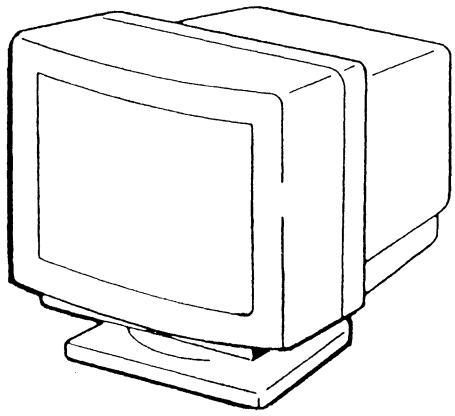
CPD-1304S

SERVICE MANUAL

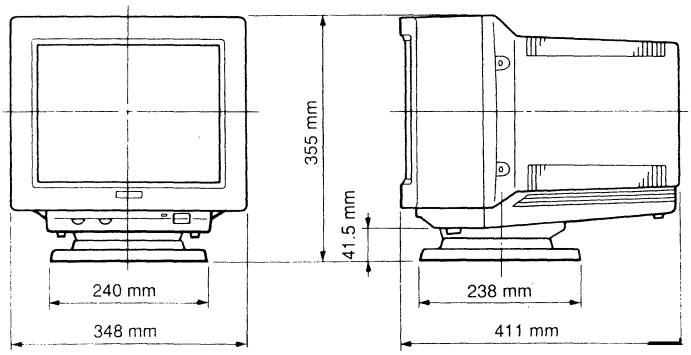
US Model
Canadian Model
Chassis No. SCC-E97A-A



Multiscan

SPECIFICATIONS

Picture tube	Super Fine Pitch Trinitron color tube 14-inch picture tube measured diagonally 90 degrees deflection Anti-glare dark screen Faceplate: non glare Conductive Silica Coating Phosphor P22 0.25 mm Aperture Grille Pitch
Viewable pixels	1024 × 768
Scanning frequency	Vertical sync signal frequency: 55 – 110 Hz Horizontal sync signal frequency: 28 – 57 kHz
Video input signal	Analog RGB positive 0.714 Vp-p/75Ω terminated Video band width: 60 MHz ±3 dB
Sync input	TTL level. Polarity free. Composite sync is acceptable at Pin # 13. Sync on green is acceptable.
Power requirements	100–120 V AC, Max. 1.8 A, 50–60 Hz
Dimensions	355(H) × 348(W) × 411(D) mm (14 × 13 3/4 × 16 1/4 inches)



Weight	Approx. 13.1 kg (30 lb 14 oz) Including the tilt-swivel
Supplied accessory	AC power cord (1)

Design and specifications subject to change without notice.

MULTISCAN®
COLOR COMPUTER DISPLAY

SONY®

MICROFILM

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

Dangerously high voltage is present inside the unit. Do not open the cabinet. Refer servicing to qualified personnel only.

TABLE OF CONTENTS

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.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE .EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

SAFETY CHECK-OUT
(US Model only)

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 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.
8. Check the 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)

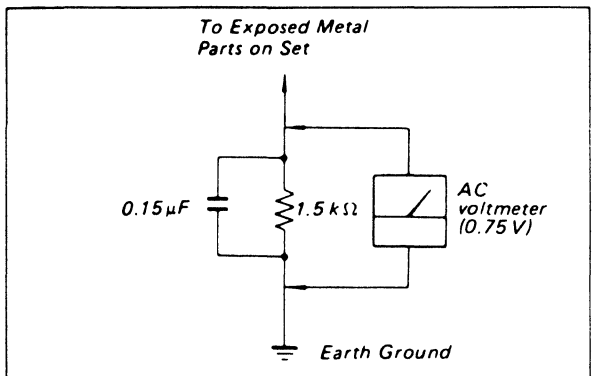


Fig. A. Using an AC voltmeter to check AC leakage.

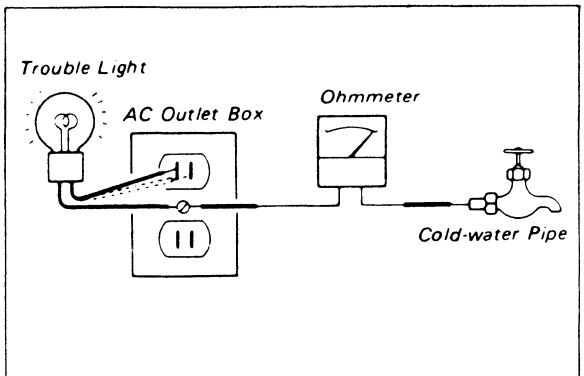
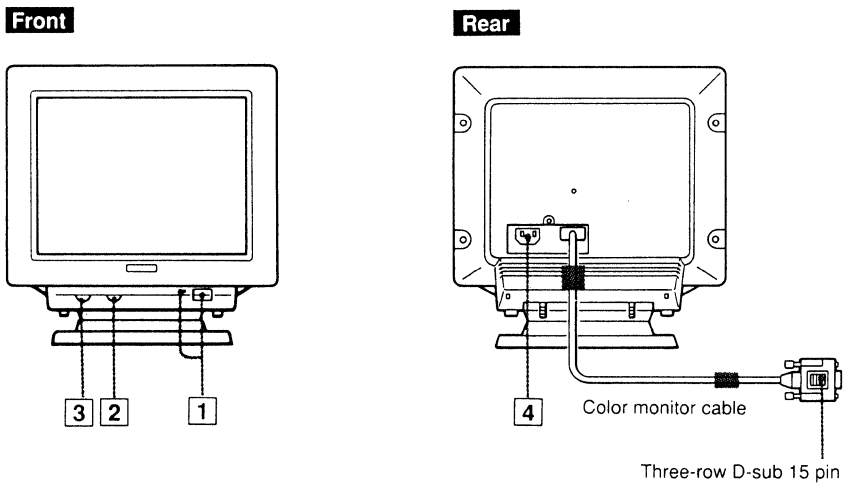


Fig. B. Checking for earth ground.

SECTION 1
GENERAL

1-1. LOCATION AND FUNCTION OF CONTROLS

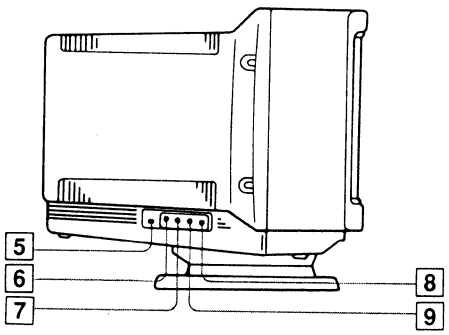


1 **POWER switch and indicator**
To turn on the power of the unit, press this switch. The indicator will light up. To turn off the unit, press it again.

2 **CONTRAST control** (◑)
Turn clockwise to increase contrast, or counterclockwise to decrease contrast.

3 **BRIGHTNESS control** (○)
Turn clockwise for a brighter display, or turn counterclockwise for a darker display.

4 **AC IN connector**
Connect to an AC outlet with the supplied AC power cord.



5 **AUTO SIZE switch**
Depending on the microcomputer connected to the display, set this switch to the appropriate position.
LOCK: For the IBM PS/2 microcomputer using the VGA mode.
When this switch is set to LOCK, the timing is automatically adjusted to the VGA mode, and the H SIZE, H SHIFT, V SIZE and V CENT controls will have no effect.
ADJ: For other microcomputers having analog RGB output.
When this switch is set to ADJ, adjust the display with the H SIZE, H SHIFT, V SIZE and V CENT controls.

Notes

- To adjust the horizontal frequencies of less than 40 kHz, set the AUTO SIZE switch to ADJ.
- To adjust the horizontal frequencies of 40 kHz or more, set the AUTO SIZE switch to either LOCK or ADJ.

6 **H SIZE (horizontal size) control**
Turn this control to adjust the horizontal size of the display.

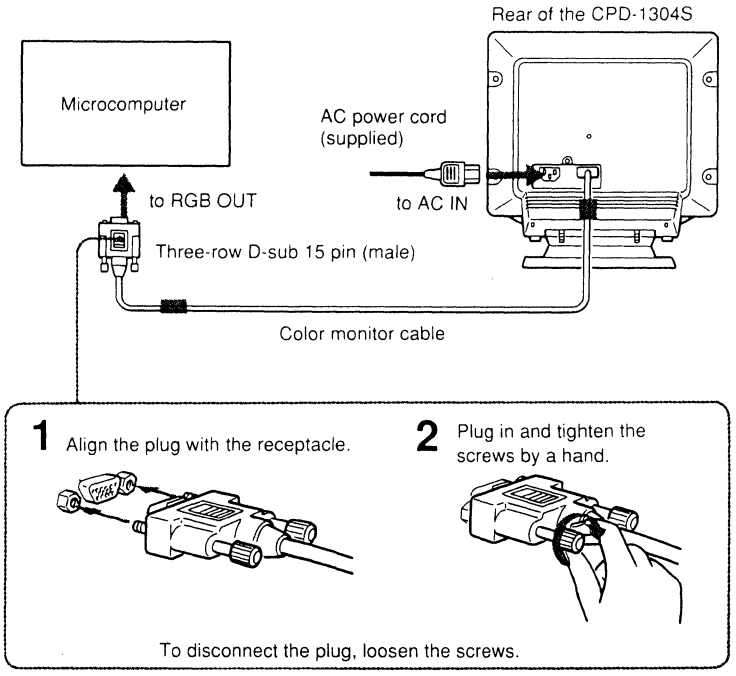
7 **H SHIFT (horizontal shift) control**
Turn this control to adjust the center of the display horizontally.

8 **V CENT (vertical center) control**
Turn this control to adjust the center of the display vertically.

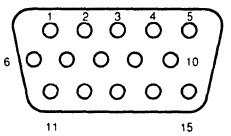
9 **V SIZE (vertical size) control**
Turn this control to adjust the vertical size of the display.

1-2. CONNECTIONS

Connect the power cord and the color monitor cable.
Be sure to turn the power of the unit off before making the connection.



RGB Input Pin Assignment

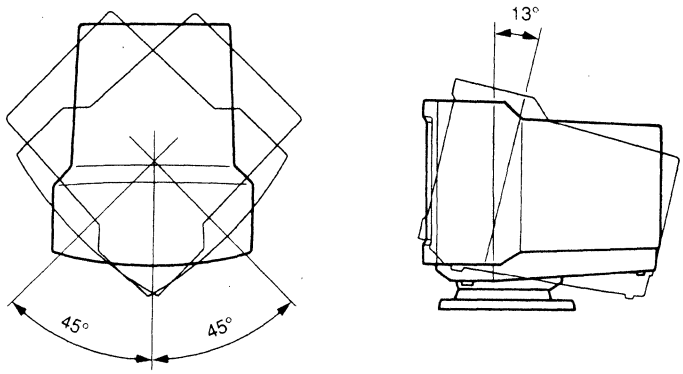


1	2	3	4	5	6	7	8	9
R	G	B	GND	GND	GND	GND	GND	—

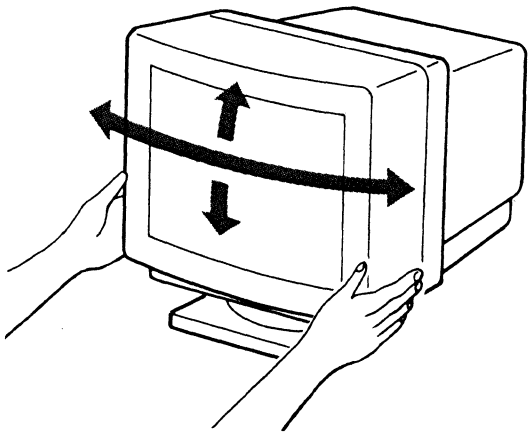
10	11	12	13	14	15			
GND	GND	—	H SYNC	V SYNC	—			

1-3. USE OF THE TILT-SWIVEL

With the tilt-swivel, this unit can be adjusted to be viewed at your desired angle within 90° horizontally and 13° vertically.



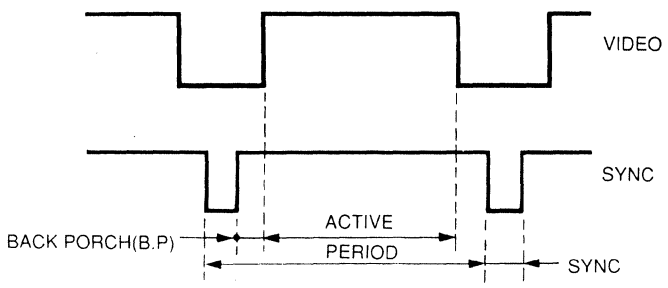
To turn the unit horizontally, hold it at its bottom with both hands as illustrated below.



1-4. TIMING CHART

The following timing chart shows approximate values.

MONITOR ACCEPTABLE TIMING EXAMPLE



[1] VGA

		1	2	3
FREQ.	H (kHz)	31.47	31.47	31.47
	V (Hz)	70.1	70.1	59.9
H	PERIOD (μS)	31.78	→	→
	SYNC	3.81		
	B.P	1.91		
	ACTIVE	25.42		
V	PERIOD (H)	449	449	525
	SYNC	2	2	2
	B.P	34	59	32
	ACTIVE	400	350	480
SYNC POLARITY	H	NEGA	POSI	NEGA
	V	POSI	NEGA	NEGA
CLOCK FREQ.	(MHz)	25.175	25.175	25.175

[2] 1024 × 768 interace (fh = 35.52 kHz/fv = 87 Hz)

FREQ.	H (kHz)	35.52
	V (Hz)	87.0
H	PERIOD (μS)	28.15
	SYNC	3.92
	B.P	1.25
	ACTIVE	22.81
V	PERIOD (H)	408.5
	SYNC	4
	B.P	20/20.5
	ACTIVE	384
SYNC POLARITY	H	POSI
	V	POSI
CLOCK FREQ.	(MHz)	44.900

[1], [2]: When the AUTO SIZE switch is in the LOCK position, picture size is automatically adjusted for the above listed video modes ([1], [2]).
All sizing controls on the left side of the monitor are therefore ineffective.
To adjust sizing for other video modes, change the switch to ADJ and adjust the controls.
Polarity free with the timing [1], [2] if the AUTO SIZE switch is not used.

[3] 35 kHz non-interace (example)
800 × 600

FREQ.	H (kHz)	35.16
	V (Hz)	56.0
H	PERIOD (μS)	28.44
	SYNC	3.11
	B.P	2.67
	DISPLAY	22.22
V	PERIOD (H)	628
	SYNC	14
	B.P	7
	ACTIVE	600
CLOCK FREQ.	(MHz)	36.000

[4] 48 kHz non-interace (example)
1024 × 768

FREQ.	H (kHz)	48.780
	V (Hz)	60.00
H	PERIOD (μS)	20.500
	SYNC	1.500
	B.P	2.000
	DISPLAY	16.000
V	PERIOD (H)	813
	SYNC	3
	B.P	39
	ACTIVE	768
CLOCK FREQ.	(MHz)	64.000

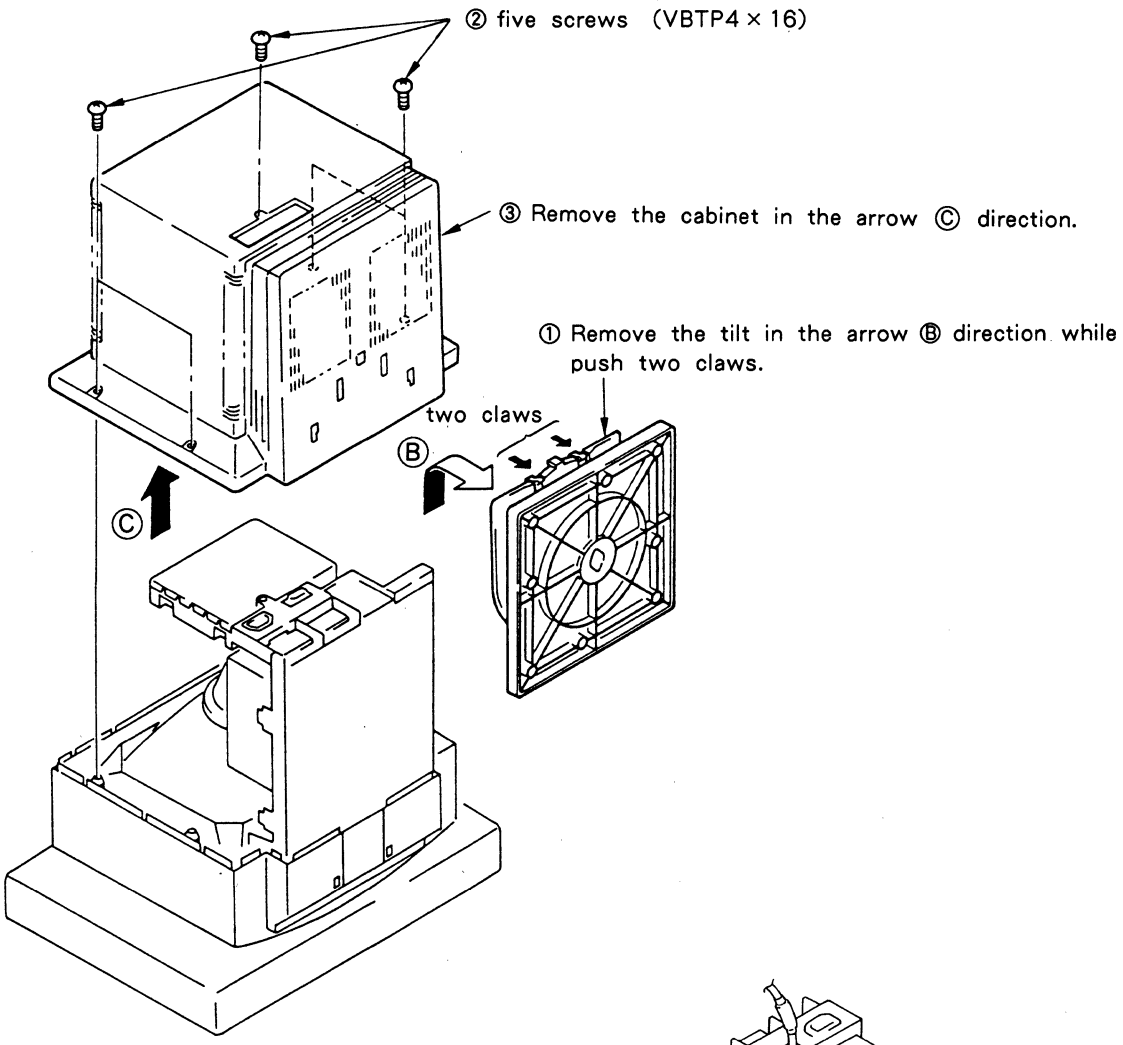
[3], [4]: SYNC POLARITY FREE

[5] 57 kHz non-interace
1024 × 768

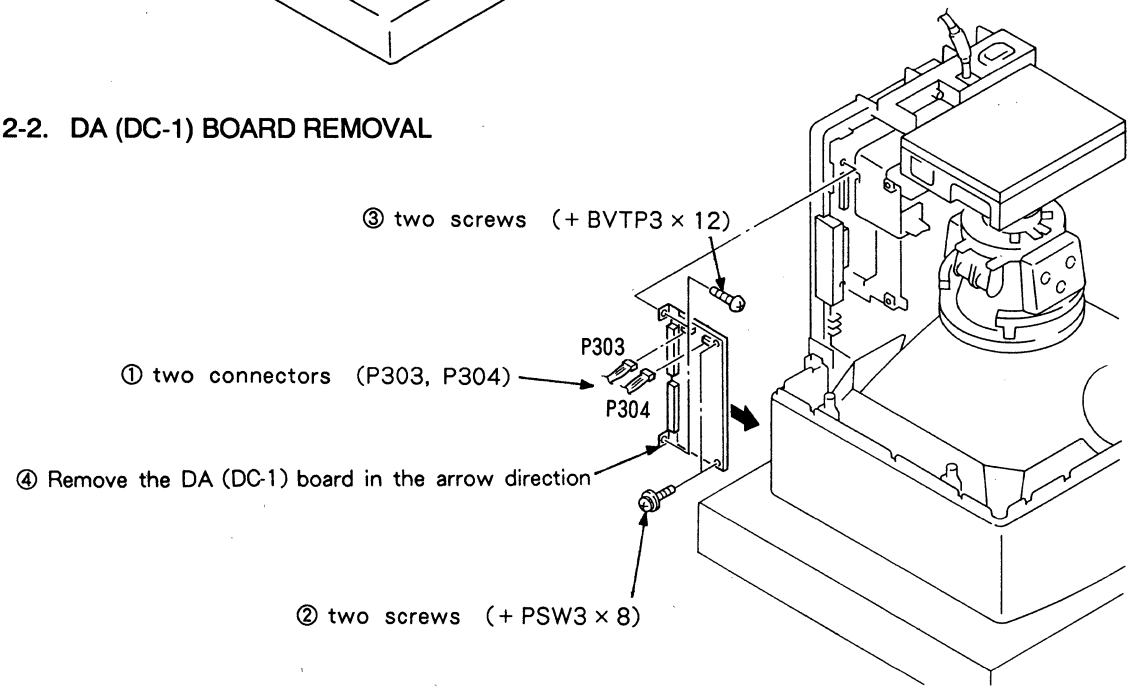
FREQ.	H (kHz)	56.476
	V (Hz)	70.069
H	PERIOD (μS)	17.707
	SYNC	1.813
	B.P	1.920
	ACTIVE	13.653
V	PERIOD (H)	806
	SYNC	6
	B.P	29
	ACTIVE	768
SYNC POLARITY	H	NEGA
	V	NEGA
CLOCK FREQ.	(MHz)	75.000

SECTION 2
DISASSEMBLY

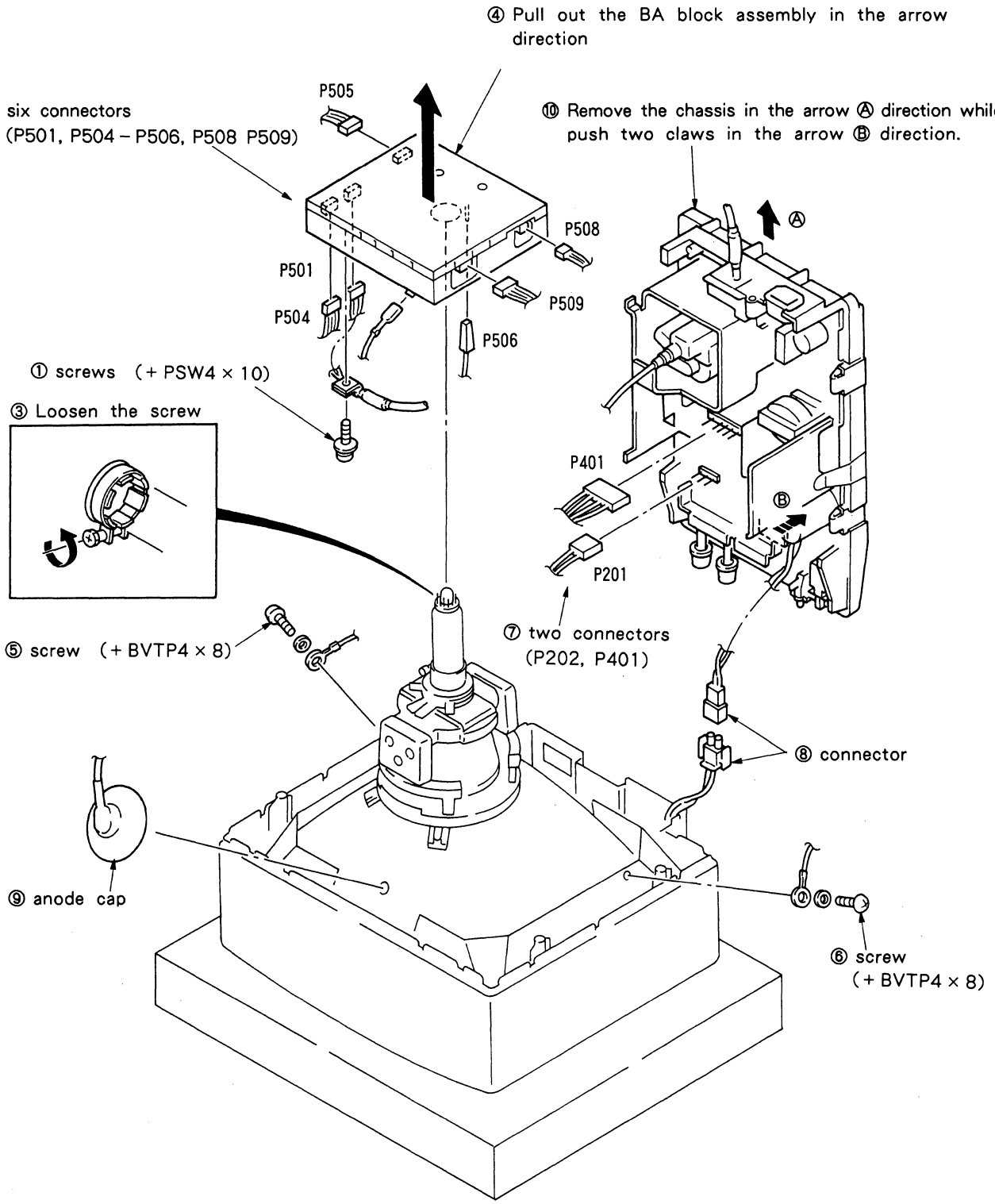
2-1. TILT AND CABINET REMOVAL



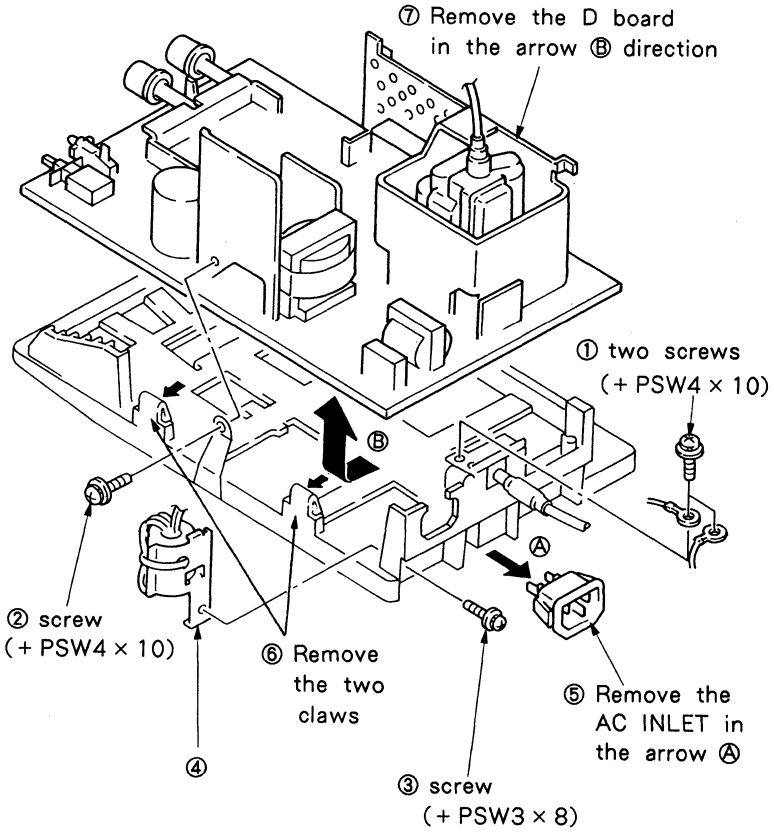
2-2. DA (DC-1) BOARD REMOVAL



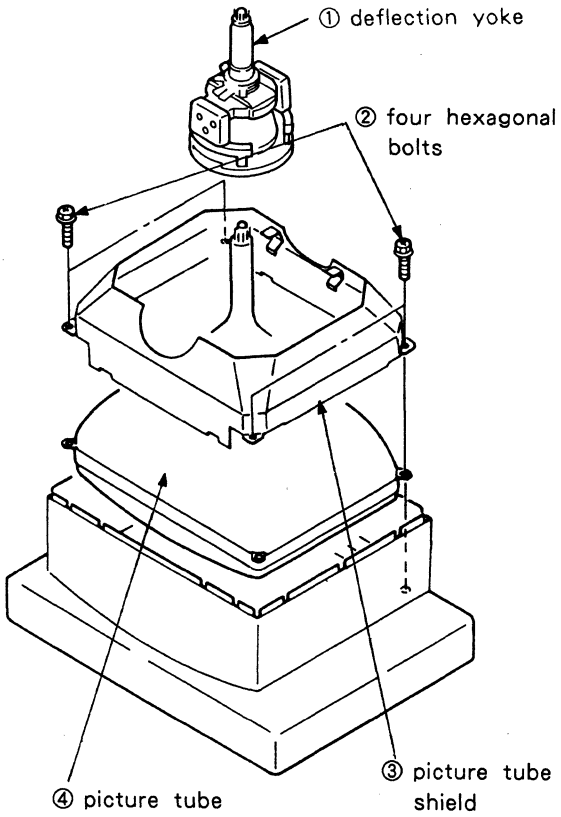
2-3. CHASSIS AND B BLOCK ASSEMBLY REMOVAL



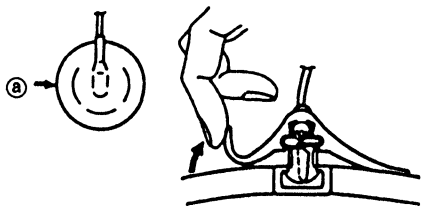
2-4. D BOARD REMOVAL



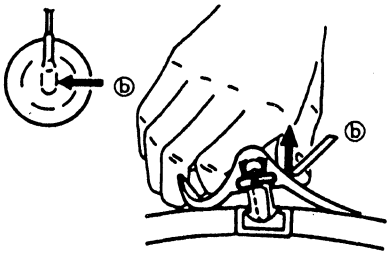
2-5. PICTURE TUBE REMOVAL



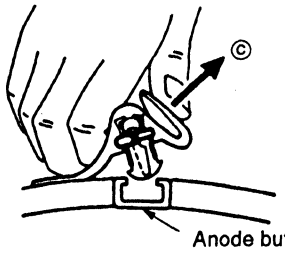
- **REMOVAL OF ANODE-CAP**
- **REMOVING PROCEDURES**



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



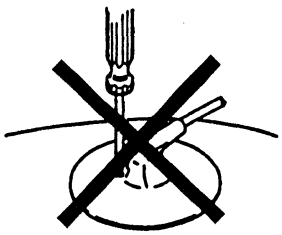
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

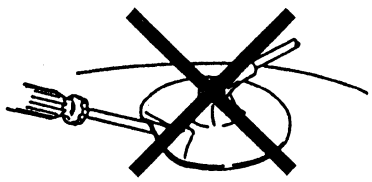


③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

- **HOW TO HANDLE AN ANODE-CAP**

① Don't hurt the surface of anode-caps with sharp shaped material !
② Don't press the rubber hardly not to hurt inside of anode-caps !
A metal fitting called as shatter-hook terminal is built in the rubber.
③ Don't turn the foot of rubber over hardly !
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SET-UP ADJUSTMENT

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless ontherwise noted.

The control and switch below should be set as follows unless otherwise noted :

CONTRAST control ····· 80%
BRIGHTNESS control ····· 50%

Perform the adjustments in order as follows :

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

Note : Test Equipment Required.

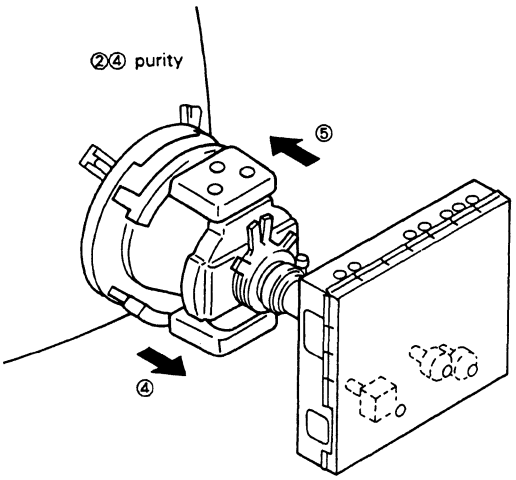
- Signal generator : VG807, VG809 ··· etc (Astro Design)
- Color Annalyzer
- Degausser

Preparation

- Face the PICTURE TUBE to east or west so as not to be influenced by magnetic force.
- Turn ON the POWER switch, and degauss the entire screen with degausser.

3-1. BEAM LANDING

1. Receive a signal of 480 LINE (f_H=31 kHz) with signal generater.
2. Adjust the white balance, convergence and focus coarsely, and then set purity controls to center position as shown in Fig. 3-1.
3. Switch over the signal generater to green.
4. Move the deflection yoke backward, and adjust purity magnet so that the green on the screen to become in the center of screen as shown in Fig. 3-2.
5. Move the deflection yoke foward, and adjust with so that the entire screen to become green entirely.
6. Switch over the signal to blue and green, and confirm the condition.
7. When landing at the corners is not right, correct by using the magnet (Fig. 3-3).



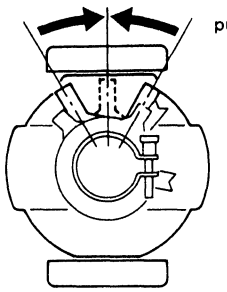


Fig. 3-1

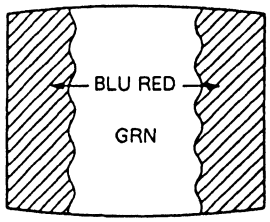


Fig. 3-2

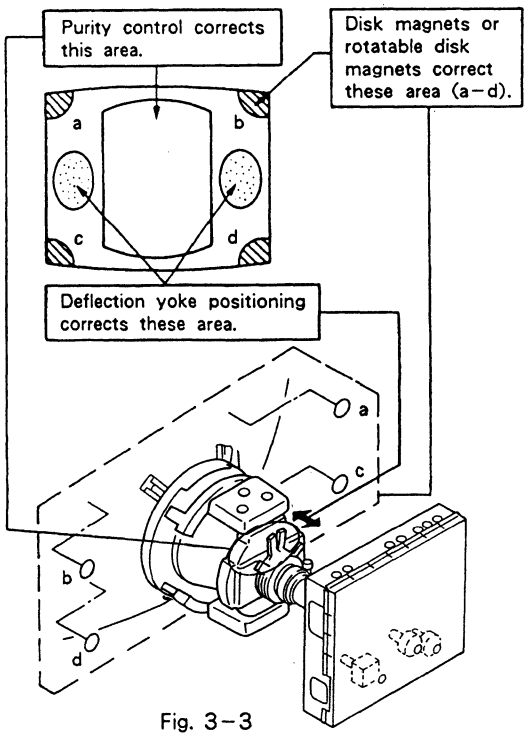


Fig. 3-3

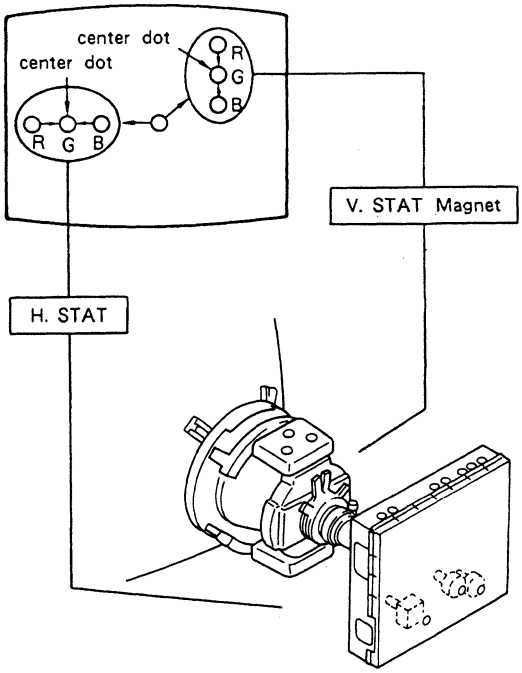
3-2. CONVERGENCE

(1) **Horizontal and Vertical Static Convergence Adjustment on the Center of Screen.**

- Before starting, perform V. SIZE, V. CENT, H. SIZE, H. CENT and Screen Distortion adjustment rightly.

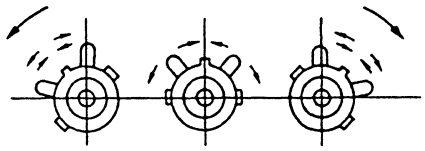
(Static Convergence Adjustment)

1. Receive a dot signal and Set CONTRAST to normal.
2. Adjust H. STAT VR to coincide red, green and blue dots on the center of screen. (Horizontal movement)
3. Adjust V. STAT magnet to coincide red, green and blue dots on the center of screen. (Vertical movement)



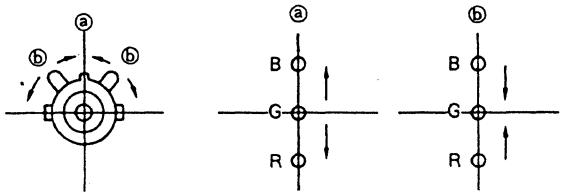
※ If the red, green and blue dots do not coincide on the center of screen with H. STAT VR, perform adjustment using V. STAT at the same time while tracking.

(Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.)

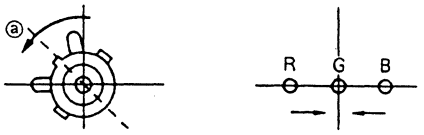


- When the V. STAT magnet is moved in the direction of arrow ⓐ and ⓑ, red, green and blue dots move as shown below.

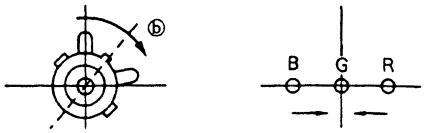
① When moving the V. STAT Magnet open or close.



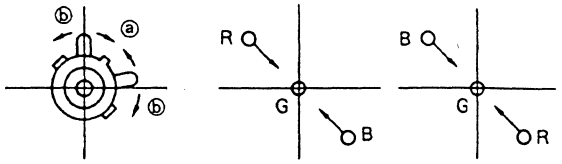
② When moving the V. STAT magnet counterclockwise.



③ When moving the V. STAT magnet clockwise.



④ When tilt the V. STAT magnet and open or close.

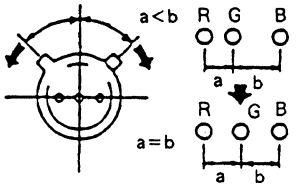


※ If the red and green dots do not coincide with blue dot, adjustment with BMC (6-poles) magnet.

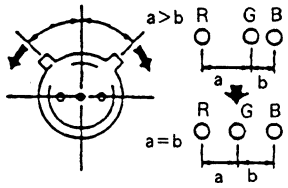
- **HMC and VMC correction for BMC (6-Poles) magnet.**

1. HMC (Horizontal Misconvergence) correction and motion of the Electron Beam with the BMC (6-poles) magnet.

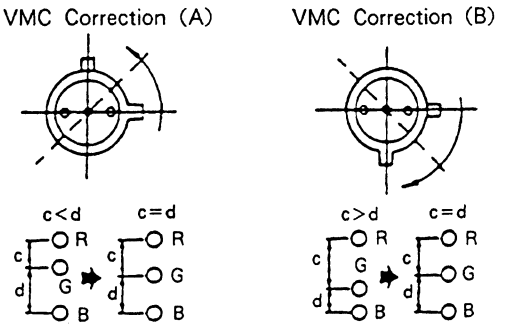
HMC Correction (A)

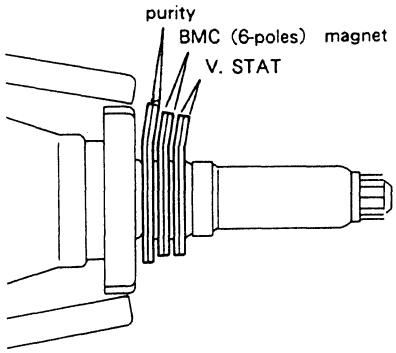


HMC Correction (B)



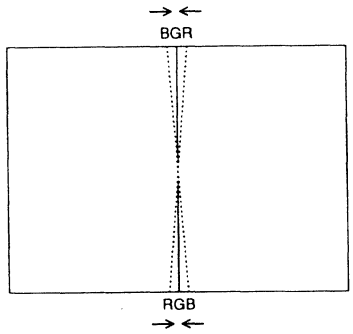
2. VMC (Vertical Misconvergence) correction and motion of the Electron Beam with the BMC (6-poles) magnet.

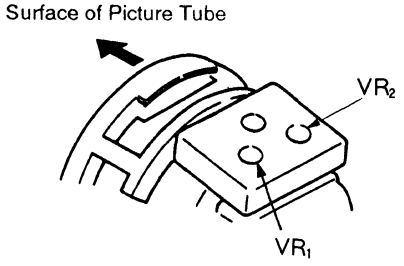




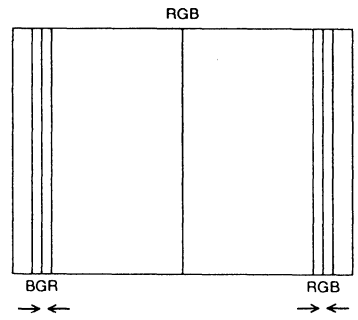
①Adjust the Y axis cross misconvergence.

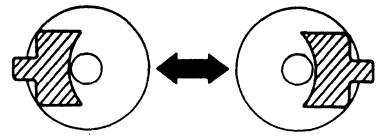
VR_1 Lower section correction
VR_2 Upper section correction





②H.TILT adjustment





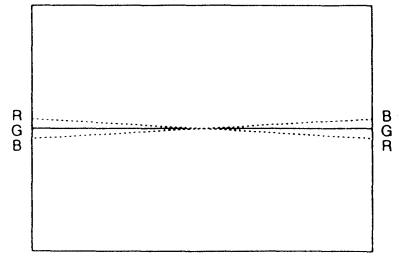
Operation (taking out and putting in)

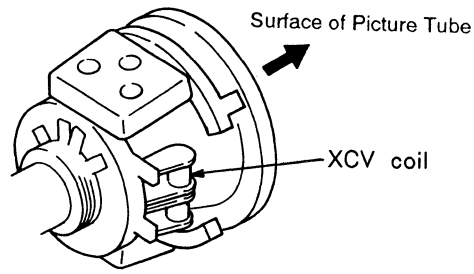
Correction board

Operation (taking out and putting in)

Adjust so that the order of R, G, B is the same on both the right and left sides.

③Adjust the X axis cross misconvergence.



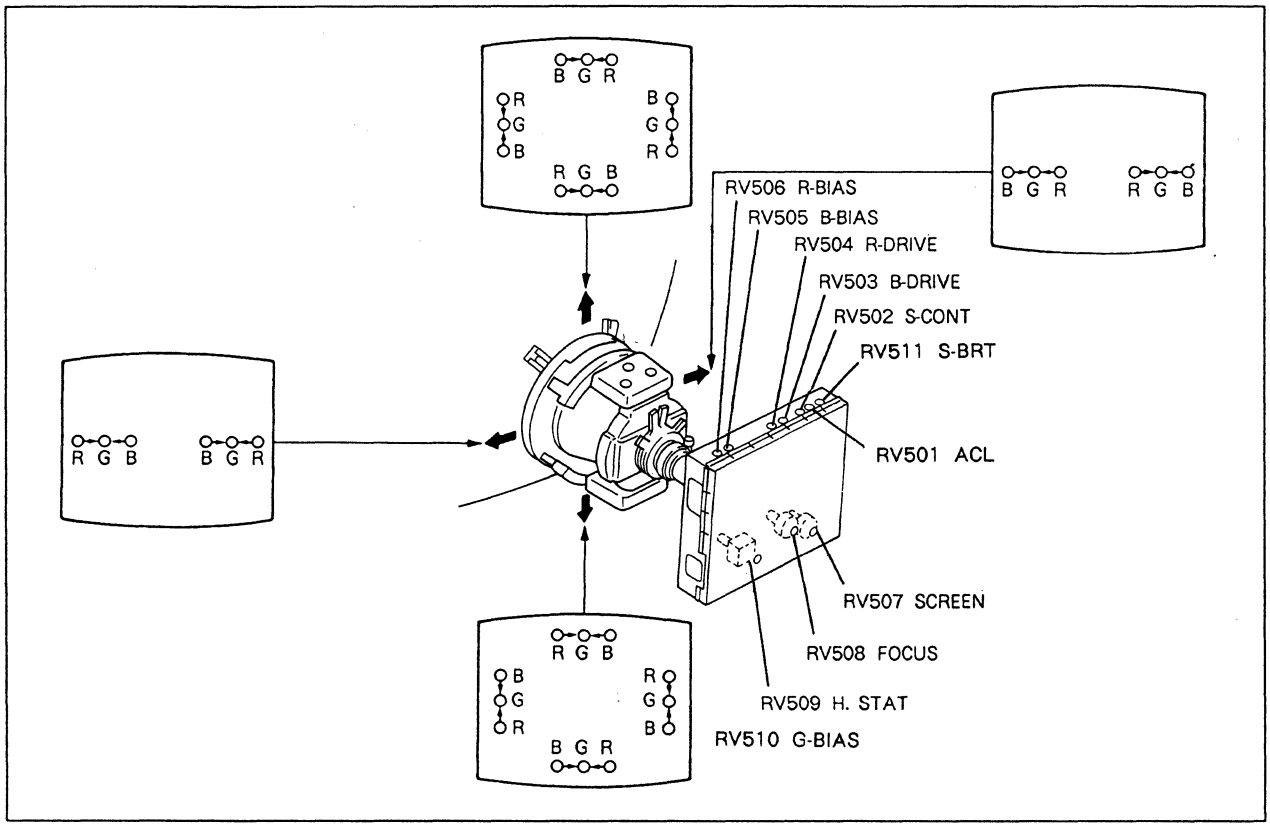


Adjust so that the crosses of R and B disappear.

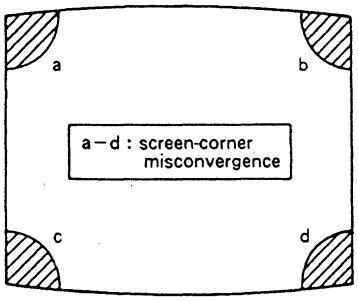
(2) **Horizontal and Vertical Dynamic Convergence Adjustment the environs of the Screen**

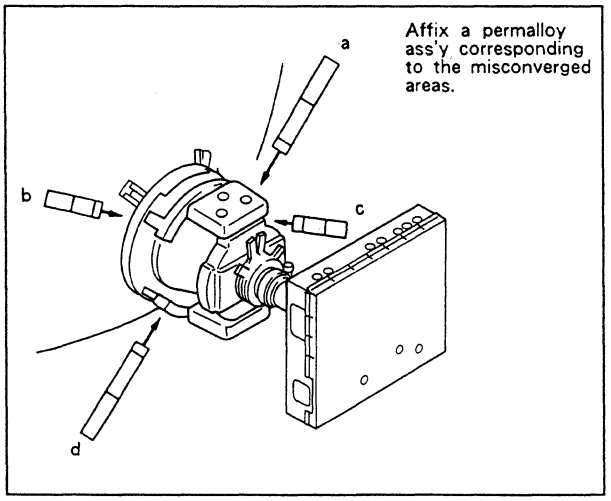
(Dynamic Convergence Adjustment)

1. Loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.



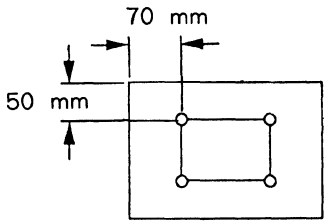
(3) **Screen-corner Convergence**





3-3. FOCUS ADJUSTMENT

1. Turn the signal to 1024 × 768 (f_H = 48kHz).
2. Receive a dot signal.
3. Adjust FOCUS VR so that the following figure point for best focus.



3-4. WHITE BALANCE

Check that the size, position, distortion, and convergence have been adjusted, and that aging has been carried out for more than thirty minutes.

1. Receive the VGA GRAPHICS MODE (fH = 31. 5 kHz, 480 LINE).
2. Set the VRs as follows.

BRT	RV205	CENT
CONT	RV204	MAX
SUB-CONT	RV502	CENT
SUB-BRT	RV511	CENT
R-DRIVE	RV504	CENT
B-DRIBE	RV503	CENT
R-BIAS	RV506	MIN
G-BIAS	RV510	MIN
B-BIAS	RV505	MIN
ACL	RV501	MAX

3. Check that the size is as specified. After checking, change the VIDEO to a non signal.
   Horizontal 240 mm
   Vertical 180 mm
4. Use the SCREEN VR (attached to the FOCUS PACK) to display raster.
   Use R,G,B-BIAS VR to adjust any 1 ch VR to MIN, and adjust so that it becomes almost white (X = 0.283, Y = 0.298 approx. ± 0.05).
5. Use the SCREEN VR to adjust the raster to CUT-OFF.
6. Receive the VGA 31.5 kHz, 480 LINE, VIDEO 0.714 Vp-p ± 0.002.
7. Receive the white 6% output image rate, adjust the R, B-DRIVE VR so that the white balance becomes X = 0.283, Y = 0.298 and adjust the SUB-CONT VR so that the luminance becomes 130 nit.
8. Adjust the CONTRAST VR to MIN, and obtain the white balance at luminance 10 nit using R, G, B-BIAS VR.
   X = 0.283, Y = 0.298
   (Decrease it using the BRIGHT VR if luminance 10 nit cannot be obtained.)
9. Repeat steps 7 to 8, and obtain the white balances at 130 nit and 10 nit.
10. Receive the VIDEO non-signal, check that the raster is CUT-OFF with BRT CENTER, CONT MAX.
11. Receive the all white signal (VGA 31.5 Hz, 480 LINE), and adjust ACL VR (RV501) so that the luminance becomes 120 ± 12 at both BRT MAX and CONT MAX.

3-5. BRIGHT CONTROLLABLE CONFIRMATION

1. Input a signal of 480 LINE (f_H=31 kHz, entire-white, 0.714 Vp-p).
2. CONTRAST control ····· maximum
3. Confirm the variation of luminance signal when controlling BRIGHT volume as follows.
   1) Confirm the difference of luminance signal on maximum position as compared with the center click position is more than + 5 NIT.
   2) Confirm the difference of luminance signal on minimum position as compared with the center click position is less than − 5 NIT.

SECTION 4
SAFETY RELATED ADJUSTMENT

⊠RV402, HV REGULATER. HV HOLD-DOWN AND BEAM LIMIT CIRCUIT CONFIRMATION

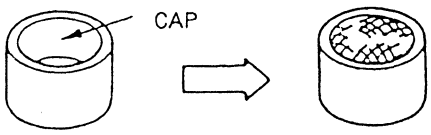
When replacing the following components (marked with ◪ on the schematic diagram), make this confirmation.

D BOARD·····IC901, IC902, IC401, D930, C408, C409, C410, C412, C414, C415, C422, C424, R414, R434, R435, L406, T402 (FBT), T901, RV402, DY (Deflection Yoke)

DA (DC-1) BOARD·····IC101, IC301, D303, R327, R388

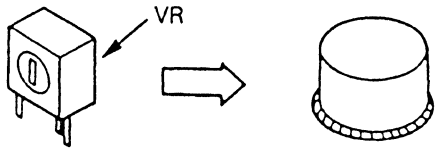
1. HV REGULATER CIRCUIT CONFIRMATION
   1) Receive a signal of f_H = 48kHz
   2) Set the CONT and BRIGHT controls to minimum. (Cut-Off condition).
   3) Connect a digital multimeter to pin ② of P402 on D board.
   4) Confirm the voltage is less than 6.48V DC.
   5) If step 4) is not satisfied, adjust them with RV402.
2. HV. HOLD-DOWN CIRCUIT CONFIRMATION
   1) Receive a signal of f_H = 48kHz.
   2) Set the CONT and BRIGHT controls to minimum. (Cut-Off Condition).
   3) Apply an external DC voltage gradually to pin ② of P402 on D board, confirm that the minimum voltage is less than 7.40 V DC where by the HOLD-DOWN circuit operates immediately and raster disappears.
3. BEAM LIMITER CIRCUIT CONFIRMATION
   1) Receive a signal of f_H = 48kHz.
   2) Adjust CONT and BRIGHT controls so that the screen luminance to become 100 NIT.
      CONT control····· maximum
      BRIGHT control····· center
   3) Connect a digital multimeter to pin ① of P402 on D board.
   4) Confirm that the voltage is − 2.80 ± 1.00 V DC
   5) Apply an external DC voltage gradually to pin ① of P402 on D board, and when the voltage becomes more than − 11.30V, confirm the BEAM-LIMITER circuit operates and raster disappers.
      NOTE : After adjustment, cover on ⊠ RV402 with seal cap as follows.

① Insert in seal cap with RTV (silicone) as follows.



- seal cap (3-710-578-01)
- RTV (KE-490, 7-322-065-19)

② Cover the seal cap on RV402, and make paste together silicone and printed board.



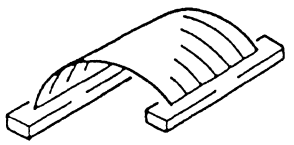
WARNING :
IF RV402 (sealed variable resistor) replacement is required, federal require that after adjustment the control is to be sealed so no further adjustment can be made to this resistor.

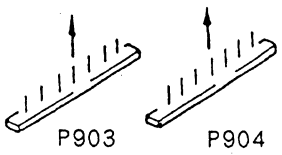
OVP CIRCUIT CONFIRMATION

When replacing following components, perform this confirmation.

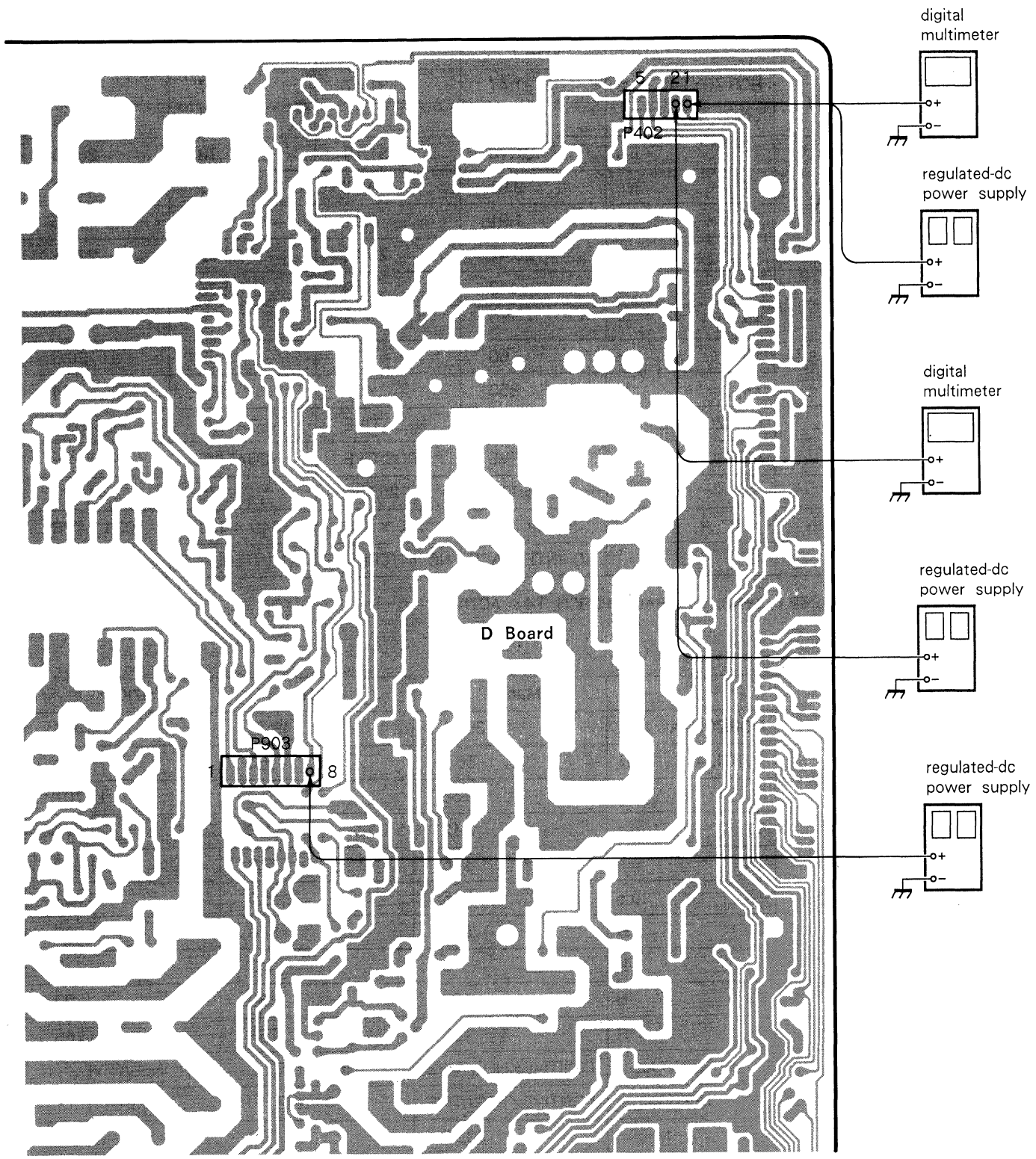
D BOARD·····Q901, R922, R923, D927, D928, D929

1. Turn OFF the POWER switch.
2. Remove P903 and P904 connectors from D board.





3. Apply an external DC voltage of less than 216.00 V DC (SET UP THE CURRENT LIMITER TO 0.2 A) to pin ⑧ of P903 on D board for two second.
4. At the moment (item 3), confirm the OVP circuit operates immediately and an external DC voltage is drop by limiter operation.
5. If OVP circuit is not operate, check up Q901, R913, R914 and L906.


digital
multimeter
5
21
P402
regulated-dc
power supply
digital
multimeter
regulated-dc
power supply
D Board
P903
1
8
regulated-dc
power supply

SECTION 5
CIRCUIT ADJUSTMENTS

		VGA 1	VGA 2	VGA 3	8514
FREQUENCY	HORIZONTAL KHz	31.47	31.47	31.47	35.5
	VERTICAL Hz	70.1	70.1	59.94	86.96
HORIZONTAL	T1 μs	31.78	31.78	31.78	28.15
	T2 μs	3.81	3.81	3.81	3.92
	T3 μs	1.91	1.91	1.91	1.25
	T4 μs	25.42	25.42	25.42	22.81
VERTICAL	T1 H	449	449	525	408.5
	T2 H	2	2	2	4
	T3 H	60	35	33	20.5
	T4 H	350	400	480	384
SYNC POLARITY	HORIZONTAL	POSITIVE	NEGATIVE	NEGATIVE	POSITIVE
	VERTICAL	NEGATIVE	POSITIVE	NEGATIVE	POSITIVE
CLOCK	MHz	25.175	25.175	25.175	44.900
RESOLUTION	H × V	640 × 350	720 × 400	640 × 480	1024 × 768
MODE		NO INTERLACE	NO INTERLACE	NO INTERLACE	INTERLACE

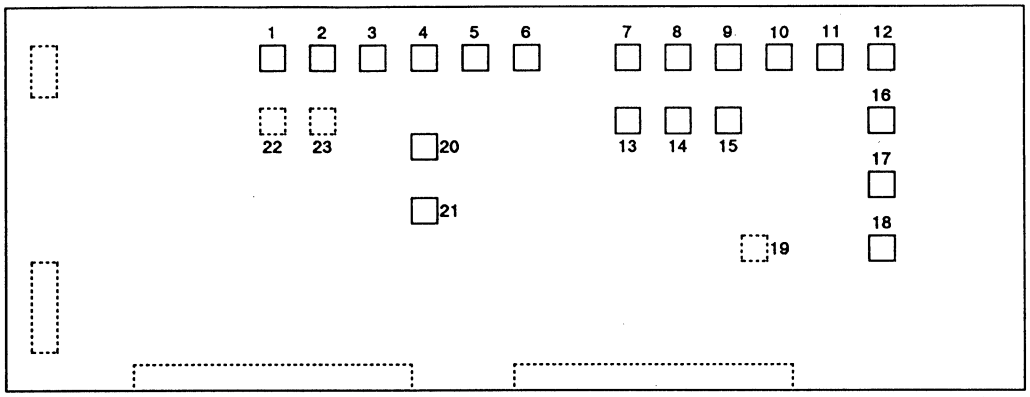
T1 : PERIODE, T2 : SYNC, T3 : BACK PORCH, T4 : ACTIVE

		Mac II	48KHz	57KHz
FREQUENCY	HORIZONTAL KHz	35.01	48.78	56.476
	VERTICAL Hz	66.7	60	70.069
HORIZONTAL	T1 μs	28.56	20.5	17.707
	T2 μs	2.12	1.5	1.813
	T3 μs	3.16	2.0	1.920
	T4 μs	21.16	16.0	13.653
VERTICAL	T1 H	525	813	806
	T2 H	3	3	6
	T3 H	39	39	29
	T4 H	480	768	768
SYNC POLARITY	HORIZONTAL	POSITIVE/NEGATIVE	NEGATIVE	NEGATIVE
	VERTICAL	POSITIVE/NEGATIVE	NEGATIVE	NEGATIVE
CLOCK	MHz	30.25	64.000	75.000
RESOLUTION	H × V	640 × 480	1024 × 768	1024 × 768
MODE		NO INTERLACE	NO INTERLACE	NO INTERLACE

T1 : PERIODE, T2 : SYNC, T3 : BACK PORCH, T4 : ACTIVE

5-1. DA (DC-1) BOARD ADJUSTMENT

DA (DC-1) VR POSITION



No.	Adjustment	Reference	Settings during VGA switch locked
1	SIDE PIN (L)	RV307	
2	SIDE PIN (H)	RV310	
3	PARA CORE	RV308	
4	PIN PHASE	RV309	
5	PIN UP	RV313	
6	PIN BAL	RV311	
7	HORIZONTAL POSITION (L)	RV304	(LOCK)
8	HORIZONTAL SIZE (L)	RV306	(LOCK)
9	VERTICAL SIZE (L_1)	RV252	480 LINE (LOCK)
10	VERTICAL SIZE (L_2)	RV253	400 LINE (LOCK)
11	VERTICAL SIZE (L_3)	RV254	350 LINE (LOCK)
12	VERTICAL POSITION	RV255	
13	HORIZONTAL POSITION (M)	RV303	during receiving 8514 (LOCK)
14	HORIZONTAL SIZE (M)	RV305	during receiving 8514 (LOCK)
15	VERTICAL SIZE (M)	RV251	during receiving 8514 (LOCK)
16	User VR setting (1)	RV257	
17	User VR setting (2)	RV256	
18	User VR H size maximum value setting	RV312	
19	20V setting	RV314 (*)	
20	F_0 setting (FH = Max)	RV301	
21	F_0 setting (FH = Min deviation correction)	RV302	
22	F-V conversion voltage setting (6V during FH = Max)	RV601 (*)	
23	Frequency setting of relay switchover signal (40 kHz)	RV602 (*)	

(*) indicate DA (DC-1) board manufacturer adjustment

H fo ADJUSTMENT (RV301, RV302)

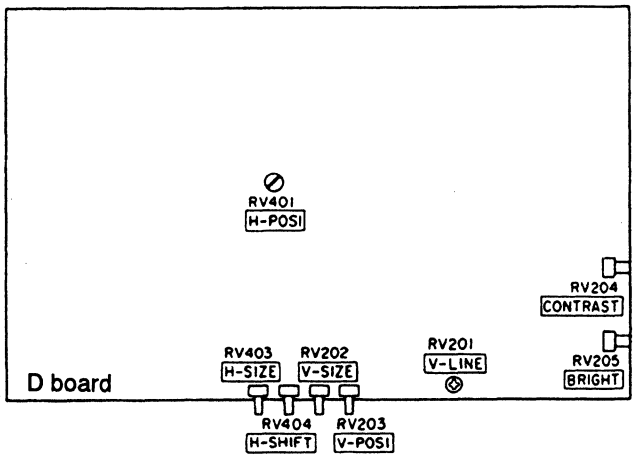
(57 kHz)

1. Receive a signal of 57 kHz.
2. Short circuit between pin ① and pin ③ of TP301 with a jumper wire.
3. Connect a frequency counter across collector of Q402 and ground.
4. Adjust RV301 (FH MIN) 31.47 Hz ±500 Hz on the frequency counter.

(31 kHz)

1. Receive a signal of 31 kHz.
2. Short circuit between pin ① and pin ③ of TP301 with a jumper wire.
3. Connect a frequency counter across collector of Q402 and ground.
4. Adjust RV302 (FH MIN) for 31.47 kHz ±500 Hz on the frequency counter.

5-2. D AND DA (DC-1) BOARD ADJUSTMENT



H. POSITION (RV401, SW401)

1. Input a cross-hatch signal of 48 kHz.
2. Display a back-raster on the screen with G2 VR.
3. Adjust RV401 (H. POSI) so that the back-raster position to come center.
4. In case of the back-raster is not move till center, using SW401 (H. POSI TAP SW).

V. LINE, V. SIZE, V. POSI (RV201, RV202, RV203)

1. Input a cross-hatch signal of 48 kHz.
2. Adjust RV203 (V. POSI) so that the vertical position to come center.
3. Adjust vertical linearity with RV201 (V. LINE).
4. Adjust vertical size with RV202 (V. SIZE).

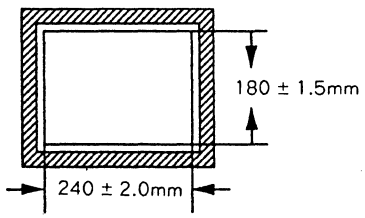
H. SIZE, LIMITER (RV403, RV312)

1. Input a cross-hatch signal of 48 kHz.
2. Rotate RV403 (H. SIZE) from maximum to minimum, and then observe the local strain.
3. In case of a local strain occuring on the screen, adjust them with RV312 (H. S LIMIT) on DA (DC-1) board.
4. Input a cross-hatch signal of 31 kHz (48 LINE).
5. Switch over AUTO SIZE SW to ADJ position.
6. Turn RV403 (H. SIZE) from maximum to minimum, and then observe the local strain.
7. In case of a local strain occuring on the screen, adjust them with RV312 (H. S LIMIT) on DA (DC-1) board.

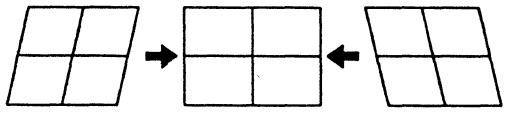
48 kHz, DEFLECTION SYSTEM ADJUSTMENT

* Input a cross-hatch signal of 48 kHz as following adjustment.

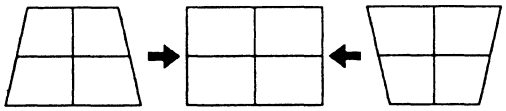
- H. SIZE (RV403)
  Adjust RV403 (H. SIZE) on D board so that the horizontal size to become 240 ± 2.0mm.



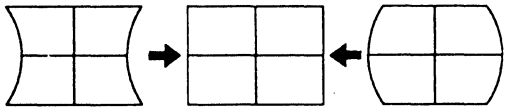
- PARA CORE (RV308)
  Adjust direct association and parallelogram strain with RV308 (PARA CORE) on DA (DC-1) board.



- PIN PHASE (RV309)
  Adjust trapezoidal strain with RV309 (PIN PHASE) on DA (DC-1) board.

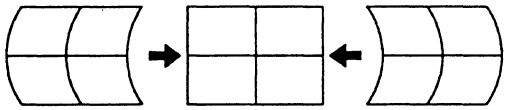


- SIDE PIN (RV310)
  Adjust pin cushion strain about right and lwft with RV310 (SIDE PIN) on DA (DC-1) board.

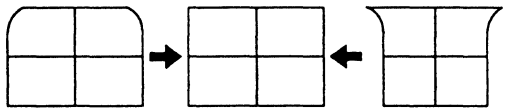


NOTE: In case of pin cushion strain of right and left rate is differ, correct them with RV311 (PIN BAL) too.

- PIN BAL (RV311)
  Adjust PIN balance strain with RV311 (PIN BAL) on DA (DC-1) board.



- PIN UP (RV313)
  Adjust upper PIN strain with RV313 (PIN UP) on DA (DC-1) board.



〈GRAPHIC MODE〉
31 kHz, H. PHASE, H. SIZE (RV304, RV305)

Switch over AUTO SIZE SW to LOCK position.
1. Input a cross-hatch signal of GRAPHIC mode (31 kHz, 480 LINE).
2. Adjust RV304 (H. PHASE (L)) so that the horizontal direction of screen to come center.
3. Adjust RV306 (H. SIZE (L)) so that the horizontal size to become 240 ± 2.0mm

〈GRAPHIC MODE〉
31 kHz, V POSI, V SIZE (RV255, RV252)

Switch over AUTO SIZE SW to LOCK position.
1. Input a cross-hatch signal of GRAPHIC mode (31 kHz, 480 LINE).
2. Adjust RV255 (V. POSI (L)) so that the vertical direction of screen to come center.
3. Adjust RV252 (V SIZE (L1)) so that the vertical size to become 180 ± 1.5mm

〈GRAPHIC MODE〉
31 kHz, PIN AMP (RV307)

1. Input a cross-hatch signal of GRAPHIC mode (31 kHz, 480 LINE).
2. Adjust RV307 (SIDE PIN (LOW)) so that the right and left becomes straight line.
3. Correct the H. SIZE with RV305 (H. SIZE (L)), confirm they have not strain.

31 kHz AND 48 kHz, STRAIN CORRECTION (RV308, RV309, RV311, RV313)

1. Adjust RV308 (PARA CORE), RV309 (PIN PHASE), RV311 (PIN BAL) and RV313 (PIN UP) to become best condition about both 31 kHz (480 LINE) mode and 48 kHz mode.

TEXT MODE (31 kHz, 400 LINE) V. SIZE (RV253)

Switch over AUTO SIZE SW to LOCK position.
1. Input a cross-hatch signal of 31 kHz (400 LINE).
2. Adjust RV253 (V. SIZE) so that the vertical size to become 180 ± 1.5mm

※ Regarding V. POSI adjustment, GRAPHIC mode (31 kHz, 480 LINE) adjustment take priority of another adjustment, and perform adjustment only V. SIZE.

EGA EMULATE MODE (31 kHz, 350 LINE) V. SIZE (RV254)

Switch over AUTO SIZE SW to LOCK position.
1. Input a cross-hatch signal of 31 kHz (350 LINE).
2. Adjust RV254 (V. SIZE (L2)) so that the vertical size to become 180 ± 1.5mm

※ Regarding V. POSI adjustment, GRAPHIC mode (31 kHz, 480 LINE) adjustment take priority of another adjustment, and perform adjustment only V. SIZE.

8514 MODE (35 kHz) H. PHASE, H. SIZE (RV303, RV306)

Switch over AUTO SIZE SW to LOCK position.
1. Input a cross-hatch signal of 35 kHz (8514).
2. Adjust H. PHASE and H SIZE with RV303 (H PHASE (M)) and RV305 (H SIZE (M)).

8514 MODE (35 kHz) V. SIZE (RV251)

Switch over AUTO SIZE SW to LOCK position.

1. Input a cross-hatch signal of 35 kHz (8514).
2. Adjust RV251 (V. SIZE (M)) so that the vertical size to become 180 ± 1.5mm

※ Regarding V. POSI adjustment, GRAPHIC mode (31 kHz, 480 LINE) adjustment take priority of another adjustment, and perform adjustment only V. SIZE.

EACH FREQUENCY (MODE) CONFIRMATION

Confirm screen size and position strain are not sliding, and confirm each mode about TEXT (31 kHz, 400 LINE), EGA emulate (31 kHz, 350 LINE), GRAPHIC (31 kHz, 480 LINE), 8514 (35 kHz) and 48 kHz, 57 kHz.

H. SIZE VARIABLE EXTENT ADJUSTMENT (RV312)

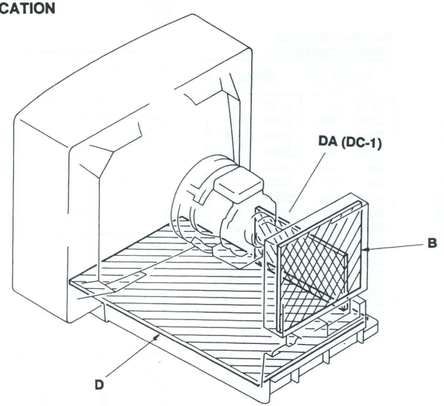
1. Input a cross-hatch signal of 800×600 (35 kHz).
2. Switch over AUTO SIZE SW (SW402) to ADJ position.
3. Set RV202 (V. SIZE) of user volume to minimum.
4. Adjust RV403 of user volume and RV312 (HS LIMIT) so that the horizontal size to become maximum.
5. Adjust RV312 (HS LIMIT) so that the horizontal size to become 250 ±2 mm.
6. Input a cross-hatch signal of GRAPHIC mode (31 kHz, 480 LINE).
7. Set RV403 (H. SIZE) of user volume to maximum and RV202 (V. SIZE) to mnimum.
8. When item 7, confirm they have not local strain.
9. Input a cross-hatch signal of 48 kHz.
10. When set RV403 (H. SIZE) of user volume to minimum, confirm horizontal size is less than 232 mm.
11. When set RV202 (V. SIZE) of user volume to maximum, confirm they have not local strain.

800×600 MODE ADJUSTMENT

1. Input a cross-hatch signal of 800×600 (35 kHz).
2. Adjust RV403 (H. SIZE) so that the horizontal size to become 240 ± 2.0mm
3. Adjust RV404 (H. SHIFT) so that the horizontal direction to come center position.
4. Adjust RV202 (V. SIZE) so that the vertical size to become 180 ± 1.5mm
5. Set RV203 (V. POSI) to center click point.
6. Adjust the vertical position with RV256 (SUB POSI 1) and RV257 (SUB POSI 2).
   ※ When perform adjustment, make move RV256 to upper side or RV257 to lower side.
7. Rotate RV203, and confirm they are moved more than 3.0 mm.

SECTION 6
DIAGRAMS

6-1. CIRCUIT BOARDS LOCATION



6-2. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

- All resistor are in ohms. 1/4W unless otherwise noted. k Ω :1000 Ω , M Ω :1000k Ω .
- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : fusible resistor
- : nonflammable resistor.
- △ : internal component.
- : panel designation and adjustment for repair.
- Circled numbers refer to waveforms.
- All voltages are in V.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a colour-bar signal input. (DIGITAL VIDEO GENERATOR H: 31.47kHz, V:70.1Hz)
- Readings are taken with a 10M Ω digital multimeter.
- Voltage variations may be noted due to normal production tolerances.
- ∗: Can not be measured.
- : B + line
- : B – line

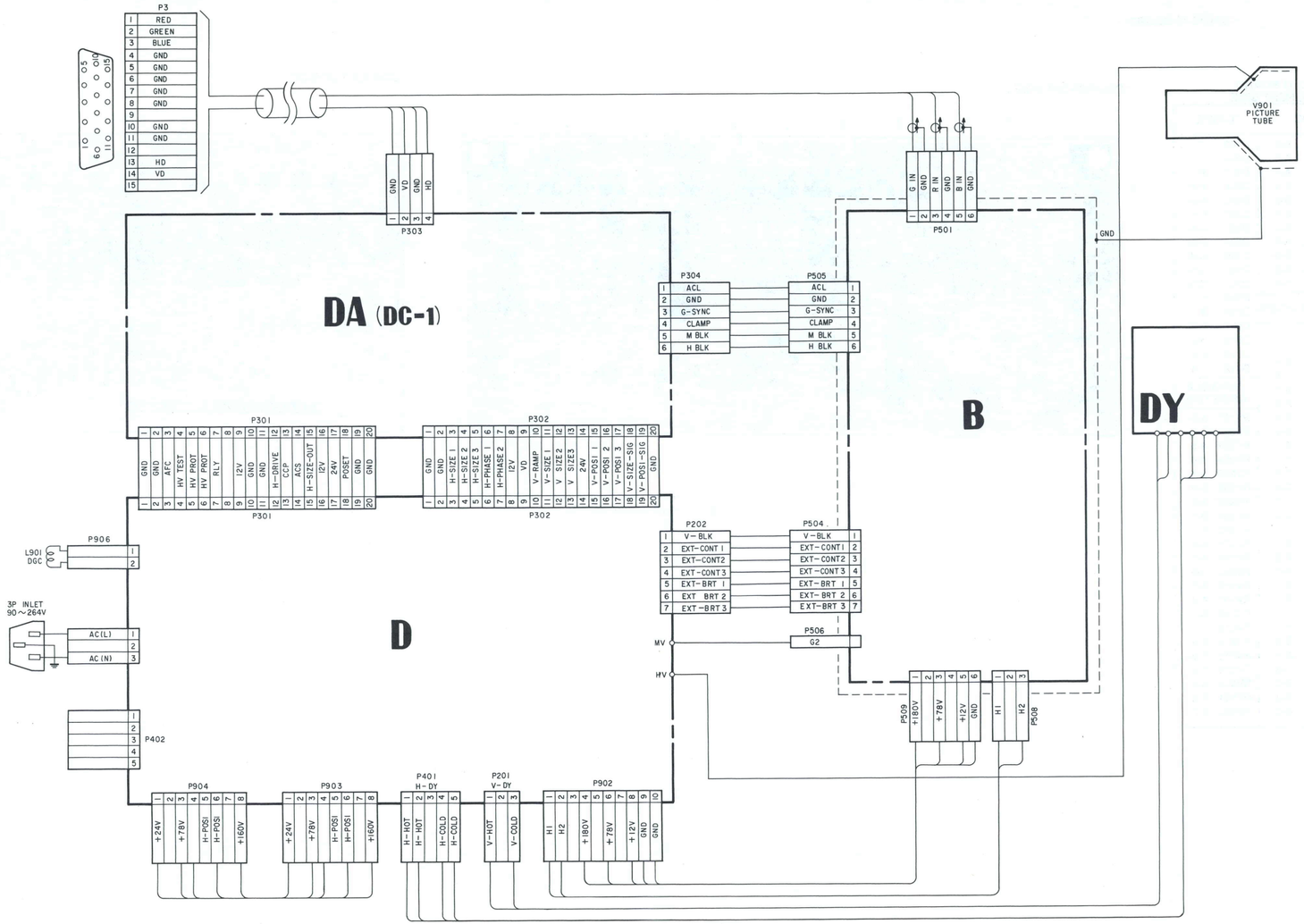
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- The components identified by ⊠ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪ , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⊠ and repeat the adjustment until the specified value is achieved. (Refer to RV402 on pages 16, 17 of section 4.)
- When replacing the part in below table, be sure to perform the related adjustment.

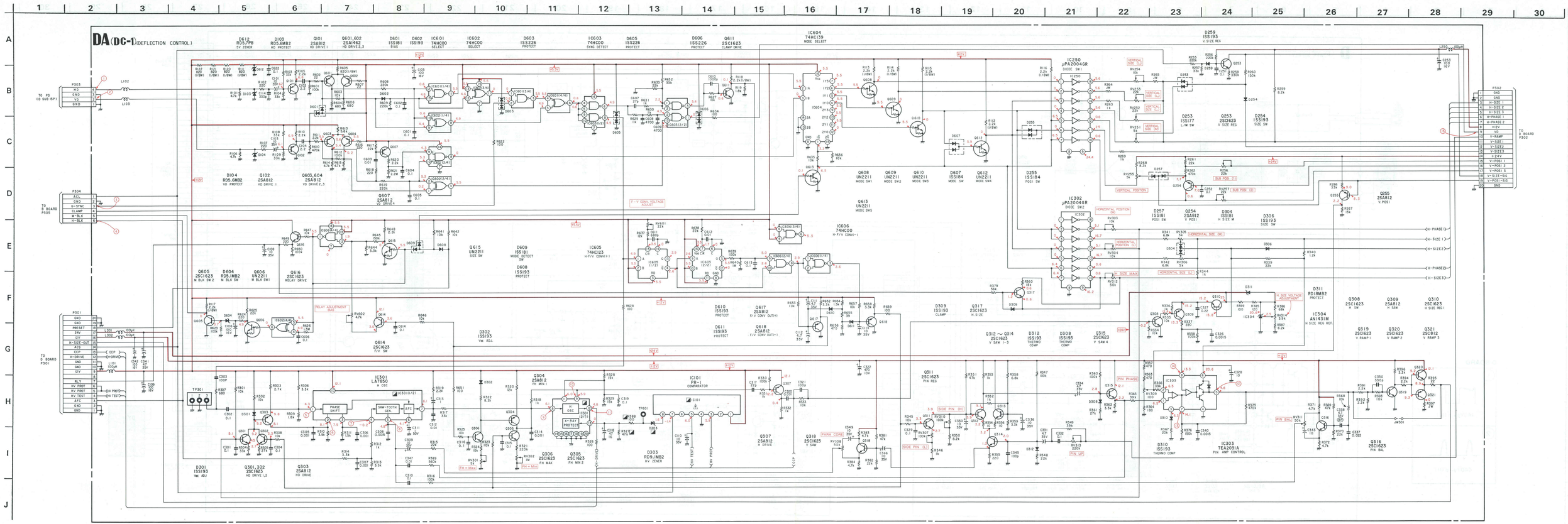
Part replaced (◪)	Adjustment (⊠)
IC901, IC902, IC401, D930, C408, C409, C410, C412, C414, C415, C422, C424, R414, R434, R435, L406, T402 (FBT), T901, RV402, DY (Deflection Yoke)••••• D BOARD	RV402 HV REGULATER, HV HOLD-DOWN, BEAM LIMIT CRCUIT
IC101, IC301, D303, R327, R388, ••••• DA (DC-1) BOARD	

Note: Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

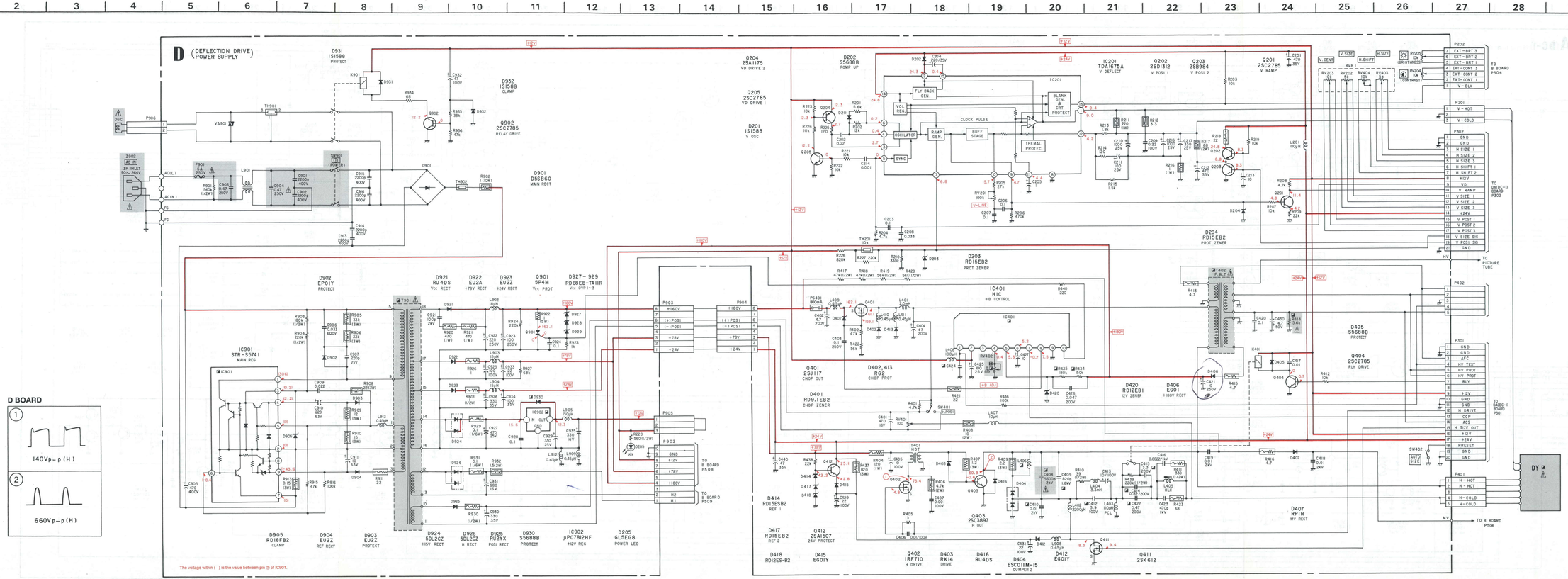
FRAME SCHMATIC DIAGRAM



CPD-1304S CPD-1304S

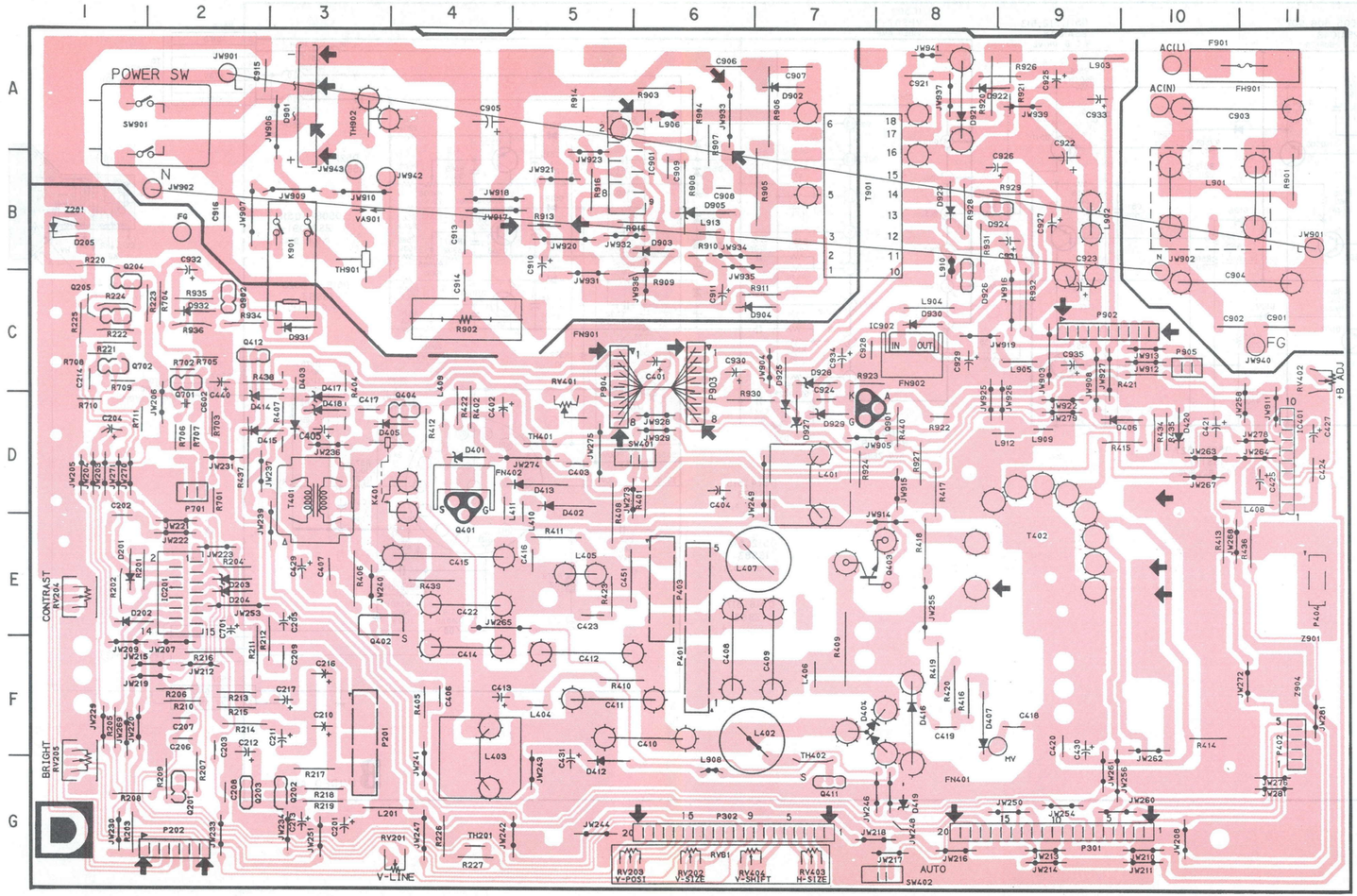


CPD-1304S CPD-1304S



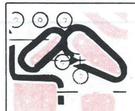
D [DEFLECTION DRIVE, POWER SUPPLY]

– D BOARD –



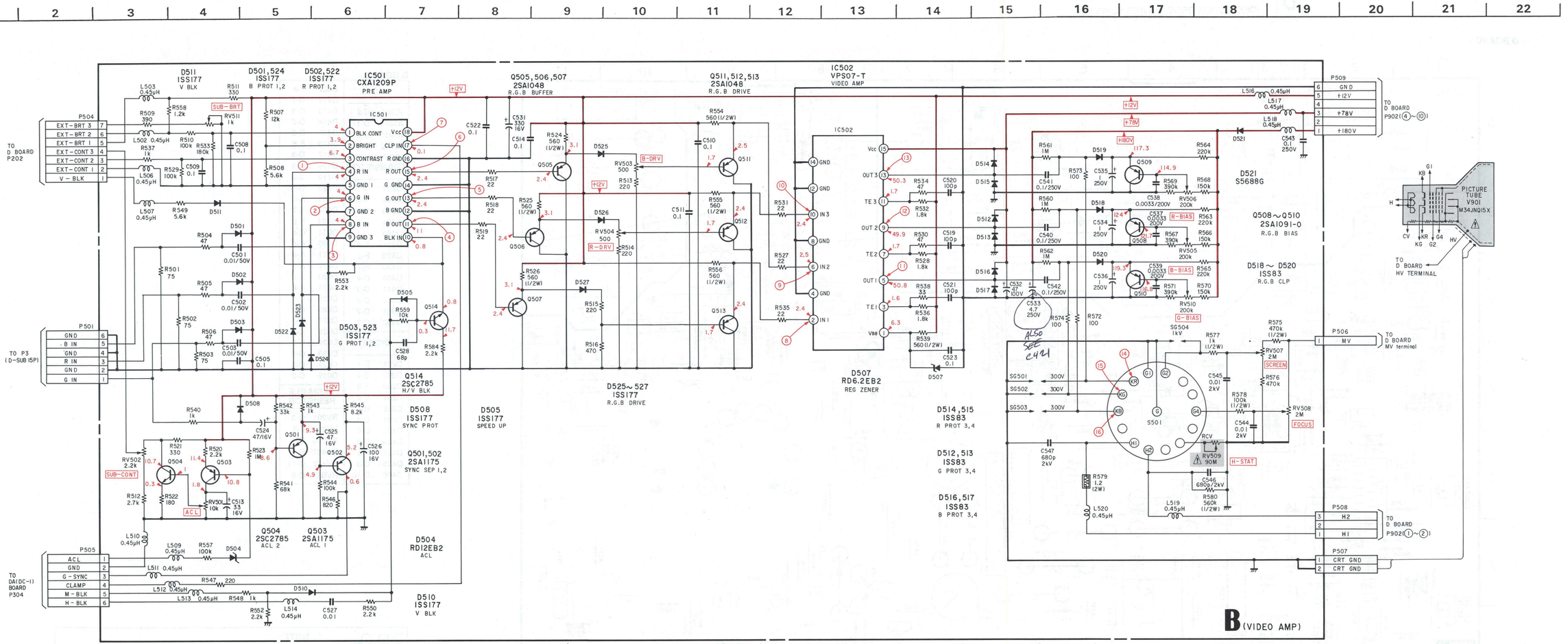
D BOARD

IC		D407	F-8
IC201	E-2	D412	G-5
IC401	D-11	D413	D-5
IC901	B-6	D414	D-2
IC902	C-8	D415	D-2
		D416	F-8
TRANSISTOR		D417	D-3
		D418	D-3
Q201	G-2	D419	G-8
Q202	G-3	D420	D-10
Q203	G-2	D901	A-3
Q204	C-1	D902	A-7
Q205	C-1	D903	B-6
Q401	E-4	D904	C-6
Q402	F-3	D905	B-6
Q403	E-7	D921	A-8
Q404	D-4	D922	A-8
Q411	G-7	D923	B-8
Q412	C-2	D924	B-8
Q901	D-7	D925	C-7
Q902	C-2	D926	C-8
		D927	D-7
DIODE		D928	C-7
		D929	D-7
D201	E-1	D930	C-8
D202	E-1	D931	C-3
D203	E-2	D932	C-2
D204	E-2		
D205	B-1	**VARIABLE RESISTOR**	
D401	D-4		
D402	D-5	RV201	G-3
D403	D-3	RV204	E-1
D404	F-8	RV205	G-1
D405	D-3	RV401	D-5
D406	D-10	RV402	C-11
		RVB1	G-8



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

CPD-1304S CPD-1304S

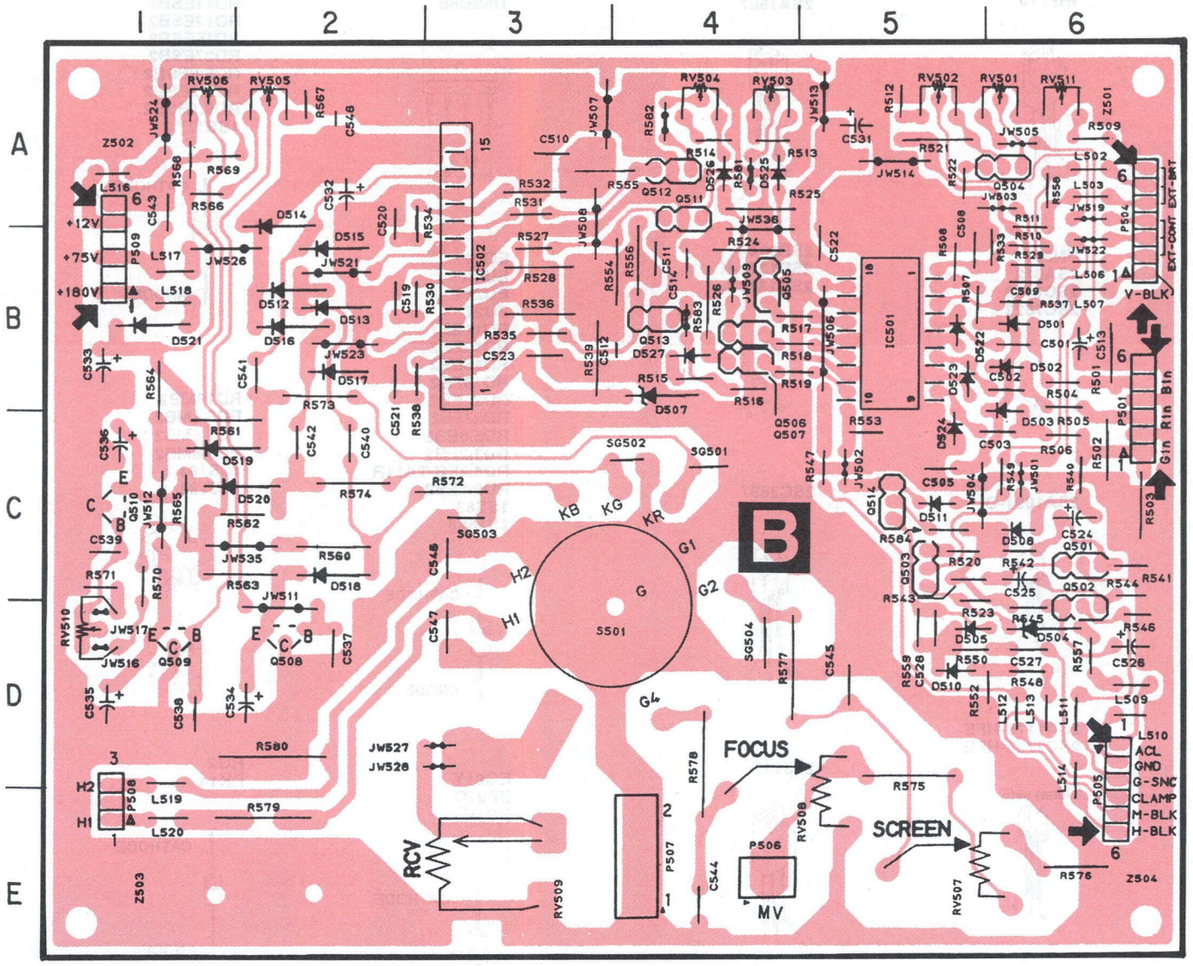


B [VIDEO AMP]

B BOARD

① 0.7Vp-p(H)	⑨ 2Vp-p(H)
② 0.7Vp-p(H)	⑩ 2Vp-p(H)
③ 1Vp-p(H)	⑪ 40Vp-p(H)
④ 3Vp-p(H)	⑫ 42Vp-p(H)
⑤ 3Vp-p(H)	⑬ 41Vp-p(H)
⑥ 3Vp-p(H)	⑭ 41Vp-p(H)
⑦ 5Vp-p(H)	⑮ 40Vp-p(H)
⑧ 2Vp-p(H)	⑯ 42Vp-p(H)

– B BOARD –



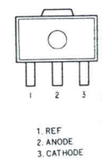
B BOARD

IC		TRANSISTOR		DIODE	
IC501	B-5	Q501	C-6	D501	B-6
IC502	B-3	Q502	C-6	D502	B-6
		Q503	C-5	D503	B-6
		Q504	A-6	D504	D-6
		Q505	B-4	D505	D-5
		Q506	B-4	D507	B-4
		Q507	B-4	D508	C-6
		Q508	D-2	D510	D-5
		Q509	D-1		
		Q510	C-1		
		Q511	A-4		
		Q512	A-4		
		Q513	B-4		
		Q514	C-5		

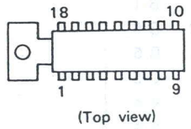
		VARIABLE RESISTOR	
D511	C-5	RV501	A-6
D512	B-2	RV502	A-5
D513	B-2	RV503	A-4
D514	A-2	RV504	A-4
D515	B-2	RV505	A-2
D516	B-2	RV506	A-1
D517	B-2	RV507	E-5
D518	C-2	RV508	E-5
D519	C-1	RV509	E-3
D520	C-1	RV510	D-1
D521	B-1	RV511	A-6
D522	B-5		
D523	B-5		
D524	C-5		
D525	A-4		
D526	A-4		
D527	B-4		

6-3. SEMICONDUCTORS

AN1431M

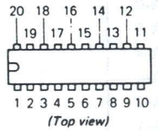


CXA1209P



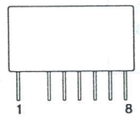
(Top view)

LA7850
LA7856

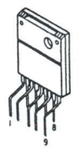


(Top view)

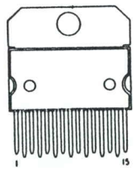
PR-1



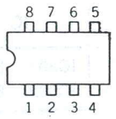
STR-S5741



TDA1670A

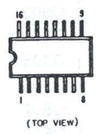


TEA2031A

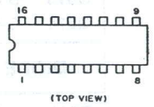


(Top view)

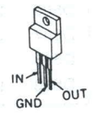
μPA2004GR



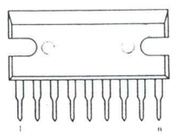
μPA81C
74HC123
74HC139



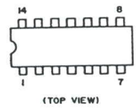
μPC7812HF



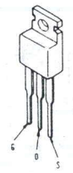
VPS07-T



74HC00



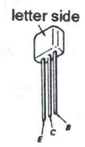
IRF710



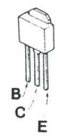
UN2211
2SA812
2SC1462
2SC1623

2SA1091-O

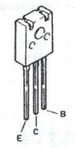
2SA1175-HFE
2SC2785-HFE



2SA1206-14



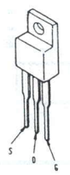
2SA1507



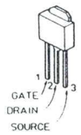
2SB984-K
2SD1312-K
2SD1312-L

2SC3897

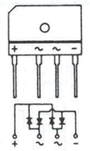
2SJ117



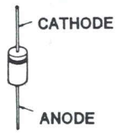
2SK612



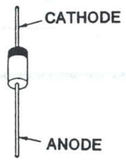
D5SB60



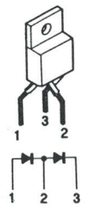
EG01
EU2A
EU2YX
EU2Z
RD11EB1
RD12EB2
RD15EB2
RD18FB2
RD27EB2
RD27FB2
RD5.6EB2
RD6.2EB2
RD6.8EB-TA11R
RD9.1EB2
1SS83
1S1588



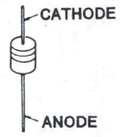
EG01Y
EP01C
RP1H



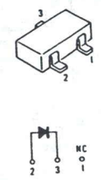
ESC011M-15



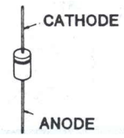
RD11ESB1
RD12ESB2
RD15ESB2
RD27ESB2
RD5.6ESB2
RD6.2ESB2
RD9.1ESB2
1SS177



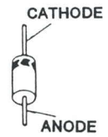
RD18MB2
RD5.1MB2
RD5.6MB2
RD6.6MB2
1SS184
1SS193



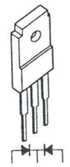
RG2
RK14



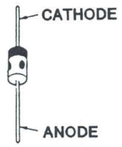
RU-4DS



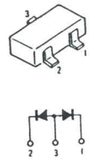
SB50-09J



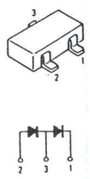
S5688B
S5688G



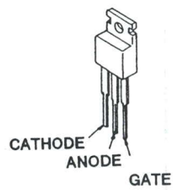
1SS181



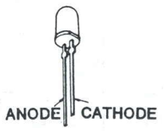
1SS226



5P-4M



GL5EG8



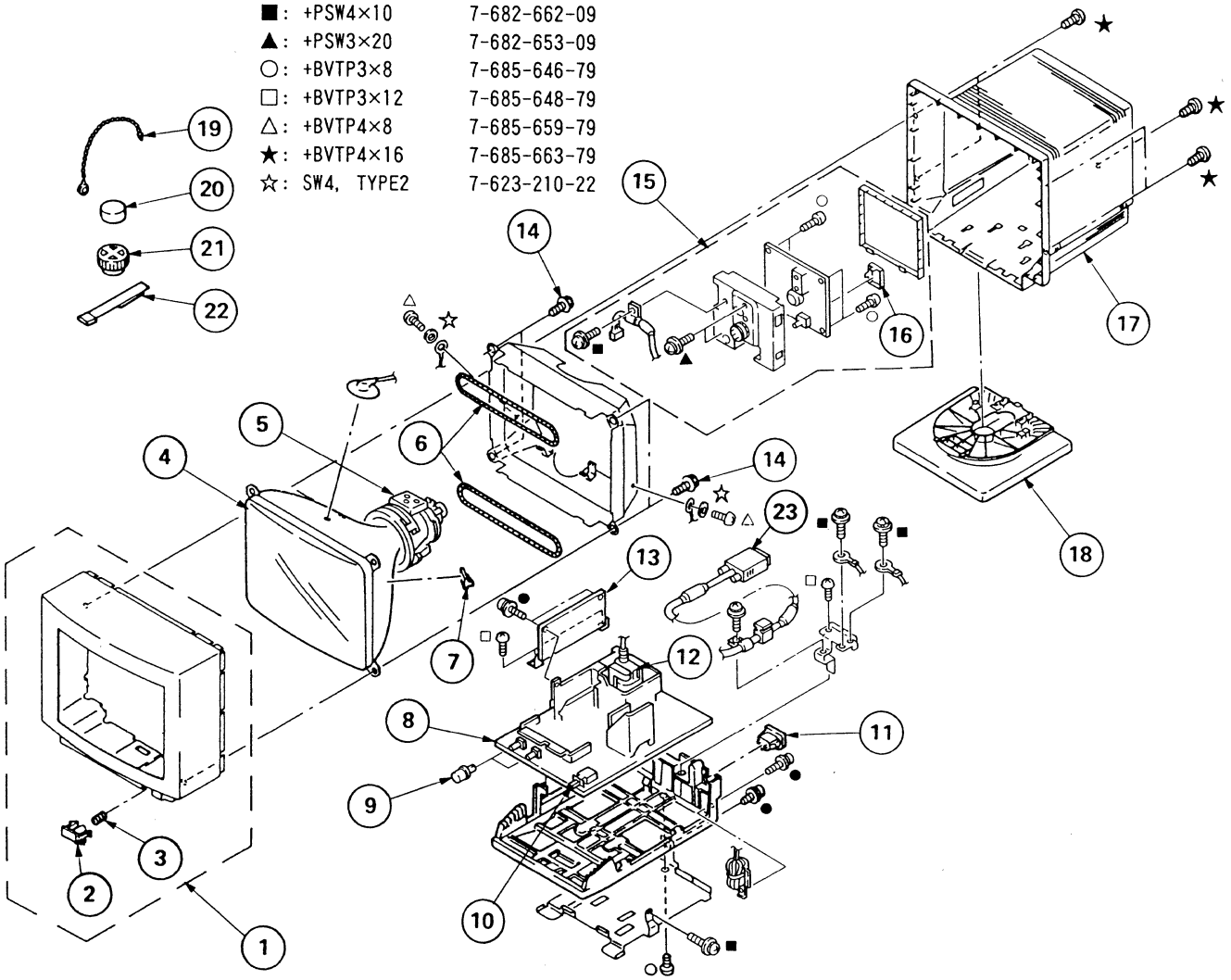
SECTION 7
EXPLODED VIEWS

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.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

●:	+PSW3×8	7-682-978-01
■:	+PSW4×10	7-682-662-09
▲:	+PSW3×20	7-682-653-09
○:	+BVTP3×8	7-685-646-79
□:	+BVTP3×12	7-685-648-79
△:	+BVTP4×8	7-685-659-79
★:	+BVTP4×16	7-685-663-79
☆:	SW4, TYPE2	7-623-210-22



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	X-4029-894-1	BEZEL ASS'Y	
2	4-392-708-01	BUTTON, POWER	
3	3-509-046-01	SPRING, COMPRESSION	
4	⚠.8-738-260-05	PICTURE TUBE 14FGE (M34JNQ15X)	
5	⚠.1-451-409-11	DEFLECTION YOKE (TCD-13301)	
6	⚠.1-402-744-11	COIL, DEGAUSSING	
7	3-703-003-00	SPACER, DY	
8	*A-1345-995-A	D BOARD, COMPLETE	13
9	4-392-705-01	KNOB, VR	
10	⚠.1-571-433-12	SWITCH, PUSH (AC POWER)	
11	⚠.1-526-954-11	INLET, AC	
12	⚠.1-453-130-11	TRANSFORMER ASS'Y, FLYBACK	
13	*A-1346-088-A	DA BOARD, COMPLETE	
14	4-307-249-00	SCREW (5), TAPPING	
15	*A-1481-045-A	B BLOCK ASS'Y	
16	*4-370-995-01	COVER (LOWER), H STAT	
17	4-392-714-11	CABINET	
18	X-4392-703-2	TILT ASS'Y	
19	4-308-870-00	CLIP LEAD WIRE	
20	1-452-032-00	MAGNET, DISK; 10MM ϕ	
21	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
22	X-4309-608-0	PERMALLOY ASS'Y, CONVERGENCE	
23	1-941-843-17	CABLE ASS'Y, SIGNAL	

B

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

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

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

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

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

- 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.
- ✱ : Selected to yield optimum performance.
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

REF.NO.	PART NO.	DESCRIPTION				REMARK
	A-1481-045-A	B BOARD, COMPLETE **********				
		<CAPACITOR>				
C501	1-137-370-11	MYLAR	0.01MF	5%	50V	
C502	1-137-370-11	MYLAR	0.01MF	5%	50V	
C503	1-137-370-11	MYLAR	0.01MF	5%	50V	
C505	1-162-901-21	CERAMIC	0.1MF	10%	50V	
C508	1-162-901-21	CERAMIC	0.1MF	10%	50V	
C509	1-162-901-21	CERAMIC	0.1MF	10%	50V	
C510	1-162-901-21	CERAMIC	0.1MF	10%	50V	
C511	1-162-901-21	CERAMIC	0.1MF	10%	50V	
C513	1-124-034-51	ELECT	33MF	20%	16V	
C514	1-161-772-11	CERAMIC	0.1MF	10%	25V	
C519	1-102-973-00	CERAMIC	100PF	5%	50V	
C520	1-102-973-00	CERAMIC	100PF	5%	50V	
C521	1-102-973-00	CERAMIC	100PF	5%	50V	
C522	1-162-901-21	CERAMIC	0.1MF	10%	50V	
C523	1-162-901-21	CERAMIC	0.1MF	10%	50V	
C524	1-124-477-11	ELECT	47MF	20%	16V	
C525	1-124-477-11	ELECT	47MF	20%	16V	
C526	1-126-101-11	ELECT	100MF	20%	16V	
C527	1-130-483-00	MYLAR	0.01MF	5%	50V	
C528	1-102-525-11	CERAMIC	68PF	5%	50V	
C531	1-124-119-00	ELECT	330MF	20%	16V	
C532	1-124-931-11	ELECT	47MF	20%	100V	
C533	1-124-666-11	ELECT	4.7MF	20%	250V	
C534	1-126-772-11	ELECT	1MF	20%	250V	
C535	1-126-772-11	ELECT	1MF	20%	250V	
C536	1-126-772-11	ELECT	1MF	20%	250V	
C537	1-108-686-11	MYLAR	0.0033MF	10%	200V	
C538	1-108-686-11	MYLAR	0.0033MF	10%	200V	
C539	1-108-686-11	MYLAR	0.0033MF	10%	200V	
C540	1-136-209-11	FILM	0.1MF	10%	250V	
C541	1-136-209-11	FILM	0.1MF	10%	250V	
C542	1-136-209-11	FILM	0.1MF	10%	250V	
C543	1-136-209-11	FILM	0.1MF	10%	250V	
C544	1-162-978-11	CERAMIC	0.01MF		2KV	
C545	1-162-978-11	CERAMIC	0.01MF		2KV	
C546	1-162-116-00	CERAMIC	680PF	10%	2KV	
C547	1-162-116-00	CERAMIC	680PF	10%	2KV	
		<DIODE>				
D501	8-719-820-58	DIODE 1SS177				
D502	8-719-820-58	DIODE 1SS177				
D503	8-719-820-58	DIODE 1SS177				
D504	8-719-110-31	DIODE RD12ES-B2				
D505	8-719-820-58	DIODE 1SS177				
D507	8-719-109-93	DIODE RD6.2ES-B2				
D508	8-719-820-58	DIODE 1SS177				
D510	8-719-820-58	DIODE 1SS177				
D511	8-719-820-58	DIODE 1SS177				
D512	8-719-901-83	DIODE 1SS83				
D513	8-719-901-83	DIODE 1SS83				
D514	8-719-901-83	DIODE 1SS83				
D515	8-719-901-83	DIODE 1SS83				
D516	8-719-901-83	DIODE 1SS83				
D517	8-719-901-83	DIODE 1SS83				
D518	8-719-901-83	DIODE 1SS83				
D519	8-719-901-83	DIODE 1SS83				
D520	8-719-901-83	DIODE 1SS83				
D521	8-719-820-56	DIODE S5688B				
D522	8-719-820-58	DIODE 1SS177				
D523	8-719-820-58	DIODE 1SS177				
D524	8-719-820-58	DIODE 1SS177				
D525	8-719-820-58	DIODE 1SS177				
D526	8-719-820-58	DIODE 1SS177				
D527	8-719-820-58	DIODE 1SS177				
		<IC>				
IC501	8-752-052-83	IC CXA1209P				
IC502	8-749-922-81	IC VPS07T				
		<COIL>				
L503	1-410-396-41	INDUCTOR	0.45UH			
L506	1-410-396-41	INDUCTOR	0.45UH			
L510	1-410-396-41	INDUCTOR	0.45UH			
L519	1-410-396-41	INDUCTOR	0.45UH			
L520	1-410-396-41	INDUCTOR	0.45UH			
		<CONNECTOR>				
P501	*1-560-894-00	PIN, CONNECTOR 6P				
P504	*1-560-895-00	PIN, CONNECTOR 7P				
P505	*1-564-031-00	PIN, CONNECTOR 6P				
P508	*1-564-028-00	PIN, CONNECTOR 3P				
P509	*1-564-031-00	PIN, CONNECTOR 6P				
		<TRANSISTOR>				
Q501	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q502	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q503	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q504	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q505	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q506	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q507	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q508	8-729-200-17	TRANSISTOR 2SA1091-O				
Q509	8-729-200-17	TRANSISTOR 2SA1091-O				
Q510	8-729-200-17	TRANSISTOR 2SA1091-O				

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

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION				REMARK
Q511	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q512	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q513	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q514	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		<RESISTOR>				
R501	1-214-702-00	METAL	75	1%	1/4W	
R502	1-214-702-00	METAL	75	1%	1/4W	
R503	1-214-702-00	METAL	75	1%	1/4W	
R504	1-249-401-11	CARBON	47	5%	1/4W	
R505	1-249-401-11	CARBON	47	5%	1/4W	
R506	1-249-401-11	CARBON	47	5%	1/4W	
R507	1-249-430-11	CARBON	12K	5%	1/4W	
R508	1-249-426-11	CARBON	5.6K	5%	1/4W	
R509	1-249-412-11	CARBON	390	5%	1/4W	
R510	1-249-441-11	CARBON	100K	5%	1/4W	
R511	1-249-411-11	CARBON	330	5%	1/4W	
R512	1-249-422-11	CARBON	2.7K	5%	1/4W	
R513	1-249-409-11	CARBON	220	5%	1/4W	
R514	1-249-409-11	CARBON	220	5%	1/4W	
R515	1-249-409-11	CARBON	220	5%	1/4W	
R516	1-249-413-11	CARBON	470	5%	1/4W	
R517	1-249-397-11	CARBON	22	5%	1/4W	
R518	1-249-397-11	CARBON	22	5%	1/4W	
R519	1-249-397-11	CARBON	22	5%	1/4W	
R520	1-249-421-11	CARBON	2.2K	5%	1/4W	
R521	1-247-706-11	CARBON	330	5%	1/4W	
R522	1-249-408-11	CARBON	180	5%	1/4W	
R523	1-247-903-00	CARBON	1M	5%	1/4W	
R524	1-247-749-11	CARBON	560	5%	1/2W	
R525	1-247-749-11	CARBON	560	5%	1/2W	
R526	1-247-749-11	CARBON	560	5%	1/2W	
R527	1-249-397-11	CARBON	22	5%	1/4W	
R528	1-247-716-11	CARBON	1.8K	5%	1/4W	
R529	1-249-441-11	CARBON	100K	5%	1/4W	
R530	1-249-401-11	CARBON	47	5%	1/4W	
R531	1-249-397-11	CARBON	22	5%	1/4W	
R532	1-247-716-11	CARBON	1.8K	5%	1/4W	
R533	1-247-885-00	CARBON	180K	5%	1/4W	
R534	1-249-401-11	CARBON	47	5%	1/4W	
R535	1-249-397-11	CARBON	22	5%	1/4W	
R536	1-247-716-11	CARBON	1.8K	5%	1/4W	
R537	1-249-417-11	CARBON	1K	5%	1/4W	
R538	1-249-399-11	CARBON	33	5%	1/4W	
R539	1-247-749-11	CARBON	560	5%	1/2W	
R540	1-249-417-11	CARBON	1K	5%	1/4W	
R541	1-249-439-11	CARBON	68K	5%	1/4W	
R542	1-249-435-11	CARBON	33K	5%	1/4W	
R543	1-249-417-11	CARBON	1K	5%	1/4W	
R544	1-249-441-11	CARBON	100K	5%	1/4W	
R545	1-249-428-11	CARBON	8.2K	5%	1/4W	
R546	1-249-416-11	CARBON	820	5%	1/4W	
R547	1-249-409-11	CARBON	220	5%	1/4W	
R548	1-249-417-11	CARBON	1K	5%	1/4W	
R549	1-249-426-11	CARBON	5.6K	5%	1/4W	
R550	1-249-421-11	CARBON	2.2K	5%	1/4W	
R552	1-249-421-11	CARBON	2.2K	5%	1/4W	
R553	1-249-421-11	CARBON	2.2K	5%	1/4W	
R554	1-247-749-11	CARBON	560	5%	1/2W	
R555	1-247-749-11	CARBON	560	5%	1/2W	
R556	1-247-749-11	CARBON	560	5%	1/2W	
R557	1-249-441-11	CARBON	100K	5%	1/4W	
R558	1-249-418-11	CARBON	1.2K	5%	1/4W	
R559	1-249-429-11	CARBON	10K	5%	1/4W	
R560	1-214-964-00	RES, HIGH MEG OHM 1M				
R561	1-214-964-00	RES, HIGH MEG OHM 1M				
R562	1-214-964-00	RES, HIGH MEG OHM 1M				
R563	1-247-887-00	CARBON	220K	5%	1/4W	
R564	1-247-887-00	CARBON	220K	5%	1/4W	
R565	1-247-887-00	CARBON	220K	5%	1/4W	
R566	1-247-883-00	CARBON	150K	5%	1/4W	
R567	1-247-893-11	CARBON	390K	5%	1/4W	
R568	1-247-883-00	CARBON	150K	5%	1/4W	
R569	1-247-893-11	CARBON	390K	5%	1/4W	
R570	1-247-883-00	CARBON	150K	5%	1/4W	
R571	1-247-893-11	CARBON	390K	5%	1/4W	
R572	1-247-700-11	SOLID	100	5%	1/4W	
R573	1-247-700-11	SOLID	100	5%	1/4W	
R574	1-247-700-11	SOLID	100	5%	1/4W	
R575	1-214-929-00	RES, HIGH MEG OHM 470K				
R576	1-214-956-00	RES, HIGH MEG OHM 470K				
R577	1-202-818-00	SOLID	1K	10%	1/2W	
R578	1-202-838-00	SOLID	100K	10%	1/2W	
R579	1-216-370-11	METAL OXIDE	1.2	5%	2W	F
R580	1-202-847-00	SOLID	560K	10%	1/2W	
R584	1-249-421-11	CARBON	2.2K	5%	1/4W	
		<VARIABLE RESISTOR>				
RV501	1-228-994-00	RES, ADJ, METAL GLAZE 10K				
RV502	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K				
RV503	1-237-499-21	RES, ADJ, CERMET 500				
RV504	1-237-499-21	RES, ADJ, CERMET 500				
RV505	1-237-507-21	RES, ADJ, CERMET 200K				
RV506	1-238-707-11	RES, ADJ, CERMET 200K				
RV507	1-238-689-11	VOLUME, ADJ, METAL GLAZE 2M				
RV508	1-238-689-11	VOLUME, ADJ, METAL GLAZE 2M				
RV509⚠	1-230-798-21	RES, ADJ, METAL GLAZE 90M				
RV510	1-237-507-21	RES, ADJ, CERMET 200K				
RV511	1-237-500-21	RES, ADJ, CERMET 1K				
		<SOCKET>				
S501	1-526-762-00	SOCKET, PICTURE TUBE				
		<SPARK GAP>				
SG501	1-519-421-11	GAP, DISCHARGE				
SG502	1-519-421-11	GAP, DISCHARGE				
SG503	1-519-421-11	GAP, DISCHARGE				
SG504	1-519-030-00	DISCHARGE ELEMENT				
		**********				
	*A-1345-995-A	D BOARD, COMPLETE				
		**********				
		(DA BOARD INCLUDING)				
	⚠1-526-954-11	INLET, AC ; P1				
	*4-030-202-01	HOLDER (TR)				
	*4-030-211-01	HOLDER (TR)				
	*4-030-212-01	HOLDER (TR)				
	*4-314-225-00	HEAT SINK, (A) (FN401)				
	*4-380-083-01	HOLDER (E), LED ; Z021				
	4-392-771-01	CAP, SEAL				
		<CAPACITOR>				
C201	1-126-104-11	ELECT	470MF	20%	35V	
C202	1-136-169-00	FILM	0.22MF	5%	50V	
C203	1-108-816-11	MYLAR	0.1MF	5%	50V	
C204	1-124-484-11	ELECT	220MF	20%	35V	
C205	1-124-903-11	ELECT	1MF	20%	50V	
C206	1-136-165-00	FILM	0.1MF	5%	50V	
C207	1-136-165-00	FILM	0.1MF	5%	50V	

D

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

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C208	1-130-489-00	MYLAR	0.033MF	5%	50V
C209	1-130-781-00	FILM	0.22MF	10%	100V
C210	1-124-557-11	ELECT	1000MF	20%	25V
C211	1-124-478-11	ELECT	100MF	20%	25V
C212	1-126-104-11	ELECT	470MF	20%	35V
C213	1-123-875-11	ELECT	10MF	20%	50V
C214	1-108-792-11	MYLAR	0.001MF	5%	50V
C216	1-124-557-11	ELECT	1000MF	20%	25V
C217	1-124-479-11	ELECT	330MF	20%	25V
C401	1-126-103-11	ELECT	470MF	20%	16V
C402	1-124-666-11	ELECT	4.7MF	20%	200V
C403	1-136-209-11	FILM	0.1MF	10%	250V
C404	1-126-527-11	ELECT	47MF	20%	200V
C405	1-124-667-11	ELECT	10MF	20%	100V
C406	1-108-626-11	MYLAR	0.01MF	10%	100V
C407	1-108-680-11	MYLAR	0.001MF	10%	100V
C408 ⚠	**1-104-492-11**	**FILM**	**5600PF**	**3%**	**2KV**
C409	**1-104-489-11**	**FILM**	**820PF**	**3%**	**1.6KV**
C410	1-136-079-00	FILM	0.01MF	3%	2KV
C412	**1-104-495-11**	**FILM**	**3.9MF**	**3%**	**100V**
C413	1-124-667-11	ELECT	10MF	20%	100V
C414	1-136-540-11	FILM	0.82MF	5%	200V
C415	**1-104-496-11**	**FILM**	**3.3MF**	**3%**	**200V**
C416	1-162-870-11	CERAMIC	0.0022MF	10%	1KV
C417	1-130-483-00	MYLAR	0.01MF	5%	50V
C418	1-162-978-11	CERAMIC	0.01MF		2KV
C419	1-162-978-11	CERAMIC	0.01MF		2KV
C420	1-108-816-11	MYLAR	0.1MF	5%	50V
C421	1-126-326-51	ELECT	10MF	20%	250V
C422	**1-104-497-11**	**FILM**	**0.47MF**	**3%**	**200V**
C423	1-164-350-11	CERAMIC	470PF	10%	1KV
C424	1-136-177-00	METALIZED	1MF	5%	50V
C425	1-124-478-11	ELECT	100MF	20%	25V
C427	1-123-875-11	ELECT	10MF	20%	50V
C429	1-124-929-11	ELECT	22MF	20%	100V
C430	1-124-927-11	ELECT	4.7MF	20%	50V
C431	1-124-929-11	ELECT	22MF	20%	100V
C440	1-124-910-11	ELECT	47MF	20%	35V
C901 ⚠	1-161-742-11	CERAMIC	0.0022MF	20%	400V
C902 ⚠	1-161-742-11	CERAMIC	0.0022MF	20%	400V
C903 ⚠	1-136-527-12	FILM	0.47MF	20%	250V
C904 ⚠	1-136-527-12	FILM	0.47MF	20%	250V
C905	1-125-541-11	ELECT(BLOCK)	470MF	20%	400V
C906	1-136-206-11	FILM	0.033MF	10%	600V
C907	1-162-131-11	CERAMIC	220PF	10%	2KV
C909	1-108-808-11	MYLAR	0.022MF	10%	50V
C910	1-124-919-11	ELECT	220MF	20%	63V
C911	1-124-915-11	ELECT	10MF	20%	63V
C913	1-161-742-00	CERAMIC	0.0022MF	20%	400V
C914	1-161-742-00	CERAMIC	0.0022MF	20%	400V
C915	1-161-742-00	CERAMIC	0.0022MF	20%	400V
C916	1-161-742-00	CERAMIC	0.0022MF	20%	400V
C921	1-162-558-11	CERAMIC	100PF	10%	2KV
C922	1-104-500-11	ELECT	220MF		250V
C923	**1-104-499-11**	ELECT	100MF		250V
C924	1-108-816-11	MYLAR	0.1MF	5%	50V
C925	1-123-605-00	ELECT	100MF	20%	100V
C926	1-124-485-11	ELECT	330MF	20%	35V
C927	1-124-480-11	ELECT	470MF	20%	25V
C928	1-161-772-11	CERAMIC	0.1MF	10%	25V
C929	1-124-479-11	ELECT	330MF	20%	25V
C930	1-124-485-11	ELECT	330MF	20%	35V
C931	1-126-220-51	ELECT	680MF	20%	16V
C932	1-124-931-11	ELECT	47MF	20%	100V
C933	1-124-929-11	ELECT	22MF	20%	100V
C934	1-124-122-11	ELECT	100MF	20%	35V
C935	1-124-119-00	ELECT	330MF	20%	16V

<DIODE>

D201	8-719-820-59	DIODE 1S1588
D202	8-719-820-56	DIODE S5688B
D203	8-719-110-41	DIODE RD15ES-B2
D204	8-719-110-41	DIODE RD15ES-B2
D205	8-719-941-64	DIODE GL5EG8
D401	8-719-110-13	DIODE RD9.1ES-B2
D402	8-719-301-86	DIODE RG2
D403	8-719-981-00	DIODE ERC81-004
D404	8-719-991-68	DIODE ESC011M-15
D405	8-719-820-56	DIODE S5688B
D406	8-719-312-26	DIODE EG01
D407	8-719-312-11	DIODE RP1H
D412	8-719-311-16	DIODE EG01Y
D413	8-719-301-86	DIODE RG2
D414	8-719-110-41	DIODE RD15ESB2
D415	8-719-311-16	DIODE EG01Y
D416	8-719-301-64	DIODE RU4DS
D417	8-719-110-41	DIODE RD15ES-B2
D418	8-719-110-31	DIODE RD12ESB2
D420	8-719-110-31	DIODE RD12ESB2
D901	8-719-500-16	DIODE D5SB60
D902	**8-719-311-17**	**DIODE EG01C**
D903	**8-719-302-04**	**DIODE EU02Z**
D904	**8-719-302-04**	**DIODE EU02Z**
D905	8-719-160-68	DIODE RD18FB2
D921	8-719-301-64	DIODE RU4DS
D922	8-719-302-06	DIODE EU2A
D923	**8-719-302-04**	**DIODE EU02Z**
D924	8-719-023-68	DIODE 5DL2CZ41A
D925	8-719-312-27	DIODE EU2YX
D926	8-719-023-68	DIODE 5DL2CZ41A
D927	8-719-023-66	DIODE RD68EB
D928	8-719-023-66	DIODE RD68EB
D929	8-719-023-66	DIODE RD68EB
D930	8-719-820-56	DIODE S5688B
D931	8-719-820-59	DIODE 1S1588
D932	8-719-820-59	DIODE 1S1588

<FUSE>

F901 ⚠	1-532-747-11	FUZE, TIME-LAG (5A/125V)
*1	1-533-087-00	HOLDER, FUZE; FH901

<IC>

IC201	8-759-049-07	IC TDA1675A
IC401	8-749-923-31	HIC CHO-2
IC901	8-749-923-21	IC STR-S5741
IC902	8-759-088-08	IC UPC7812AHF

<RELAY>

K401	1-515-753-11	RELAY
K901	1-515-753-11	RELAY

<COIL>

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

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	REMARK
L201	1-408-080-00	INDUCTOR 100UH	
L401	1-459-996-11	COIL, CHOKE 2.0MMH	
L402	1-460-001-11	COIL, CHOKE 2200UH	
L403	1-402-719-11	COIL, PIN MODULATION	
L404	1-407-498-00	INDUCTOR 3.3MMH	
L405	1-459-997-11	COIL, HORIZONTAL LINEARITY	
L406	1-421-329-00	COIL, CHOKE	
L407	1-459-111-00	COIL, DRAM, CORE 10UH	
L408	1-408-080-00	INDUCTOR 100UH	
L409	1-410-396-41	INDUCTOR 0.45UH	
L901	1-423-333-11	TRANSFORMER, LINE FILTER	
L902	1-459-999-11	COIL, CHOKE 18UH	
L903	1-408-119-00	INDUCTOR 15UH	
L904	1-408-119-00	INDUCTOR 15UH	
L905	1-459-998-11	COIL, CHOKE 150UH	
L908	1-410-396-41	INDUCTOR 0.45UH	
L909	1-410-396-41	INDUCTOR 0.45UH	
L912	1-410-396-41	INDUCTOR 0.45UH	
		<CONNECTOR>	
P201	1-506-348-XX	PIN, CONNECTOR 3P	
P202	*1-560-895-00	PIN, CONNECTOR 7P	
P301	*1-566-226-11	PIN, CONNECTOR 20P	
P302	*1-566-226-11	PIN, CONNECTOR 20P	
P401	1-506-348-XX	PIN, CONNECOTR 5P	
P402	*1-560-893-00	PIN, CONNECTOR 5P	
P902	*1-560-898-00	PIN, CONNECTOR 10P	
P903	*1-560-896-00	PIN, CONNECTOR 8P	
P904	*1-560-896-00	PIN, CONNECTOR 8P	
P905	*1-560-891-00	PIN, CONNECTOR 3P	
		<TRANSISTOR>	
Q201	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q202	8-729-111-54	TRANSISTOR 2SD1312-L	
Q203	8-729-111-52	TRANSISTOR 2SB984-K	
Q204	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q205	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q401	8-729-927-10	TRANSISTOR IRF9630	
Q402	8-729-012-56	TRANSISTOR IRF710	
Q403	8-729-821-95	TRANSISTOR 2SC3897	
Q404	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q411	8-729-119-00	TRANSISTOR 2SK612	
Q412	8-729-012-62	TRANSISTOR 2SA1507	
Q901	8-719-108-18	THYRISTOR 5P6M	
Q902	8-729-119-78	TRANSISTOR 2SC2785-HFE	
		<RESISTOR>	
R201	1-247-722-11	CARBON 5.6K 5% 1/4W	
R202	1-249-459-11	CARBON 12K 5% 1/4W	
R203	1-247-725-11	CARBON 10K 5% 1/4W	
R204	1-247-721-11	CARBON 4.7K 5% 1/4W	
R205	1-249-463-11	CARBON 27K 5% 1/4W	
R206	1-247-895-00	CARBON 470K 5% 1/4W	
R207	1-247-725-11	CARBON 10K 5% 1/4W	
R208	1-247-721-11	CARBON 4.7K 5% 1/4W	
R209	1-249-462-11	CARBON 22K 5% 1/4W	
R210	1-247-891-00	CARBON 330K 5% 1/4W	
R211	1-215-865-11	METAL OXIDE 220 5% 1W	F
R212	1-249-453-11	CARBON 3.3 5% 1/4W	F
R213	1-247-716-11	CARBON 1.8K 5% 1/4W	
R214	1-247-701-11	CARBON 120 5% 1/4W	
R215	1-247-715-11	CARBON 1.5K 5% 1/4W	
R216	1-216-349-00	METAL OXIDE 1 5% 1W	F
R217	1-215-885-00	METAL OXIDE 68 5% 2W	F
R218	1-212-865-00	FUSIBLE 22 5% 1/4W	F
R219	1-247-725-11	CARBON 10K 5% 1/4W	
R220	1-247-749-11	CARBON 560 5% 1/2W	
R221	1-247-725-11	CARBON 10K 5% 1/4W	
R222	1-247-725-11	CARBON 10K 5% 1/4W	
R223	1-247-725-11	CARBON 10K 5% 1/4W	
R224	1-247-725-11	CARBON 10K 5% 1/4W	
R225	1-247-701-11	CARBON 120 5% 1/4W	
R226	1-246-543-00	CARBON 820K 5% 1/4W	
R227	1-247-887-00	CARBON 220K 5% 1/4W	
R401	1-247-721-11	CARBON 4.7K 5% 1/4W	
R402	1-249-465-11	CARBON 47K 5% 1/4W	
R404	1-213-086-00	FUSIBLE 120 5% 1W	F
R405	1-247-713-11	CARBON 1K 5% 1/4W	
R406	1-215-896-00	METAL OXIDE 4.7K 5% 2W	F
R407	1-216-390-11	METAL OXIDE 1.2 5% 3W	F
R408	1-215-880-00	METAL OXIDE 10 5% 2W	F
R409	1-216-393-00	METAL OXIDE 2.2 5% 3W	F
R410	1-260-082-91	CARBON 39 5% 1/2W	
R411	1-212-994-00	FUSIBLE 330 5% 1/2W	F
R412	1-247-725-11	CARBON 10K 5% 1/4W	
R413	1-212-849-00	FUSIBLE 4.7 5% 1/4W	F
R414	⚠1-214-746-11	METAL FILM 5.6K 1% 1/4W	
R415	1-212-849-00	FUSIBLE 4.7 5% 1/4W	F
R416	1-212-849-00	FUSIBLE 4.7 5% 1/4W	F
R417	1-260-119-11	CARBON 47K 5% 1/2W	
R418	1-260-119-11	CARBON 47K 5% 1/2W	
R419	1-260-120-11	CARBON 56K 5% 1/2W	
R420	1-260-120-11	CARBON 56K 5% 1/2W	
R421	1-212-865-00	FUSIBLE 22 5% 1/4W	F
R422	1-249-466-11	CARBON 56K 5% 1/4W	
R423	1-212-877-11	FUSIBLE 68 5% 1/4W	F
R434	1-247-883-00	CARBON 150K 5% 1/4W	
R435	1-247-885-00	CARBON 180K 5% 1/4W	
R436	1-249-469-11	CARBON 100K 5% 1/4W	
R437	1-216-480-11	METAL OXIDE 820 5% 3W	F
R438	1-249-462-11	CARBON 22K 5% 1/4W	
R439	1-214-921-55	METAL 220K 1/2W	
R440	1-247-704-11	CARBON 220 5% 1/4W	
R901	1-214-931-00	METAL GLAZE 560K 5% 1/2W	
R902	1-205-779-11	WIREWOUND 1 5% 10W	F
R903	1-260-126-91	CARBON 180K 5% 1/2W	
R904	1-260-127-91	CARBON 220K 5% 1/2W	
R905	1-215-926-00	METAL OXIDE 33K 5% 3W	F
R906	1-215-926-00	METAL OXIDE 33K 5% 3W	F
R908	1-215-907-11	METAL OXIDE 22 5% 3W	F
R909	1-216-469-11	METAL OXIDE 12 5% 3W	F
R910	1-215-906-11	METAL OXIDE 15 5% 3W	F
R911	1-212-865-00	FUSIBLE 22 5% 1/4W	F
R913	1-205-956-11	WIREWOUND 0.15 10% 3W	
R915	1-214-769-00	METAL 47K 1% 1/4W	
R916	1-214-777-00	METAL 100K 1% 1/4W	
R920	1-217-501-00	FUSIBLE 470 5% 1W	F
R921	1-217-501-00	FUSIBLE 470 5% 1W	F
R922	1-205-616-00	WIREWOUND 1 5% 5W	F
R923	1-247-713-11	CARBON 1K 5% 1/4W	
R924	1-260-127-91	CARBON 220K 5% 1/2W	
R926	1-217-637-00	FUSIBLE 1 5% 1/4W	F
R927	1-249-467-11	CARBON 68K 5% 1/4W	
R928	1-212-934-00	FUSIBLE 1 5% 1/2W	F
R929	1-207-451-00	RES, WIRE 0.1 1/6W	

D

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.

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

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

DA(DC-1)

REF.NO.	PART NO.	DESCRIPTION				REMARK
R930	1-212-934-00	FUSIBLE	1	5%	1/2W	F
R931	1-207-451-00	RES, WIRE	0.1		1/6W	
R932	**1-216-371-00**	**METAL OXIDE**	**1.5**	**5%**	**2W**	**F**
R934	1-247-698-11	CARBON	68	5%	1/4W	
R935	1-247-726-11	CARBON	33K	5%	1/4W	
R936	1-249-465-11	CARBON	47K	5%	1/4W	
		<VARIABLE RESISTOR>				
RV201	1-228-997-00	RES, ADJ, CERMET 100K				
RV204	1-238-449-21	RES, VAR, CARBON 10K				
RV205	1-241-715-21	RES, VER, CARBON 10K				
RV401	1-238-688-11	RES, VAR, WIREWOUND 100				
⋈RV402	⚠1-223-213-11	RES, ADJ, CERMET				
		<VOLUME>				
RVB1	1-238-721-11	VOLUME (4 GANG) 5K/10K/5K/10K				
		<SWITCH>				
SW401	1-571-427-11	SWITCH, SLIDE				
SW402	1-572-022-11	SWITCH, SLIDE				
SW901	⚠1-571-433-11	SWITCH, PUSH (AC POWER)				
		<TRANSFORMER>				
T401	1-423-345-11	TRANSFORMER, HORIZONTAL DRIVE				
T402	⚠1-453-130-11	TRANSFORMER ASS'Y FLYBACK				
T901	⚠1-423-346-11	TRANSFORMER				
		<THERMISTOR>				
TH201	1-807-796-11	THERMISTOR				
TH402	1-809-880-11	POSISTOR				
TH901	1-808-059-31	THERMISTOR, POSITIVE				
		<CONNECTOR>				
Z201	4-380-083-01	HOLDER(E), LED				
Z404	4-392-771-01	CAP, SEAL				
Z903	1-543-966-11	CORE, EMI				
		**********				
	***A-1346-088-A**	DA BOARD, COMPLETE				
		**********				
		<CAPACITOR>				
C101	1-126-399-11	ELECT CHIP	10MF	20%	35V	
C102	1-124-767-00	ELECT	2.2MF	20%	50V	
C103	1-126-399-11	ELECT CHIP	10MF	20%	35V	
C104	1-124-767-00	ELECT	2.2MF	20%	50V	
C105	1-126-101-11	ELECT	100MF	20%	16V	
C106	1-126-101-11	ELECT	100MF	20%	16V	
C108	1-126-399-11	ELECT CHIP	10MF	20%	35V	
C109	1-126-101-11	ELECT	100MF	20%	16V	
C110	1-126-399-11	ELECT CHIP	10MF	20%	35V	
C111	1-126-398-11	ELECT CHIP	4.7MF	20%	35V	
C112	1-126-398-11	ELECT CHIP	4.7MF	20%	35V	
C113	1-126-399-11	ELECT CHIP	10MF	20%	35V	
C114	1-163-193-00	CERAMIC CHIP	330PF	5%	50V	
C251	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C252	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C253	1-126-101-11	ELECT	100MF	20%	16V	

REF.NO.	PART NO.	DESCRIPTION			REMARK
C301	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C302	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C303	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C304	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C305	1-163-205-00	CERAMIC CHIP	0.001MF	5%	50V
C306	1-163-205-00	CERAMIC CHIP	0.001MF	5%	50V
C307	1-163-205-00	CERAMIC CHIP	0.001MF	5%	50V
C308	1-163-209-00	CERAMIC CHIP	0.0015MF	5%	50V
C309	1-126-399-11	ELECT CHIP	10MF	20%	35V
C310	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C311	1-126-301-11	ELECT	1MF	20%	50V
C312	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C313	1-126-401-11	ELECT CHIP	1MF	20%	50V
C314	1-163-205-00	CERAMIC CHIP	0.001MF	5%	50V
C315	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C316	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C317	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C318	1-126-396-11	ELECT CHIP	47MF	20%	16V
C319	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C320	1-163-205-00	CERAMIC CHIP	0.001MF	5%	50V
C321	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C322	1-126-103-11	ELECT	470MF	20%	16V
C326	1-163-209-00	CERAMIC CHIP	0.0015MF	5%	50V
C327	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C328	1-123-875-11	ELECT	10MF	20%	35V
C329	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C330	1-126-399-11	ELECT CHIP	10MF	20%	35V
C331	1-126-398-11	ELECT CHIP	4.7MF	20%	35V
C332	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C334	1-126-398-11	ELECT CHIP	4.7MF	20%	35V
C336	1-126-399-11	ELECT CHIP	10MF	20%	35V
C337	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C338	1-124-277-11	ELECT	4.7MF	20%	35V
C340	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C341	1-124-910-11	ELECT	47MF	20%	35V
C342	1-126-101-11	ELECT	100MF	20%	16V
C345	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C346	1-126-399-11	ELECT CHIP	10MF	20%	35V
C347	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C349	1-126-399-11	ELECT CHIP	10MF	20%	35V
C350	1-163-193-00	CERAMIC CHIP	330PF	5%	50V
C601	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C602	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C603	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C604	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C605	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C606	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C607	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C608	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C609	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C610	1-163-205-00	CERAMIC CHIP	0.001MF	5%	50V
C611	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C612	1-163-021-91	CERAMIC CHIP	0.01MF	5%	50V
C613	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C614	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C622	1-163-038-00	CERAMIC CHIP	0.1MF		25V
		<DIODE>			
D103	8-719-105-91	DIODE RD5.6M-B2			
D104	8-719-105-91	DIODE RD5.6M-B2			
D253	8-719-820-05	DIODE 1SS181			
D254	8-719-801-48	DIODE 1SS193			
D255	8-719-801-78	DIODE 1SS184			

DA(DC-1)

REF.NO.	PART NO.	DESCRIPTION	REMARK
D257	8-719-820-05	DIODE 1SS181	
D259	8-719-801-48	DIODE 1SS193	
D301	8-719-801-48	DIODE 1SS193	
D302	8-719-801-48	DIODE 1SS193	
D303	8-719-106-44	DIODE RD9.1M-B2	
D304	8-719-820-05	DIODE 1SS181	
D306	8-719-801-48	DIODE 1SS193	
D308	8-719-801-48	DIODE 1SS193	
D309	8-719-801-48	DIODE 1SS193	
D310	8-719-801-48	DIODE 1SS193	
D311	8-719-107-15	DIODE RD18M-B2	
D312	8-719-801-48	DIODE 1SS193	
D601	8-719-820-05	DIODE 1SS181	
D602	8-719-801-48	DIODE 1SS193	
D603	8-719-800-76	DIODE 1SS226	
D604	8-719-105-82	DIODE RD5.1ES-B2	
D605	8-719-800-76	DIODE 1SS226	
D606	8-719-800-76	DIODE 1SS226	
D607	8-719-801-78	DIODE 1SS184	
D608	8-719-801-48	DIODE 1SS193	
D609	8-719-820-05	DIODE 1SS181	
D610	8-719-801-48	DIODE 1SS193	
D611	8-719-801-48	DIODE 1SS193	
D612	8-719-026-17	DIODE RD5.1PB	
		<IC>	
IC101	8-749-923-30	IC PR-1	
IC250	8-759-064-06	IC UPA2004GR	
IC301	8-759-822-53	IC LA7850	
IC302	8-759-064-06	IC UPA2004GR	
IC303	8-759-942-16	IC TBA2031A	
IC304	8-759-064-03	IC AN1431M	
IC601	8-759-032-01	IC MC74HC00AF	
IC602	8-759-239-23	IC TC74HC86AF	
IC603	8-759-032-01	IC MC74HC00AF	
IC604	8-759-926-12	IC SN74HC139ANS	
IC605	8-759-239-55	IC TC74HC123AF	
IC606	8-759-032-01	IC MC74HC00AF	
		<COIL>	
L101	1-408-080-00	INDUCTOR 100UH	
L102	1-412-390-21	INDUCTOR	
L103	1-412-390-21	INDUCTOR	
L250	1-408-080-00	INDUCTOR 100UH	
L301	1-408-080-00	INDUCTOR 100UH	
L302	1-408-080-00	INDUCTOR 100UH	
		<CONNECTOR>	
P301	*1-563-226-11	CONNECTOR, INTERNATIONAL	
P302	*1-563-226-11	CONNECTOR, INTERNATIONAL	
P303	*1-560-892-00	PIN, CONNECTOR 4P	
P304	*1-560-894-00	PIN, CONNECTOR 6P	
TP301	*1-560-891-00	PIN, CONNECTOR 3P	
		<TRANSISTOR>	
Q101	8-729-216-22	TRANSISTOR 2SA1162-G	
Q102	8-729-216-22	TRANSISTOR 2SA1162-G	
Q253	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q254	8-729-216-22	TRANSISTOR 2SA1162-G	
Q255	8-729-216-22	TRANSISTOR 2SA1162-G	

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q301	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q302	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q303	8-729-216-22	TRANSISTOR 2SA1162-G	
Q304	8-729-216-22	TRANSISTOR 2SA1162-G	
Q305	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q306	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q307	8-729-216-22	TRANSISTOR 2SA1162-G	
Q308	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q309	8-729-216-22	TRANSISTOR 2SA1162-G	
Q310	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q311	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q312	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q313	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q314	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q315	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q316	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q317	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q318	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q319	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q320	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q321	8-729-216-22	TRANSISTOR 2SA1162-G	
Q601	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q602	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q603	8-729-216-22	TRANSISTOR 2SA1162-G	
Q604	8-729-216-22	TRANSISTOR 2SA1162-G	
Q605	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q606	8-729-421-22	TRANSISTOR UN2211	
Q607	8-729-216-22	TRANSISTOR 2SA1162-G	
Q608	8-729-421-22	TRANSISTOR UN2211	
Q609	8-729-421-22	TRANSISTOR UN2211	
Q610	8-729-421-22	TRANSISTOR UN2211	
Q611	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q612	8-729-421-22	TRANSISTOR UN2211	
Q613	8-729-421-22	TRANSISTOR UN2211	
Q614	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q615	8-729-421-22	TRANSISTOR UN2211	
Q616	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q617	8-729-216-22	TRANSISTOR 2SA1162-G	
Q618	8-729-216-22	TRANSISTOR 2SA1162-G	
		<RESISTOR>	
R101	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R102	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R103	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R104	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R105	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R106	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R107	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R108	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R109	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R110	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R111	1-216-196-00	CHIP 820 5% 1/8W	
R112	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W	
R113	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W	
R114	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W	
R115	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W	
R116	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W	
R117	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W	
R118	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W	
R119	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R120	1-216-196-00	CHIP 820 5% 1/8W	
R121	1-216-196-00	CHIP 820 5% 1/8W	
R122	1-216-196-00	CHIP 820 5% 1/8W	

DA(DC-1)

REF.NO.	PART NO.	DESCRIPTION				REMARK
R255	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R256	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R257	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R258	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R259	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R260	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R261	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R262	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R263	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R264	1-216-295-00	CHIP	0	5%	1/10W	
R265	1-216-295-00	CHIP	0	5%	1/10W	
R266	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R267	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R268	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R269	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R301	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R302	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R303	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R304	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R305	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R306	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R307	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R308	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R309	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R310	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R311	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R312	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R313	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R314	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R315	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R316	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R317	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R318	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R319	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R320	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R321	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R322	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R323	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R324	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R325	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R326	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R327	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R328	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R329	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R330	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R331	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R332	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R333	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R334	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R335	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R336	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R337	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R338	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R339	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R340	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R341	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R342	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R344	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R345	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R346	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R347	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R348	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R349	1-216-689-11	METAL FILM CHIP	39K	5%	1/10W	
R350	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R351	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R352	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R353	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R354	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R355	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R356	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R357	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R358	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R359	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R360	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R361	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R362	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R363	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R364	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R365	1-216-689-11	METAL FILM CHIP	39K	5%	1/10W	
R366	1-216-689-11	METAL FILM CHIP	39K	5%	1/10W	
R367	1-216-080-00	METAL GLAZE	20K	5%	1/10W	
R368	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R369	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R370	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R371	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R372	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R375	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R376	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R379	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R380	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R381	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R382	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R383	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R384	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R385	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R386	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R387	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R388	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R389	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R391	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R392	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R393	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R394	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R395	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R396	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R397	1-216-295-00	CHIP	0	5%	1/10W	
R399	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R601	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R602	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R603	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R604	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R605	1-216-196-00	METAL GLAZE	820	5%	1/8W	
R606	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R607	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R608	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R609	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R610	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R611	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R612	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R613	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R614	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R615	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R616	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R617	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R618	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R619	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R620	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	

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

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

DA(DC-1)

REF.NO.	PART NO.	DESCRIPTION				REMARK
R621	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W	
R622	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R623	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R624	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R625	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R626	1-216-124-11	METAL GLAZE	1.3M	5%	1/10W	
R627	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R628	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R629	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R630	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R631	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R632	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R633	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R634	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R635	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R636	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R637	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R638	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R639	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R640	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R641	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R642	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R644	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R645	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R646	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R647	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R648	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R649	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R650	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R651	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R652	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R653	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R654	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R655	1-216-015-00	METAL GLAZE	39	5%	1/10W	
R656	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R657	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R658	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R659	1-216-025-00	METAL GLAZE	100	5%	1/10W	

<VARIABLE RESISTOR>

RV251	1-228-993-00	RES, ADJ, CERMET 5K
RV252	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K
RV253	1-228-995-00	RES, ADJ, CARBON 22K
RV254	1-228-994-00	RES, ADJ, CERMET 10K
RV255	1-228-993-00	RES, ADJ, CERMET 5K
RV256	1-228-995-00	RES, ADJ, METAL GLAZE 22K
RV257	1-228-995-00	RES, ADJ, METAL GLAZE 22K
RV301	1-238-693-11	RES, ADJ, CARBON 5K
RV302	1-237-524-21	RES, ADJ, CARBON 1M
RV303	1-228-994-00	RES, ADJ, CERMET 10K
RV304	1-228-994-00	RES, ADJ, CERMET 10K
RV305	1-228-993-00	RES, ADJ, CERMET 5K
RV306	1-228-993-00	RES, ADJ, CERMET 5K
RV307	1-228-997-00	RES, ADJ, METAL GRAZE 100K
RV308	1-228-996-00	RES, ADJ, CERMET 50K
RV309	1-238-688-11	RES, VAR, WIREWOUND 100
RV310	1-228-997-00	RES, ADJ, CERMET 100K
RV311	1-228-996-00	RES, ADJ, CERMET 50K
RV312	1-228-996-00	RES, ADJ, CERMET 50K
RV313	1-228-998-00	RES, ADJ, METAL GLAZE 220K
RV314	1-230-868-11	RES, ADJ, METAL GLAZE 2.2K
RV601	1-230-871-11	RES, ADJ, METAL GRAZE 22K
RV602	1-237-964-11	RES, ADJ, METAL GRAZE 4.7K

REF.NO.	PART NO.	DESCRIPTION	REMARK
		**********	
		MISCELLANEOUS	
		**********	
	⚠1-402-744-11	COIL, DEGAUSSING	
	⚠1-451-409-11	DEFLECTION YOKE (TCD-13301)	
	1-452-032-00	MAGNET, DISK; 10MMφ	
	1-941-843-17	CABLE ASSY, SIGNAL	
V901	⚠8-738-260-05	PICTURE TUBE 14FGE (M34JNQ15X)	
		**********	
		ACCESSORIES & PACKING MATERIALS	
		**********	
	PART NO.	DESCRIPTION	REMARK
	⚠1-534-827-14	CORD, POWER (10A/125V)	
	3-754-717-21	MANUAL, INSTRUCTION	
	*4-035-216-01	CARTON, INDIVIDUAL	
	4-369-325-11	BAG, PROTECTION	
	*4-392-724-01	SPACER	
	*4-392-725-01	CUSHION (UPPER) (ASSY)	
	*4-392-726-01	CUSHION (LOWER) (ASSY)	

9-978-267-01

Sony Corporation
Display Products Group

English
92FL1512-1
Printed in Japan

CPD-1304S

SONY
SERVICE MANUAL

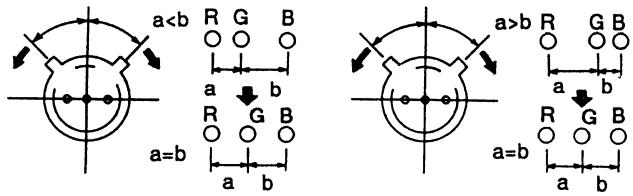
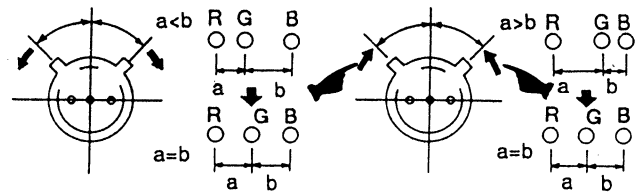
US Model
Canadian Model
Chassis No. SCC-E97A-A

CORRECTION-1

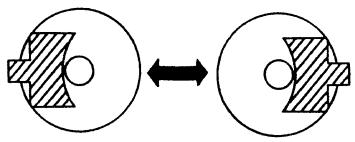
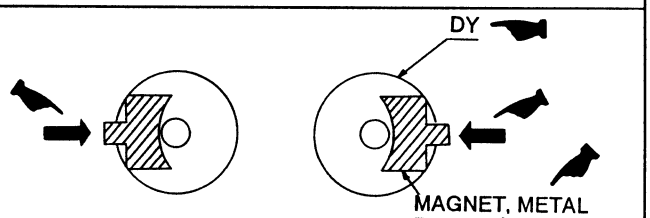
File this correction with the service manual.

☛ : Indicates corrected portion

Page 12 : 3-2. CONVERGENCE

Incorrect	Correct
• HMC and VMC correction for BMC (6-Poles) magnet. 1. HMC (Horizontal Misconvergence) correction and motion of the Electron Beam with the BMC (6-poles) magnet. HMC Correction (A) HMC Correction (B) 	• HMC and VMC correction for BMC (6-Poles) magnet. 1. HMC (Horizontal Misconvergence) correction and motion of the Electron Beam with the BMC (6-poles) magnet. HMC Correction (A) HMC Correction (B) 

Page 13 : ② H.TILT adjustment

Incorrect	Correct
 Operation (taking out and putting in) Operation (taking out and putting in) Correction board	 Operation (taking out and putting in) Operation (taking out and putting in) Correction board

MICROFILM

Page 47 : EXPLODED VIEWS

Incorrect				Correct			
REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
4	⚠.8-738-260-05	PICTURE TUBE 14FGE (M34JNQ15X)		4	⚠.8-738-259-05	PICTURE TUBE 14FGE (M34JNQ15X)	
5	⚠.1-451-409-11	DEFLECTION YOKE (TCD-13301)		5	⚠.1-451-409-11	DEFLECTION YOKE (TCD-13301)	
6	⚠.1-402-744-11	COIL, DEGAUSSING		6	⚠.1-402-744-11	COIL, DEGAUSSING	
7	3-703-003-00	SPACER, DY		7	3-703-003-00	SPACER, DY	

ELECTRICAL PARTS LIST

Page	Incorrect				Correct			
	REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
50			<FUSE>				<FUSE>	
	F901	⚠.1-532-747-11	FUSE, GLASS TUBE (5A/125V)		F901	⚠.1-532-505-31	FUSE, GLASS TUBE (5A/250V)	
		⁑.1-533-146-00	HOLDER, FUSE; FH901			⁑.1-533-146-00	HOLDER, FUSE; FH901	
55			MISCELLANEOUS ⁑⁑⁑⁑⁑⁑⁑⁑⁑⁑⁑⁑				MISCELLANEOUS ⁑⁑⁑⁑⁑⁑⁑⁑⁑⁑⁑⁑	
		1-452-032-00	MAGNET, DISK; 10MM φ			1-452-032-00	MAGNET, DISK; 10MM φ	
		1-941-843-17	CABLE ASSY, SIGNAL			1-941-843-17	CABLE ASSY, SIGNAL	
	V901	⚠.8-738-260-05	PICTURE TUBE 14FGE (M34JNQ15X)		V901	⚠.8-738-259-05	PICTURE TUBE 14FGE (M34JNQ15X)	
						X-2105-485-1	MAGNET, METAL	