

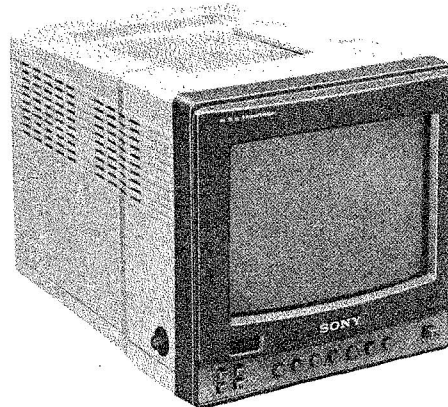
PVM-8020

VF-501

SERVICE MANUAL

US Model

Chassis No. SCC-629A-A



March, 1985

SPECIFICATIONS

Color system	NTSC system
Picture tube	Microblack Trinitron tube 8-inch picture measured diagonally, 70-degree deflection
Resolution	230 TV lines (B/W)
Color temperature	9300° K
Frequency response	4 MHz (-3 dB)
Horizontal linearity	± 8 %
Vertical linearity	± 8 %
Line pull range	Horizontal ± 500 Hz Vertical 8 Hz
Overscan of the picture	6 %
Underscan of the picture	5 %
H/V delay	Horizontal: Approx. 1/4 line Vertical: Approx. 1/2 line
Return loss	5 MHz, -30 dB (INPUT A, INPUT B)
Zooming	Within 3 %
Convergence	Central area 0.5 mm Periphery 0.7 mm
Brightness	More than 50 foot-lamberts

Inputs	VIDEO IN (INPUT A): BNC connector VIDEO (INPUT B): BNC connector Composite 1V p-p ± 6 dB, 75 ohms, unbalanced, sync negative AUDIO IN (INPUT A): minijack AUDIO (INPUT B): minijack -5 dBs, 47 k ohms or more
Outputs	VIDEO OUT (INPUT A): BNC connector VIDEO (INPUT B): BNC connector 1 V p-p, 75 ohms, unbalanced, sync negative AUDIO OUT (INPUT A): minijack AUDIO (INPUT B): minijack Output level 0.8 W
TUNER connector	6-pin DIN connector Pin No. 1: not in use Pin No. 2: video input, composite 1 V p-p ± 6 dB, 75 ohms, unbalanced, sync negative Pin No. 3: ground Pin No. 4: audio input, -5 dBs, 47 k ohms or more Pin No. 5: power output Pin No. 6: not in use

TRINITRON®
COLOR VIDEO MONITOR
SONY®



MON

PVM-8020
VF-501

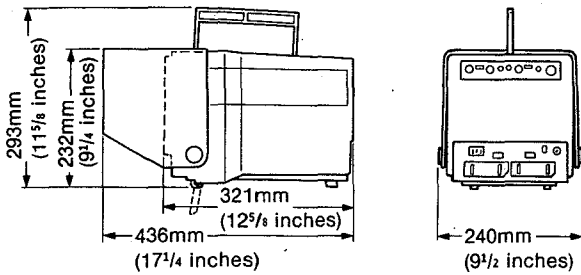
Power requirements

120 V ac, 50/60 Hz
12 V dc, with the optional Sony
NP-1 battery pack or 12 V car bat-
tery using the optional DCC-16AW
car battery cord

Power consumption

47 W ac, max.
38 W dc, max.

Dimensions



Weight

Approx. 7.2 kg (15 lb 14 oz)
not incl. accessories

Accessories supplied

AC power cord (1)
Hood (1)

Design and specifications subject to change without
notice.

OPTIONAL ACCESSORIES


TV tuner unit TU-1110
Battery pack NP-1
Car battery cord DCC-16AW

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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.

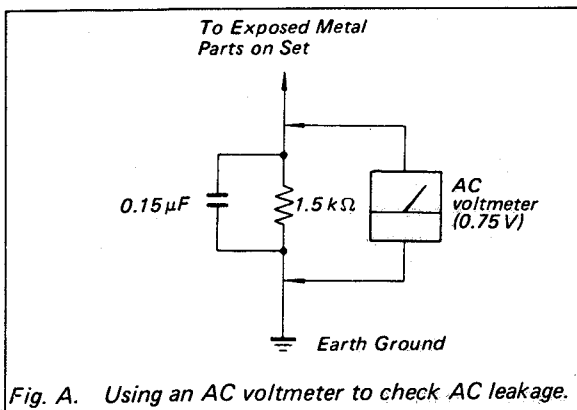
SAFETY-RELATED COMPONENT WARNING !!

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.

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.



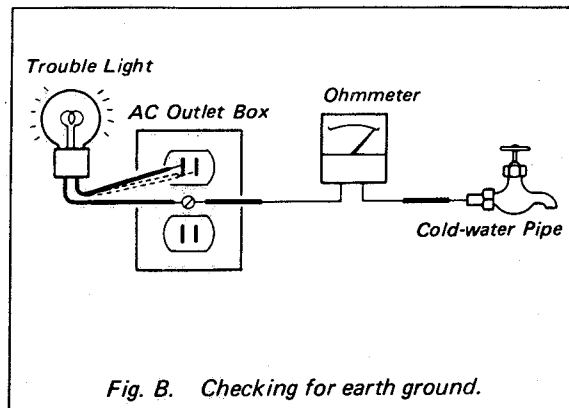
LEAKAGE TEST

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 microampers). 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 2 V 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 1 GENERAL

1-1. FEATURES

Microblack™ Trinitron® picture tube

The Microblack Trinitron picture tube gives a high resolution, high contrast picture.

Push-to-lock controls

In the locked position, the controls are protected from damage during carriage of the unit. The protruding position allows easier operation.

Monitor of sync signals

The HV-DELAY switch allows horizontal and vertical sync signals to be displayed on the screen.

Blue only picture

By using the B-ONLY switch, the picture can be displayed in blue and black only, facilitating hue adjustment or observation of VTR noise.

Underscan mode

The signal normally scanned outside of the screen can be monitored in the underscan mode.

6-pin DIN tuner connector

The TUNER connector allows easy connection of a TV tuner, which is equipped with the 6-pin DIN connector, using a single cable.

Three power sources

The monitor can operate on either house current, a rechargeable battery or a 12 V car battery, allowing use indoors or outdoors. The battery charge function is incorporated.

1-2. PRECAUTIONS

On safety

- Operate the unit only on 120 V ac or 12 V dc. For ac operation, use only the supplied ac power cord. Do not use any other type. For battery operation, use only the optional NP-1 battery pack. Do not use any other batteries. For car battery operation, use only the optional DCC-16AW car battery cord. Do not use any other car battery cord.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for several days.
- To disconnect the ac power cord, pull it out by the plug. Never pull the cord itself.

On installation

- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

On cleaning

To keep the unit looking brand-new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers since these will damage the cabinet. As a safety precaution, unplug the unit before cleaning it.

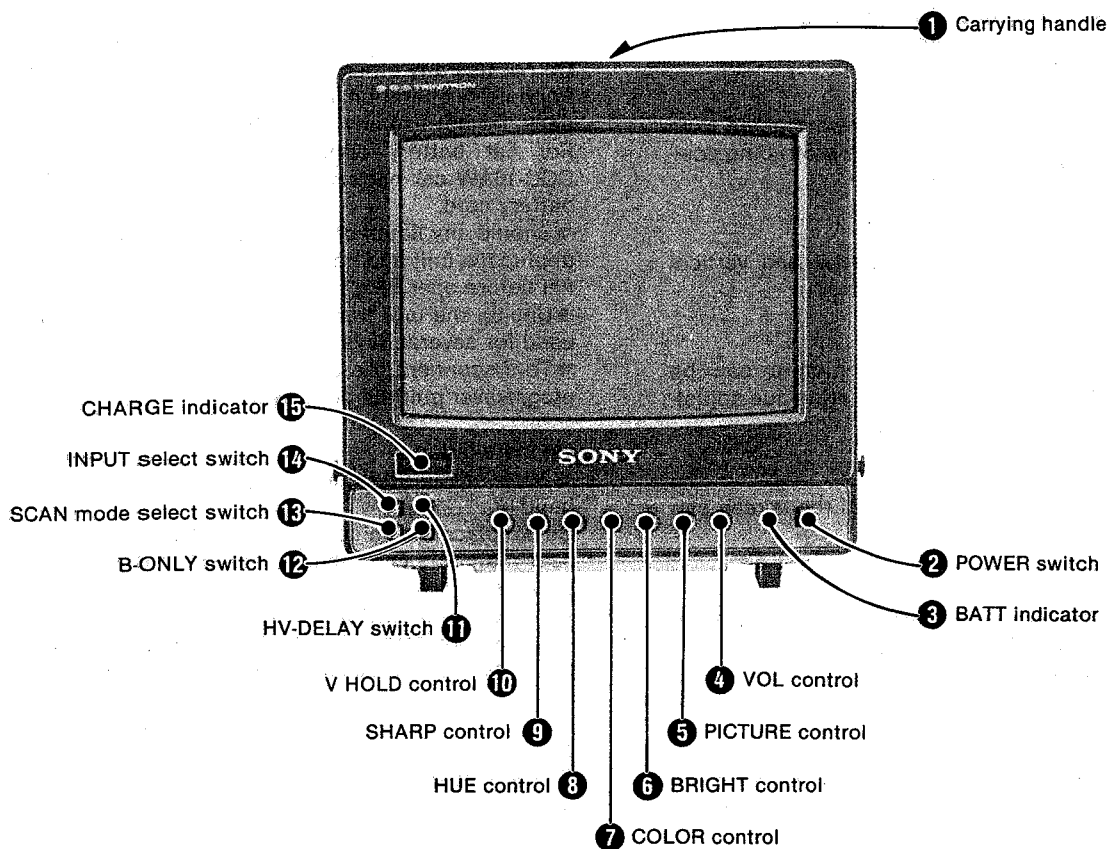
On repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

If you have any questions about this unit, contact your authorized Sony dealer.

1-3. LOCATION AND FUNCTION OF CONTROLS

FRONT PANEL



① Carrying handle

② POWER switch

To turn the monitor on, depress the POWER switch (Δ ON). To turn it off, press the switch again (Δ OFF).

③ BATT (power/battery) indicator

This indicator lights when the power is turned on. When the rechargeable battery becomes weak, the indicator flashes for about five minutes. Then it goes out, and the power is automatically turned off.

④ VOL (volume) control

Turn this control clockwise or counterclockwise to obtain the desired volume.

⑤ PICTURE control

Adjusts the contrast, intensity and brightness simultaneously in the proper ratio.

⑥ BRIGHT (brightness) control

Adjusts the brightness. Normally set this control at the center detent position.

⑦ COLOR control

Adjusts the color intensity of the picture. Clockwise rotation makes the picture more vivid; counterclockwise rotation makes it paler.

⑧ HUE control

Use to obtain the most natural skin tones. Clockwise rotation makes the skin tones more greenish; counterclockwise rotation makes them more purplish.

⑨ SHARP (sharpness) control

Adjusts the sharpness of the picture. Clockwise rotation makes the picture sharper; counterclockwise rotation makes it softer.

⑩ V HOLD (vertical hold) control

If the picture rolls vertically, correct it with this control.

Before turning one of the controls ④ to ⑩, for easier operation press on it to release the control to a protruding position.

⑪ HV-DELAY switch

Normally keep this switch released (Δ NORM). To monitor the sync signals, depress the switch (Δ H/V). The picture is shifted horizontally and vertically. The horizontal sync is displayed in left approximately one quarter of the screen and the vertical sync is displayed near the center of the screen.

⑫ B-ONLY (blue only) switch

Normally keep this switch released (Δ NORM). Depress the switch (Δ BLUE) to turn off the red and green beams. The picture will be displayed in blue and black only. This facilitates hue adjustment or observation of VTR noise.

⑬ SCAN mode select switch

Keep this switch released (Δ NORM) for normal scanning. Depress the switch (Δ UNDER) to reduce the display size by about 5% (underscanning mode) and to view a picture which does not appear in normal scanning.

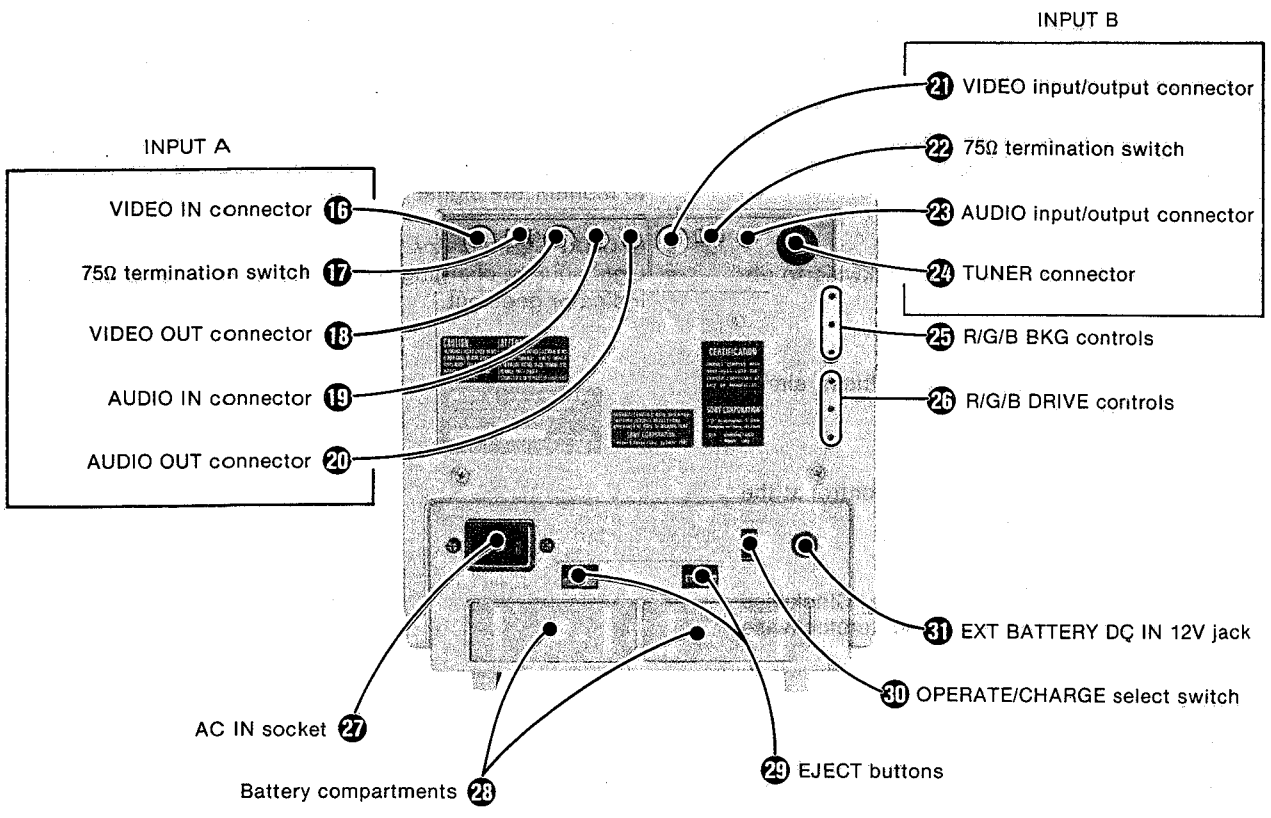
⑭ INPUT select switch

Keep this switch released (Δ A) to monitor the signal from the INPUT A connectors. Depress the switch (Δ B) to monitor the signal from the INPUT B connectors.

⑮ CHARGE indicator

Lights during charging. When charging is complete, the indicator goes out.

REAR PANEL



INPUT A

To monitor the input signals connected to these connectors, keep the INPUT select switch released (A).

16 VIDEO IN connector (BNC type)

Connect to the video output of video equipment, such as a VTR or a color video camera.

17 75Ω termination switch

When only the VIDEO IN connector is used (the VIDEO OUT connector is not used), set this switch to ON. When both the VIDEO IN and VIDEO OUT connectors are used together for a loop-through connection, set the switch to OFF.

18 VIDEO OUT connector (BNC type)

Loop-through output of the VIDEO IN connector. Connect to the video input of a VTR or another monitor.

19 AUDIO IN connector (minijack)

Connect to the audio output of a VTR or to a microphone (through a suitable microphone amplifier).

20 AUDIO OUT connector (minijack)

Loop-through output of the AUDIO IN connector. Connect to the audio input of a VTR or another monitor.

INPUT B

To monitor the input signals to these connectors, depress the INPUT select switch (B).

21 VIDEO input/output connector (BNC type)

Connect to the video output of a VTR or a color video camera.

When a TV tuner is connected to the TUNER connector and the 75Ω termination switch 22 is set to OFF, this connector can be used as a loop-through output of the TUNER connector. Connect to the video input of a VTR or another monitor.

22 75Ω termination switch

Normally set this switch to ON. When both the TUNER and VIDEO connectors are used together for a loop-through connection, set the switch to OFF.

23 AUDIO input/output connector (minijack)

Connect to the audio output of a VTR or to a microphone (through a suitable microphone amplifier).

When a TV tuner is connected to the TUNER connector and the 75Ω termination switch 22 is set to OFF, this connector can be used as a loop-through output of the TUNER connector. Connect to the audio input of a VTR or another monitor.

24 TUNER connector (6-pin DIN)

Connect to the 6-pin DIN connector of a TV tuner. The video and audio signals are supplied to the monitor and the power from the monitor is fed to the tuner using a single cable.

Note

The TUNER input and the VIDEO/AUDIO inputs 21, 23 cannot be used simultaneously. When connecting a TV tuner to the monitor, be sure to disconnect any input source equipment from the VIDEO and AUDIO connectors, or vice versa.

25 R/G/B BKG (background) controls

Used for adjusting the white balance of the background.

26 R/G/B DRIVE controls

Used for adjusting the white balance at the white peak.

27 AC IN socket

Connect the supplied ac power cord.

28 Battery compartments

Insert the NP-1 battery pack.

29 EJECT buttons

Press the EJECT button upwards to remove the battery pack.

30 OPERATE/CHARGE select switch

Normally set this switch to OPERATE. To charge the battery pack, set to CHARGE. The CHARGE indicator on the front panel lights. When charging is complete, the CHARGE indicator goes out; reset the switch to OPERATE.

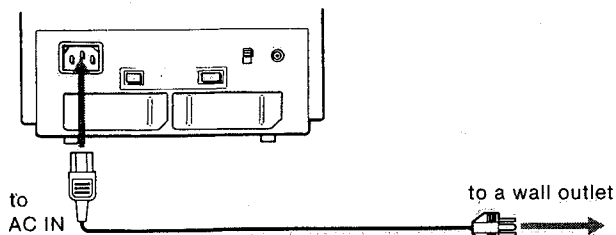
31 EXT BATTERY (external battery) DC IN 12 V jack

Connect the optional DCC-16AW car battery cord.

1-4. POWER SOURCES

HOUSE CURRENT

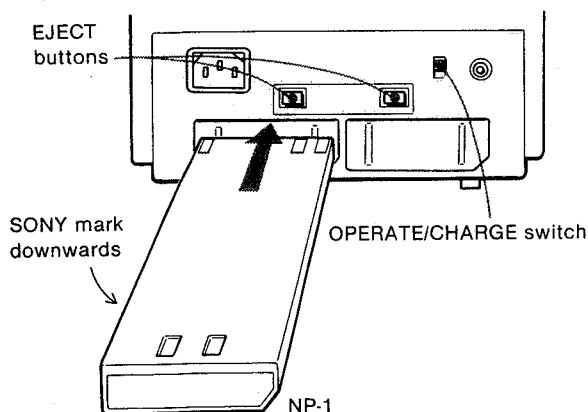
Connect the supplied ac power cord to the AC IN socket and to a wall outlet (120 V ac).



When the ac power cord is plugged into the AC IN socket, the battery pack (if installed) or the car battery (if connected) is automatically disconnected.

RECHARGEABLE BATTERY

Insert the Sony NP-1 battery pack (optional) into the battery compartment as illustrated. The monitor can operate with one or two battery packs. For extended use, two battery packs are recommended.



To remove the battery pack, press the EJECT button upwards.

Note

Make sure that the ac power cord and the car battery cord are disconnected from the monitor. Otherwise, the monitor cannot operate on the battery pack(s).

Caution

Do not use any other batteries than the NP-1, even if any can be inserted into the compartment.

Charging the battery pack

Before using the monitor, be sure to fully charge the battery pack. The charging time is about 6 hours at normal temperatures.

- 1 Connect the supplied ac power cord to the AC IN socket and then to a wall outlet.
- 2 Insert the battery pack(s) into the battery compartment(s).
- 3 Set the OPERATE/CHARGE switch to CHARGE.
- 4 Depress the POWER switch. The CHARGE indicator lights and charging begins.

When charging is complete, the CHARGE indicator goes out. Be sure to reset the OPERATE/CHARGE switch to OPERATE.

When the OPERATE/CHARGE switch is set to CHARGE, the picture cannot be monitored.

• For quicker charging, use the optional BC-1WA battery charger for NP-1.

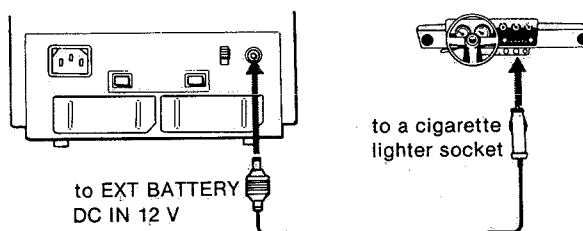
Battery life

At normal temperatures, the picture can be monitored continuously for about 60 minutes using two battery packs and operating the TV tuner connected to the monitor. When the TV tuner is not used, longer battery life can be expected (about 75 to 80 minutes).

When the battery is exhausted, the green BATT indicator flashes for about five minutes, and then the power is turned off automatically to prevent excessive battery discharge. When the BATT indicator goes off, press the POWER switch and replace the exhausted battery pack(s) with fully charged one(s), or use another power source.

CAR BATTERY

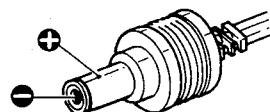
Use the Sony DCC-16AW car battery cord (optional) for a 12 V car battery. Connect the car battery cord to the EXT BATTERY DC IN 12 V jack and to the cigarette lighter socket of a car. For further details, read the instruction manual of the car battery cord.



When the car battery cord is plugged into the EXT BATTERY DC IN 12 V jack, the battery pack (if installed) is disconnected automatically.

Note

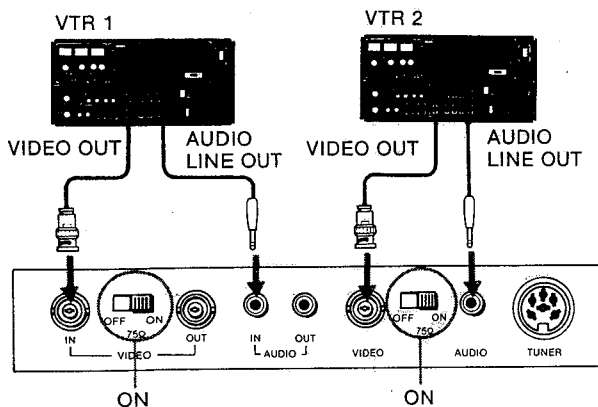
Use only the recommended car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.



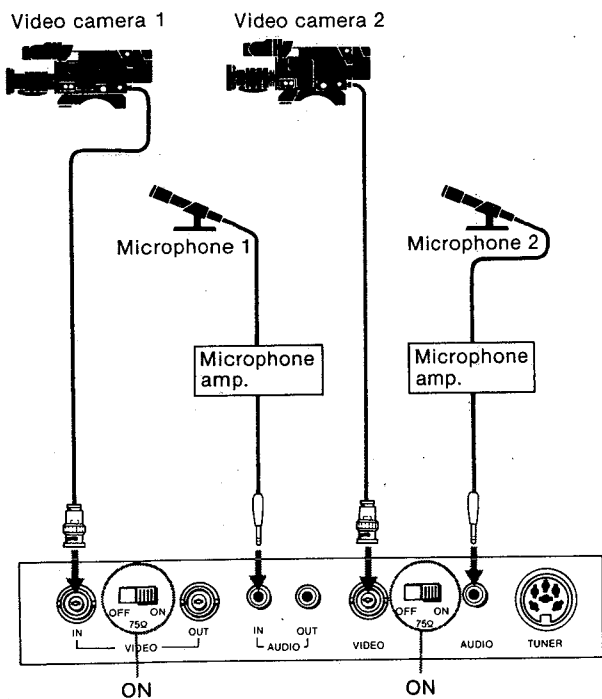
Polarity of the plug of Sony car battery cord

1-5. SYSTEM CONNECTIONS

CONNECTING A VTR

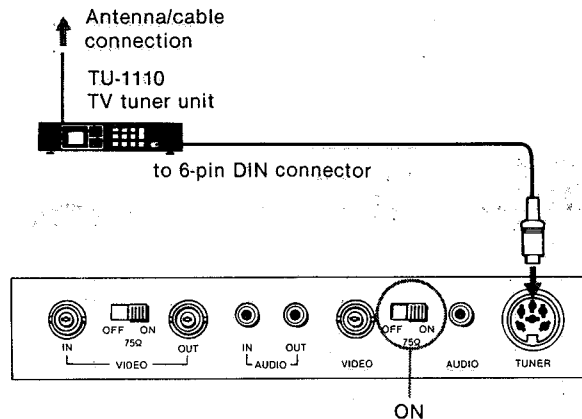


CONNECTING A CAMERA AND A MICROPHONE



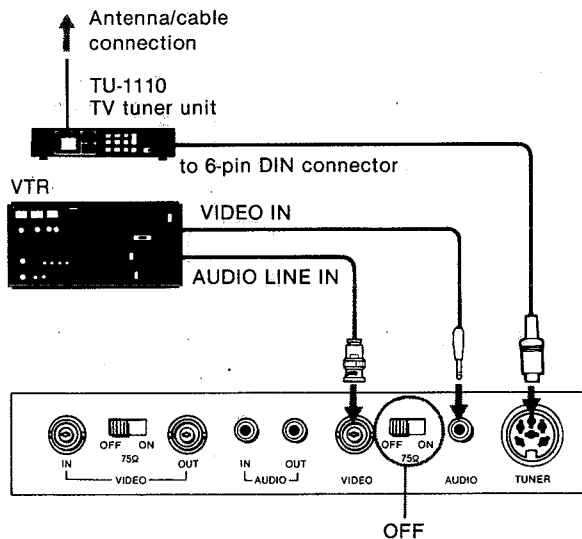
CONNECTING A TV TUNER

The Sony TU-1110 TV tuner unit, which is provided with a 6-pin DIN connector, can be connected to the monitor.



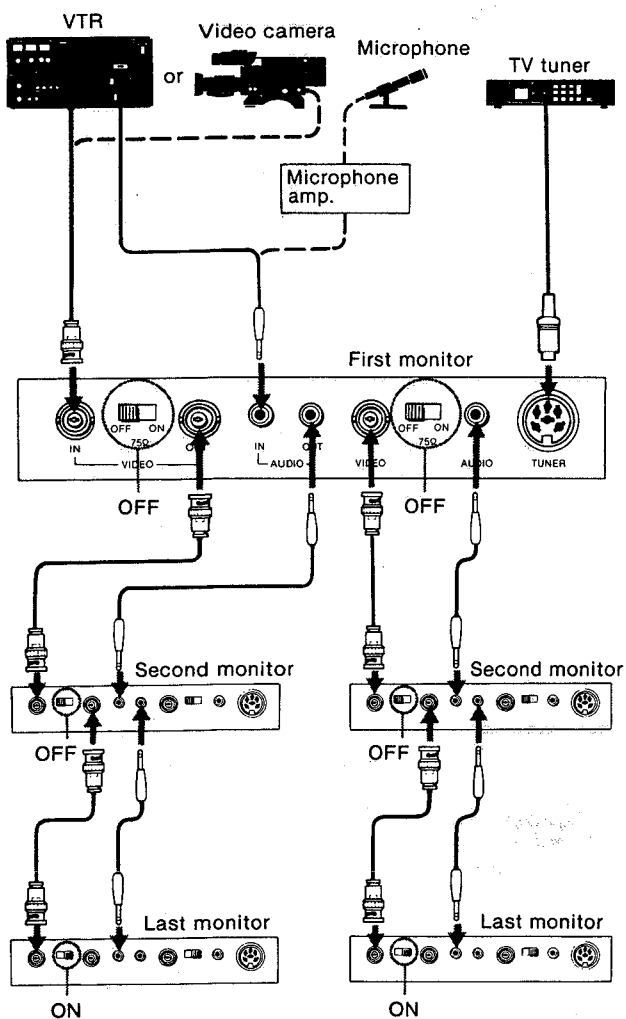
CONNECTING A TV TUNER AND A VTR

The VIDEO and AUDIO connectors of INPUT B can be used as loop-through outputs of the TUNER connector. By making the following connection, TV programs received by the TV tuner can be recorded on a VTR while monitoring the picture.

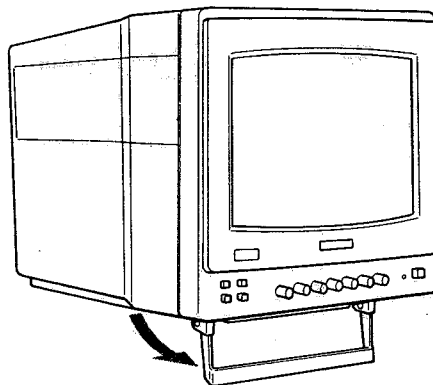


CONNECTING SEVERAL MONITORS

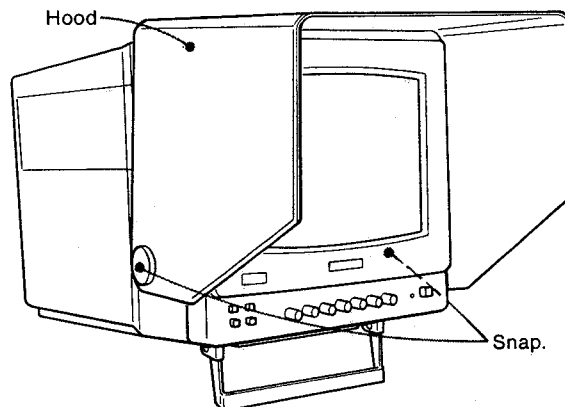
A loop-through connection is convenient for monitoring the same signal on several monitors. Use the VIDEO OUT and AUDIO OUT connectors of INPUT A, and for the TV tuner, use the VIDEO and AUDIO connectors of INPUT B. Up to 10 monitors can be connected for each group. Set the 75Ω termination switch of the last monitor to ON and those of the other monitors to OFF.



1-6. USE OF THE STAND

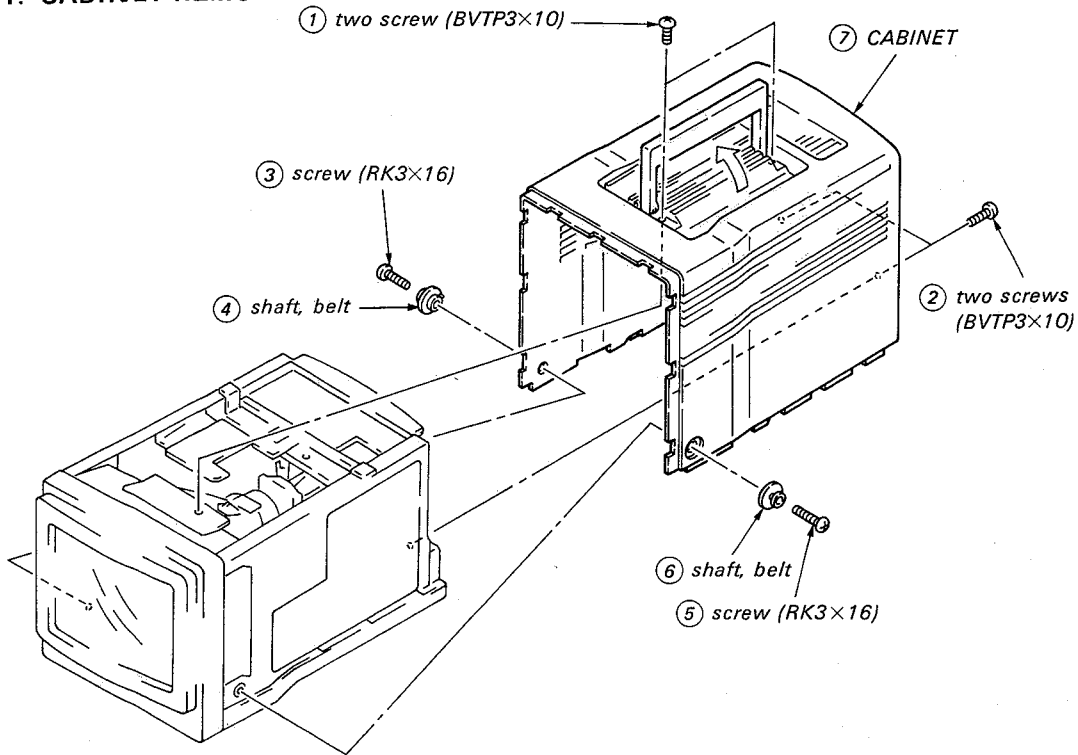


1-7. ATTACHING THE SUPPLIED HOOD

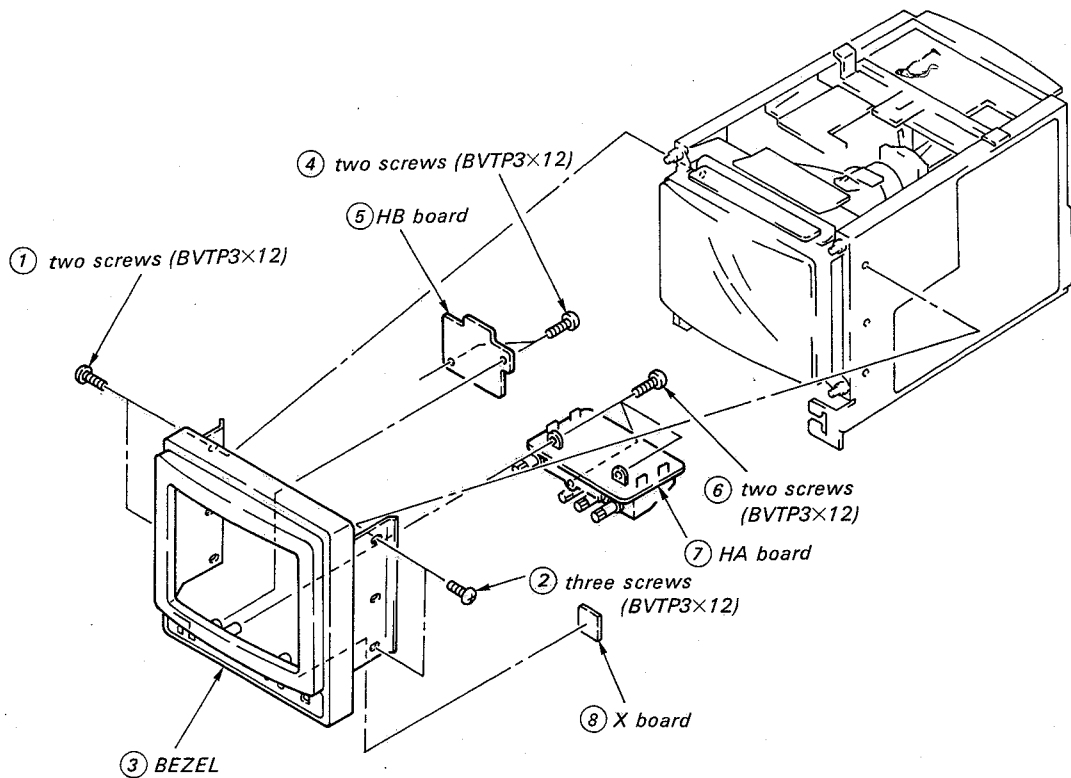


SECTION 2 DISASSEMBLY

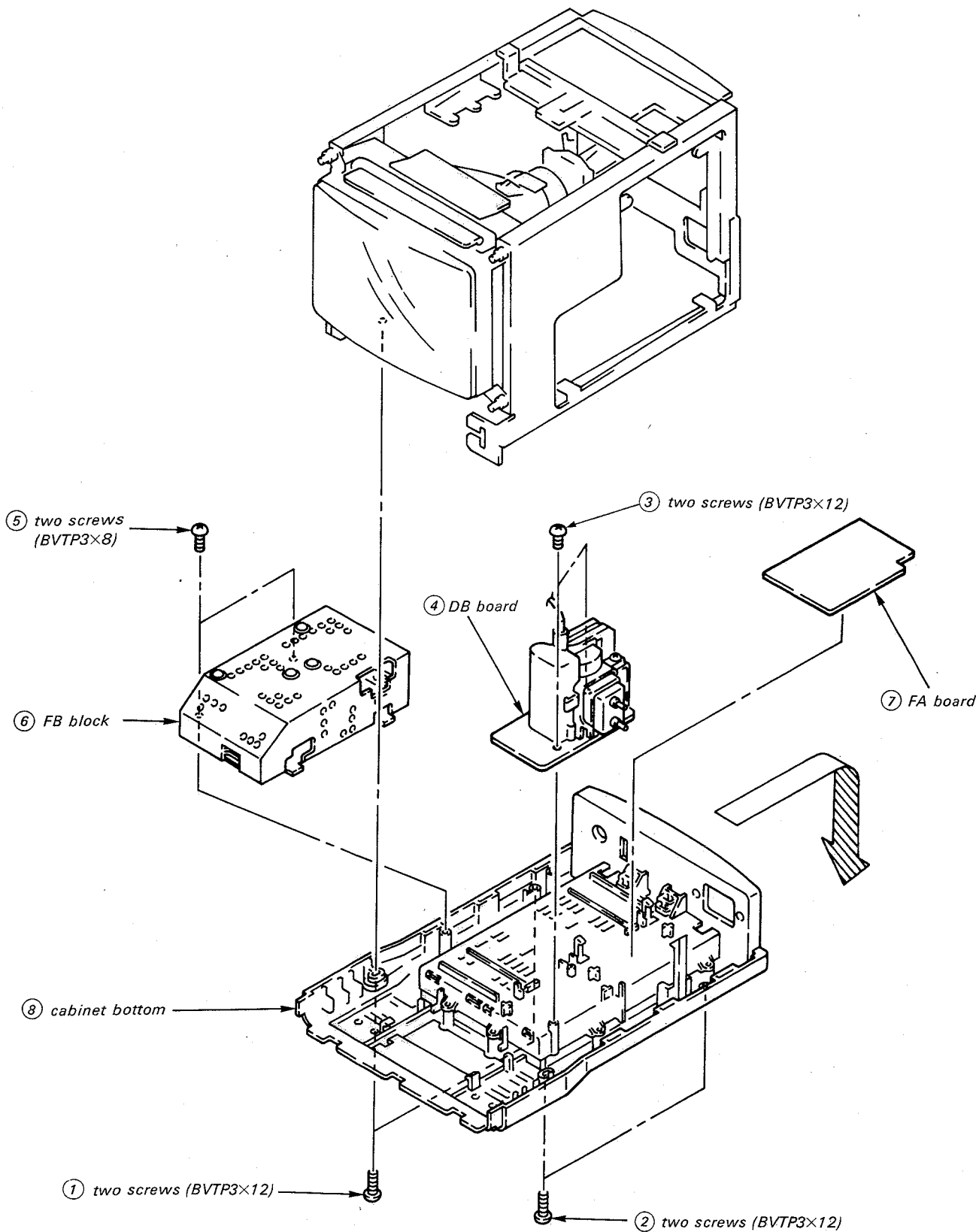
2-1. CABINET REMOVAL



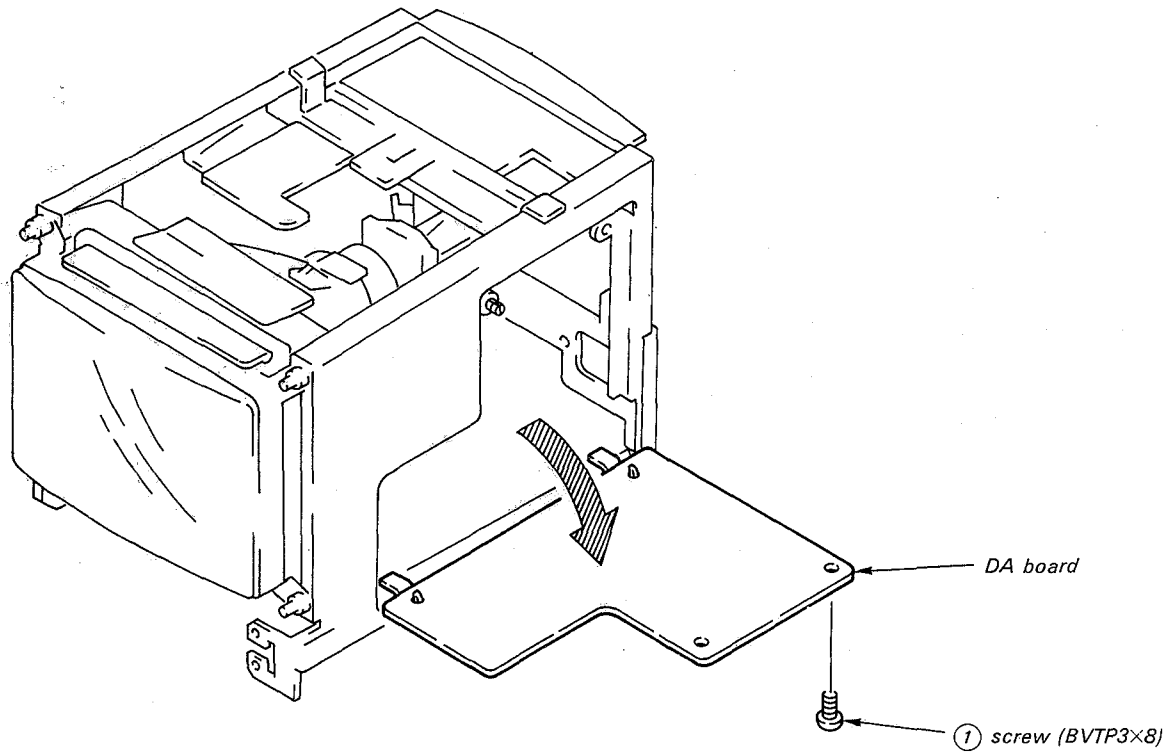
2-2. BEZEL REMOVAL (HA, HB, X BOARD)



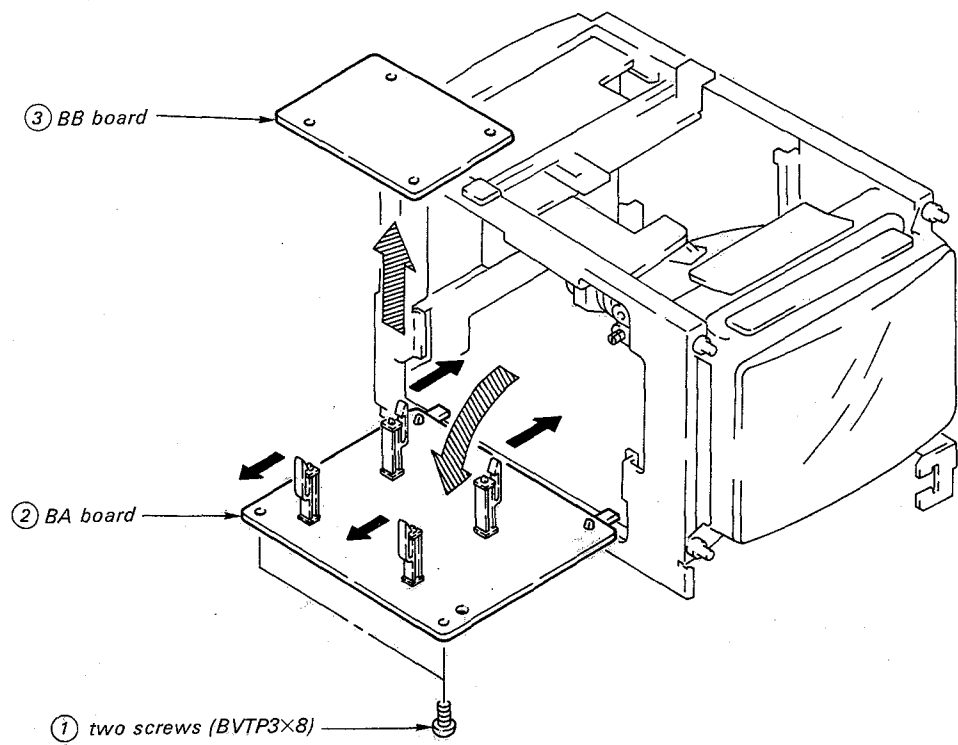
2-3. CABINET BOTTOM REMOVAL



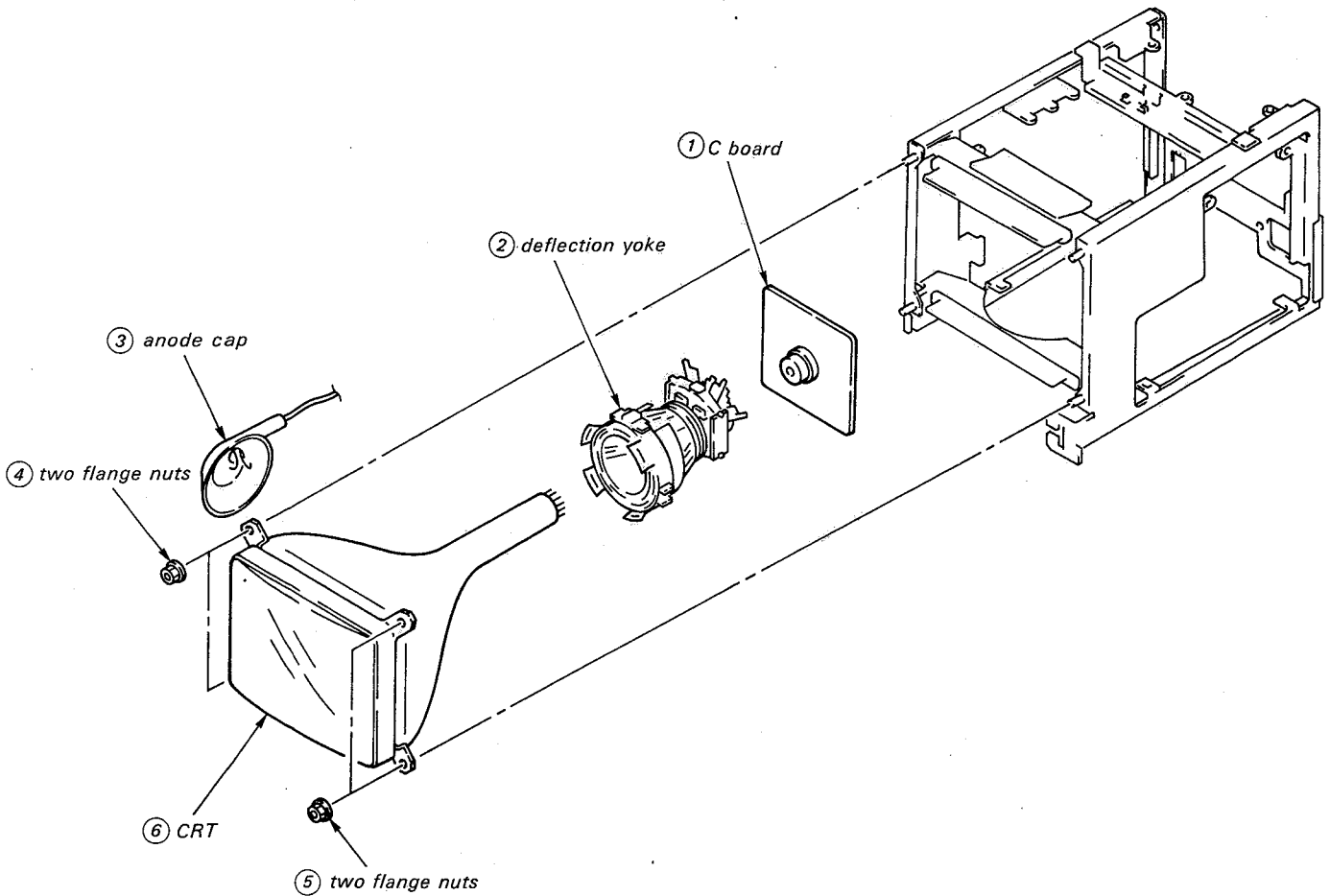
2-4. DA BOARD REMOVAL



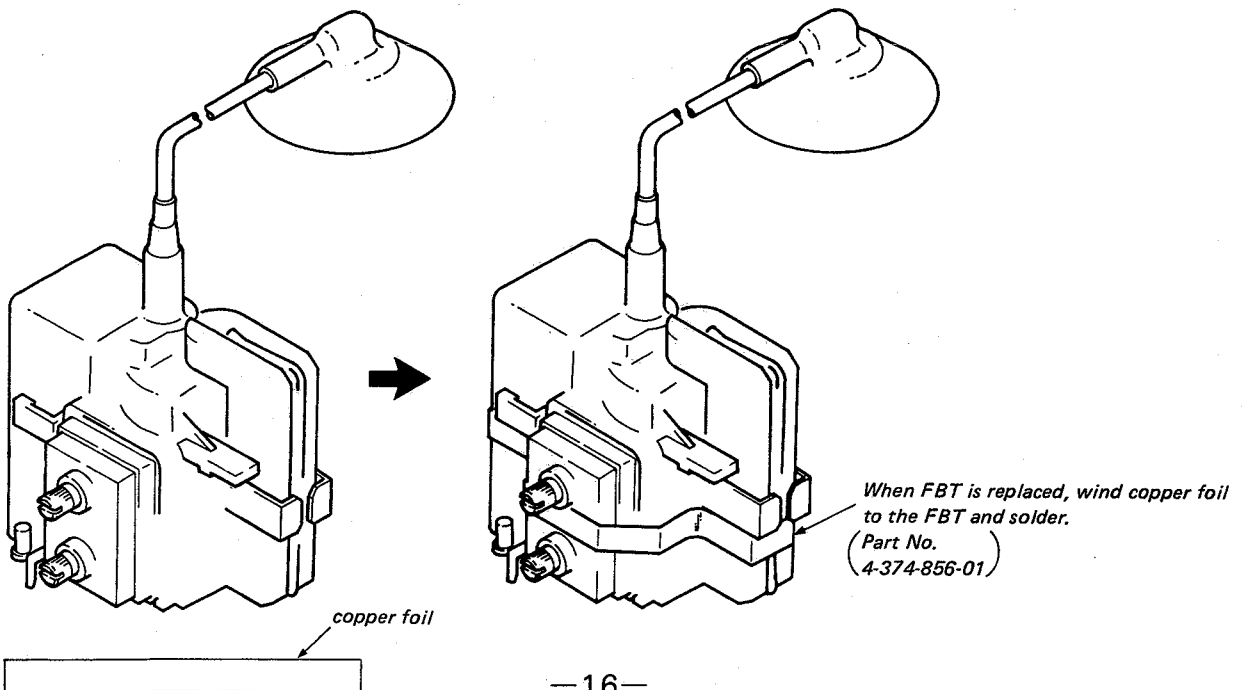
2-5. BA, BB BOARD REMOVAL



2-6. CRT REMOVAL



2-7. REPLACING FBT



SECTION 3 SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

Controls and switch should be set as follows unless otherwise noted:

BRT, CONTR controls fully clockwise

Make the following adjustments in the order as follows given:

- 3-1. Beam Landing
- 3-2. Focus Adjustment
- 3-3. Convergence
- 3-4. White Balance

Note: Test Equipment Required

1. Color-bar/pattern generator
2. Degausser

3-1. BEAM LANDING

Preparation:

- Before starting, degauss the entire screen.
- 1. Loosen deflection yoke screw.
- 2. Remove deflection yoke spacers.
- 3. Adjust purity control to center the slide between two projections as shown in Fig. 1-1.
- 4. Slide deflection yoke as far forward as it will go.
- 5. Turn RED CUT OFF VR (RV259) MAX and GREEN (RV261) and BLUE CUT OFF RV (RV263) MIN.
- 6. Turn purity control to center vertical red band as shown in Fig. 1-2.
- 7. Slide deflection yoke back for a uniform red screen.
- 8. Check green and blue rasters for uniformity. Repeat the steps 6, 7 and 8.
- 9. Turn all CUT OFF VR (RV259, 261, 263) for mechanical CENTER.
- 10. Install the deflection yoke spacers.
- 11. Tighten the deflection yoke screw.
- 12. Check if mislanding appears at corners a-d as shown in Fig. 1-3. If mislanding is observed, correct it as shown in Fig. 1-4.

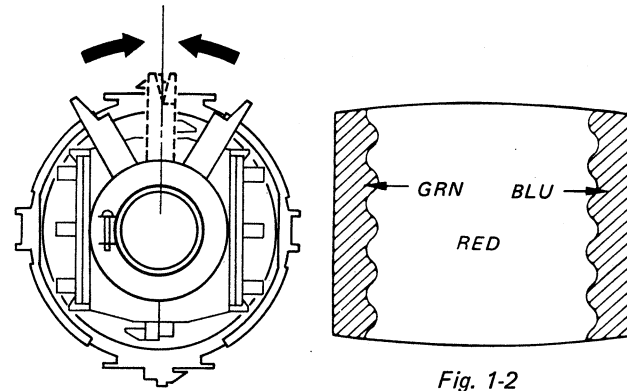


Fig. 1-1

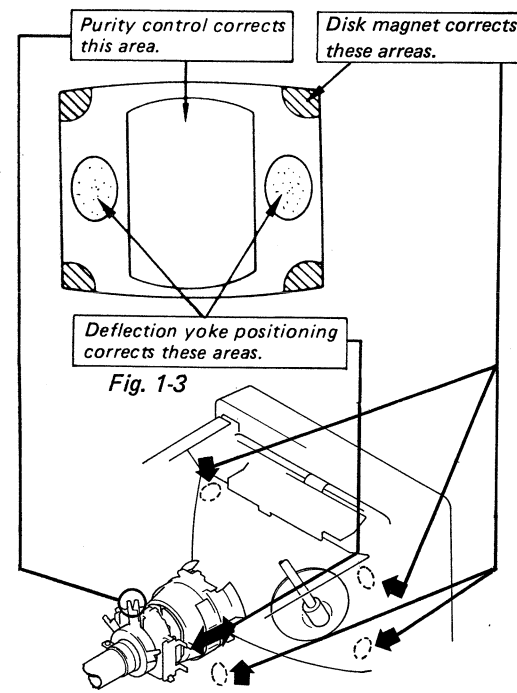
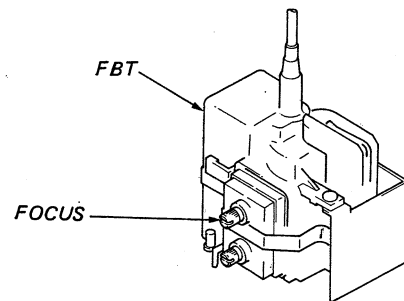


Fig. 1-4

3-2. FOCUS ADJUSTMENT

- (1) Input monoscope signal.
PICTURE control 80%
BRICHT control 50%
- (2) Adjust FOCUS control for a best picture at the center and both sides of the screen.



3-3. CONVERGENCE

Preparation:

- Before starting, make FOCUS, H.SIZE, V.SIZE and V.LIN adjustments.
- Turn BRT control fully counterclockwise.
- Feed in the dot pattern.

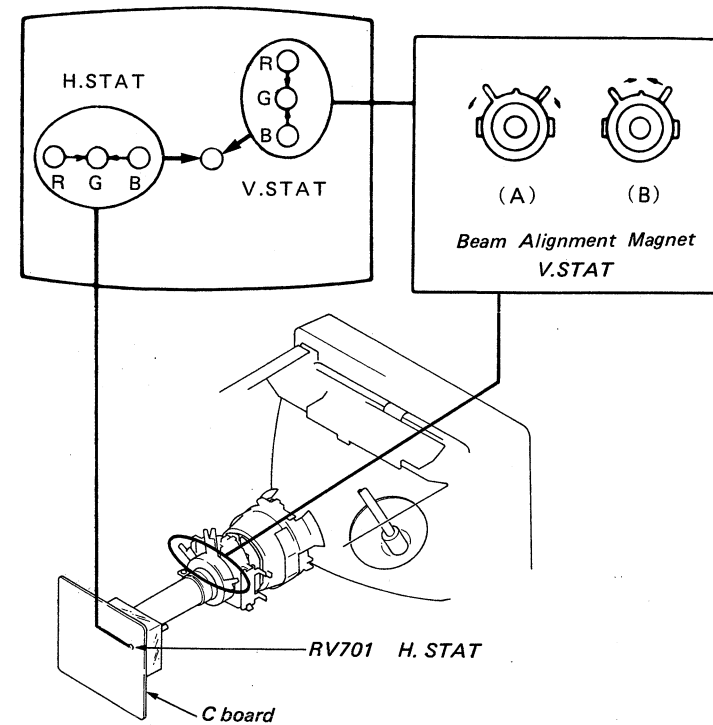
- (1) Horizontal Static Convergence and Vertical Static Convergence

If blue dot does not coincide with red and green dots,

Move BMC magnet to correct insufficient H.Static convergence.

Rotate BMC magnet to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.

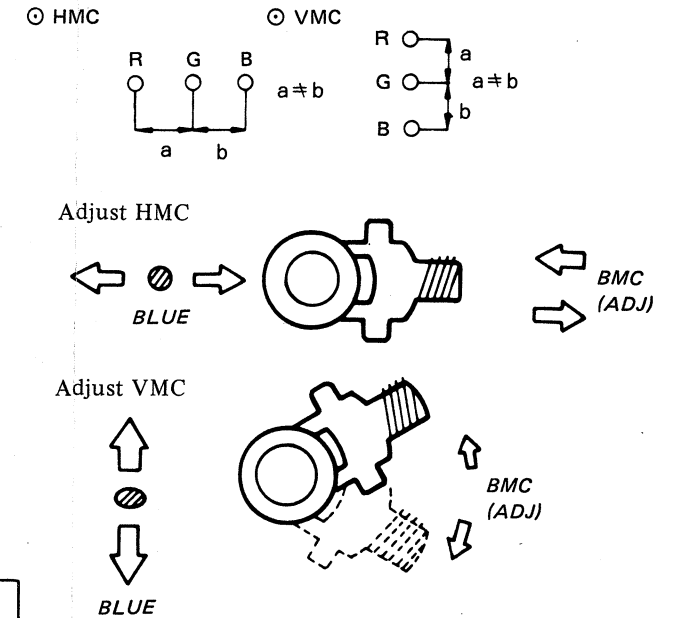
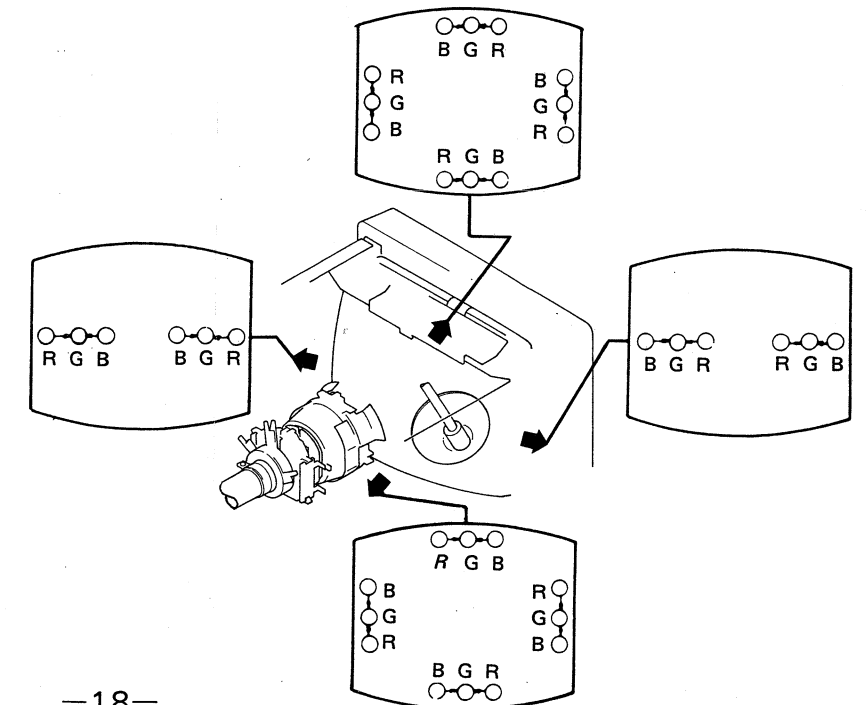


- (2) Dynamic Convergence Adjustment

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 below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.



3-4
(1)
1.
2.
3.
4.
(2)
1.
2.
3.
4.
5.
6.
7.

3-3. CONVERGENCE

Preparation:

- Before starting, make FOCUS, H.SIZE, V.SIZE and V.LIN adjustments.
- Turn BRT control fully counterclockwise.
- Feed in the dot pattern.

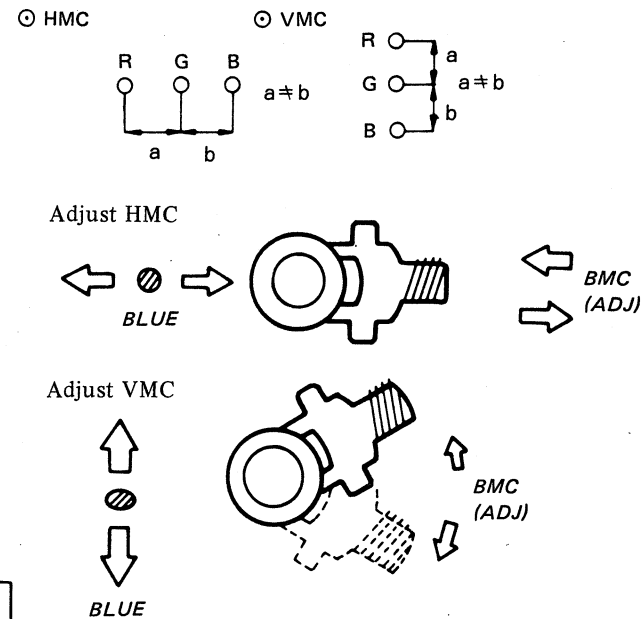
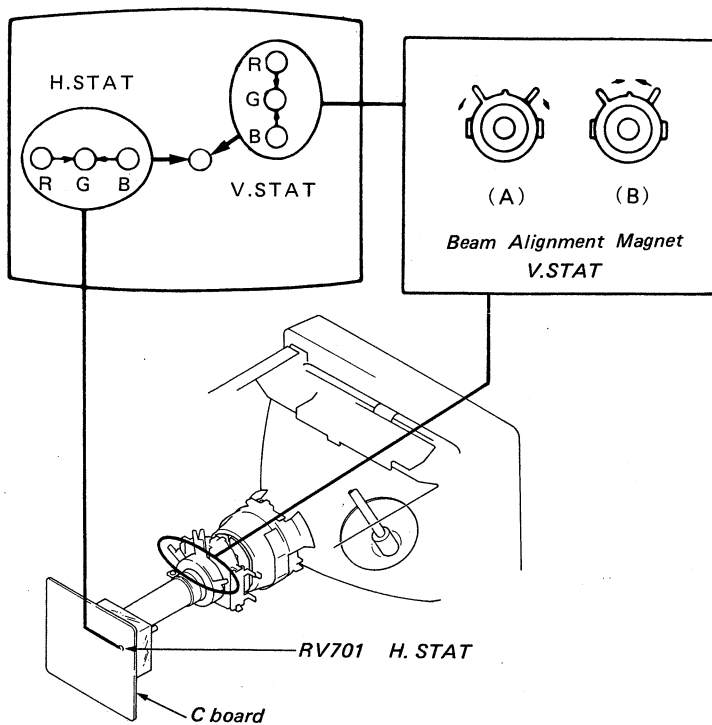
(1) Horizontal Static Convergence and Vertical Static Convergence

If blue dot does not coincide with red and green dots,

Move BMC magnet to correct insufficient H.Static convergence.

Rotate BMC magnet to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.

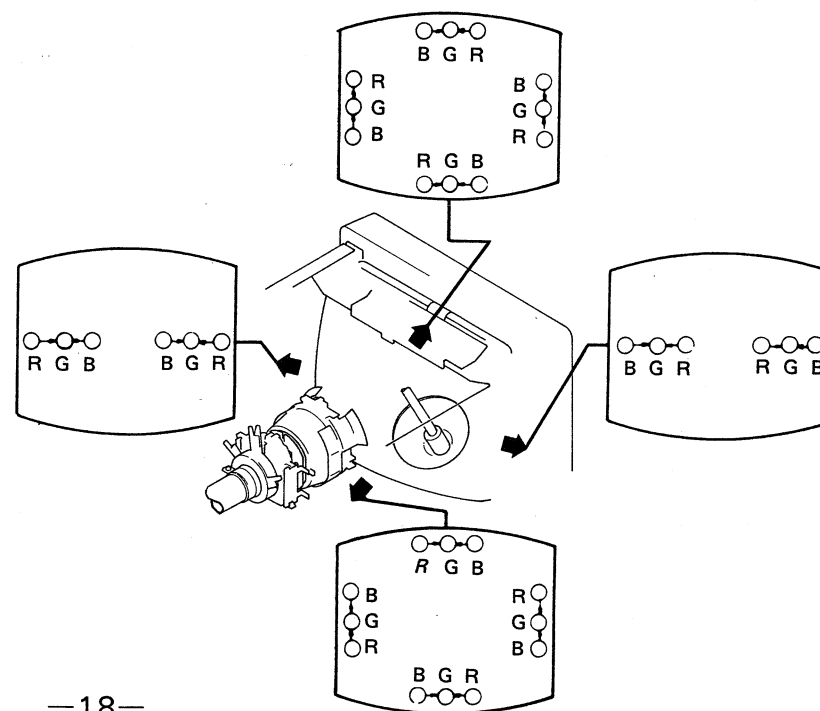


(2) Dynamic Convergence Adjustment

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 below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.



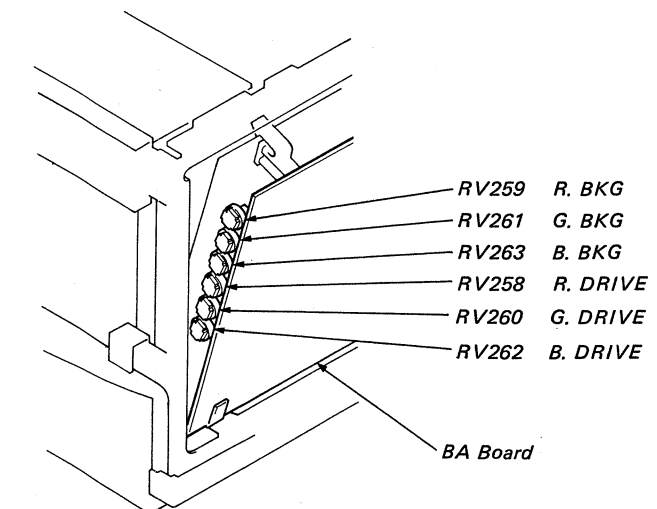
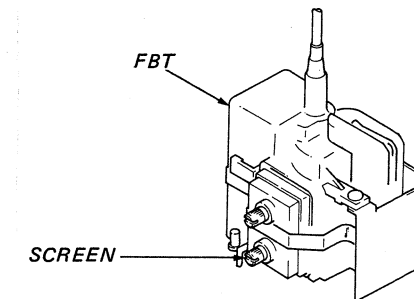
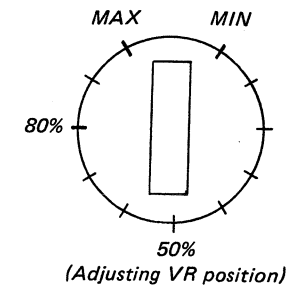
3-4. WHITE BALANCE

(1) SCREEN (G2)

1. Input a dots pattern.
2. Set the PICTURE control at minimum and turn the BRIGHT control fully counterclockwise.
3. Confirm that BKG voltage is less than 105V dc when turning RV259 (R.BKG), RV261 (G.BKG) and RV263 (B.BKG).
4. Note the color which becomes visible first when turning SCREEN VR.

(2) WHITE BALANCE

1. Input a cross-hatch pattern.
2. Set the PICTURE control to minimum and turn the BRIGHT control click position.
3. Turn RV262 (B.DRIVE), RV260 (G.DRIVE) and RV258 (R.DRIVE) fully clockwise.
4. Set RV259 (R.BKG), RV261 (G.BKG) and RV263 (B.BKG) to minimum.
5. Turn RV509 (SUB BRT) slowly to obtain a faintly visible cross-hatch. Note the color that first becomes visible by turning. Do not turn a BKG control for this color.
6. Adjust the other two BKG controls for best white balance (neutral gray) of the faint cross-hatch. Set the PICTURE control to maximum and turn the BRIGHT control fully clockwise. Observe the screen and adjust the DRIVE controls for best white balance.
7. Repeat steps 1. through 6. several times.

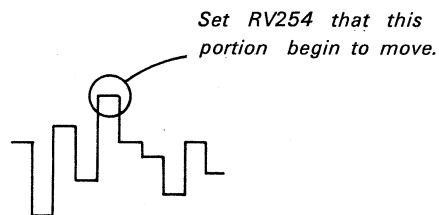


SECTION 4 CIRCUIT ADJUSTMENTS

4-1. BA BOARD ADJUSTMENTS

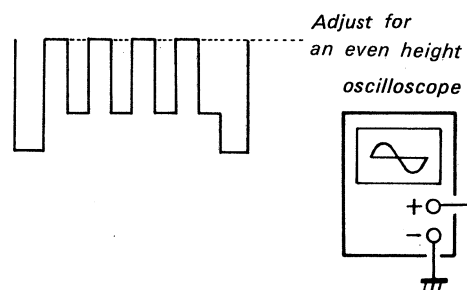
HUE BIAS ADJUSTMENT

1. Input a color bar signal.
PICTURE 80%
BRT 50%
2. Connect an oscilloscope to pin ③ of the BA-6
3. Turn RV254 fully counterclockwise, then slowly return RV254 until the waveform at pin ③ of BA-6 connector begin to change.



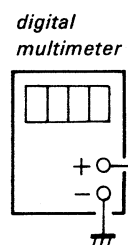
SUB COLOR ADJUSTMENT

1. Input a color bar signal.
PICTURE 80%
BRT 50%
COLOR 50%
2. Adjust RV264 for the waveform at connector BA-6 ③ to become as illustrated.



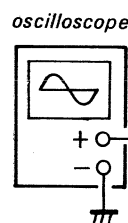
APC ADJUSTMENT

1. Input a color bar signal.
PICTURE 80%
BRT 50%
COLOR 50%
2. Connect a 100 kΩ resistor between IC253 pin ⑬ and ground. (Killor circuit goes off)
3. Ground IC253 pin ⑯ with a 10μ/16V chemical capacitor and remove color sync.
4. Adjust RV256 to get color sync.



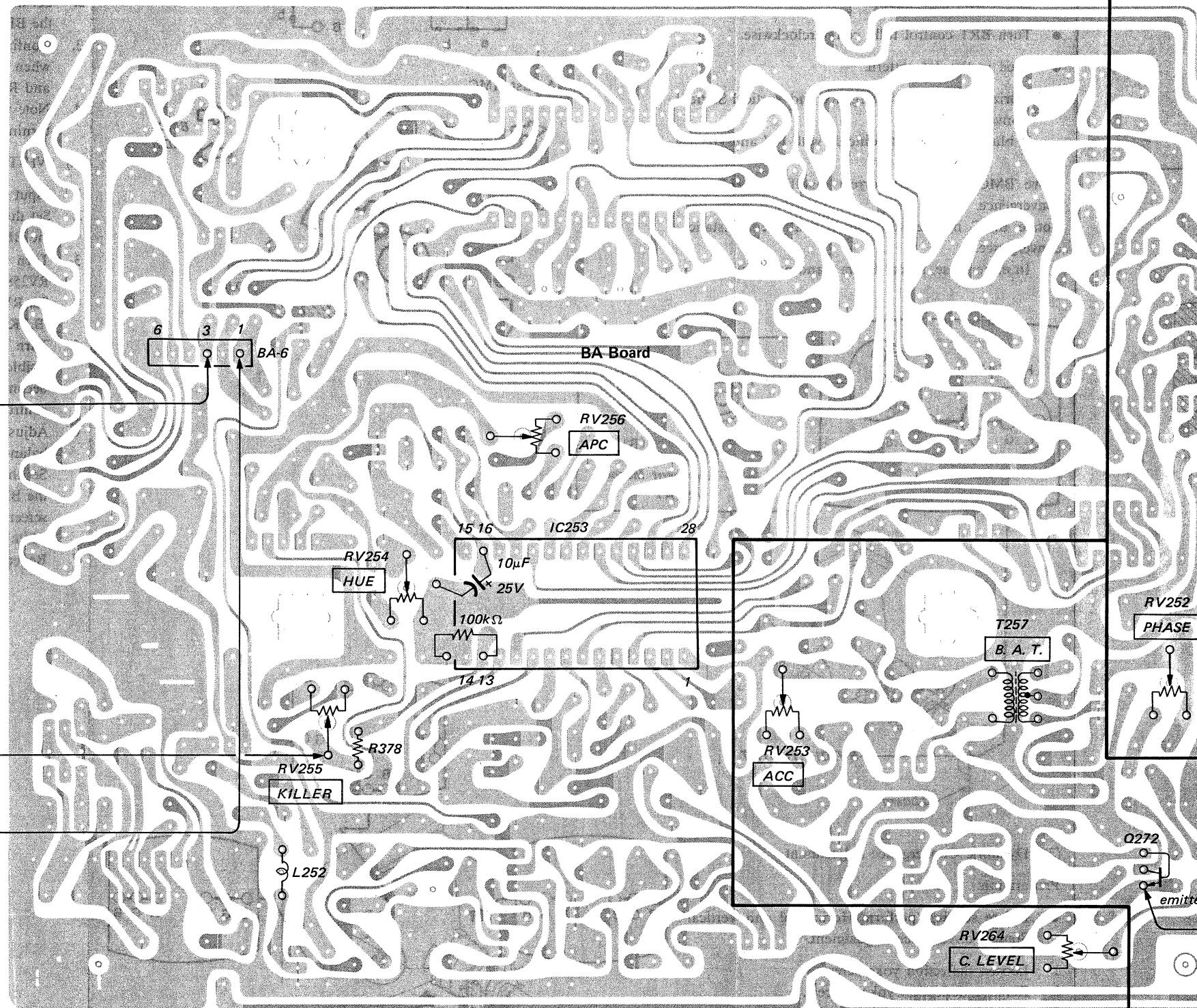
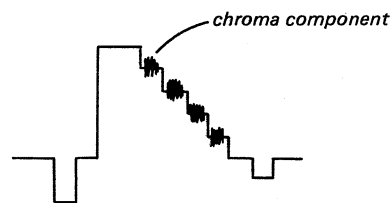
KILLER POINT ADJUSTMENT

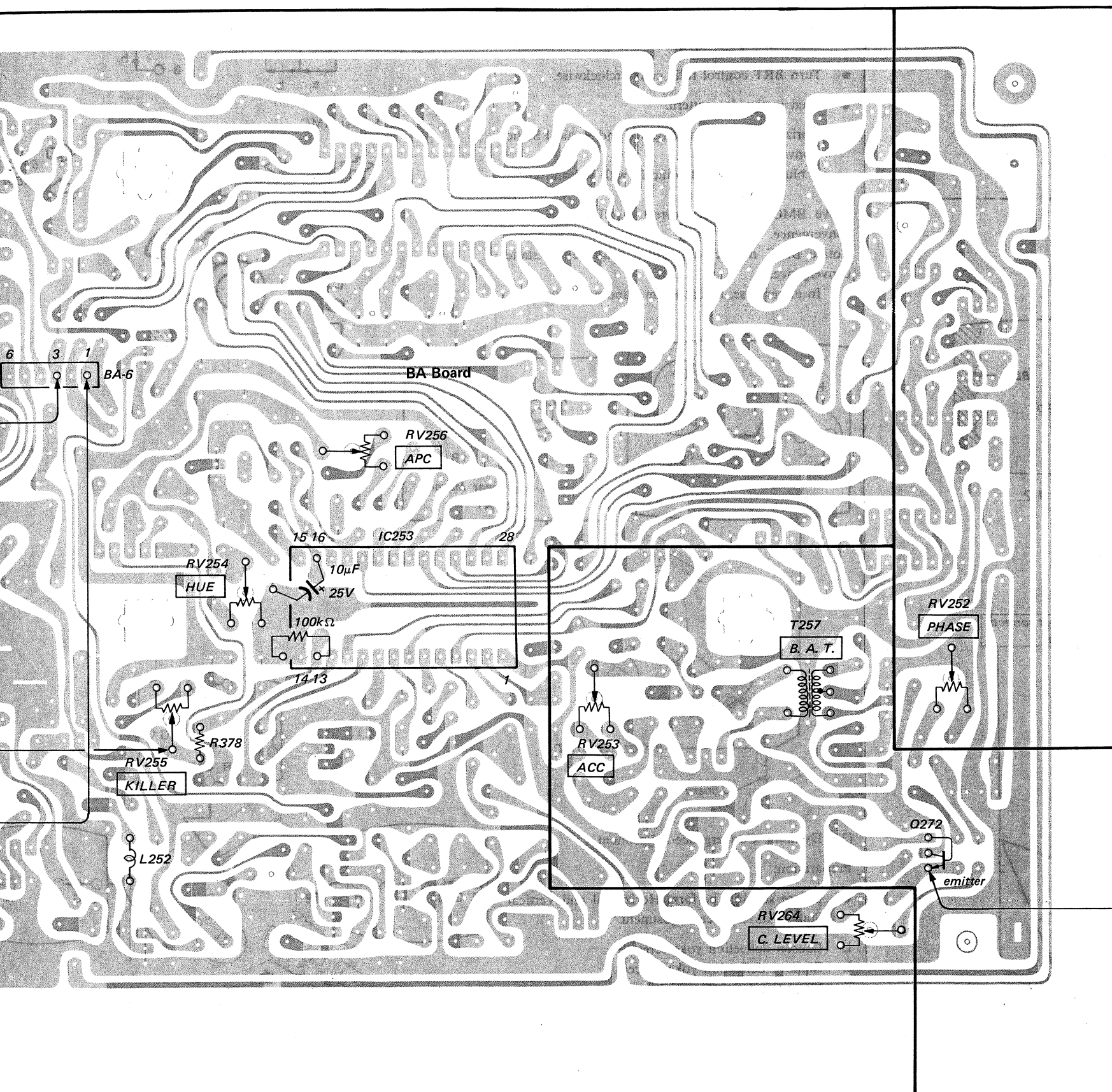
1. Tune in an off-air signal.
2. Connect digital multimeter between R255 and R378.
3. Adjust RV255 so that the voltage is 8.3V dc.



CHROMA TRAP ADJUSTMENT

1. Input a color bar signal.
PICTURE 80%
BRT 50%
2. Observe connector BA-6 pin ① waveform on the oscilloscope and adjust L252 for minimum chroma component.



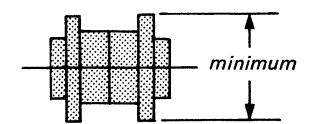


HUE ADJUSTMENT

1. Input a color bar signal.
 PICTURE 80%
 BRT 50%
 COLOR 50%
2. Set RV505 (user control HUE VR) at mechanical center.
3. Adjust RV252 so that the hue is optimized.

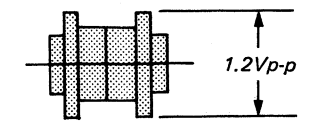
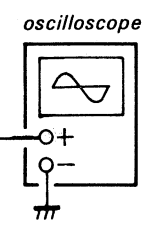
BAT ADJUSTMENT

1. Input a color bar signal.
 PICTURE 80%
 BRT 50%
 COLOR 50%
2. Observe Q272 (E) waveform on the oscilloscope and adjust T257 for minimum chrome component.



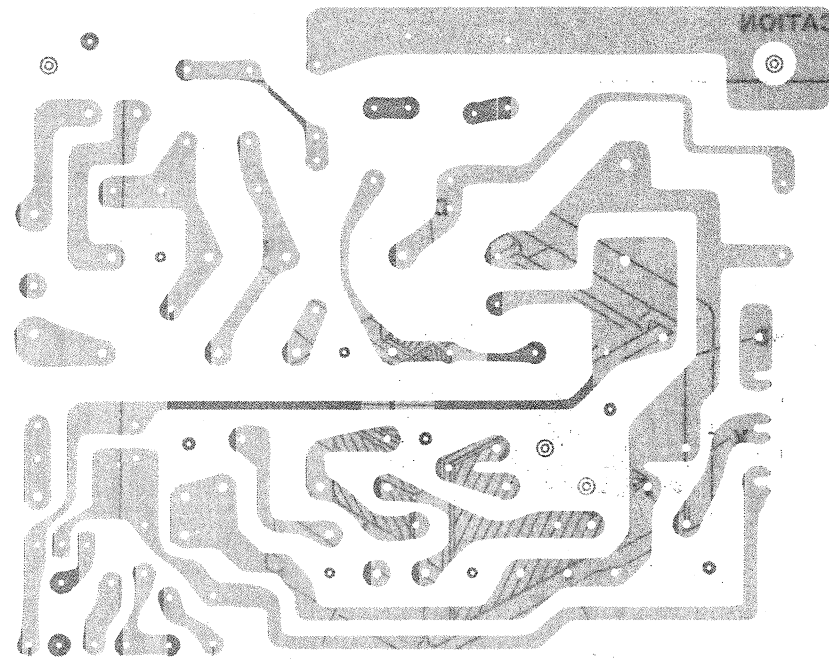
ACC ADJUSTMENT

1. Input a color bar signal.
 PICTURE 80%
 BRT 50%
 COLOR 50%
2. Observe Q272 (E) waveform on the oscilloscope and adjust RV253 so that the signal component is 1.2 Vp-p.

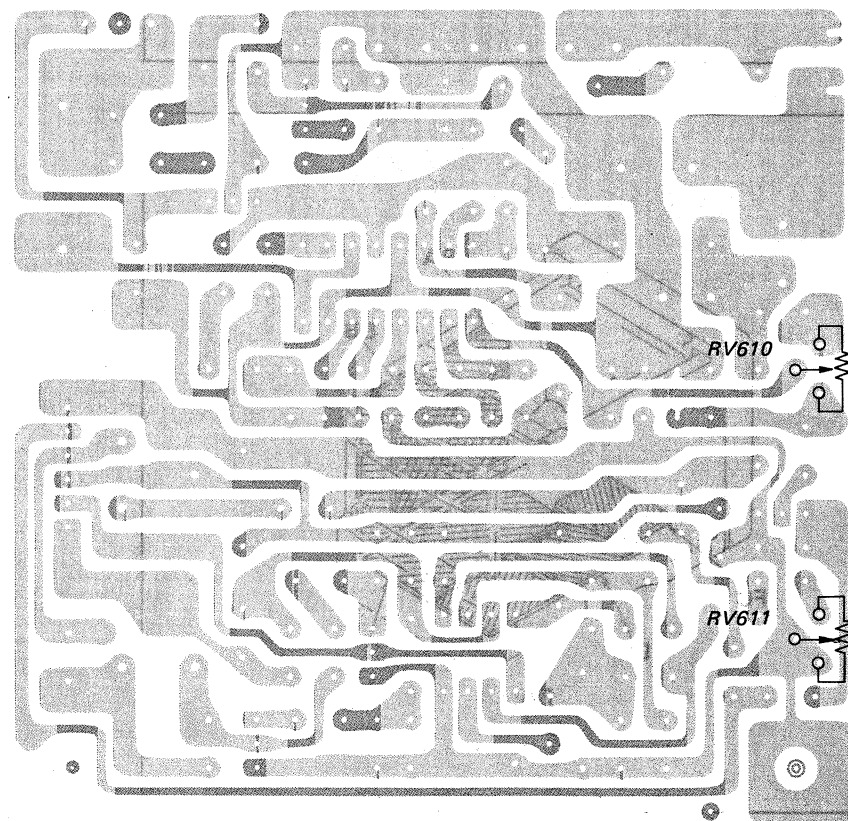


4-2. SAFETY RELATED ADJUSTMENTS

4-3. DA BOARD ADJUSTMENTS



FB Board



+B MAX CHECK
 R881 ADJUSTMENT

Be sure to perform this adjustment when replacing the following parts (marked on the schematic)

R880, R881, R882, R883, R884, R885, R886, RV807, D821, D822, Q804, Q805, CP800

1. Input a monoscope signal. (PICTURE 80% BRT 50%)
2. Turn +B ADJ VR (RV807) fully so that +B value is maximum. (Input of 130V $\pm 2_{-0}$ V AC)
3. Confirm that TP91 value is less than 31.5V dc.

HV PROTECTOR OPERATION CHECK
 HOLD DOWN R856 ADJUSTMENT

Be sure to perform this adjustment when replacing the following parts (marked on the schematic)

R807, R818, R822, R826, R855, R856, R873, R874, R876, D800, D805, D824, D825, IC802

1. Input a monoscope signal. (PICTUER 80% BRT 50%)
2. Confirm that voltage of 19.6 ± 1.6 V appears between TP61 and GND during input of 120V AC.
3. Confirm that the HOLD-DOWN circuit operates (the raster disappears) by adding $25.0_{-0.1}^{+0}$ V DC between TP61 and GND.

BLANKING OPERATION CHECK
 R859 ADJUSTMENT

Be sure to perform this adjustment when replacing the following parts (marked on the schematic)

R456, R457, R807, R819, R820, R822, R859, R862, D800, D801, IC253, IC802

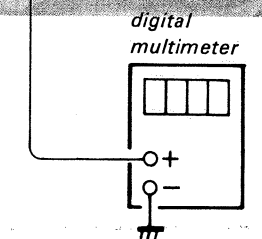
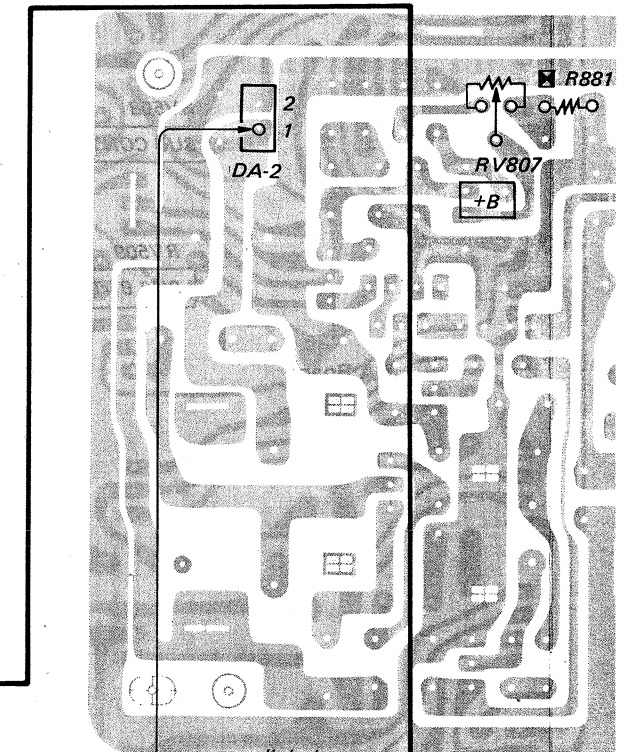
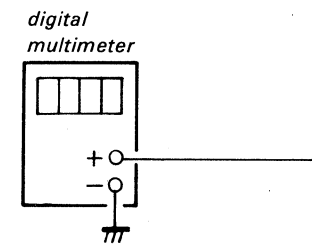
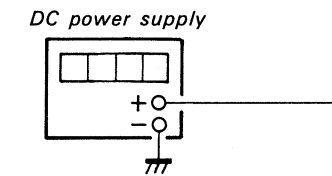
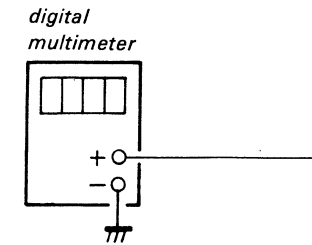
1. Input a monoscope signal. (PICTURE 80% BRT 50%)
2. Turn +B ADJ VR (RV807) fully so that +B value is DOWN.
3. Confirm that the BLANKING circuit operates (the raster disappears) by adding $24.5_{-0}^{+0.1}$ V DC between TP61 and GND.

POWER SUPPLY OPERATION CHECK

1. Input a monoscope signal.
2. Connect a digital voltmeter to connector DA-2.
3. Adjust RV610 for 15.0 ± 0.2 V DC.

H.SIZE ADJUSTMENT

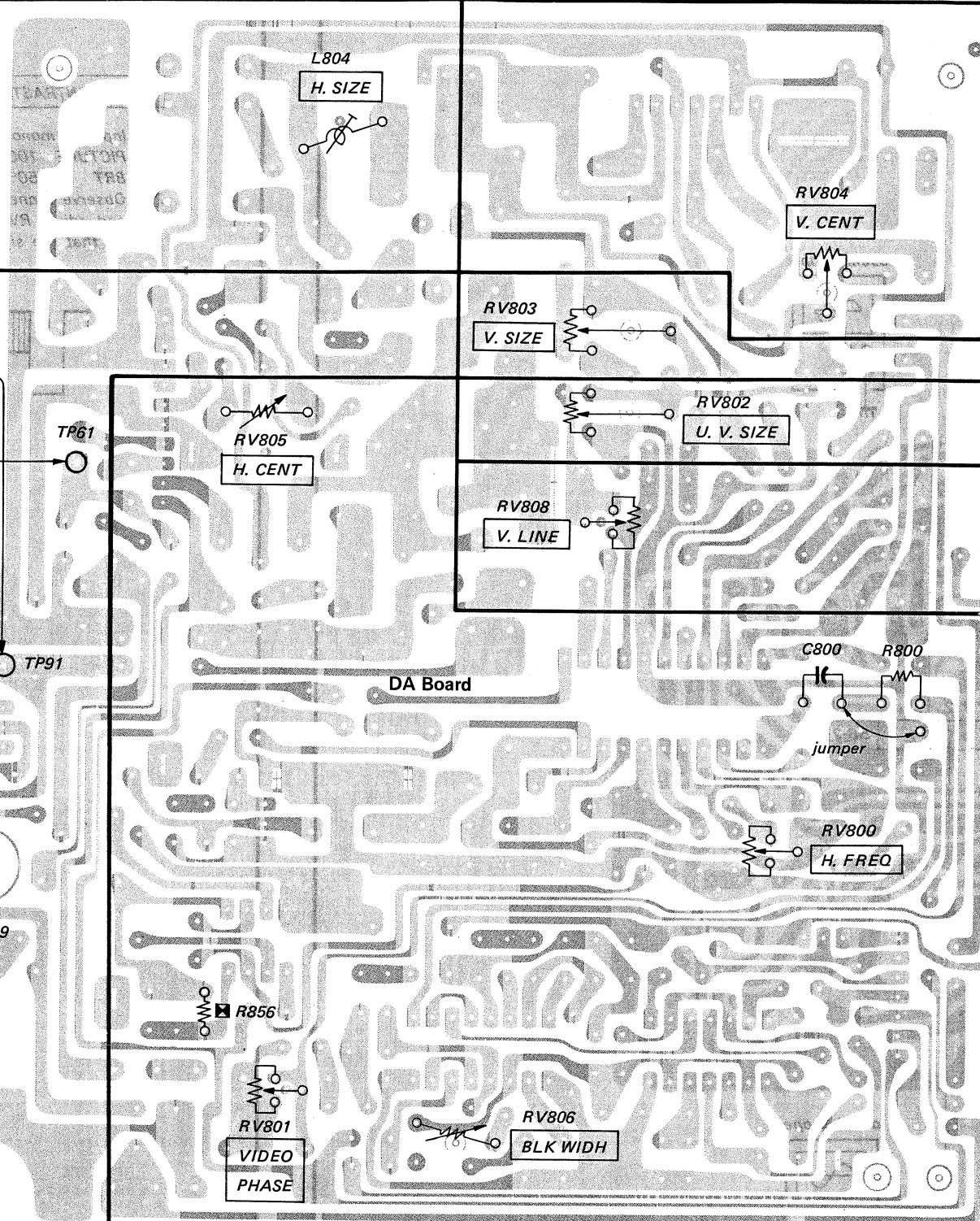
1. Input a monoscope pattern signal.
 PICTURE 80%
 BRT 50%
2. Set the H.SIZE (L804) to obtain a suite



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TMENT

oscope pattern signal.
0%
0%
IZE (L804) to obtain a suitable picture.



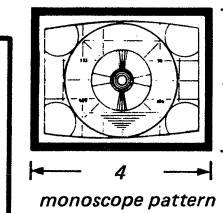
V. CENT ADJUSTMENT

1. Input a monoscope pattern signal.
PICTURE 80%
BRT 50%
2. Adjust with RV804 so that picture is cetered.

V. SIZE ADJUSTMENT

1. Input a monoscope pattern signal.
PICTURE 80%
BRT 50%
2. Set the V.SIZE (RV803) to obtain a suitable picture.

UNDER-SCAN V.SIZE ADJUSTMENT



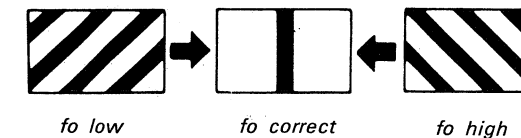
1. Input a monoscope pattern signal.
PICTURE 80%
BRT 50%
SCAN UNDER
2. Adjust UN V.SIZE (RV802) so that the monoscope pattern of H.SIZE and V.SIZE is 4:3.

V. LIN ADJUSTMENT

1. Input a monoscope pattern signal.
PICTURE 80%
BRT 50%
2. Set the V.LIN (RV808) to obtain a suitable picture.

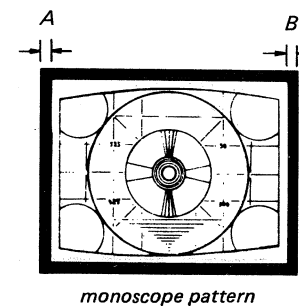
H. FREQ ADJUSTMENT

1. Input a monoscope pattern signal.
PICTURE 80%
BRT 50%
2. Connect to ground C800 and R800 with Jumper.
3. Adjust with RV800 (H.FREQ) as shown in figure.



H BLANKING ADJUSTMENT

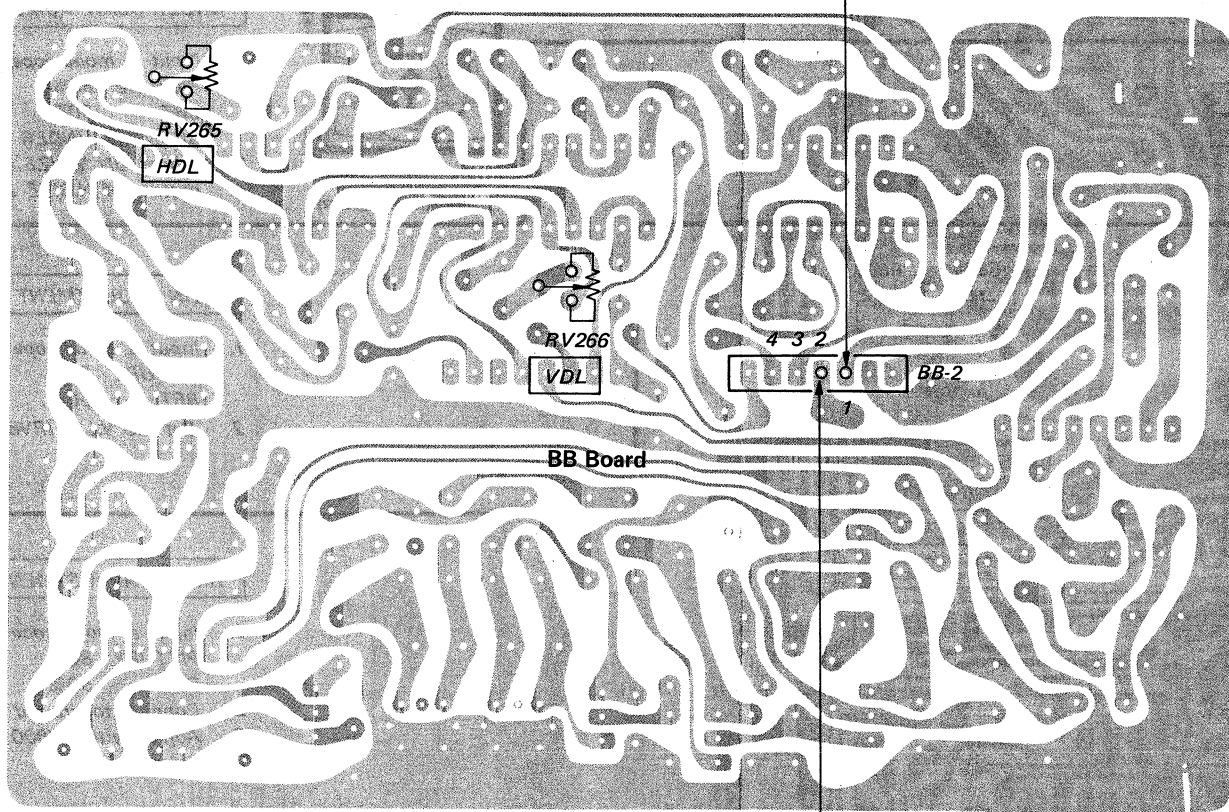
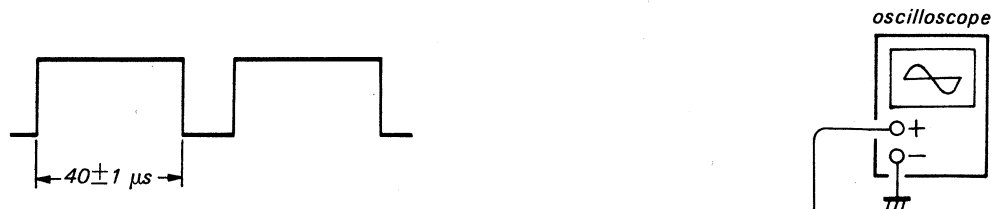
1. Input a monoscope pattern signal.
PICTURE 80%
BRT 50%
SCAN UNDER
2. Adjust VIDEO PHASE (RV801) and H.BLK WIDTH (RV806) to be A=B, as shown in the figure.



4.4. BB BOARD ADJUSTMENTS

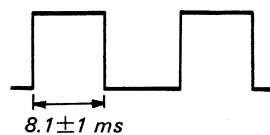
1H DELAY ADJUSTMENT

1. Input a color bar signal.
PICTURE 80%
BRT 50%
2. Observe the connector BB-2 pin ① waveform on the oscilloscope, and adjust RV265 for $40 \pm 1 \mu\text{s}$.



V.DELAY ADJUSTMENT

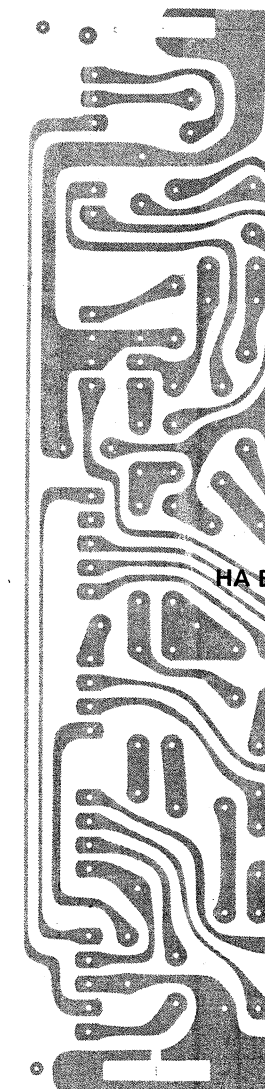
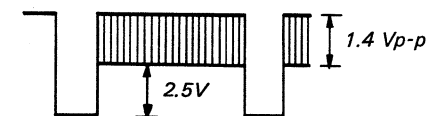
1. Input a color bar signal.
PICTURE 80%
BRT 50%
2. Observe the connector BB-2 pin ② waveform on the oscilloscope, and adjust RV266 for $8.1 \pm 1 \text{ ms}$.



4.5. HA BOARD ADJUSTMENT

SUB CONTRAST ADJUSTMENT

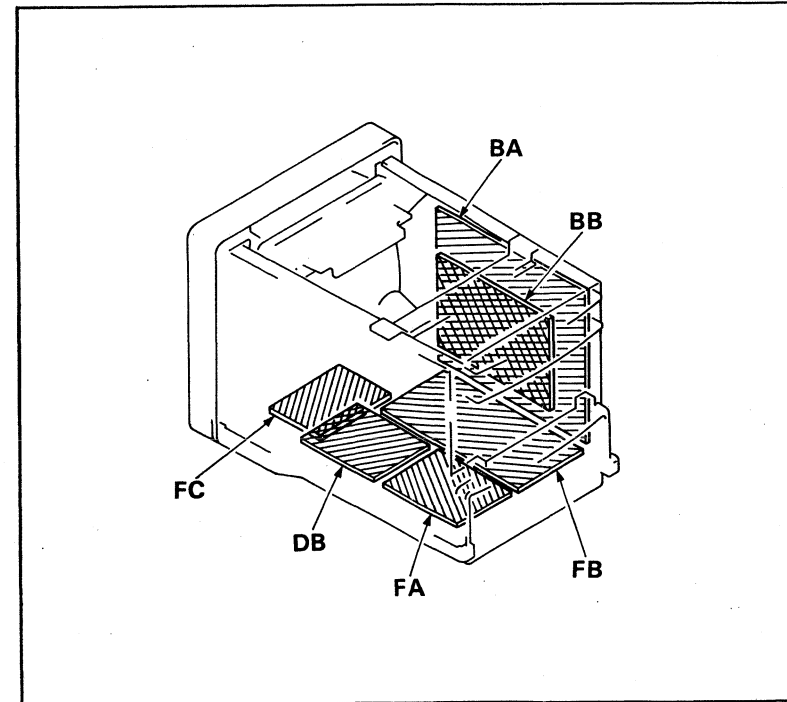
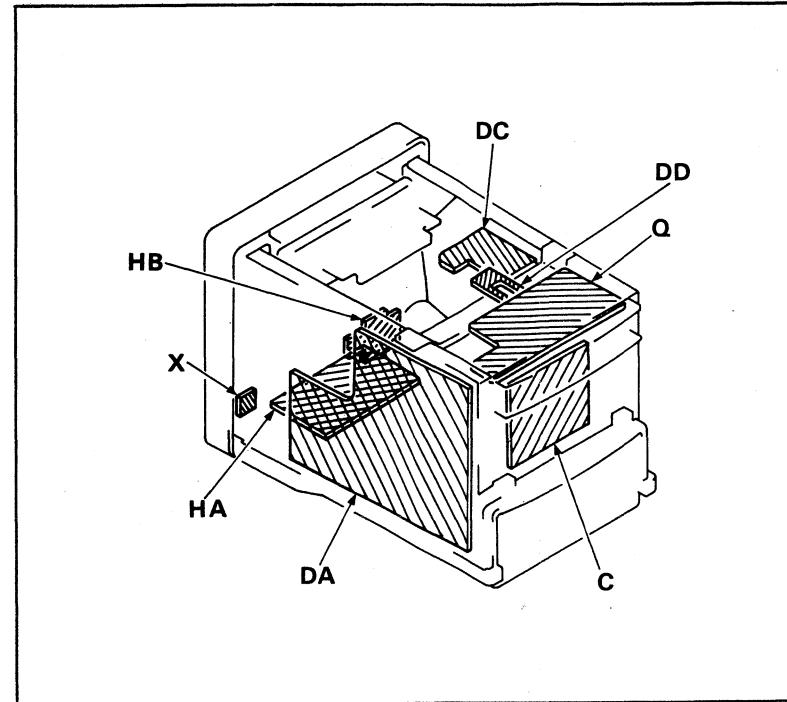
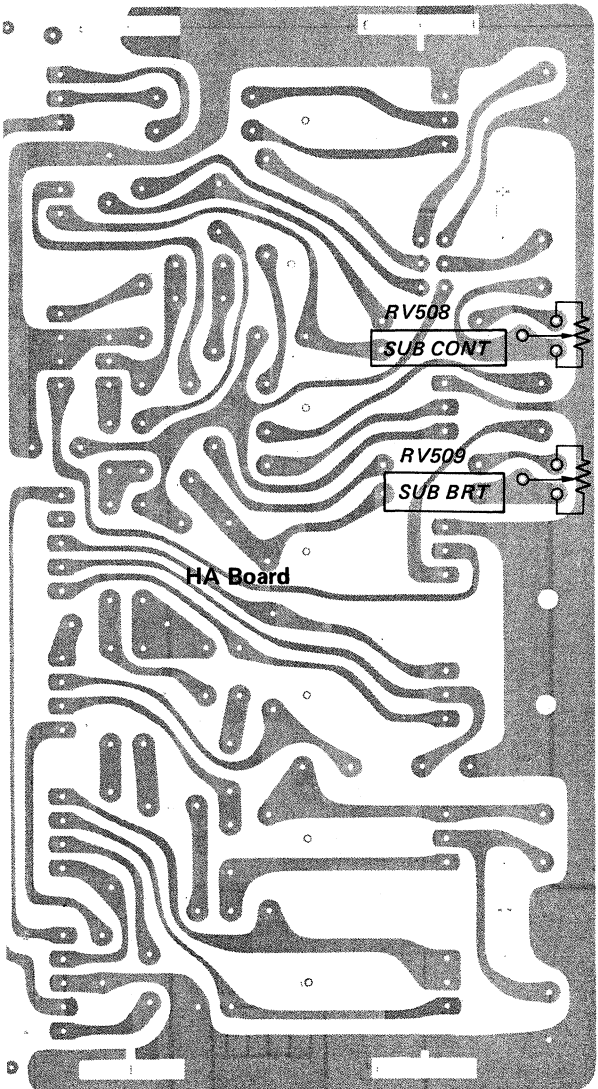
1. Input a monoscope pattern signal.
PICTURE 100%
BRT 50%
2. Observe connector BA-6 pin ③ on the oscilloscope and adjust RV508. So that the signal component is 1.4 V_{p-p} .



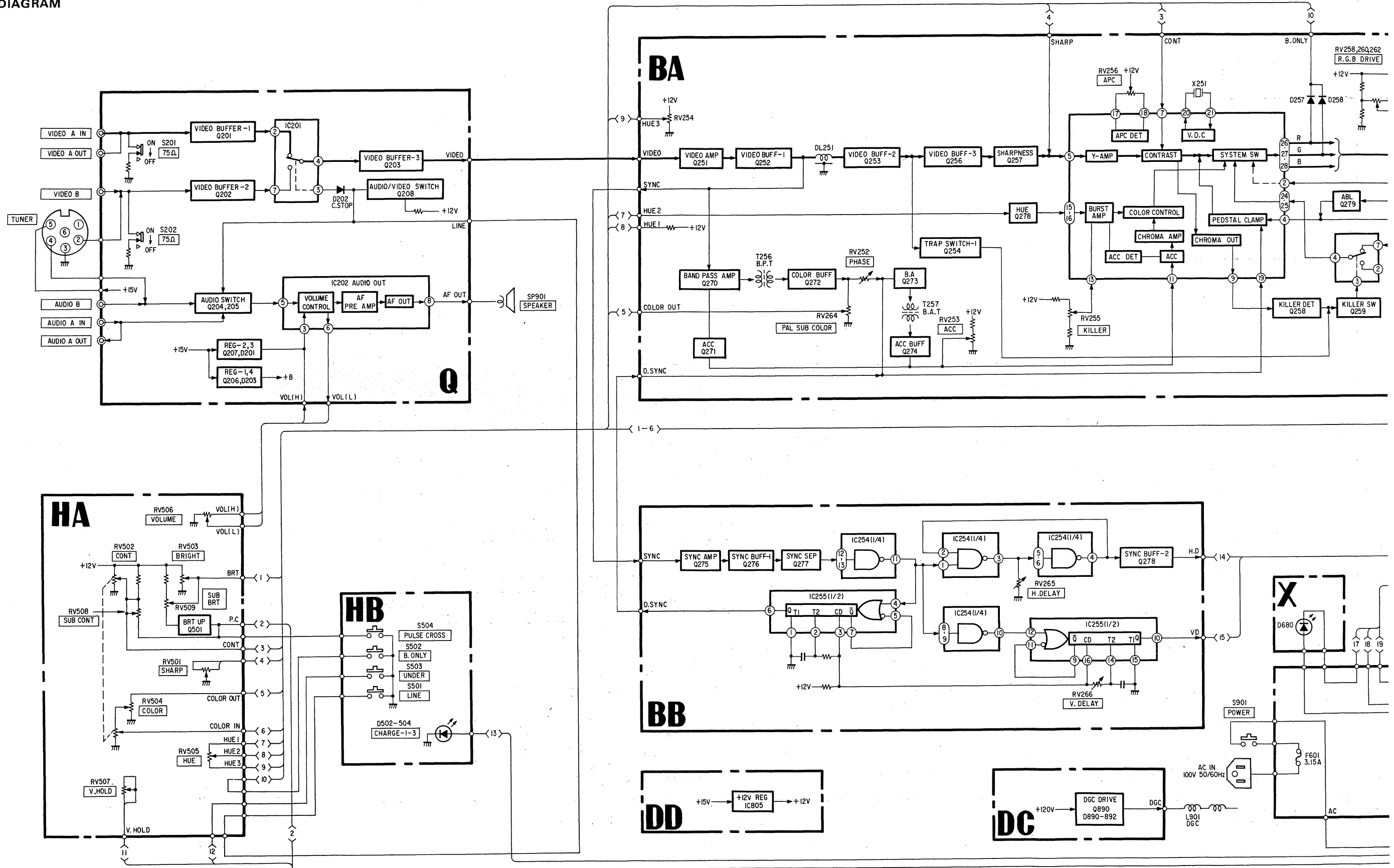
SECTION 5 DIAGRAMS

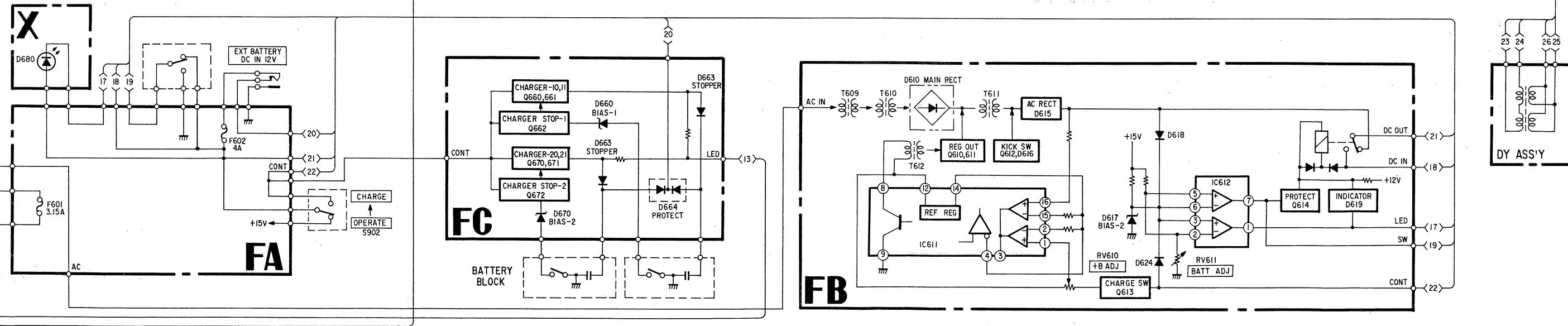
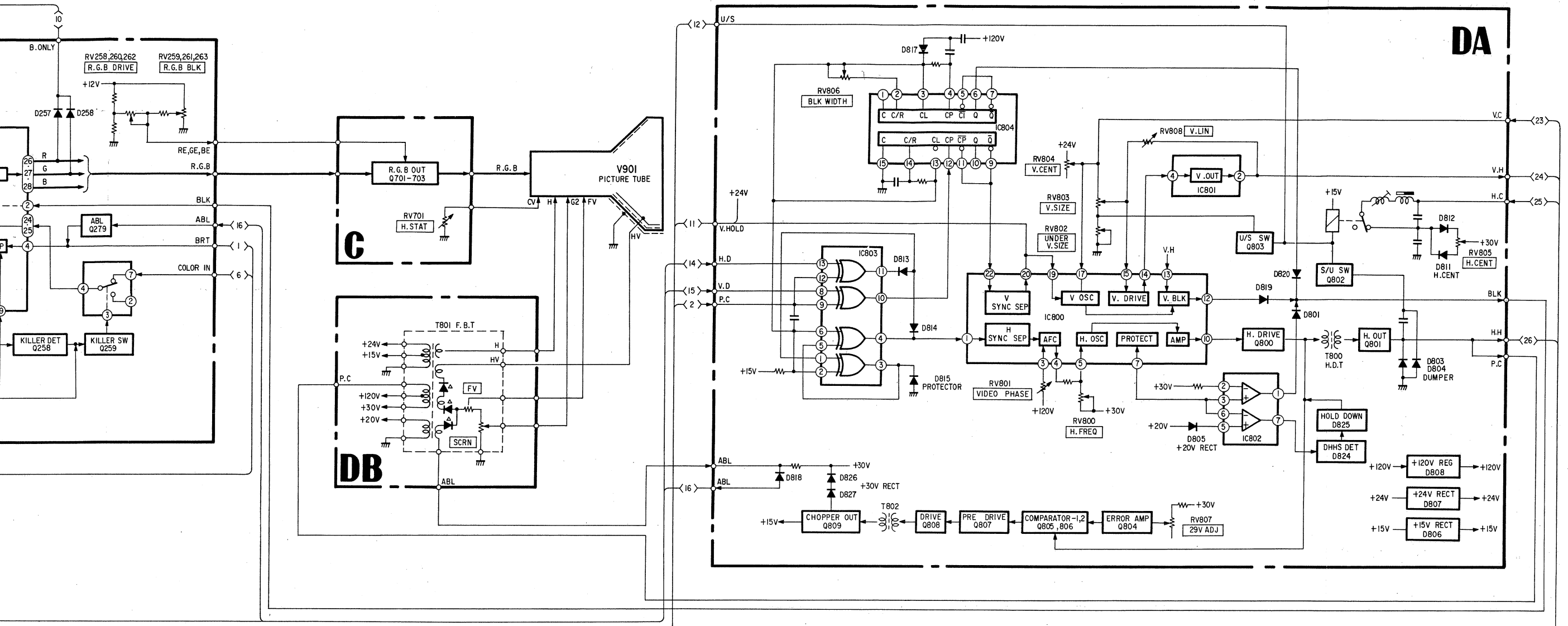
5-1. CIRCUIT BOARDS LOCATION

nal.
on the oscilloscope
is 1.4 Vp-p
1.4 Vp-p











5-2. BLOCK DIAGRAM











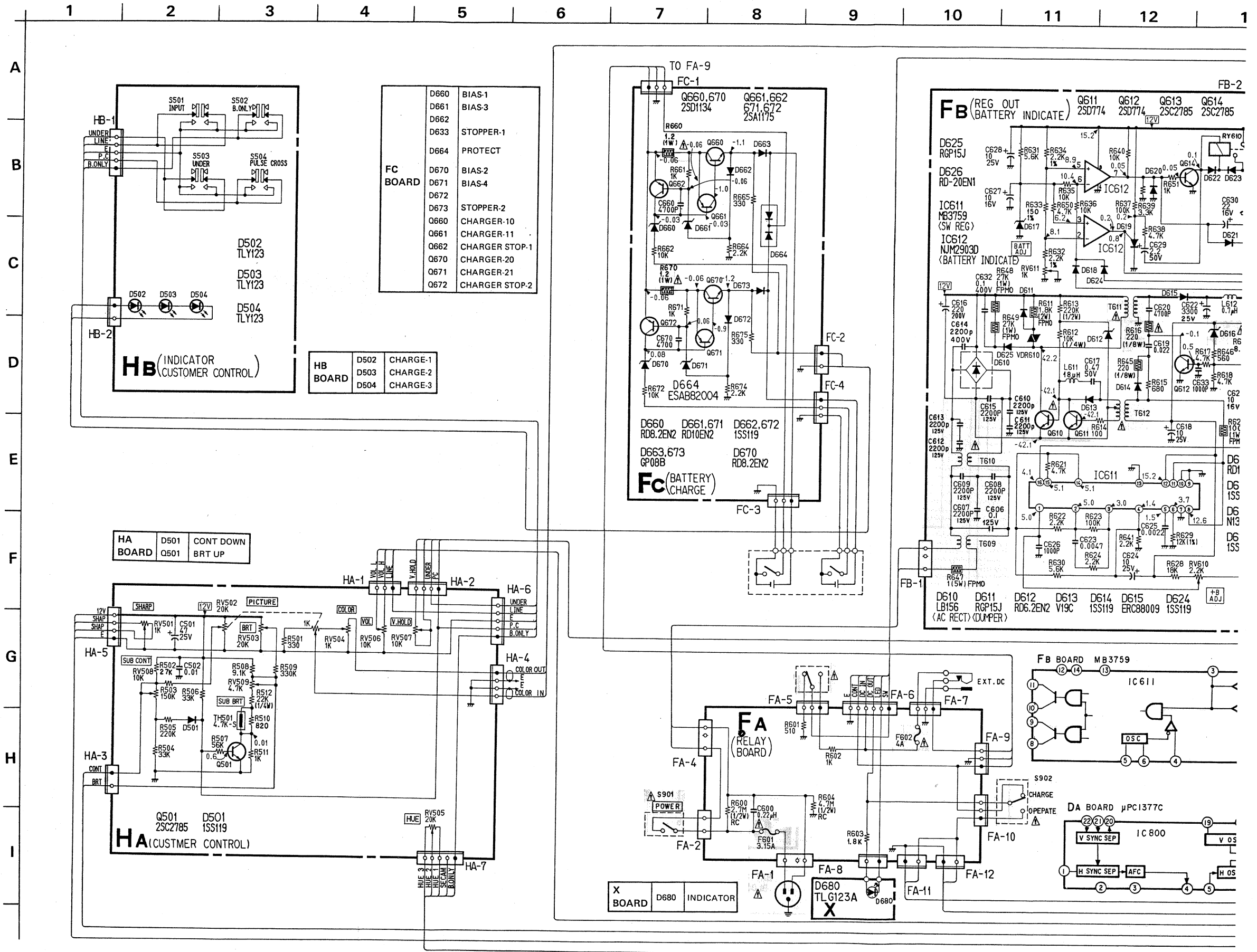
5-3. SCHEMATIC DIAGRAMS

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

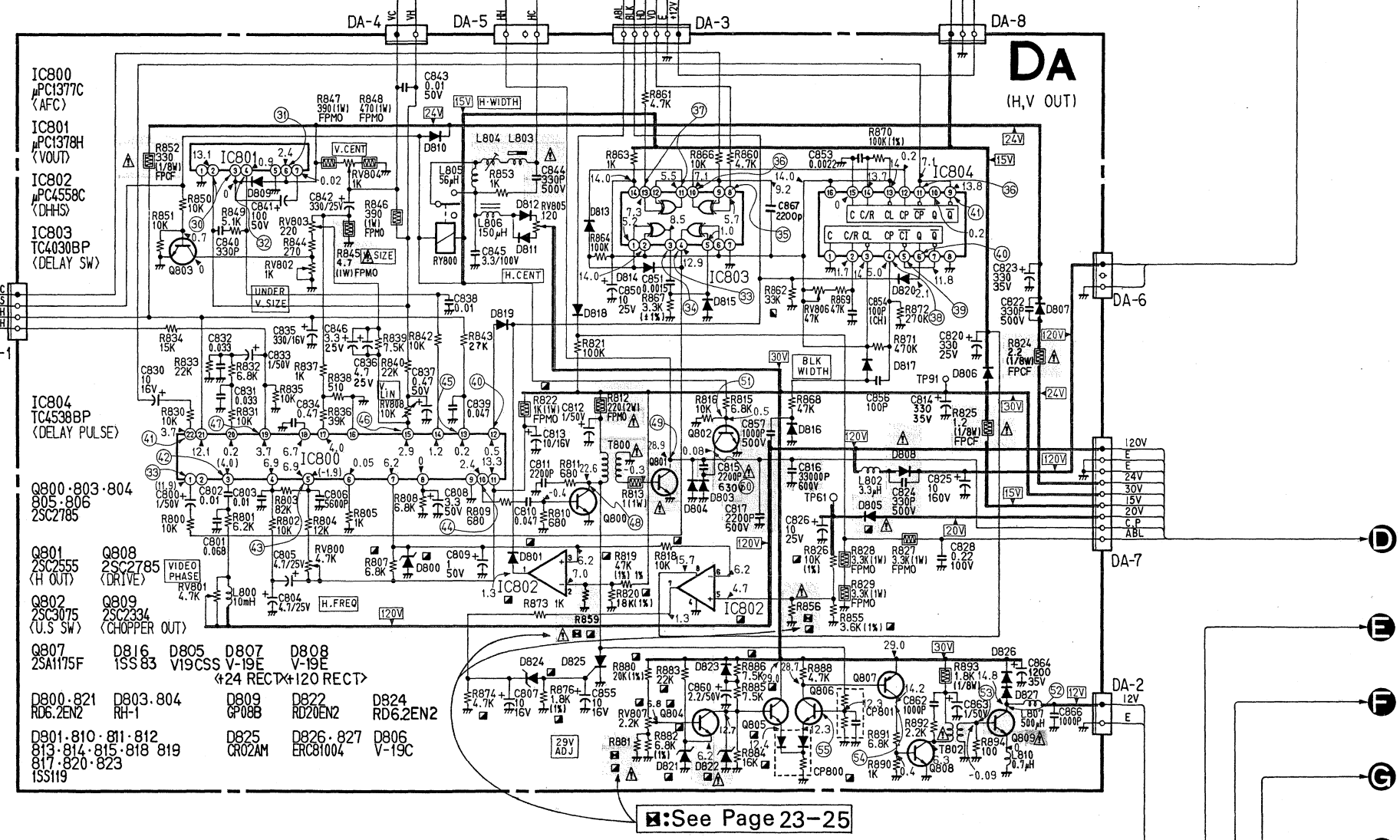
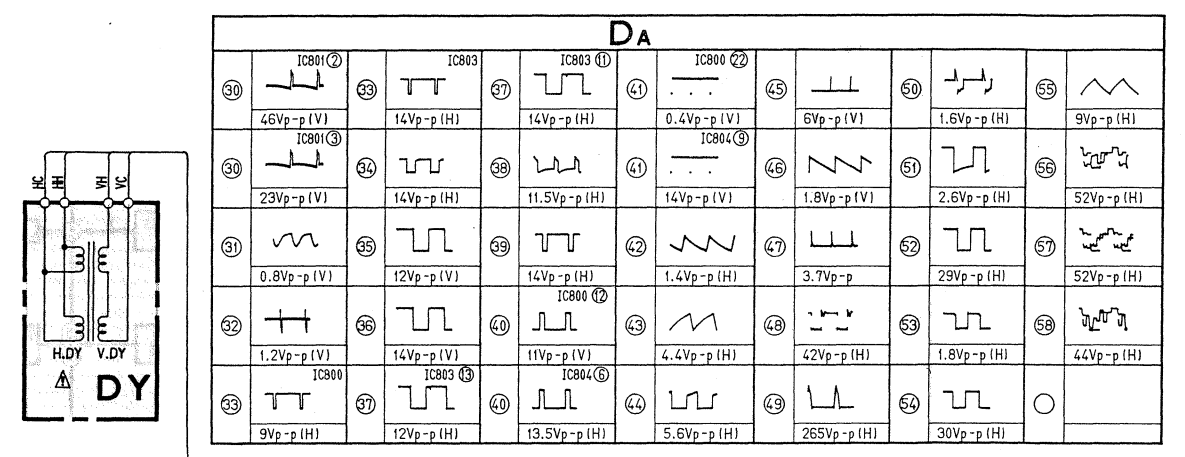
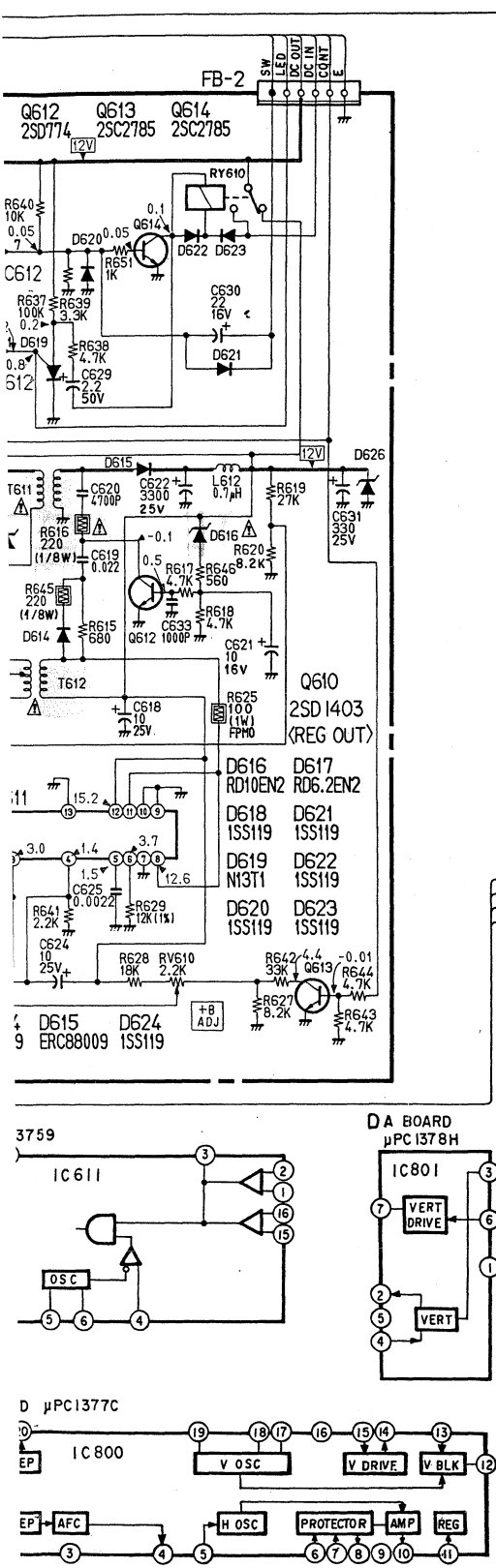
- All capacitors are in μF unless otherwise noted. pF: μF 50WV or less are not indicated except for electrolytics.
 - All resistors are in ohms, 1/6W unless otherwise noted. k Ω : 1000 Ω , M Ω : 1000k Ω
 -  : nonflammable resistor.
 -  : fusible resistor.
 -  : internal component.
 -  : panel designation.
 - The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Select the resistance value according to SAFETY RELATED ADJUSTMENT.
 - 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 R881, R856 and R859 adjustment on page 23, 24.)
- When replacing the part in below table, be shre to per- from the replated adjusment.

Part replaced ()	Adjustment ()
R880, R881, R882, R883, R884, R885, R886, RV807, D821, D822, Q804, Q805, CP800	R881 adjustment
R807, R818, R822, R826, R855, R856, R873, R874, R876, D800, D805, D824, D825, IC802	R856 adjustment
R456, R457, R807, R819, R820, R822, R859, R862, D800, D801, IC253, IC802	R859 adjustment

- All variable and adjustable resistors ahve onaracteristic curve B, unless otherwise noted.
- Readings are taken with a color-bar signal input to LINE A.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10M Ω digital multimeter.
-  : adjustment for repair.
- Voltage variations may be noted due to normal production tolerances.
-  : B+ bus.
-  : B- bus.
-  : Can not be measured.

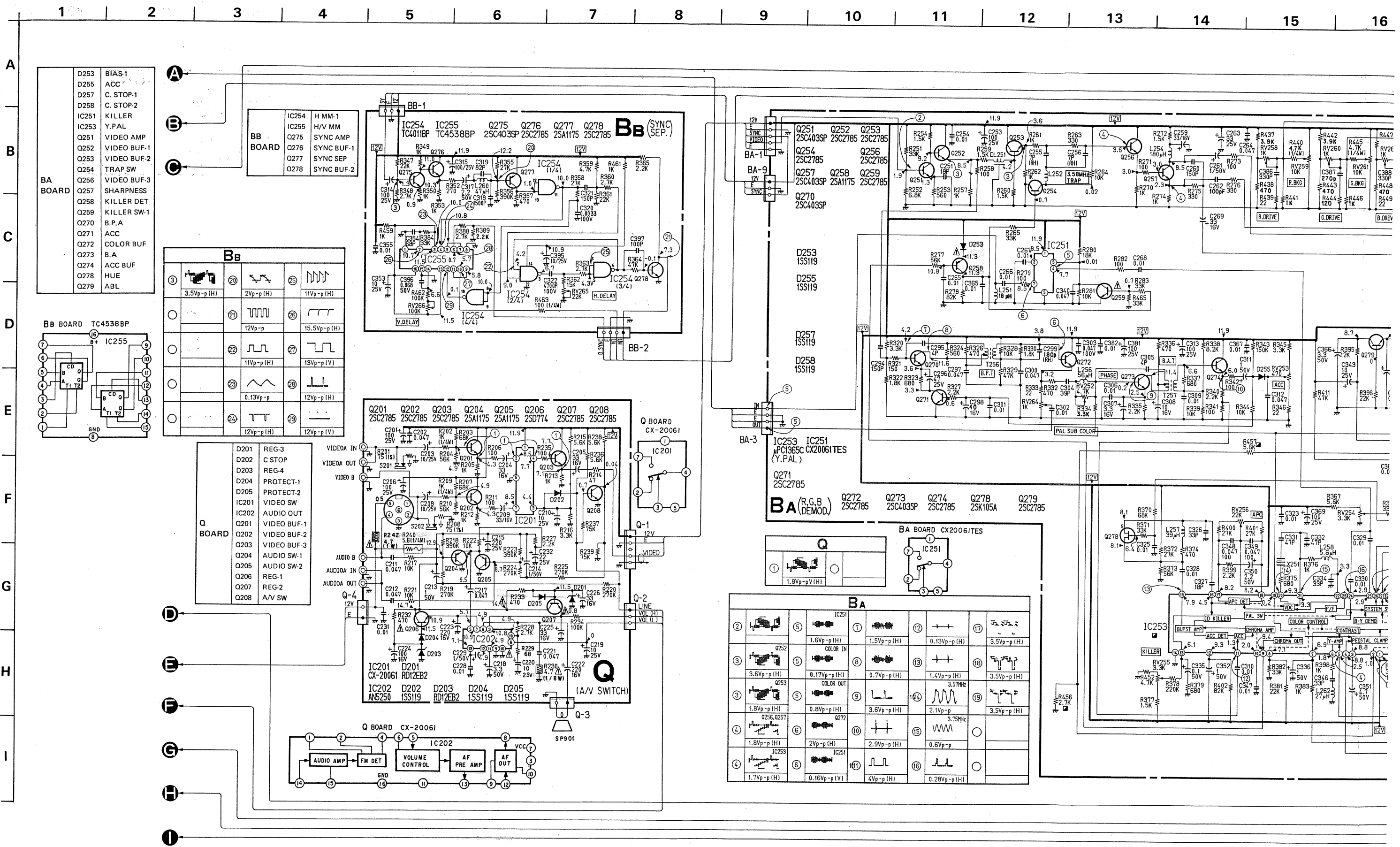


12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27



D610	AC RECT
D611	DUMPER-1
D612	BIAS-1
D613	PROTECT
D614	DUMPER-3
D615	RECT
D616	C. STOP-3
D617	BIAS-2
D618	C. STOP-2
D619	INDICATOR
D620	DISCHARGE
D621	DISCHARGER
D622	DUMPER-4
D623	DUMPER-5
D624	C. STOP-1
D625	DUMPER-2
D626	
IC611	SW REG
IC612	BATTERY INDICATE
Q610	REG OUT
Q611	DRIVE
Q612	KICK SW
Q613	CHARGE SW
Q614	PROTECT

D800	BIAS-1
D801	STOPPER-1
D802	
D803	DUMPER-1
D804	DUMPER-2
D805	20V RECT
D806	15V RECT
D807	+24 RECT
D808	+120 RECT
D809	PROTECTOR
D810	PROTECTOR
D811	H. CENT-1
D812	H. CENT-2
D813	STOPPER-2
D814	STOPPER-3
D815	PROTECTOR
D817	STOPPER-4
D818	ABL
D819	STOPPER-6
D820	STOPPER-5
D821	BIAS-2
D822	STOPPER
D823	PROTECTOR
D824	DHHS DET
D825	HOLD DOWN
D826	30V RECT
D827	30V RECT
IC800	AFC
IC801	V OUT
IC802	DHHS
IC803	DELAY SW
IC804	DELAY PULSE
Q800	H DRIVE
Q801	H OUT
Q802	U/S SW
Q803	U/S SW
Q804	ERROR AMP
Q805	COMPARATOR-1
Q806	COMPARATOR-2
Q807	PRE DRIVE
Q808	DRIVE
Q809	CHOPPER OUT



BA BOARD

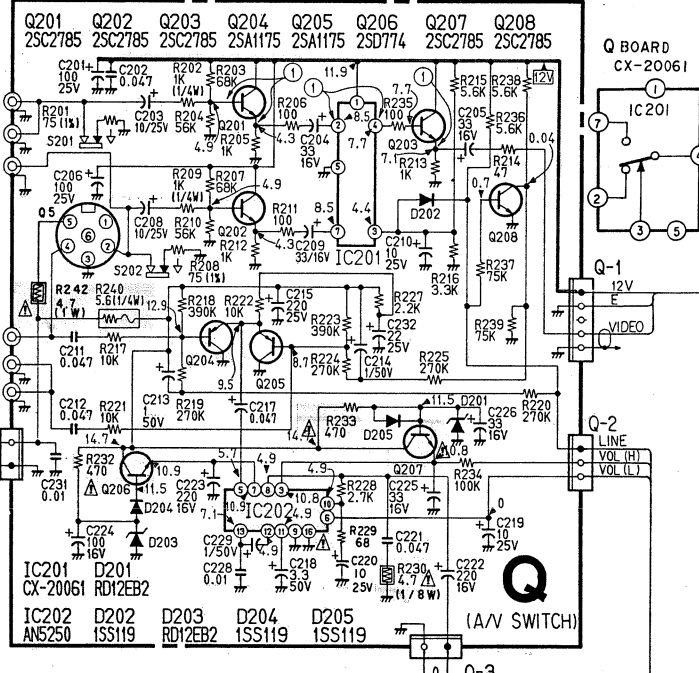
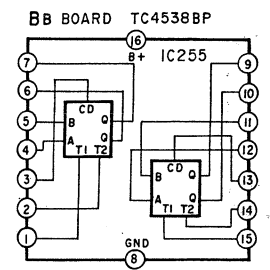
D253	BIAS-1
D255	ACC
D257	C. STOP-1
D258	C. STOP-2
IC251	KILLER
IC253	Y.PAL
Q251	VIDEO AMP
Q252	VIDEO BUF-1
Q253	VIDEO BUF-2
Q254	TRAP SW
Q256	VIDEO BUF-3
Q257	SHARPNESS
Q258	KILLER DET
Q259	KILLER SW-1
Q270	B.P.A
Q271	ACC
Q272	COLOR BUF
Q273	B.A
Q274	ACC BUF
Q278	HUE
Q279	ABL

BB BOARD

IC254	H MM-1
IC255	H/V MM
Q275	SYNC AMP
Q276	SYNC BUF-1
Q277	SYNC SEP
Q278	SYNC BUF-2

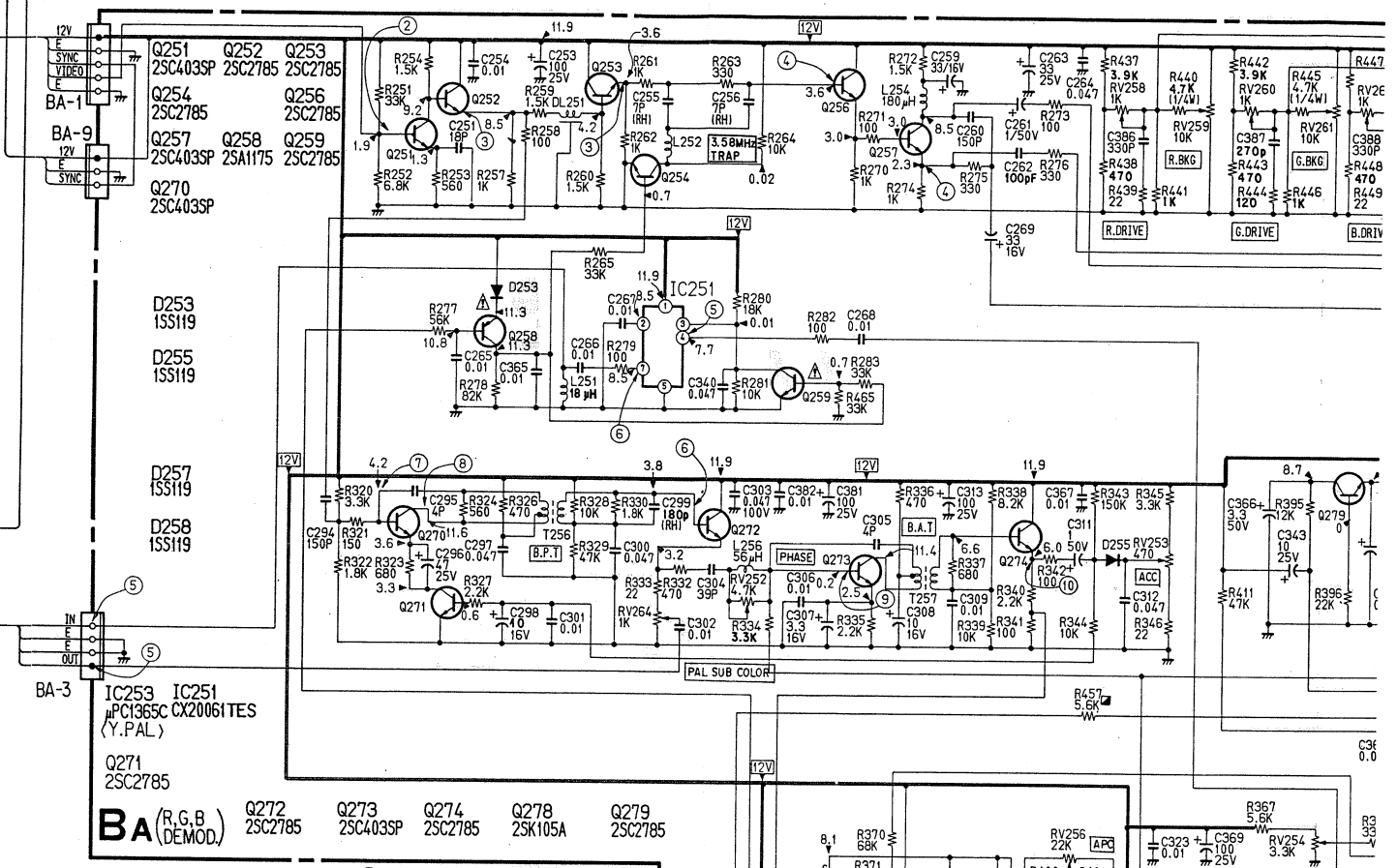
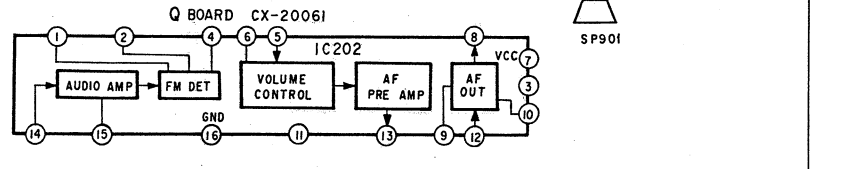
Bb

③	3.5Vp-p (H)	②①	2Vp-p (H)	②⑤	11Vp-p (H)
④		②②	12Vp-p	②⑥	15.5Vp-p (H)
⑤		②③	11Vp-p (H)	②⑦	13Vp-p (V)
⑥		②④	0.13Vp-p	②⑧	12Vp-p (H)
⑦		②⑨	12Vp-p (H)	②⑨	12Vp-p (V)



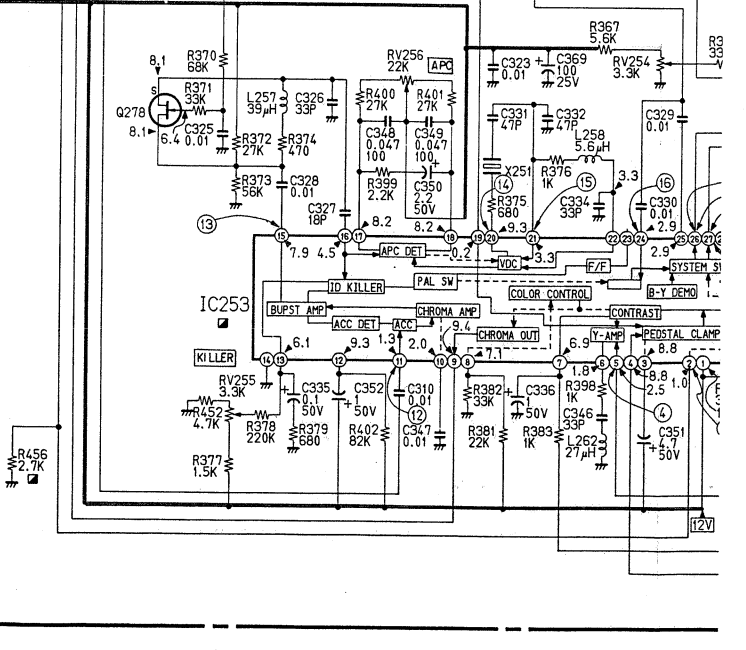
Q BOARD

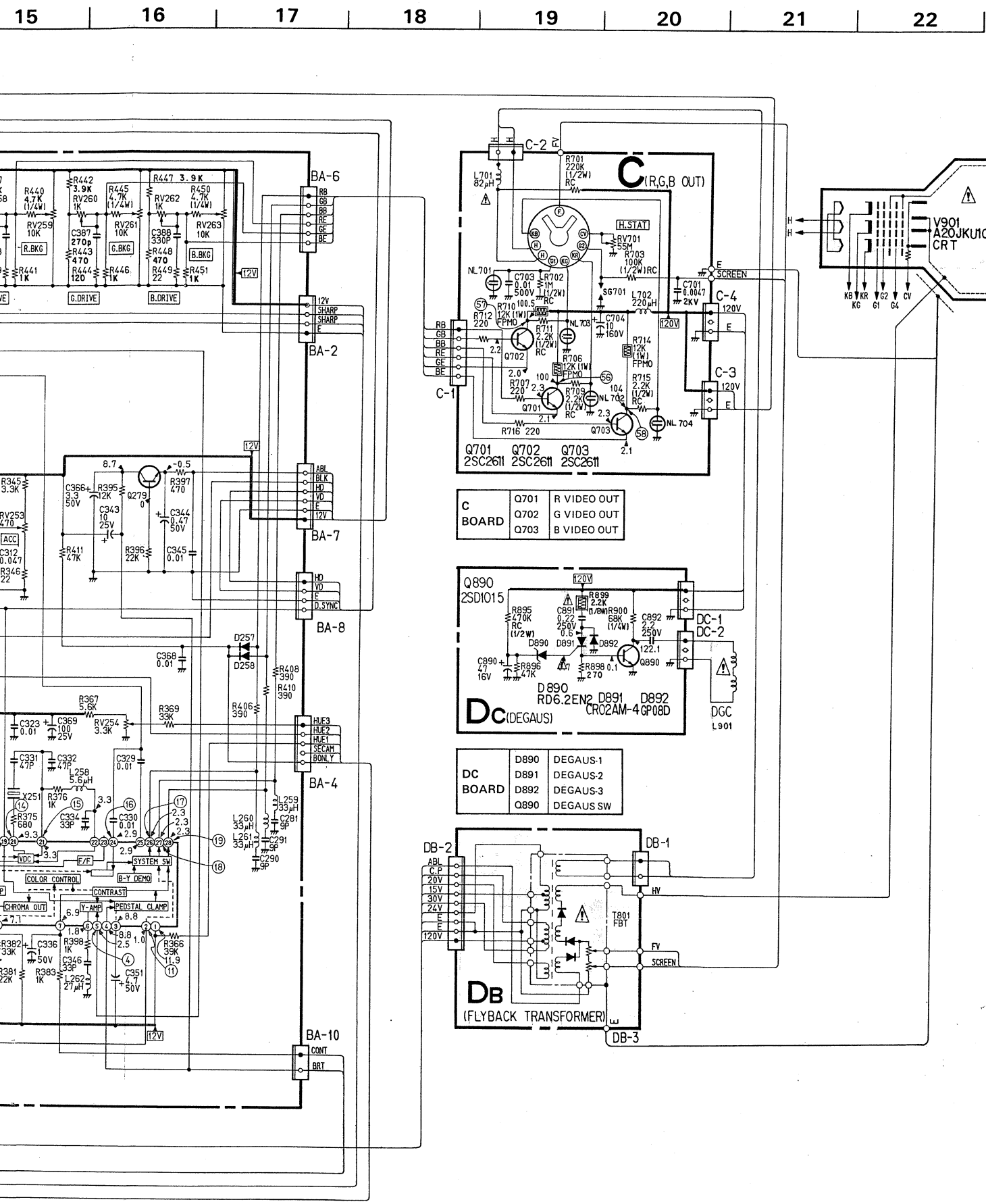
D201	REG-3
D202	C STOP
D203	REG-4
D204	PROTECT-1
D205	PROTECT-2
IC201	VIDEO SW
IC202	AUDIO OUT
Q201	VIDEO BUF-1
Q202	VIDEO BUF-2
Q203	VIDEO BUF-3
Q204	AUDIO SW-1
Q205	AUDIO SW-2
Q206	REG-1
Q207	REG-2
Q208	A/V SW



BA BOARD CX20061TES

②	1.6Vp-p (H)	⑦	1.5Vp-p (H)	⑫	0.13Vp-p (H)	⑮	3.5Vp-p (H)
③	3.6Vp-p (H)	⑧	0.17Vp-p (H)	⑬	1.4Vp-p (H)	⑯	3.5Vp-p (H)
④	1.8Vp-p (H)	⑨	0.7Vp-p (H)	⑭	3.5Vp-p (H)	⑰	3.5Vp-p (H)
⑤	0.8Vp-p (H)	⑩	3.6Vp-p (H)	⑰	2.1Vp-p	⑱	3.5Vp-p (H)
⑥	2Vp-p (H)	⑪	2.9Vp-p (H)	⑱	0.6Vp-p		
⑧	0.8Vp-p (H)						
⑨	0.16Vp-p (V)						
⑩							
⑪							
⑫							
⑬							
⑭							
⑮							
⑯							
⑰							
⑱							





5-4. SEMICONDUCTORS

<p>AN5250</p> <p>(Marking side view)</p>	<p>μPC1365C</p> <p>(Top view)</p>	<p>2SA933S 2SC1740S</p> <p>E C B</p>	<p>2SD774</p> <p>E C B</p>	<p>CRO2AM-4 CRO2AM-8</p> <p>gate anode cathode</p>	<p>RDG15J</p> <p>anode cathode</p>
<p>CX-20061</p> <p>1 2 3 4 5 6 7 8</p>	<p>μPC1377C</p> <p>(Top view)</p>	<p>2SC2334 2SD1134</p> <p>B C E</p>	<p>2SD1015 2SD789</p> <p>E C B</p>	<p>ERC24-06S GP08B RH-1 RH-1A</p> <p>cathode anode</p>	<p>TLG123A TLY123</p> <p>long - short anode cathode</p>
<p>HD14011BP HD14538BP TC4011BP TC4030BP μPD4030BC</p> <p>(Top view)</p>	<p>μPC1378H-L</p> <p>(Top view)</p>	<p>2SC2456 2SC2611</p> <p>letter side E C B</p>	<p>2SK105A</p> <p>S G D</p>	<p>ERC88-009</p> <p>cathode anode</p>	<p>U05G</p> <p>cathode anode</p>
<p>HD14538BP TC4538BP</p> <p>(Top view)</p>	<p>μPC78M12H</p> <p>1 2 3 4 5 6 7 8 9</p>	<p>2SC2555</p> <p>B C E</p>	<p>1S583 1S1555 1S2076 ERC81-004 HZ11A HZ18 HZ6C2 RD10E-N2 RD12EB2 RD20E-N1 RD20E-N2 RD20E-N3 RD20E-N4 RD6.2E-N2 RD8.2E-N2</p> <p>cathode anode</p>	<p>ESAB82-004 ESAC82-004</p> <p>anode cathode</p>	<p>V19C V19CSS V19E</p> <p>anode cathode</p>
<p>MB3759-SNY</p> <p>(Top view)</p>	<p>2SA1048 2SA1115 2SC2458 2SC2603 2SC403SP</p> <p>E C B</p>	<p>2SC3075</p> <p>B C E</p>	<p>LB156</p> <p>cathode anode</p>	<p>N13T1</p> <p>anode gate cathode</p>	
<p>NJM2903D NJM4558C μPC4558C</p> <p>(Top view)</p>	<p>2SA1175 2SC2785</p> <p>letter side E C B</p>	<p>2SD1403</p> <p>B C E</p>	<p>1S5119 1S5133 1S5148</p> <p>cathode anode</p>		

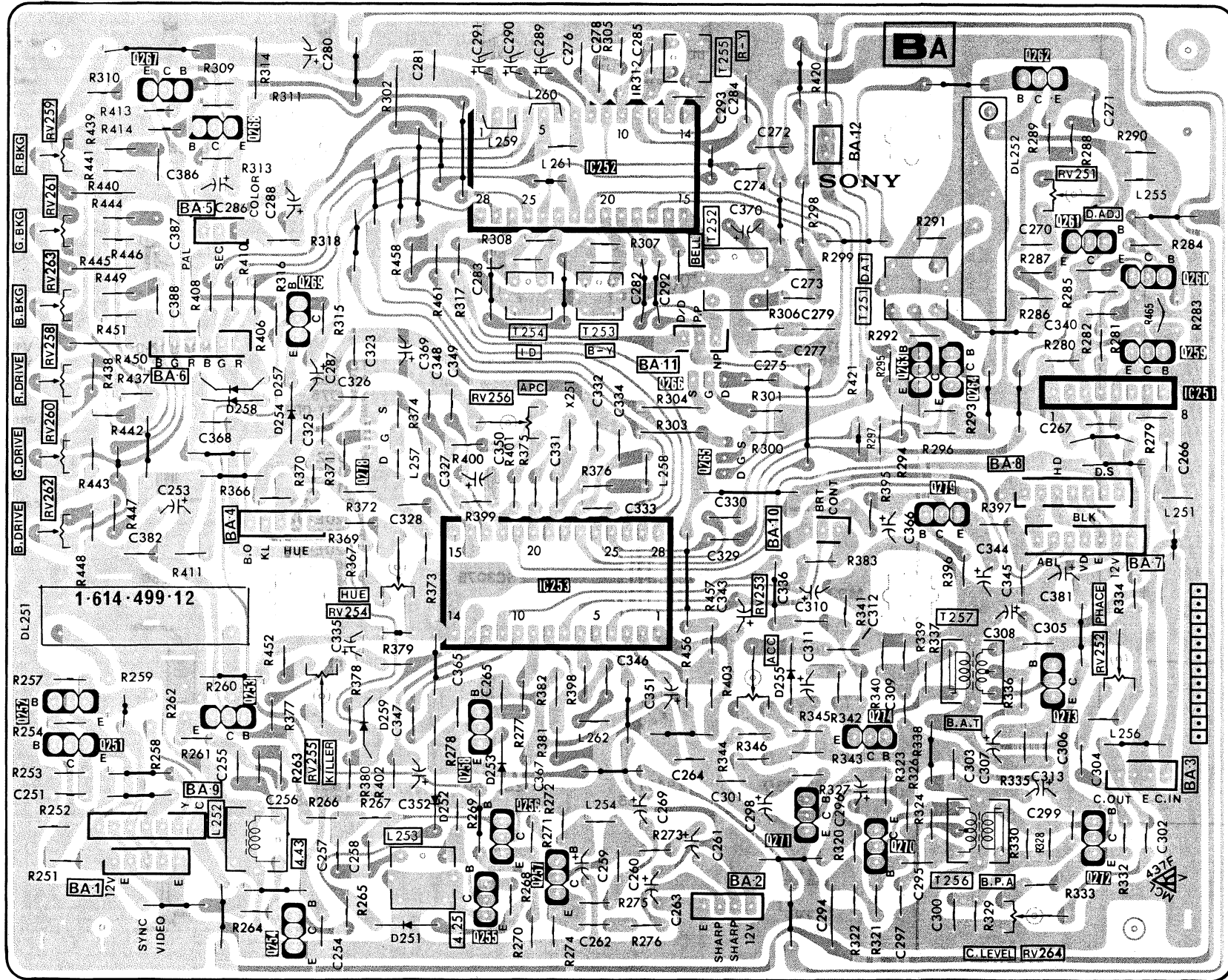
5-5. PRINTED WIRING BOARDS
— Conductor Side —

BA [R.G.B DEMOD] **BB** [SYNC SEP] **PVM-8020** VF-501 **PVM-8020** VF-501 **Q** [A/V SWITCH] **C** [R.G.B OUT] **DC** [DEGAUS] **HA** [CUSTMER CONTROL] **HB** [INDICATOR, CUSTOMER CO]

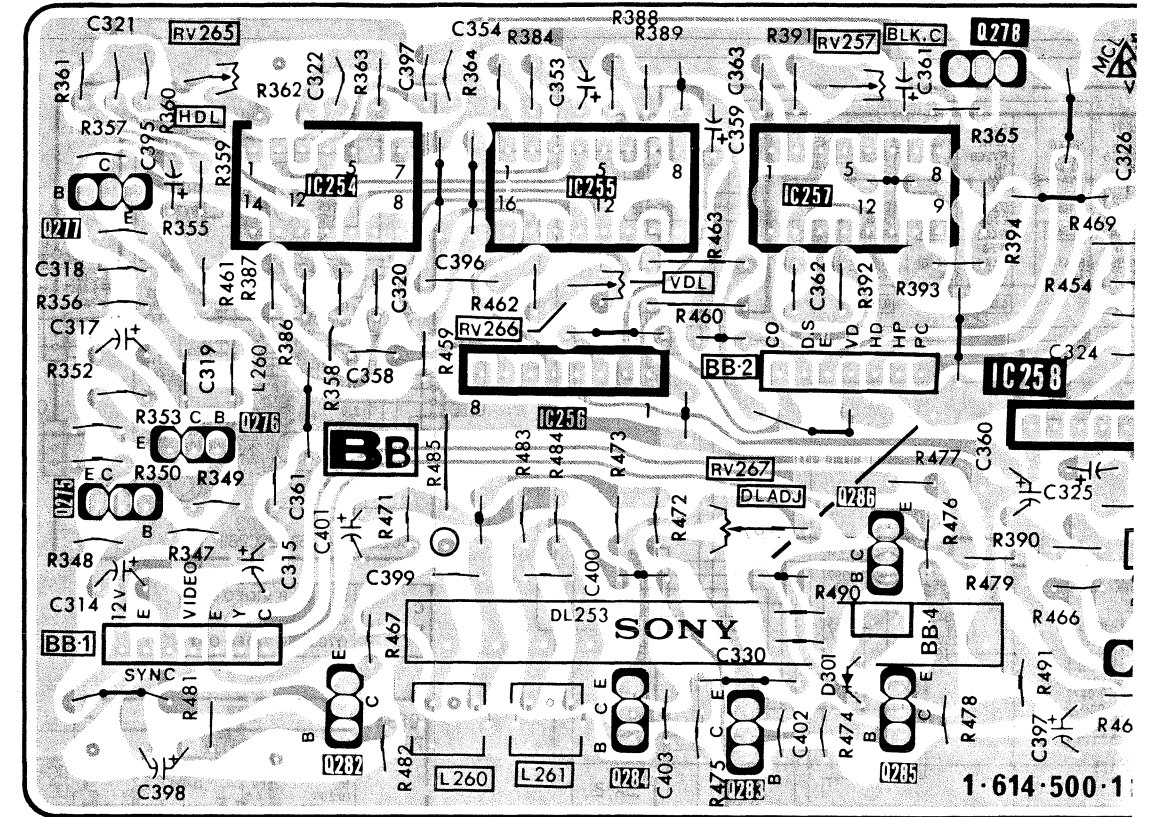
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

— BA Board —

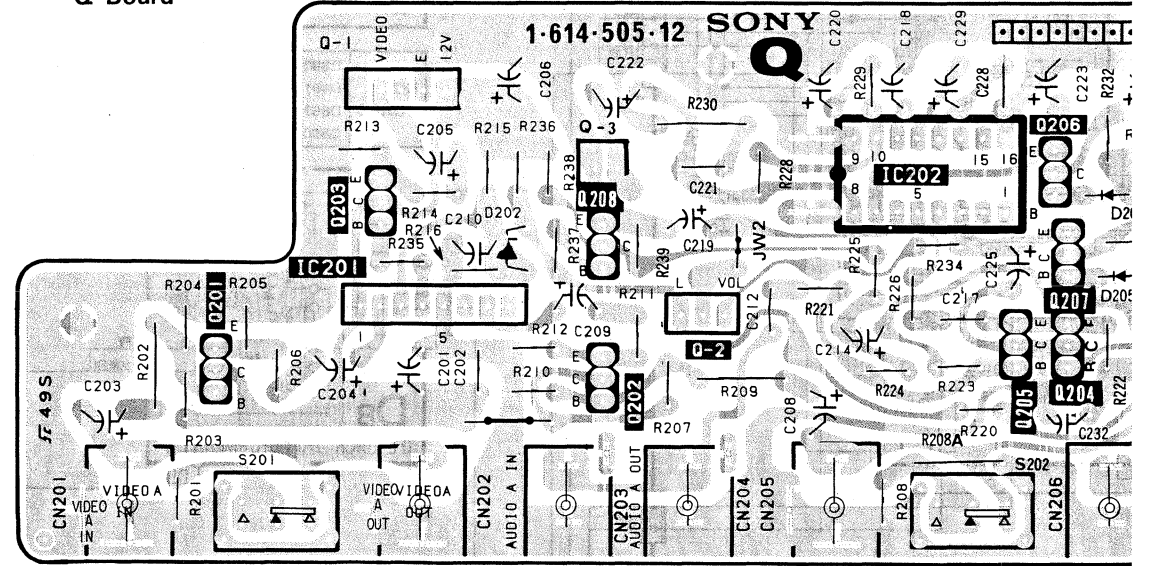
Q	267	268	269	278	IC252	262	261	260	Q
IC	252	253	254	255	IC253	263	264	259	IC
D		257	254	259	251	271	274	272	D
ADJ	RV258	RV263	RV255	RV254	RV256	RV251	RV252	RV264	ADJ



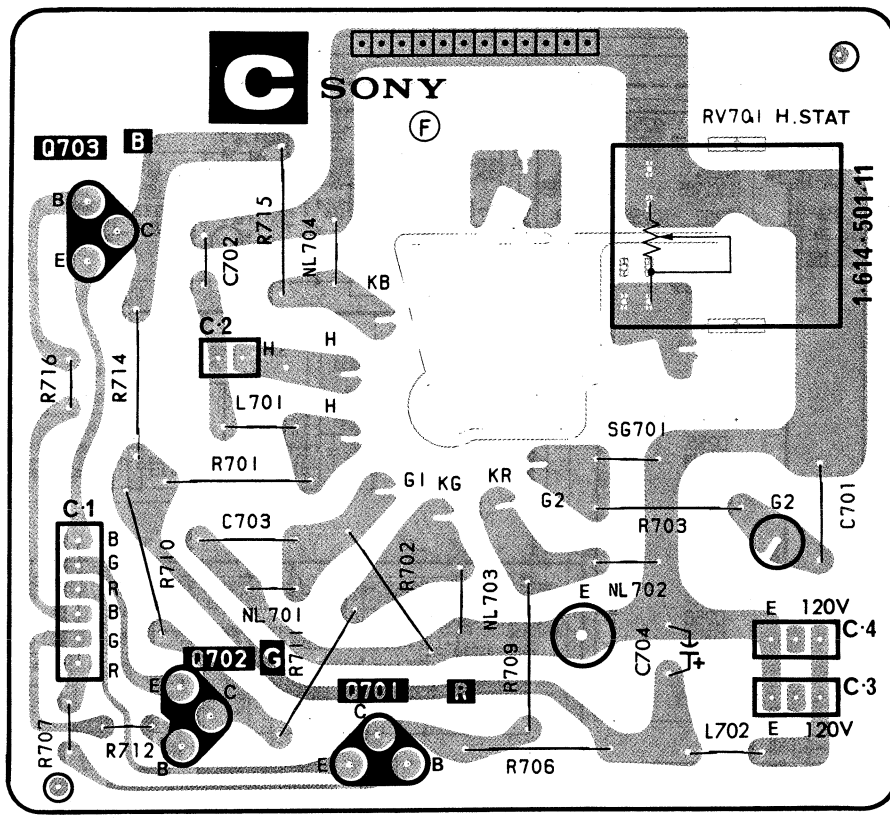
— BB Board —



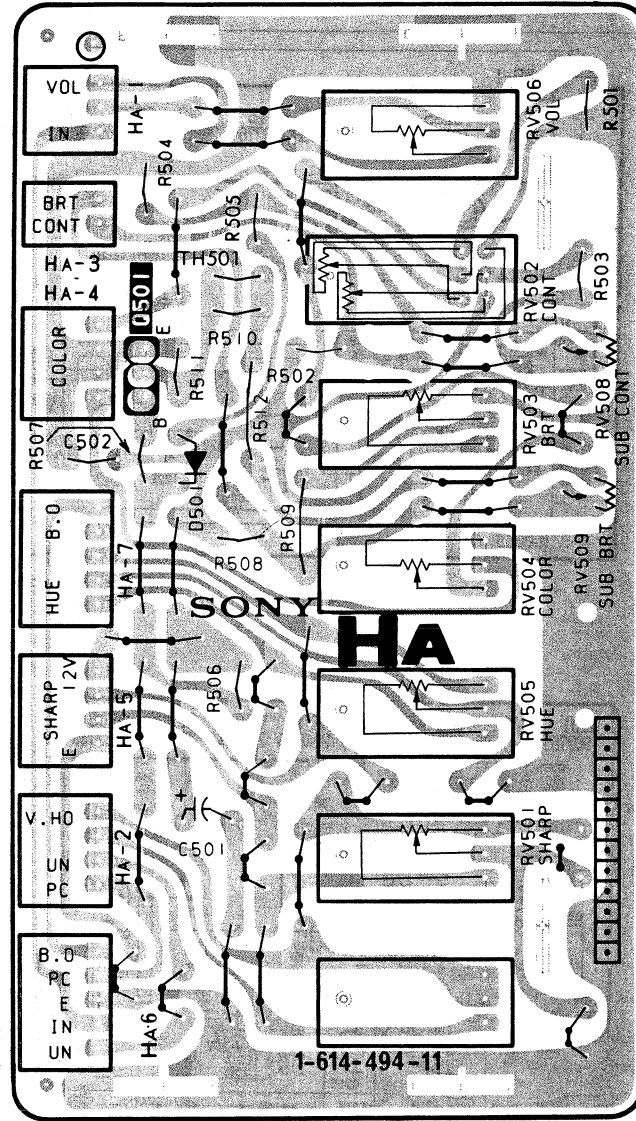
— Q Board —



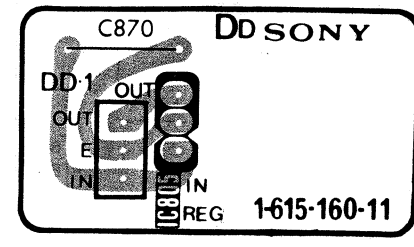
— C Board —



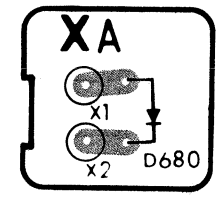
— HA Board —



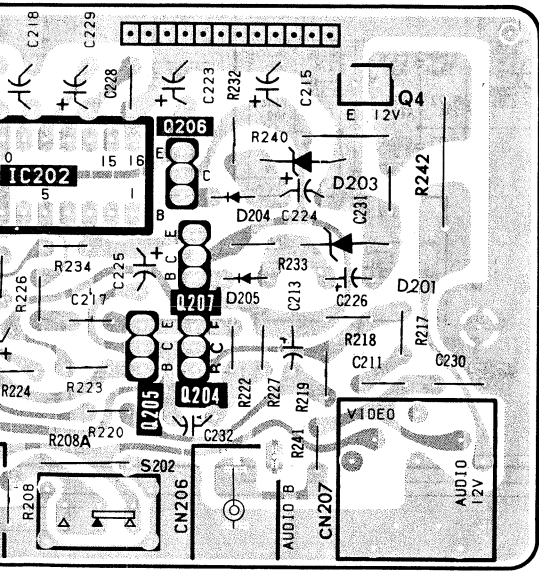
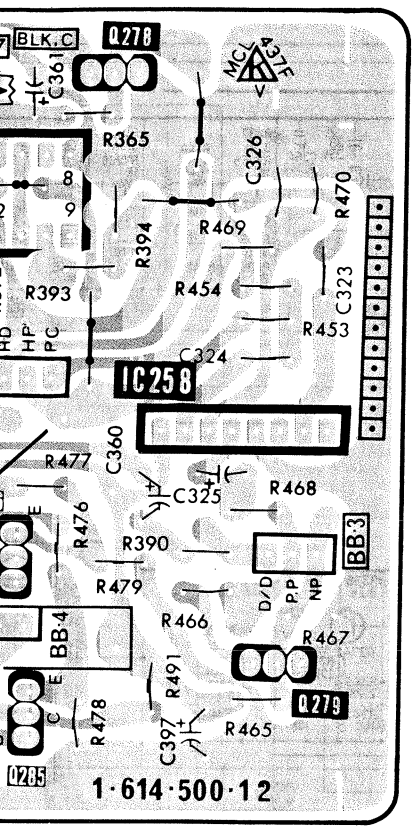
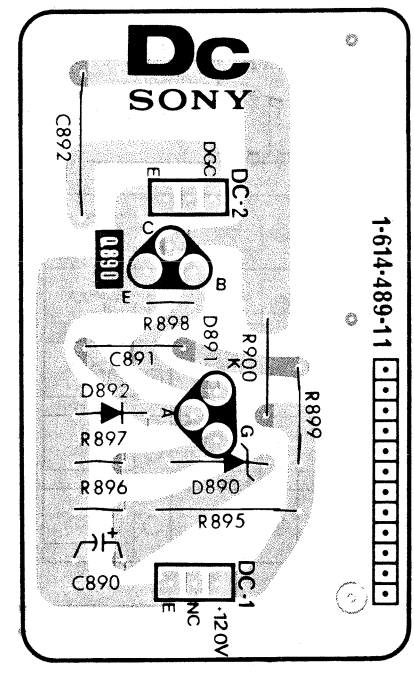
— DD Board —



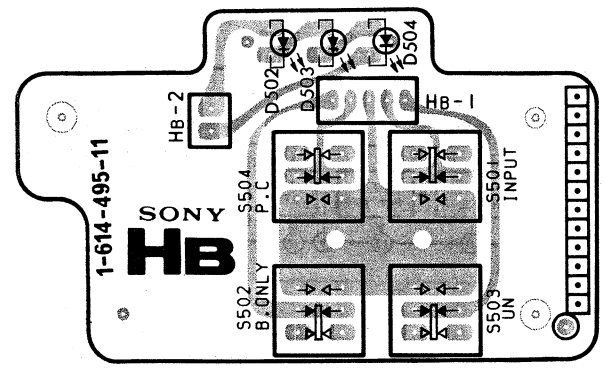
— XA Board —



— DC Board —



— HB Board —



DA

[H.V. OUT]

FB[REG OUT,
BATTERY INDICATE]**FA**

[RELAY]

FC

[BATTERY CHARGE]

PVM-8020
VF-501**PVM-8020**
VF-501**DB**

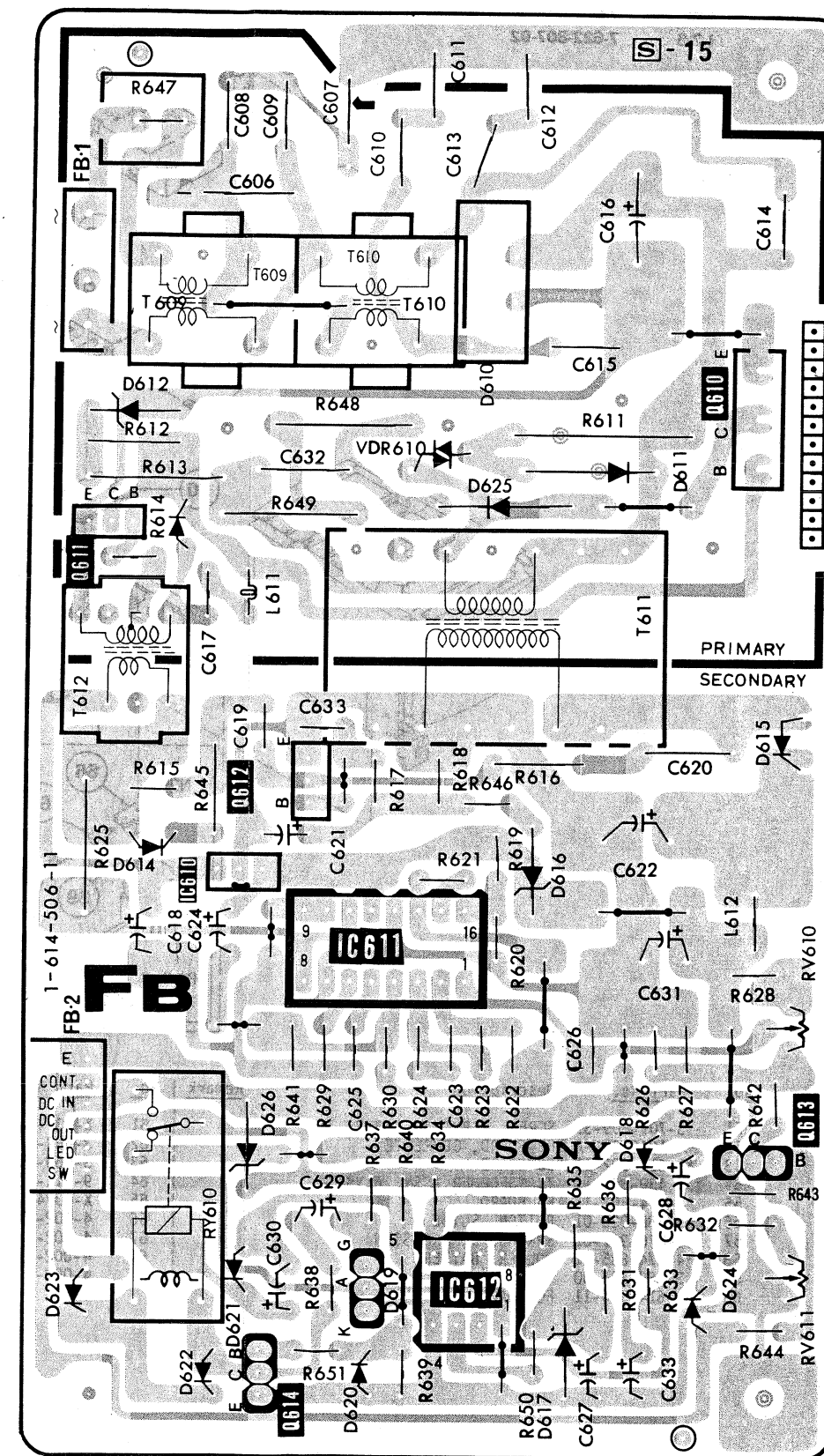
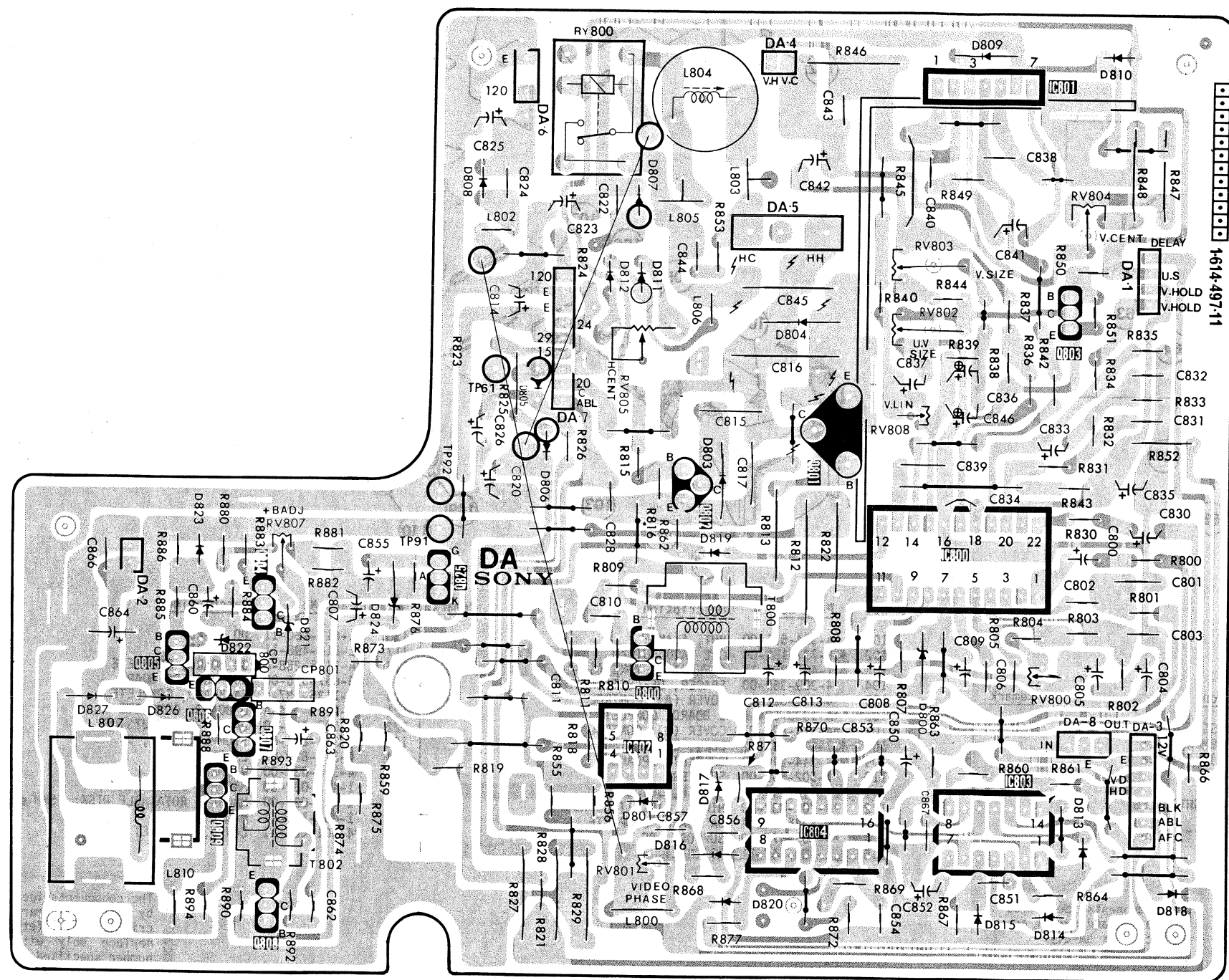
[FLYBACK TRANSFORMER]

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

— DA Board —

Q																Q
IC	805	806	807	804	825		800		802	801		IC 801		803	IC	
	809	808	808	808			IC802	IC804				IC800	IC803			
D	827	826	823	822	821	824	808	805	806	812	807	811	819	803	810	
										801	816	817	820	800	815	
ADJ	RV807					RV805		RV801		RV803		RV802		RV804		
										RV808		RV800				

— FB Board —

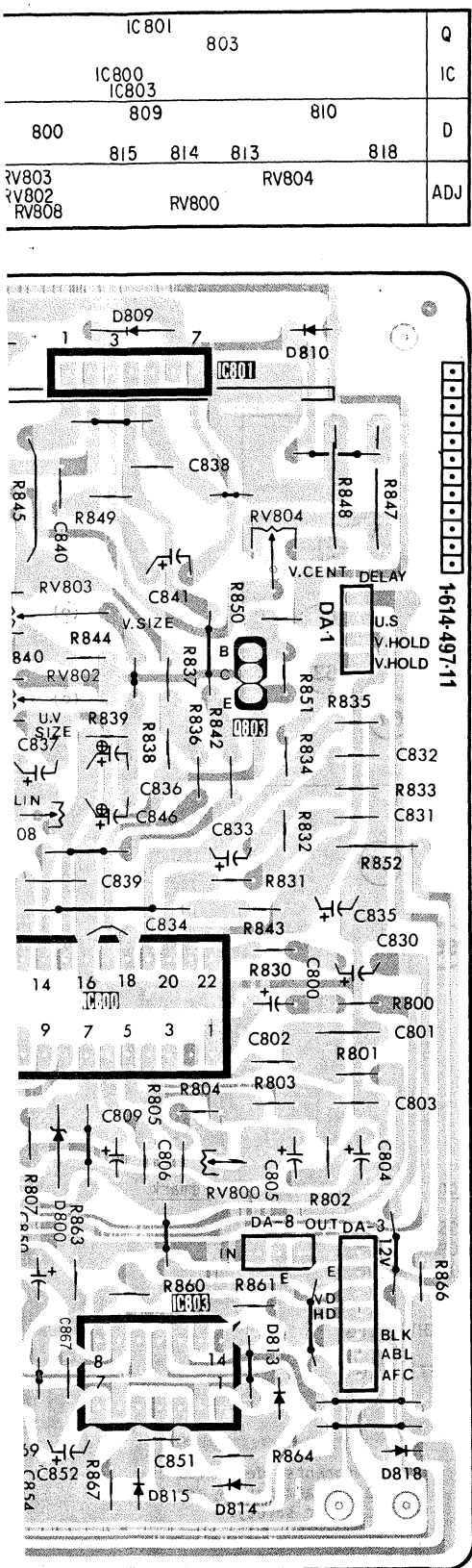
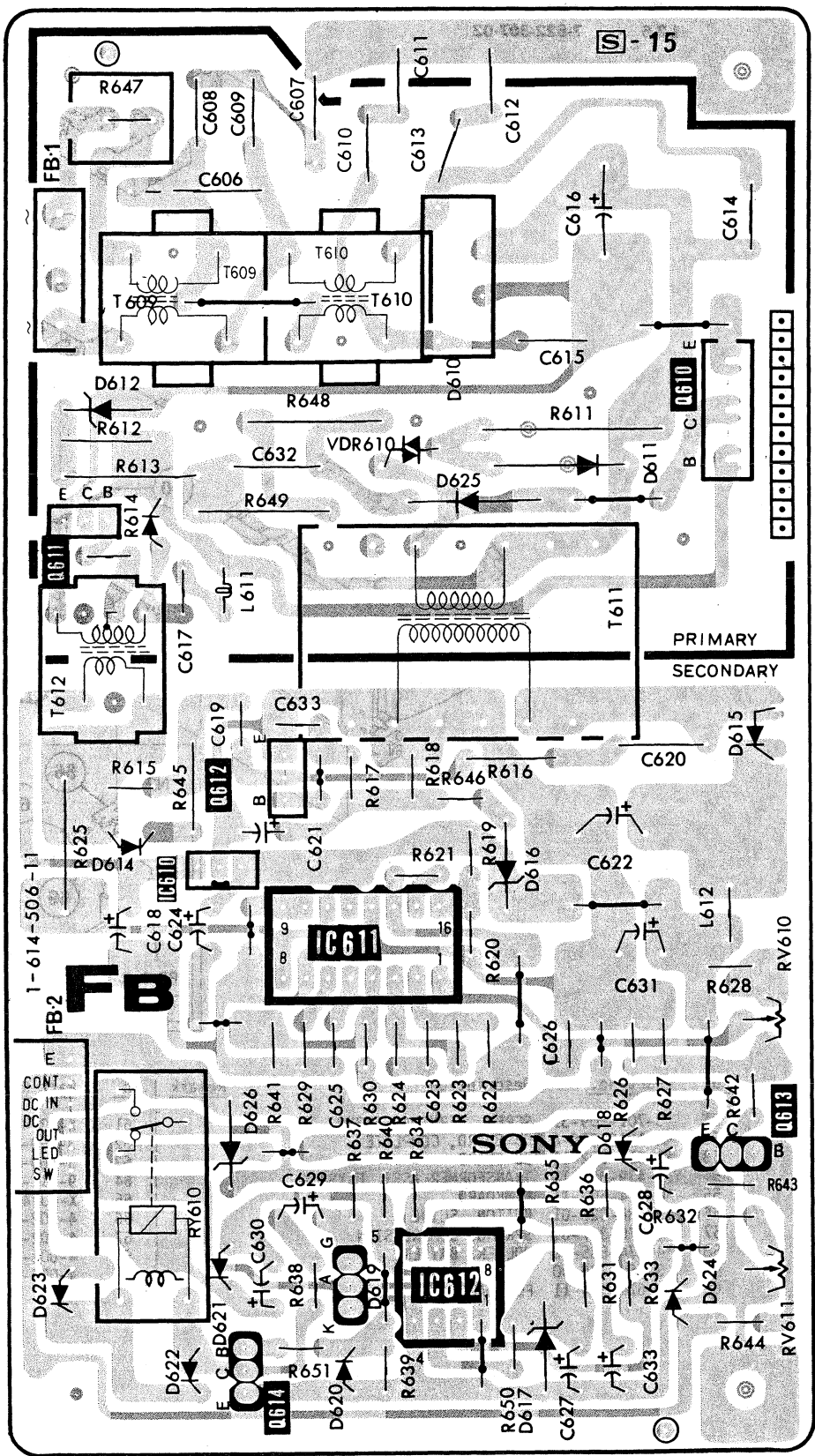
A
B
C
D
E
F
G
H
I

DB

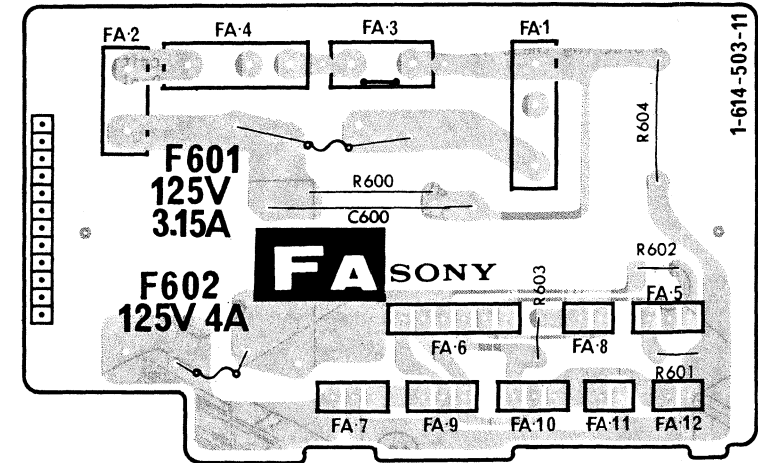
(FLYBACK TRANSFORMER)

8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

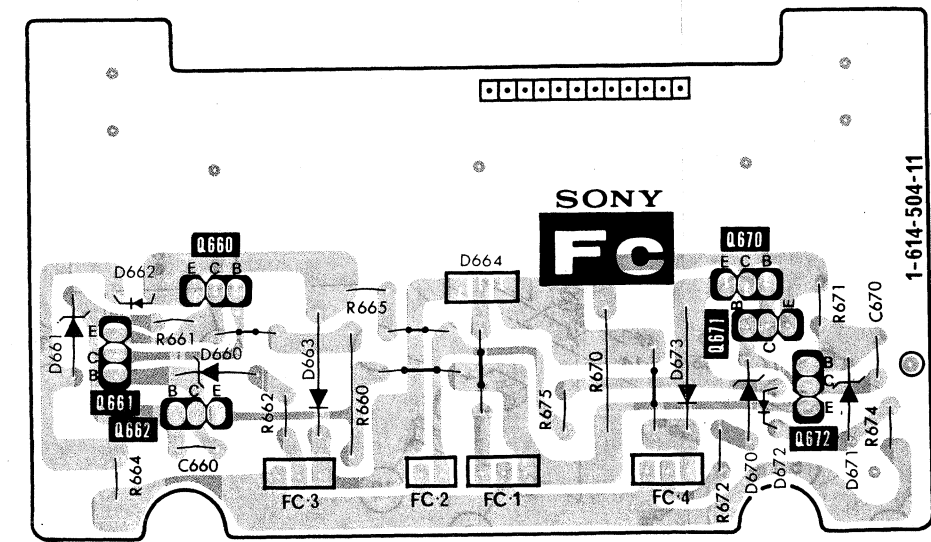
— FB Board —



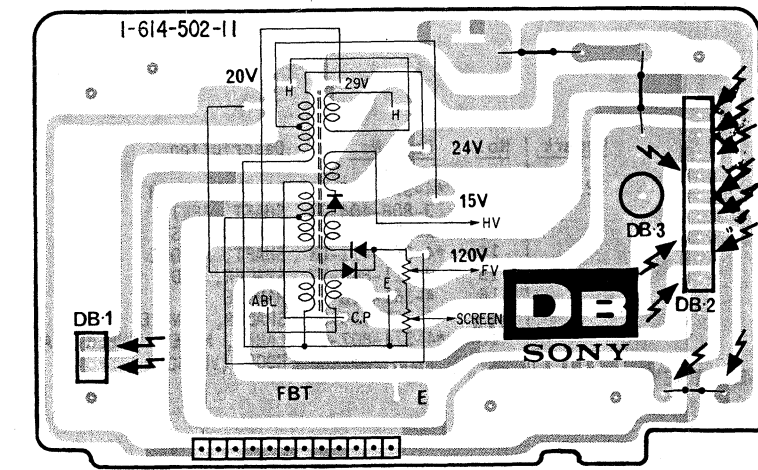
— FA Board —



— FC Board —



— DB Board —



SECTION 6 EXPLODED VIEWS

NOTE:

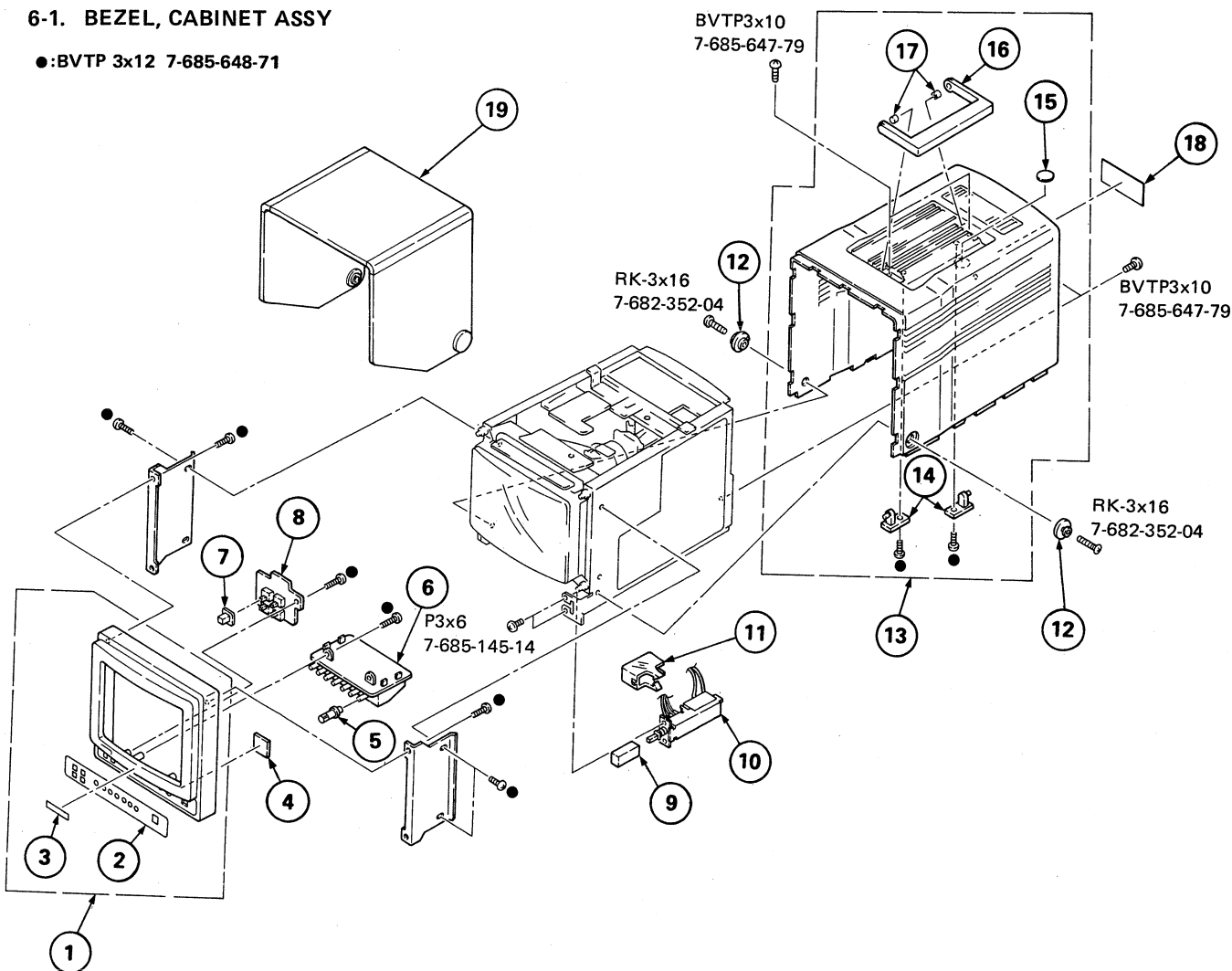
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- 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 shading and mark **▲** are critical for safety. Replace only with part number specified.

6-1. BEZEL, CABINET ASSY

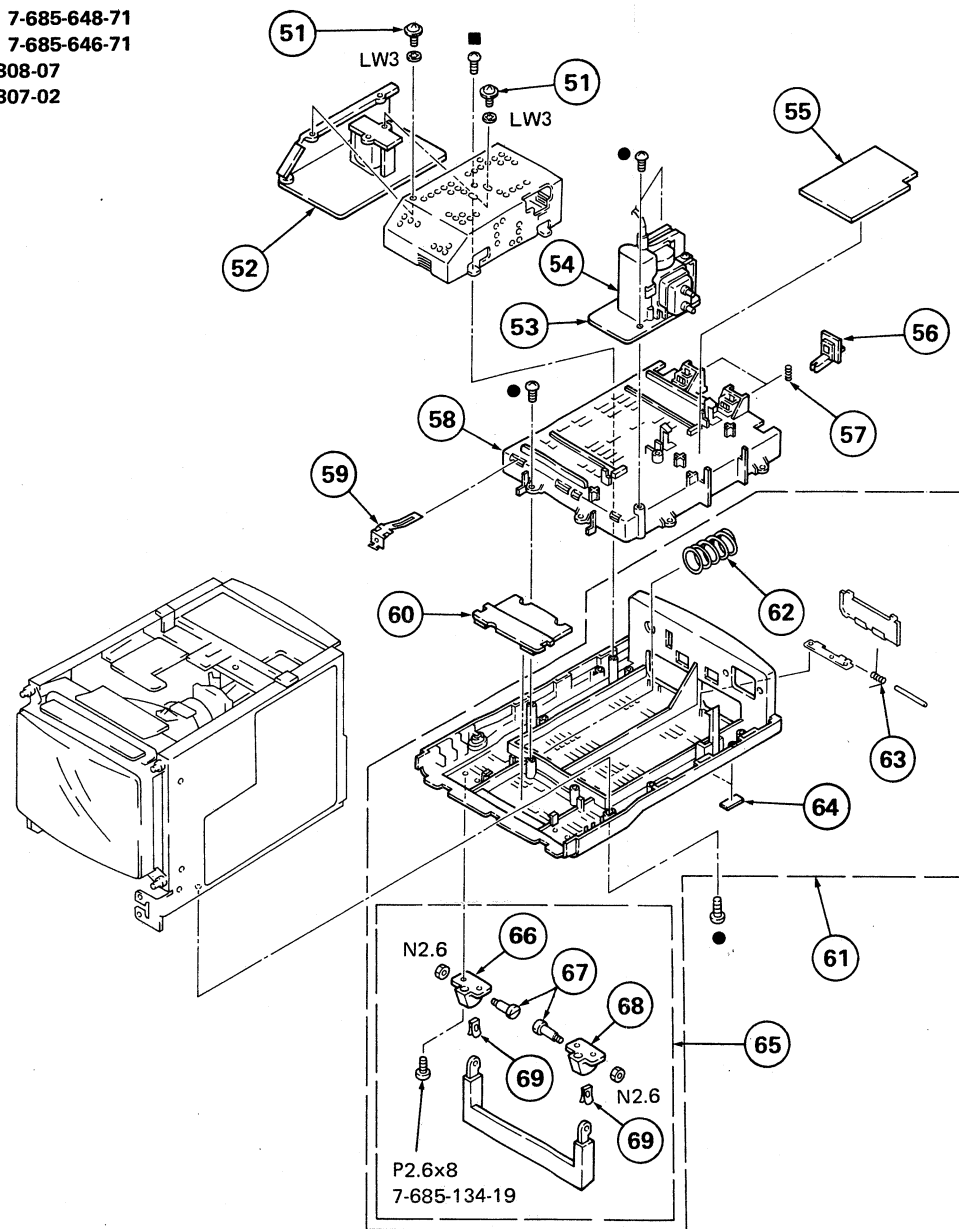
●:BVTP 3x12 7-685-648-71



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	X-4374-805-1	BEZEL ASSY	2,3	11	*4-374-825-01	COVER, SWITCH	
2	4-374-830-01	LABEL, CONTROL		12	3-888-404-11	SHAFT, BELT	
3	3-566-707-11	EMBLEM, SONY		13	X-4374-807-1	CABINET ASSY	14-17
4	*1-614-496-11	X BOARD		14	*4-361-411-01	SHAFT, HANDLE	
5	4-374-820-01	KNOB, CONTROL		15	9-911-840-XX	SPACER, SIDE	
6	*1-614-494-11	HA BOARD		16	4-361-428-21	HANDLE	
7	4-369-627-11	PUSH BUTTON		17	*4-361-410-00	SPACER, HANDLE	
8	*1-614-495-11	HB BOARD		18	*4-374-807-01	LABEL, MODEL NUMBER (LARGE)	
9	4-374-839-01	BUTTON (A)		19	4-374-831-01	HOOD (VF-501)	
10	▲1-570-200-11	SWITCH, PUSH (AC POWER)(I KEY)					

6-2. CABINET BOTTOM ASSY

● : BVTP 3x12 7-685-648-71
 ■ : BVTP 3x8 7-685-646-71
 LW3 7-623-308-07
 L2.6 7-622-307-02

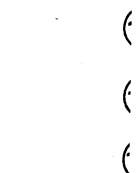


No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	3-701-809-31	SCREW, TERMINAL (M3X8)		61	X-4374-806-1	CABINET ASSY, BOTTOM	62-69
52	*A-1245-256-A	FB BOARD, COMPLETE		62	3-669-594-00	SPRING, COMPRESSION	
53	*1-614-502-11	DB BOARD		63	3-669-592-00	SPRING (A), TORSION	
54	▲1-439-358-11	TRANSFORMER ASSY, FLYBACK		64	9-911-852-XX	CUSHION	
55	*1-614-503-11	FA BOARD		65	X-4374-802-1	LEG ASSY	66-69
56	3-686-028-01	BUTTON, SLIDE		66	4-002-791-00	BRACKET (RIGHT), LEG	
57	4-876-347-01	SPRING, COMPRESSION		67	4-002-789-00	SCREW	
58	*4-374-835-01	HOLDER, BATTERY		68	4-002-790-00	BRACKET (LEFT), LEG	
59	3-669-526-00	TERMINAL		69	4-002-732-02	SPRING	
60	*1-614-504-11	FC BOARD					

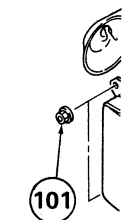
The components identified by shading and mark **▲** are critical for safety. Replace only with part number specified.

6-3. CHA

■ : BVTP :



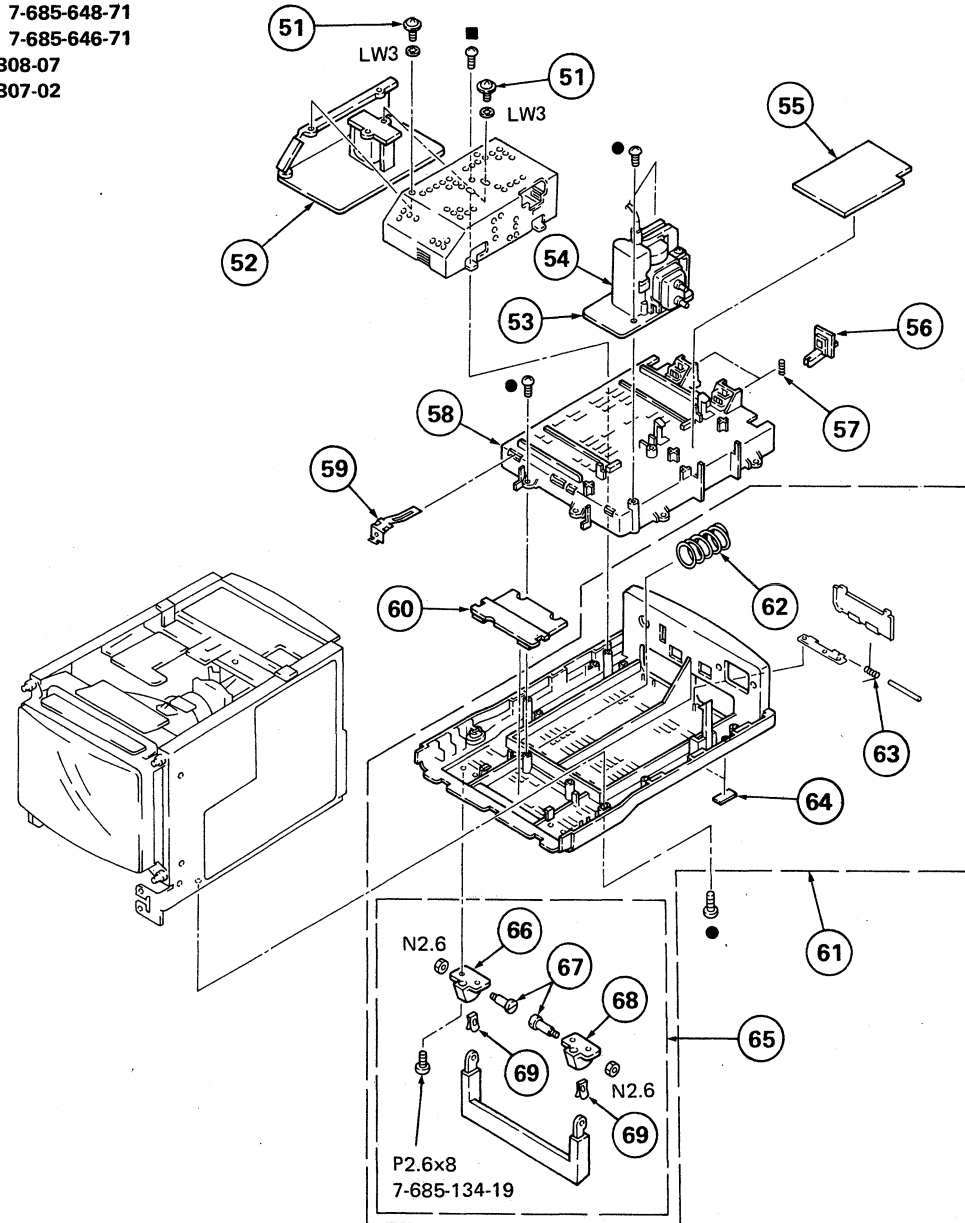
(11)



No.	Part No.	Description	Remark
101	4-		
102	▲8-		
103	▲1-		
104	4-		
105	*4-		
106	*A-		
107	*4-		
108	▲1-		
109	*4-		
110	1-		
111	▲1-		
112	*3-		
113	*A-		
114	*4-		
115	▲1-		

6-2. CABINET BOTTOM ASSY

- : BVTP 3x12 7-685-648-71
- : BVTP 3x8 7-685-646-71
- LW3 7-623-308-07
- L2.6 7-622-307-02

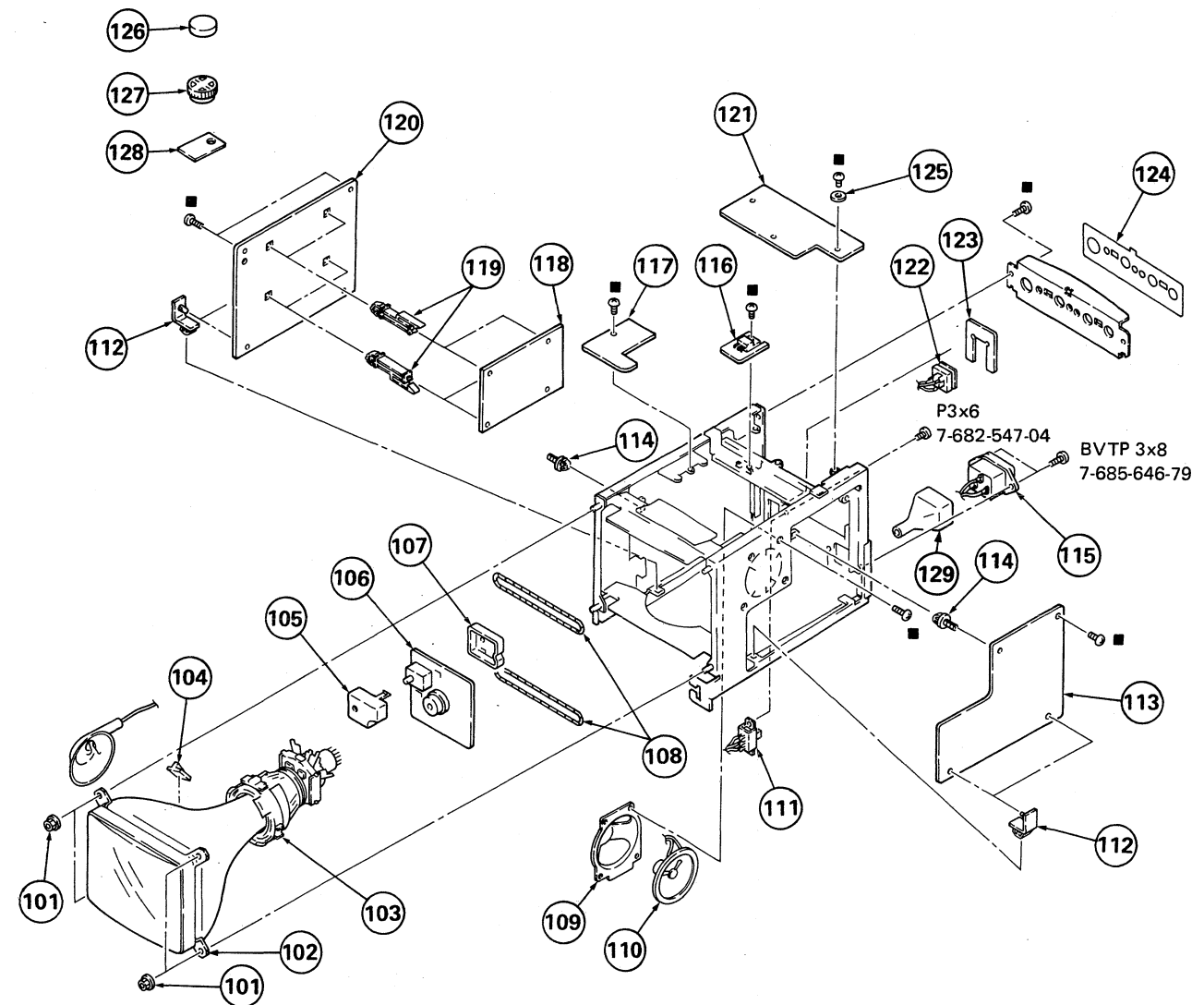


No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	3-701-809-31	SCREW, TERMINAL (M3X8)		61	X-4374-806-1	CABINET ASSY, BOTTOM	62-69
52	*A-1245-256-A	FB BOARD, COMPLETE		62	3-669-594-00	SPRING, COMPRESSION	
53	*1-614-502-11	DB BOARD		63	3-669-592-00	SPRING (A), TORSION	
54	▲ 1-439-358-11	TRANSFORMER ASSY, FLYBACK		64	9-911-852-XX	CUSHION	
55	*1-614-503-11	FA BOARD		65	X-4374-802-1	LEG ASSY	66-69
56	3-686-028-01	BUTTON, SLIDE		66	4-002-791-00	BRACKET (RIGHT), LEG	
57	4-876-347-01	SPRING, COMPRESSION		67	4-002-789-00	SCREW	
58	*4-374-835-01	HOLDER, BATTERY		68	4-002-790-00	BRACKET (LEFT), LEG	
59	3-669-526-00	TERMINAL		69	4-002-732-02	SPRING	
60	*1-614-504-11	FC BOARD					

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

6-3. CHASSIS ASSY

- : BVTP 3x8 7-685-646-71



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
101	4-304-511-00	NUT, FLANGE		116	*1-615-160-11	DD BOARD	
102	▲ 8-737-151-05	CRT (A20JKU10X)		117	*1-614-498-11	DC BOARD	
103	▲ 1-451-265-11	DEFLECTION YOKE (SY-167)		118	*A-1135-288-A	BB BOARD, COMPLETE	
104	4-309-369-00	SPACER, DEFLECTION YOKE		119	*3-657-516-00	SUPPORT, PC BOARD	
105	*4-374-822-01	COVER (A), CONTROL		120	*A-1135-287-A	BA BOARD, COMPLETE	
106	*A-1330-584-A	C BOARD, COMPLETE		121	*A-1270-154-A	Q BOARD, COMPLETE	
107	*4-374-806-01	COVER (B), CONTROL		122	1-507-465-00	JACK, POWER OUTSIDE	
108	▲ 1-426-043-12	COIL, DEGAUSSING		123	*4-374-801-01	STOPPER, JACK, DC	
109	*4-344-240-00	BRACKET, SPEAKER		124	4-374-829-01	LABEL, PANEL	
110	1-502-509-00	SPEAKER		125	4-308-030-00	WASHER	
111	▲ 1-516-046-11	SWITCH, SLIDE		126	1-452-032-00	MAGNET, DISK; 10MM Ø	
112	*3-701-832-00	HINGE, CIRCUIT BOARD		127	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
113	*A-1345-512-A	DA BOARD, COMPLETE		128	1-452-126-11	MAGNET	
114	*4-303-473-00	SUPPORT, PC		129	*4-601-466-11	COVER, 3P INLET	
115	▲ 1-509-547-11	3P INLET					

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

SECTION 7 ELECTRICAL PARTS LIST

BA

NOTE:

The components identified by shading and mark **▲** 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.

When indicating parts by reference number, please include the board name.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS

• MF : μ F, PF : μ F

RESISTORS

• All resistors are in ohms
• F : nonflammable

COILS

• MMH : mH, UH : μ H

• 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.

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
	*A-1135-287-A	BA BOARD, COMPLETE *****		C313	1-123-333-00	ELECT 100MF	20% 25V
		CONNECTOR		C323	1-102-129-00	CERAMIC 0.01MF	10% 50V
BA1	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P		C325	1-102-129-00	CERAMIC 0.01MF	10% 50V
BA2	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		C326	1-102-963-00	CERAMIC 33PF	5% 50V
BA3	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		C327	1-102-953-00	CERAMIC 18PF	5% 50V
BA4	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P		C328	1-102-129-00	CERAMIC 0.01MF	10% 50V
BA6	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		C329	1-102-129-00	CERAMIC 0.01MF	10% 50V
BA7	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		C330	1-102-129-00	CERAMIC 0.01MF	10% 50V
BA8	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		C331	1-101-880-00	CERAMIC 47PF	5% 50V
BA9	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		C332	1-101-880-00	CERAMIC 47PF	5% 50V
BA10	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		C334	1-102-963-00	CERAMIC 33PF	5% 50V
		CAPACITOR		C335	1-123-607-00	ELECT 0.1MF	20% 50V
C251	1-102-953-00	CERAMIC 18PF	5% 50V	C336	1-123-380-00	ELECT 1MF	20% 50V
C253	1-123-333-00	ELECT 100MF	20% 25V	C340	1-101-006-00	CERAMIC 0.047MF	50V
C254	1-101-004-00	CERAMIC 0.01MF	50V	C343	1-123-356-00	ELECT 10MF	20% 25V
C255	1-102-662-00	CERAMIC 7PF	0.5PF 50V	C344	1-123-379-00	ELECT 0.47MF	20% 50V
C256	1-102-662-00	CERAMIC 7PF	0.5PF 50V	C345	1-102-129-00	CERAMIC 0.01MF	10% 50V
C259	1-123-318-00	ELECT 33MF	20% 16V	C346	1-102-963-00	CERAMIC 33PF	5% 50V
C260	1-101-361-00	CERAMIC 150PF	5% 50V	C347	1-102-129-00	CERAMIC 0.01MF	10% 50V
C261	1-123-380-00	ELECT 1MF	20% 50V	C348	1-106-212-00	MYLAR 0.047MF	10% 100V
C262	1-102-973-00	CERAMIC 100PF	5% 50V	C349	1-106-212-00	MYLAR 0.047MF	10% 100V
C263	1-123-819-00	ELECT 33MF	20% 25V	C350	1-123-381-00	ELECT 2.2MF	20% 50V
C264	1-101-006-00	CERAMIC 0.047MF	50V	C351	1-123-369-00	ELECT 4.7MF	20% 50V
C265	1-101-004-00	CERAMIC 0.01MF	50V	C352	1-123-380-00	ELECT 1MF	20% 50V
C266	1-101-004-00	CERAMIC 0.01MF	50V	C355	1-102-129-00	CERAMIC 0.01MF	10% 50V
C267	1-101-004-00	CERAMIC 0.01MF	50V	C366	1-123-382-00	ELECT 3.3MF	20% 50V
C268	1-101-004-00	CERAMIC 0.01MF	50V	C367	1-101-004-00	CERAMIC 0.01MF	50V
C269	1-123-318-00	ELECT 33MF	20% 16V	C368	1-102-129-00	CERAMIC 0.01MF	10% 50V
C281	1-102-811-61	CERAMIC 9PF	1PF 50V	C369	1-123-333-00	ELECT 100MF	20% 25V
C290	1-102-811-61	CERAMIC 9PF	1PF 50V	C381	1-123-333-00	ELECT 100MF	20% 25V
C291	1-102-811-61	CERAMIC 9PF	1PF 50V	C382	1-102-129-00	CERAMIC 0.01MF	10% 50V
C294	1-161-313-00	CERAMIC 150PF	10% 50V	C386	1-102-820-00	CERAMIC 330PF	5% 50V
C295	1-102-937-00	CERAMIC 4PF	0.5PF 50V	C387	1-102-980-00	CERAMIC 270PF	5% 50V
C296	1-123-332-00	ELECT 47MF	20% 25V	C388	1-102-820-00	CERAMIC 330PF	5% 50V
C297	1-101-006-00	CERAMIC 0.047MF	50V			DIODE	
C298	1-123-356-00	ELECT 10MF	20% 16V	D253	▲ 8-719-911-19	DIODE 1SS119	
C299	1-102-848-00	CERAMIC 180PF	5% 50V	D255	8-719-911-19	DIODE 1SS119	
C300	1-101-006-00	CERAMIC 0.047MF	50V	D257	8-719-911-19	DIODE 1SS119	
C301	1-101-004-00	CERAMIC 0.01MF	50V	D258	8-719-911-19	DIODE 1SS119	
C302	1-101-004-00	CERAMIC 0.01MF	50V			DELAY LINE	
C303	1-106-212-00	MYLAR 0.047MF	10% 100V	DL251	1-415-330-00	DELAY LINE, Y	
C304	1-102-965-00	CERAMIC 39PF	5% 50V			IC	
C305	1-102-937-00	CERAMIC 4PF	0.5PF 50V	IC251	8-752-006-10	IC CX20061	
C306	1-106-212-00	MYLAR 0.047MF	10% 100V	IC253	8-759-113-65	IC UPC1365C	
C307	1-131-368-00	TANTALUM 3.3MF	10% 16V			COIL	
C308	1-123-356-00	ELECT 10MF	20% 16V	L251	1-408-412-00	MICRO INDUCTOR 18UH	
C309	1-102-129-00	CERAMIC 0.01MF	10% 50V	L252	1-409-193-00	COIL 3.58MHZ TRAP	
C310	1-102-129-00	CERAMIC 0.01MF	10% 50V	L254	1-408-424-00	MICRO INDUCTOR 180UH	
C311	1-123-380-00	ELECT 1MF	20% 50V	L256	1-408-418-00	MICRO INDUCTOR 56UH	
C312	1-101-006-00	CERAMIC 0.047MF	50V				

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
L 257	1-408-416-00	MICRO INDUCTOR 39UH		R321	1-247-811-00	CARBON 150 5%	1/6W
L 258	1-408-406-00	MICRO INDUCTOR 5.6UH		R322	1-247-837-00	CARBON 1.8K 5%	1/6W
L 259	1-408-415-00	MICRO INDUCTOR 33UH		R323	1-247-827-00	CARBON 680 5%	1/6W
L 260	1-408-415-00	MICRO INDUCTOR 33UH		R324	1-247-825-00	CARBON 560 5%	1/6W
L 261	1-408-415-00	MICRO INDUCTOR 33UH		R326	1-247-823-00	CARBON 470 5%	1/6W
L 262	1-408-414-00	MICRO INDUCTOR 27UH		R327	1-247-839-00	CARBON 2.2K 5%	1/6W
		<u>TRANSISTOR</u>		R328	1-247-855-00	CARBON 10K 5%	1/6W
Q251	8-729-603-50	TRANSISTOR 2SC403SP		R329	1-247-847-00	CARBON 4.7K 5%	1/6W
Q252	8-729-245-83	TRANSISTOR 2SC2458		R330	1-247-837-00	CARBON 1.8K 5%	1/6W
Q253	8-729-245-83	TRANSISTOR 2SC2458		R332	1-247-823-00	CARBON 470 5%	1/6W
Q254	8-729-245-83	TRANSISTOR 2SC2458		R333	1-247-791-00	CARBON 22 5%	1/6W
Q256	8-729-245-83	TRANSISTOR 2SC2458		R334	1-247-843-00	CARBON 3.3K 5%	1/6W
Q257	8-729-603-50	TRANSISTOR 2SC403SP		R335	1-247-839-00	CARBON 2.2K 5%	1/6W
Q258	8-729-117-52	TRANSISTOR 2SA1175-J		R336	1-247-823-00	CARBON 470 5%	1/6W
Q259	8-729-178-52	TRANSISTOR 2SC2785-J		R337	1-247-827-00	CARBON 680 5%	1/6W
Q270	8-729-603-50	TRANSISTOR 2SC403SP		R338	1-247-853-00	CARBON 8.2K 5%	1/6W
Q271	8-729-245-83	TRANSISTOR 2SC2458		R339	1-247-855-00	CARBON 10K 5%	1/6W
Q272	8-729-245-83	TRANSISTOR 2SC2458		R340	1-247-839-00	CARBON 2.2K 5%	1/6W
Q273	8-729-603-50	TRANSISTOR 2SC403SP		R341	1-247-807-00	CARBON 100 5%	1/6W
Q274	8-729-245-83	TRANSISTOR 2SC2458		R342	1-247-807-00	CARBON 100 5%	1/6W
Q278	8-729-115-30	TRANSISTOR 2SK105A-30		R343	1-247-883-00	CARBON 150K 5%	1/6W
Q279	8-729-245-83	TRANSISTOR 2SC2458		R344	1-247-855-00	CARBON 10K 5%	1/6W
		<u>RESISTOR</u>		R345	1-247-843-00	CARBON 3.3K 5%	1/6W
R251	1-247-867-00	CARBON 33K 5%	1/6W	R346	1-247-791-00	CARBON 22 5%	1/6W
R252	1-247-851-00	CARBON 6.8K 5%	1/6W	R366	1-247-869-00	CARBON 39K 5%	1/6W
R253	1-247-825-00	CARBON 560 5%	1/6W	R367	1-247-849-00	CARBON 5.6K 5%	1/6W
R254	1-247-833-00	CARBON 1.2K 5%	1/6W	R369	1-247-867-00	CARBON 33K 5%	1/6W
R257	1-247-831-00	CARBON 1K 5%	1/6W	R370	1-247-875-00	CARBON 68K 5%	1/6W
R258	1-247-807-00	CARBON 100 5%	1/6W	R371	1-247-867-00	CARBON 33K 5%	1/6W
R259	1-247-835-00	CARBON 1.5K 5%	1/6W	R372	1-247-865-00	CARBON 27K 5%	1/6W
R260	1-247-835-00	CARBON 1.5K 5%	1/6W	R373	1-247-873-00	CARBON 56K 5%	1/6W
R261	1-247-831-00	CARBON 1K 5%	1/6W	R374	1-247-823-00	CARBON 470 5%	1/6W
R262	1-247-831-00	CARBON 1K 5%	1/6W	R375	1-247-827-00	CARBON 680 5%	1/6W
R263	1-247-819-00	CARBON 330 5%	1/6W	R376	1-247-831-00	CARBON 1K 5%	1/6W
R264	1-247-855-00	CARBON 10K 5%	1/6W	R377	1-247-835-00	CARBON 1.5K 5%	1/6W
R265	1-247-867-00	CARBON 33K 5%	1/6W	R378	1-247-887-00	CARBON 220K 5%	1/6W
R270	1-247-831-00	CARBON 1K 5%	1/6W	R379	1-247-827-00	CARBON 680 5%	1/6W
R271	1-247-807-00	CARBON 100 5%	1/6W	R381	1-247-863-00	CARBON 22K 5%	1/6W
R272	1-247-835-00	CARBON 1.5K 5%	1/6W	R382	1-247-867-00	CARBON 33K 5%	1/6W
R273	1-247-807-00	CARBON 100 5%	1/6W	R383	1-247-831-00	CARBON 1K 5%	1/6W
R274	1-247-831-00	CARBON 1K 5%	1/6W	R395	1-247-857-00	CARBON 12K 5%	1/6W
R275	1-247-819-00	CARBON 330 5%	1/6W	R396	1-247-863-00	CARBON 22K 5%	1/6W
R276	1-247-819-00	CARBON 330 5%	1/6W	R397	1-247-823-00	CARBON 470 5%	1/6W
R277	1-247-873-00	CARBON 56K 5%	1/6W	R398	1-247-831-00	CARBON 1K 5%	1/6W
R278	1-247-877-00	CARBON 82K 5%	1/6W	R399	1-247-839-00	CARBON 2.2K 5%	1/6W
R279	1-247-807-00	CARBON 100 5%	1/6W	R400	1-247-865-00	CARBON 27K 5%	1/6W
R280	1-247-861-00	CARBON 18K 5%	1/6W	R401	1-247-865-00	CARBON 27K 5%	1/6W
R281	1-247-855-00	CARBON 10K 5%	1/6W	R402	1-247-877-00	CARBON 82K 5%	1/6W
R282	1-247-807-00	CARBON 100 5%	1/6W	R406	1-247-821-00	CARBON 390 5%	1/6W
R283	1-247-867-00	CARBON 33K 5%	1/6W	R408	1-247-821-00	CARBON 390 5%	1/6W
R320	1-247-843-00	CARBON 3.3K 5%	1/6W	R410	1-247-821-00	CARBON 390 5%	1/6W
				R411	1-247-871-00	CARBON 47K 5%	1/6W
				R437	1-247-845-00	CARBON 3.9K 5%	1/6W

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



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R438	1-247-823-00	CARBON 470 5% 1/6W		C318	1-102-119-00	CERAMIC 0.0015MF 10% 50V	
R439	1-247-791-00	CARBON 22 5% 1/6W		C319	1-102-971-00	CERAMIC 82PF 5% 50V	
R440	1-247-147-00	CARBON 4.7K 5% 1/4W		C320	1-106-184-00	MYLAR 0.0033MF 10% 100V	
R441	1-247-831-00	CARBON 1K 5% 1/6W		C321	1-101-361-00	CERAMIC 150PF 5% 50V	
R442	1-247-845-00	CARBON 3.9K 5% 1/6W		C322	1-106-188-00	MYLAR 0.0047MF 10% 100V	
R443	1-247-823-00	CARBON 470 5% 1/6W		C353	1-123-356-00	ELECT 10MF 20% 25V	
R444	1-247-809-00	CARBON 120 5% 1/6W		C354	1-101-888-00	CERAMIC 68PF 5% 50V	
R445	1-247-147-00	CARBON 4.7K 5% 1/4W		C355	1-102-129-00	CERAMIC 0.01MF 10% 50V	
R446	1-247-831-00	CARBON 1K 5% 1/6W		C395	1-123-356-00	ELECT 10MF 20% 25V	
R447	1-247-845-00	CARBON 3.9K 5% 1/6W		C396	1-108-599-00	MYLAR 0.068MF 5% 50V	
R448	1-247-823-00	CARBON 470 5% 1/6W		C397	1-102-973-00	CERAMIC 100PF 5% 50V	
R449	1-247-791-00	CARBON 22 5% 1/6W				IC	
R450	1-247-147-00	CARBON 4.7K 5% 1/4W		IC254	8-759-240-11	IC TC4011BP	
R451	1-247-831-00	CARBON 1K 5% 1/6W		IC255	8-759-345-38	IC HD14538BP	
R452	1-247-847-00	CARBON 4.7K 5% 1/6W				COIL	
R456	1-247-841-00	CARBON 2.7K 5% 1/6W		L260	1-408-417-00	MICRO INDUCTOR 47UH	
R457	1-247-849-00	CARBON 5.6K 5% 1/6W				TRANSISTOR	
R465	1-247-867-00	CARBON 33K 5% 1/6W		Q275	8-729-603-50	TRANSISTOR 2SC403SP	
		VARIABLE RESISTOR		Q276	8-729-245-83	TRANSISTOR 2SC2458	
RV252	1-228-723-00	RES, ADJ, CERAMIC CARBON 4.7K		Q277	8-729-204-83	TRANSISTOR 2SA1048GR	
RV253	1-228-719-00	RES, ADJ, CERAMIC CARBON 470		Q278	8-729-245-83	TRANSISTOR 2SC2458	
RV254	1-228-722-00	RES, ADJ, CERAMIC CARBON 3.3K				RESISTOR	
RV255	1-228-722-00	RES, ADJ, CERAMIC CARBON 3.3K		R347	1-247-863-00	CARBON 22K 5% 1/6W	
RV256	1-228-725-00	RES, ADJ, CERAMIC CARBON 22K		R348	1-247-841-00	CARBON 2.7K 5% 1/6W	
RV258	1-224-660-21	RES, ADJ, METAL FILM 1K		R349	1-247-831-00	CARBON 1K 5% 1/6W	
RV259	1-224-493-00	RES, ADJ, METAL FILM 10K		R350	1-247-831-00	CARBON 1K 5% 1/6W	
RV260	1-224-660-21	RES, ADJ, METAL FILM 1K		R352	1-247-817-00	CARBON 270 5% 1/6W	
RV261	1-224-493-00	RES, ADJ, METAL FILM 10K		R353	1-247-831-00	CARBON 1K 5% 1/6W	
RV262	1-224-660-21	RES, ADJ, METAL FILM 1K		R355	1-247-865-00	CARBON 27K 5% 1/6W	
RV263	1-224-493-00	RES, ADJ, METAL FILM 10K		R356	1-247-893-00	CARBON 390K 5% 1/6W	
RV264	1-228-720-00	RES, ADJ, CERAMIC CARBON 1K		R357	1-247-823-00	CARBON 470 5% 1/6W	
		TRANSFORMER		R358	1-247-865-00	CARBON 27K 5% 1/6W	
T256	1-425-794-00	BPT-2		R359	1-247-847-00	CARBON 4.7K 5% 1/6W	
T257	1-405-372-00	COIL BAT		R360	1-247-841-00	CARBON 2.7K 5% 1/6W	
		CRYSTAL		R361	1-247-863-00	CARBON 22K 5% 1/6W	
X251	1-527-396-00	CRYSTAL, OSC		R362	1-247-859-00	CARBON 15K 5% 1/6W	
		*****		R363	1-247-841-00	CARBON 2.7K 5% 1/6W	
		*A-1135-288-A BB BOARD, COMPLETE		R364	1-247-871-00	CARBON 47K 5% 1/6W	
		*****		R365	1-247-839-00	CARBON 2.2K 5% 1/6W	
		CONNECTOR		R384	1-247-867-00	CARBON 33K 5% 1/6W	
BB1	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		R388	1-247-841-00	CARBON 2.7K 5% 1/6W	
BB2	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		R389	1-247-839-00	CARBON 2.2K 5% 1/6W	
		CAPACITOR		R459	1-247-831-00	CARBON 1K 5% 1/6W	
C314	1-123-333-00	ELECT 100MF 20% 25V		R461	1-247-831-00	CARBON 1K 5% 1/6W	
C315	1-123-333-00	ELECT 100MF 20% 25V		R462	1-247-879-00	CARBON 100K 5% 1/6W	
C317	1-123-381-00	ELECT 2.2MF 20% 50V		R463	1-247-107-00	CARBON 100 5% 1/4W	

BB **FA** **FC** **FB**

Ref.No.	Part No.	Description	Remark
<u>VARIABLE RESISTOR</u>			
RV265	1-226-773-00	RES, ADJ, METAL GLAZE 22K	
RV266	1-226-775-00	RES, ADJ, METAL GLAZE 100K	

	*1-614-503-11	FA BOARD	*****
<u>CAPACITOR</u>			
C600	A1-108-745-12	MYLAR 0.22MF 20% 125V	
	*4-316-137-00	COVER, CAPACITOR; C600	
<u>FUSE</u>			
F601	A1-532-557-11	FUSE, GLASS TUBE 3.15A	
	1-533-087-00	HOLDER, FUSE; F601	
F602	A1-532-579-11	FUSE, GLASS TUBE 4A	
	1-533-087-00	HOLDER, FUSE; F602	
<u>CONNECTOR</u>			
FA1	*1-508-765-00	3P PLUG (M)	
FA2	*1-508-786-00	2P PLUG (M)	
FA4	*1-508-765-00	3P PLUG (M)	
FA5	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
FA6	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P	
FA7	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
FA8	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
FA9	*1-564-354-21	PLUG, CONNECTOR (2.5MM) 3P	
FA10	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
FA11	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
FA12	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
<u>RESISTOR</u>			
R600	1-202-724-00	SOLID 2.7M 10% 1/2W	
R601	1-247-824-00	CARBON 510 5% 1/6W	
R602	1-247-831-00	CARBON 1K 5% 1/6W	
R603	1-247-837-00	CARBON 1.8K 5% 1/6W	
R604	1-202-727-00	SOLID 4.7M 10% 1/2W	

	*1-614-504-11	FC BOARD	*****
	3-618-225-00	NUT, PLATE	
	*4-026-251-00	SPACER, INSULATING	
	4-313-734-00	BUSHING TR, Y	
<u>CAPACITOR</u>			
C660	1-161-047-00	CERAMIC 0.0047MF 10% 25V	
C670	1-161-047-00	CERAMIC 0.0047MF 10% 25V	
<u>DIODE</u>			
D660	8-719-102-84	DIODE RD8.2E-N2	

Ref.No.	Part No.	Description	Remark
D661	8-719-102-90	DIODE RD10E-N2	
D662	8-719-911-19	DIODE 1SS119	
D663	8-719-911-55	DIODE U05G	
D664	8-719-920-40	DIODE ESAC82-004	
D670	8-719-102-84	DIODE RD8.2E-N2	
D671	8-719-102-90	DIODE RD10E-N2	
D672	8-719-911-19	DIODE 1SS119	
D673	8-719-911-55	DIODE U05G	
<u>CONNECTOR</u>			
FC1	*1-564-354-21	PLUG, CONNECTOR (2.5MM) 3P	
FC2	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
FC3	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
FC4	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
<u>TRANSISTOR</u>			
Q660	8-729-313-42	TRANSISTOR 2SD1134	
Q661	8-729-204-83	TRANSISTOR 2SA1048GR	
Q662	8-729-204-83	TRANSISTOR 2SA1048GR	
Q670	8-729-313-42	TRANSISTOR 2SD1134	
Q671	8-729-204-83	TRANSISTOR 2SA1048GR	
Q672	8-729-204-83	TRANSISTOR 2SA1048GR	
<u>RESISTOR</u>			
R660	A1-212-361-61	METAL OXIDE 1.2 5% 1W F	
R661	1-247-831-00	CARBON 1K 5% 1/6W	
R662	1-247-855-00	CARBON 10K 5% 1/6W	
R664	1-247-839-00	CARBON 2.2K 5% 1/6W	
R665	1-247-819-00	CARBON 330 5% 1/6W	
R670	A1-212-361-61	METAL OXIDE 1.2 5% 1W F	
R671	1-247-831-00	CARBON 1K 5% 1/6W	
R672	1-247-855-00	CARBON 10K 5% 1/6W	
R674	1-247-839-00	CARBON 2.2K 5% 1/6W	
R675	1-247-819-00	CARBON 330 5% 1/6W	

	*A-1245-256-A	FB BOARD, COMPLETE	*****
	*2-430-232-00	INSULATOR (SR12E), TRANSISTOR	
	*4-374-844-01	HEAT SINK (SRT)	
	*4-374-845-01	BAND (SRT)	
	*4-374-846-01	COVER, CAPACITOR, CAP TYPE	
	*4-374-846-11	COVER, CAPACITOR, CAP TYPE	
<u>CAPACITOR</u>			
C606	A1-136-345-51	FILM 0.1MF 20% 125V	
C607	A1-161-742-51	CERAMIC 0.0022MF 20% 125V	
C608	A1-161-742-51	CERAMIC 0.0022MF 20% 125V	
C609	A1-161-742-51	CERAMIC 0.0022MF 20% 125V	
C610	A1-161-742-51	CERAMIC 0.0022MF 20% 125V	
C611	A1-161-742-51	CERAMIC 0.0022MF 20% 125V	
C612	A1-161-742-51	CERAMIC 0.0022MF 20% 125V	
C613	A1-161-742-51	CERAMIC 0.0022MF 20% 125V	

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FB

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C614	1-161-742-00	CERAMIC	0.0022MF 20% 400V			TRANSISTOR	
C615	△ 1-161-742-51	CERAMIC	0.0022MF 20% 125V				
C616	1-125-392-11	ELECT(BLOCK)	220MF 20% 200V	Q610	△ 8-729-801-75	TRANSISTOR 2SD1403	
C617	1-136-173-00	FILM	0.47MF 5% 50V	Q611	△ 8-729-177-43	TRANSISTOR 2SD774	
C618	1-123-356-00	ELECT	10MF 20% 25V	Q612	8-729-177-43	TRANSISTOR 2SD774	
C619	1-108-587-00	MYLAR	0.022MF 10% 50V	Q613	8-729-245-83	TRANSISTOR 2SC2458	
C620	1-161-328-00	CERAMIC	0.0047MF 30% 50V	Q614	8-729-245-83	TRANSISTOR 2SC2458	
C621	1-123-356-00	ELECT	10MF 20% 16V			RESISTOR	
C622	1-124-440-11	ELECT	3300MF 20% 25V	R611	1-206-670-00	METAL OXIDE 1.8K 5% 2W F	
C623	1-108-833-00	MYLAR	0.0047MF 10% 50V	R612	1-247-155-00	CARBON 10K 5% 1/4W	
C624	1-123-356-00	ELECT	10MF 20% 25V	R613	1-244-929-00	CARBON 220K 5% 1/2W	
C625	1-106-180-00	MYLAR	0.0022MF 10% 50V	R614	1-247-807-00	CARBON 100 5% 1/6W	
C626	1-102-074-00	CERAMIC	0.001MF 10% 50V	R615	1-247-827-00	CARBON 680 5% 1/6W	
C627	1-123-356-00	ELECT	10MF 20% 16V	R616	△ 1-247-034-11	CARBON 220 5% 1/8W F	
C628	1-123-356-00	ELECT	10MF 20% 25V	R617	1-247-847-00	CARBON 4.7K 5% 1/6W	
C629	1-123-381-00	ELECT	2.2MF 20% 50V	R618	1-247-847-00	CARBON 4.7K 5% 1/6W	
C630	1-123-330-00	ELECT	22MF 20% 16V	R619	1-247-865-00	CARBON 27K 5% 1/6W	
C631	1-123-335-00	ELECT	330MF 20% 25V	R620	1-247-853-00	CARBON 8.2K 5% 1/6W	
C632	1-130-806-00	FILM	0.1MF 10% 400V	R621	1-247-847-00	CARBON 4.7K 5% 1/6W	
C633	1-102-074-00	CERAMIC	0.001MF 10% 50V	R622	1-247-839-00	CARBON 2.2K 5% 1/6W	
		DIODE		R623	1-247-879-00	CARBON 100K 5% 1/6W	
D610	8-719-300-63	DIODE LB-156		R624	1-247-839-00	CARBON 2.2K 5% 1/6W	
D611	8-719-924-06	DIODE ERC24-06S		R625	1-213-131-00	METAL OXIDE 100 5% 1W F	
D612	8-719-102-74	DIODE RD6.2E-N2		R627	1-215-443-00	METAL 8.2K 1% 1/6W	
D613	8-719-901-93	DIODE V19E		R628	1-215-451-00	METAL 18K 1% 1/6W	
D614	8-719-911-19	DIODE 1SS119		R629	1-215-447-00	METAL 12K 1% 1/6W	
D615	9-983-560-01	DIODE ERC88-009		R630	1-247-849-00	CARBON 5.6K 5% 1/6W	
D616	△ 8-719-102-90	DIODE RD10E-N2		R631	1-247-849-00	CARBON 5.6K 5% 1/6W	
D617	8-719-102-74	DIODE RD6.2E-N2		R632	1-215-429-00	METAL 2.2K 1% 1/6W	
D618	8-719-911-19	DIODE 1SS119		R633	1-215-401-31	METAL 150 1% 1/6W	
D619	8-729-101-31	TRANSISTOR N13T1		R634	1-215-429-00	METAL 2.2K 1% 1/6W	
D620	8-719-911-19	DIODE 1SS119		R635	1-247-855-00	CARBON 10K 5% 1/6W	
D621	8-719-911-19	DIODE 1SS119		R636	1-247-855-00	CARBON 10K 5% 1/6W	
D622	8-719-911-19	DIODE 1SS119		R637	1-247-879-00	CARBON 100K 5% 1/6W	
D623	8-719-911-19	DIODE 1SS119		R638	1-247-847-00	CARBON 4.7K 5% 1/6W	
D624	8-719-911-19	DIODE 1SS119		R639	1-247-843-00	CARBON 3.3K 5% 1/6W	
D625	8-719-924-06	DIODE ERC24-06S		R640	1-247-855-00	CARBON 10K 5% 1/6W	
D626	8-719-103-21	DIODE RD20E-N2		R641	1-247-839-00	CARBON 2.2K 5% 1/6W	
		CONNECTOR		R642	1-247-867-00	CARBON 33K 5% 1/6W	
FB1	*1-508-765-00	3P PLUG (M)		R643	1-247-847-00	CARBON 4.7K 5% 1/6W	
FB2	*1-564-454-11	PLUG, CONNECTOR (2.5MM) 6P		R644	1-247-847-00	CARBON 4.7K 5% 1/6W	
		IC		R645	1-247-034-00	CARBON 220 5% 1/8W F	
IC611	8-759-906-62	IC MB3759-SNY		R646	1-247-825-00	CARBON 560 5% 1/6W	
IC612	8-759-729-03	IC NJM2903D		R647	△ 1-205-616-11	CEMENTED 1 5% 5W	
		COIL		R648	1-213-160-00	METAL OXIDE 27K 5% 1W F	
L611	1-408-412-00	MICRO INDUCTOR 18UH		R649	1-213-160-00	METAL OXIDE 27K 5% 1W F	
L612	1-407-365-00	COIL, CHOKE		R650	1-247-847-00	CARBON 4.7K 5% 1/6W	
				R651	1-247-831-00	CARBON 1K 5% 1/6W	
						VARIABLE RESISTOR	
				RV610	1-230-231-11	RES, ADJ, CERAMIC CARBON 2.2K	
				RV611	1-230-230-00	RES, ADJ, CERAMIC CARBON 1K	

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
<u>RELAY</u>				<u>IC</u>			
RY610	1-515-559-11	RELAY, POWER		IC201	8-752-006-10	IC CX20061	
<u>TRANSFORMER</u>				<u>CONNECTOR</u>			
T609	△ 1-421-400-11	COIL, LINE FILTER		Q1	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P	
T610	△ 1-421-400-11	COIL, LINE FILTER		Q2	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
T611	△ 1-448-108-11	TRANSFORMER, CONVERTER (SRT)		Q3	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
T612	△ 1-437-173-11	TRANSFORMER, DRIVE		Q4	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
<u>VARISTOR</u>				<u>TRANSISTOR</u>			
VDR610	1-807-180-11	VARISTOR SNR-14A300K		Q6	1-536-899-11	TERMINAL BOARD, INPUT/OUTPUT	

*A-1270-154-A	Q BOARD, COMPLETE			Q201	8-729-245-83	TRANSISTOR 2SC2458	
	*****			Q202	8-729-245-83	TRANSISTOR 2SC2458	
<u>CAPACITOR</u>				Q203	8-729-245-83	TRANSISTOR 2SC2458	
C201	1-123-333-00	ELECT	100MF 20% 25V	Q204	8-729-204-83	TRANSISTOR 2SA1048GR	
C202	1-101-006-00	CERAMIC	0.047MF 50V	Q205	8-729-204-83	TRANSISTOR 2SA1048GR	
C203	1-123-356-00	ELECT	10MF 20% 25V	Q206	△ 8-729-177-43	TRANSISTOR 2SD774-4	
C204	1-123-318-00	ELECT	33MF 20% 16V	Q207	△ 8-729-178-52	TRANSISTOR 2SC2785-J	
C205	1-123-318-00	ELECT	33MF 20% 16V	Q208	8-729-245-83	TRANSISTOR 2SC2458	
<u>RESISTOR</u>				<u>RESISTOR</u>			
C206	1-123-333-00	ELECT	100MF 20% 25V	R201	1-215-394-00	METAL 75 1% 1/6W	
C208	1-123-356-00	ELECT	10MF 20% 25V	R202	1-247-131-00	CARBON 1K 5% 1/4W	
C209	1-123-318-00	ELECT	33MF 20% 16V	R203	1-247-875-00	CARBON 68K 5% 1/6W	
C210	1-123-356-00	ELECT	10MF 20% 25V	R204	1-247-873-00	CARBON 56K 5% 1/6W	
C211	1-101-006-00	CERAMIC	0.047MF 50V	R205	1-247-831-00	CARBON 1K 5% 1/6W	
C212	1-101-006-00	CERAMIC	0.047MF 50V	R206	1-247-807-00	CARBON 100 5% 1/6W	
C213	1-123-380-00	ELECT	1MF 20% 50V	R207	1-247-875-00	CARBON 68K 5% 1/6W	
C214	1-123-380-00	ELECT	1MF 20% 50V	R208A	1-215-394-00	METAL 75 1% 1/6W	
C215	1-123-334-00	ELECT	220MF 20% 25V	R209	1-247-131-00	CARBON 1K 5% 1/4W	
C217	1-101-006-00	CERAMIC	0.047MF 50V	R210	1-247-873-00	CARBON 56K 5% 1/6W	
C218	1-123-382-00	ELECT	3.3MF 20% 50V	R211	1-247-807-00	CARBON 100 5% 1/6W	
C219	1-123-356-00	ELECT	10MF 20% 25V	R212	1-247-831-00	CARBON 1K 5% 1/6W	
C220	1-123-356-00	ELECT	10MF 20% 25V	R213	1-247-831-00	CARBON 1K 5% 1/6W	
C221	1-101-006-00	CERAMIC	0.047MF 50V	R214	1-247-799-00	CARBON 47 5% 1/6W	
C222	1-123-321-00	ELECT	220MF 20% 16V	R215	1-247-849-00	CARBON 5.6K 5% 1/6W	
C223	1-123-321-00	ELECT	220MF 20% 16V	R216	1-247-843-00	CARBON 3.3K 5% 1/6W	
C224	1-123-333-00	ELECT	100MF 20% 16V	R217	1-247-855-00	CARBON 10K 5% 1/6W	
C225	1-123-318-00	ELECT	33MF 20% 16V	R218	1-247-893-00	CARBON 390K 5% 1/6W	
C226	1-123-318-00	ELECT	33MF 20% 16V	R219	1-247-889-00	CARBON 270K 5% 1/6W	
C228	1-102-129-00	CERAMIC	0.01MF 50V	R220	1-247-889-00	CARBON 270K 5% 1/6W	
C229	1-123-380-00	ELECT	1MF 20% 50V	R221	1-247-855-00	CARBON 10K 5% 1/6W	
C231	1-101-004-00	CERAMIC	0.01MF 50V	R222	1-247-855-00	CARBON 10K 5% 1/6W	
C232	1-123-330-00	ELECT	22MF 20% 25V	R223	1-247-893-00	CARBON 390K 5% 1/6W	
<u>DIODE</u>				R224	1-247-889-00	CARBON 270K 5% 1/6W	
D201	8-719-100-65	DIODE RD12E-B2		R225	1-247-889-00	CARBON 270K 5% 1/6W	
D202	8-719-911-19	DIODE 1SS119		R226	1-247-831-00	CARBON 1K 5% 1/6W	
D203	8-719-100-65	DIODE RD12E-B2		R227	1-247-839-00	CARBON 2.2K 5% 1/6W	
D204	8-719-911-19	DIODE 1SS119		R228	1-247-841-00	CARBON 2.7K 5% 1/6W	
D205	8-719-911-19	DIODE 1SS119		R229	1-247-803-00	CARBON 68 5% 1/6W	

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Q C DB DC

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R230	A 1-246-981-11	CARBON	4.7 5% 1/8W F	R707	1-247-815-00	CARBON	220 5% 1/6W
R232	A 1-247-823-31	CARBON	470 5% 1/4W	R709	1-202-822-00	SOLID	2.2K 10% 1/2W
R233	A 1-247-823-31	CARBON	470 5% 1/4W	R710	1-213-156-00	METAL OXIDE	12K 5% 1W F
R234	1-247-863-00	CARBON	22K 5% 1/6W	R711	1-202-822-00	SOLID	2.2K 10% 1/2W
R235	1-247-807-00	CARBON	100 5% 1/6W	R712	1-247-815-00	CARBON	220 5% 1/6W
R236	1-247-849-00	CARBON	5.6K 5% 1/6W	R714	1-213-156-00	METAL OXIDE	12K 5% 1W F
R237	1-247-876-00	CARBON	75K 5% 1/6W	R715	1-202-822-00	SOLID	2.2K 10% 1/2W
R238	1-247-849-00	CARBON	5.6K 5% 1/6W	R716	1-247-815-00	CARBON	220 5% 1/6W
R239	1-247-876-00	CARBON	75K 5% 1/6W			VARIABLE RESISTOR	
R240	A 1-212-851-11	FUSIBLE	5.6 5% 1/4W F	RV701	1-230-164-21	RES, ADJ, METAL GLAZE 55M	
		SWITCH				SPARK GAP	
S201	1-553-725-00	SWITCH, SLIDE		SG701	1-519-063-XX	DISCHARGING GAP	
S202	1-553-725-00	SWITCH, SLIDE				*****	
		*****				*1-614-502-11 DB BOARD	
		*A-1330-584-A C BOARD, COMPLETE				*****	
		*****				CONNECTOR	
		1-526-691-00 SOCKET, CRT		DB1	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
		CONNECTOR		DB2	*1-564-445-11	PLUG, CONNECTOR (2.5MM) 9P	
C1	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P				*****	
C2	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P				*1-614-498-11 DC BOARD	
C3	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P				*****	
C4	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P				CAPACITOR	
		CAPACITOR		C890	1-123-332-00	ELECT	47MF 20% 16V
C701	1-102-223-00	CERAMIC	0.0047MF 10% 2KV	C891	1-130-794-00	FILM	0.22MF 10% 250V
C703	1-102-050-00	CERAMIC	0.01MF 500V	C892	1-130-800-00	FILM	2.2MF 10% 250V
C704	1-123-933-00	ELECT	10MF 20% 160V			DIODE	
		COIL		D890	8-719-102-74	DIODE RD6.2E-N2	
L701	A 1-407-709-11	MICRO INDUCTOR 82UH		D891	A 8-719-000-24	THYRISTOR CROZAM-4	
L702	1-407-709-00	MICRO INDUCTOR 220UH		D892	8-719-911-55	DIODE U05G	
		NEON LAMP				CONNECTOR	
NE702	1-519-013-13	DISCHARGE TUBE		DC1	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
NE703	1-519-013-13	DISCHARGE TUBE		DC2	*1-560-278-00	PLUG, CONNECTOR 3P	
NE704	1-519-013-13	DISCHARGE TUBE				TRANSISTOR	
NL701	1-519-108-XX	LAMP, NEON ASSY		Q890	8-765-620-00	TRANSISTOR 2SD1015	
		TRANSISTOR				RESISTOR	
Q701	8-729-326-11	TRANSISTOR 2SC2611		R895	1-202-846-00	SOLID	470K 1/2W
Q702	8-729-326-11	TRANSISTOR 2SC2611		R896	1-247-871-00	CARBON	47K 5% 1/6W
Q703	8-729-326-11	TRANSISTOR 2SC2611		R898	1-247-817-00	CARBON	270 5% 1/6W
		RESISTOR		R899	A 1-246-996-11	CARBON	2.2K 5% 1/8W F
R701	1-202-842-11	SOLID	220K 10% 1/2W	R900	1-246-517-25	CARBON	68K 5% 1/4W
R702	1-202-719-00	SOLID	1M 10% 1/2W				
R703	1-202-838-00	SOLID	100K 10% 1/2W				
R706	1-213-156-00	METAL OXIDE	12K 5% 1W F				

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*1-615-160-11	DD BOARD	*****		C840	1-102-832-00	CERAMIC 330PF	10% 50V
*1-564-451-11	PLUG, CONNECTOR (2.5MM) 3P			C841	1-123-360-00	ELECT 100MF	20% 50V
	<u>CAPACITOR</u>			C842	1-123-335-00	ELECT 330MF	20% 25V
C870	1-161-328-00	CERAMIC 0.0047MF	30% 50V	C843	1-108-837-00	MYLAR 0.01MF	10% 50V
	<u>IC</u>			C844	1-102-030-51	CERAMIC 330PF	10% 500V
IC805	8-759-170-12	IC UPC78M12H		C845	1-136-337-11	FILM 3.3MF	10% 100V
*****				C846	1-124-258-00	ELECT 3.3MF	20% 25V
*A-1345-512-A	DA BOARD, COMPLETE	*****		C850	1-123-356-00	ELECT 10MF	20% 25V
3-701-833-01	HEAD, WASHER, TAPPING SCREW			C851	1-106-176-00	MYLAR 0.0015MF	5% 50V
	<u>CAPACITOR</u>			C853	1-106-180-00	MYLAR 0.0022MF	5% 50V
C800	1-123-380-00	ELECT 1MF	20% 50V	C854	1-102-529-00	CERAMIC 100PF	5% 50V
C801	1-108-599-00	MYLAR 0.068MF	10% 50V	C855	1-123-356-00	ELECT 10MF	20% 16V
C802	1-108-837-00	MYLAR 0.01MF	10% 50V	C856	1-102-973-00	CERAMIC 100PF	10% 50V
C803	1-108-837-00	MYLAR 0.01MF	10% 50V	C857	1-102-038-51	CERAMIC 0.001MF	500V
C804	1-123-369-00	ELECT 4.7MF	20% 25V	C860	1-123-381-00	ELECT 2.2MF	20% 50V
C805	1-123-369-00	ELECT 4.7MF	20% 25V	C862	1-102-074-00	CERAMIC 0.001MF	10% 50V
C806	1-130-868-00	FILM 0.0056MF	5% 50V	C863	1-123-380-00	ELECT 1MF	20% 50V
C807	1-123-356-00	ELECT 10MF	20% 16V	C864	1-124-537-51	ELECT 1200MF	20% 35V
C808	1-123-382-00	ELECT 3.3MF	20% 50V	C866	1-102-074-00	CERAMIC 0.001MF	10% 50V
C809	1-123-380-00	ELECT 1MF	20% 50V	C867	1-101-002-00	CERAMIC 0.0022MF	50V
C810	1-161-059-00	CERAMIC 0.047MF	10% 50V	<u>DIODE</u>			
C811	1-102-121-00	CERAMIC 0.0022MF	10% 50V	D800	8-719-102-74	DIODE RD6.2E-N2	
C812	1-123-380-00	ELECT 1MF	20% 50V	D801	8-719-911-19	DIODE 1SS119	
C813	1-123-356-00	ELECT 10MF	20% 16V	D802	8-719-911-19	DIODE 1SS119	
C814	1-124-539-51	ELECT 330MF	20% 35V	D803	8-719-300-76	DIODE RH1A	
C815	1-129-706-51	FILM 0.0022MF	10% 630V	D804	8-719-300-76	DIODE RH1A	
C816	1-130-581-11	FILM 0.033MF	3% 600V	D805	8-719-901-95	DIODE V19CSS	
C817	1-129-706-51	FILM 0.0022MF	10% 630V	D806	8-719-901-93	DIODE V19E	
C820	1-123-335-00	ELECT 330MF	20% 25V	D807	8-719-901-93	DIODE V19E	
C822	1-102-030-00	CERAMIC 330PF	10% 500V	D808	8-719-901-93	DIODE V19E	
C823	1-123-347-00	ELECT 330MF	20% 35V	D809	8-719-911-55	DIODE U05G	
C824	1-102-030-51	CERAMIC 330PF	10% 500V	D810	8-719-911-19	DIODE 1SS119	
C825	1-123-933-00	ELECT 10MF	20% 160V	D811	8-719-911-19	DIODE 1SS119	
C826	1-123-356-00	ELECT 10MF	20% 25V	D812	8-719-911-19	DIODE 1SS119	
C828	1-130-781-00	FILM 0.22MF	10% 100V	D813	8-719-911-19	DIODE 1SS119	
C830	1-123-356-00	ELECT 10MF	20% 16V	D814	8-719-911-19	DIODE 1SS119	
C831	1-108-591-00	MYLAR 0.033MF	10% 50V	D815	8-719-911-19	DIODE 1SS119	
C832	1-108-591-00	MYLAR 0.033MF	10% 50V	D816	8-719-901-83	DIODE 1SS83	
C833	1-123-380-00	ELECT 1MF	20% 50V	D817	8-719-911-19	DIODE 1SS119	
C834	1-136-173-00	FILM 0.47MF	5% 50V	D818	8-719-911-19	DIODE 1SS119	
C835	1-123-322-00	ELECT 330MF	20% 16V	D819	8-719-911-19	DIODE 1SS119	
C836	1-124-245-00	ELECT 4.7MF	20% 25V	D820	8-719-911-19	DIODE 1SS119	
C837	1-123-379-00	ELECT 0.47MF	20% 50V	D821	8-719-102-74	DIODE RD6.2E-N2	
C838	1-108-837-00	MYLAR 0.01MF	10% 50V	D822	8-719-103-21	DIODE RD18EN2	
C839	1-108-845-00	MYLAR 0.047MF	10% 50V	D823	8-719-911-19	DIODE 1SS119	
				D824	8-719-102-67	DIODE RD4.3E-N1	
				D825	8-719-000-28	THYRISTOR CRO2AM-8	
				D826	8-719-981-00	DIODE ERC81-004	
				D827	8-719-981-00	DIODE ERC81-004	
				<u>CONNECTOR</u>			
				DA1	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	

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

DA

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
DA2	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		R815	1-247-851-00	CARBON 6.8K 5% 1/6W	
DA3	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		R816	1-247-855-00	CARBON 10K 5% 1/6W	
DA4	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		R818	1-247-855-00	CARBON 10K 5% 1/6W	
DA5	*1-508-765-00	3P PLUG (M)		R819	1-215-461-00	METAL 47K 1% 1/6W	
DA6	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		R820	1-215-451-00	METAL 18K 1% 1/6W	
DA7	*1-564-445-11	PLUG, CONNECTOR (2.5MM) 9P		R821	1-247-879-00	CARBON 100K 5% 1/6W	
DA8	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		R822	1-213-143-00	METAL OXIDE 1K 5% 1W F	
<u>IC</u>				R824	△ 1-247-023-11	CARBON 2.2 5% 1/8W F	
IC800	8-759-100-60	IC UPC1377C		R825	△ 1-246-979-11	CARBON 1.2 5% 1/8W F	
IC801	8-759-113-78	IC UPC1378H-L		R826	1-215-445-00	METAL 10K 1% 1/6W	
IC802	8-759-145-58	IC UPC4558C		R827	1-213-149-00	METAL OXIDE 3.3K 5% 1W F	
IC803	8-759-240-30	IC TC4030BP		R828	1-213-149-00	METAL OXIDE 3.3K 5% 1W F	
IC804	8-759-345-38	IC HD14538BP		R829	1-213-149-00	METAL OXIDE 3.3K 5% 1W F	
<u>COIL</u>				R830	1-247-855-00	CARBON 10K 5% 1/6W	
L800	1-408-242-00	MICRO INDUCTOR 10MMH		R831	1-247-855-00	CARBON 10K 5% 1/6W	
L802	1-408-403-00	MICRO INDUCTOR 3.3UH		R832	1-247-851-00	CARBON 6.8K 5% 1/6W	
L803	△ 1-459-370-11	COIL, FERRITE (HLC)		R833	1-247-863-00	CARBON 22K 5% 1/6W	
L804	△ 1-459-597-11	COIL, VARIABLE		R834	1-247-859-00	CARBON 15K 5% 1/6W	
L805	1-459-403-00	COIL (WITH CORE)		R835	1-247-855-00	CARBON 10K 5% 1/6W	
L806	1-408-423-00	MICRO INDUCTOR 150UH		R836	1-247-869-00	CARBON 39K 5% 1/6W	
L807	1-459-595-11	COIL, CHOKE		R837	1-247-831-00	CARBON 1K 5% 1/6W	
L810	1-407-365-00	COIL, CHOKE		R838	1-247-824-00	CARBON 510 5% 1/6W	
<u>TRANSISTOR</u>				R839	1-247-852-00	CARBON 7.5K 5% 1/6W	
Q800	8-729-245-83	TRANSISTOR 2SC2458		R840	1-247-863-00	CARBON 22K 5% 1/6W	
Q801	△ 8-729-201-61	TRANSISTOR 2SC2555-J		R842	1-247-855-00	CARBON 10K 5% 1/6W	
	*4-363-404-00	HOLDER, IC; Q801		R843	1-247-865-00	CARBON 27K 5% 1/6W	
	4-363-414-00	SPACER, MICA; Q801		R844	1-247-817-00	CARBON 270 5% 1/6W	
Q802	8-729-201-XX	TRANSISTOR 2SC3075		R845	△ 1-212-368-61	METAL OXIDE 4.7 5% 1W F	
Q803	8-729-245-83	TRANSISTOR 2SC2458		R846	1-213-138-00	METAL OXIDE 390 5% 1W F	
Q804	8-729-245-83	TRANSISTOR 2SC2458		R847	1-213-138-00	METAL OXIDE 390 5% 1W F	
Q805	8-729-245-83	TRANSISTOR 2SC2458		R848	1-213-139-00	METAL OXIDE 470 5% 1W F	
Q806	8-729-245-83	TRANSISTOR 2SC2458		R849	1-247-848-00	CARBON 5.1K 5% 1/6W	
Q807	8-729-204-83	TRANSISTOR 2SA1048GR		R850	1-247-855-00	CARBON 10K 5% 1/6W	
Q808	8-729-245-83	TRANSISTOR 2SC2458		R851	1-247-855-00	CARBON 10K 5% 1/6W	
Q809	△ 8-729-193-41	TRANSISTOR 2SC2334-M		R852	1-247-036-11	CARBON 330 5% 1/8W F	
<u>RESISTOR</u>				R853	1-247-831-00	CARBON 1K 5% 1/6W	
R800	1-247-855-00	CARBON 10K 5% 1/6W		R855	1-215-434-00	METAL 3.6K 1% 1/6W	
R801	1-247-850-00	CARBON 6.2K 5% 1/6W		R856	△	METAL 1/6W	
R802	1-247-855-00	CARBON 10K 5% 1/6W		R859	△	METAL 1/6W	
R803	1-247-877-00	CARBON 82K 5% 1/6W		R860	1-247-847-00	CARBON 4.7K 5% 1/6W	
R804	1-247-857-00	CARBON 12K 5% 1/6W		R861	1-247-847-00	CARBON 4.7K 5% 1/6W	
R805	1-247-831-00	CARBON 1K 5% 1/6W		R862	1-247-867-00	CARBON 33K 5% 1/6W	
R807	1-247-851-00	CARBON 6.8K 5% 1/6W		R863	1-247-831-00	CARBON 1K 5% 1/6W	
R808	1-247-851-00	CARBON 6.8K 5% 1/6W		R864	1-247-879-00	CARBON 100K 5% 1/6W	
R809	1-247-827-00	CARBON 680 5% 1/6W		R866	1-247-855-00	CARBON 10K 5% 1/6W	
R810	1-247-827-00	CARBON 680 5% 1/6W		R867	1-215-433-00	METAL 3.3K 1% 1/6W	
R811	1-247-827-00	CARBON 680 5% 1/6W		R868	1-247-871-00	CARBON 47K 5% 1/6W	
R812	△ 1-206-648-61	METAL OXIDE 220 5% 2W F		R869	1-247-871-00	CARBON 47K 5% 1/6W	
R813	1-212-360-00	METAL OXIDE 1 5% 1W F		R870	1-215-469-00	METAL 100K 1% 1/6W	
				R871	1-247-895-00	CARBON 470K 5% 1/6W	
				R872	1-247-889-00	CARBON 270K 5% 1/6W	
				R873	1-247-831-00	CARBON 1K 5% 1/6W	
				R874	1-247-847-00	CARBON 4.7K 5% 1/6W	

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DA HA HB

Ref.No.	Part No.	Description	Remark
R876	1-215-427-00	METAL 1.8K 1% 1/6W	
R880	1-215-452-00	METAL 20K 1% 1/6W	
R881		METAL 1/6W	
R882	1-215-441-00	METAL 6.8K 1% 1/6W	
R883	1-247-863-00	CARBON 22K 5% 1/6W	
R884	1-247-860-00	CARBON 16K 5% 1/6W	
R885	1-247-852-00	CARBON 7.5K 5% 1/6W	
R886	1-247-852-00	CARBON 7.5K 5% 1/6W	
R888	1-247-847-00	CARBON 4.7K 5% 1/6W	
R890	1-247-831-00	CARBON 1K 5% 1/6W	
R891	1-247-851-00	CARBON 6.8K 5% 1/6W	
R892	1-247-839-00	CARBON 2.2K 5% 1/6W	
R893	1-247-837-00	CARBON 1.8K 5% 1/8W	F
R894	1-247-807-00	CARBON 100 5% 1/6W	
<u>VARIABLE RESISTOR</u>			
RV800	1-226-772-00	RES, ADJ, METAL GLAZE 4.7K	
RV801	1-226-772-00	RES, ADJ, METAL GLAZE 4.7K	
RV802	1-228-720-00	RES, ADJ, CERAMIC CARBON 1K	
RV803	1-228-717-00	RES, ADJ, CERAMIC CARBON 220	
RV804	1-224-249-XX	RES, ADJ, METAL GLAZE 1K	
RV805	1-223-102-00	RES, ADJ, WIREWOUND 100	
RV806	1-228-727-00	RES, ADJ, CERAMIC CARBON 47K	
RV807	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K	
RV808	1-226-703-00	RES, ADJ, METAL GLAZE 10K	
<u>RELAY</u>			
RY800	1-515-380-00	RELAY	
<u>TRANSFORMER</u>			
T800	1-437-082-11	HDT	
T802	1-437-081-11	TRANSFORMER, CDT	

*1-614-494-11	HA BOARD *****		
<u>CAPACITOR</u>			
C501	1-123-332-00	ELECT 47MF 20% 25V	
C502	1-101-004-00	CERAMIC 0.01MF 50V	
<u>DIODE</u>			
D501	8-719-911-19	DIODE 1SS119	
<u>CONNECTOR</u>			
HA1	*1-564-451-11	PLUG, CONNECTOR (2.5MM) 3P	
HA2	*1-564-452-11	PLUG, CONNECTOR (2.5MM) 4P	
HA3	*1-564-450-11	PLUG, CONNECTOR (2.5MM) 2P	
HA4	*1-564-452-41	PLUG, CONNECTOR (2.5MM) 4P	
HA5	*1-564-452-41	PLUG, CONNECTOR (2.5MM) 4P	
HA6	*1-564-453-11	PLUG, CONNECTOR (2.5MM) 5P	
HA7	*1-564-453-11	PLUG, CONNECTOR (2.5MM) 5P	

Ref.No.	Part No.	Description	Remark
<u>TRANSISTOR</u>			
Q501	8-729-245-83	TRANSISTOR 2SC2458	
<u>RESISTOR</u>			
R501	1-247-819-00	CARBON 330 5% 1/6W	
R502	1-247-865-00	CARBON 27K 5% 1/6W	
R503	1-247-883-00	CARBON 150K 5% 1/6W	
R504	1-247-867-00	CARBON 33K 5% 1/6W	
R505	1-247-887-00	CARBON 220K 5% 1/6W	
R506	1-247-867-00	CARBON 33K 5% 1/6W	
R507	1-247-873-00	CARBON 56K 5% 1/6W	
R508	1-247-854-00	CARBON 9.1K 5% 1/6W	
R509	1-247-891-00	CARBON 330K 5% 1/6W	
R510	1-247-829-00	CARBON 820 5% 1/6W	
R511	1-247-831-00	CARBON 1K 5% 1/6W	
R512	1-247-163-00	CARBON 22K 5% 1/4W	
<u>VARIABLE RESISTOR</u>			
RV501	1-230-760-11	RES, VAR, CARBON 1K	
RV502	1-230-761-11	RES, VAR, CARBON 20K/1K	
RV503	1-230-711-11	RES, VAR, CARBON 20K	
RV504	1-230-760-11	RES, VAR, CARBON 1K	
RV505	1-230-762-11	RES, VAR, CARBON 20K	
RV506	1-230-710-11	RES, VAR, CARBON 10K	
RV507	1-230-710-11	RES, VAR, CARBON 10K	
RV508	1-226-703-00	RES, ADJ, METAL GLAZE 10K	
RV509	1-226-772-00	RES, ADJ, METAL GLAZE 4.7K	
<u>THERMISTOR</u>			
TH501	1-800-944-00	THERMISTOR TH-4700	

*1-614-495-11	HB BOARD *****		
*4-374-809-01	HOLDER (3 GANG), LED		
<u>DIODE</u>			
D502	8-719-812-32	DIODE TLY123	
D503	8-719-812-32	DIODE TLY123	
D504	8-719-812-32	DIODE TLY123	
<u>CONNECTOR</u>			
HB2	*1-564-450-11	PLUG, CONNECTOR (2.5MM) 2P	
<u>SWITCH</u>			
S501	1-554-118-00	SWITCH, PUSH (1 KEY)	
S502	1-554-118-00	SWITCH, PUSH (1 KEY)	
S503	1-554-118-00	SWITCH, PUSH (1 KEY)	
S504	1-554-118-00	SWITCH, PUSH (1 KEY)	

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Ref.No.	Part No.	Description	Remark
	*1-614-496-11	X BOARD *****	
	*4-337-424-00	HOLDER (L), LED	
		DIODE	
D680	8-719-812-33	DIODE TLG123A	

MISCELLANEOUS

	▲ 1-451-265-11	DEFLECTION YOKE (SY-167)	
	1-452-032-00	MAGNET, DISK; 10MM ø	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ø	
	1-452-126-11	MAGNET	
	1-507-465-00	JACK, POWER OUTSIDE	

▲ 1-509-547-11 3P INLET

L901	▲ 1-426-043-12	COIL, DEGAUSSING	
S901	▲ 1-570-200-11	SWITCH, PUSH (AC POWER)(1 KEY)	
S902	▲ 1-516-046-11	SWITCH, SLIDE	
SP901	1-502-509-00	SPEAKER	
T801	▲ 1-439-358-11	TRANSFORMER ASSY, FLYBACK	
V901	▲ 8-737-151-05	CRT (A20JKU10X)	

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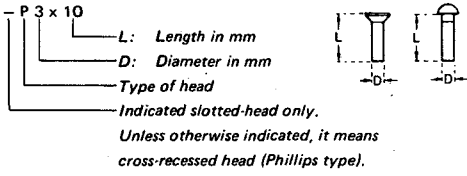
ACCESSORIES AND PACKING MATERIALS

Part No.	Description	Remark
▲ 1-551-812-11	CORD, POWER	
3-548-372-00	BAG, POLYETHYLENE	
4-374-831-01	HOOD (VF-501)	
4-374-840-01	INDIVIDUAL CARTON	
4-374-848-01	CUSHION (UPPER) (ASSY)	
4-374-849-01	CUSHION (LOWER) (ASSY)	
4-482-062-21	MANUAL, INSTRUCTION	
4-491-213-22	INSTRUCTION	

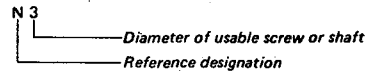
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










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












Screw:



Nut, Washer, Retaining ring:



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	
BV		brazier-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	

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