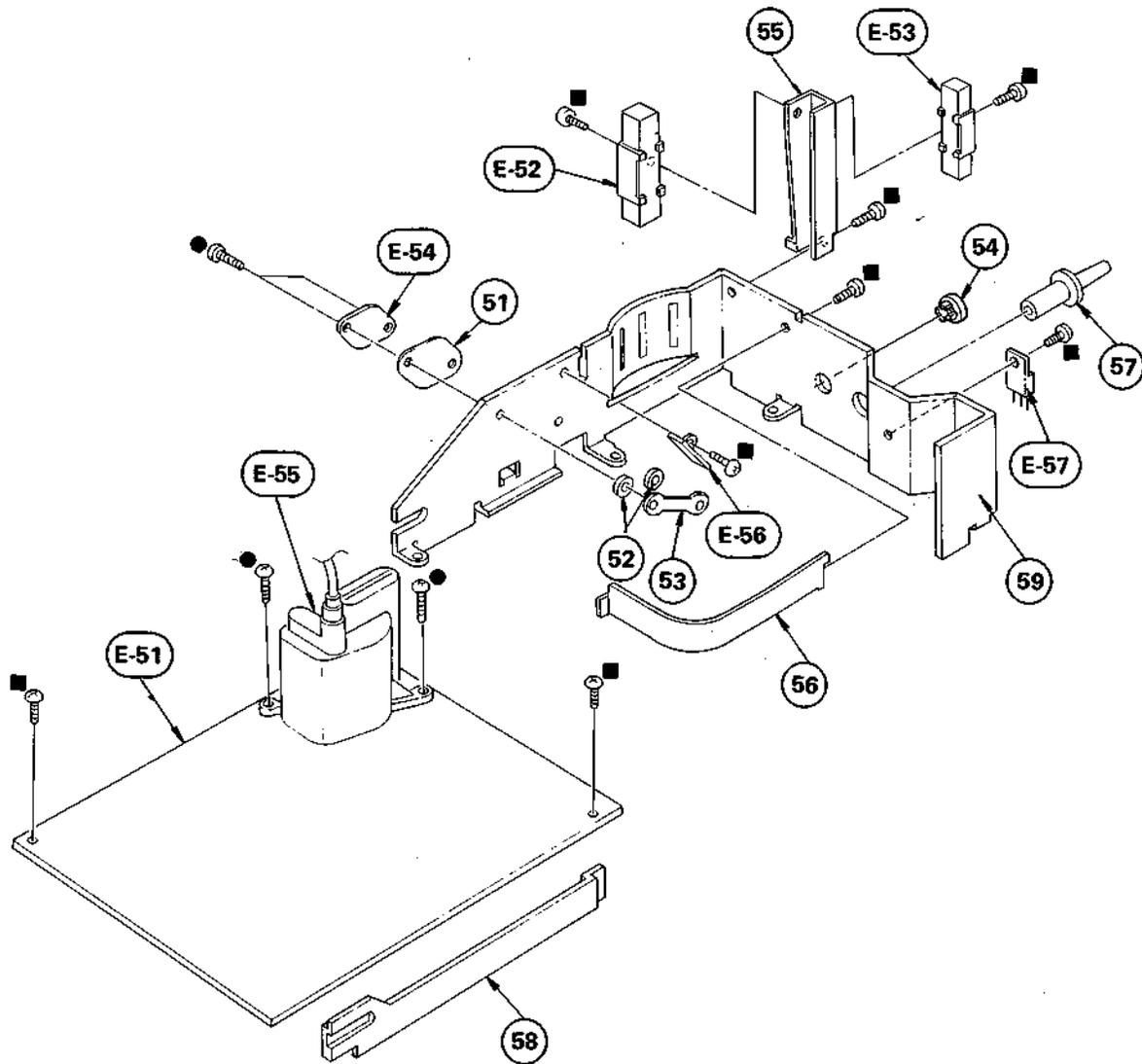
3

2

1



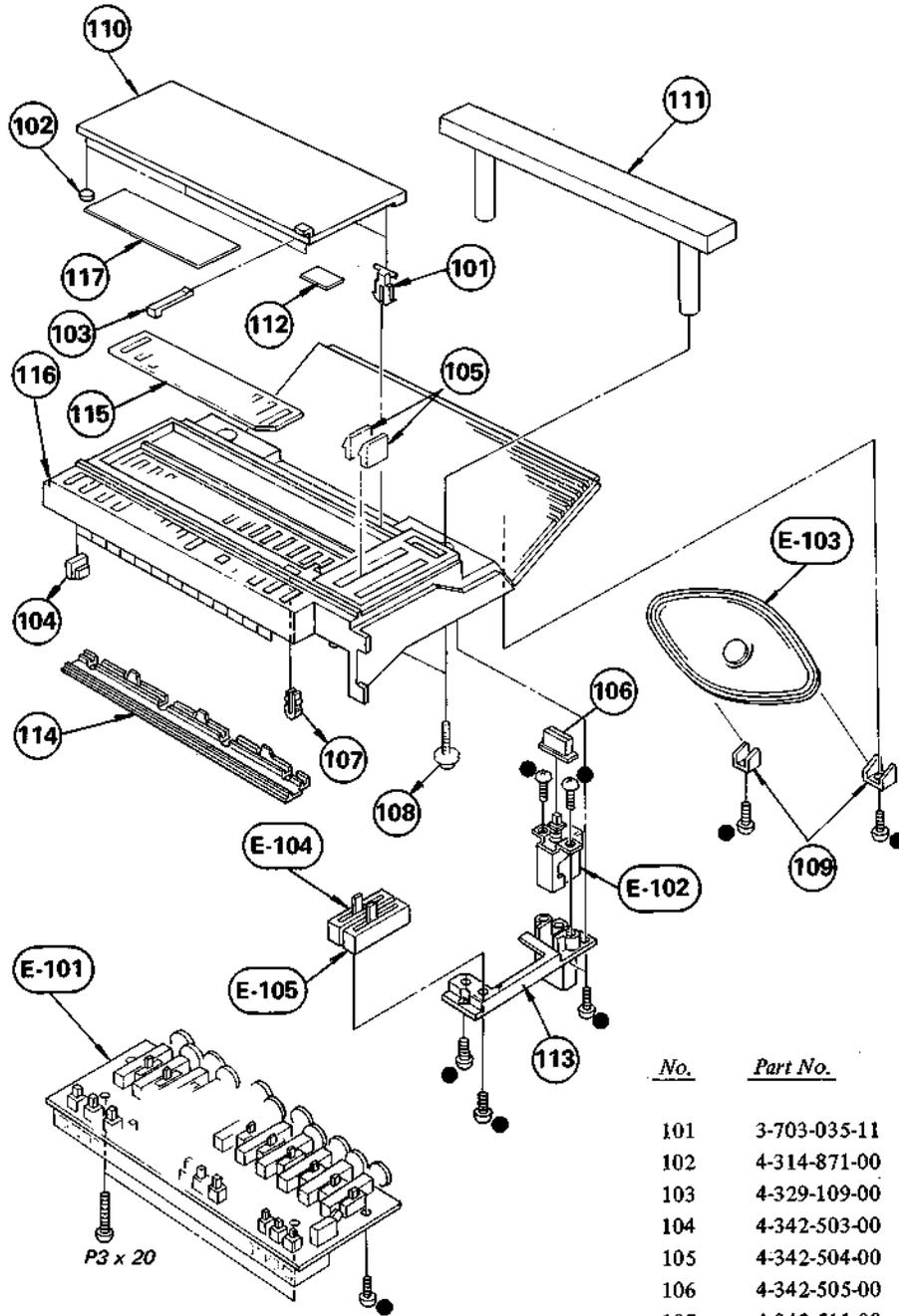
(2) D BOARD



<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
51	3-701-353-00	Spacer, mica	
52	3-703-320-00	Bushing (A), transistor	
53	◆ 4-302-432-00	Bracket, transistor	
54	4-328-903-00	Bushing, heat sink	
55	◆ 4-335-311-00	Bracket, cement-coated resistor	
56	◆ 4-335-320-00	Ring, short, FBT	
57	4-342-512-00	Knob, V-HOLD	
58	◆ 4-342-533-00	Bracket (D)	
59	◆ 4-342-545-00	Heat sink	

A B C D

(3) M BOARD



No.	Part No.	Description	Remark
101	3-703-035-11	Shaft, lid	
102	4-314-871-00	Cushion	
103	4-329-109-00	Knob, AFT	
104	4-342-503-00	Button, sensor	
105	4-342-504-00	Knob, slide	
106	4-342-505-00	Button, POWER	
107	4-342-511-00	Retainer, door	
108	4-342-513-00	Tapping, flange	
109	4-342-514-00	Crew, retainer, speaker	
110	4-342-526-00	Door	
111	4-342-541-11	Handle	
112	4-344-102-00	Label, AFT	
113	◆ 4-344-106-00	Bracket, POWER	
114	4-344-107-00	Retainer, button	
115	4-344-111-00	Indicator, preset	
116	◆ 4-344-113-00	Bracket, M	
117	4-344-118-01	Label, preset explanation	

SECTION 7 ELECTRICAL PARTS LIST

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

Note:

- ⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.
- Items marked "▲" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The components identified by in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

CAPACITORS

- All capacitors are in μF and ceramic unless otherwise noted. 50WV or less are not indicated except for electrolytics. p : μF , elect: electrolytic

RESISTORS

- All resistors are in ohms. Common $\frac{1}{4}\text{W}$ carbon resistors are omitted. Refer to the list on the last page for their part numbers.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
k Ω : 1000 Ω , M Ω : 1000k Ω

COILS

- All coils are microinductors unless otherwise noted.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
A BOARD							
	▲ A-1295-377-A	A Board complete	E-13				
CAPACITORS							
C013	1-108-377-00	0.01 100V mylar		C026	1-123-351-00	0.47 50V elect	
C014	1-108-381-00	0.022 100V mylar		C201	1-101-888-00	68p	
C015	1-123-353-00	2.2 50V elect		C205, 206	1-102-121-00	0.0022	
C017	1-108-638-00	0.1 100V mylar		C207	1-161-047-00	0.0047	
C018	1-123-351-00	0.47 50V elect		C208, 209	1-102-121-00	0.0022	
C019	1-123-316-00	10 16V elect		C211	1-108-638-00	0.1 100V mylar	
C021	1-123-316-00	10 16V elect		C212	1-123-353-00	2.2 50V elect	
C022	1-123-351-00	0.47 50V elect		C213	1-108-386-00	0.056 100V mylar	
C023, 024	1-108-377-00	0.01 100V mylar		C215, 216	1-102-503-00	3p	
C025	1-123-586-00	0.1 50V elect		C217	1-102-963-00	33p	
				C218	1-161-282-00	18p	
				C219, 220	1-102-121-00	0.0022	
				C221	1-123-316-00	10 16V elect	

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
C222	1-102-121-00	0.0022		CF201	1-527-260-00	Ceramic Filter	
C225	1-101-006-00	0.047		CF202	1-409-332-00	Ceramic 4.5MHz Trap	
C226	1-161-294-00	12p		CV301	1-141-212-00	Trimmer, 30p; COLOR SYNC	
C228	1-123-352-00	1	50V elect				
C229	1-102-129-00	0.01				DIODES	
C230	1-102-114-00	470p		D011-016	8-719-815-55	1S1555	
C231	1-108-379-00	0.015	100V mylar	⇒D017	8-719-162-07	RD6.2E	
C232	1-123-351-00	0.47	50V elect	D203, 204	8-719-815-55	1S1555	
C233	1-123-324-00	1000	16V elect	⇒D301	8-719-200-02	10E2	
C239	1-123-352-00	1	50V elect	DL301	1-415-164-00	Delay Line	
C240	1-102-496-00	82p				ICS	
C241	1-102-518-00	33p		IC011	8-759-113-63	μPC1363C	
C242	1-102-494-00	68p		IC012	8-759-157-40	μPC574J	
C245A	1-161-279-00	10p		IC201	8-759-600-05	CX555A	
C245B	1-102-074-00	0.001		IC202	8-759-608-43	CX843	
C302	1-161-271-00	100p		IC301	8-759-105-56	CX556	
C303	1-102-816-00	120p				COILS	
C304	1-121-806-00	10	16V elect (nonpolarized)	L011	1-407-163-XX	33μH	
C308	1-101-004-00	0.01		L012	1-407-166-XX	56μH	
C309	1-102-820-00	330p		L013	1-407-716-00	820μH	
C310	1-123-351-00	0.47	50V elect	L014, 015	1-407-163-XX	33μH	
C311	1-108-619-00	0.0027	100V mylar	L201	1-407-158-XX	12μH	
C312	1-123-586-00	0.1	50V elect	L202	1-407-184-XX	3.3μH	
C313	1-108-385-00	0.047	100V mylar	L203	1-407-189-XX	8.2μH	
C314	1-123-316-00	10	16V elect	L204	1-425-613-00	5T	
C315	1-123-354-00	3.3	50V elect	L302	1-407-162-XX	27μH	
C316	1-102-963-00	33p		L303	1-408-163-00	5.6mH	
C317	1-102-822-00	390p		L304	1-407-166-XX	56μH	
C318	1-123-447-00	0.22	50V elect	L305	1-407-162-XX	27μH	
C319	1-123-328-00	4.7	25V elect	L306	1-407-184-XX	3.3μH	
C320	1-123-447-00	0.22	50V elect			TRANSISTORS	
C321	1-101-888-00	68p		⇒Q011	8-729-612-77	2SA1027R	
C323	1-102-947-00	10p		⇒Q013, 014	8-729-612-77	2SA1027R	
C324	1-102-959-00	22p		⇒Q015, 016	8-729-663-47	2SC1364	
C326	1-123-321-00	220	16V elect	⇒Q017	8-729-612-77	2SA1027R	
C327	1-161-270-00	82p					
C328	1-161-271-00	100p					
C329	1-123-316-00	10	16V elect				

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
⇒ Q018	8-729-663-47	2SC1364		R723	1-244-929-00	220K 1/2W composition		C521	1-123-316-00	10 16V elect	
Q019	8-723-302-00	2SK43		RV701	1-226-209-00	3.3k, adjustable; B. BKG		C522	1-108-369-00	0.0022 100V mylar	
⇒ Q202	8-729-663-47	2SC1364		RV702	1-224-640-XX	330, adjustable; B. DRIVE		C523	1-108-384-00	0.039 100V mylar	
⇒ Q301	8-729-663-47	2SC1364		RV703	1-226-209-00	3.3k, adjustable; G. BKG		C524	1-131-361-00	2.2 20V tantalum	
				RV704	1-224-640-XX	330, adjustable; G. DRIVE		C525	1-123-319-00	47 16V elect	
				RV705	1-226-209-00	3.3k, adjustable; R. BKG		C526	1-131-197-00	3.3 16V tantalum	
				RV706	1-226-063-00	2.2M, adjustable; SCR N		C527	1-108-377-00	0.01 100V mylar	
				RV707	1-226-114-00	2.2M, adjustable; FOCUS		C528	1-108-386-00	0.056 100V mylar	
R039	1-244-909-00	33K 1/2W carbon (nonflammable)		SG701-706	1-519-063-XX	Discharging Gap		C529	1-123-344-00	47 35V elect	
R237	1-211-933-00	47 1/2W carbon (nonflammable)						C530	1-102-228-00	470p 500V	
								C531	1-123-585-00	470 25V elect	
								C532	1-123-584-00	22 16V elect	
								C533	1-123-329-00	10 25V elect	
								C535	1-130-162-00	0.33 200V polypropylene	
								C536	1-102-212-00	820p 500V	
								C537	1-108-373-00	0.0047 100V mylar	
								C538	1-123-351-00	0.47 50V elect	
								C539	1-123-346-00	220 35V elect	
								C540	1-129-710-00	0.0047 630V film	
								C541	1-101-845-00	0.001 500V	
								C542	1-123-335-00	330 25V elect	
								C544	1-123-386-00	33 100V elect	
								C545	1-130-562-00	7300p 1.2KV film	
								C546	1-108-961-00	0.15 200V film	
								C548	1-102-223-00	4700p 1.6KV	
								C549	1-121-246-00	4.7 160V elect	
								C550	1-102-973-00	100p 160V elect	
								C551	1-108-383-00	0.033 100V mylar	
								C555	1-102-125-00	0.0047 100V mylar	
								C560	1-108-389-00	0.1 100V mylar	
								C561	1-123-341-00	10 35V elect	
								C581	1-161-009-00	0.0047 100V mylar	
								C582	1-108-369-00	0.0022 100V mylar	
								C601	1-108-745-00	0.22 125V film	
								C602	1-161-748-00	0.0047 125V	
								C605	1-125-221-00	470 200V elect	
								C606	1-123-355-00	4.7 50V elect	
								C607	1-123-269-00	4.7 160V elect	
								C608	1-101-810-00	100p 500V	
								C609	1-123-026-00	2.2 160V elect	

• Items marked "A" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• Items marked "D" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Note: The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark								
C631	1-123-328-00	4.7 25V elect		TRANSISTORS															
C632	1-123-381-00	2.2 100V elect																	
C633	1-102-244-00	220p 500V																	
C634	1-102-820-00	330p																	
C635	1-123-254-00	10 160V elect																	
C636	1-108-369-00	0.0022 100V mylar																	
												DIODES							
⇒ D202	8-719-113-07	RD13EB																	
D501	8-719-815-55	1S1555																	
⇒ D502	8-719-156-25	RD5.6E-B2Z																	
D504	8-719-815-55	1S1555																	
⇒ D505	8-719-911-55	U05G																	
⇒ D506	8-719-200-02	10E2																	
⇒ D507, 508	8-719-911-55	U05G																	
⇒ D509, 510	8-719-305-15	GH3F																	
D511	8-719-901-94	V19CS																	
⇒ D512, 513	8-719-305-15	GH3F																	
⇒ D601	8-719-911-55	U05G																	
DVR601	1-800-641-00	Varistor																	
F601	1-532-272-XX	Fuse, 5A																	
F602	1-533-570-00	Fuse, 1.25A																	
				RESISTORS															
R243	1-213-124-00	27 1W metal oxide																	
R519	1-206-680-00	4.7k 2W metal oxide																	
R520	1-206-745-00	6.8k 3W metal oxide																	
R528	1-214-147-00	4.3k 1/2W metal film																	
R529	1-214-152-00	6.8k 1/2W metal film																	
R534	1-213-127-00	47 1W metal oxide																	
R537	1-212-362-00	1.5 1W metal oxide																	
R543	1-213-129-00	68 1W metal oxide																	
R545	1-247-032-00	68 1/2W carbon																	
R546	1-247-009-00	470 1/2W carbon																	
R550	1-213-133-00	150 1W metal oxide																	
R551	1-246-996-00	2.2k 1/2W carbon																	
R554	1-246-979-00	1.2 1/2W carbon																	
R555	1-213-143-00	1k 1W metal oxide																	
R556	1-214-912-00	91k 1/2W metal film																	
R558	1-244-901-00	15k 1/2W carbon																	
R561	1-211-930-00	33 1/2W carbon																	
R603	1-213-163-00	47k 1W metal oxide																	
R605	1-211-929-00	82 1/2W carbon																	
R606	1-213-157-00	15k 1W metal oxide																	
R607	1-244-889-00	4.7k 1/2W carbon																	
R608	1-247-037-00	390 1/2W carbon																	
R609	1-244-907-00	27k 1/2W carbon																	
R637	1-211-933-00	47 1/2W carbon																	
R639, 640	1-244-875-00	33 1/2W carbon																	
RV501	1-226-819-00	1k, adjustable; H. FREQ																	
RV502	1-226-217-00	22k, adjustable; V. SIZE																	
RV503	1-226-077-00	5k, variable; V. HOLD																	
RV504	1-224-644-XX	4.7k, adjustable; PIN, AMP																	
SG501	1-519-063-XX	Discharging Cap																	
				TRANSFORMERS AND FILTERS															
TS01	1-437-078-00	HDT																	
TS02	1-421-351-00	H. PCT																	
TS03	1-439-258-00	FBT																	
T601	1-421-357-00	LFT																	
T631	1-427-438-00	SOT																	
THR601	1-800-686-00	Thermistor, positive																	
				M BOARD															
				DIODES															
D051-064	8-719-815-55	1S1555																	
				RESISTORS															
NL051-064	1-519-154-00	Lamp, neon; CHANNEL INDICATOR																	
				S BOARD															
				CAPACITORS															
C101	1-123-330-00	22 25V elect																	
C102, 103	1-123-329-00	10 25V elect																	
C104	1-123-331-00	33 25V elect																	
C105, 106	1-108-389-00	0.1 100V mylar																	
				MISCELLANEOUS															
C901	1-102-155-00	330p 2KV																	
901A, B	1-507-372-00	Jack: EARPHONE																	
L901, 902	1-426-040-00	DGC																	
L903	1-407-365-00	0.7µF																	
L905	1-451-183-00	Deflection Yoke, DY																	
⇒ Q901	8-729-287-00	2SD869																	
R901	1-205-614-00	6.8 20W wirewound																	
R902	1-205-613-00	220 20W wirewound																	
RV901	1-226-064-00	50k, variable; VOLUME																	
RV902	1-226-861-00	10k, variable; PICTURE																	

Note: The components identified by shading and mark **Δ** are critical for safety. Replace only with part number specified.

Note: The components identified by shading and mark **Δ** are critical for safety. Replace only with part number specified.

• Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
S901	▲1-552-658-00	Switch, pushbutton POWER	E-102
SP901	1-502-466-XX	Speaker, 8Ω	E-103
V901	▲8-737-901-05	Picture Tube 250AKB22	E-4
	▲1-226-733-21	Resister Ass'y, high-voltage	E-10
	1-452-032-00	Magnet, disk; 10mm dia	E-1
	1-452-094-00	Magnet, rotatable disk; 15m dia	E-2
	1-452-112-31	Neck Ass'y, Picture Tube	E-7
	1-452-133-00	Magnet BMC	E-6
	▲1-463-264-00	UHF/VHF TUNER (BT-852)	E-15
	1-501-152-00	Telescopic Antenna, type B	E-11
	▲1-526-606-00	Cap, anode	E-9
	1-536-401-XX	L-Type Terminal strip	E-56
	▲1-536-539-00	Terminal Board, antenna	E-12
	1-551-249-00	Cable P-P	E-17
	▲1-551-603-00	Cord, power	E-14
	1-555-049-00	Feeder, solderless terminal	E-19
	1-555-371-00	Cable, with pin	E-20

- Items marked "▲" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Note: The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

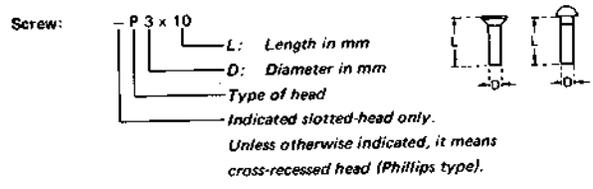
ACCESSORIES AND PACKING MATERIALS

<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
Y-2063-103-0	AN-15 loop antenna	
1-504-034-32	Earphone, ME-20B	
3-701-352-00	Bag, polyethylene	
3-701-730-00	Bag, polyethylene, IBM card	
4-313-279-00	Bag, polyethylene	
4-334-319-00	Label (B), indicator	
4-342-551-00	Cushion, left upper	
4-342-552-00	Cushion, right upper	
4-342-553-00	Cushion, left lower	
4-342-554-00	Cushion, right lower	
4-344-117-00	Carton	
4-491-325-21	Card, warranty	
4-491-436-01	Schematic diagram	
4-495-953-21	Manual, instruction	
7-822-282-01	IBM; card (white)	
7-822-282-02	IBM, card (pink)	
7-822-282-03	IBM, card (green)	

1/4 WATT CARBON RESISTORS

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-400-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00
1.1	1-246-403-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00
1.2	1-246-404-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00
1.3	1-246-405-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00
1.5	1-246-406-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00
1.6	1-246-407-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00
1.8	1-246-408-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00
2.0	1-246-409-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00
2.2	1-246-410-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00
2.4	1-246-411-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-244-754-00
2.7	1-246-412-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00
3.0	1-246-413-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00
3.3	1-246-414-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00
3.6	1-246-415-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00
3.9	1-246-416-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00
4.3	1-246-417-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00
4.7	1-246-418-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00
5.1	1-246-419-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00
5.6	1-246-420-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00
6.2	1-246-421-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00
6.8	1-246-422-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00
7.5	1-246-423-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00
8.2	1-246-424-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00
9.1	1-246-425-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00

HARDWARE NOMENCLATURE



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
8V		brazer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

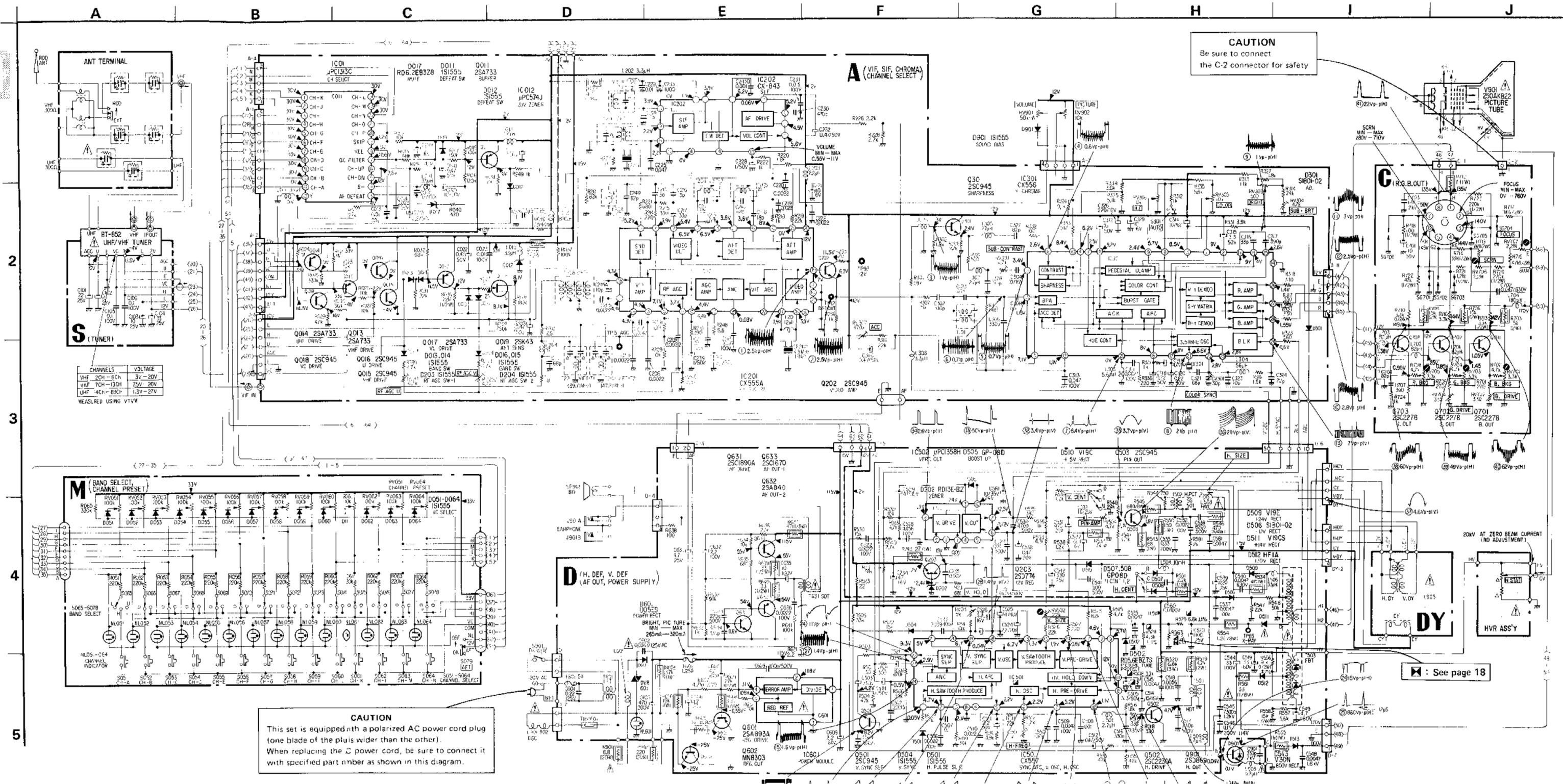
5-3. SCHEMATIC DIAGRAM

Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, $\frac{1}{2}\text{W}$ unless otherwise noted. $\text{k}\Omega$: 1000 Ω . $\text{M}\Omega$: 1000 $\text{k}\Omega$
-  : nonflammable resistor.
-  : internal component.
-  : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by  and repeat the adjustment until the specified value is achieved. (Refer to R563 adjustment on page 18). When replacing the part in below table, be sure to perform the related adjustment.

Part replaced ()	Adjustment
C505, D502, R508 R528, R529, R563 IC501	R563 adjustment

- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 20,000-ohm-per-volt VOM.
-  : adjustment for repair.
- Readings are taken with a color-bar signal input.
- Voltages on M2 board are taken with set selected to channel A and to VHF low band position.
- Voltage variations may be noted due to normal production tolerances.
-  : adjustable without removing cabinet.
- Voltage on A and S boards are taken with set selected to channel A and to VHF low band position.



CAUTION
Be sure to connect the C-2 connector for safety

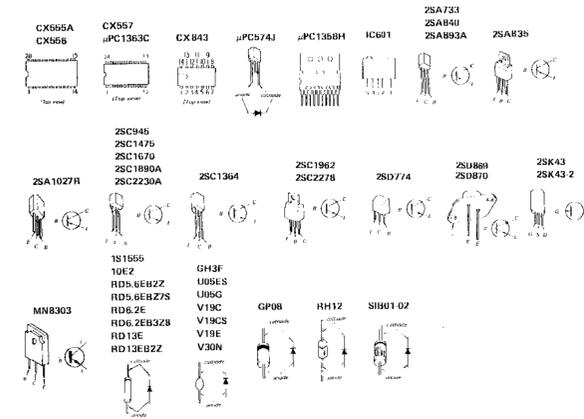
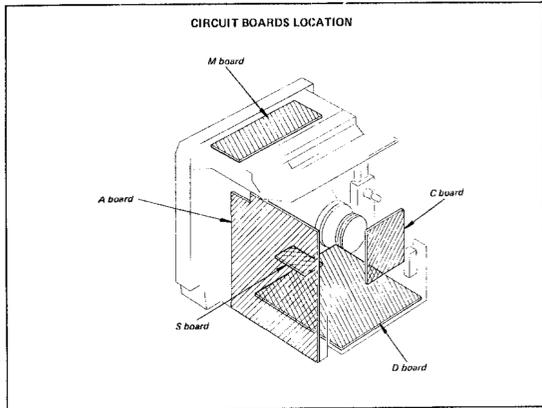
CAUTION
This set is equipped with a polarized AC power cord plug (one blade of the plug is wider than the other). When replacing the AC power cord, be sure to connect it with specified part number as shown in this diagram.

 : See page 18

WARNING!
AN ISOLATION TRANSFORMER SHOULD BE USED THROUGHOUT SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY RELATED COMPONENT WARNING!
COMPONENTS IDENTIFIED BY SHADING AND MARK **A** ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHEN PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PRECAUTIONS WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

CAUTION
• Avoid rubbing the inked surface.
• Do not allow the paper to contact hot power resistor, soldering irons, etc.



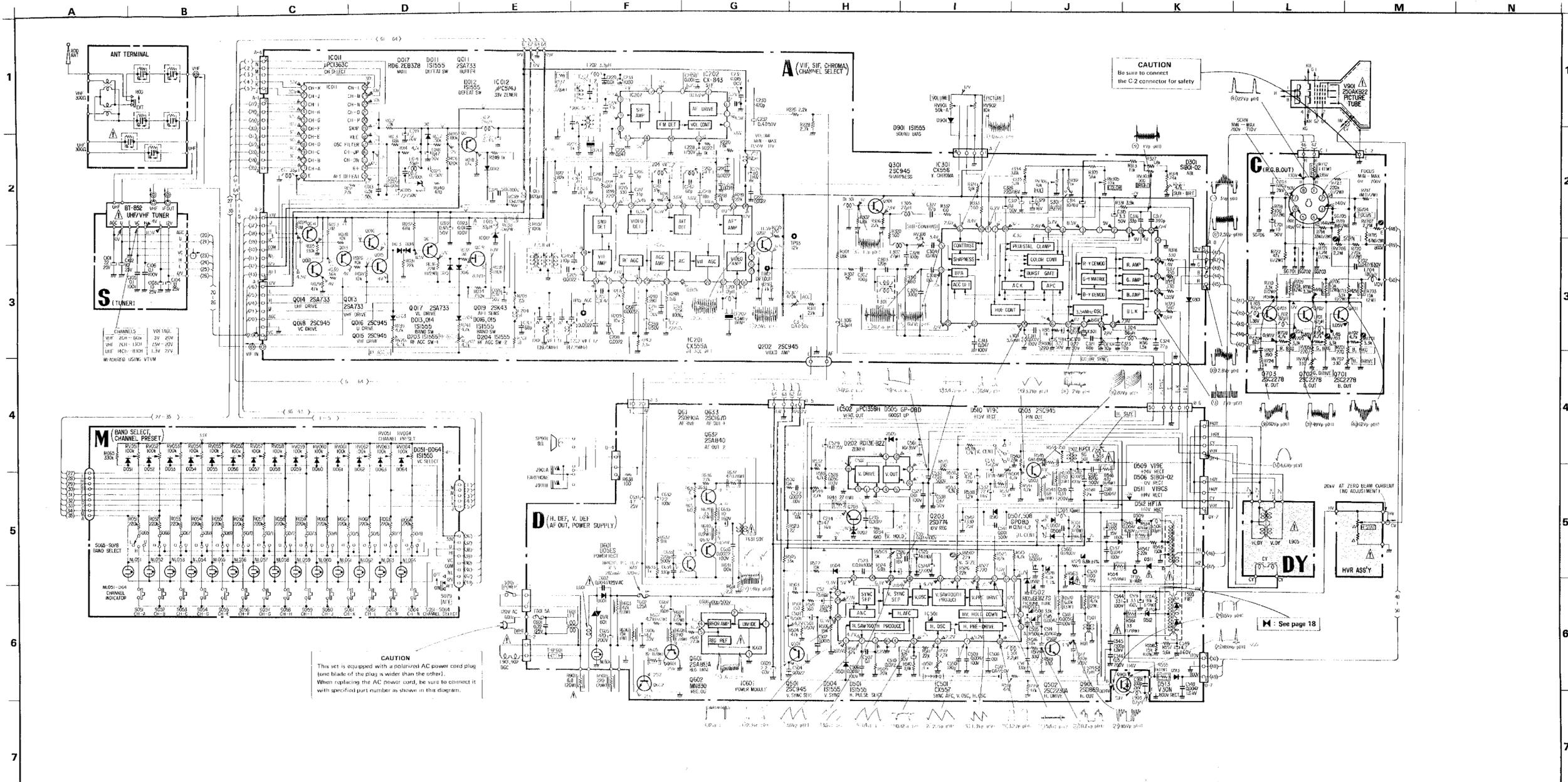
SCHEMATIC DIAGRAM

Note: The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

- All capacitors are in μF unless otherwise noted; pF : μF 500V or less are not indicated except for electrolytics.
- All resistors are in ohms, $\frac{1}{2}$ W unless otherwise noted. K: 1000 Ω , M: 1000K Ω .
- **R**: nonflammable resistor.
- **△**: internal component.
- **□**: panel designation.
- **Z**: variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by **M** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by **A**, make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by **A** and repeat the adjustment until the specified value is achieved. (Refer to R563 adjustment on page 18). When replacing the part in below table, be sure to perform the related adjustment.

Part replaced (A)	Adjustment
C505, D502, R508	R563
R528, R529, R563	adjustment
IC501	

- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 20,000 ohm per volt VOM.
- **V**: adjustment for system.
- Readings are taken with a radio lead signal input.
- Voltages are taken with set in operation with set selected to channel A and to VHF low band position.
- Voltage variations may be noted due to normal production tolerances.
- **C**: adjustable without removing cabinet.
- Voltages at A and S points are taken with set selected to channel A and to VHF low band position.

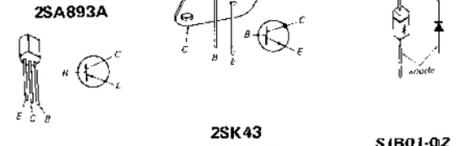
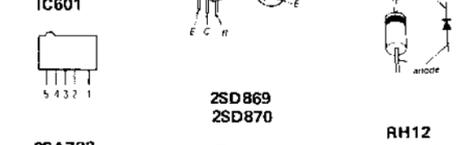
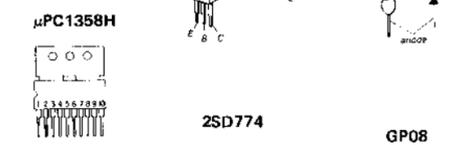
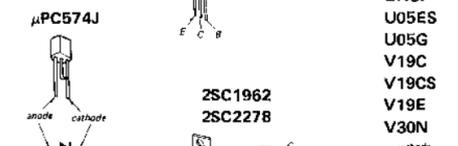
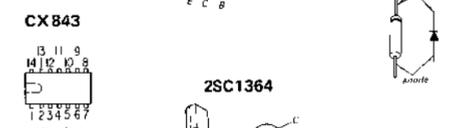
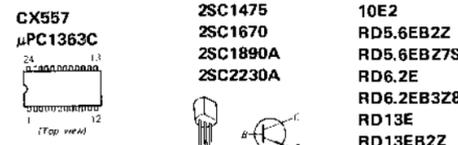
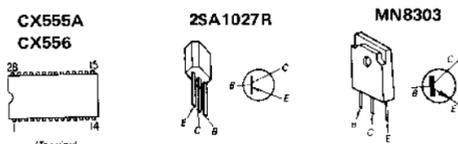


CAUTION
Be sure to connect the C-2 connector for safety

See page 18

CAUTION
This set is equipped with a polarized AC power cord plug (one blade of the plug is wider than the other). When replacing the AC power cord, be sure to connect it with specified part number as shown in the diagram.

SECTION 6
EXPLODED VIEWS

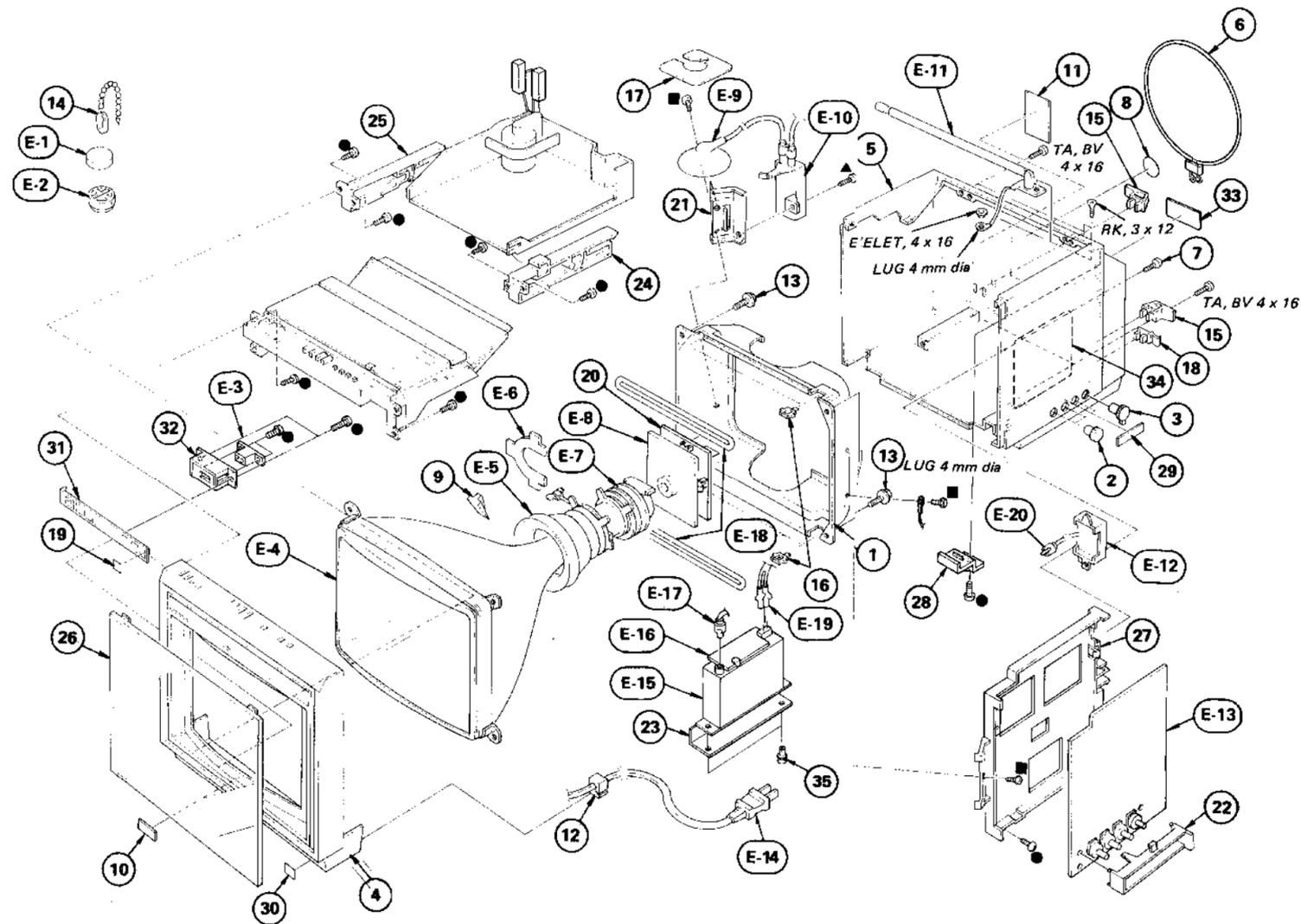


(1) CABINET

Note

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
- (-) = slotted head
- : TA, BV3 x 8
- : TA, BV3 x 12
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- As to the part numbered with E-, refer to the electrical parts list.
- Items marked "▲" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Note: The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.



No.	Part No.	Description	Remark
1	▲ X-4325-705-0	Picture tube shield ass'y	
2	X-4342-502-0	Knob ass'y, adjustment	
3	X-4344-101-0	Knob ass'y, selection	
4	X-4344-103-0	Mask ass'y	10
5	X-4344-104-0	Cabinet ass'y	15, 18, 29
6	Y-2063-103-0	AN-15 loop antenna	
7	3-701-809-41	Screw, terminal	
8	3-701-915-01	Label, UL	
9	3-703-003-00	Spacer, DY	
10	▲ 3-703-352-00	Emblem, SONY	
11	▲ 4-010-023-04	Label, X-RAY	
12	▲ 4-022-115-00	Holder, power cord	
13	4-307-249-00	TA, BV, 5x20	
14	4-308-870-00	Clip lead wire	
15	4-316-003-00	Holder, cord	
16	▲ 4-316-015-00	Holder, wire	
17	4-325-721-11	Cover, anode	
18	4-329-127-00	Clamper, cord	
19	4-334-320-00	Label (A), indicator	
20	4-335-329-00	Insulator, C board	
21	▲ 4-342-506-00	Bracket, HV	
22	▲ 4-342-507-11	Cover, control	
23	▲ 4-342-522-00	Insulator (M)	
24	▲ 4-342-531-00	Stay (right)	
25	▲ 4-342-532-00	Stay (left)	
26	4-342-540-00	Filter	
27	▲ 4-342-546-11	Bracket, A	
28	▲ 4-344-103-00	Retainer, antenna	
29	▲ 4-344-104-00	Label, VR	
30	▲ 4-344-105-00	Label, KV	
31	4-344-108-00	Holder, dial scale	
32	4-344-109-00	Cover, jack	
33	4-344-115-00	Label, model number	
34	4-344-116-00	Label, parts location	
35	4-812-134-00	Rivet nylon .3.5	