

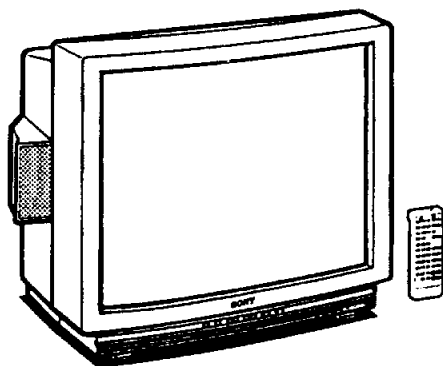
KV-20EXR20

RM-Y103

USO EXCLUSIVO DEL
SERVICE MANUAL
 DEPTO. DE MANUALES DE SERVICIO-SPA

US Model
 Chassis No. SCC-D50D-A
Canadian Model
 Chassis No. SCC-D61B-A

F-45



ANU-2 CHASSIS

MODELS OF THE SAME SERIES

KV-20EXR20	
KV-20EXR10	
KV-20EXR15	

SPECIFICATIONS

Television system American TV standards
Channel coverage VHF: 2 - 13
 UHF: 14 - 69
 Cable TV: 1 - 125

Picture tube Microblack™ Trinitron® tube
 20-inch picture measured diagonally
 21-inch picture tube measured diagonally

Antenna 75-ohm external antenna terminal for VHF/UHF

Input VIDEO 1 and 2 IN
 S VIDEO IN (4-pin mini DIN)
 Y: 1 Vp-p, 75-ohms unbalanced, sync negative
 C: 0.286 Vp-p (Burst signal), 75-ohms
 Video (phono jacks): 1 Vp-p, 75-ohms unbalanced, sync negative
 Audio (phono jacks): 500 mVrms (100% modulation)
 Impedance: 47 kilohms

Output VIDEO 2 OUT
 Video (phono jack): 75-ohms unbalanced, sync negative
 Audio (phono jacks): Impedance: 10 kilohms

AUDIO OUT (VARIABLE)
 (phono jacks)
 More than 408 mVrms at the maximum volume setting (variable)
 Impedance: 5 kilohms

Speaker output 5 W x 2
Power requirements 120 V AC, 60 Hz
Power consumption

	Max.	Standby
	130W	1.5 W

Supplied accessories Remote commander RM-Y103 with 2 size AA (R6) batteries (1)
 Antenna connector (1)

Recommended accessories
 U/V mixer EAC-66
 Connecting cable VMC-810/820S, YC-15 V/30 V
 Video rack SU-275

Dimensions 517.0 × 477.2 × 483.4 mm
 (W × H × D)

Weight 25.0 kg

Design and specifications are subject to change without notice.



TRINITRON® COLOR TV
SONY®


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WARNING !!

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


SAFETY-RELATED COMPONENT WARNING !!

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

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

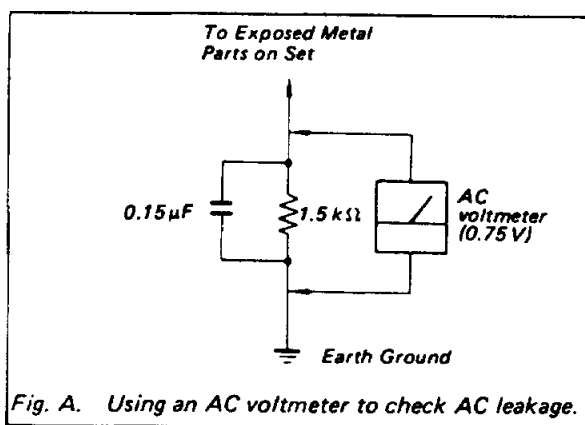
LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÉCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS 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 condition of the monopole antenna (if any).
Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

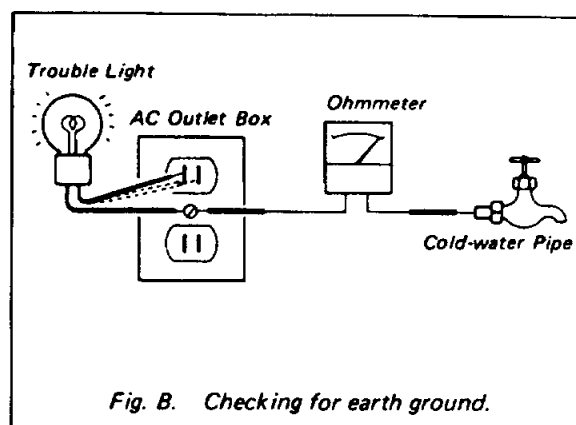
**LEAKAGE TEST**

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

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

HOW TO FIND A GOOD EARTH GROUND

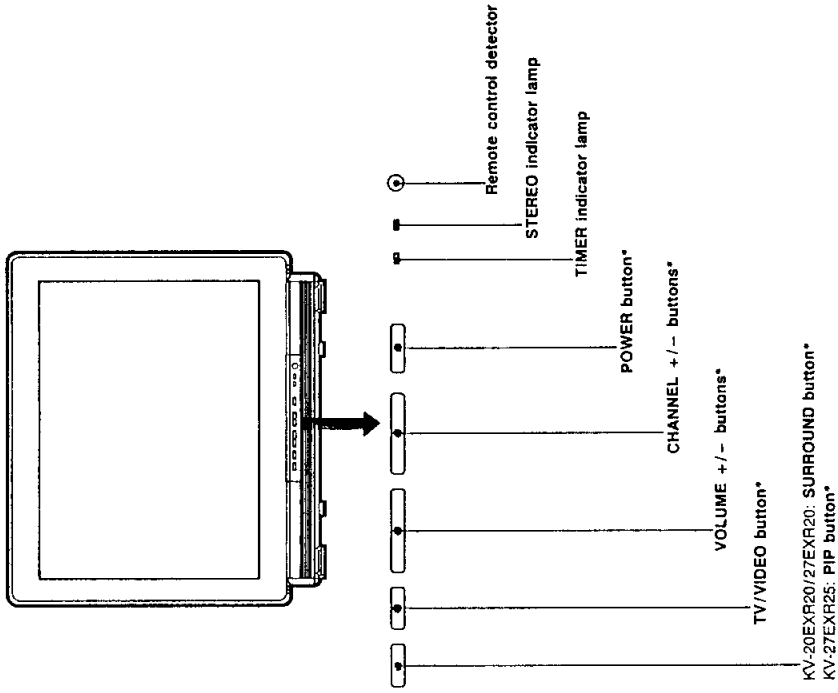
A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading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



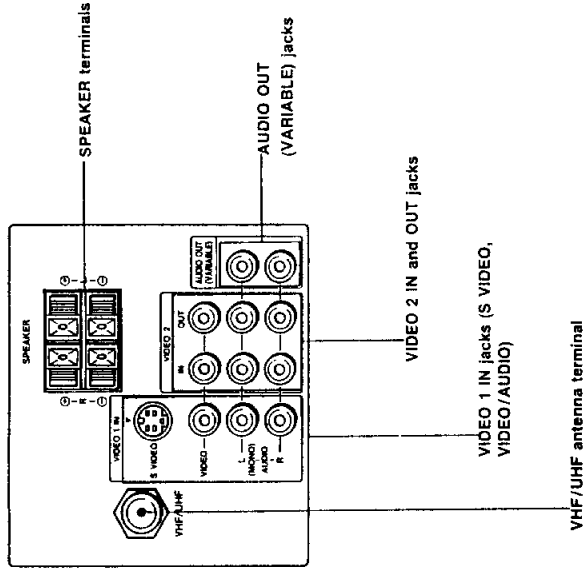
SECTION 1
GENERAL

1-1. LOCATION OF CONTROLS

Front panel



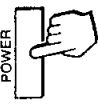
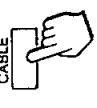
Rear Panel

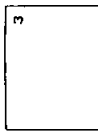


*Buttons with the same function are also located on the commander


1-2. PRESETTING TV CHANNELS

To Preset TV Channels Automatically

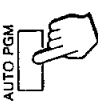
- 1 Press POWER on the TV or the remote commander to turn the TV on.
 
- 2 Press CABLE so that the appropriate mode appears.
 

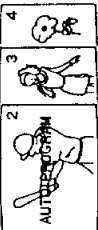

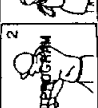



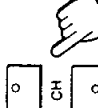
To preset VHF or UHF channels

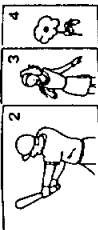
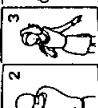
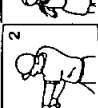



To preset cable TV channels

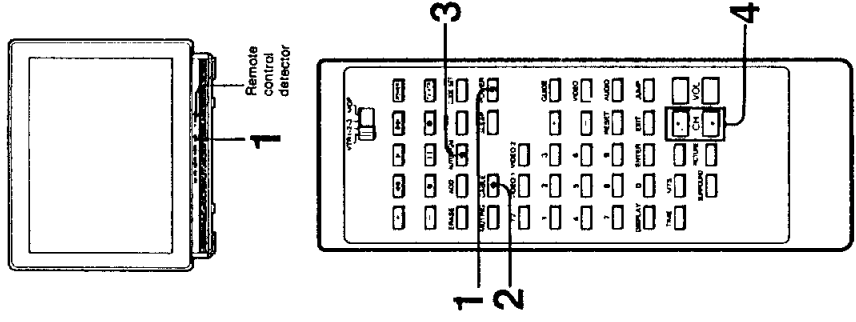
If "VIDEO 1" or "VIDEO 2" is displayed on the screen, press the TV/VIDEO button on the TV or the TV button on the remote commander so that a channel number appears.
- 3 Press AUTO PGM.
 

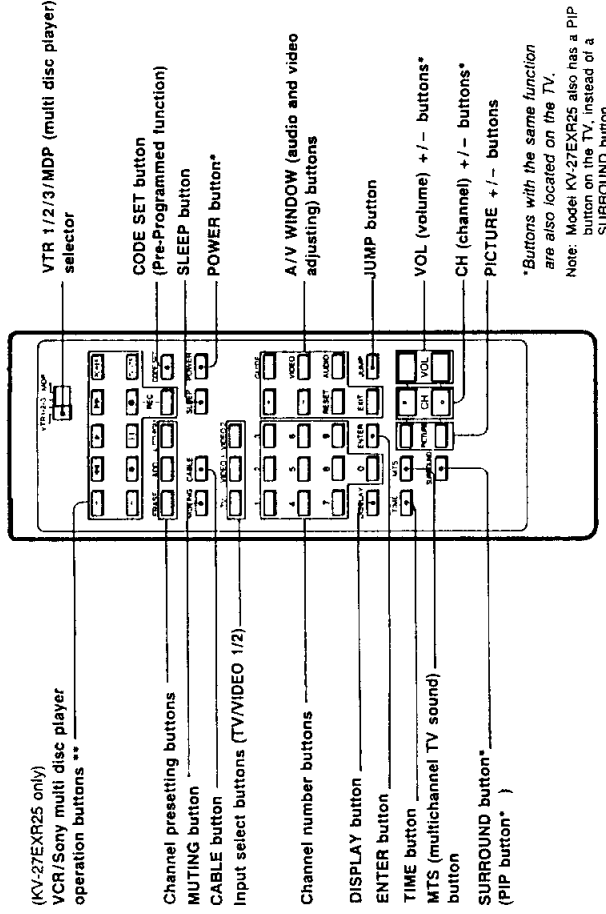
"AUTO PROGRAM" is displayed on the screen and receivable channels (other than the channels already preset) will be preset in numerical sequence. The channels previously preset remain in the TV's memory. When no more channels can be found, the programming stops and the lowest numbered channel is displayed.
- 4 Press CH +/- to check or view preset channels.
 

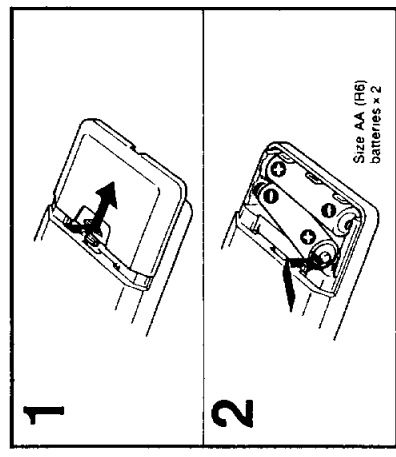
To add channels that could not be preset automatically because their signal strength was too weak, or to erase unnecessary channels, follow the steps in "To Preset Only Desired Channels or to Erase Unnecessary Channels" on the next page.



Universal Remote Commander



Installing Batteries



Battery life
With normal operation, batteries will last up to half a year. If the commander does not operate properly, the batteries might be exhausted. Replace both with new ones.

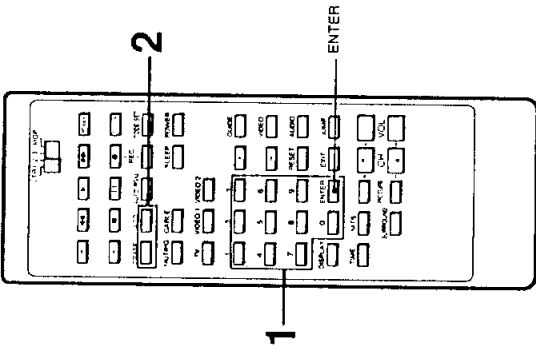
To avoid damage from possible battery leakage
Remove the batteries when the remote commander will not be used for a long time.

Channels that can be received on this TV:
VHF: 2 - 13
UHF: 14 - 69
Cable: 1 - 125

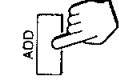
1-3. WATCHING TV PROGRAMS

To Preset Only Desired Channels or to Erase Unnecessary Channels

1 Press the channel number button(s) and then press ENTER to select the channel you want to add or erase.



2 To add channels Press ADD.

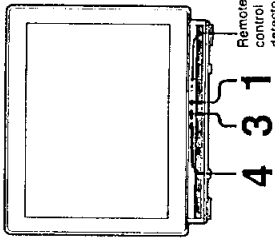


A "+" appears before the number for a moment. This channel has now been added to the channel scan memory.

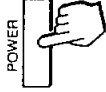
To erase channels Press ERASE.



A "-" appears before the number for a moment. This channel has now been erased from the channel scan memory. The next time you press the CH +/- button, this channel will be skipped. Repeat steps 1 and 2 to add or erase other channels.



1 Press POWER on the TV or the remote commander to turn the TV on.



2 Press CABLE so that the appropriate mode appears.



To view VHF or UHF channels

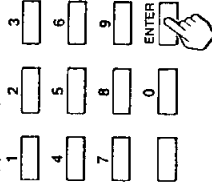
To view cable TV channels

If "VIDEO 1" or "VIDEO 2" is displayed on the screen, press the TV/VIDEO button on the TV or the TV button on the remote commander so that a channel number appears.

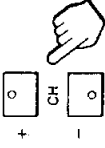
3 Select a channel in one of the following two ways:

To select a channel directly, press the channel number button(s) and then ENTER.

For example, to select channel 10, press 1, 0 and ENTER.

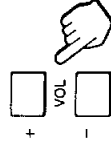


To scan the preset channels* in numerical sequence, press CH +/-



*For more on presetting channels, see p. 11 - 12.

4 Press VOL + or - to adjust the volume.



To turn off the TV Press POWER on the TV or the remote commander again.

CAUTION

When a VHF or UHF channel is erased the cable TV channel with the same number is also erased, and vice versa.

Cable TV channel chart*

Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to the chart below.

Number on this TV	1	5	6	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				
Corresponding CATV channel	A-8	A-7	A-6	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q				
	31	32	33	34	35	36	37	38	39	93	94	95	96	97	98	99	100	101	102	123	124	125		
R	S	T	U	V	W	W+1	W+2	W+3	W+4	W+5	W+6	W+7	W+8	A-5	A-4	A-3	A-2	A-1	W+58	W+60	W+61	W+62	W+63	W+64

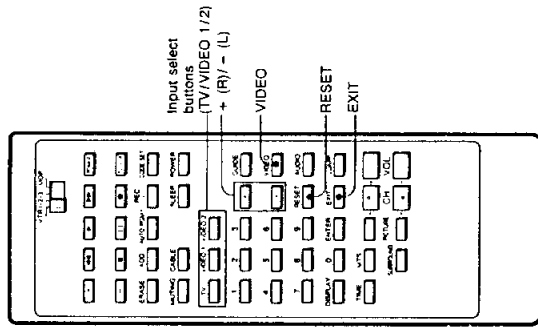
Check with your local cable TV company for more complete information on the available channels.

*This designation of cable TV channels conforms to the EIA/NCTA recommendation.

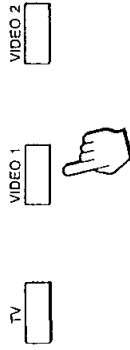
1-4. ADJUSTING PICTURE AND SOUND QUALITY

You can set different picture and sound quality levels for each input mode by changing the input mode (TV/VIDEO 1/2) before setting. These settings will be retained even when you turn the TV off.

Adjusting the Picture



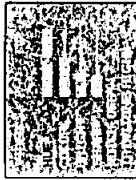
1 Select the input mode you want to adjust with the TV/VIDEO 1/2 buttons.



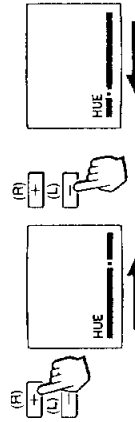
2 Press VIDEO.



3 Press VIDEO repeatedly until the quality you want to adjust blinks.



4 Press + (R) or - (L) to make the adjustment.



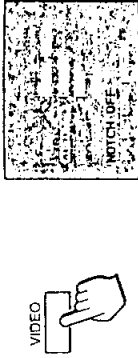
Picture quality	Press - (L) button	Press + (R) button
HUE	Skin tones become purplish	Skin tones become greenish
COLOR	For less color intensity	For more color intensity
BRIGHT	For less brightness	For more brightness
SHARP	For less sharpness	For more sharpness

The display will disappear automatically after a few seconds.

The SHARP Control has no effect with a window picture. (PIP function — KV-27EXR25 only)

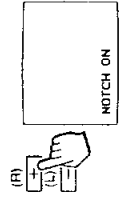
NOTCH filter setting

Press VIDEO.



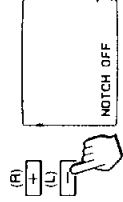
Normally, set to NOTCH OFF. If dots or stripes appear while you are watching an image from a computer or video source, set to NOTCH ON.

To set NOTCH filter ON.



Press +.

To set NOTCH filter OFF.



Press -.

Picture Contrast adjustment



Press to increase picture contrast with vivid color.

Press to decrease picture contrast with soft color.

Note
The picture contrast level cannot be stored under each input mode. (p. 25)

To restore the factory (mid-level) settings

Press RESET.

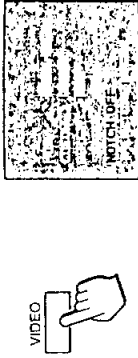


The display will disappear after a few seconds.

To restore the normal picture
Press EXIT.

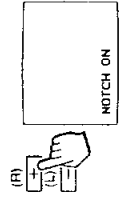
TRINITONE adjustment

Press VIDEO.



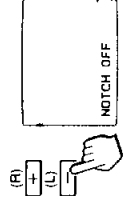
Color picture tubes are usually manufactured with a fixed color temperature (tint) that determines the "warmth" (red tint) or "coolness" (blue tint) of the picture. With Sony's Trinitone feature, you can adjust the picture color to your preference.

To set NOTCH filter ON.



Press +.

To set NOTCH filter OFF.



Press -.

For bright white

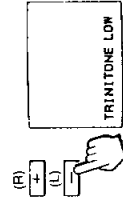
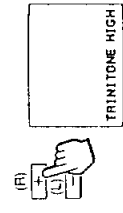


Press VIDEO.



For soft white

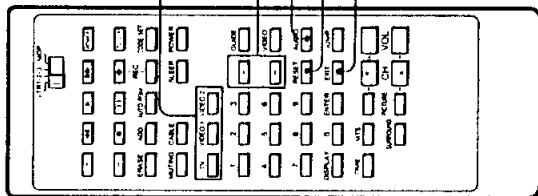
Press +.



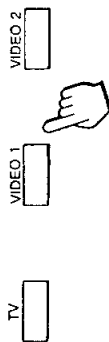
TRINITONE HIGH
The factory preset whiteness level will be restored.

TRINITONE LOW
A touch of red will be added to the white areas.

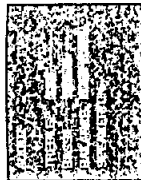
Adjusting the Sound



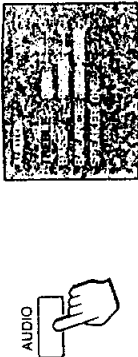
1 Select the input mode you want to adjust with the TV/VIDEO 1/2 buttons.



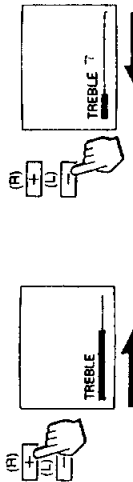
2 Press AUDIO.



3 Press AUDIO repeatedly until the quality you want to adjust blinks.



4 Press + (R) or - (L) to make the adjustment.

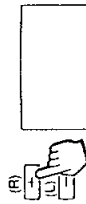
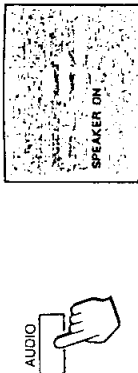


Sound quality	Press - (L) button	Press + (R) button
TREBLE	To decrease treble response	To increase treble response
BASS	To decrease bass response	To increase bass response
BALANCE	To emphasize the left speaker's volume	To emphasize the right speaker's volume

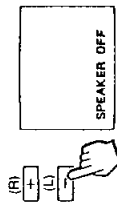
The display will disappear automatically after a few seconds.

SPEAKER ON

Press AUDIO.



To use the speakers connected to the SPEAKER terminals.



To use an audio system connected to the AUDIO OUT jacks.

To restore the factory (mid-level) settings

Press RESET.



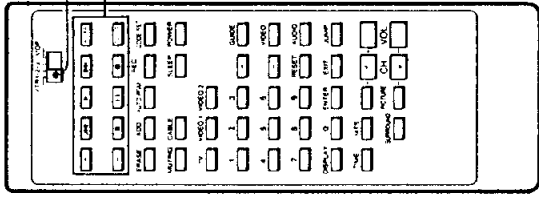
The display will disappear after a few seconds.

To restore the normal picture Press EXIT.

1-5. USING THE UNIVERSAL REMOTE COMMANDER

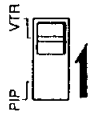
You can operate other video equipment that has an infrared remote detector with the supplied RM-Y104 or RM-Y103 remote commander.

Operating Sony Video Equipment



With the supplied remote commander, you can operate Sony video cassette recorders (Beta, 8 mm, VHS) and multi disc players by following the steps below.

- 1 Set the PIP/VTR selector to VTR.



- 2 Set the VTR 1/2/3/MDP selector according to the video equipment you want to operate.



If you want to operate a:	set to:
Beta, ED Beta VCR	VTR 1
8 mm VCR	VTR 2
VHS VCR	VTR 3
Video disc player	MDP

- 3 Use the video operating buttons to operate video equipment.

Caution

When you replace the batteries, do it within approximately 30 minutes. Otherwise, Sc-ty settings and all of the settings you made under the Pre-Programmed function may be erased.

Notes

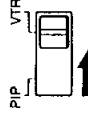
- If you use only Sony video equipment with your TV, you can operate that equipment following the steps on this page only. However, if you use other makers' video equipment as well as Sony's, please follow the steps on p. 23 instead (Pre-Programmed function).
- If the video equipment does not have a certain function, the corresponding button on this remote commander will not operate.

Operating Non-Sony or Sony Video Equipment (Pre-Programmed Function)

With the supplied remote commander, you can operate non-Sony or Sony video equipment as shown below.

Example: To operate an RCA video cassette recorder when you set the VTR 1/2/3/MDP selector to VTR 2.

- 1 Set the PIP/VTR selector to VTR.



- 2 Set the VTR 1/2/3/MDP selector to VTR 2.

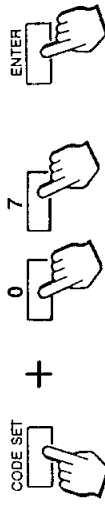


You can use the VTR 1/2/3 settings, but not MDP.

By employing these three settings, you can use your remote commander to operate up to 3 pieces of equipment.

To use a Sony VTR, set the selector to a position not being used for your Sony video equipment.

- 3 While pressing CODE SET, press the number buttons for your manufacturer's code number (see chart). For RCA, press 0, 7 and ENTER.



Now you can operate the video equipment with the supplied remote commander.

Notes

- If more than one code number is listed, try entering them one by one, until you come to the correct code for your equipment.
- If you enter a new code number, the code number previously entered at that setting will be erased.

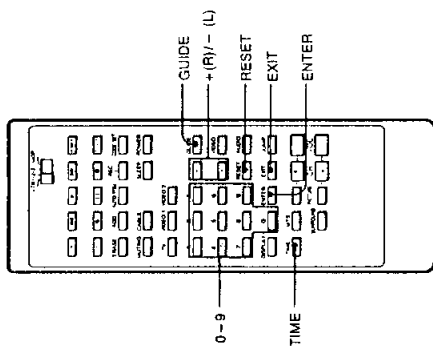
- 4 Use the video operating buttons to operate video equipment (see the chart on p. 22).

Manufacturers and Code Numbers (VCR)

MANUFACTURER	CODE
SONY	01, 02, 03
EMERSON	22, 28, 30, 33
SHARP	13, 14
RCA	07, 08
HITACHI	07
FUNAI	29
MAGNAVOX	05, 06, 09
DAIICHI	18, 19, 26, 27
MITSUBISHI	05
PANASONIC	05
GENERAL ELECTRIC	05
JVC	16
GOLDSTAR	25
TOSHIBA	20, 21
SYLVANIA	05, 06, 09
ZENITH	17
SANYO	11, 15
QUASAR	05
NEC	16, 23, 31
PHILIPS	05, 06, 09
TOTE VISION	25
SAMSUNG	24, 32
SYMPHONIC	29
FISHER	10, 11, 12
TEKNIKA	28, 29
CANON	66, 68
PHILCO	65, 06
SCOTT	21
MULTITECH	29

1-6. USING THE GUIDE FUNCTION


The GUIDE function calls up the on-screen menu, giving instructions on how to set the current time, TIMER and CHANNEL BLOCK.





Setting the Clock


Example: To set the clock to 5:30 PM, Monday.

- 1** Press **GUIDE**.
Press repeatedly until the "CURRENT TIME SET" display turns red.


- 2** Press **ENTER**.


- 3** Press **+/-** until the desired day of the week appears.

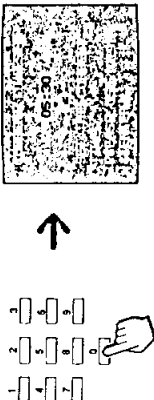

- 4** Press **ENTER**.
If the time is already set, the current set time will appear.
To clear these numbers, press any number.



- All settings will be erased from the TV's memory if the TV is unplugged, or if a power failure occurs.
- The ON/OFF-TIMER and CHANNEL BLOCK will operate only if the clock is set correctly.

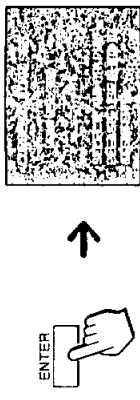
5

Press **0 - 9** to set the desired time.
(For 5:30, press 0, 5, 3, 0.)



6

Press **ENTER**.



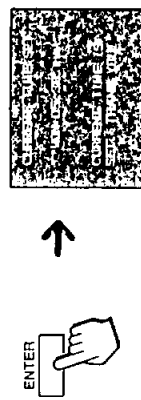
7

Press **+/-** to set AM or PM.



8

Press **ENTER**.
The moment **ENTER** is pressed, the clock will start.
A display will appear indicating that the clock has been set, and will disappear after about 5 seconds.



To restore the normal picture
Press **EXIT**.

To clear the current time setting
Display the "CURRENT TIME SET" page and press **RESET**, then **EXIT**.

To reset the setting
Display the "CURRENT TIME SET" page and press **RESET**, then repeat steps 3 to 8.

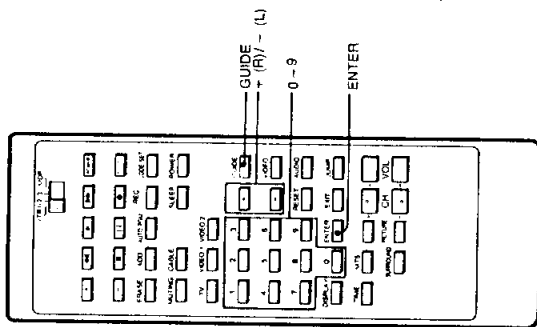
To display the current time
Press **TIME**.

Notes

- The internal clock of this TV operates on a 12-hour cycle. If a 24-hour cycle number is entered, it will be cleared when **ENTER** is pressed.

12:00 AM stands for midnight.
12:00 PM stands for noon.

- The internal clock returns to the factory-set condition if the TV is unplugged, or if a power failure occurs. Reset the current time.



Setting the ON/OFF Timer

Set the ON/OFF timer to make the program of your choice appear on the screen at the chosen time.

Example: Set the timer to turn on the TV to channel 8 at 1:00 PM, for 3 hours every Monday through Friday.

1 Press **GUIDE**.
Press repeatedly until the "ON/OFF TIMER" display turns red.

2 Press **ENTER**.
Instructions for selecting the day appear.
(If the clock has not been set, "PLEASE SET CURRENT TIME FIRST" appears on the screen. Go back to page 30 — Setting the Clock.)

3 Press **+/-** until the desired day of the week appears.

4 Press **ENTER**.
Instructions for setting the time appear.

5 Press **0-9** to set the desired time.
(For 1:00, press **0, 1, 0, 0**.)

6 Press **ENTER**.

7 Press **+/-** to set AM or PM.

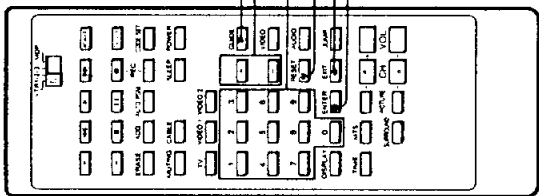
8 Press **ENTER**.

9 Press a channel number button to set the duration. (Up to 9 hours can be set.)

10 Press **ENTER**.

11 Press **0-9** to set the desired channel number.

12 Press **ENTER**.
The ON/OFF timer is set.
The **TIMER** indicator on the TV lights up.



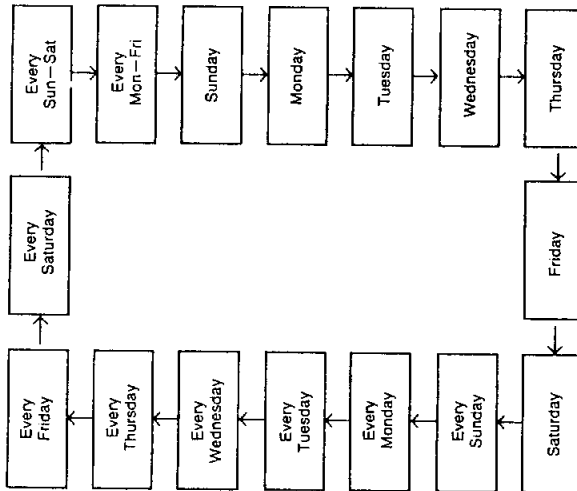
To restore the normal picture
Press EXIT.

To clear the setting
Display the "ON/OFF TIMER" page and press RESET, then EXIT.

To reset the setting
Display the "ON/OFF TIMER" page and press RESET, then repeat steps 3 to 12.
The "TIMER WILL BE OFF" indication will appear one minute before the timer goes off.

Notes

- Power back-up is not available. Both the clock and timer settings will be erased if a power failure occurs. Reset the current time, then set the timer.
- The selectable days will appear in the following order when you press [+]:



Press [-] to move in the reverse direction.

Setting CHANNEL BLOCK

CHANNEL BLOCK prevents a channel from appearing on the screen during the preset time. We suggest you use this function to prevent children from watching undesirable programs.
Example: Set CHANNEL BLOCK at 4:00 PM (for 1 hour), every Saturday, on channel 12.

1 Press GUIDE.
Press repeatedly until the "CHANNEL BLOCK" display turns red.



Steps 2 - 11: Same as Setting the ON/OFF Timer.

12

Press ENTER.
CHANNEL BLOCK is set.
At the preset time, the picture of the selected channel will be blocked from view and the sound will be muted. A red "BLOCKED" display will appear on the screen while the channel is blocked.



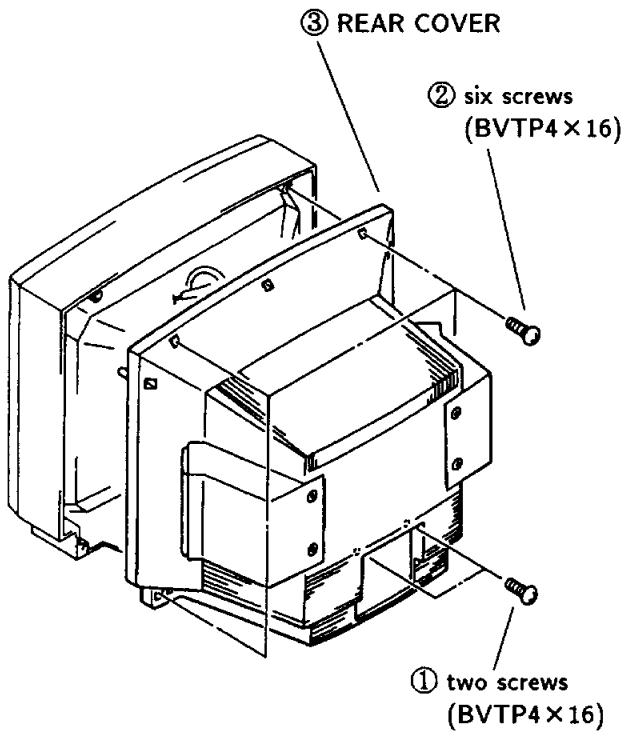
To restore the normal picture
Press EXIT.

To clear the setting
Display the "CHANNEL BLOCK" page and press RESET, then EXIT.

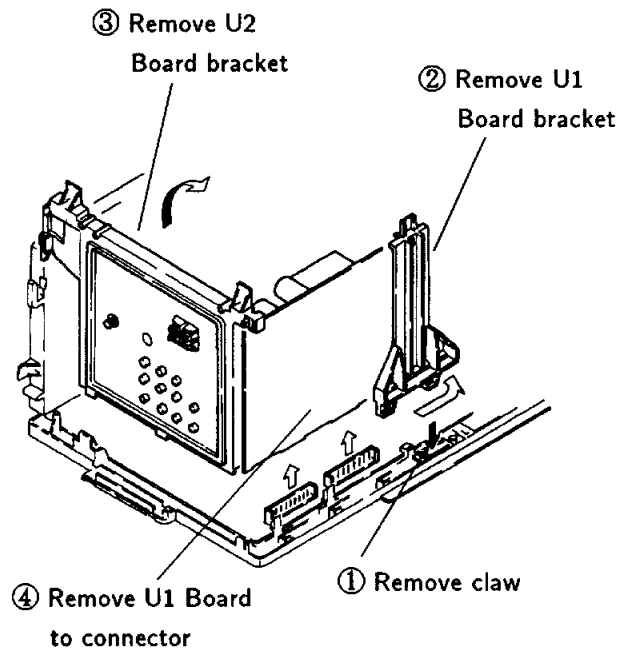
To reset the setting
Display the "CHANNEL BLOCK" page and repeat the steps from the beginning.

SECTION 2 DISASSEMBLY

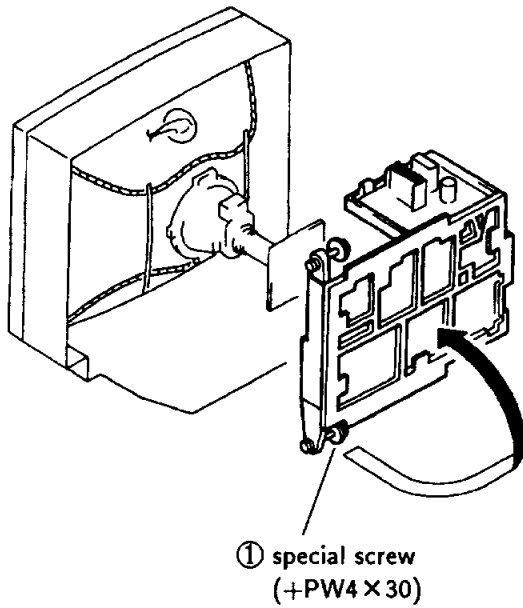
2-1. REAR COVER REMOVAL



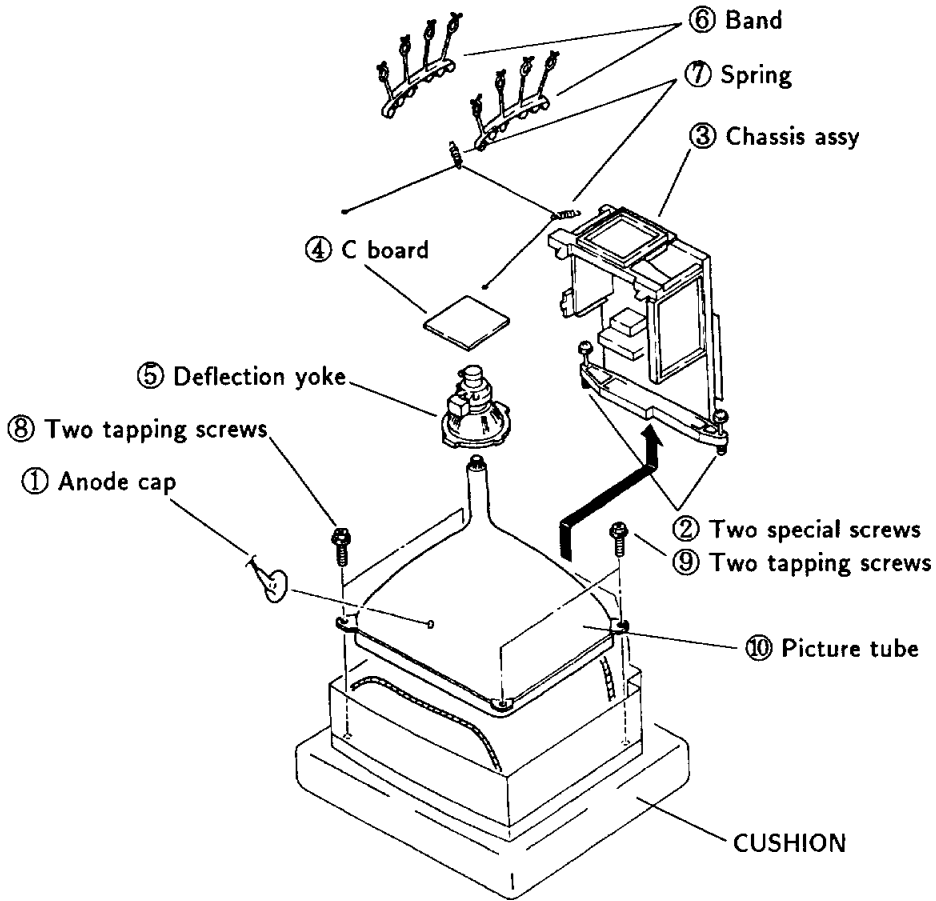
2-2. U1 AND U2 BOARDS REMOVAL



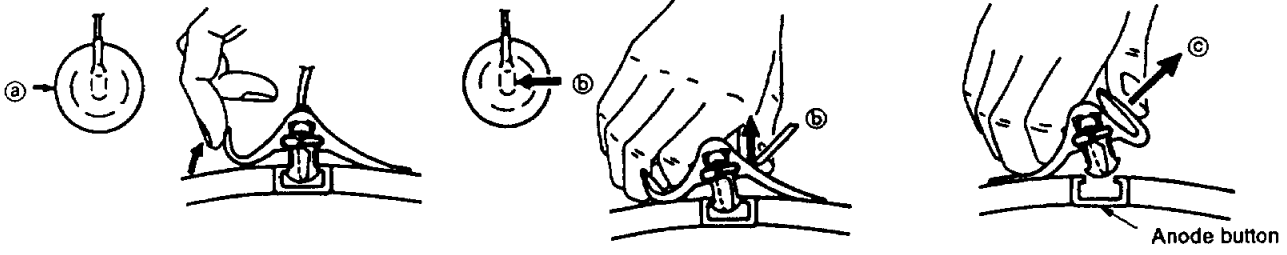
2-3. SERVICE POSITION



2-4. PICTURE TUBE REMOVAL



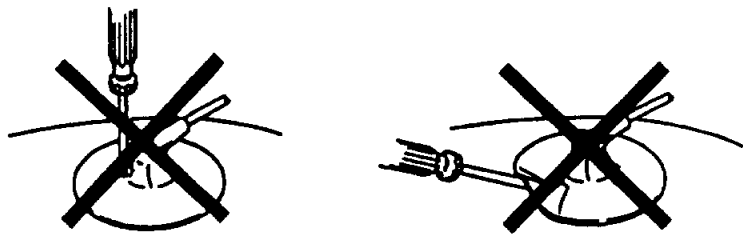
• REMOVAL OF ANODE-CAP
• REMOVING PROCEDURES



- ① Turn up one side of the rubber cap in the direction indicated by the arrow ①.
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ②.
- 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 ③.

• 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 material 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 ADJUSTMENTS

- 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 otherwise noted.

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

PICTURE control 80%

BRIGHTNESS control RESET position

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. G2, White Balance

Note: Test Equipment Required.

1. Color-bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Audio OSC

Preparation:

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.

3-1. BEAM LANDING

1. Input a raster signal with the pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown in Fig.2.
3. Turn the raster signal of the pattern generator to green.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are at the sides evenly. (Fig.3)
5. Move the deflection yoke forward, and adjust so that entire screen becomes green. (Fig.1)
6. Switch over the raster signal to red and blue and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
8. When landing at the corners is not right, adjust by using the disk magnets. (Fig.4)

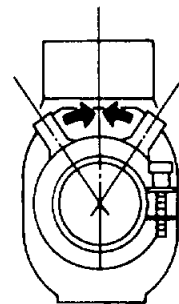
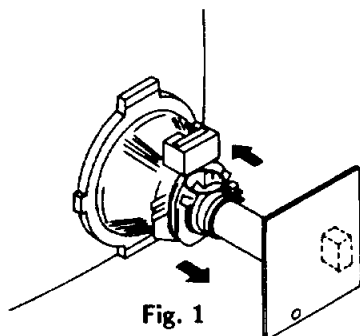


Fig. 2

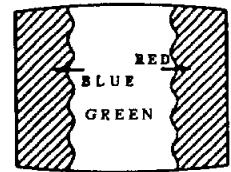


Fig. 3

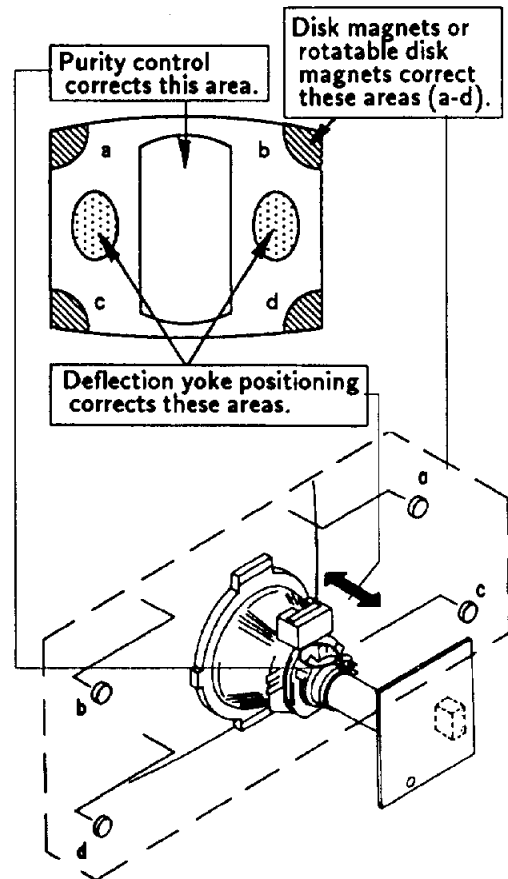


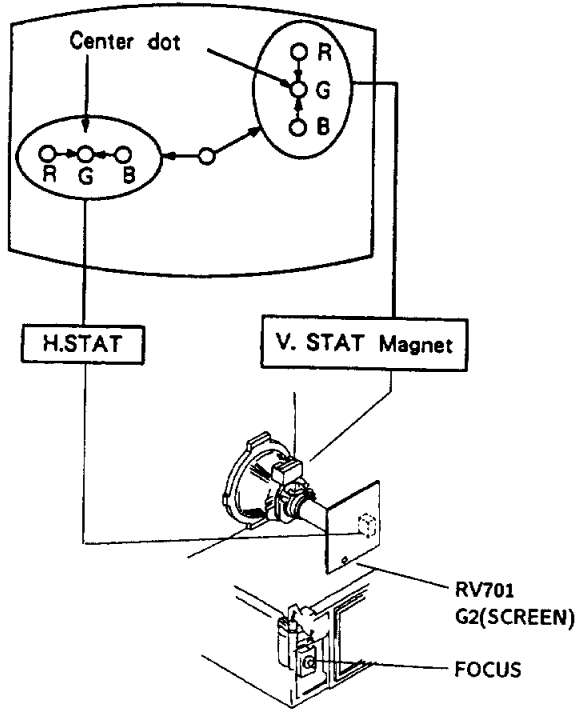
Fig. 4

3-2. CONVERGENCE

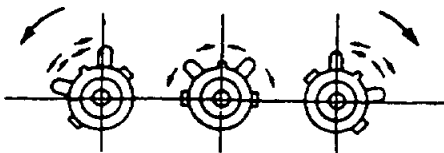
Preparation

- Before starting, perform FOCUS, H.SIZE, V.LIN and V.SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in dot pattern.

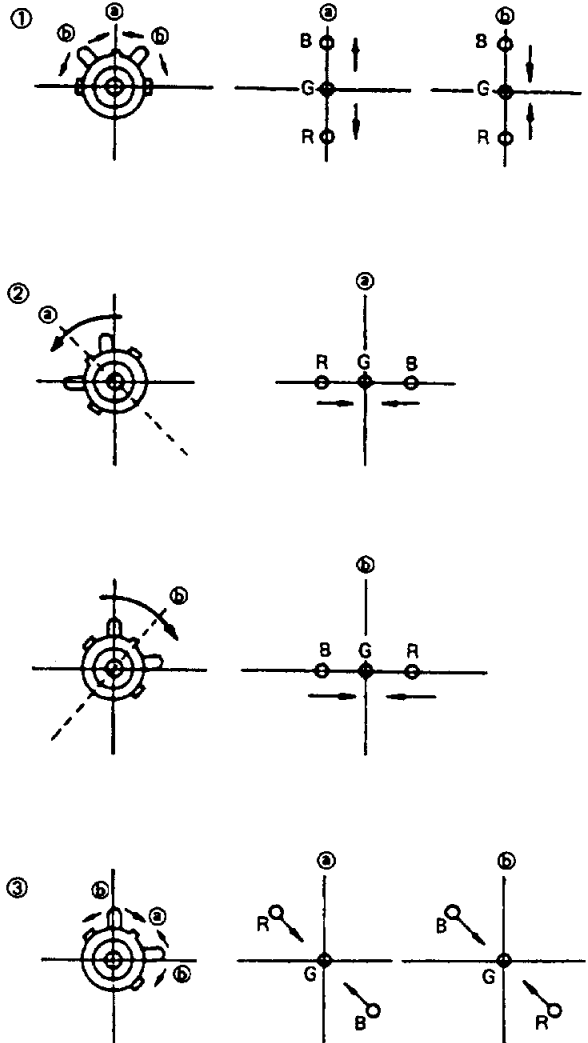
(1) Horizontal and Vertical Static Convergence



1. Adjust H.STAT VR to converge red, green and blue dots the in center of the screen. (Horizontal movement)
 2. Adjust V.STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
 3. If the red, green and blue dots do not converge in the center of the screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)
- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



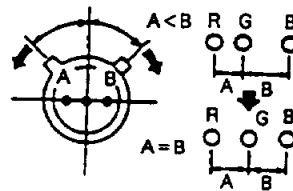
4. When the V.STAT magnet is moved in the direction of arrow (a) and (b), red, green and blue dots move as shown below.



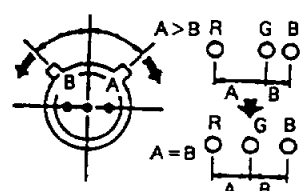
If the blue dot do not converge with red and green dots, perform following steps.

- HMC and VMC correction for BMC (Hexapole) Magnet
1. HMC (Horizontal Mis-convergence) correction and motion of the Electron Beam with the BMC Magnet.

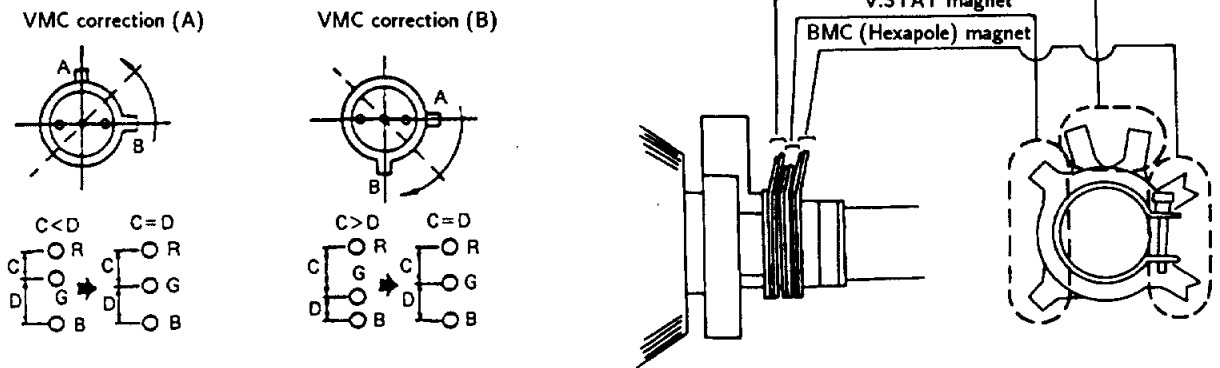
HMC correction (A)



HMC correction (B)



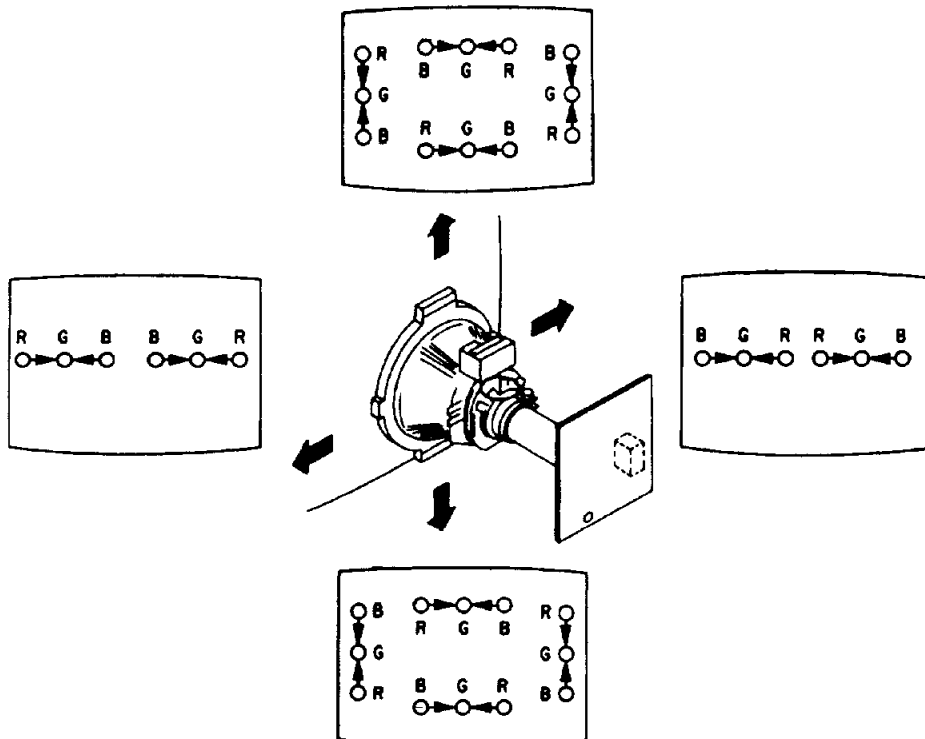
2. VMC (Vertical Mis-convergence) correction and motion of the Electron Beam with the BMC Magnet.



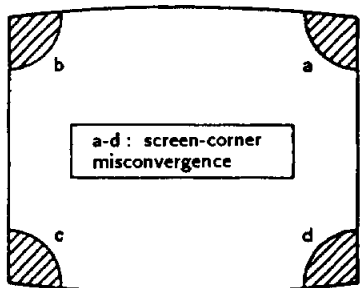
(2) Dynamic Convergence Adjustment

Perpartion :

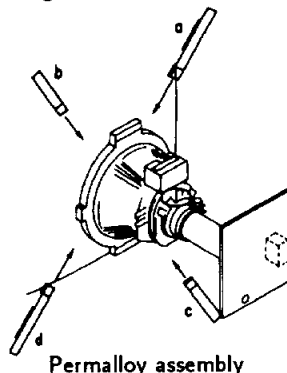
- Before starting perform Horizontal and Vertical Static convergence adjustment.
1. Slightly loosen deflection yoke screw.
 2. Remove deflection yoke spacers.
 3. Move the deflection yoke for best convergence as shown below.
 4. Tighten the deflection yoke screw.
 5. Install the deflection yoke spacers.



(3) Screen-corner Convergence



Affix a Permalloy ass'y corresponding to the misconverged areas.



Permalloy assembly

3-3. FOCUS

1. Tune in an off-air signal.
2. PICTURE → control to 80%.
3. Adjust the focus VR on A board so that the focus at the center of the screen is optimum.
 (A magenta ring will appear if the focus is adjusted only in the center of the screen. Adjust evenly throughout the entire screen.)

- 6) Select G CUT and B CUT with **[1]** and **[4]**.
And adjust the level with **[3]** and **[6]** for the best white balance.
- 7) Set the PICTURE to maximum.
- 8) Select G AMP and B AMP with 1 and 4, and adjust the level with **[3]** and **[6]** for the best white balance.

3-4. G2. WHITE BALANCE ADJUSTMENTS

1. **G2 (SCREEN) ADJUSTMENT(RV701)**
 - 1) Set the PICTURE and BRIGHTNESS to normal.
 - 2) Confirm G1 voltage is within $30.0 \pm 5V$.
 - 3) Apply DC voltage of 180V to the cathodes of R, G and B from DC stabilized power source.
 - 4) While watching the picture, adjust the G2 control (RV701) to the just the retrace line disappears.

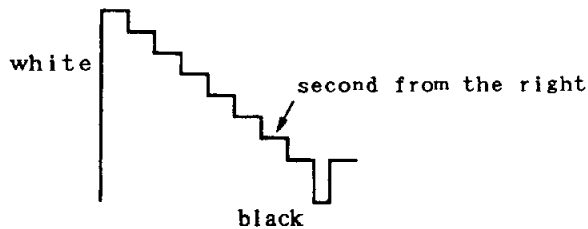
(Using the Remote Commander)

2. WHITE BALANCE ADJUSTMENT

- 1) Set to service mode.
- 2) Press **VIDEO** → **RESET** to normal and if necessarys "TRINITRON"
Set to "Low" by **+** or **-**.
- 3) Input an entire white signal.
- 4) Set the PICTURE to minimum.
- 5) Select S BRT with **[1]** and **[4]**, and then set the level to minimum with **[3]** and **[6]**

3. SUB BRIGHT ADJUSTMENT

- 1) Set to service mode.
- 2) Input a staircase signal of black and white from the pattern generator.
- 3) BRIGHTNESS ... RESET
PICTURE minimum
- 4) Select S BRT with **[1]** and **[4]**, and adjust SUB BRIGHT level with **[3]** and **[6]** so that the stripe second from the right is dimly lit.



SECTION 4

SAFETY RELATED ADJUSTMENTS

☒ R559 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ☒ on the schematic diagram).
PM501, Q608, Q607, R629, R628, R627, R559

①

1. Preparation before confirmation

- 1) Remove R675 on the G board and connect a variable resistor (RV1: about $10k\Omega$) between pin ① of IC653 and B+ line.
- 2) Supply $120 \pm 2.0V$ AC to with variable auto-transformer.

2. Hold-down operation confirmation

- 1) Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to $1450 \pm 50\mu A$ with PICTURE and BRIGHT etc controls.
- 2) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than $152.5V$ DC whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

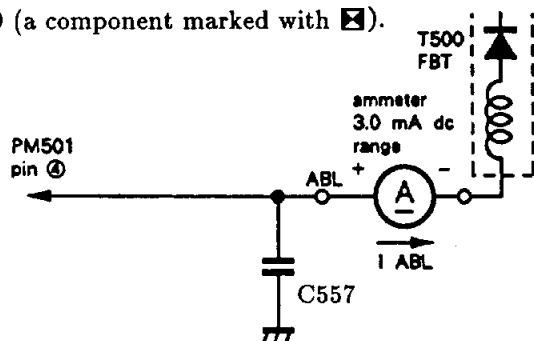
- 3) Turn the POWER switch ON, and receive dot signals and adjust ABL current to $150 \pm 20\mu A$ with PICTURE and BRIGHT etc controls.

- 4) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than $155.0V$ DC whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

3. Hold-down readjustment

When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R559 (a component marked with ☒).



☒ R570 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ☒ on the schematic diagram).
IC653, PM501, Q608, Q607, D531, C545, C627, R570, R591, R627, R628, R675, T500

②

1. Preparation before confirmation

- 1) Turn the POWER switch ON, and receive entirely white signals and set the PICTURE and BRIGHT controls to maximum.
- 2) Confirm that voltage of the check terminal of TP-85 is more than $108V$ DC when the set is operating normally with $120.0 \pm 2.0V$ AC supply.

2. Hold-down operation confirmation

- 1) Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to $1450 \pm 50\mu A$ with PICTURE and BRIGHT etc controls.
- 2) Apply DC voltage of over $130V$ DC gradually to the check terminal of TP-85 via 1T40 from the DC stabilized power source.

Confirm that the minimum voltage is less than $136.0V$ DC whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

- 3) Turn the POWER switch ON, and receive dot signals and adjust ABL current to $150 \pm 20\mu A$ with PICTURE and BRIGHT etc controls.

- 4) Apply DC voltage of over $130V$ gradually to the check terminal of TP-85 via 1T40 from the DC stabilized power source.

Confirm that the minimum voltage is less than $136.0V$ DC whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

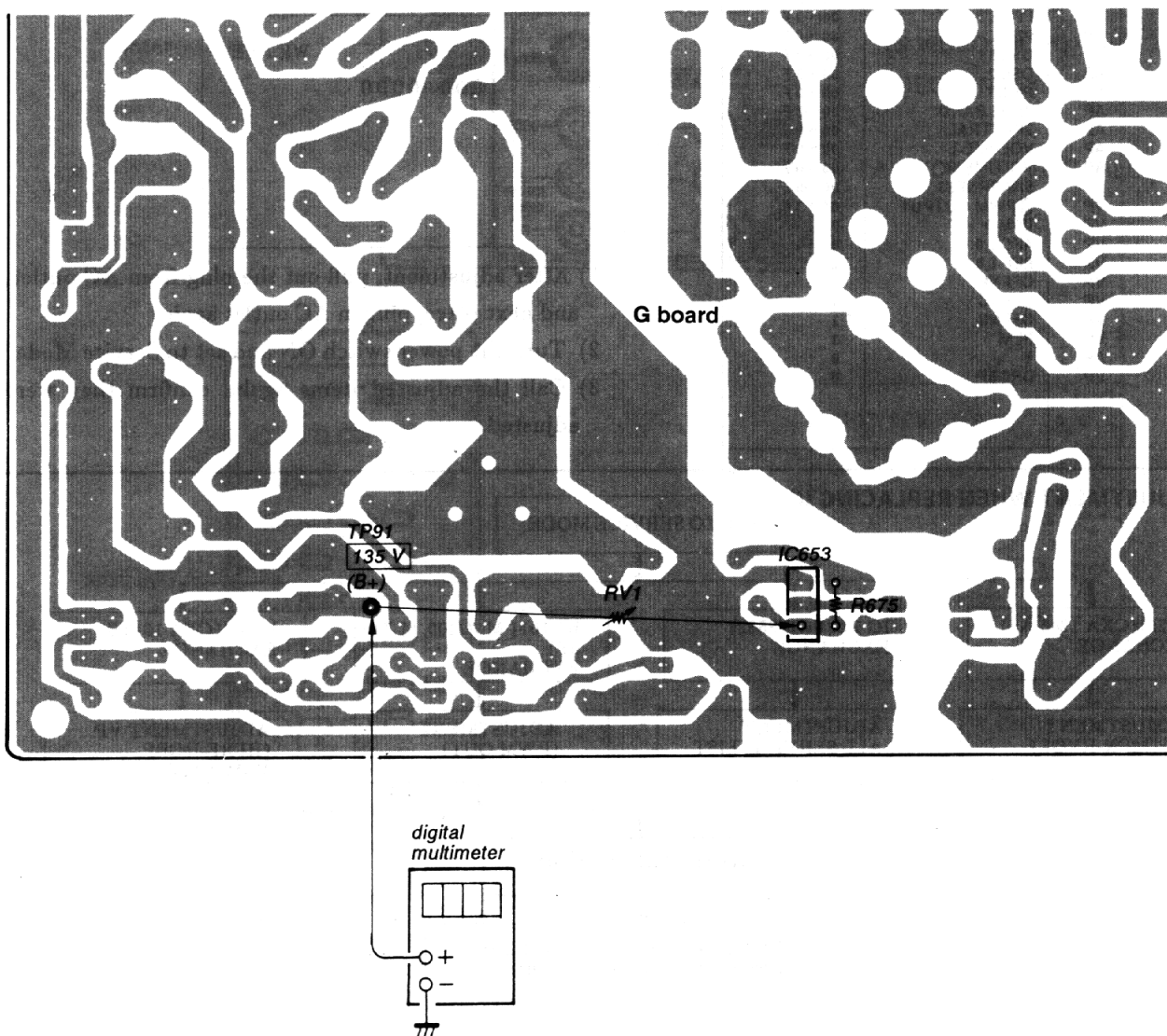
3. Hold-down readjustment

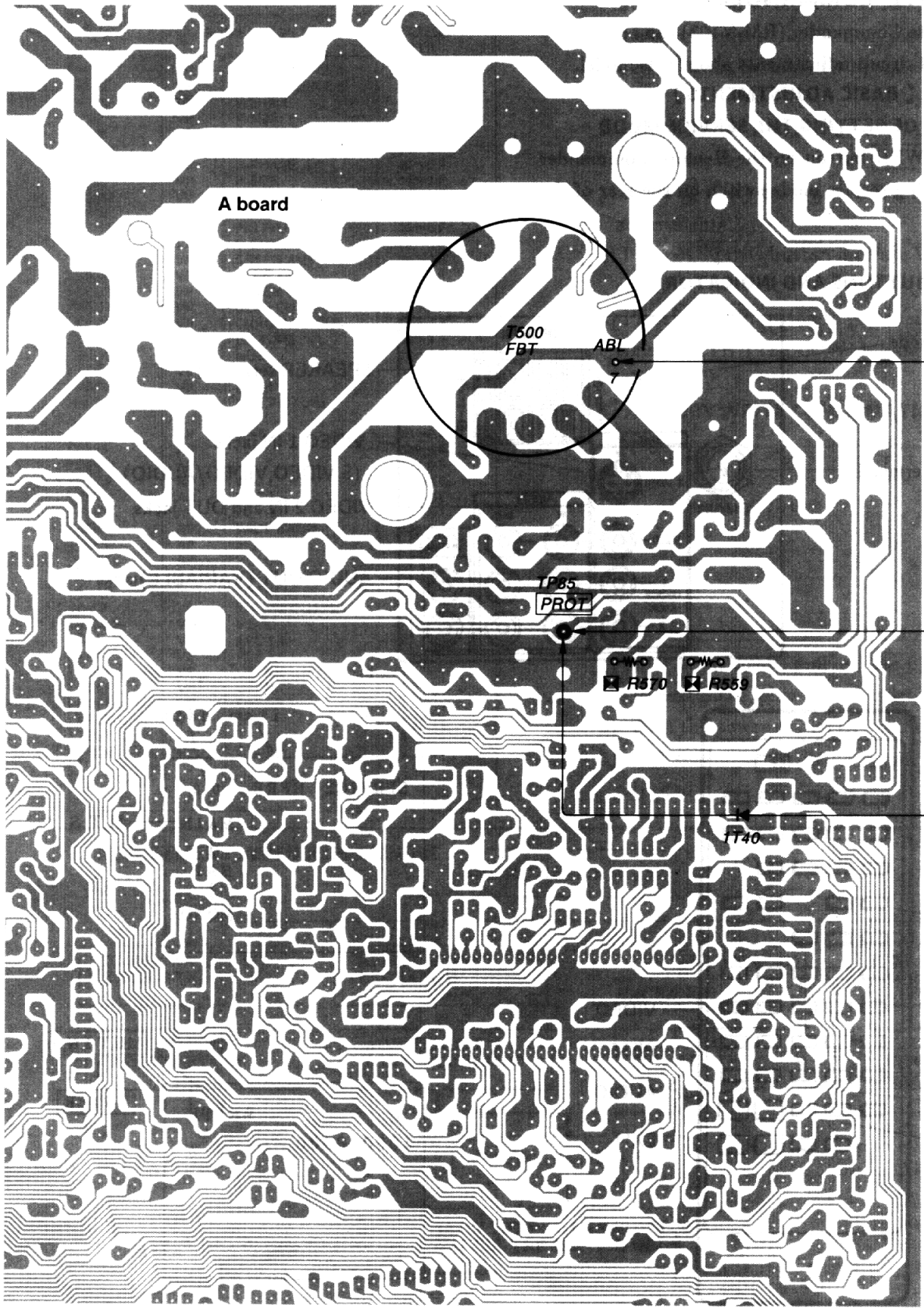
When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R570 (a component marked with ☒).

B+ VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC653 and R675.

- 1) Supply $130 \pm 10\%$ V AC to with variable auto-transformer.
- 2) Receive entirely monoscope signal.
- 3) Set the PICTURE control and the BRIGHT controls in to initial reset.
- 4) Confirm the voltage of TP-91 is less than 137.0V DC.
- 5) If step 4) is not satisfied, replace IC653 and R675 repeat above steps.





A board

T500
FBT

ABL

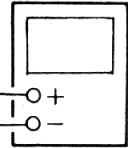
T85
PROT

R570

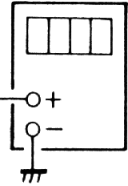
R559

T740

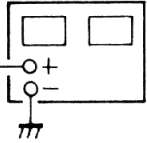
ammeter



digital
multimeter



regulated-dc
power supply



SECTION 5 CIRCUIT ADJUSTMENTS

5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

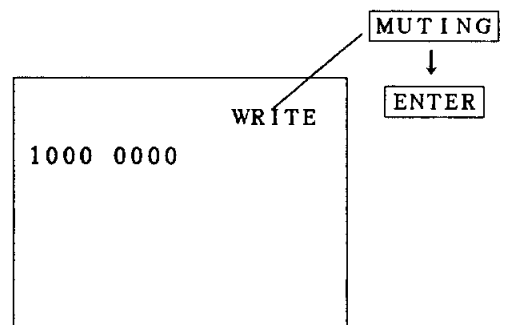
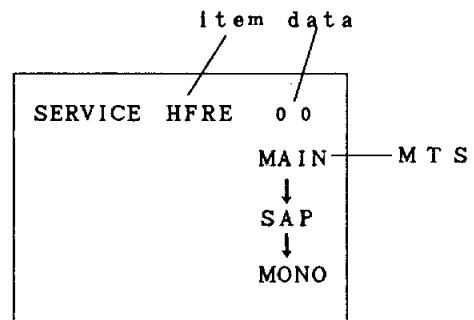
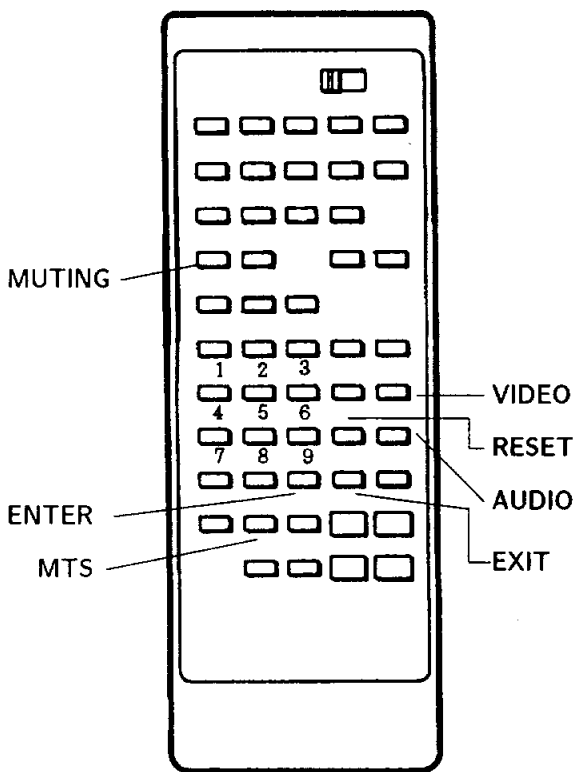
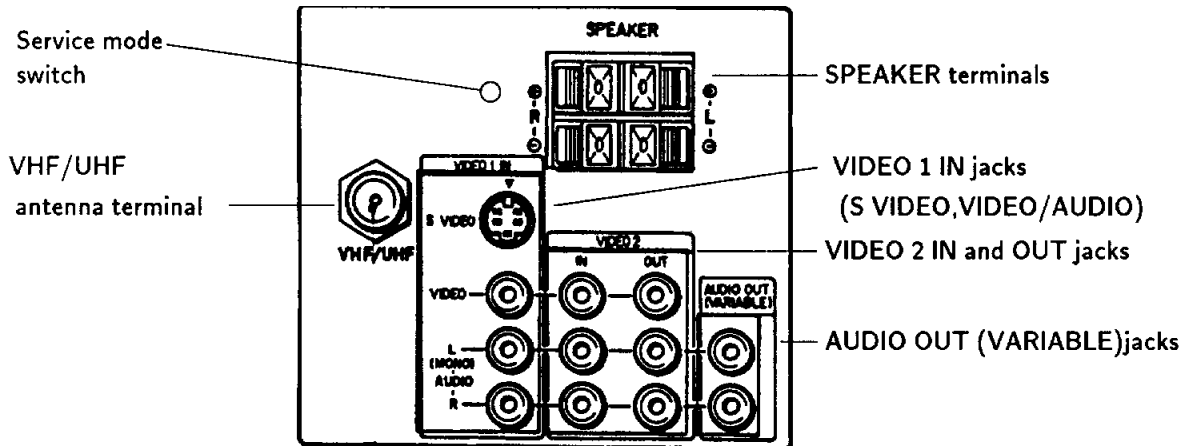
Use of Remote Commander (RM-Y103) can be performed all circuit adjustments about this model.

[BASIC ADJUSTMENTS]

1. METHOD OF SETTING THE SERVICE MODE

- 1) Press **POWER** button on the Remote Commander while pressing service mode switch on the rear of the set.

2. ADJUST BUTTONS AND INDICATOR



3. AN ITEM OF ADJUSTMENT

ITEM	NAME REGISTE		EXTENT DATA
HFRE	VP	H-FREQUENCE 1	00~7 F
VFRE	VP	V-FREQUENCE 1	00~1 F
VPOS	VP	V-SHIFT	00~1 F
VSIZ	VP	V-SIZE	00~3 F
VLIN	VP	V-LINEARITY	00~0 F
VSCO	VP	S-CORRECTION	00~0 F
HPOS	VP	H-PHASE	00~0 F
HSIZ	VP	H-SIZE	00~1 F
PAMP	VP	PIN AMP.	00~1 F
CPIN	VP	CORNER PIN	00~07
PPHA	VP	PIN PHASE	00~0 F
VCOM	VP	V-COMP	00~07
GAMP	VP	GREEN AMP.	00~1 F
BAMP	VP	BLUE AMP.	00~1 F
GCUT	VP	GREEN CUT OFF.	00~0 F
BCUT	VP	BLUE CUTOFF	00~0 F
CROM	VP	CHROMA TRAP	00~3 F
SPIX	VP	PICTURE	00~3 F
SHUE	VP	HUE	00~3 F
SCOL	VP	COLOR	00~3 F
SBRT	VP	BRIGHT	00~3 F
RGBP	VP	RGB PICTURE	00~3 F
MPX	AP	ATT	00~0 F
FILO	AP	I1	00~3 F
DEEM	AP	I2	00~0 F
STEV	AP	OSC 1	00~3 F
SAPV	AP	OSC 2	00~3 F
PILO	AP	PILOT	00~0 F
SEP	AP	WIDE BAND	00~3 F
VD	AP	SPECTRAL	00~0 F
LVOL	AP	VOLUME-L	00~0 F
RVOL	AP	VOLUME-R	00~0 F
SHAR	AP	SHARPNESS	00~0 F
DISP	VP	ⓈPWM OUTPUT	00~3 F
VSMO	VP	VSMO	0
AFC	VP	AFC 1,0	0
REF	VP	REF 1,0	2
ROFF	VP	OFFNR	1
GOff	VP	OFFNG	1
BOFF	VP	OFFNB	1
ABLM	VP	BLM	1
TEST	AP	T	0
DRGB	VP	DRGBP	0

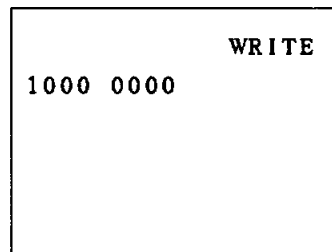
4. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press **POWER** button on the commander) in the next place, press **POWER** button again, hereupon it becomes TV mode.

5. METHOD OF WRITE FOR MEMORY

- 1) Set to Service Mode.
- 2) Press **1** (UP) and **4** (DOWN), select an item of adjustments.
- 3) Press **MUTING** button indicate WRITE (RED) on screen.
- 4) Press **ENTER** button to write for memory. (At this time WRITE (YELLOW) is indicated on screen.)

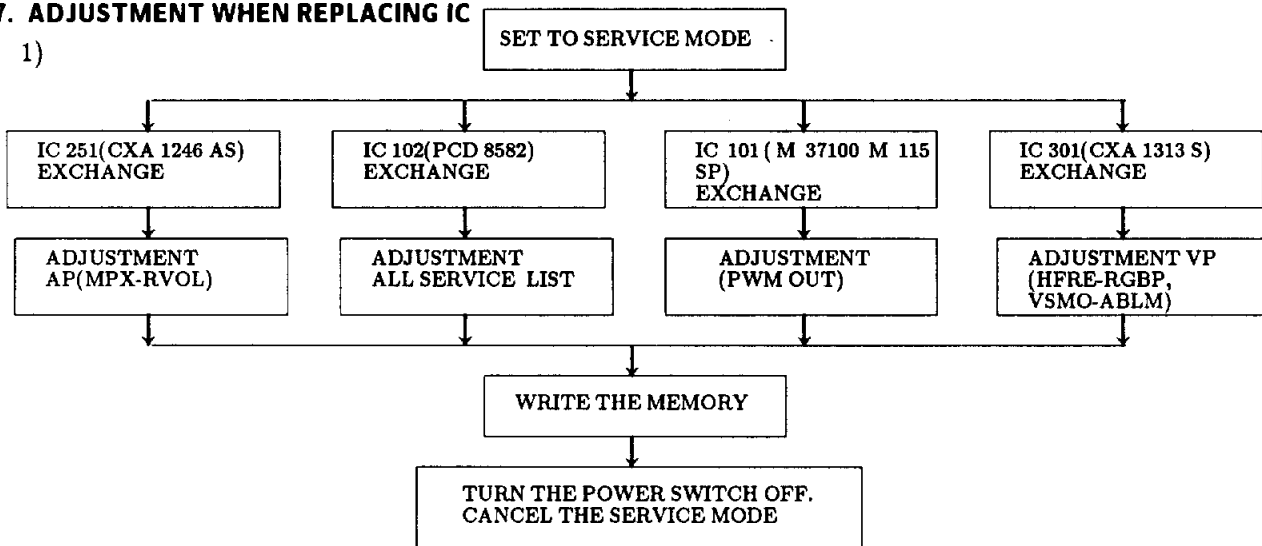
6. MEMORY WRITE CONFIRMATION METHOD



- 1) After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
- 2) Turn the power switch ON and set to Service Mode.
- 3) Call the adjusted items again, confirm they were adjusted.

7. ADJUSTMENT WHEN REPLACING IC

1)



NOTE : If service mode is canceled before writing into memory, the adjustment data is not recorded. Please write into memory, after adjustment.

2) The following initial setting should always be performed when replacing the IC 102 (PCD 8582).

ITEM	NAME REGISTER		EXTENT DATA
VSMO	VP	VSMO	0
FC	VP	AFC 1.0	0
REF	VP	REF 1.0	2
ROFF	VP	OFF NR	1
G OFF	VP	OFF NG	1
BOFF	VP	OFF NB	1
ABLM	VP	ABLM	1
TEST	AP	T	0
DRGB	VP	DRGB	1

*Please with the memory each items by pressing **MUTING** → and then press **ENTER**.

5-2. CIRCUIT ADJUSTMENT

RF AGC ADJUSTMENT(IF BLOCK VR)

- 1) Input a color-bar signal.
- 2) Adjust AGC VR of IF 201 so that snow noise and cross-modulation disappear from the picture.
- 3) Confirm them at every channel.

H.FREQUENCY ADJUSTMENT (HFRE)

- 1) Set to Service Mode.
- 2) Input a color-bar signal.
- 3) Connect a frequency counter to base of Q 502.
- 4) Select AFC with **1** and **4**, set to level 3 (free run) with **3** and **6**.
- 5) Select HFRE with **1** and **4**.
- 6) Adjust **3** and **6** to the 15.735 ± 60 Hz level.
- 7) Select AFC with **1** and **4** again, set to level "0" with **3** and **6**.
- 8) Write into the memory by pressing **MUTING** → then **ENTER**.

V.FREQUENCY ADJUSTMENT (VFRE)

- 1) Set the Service Mode.
- 2) Receive an off-air signal (VIDEO IN → no signal).
- 3) Connect the frequency counter across pin ⑥ of A-81 connector and ground.
- 4) Select VFRE with **1** and **4**.
- 5) Adjust **3** and **6** to the 55 ± 1 Hz.
- 6) Write the memory by pressing **MUTING** → then **ENTER**.

CHROMA TRAP ADJUSTMENT (C ROM)

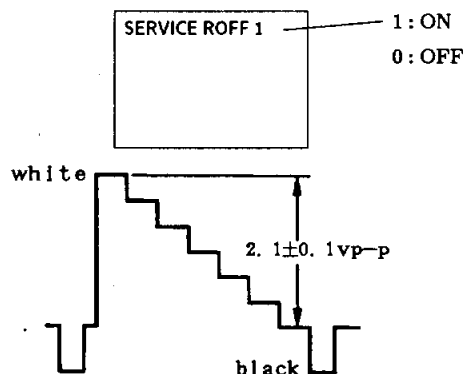
- 1) Set to Service Mode.
- 2) Input a color-bar signal.
- 3) Select NOTCH (VIDEO condition), turn ON by pressing **+**. And then set the COLOR gain control to maximum set-ting position and SHARPNESS control to center.
- 4) Connect an oscilloscope to R OUT (TP 47 R) on C board and ground.
- 5) Select C ROM with **1** and **4**, and then adjust 3.58MHz (CHROMA) ingredient is minimum with **3** and **6**.
- 6) Write into the memory by pressing **MUTING** → then **ENTER**.
- 7) Set NOTCH to OFF, and make normal condition with **VIDEO** → then **RESET**.

SUB CONTRAST ADJUSTMENT (SPIX)

- 1) Set to Service Mode.
- 2) Input a color-bar signal. (75 IRE)
- 3) Set the conditions as follows.

PICTURE.....MAX
COLOR.....MIN
R OFFON
G OFFOFF
B OFFOFF

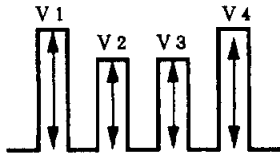
Press **VIDEO** → **-** (L) (It becomes minimum).
Select **3** (ON) and **6** (OFF) with **1** and **4**.



- 4) Connect an oscilloscope to TP47R (R OUT) on C board.
- 5) Adjust **3** and **6** to the $2.1 \pm 0.1Vp-p$ level by selecting SPIX with **1** and **4**.
- 6) Write the memory by pressing **MUTING** → then **ENTER**.
- 7) Return the following back to normal after adjustment.
 - G OFF ON
 - B OFF ON
 - COLOR..... CENTER
 - PICTURE..... 80%

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

- 1) Input a color-bar signal.
- 2) Press **VIDEO** → then **RESET** to normal.
- 3) Set to Service Mode.
- 4) Connect an oscilloscope to **B OUT** (TP 47 B) on C board and ground.
- 5) Adjust **3** and **4** to the $V_1=V_4$ and $V_2=V_3$ by select to SHUE and SCOL with **1** and **4**.



- 6) Write into the memory by pressing **MUTING** → then **ENTER**.

V.SIZE ADJUSTMENT (VSIZ)

- 1) Set to Service Mode.
- 2) Input a cross-hatch signal.
- 3) Adjust **3** and **6** to the best vertical size by selecting VSIZ with **1** and **4**.
- 4) Write into the memory by pressing **MUTING** → then **ENTER**.

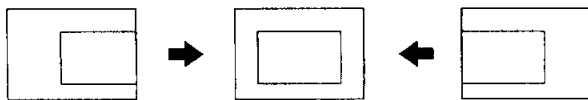
H.SIZE ADJUSTMENT (HSIZ)

- 1) Input a cross-hatch signal.
- 2) Press **VIDEO** → then **RESET** to normal.
- 3) Set to Service Mode.
- 4) Adjust **3** and **6** to best horizontal size by selecting HSIZ with **1** and **4**.
- 5) Write into the memory by pressing **MUTING** → then **ENTER**.

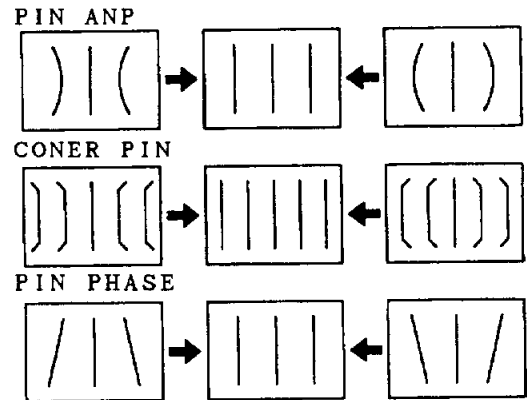
H.CENTER ADJUSTMENT (HPOS)

Note : Perform this adjustment after H.FREQ adjustment.

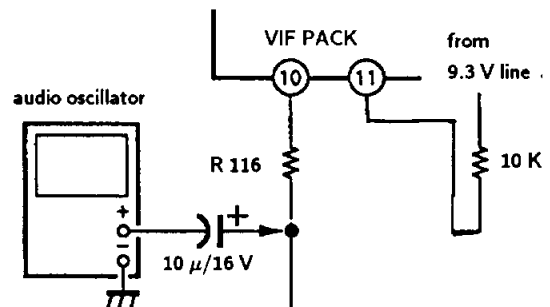
- 1) Input a cross-hatch signal.
- 2) Adjust H.CENT to change the A-55 connecting position to center.
- 3) Press **VIDEO** → then **RESET** to normal.
- 4) Set to Service Mode.
- 5) Select HPOS with **1** and **4**.
- 6) Adjust **3** and **6** to the best picture.
- 7) Write into the memory by pressing **MUTING** → then **ENTER**.

**PIN AMP, CORNER PIN AND PIN PHASE ADJUSTMENT**

- 1) Input a cross-hatch signal.
- 2) Press **VIDEO** → then **RESET** to normal.
- 3) Set to Service Mode.
- 4) Select PAMP, CPIN and PPHA with **1** and **4**.
- 5) Adjust **3** and **6** to the best picture.
- 6) Write the memory by **MUTING** → **ENTER**.

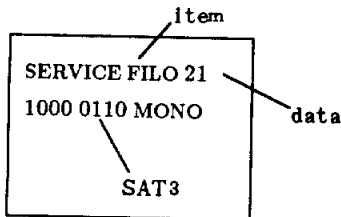
**FILTER ADJUSTMENT (MPX, FILO)**

- 1) Set to Service Mode.
- 2) Select to **TEST** with **1** and **4**, set the data to "1". Then select MPX and change data to "08".
- 3) Connect an audio oscillator to R116 using a capacitor ($10\mu\text{F}/16\text{V}$), set frequency to 62.936 kHz. And then, through the $10\text{k}\Omega$ resistor, feed 9.3 V into the pin **11** of VIF pack.



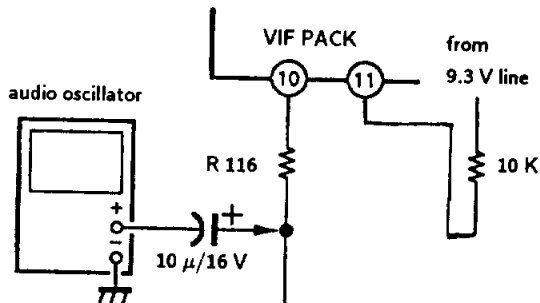
V 4 fh : SINE-WAVE 62.936 KHz
LEVEL 3.0 Vp-p

- 4) Make the data "00" by selecting FILO with **[1]** and **[4]**.
And then, send up the data gradually by pressing **[6]**.
Set the data to D1 before SAT3 changing to 1 from 0.
- 5) Send up the data gradually. Set data D2 when SAT3 changes 0 from 1.
- 6) Adjust the data of FILO to $\frac{D1 + D2}{2}$.
- 7) Write into the memory by pressing **[MUTING]** → then **[ENTER]**.



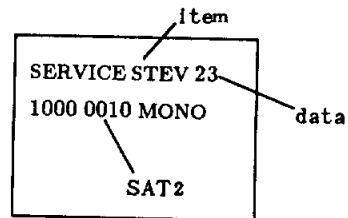
ST VCO ADJUSTMENT (MPX, STEV)

- 1) Set to Service Mode.
- 2) Select TEST when **[1]** and **[4]**, set the data to "1".
And then press **[MTS]** to MONO.
- 3) Select MPX, set the data "8".
- 4) Connect an audio oscillator to R116 using electrolytic capacitor (10 μ F/16V) and apply the frequency V_{st} . Then, apply DC voltage to pin ① of VIF pack using 10k Ω connect to 9.3V line.



V 4 fh : SINE-WAVE 62.936 KHz
LEVEL 3.0 Vp-p

- 5) Select STEV with **[1]** and **[4]**, set the data to "00" with **[6]**. And then, send up the data gradually. Set the data to D1 before SAT2 changes from 0 to 1.
- 6) Send up data gradually, set the data to D2 when SAT2 changes 1 from 0.
- 7) Adjust the data of STEV to $\frac{D1 + D2}{2}$.
- 8) Write into the memory by pressing **[MUTING]** → then **[ENTER]**.



MPX IN LEVEL ADJUSTMENT (MPX)

- 1) Set to Service Mode.
- 2) Select TEST with **[1]** and **[4]**, set the data to "0" with **[6]**. And then press **[MTS]** to MONO.
- 3) Select MPX with **[1]** and **[4]**, set the data to "08" with **[3]** and **[6]**.
- 4) Write into the memory by pressing **[MUTING]** → then **[ENTER]**.

PILOT CANCEL ADJUSTMENT (PILO)

- 1) Set to the Service Mode.
- 2) Select TEST with **[1]** and **[4]**, set the data to "0" with **[6]**. And then press **[MTS]** to MAIN.
- 3) Select PILO with **[1]** and **[4]**, set the data to "08" with **[3]** and **[6]**.
- 4) Write into the memory by pressing **[MUTING]** → then **[ENTER]**.

SAP VCO f_c ADJUSTMENT (SAPV)

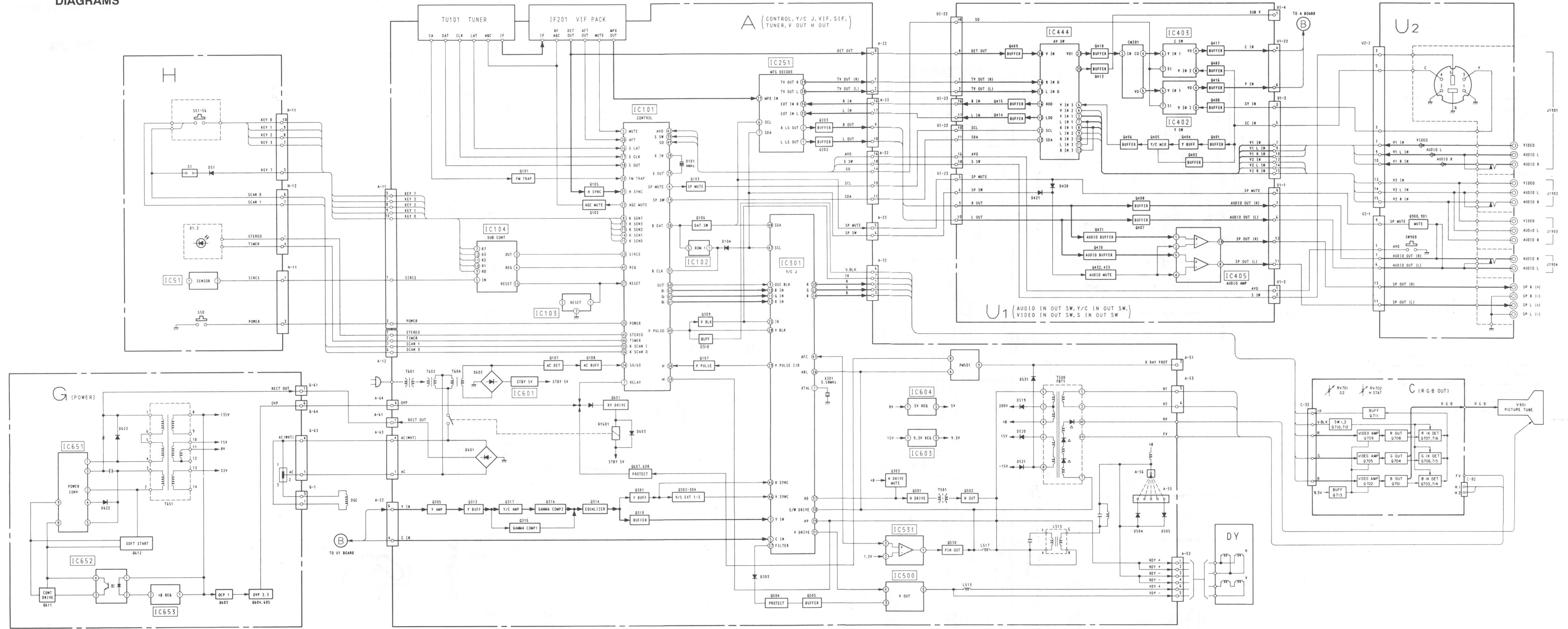
- 1) Set to Service Mode.
- 2) Receive a stereo broadcast signal with SAP.
- 3) Select TEST with **[1]** and **[4]**, set to the data to "0".
And then, press to **[MTS]** to MAIN.
- 4) Connect a digital multimeter to TP-1 (DBX). This voltage reading will equal V 1.
- 5) Press MTS to SAP and this voltage will equal V 2.
- 6) Select SAPV with **[1]** and **[4]**, adjust **[3]** and **[6]** so that $V2 = V1 \pm 0.03$ VDC.
- 7) Write the memory by **[MUTING]** → **[ENTER]**.

SEPARATION ADJUSTMENT (SEP)

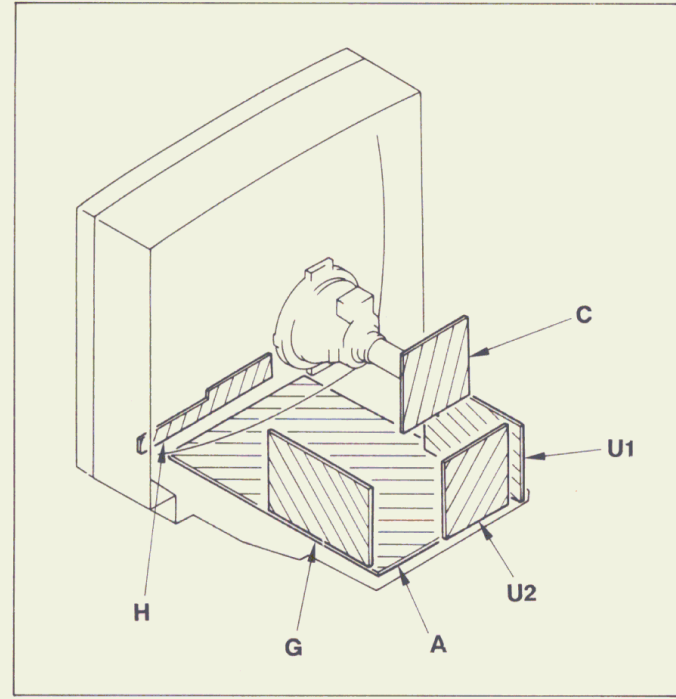
- 1) Set to Service Mode.
- 2) Press **[MTS]** to MAIN and receive a monoral broadcast signal.
In the next step, receive a stereo broadcast signal.
- 3) Select SEP and VD with **[1]** and **[4]**, adjust **[3]** and **[6]** so that a clear stereo sound is effected.

SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM



6-2. CIRCUIT BOARDS LOCATION



6-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS - Conductor Side -

- Note:
- All capacitors are in μF unless otherwise noted. pF: μF
 - All resistors are in ohms. kΩ = 1000 Ω, MΩ = 1000KΩ
 - Indication of resistance, which does not have one for rating electrical power, is as follows.
- Pitch: 5 mm
Rating electrical power 1/4 W
- : nonflammable resistor.
 - : internal component.
 - : panel designation, or adjustment for repair.
 - All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
 - : earth-ground.
 - : earth-chassis.
 - : no mounted.
 - 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.

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

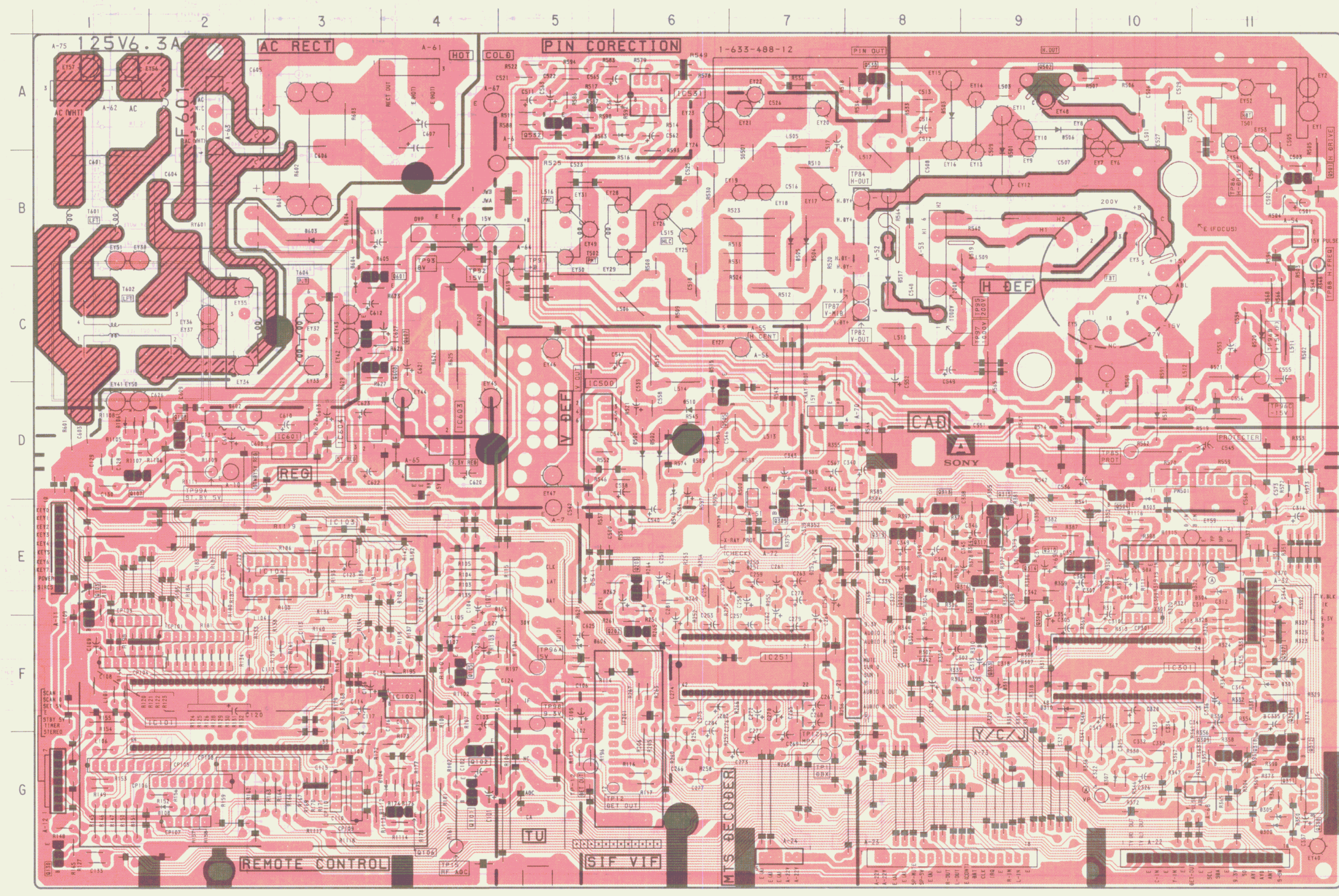
Note: Les composants identifiés par une trame et par une marque sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

- When replacing components identified by mark 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 R570, R559 adjustment on page 19 - 21)
 - When replacing the part in below table, be sure to perform the related adjustment.
- | Part replaced () | Adjustment () |
|--|----------------|
| PCM501, Q807, Q808, R559, R827, R828, R829 | R559 Hold-down |
| IC853, PM501, Q807, Q808, D531, C545, C627, R570, R591, R827, R828, R875, T500 | R570 Hold-down |

- Reference information
- RESISTOR : RN METAL FILM
: RC SOLID
: FPRD NONFLAMMABLE CARBON
: FUSE NONFLAMMABLE FUSIBLE
: RS NONFLAMMABLE METAL OXIDE
: RB NONFLAMMABLE CEMENT
: RW NONFLAMMABLE WIREWOUND
: * ADJUSTMENT RESISTOR
- COIL : LF-8L MICRO INDUCTOR
- CAPACITOR : TA TANTALUM
: PS STYROL
: PP POLYPROPYLENE
: PT MYLAR
: MPS METALIZED POLYESTER
: MPP METALIZED POLYPROPYLENE
: ALB BIPOLAR
: ALT HIGH TEMPERATURE
: ALR HIGH RIPPLE
- Readings are taken with a color-bar signal input.
 - Readings are taken with a 10MΩ digital multimeter.
 - Voltage are dc with respect to ground unless otherwise noted.
 - Voltage variations may be noted due to normal production tolerances.
 - All voltages are in V.
 - Circled numbers are waveform references.
 - : B+ bus.
 - : signal path.

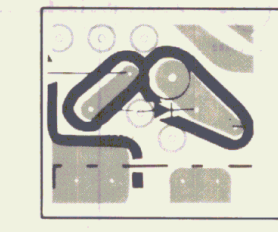
A [TUNER, VIF, SIF, CONTROLLER, MEMORY, Y/C JUNGLE, H OUT, V OUT, X RAYS PRO, MTS DECODE, POWER SUPPLY, PIN CORR]

- A Board -



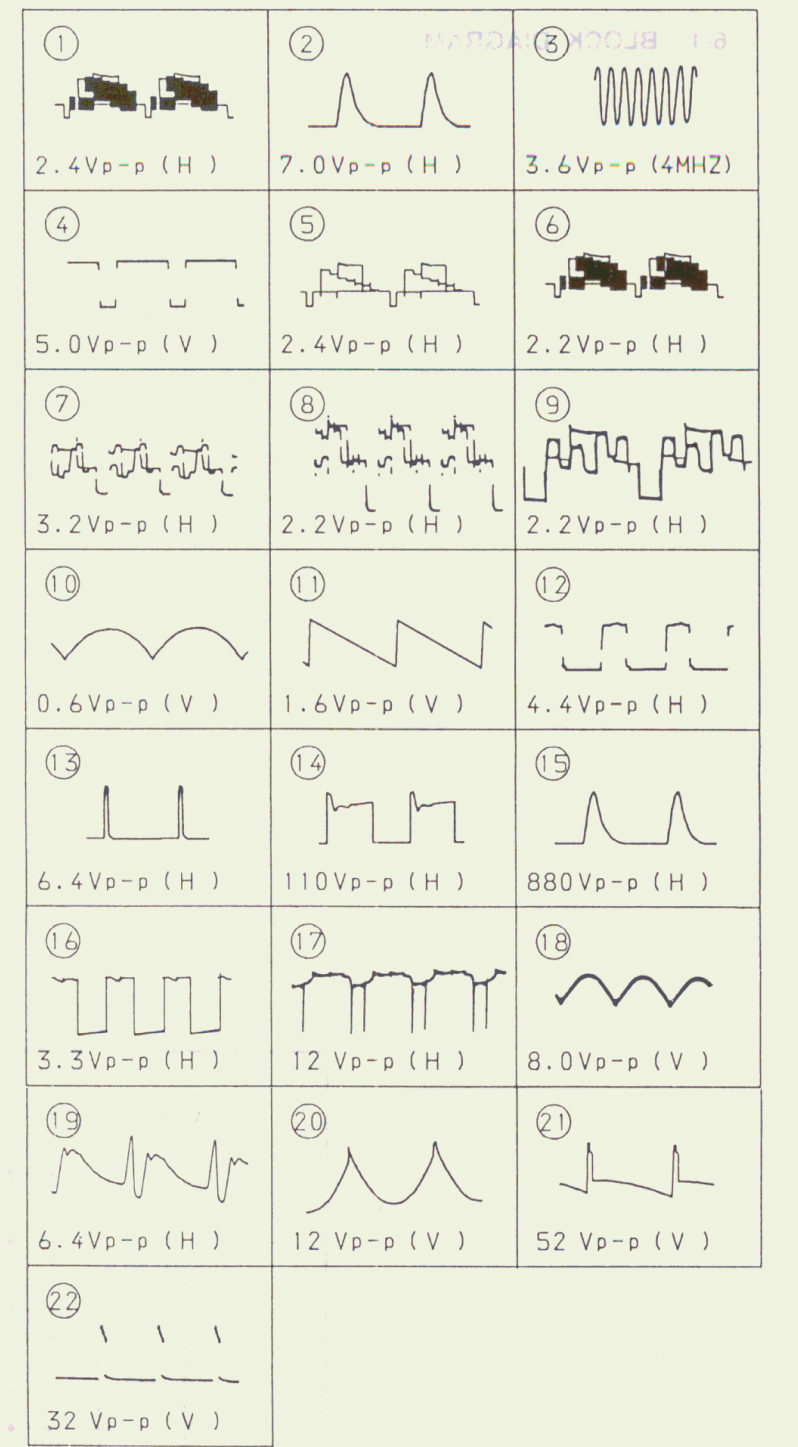
A Board

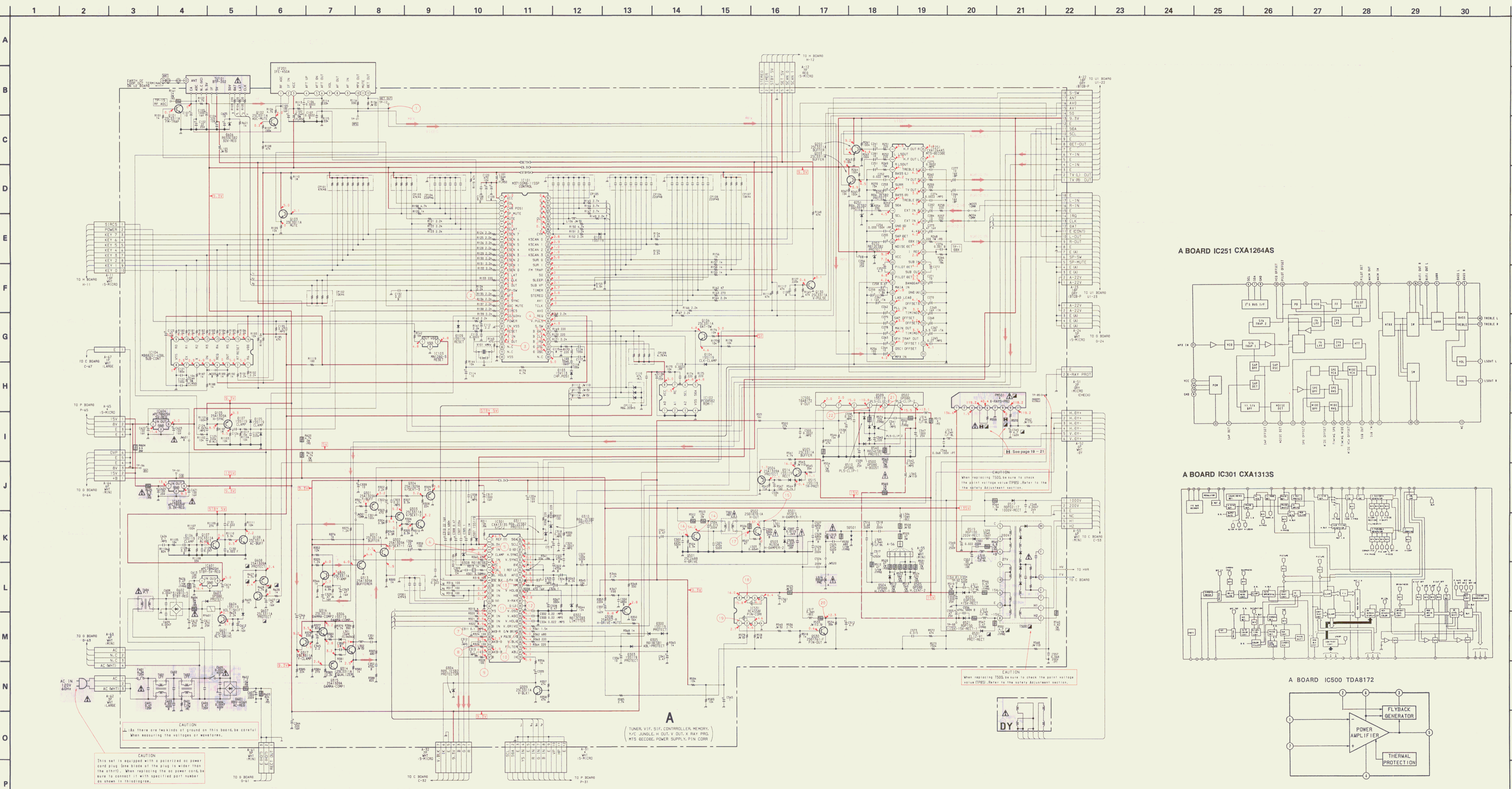
IC	Q316 E-9	D506 A-9
	Q317 E-9	D509 D-6
IC101 F-2	Q318 G-11	D510 D-6
IC102 F-4	Q501 B-11	D514 D-9
IC103 E-3	Q502 A-9	D515 D-6
IC104 E-3	Q504 E-10	D517 C-8
IC251 F-7	Q505 D-6	D519 C-9
IC301 F-10	Q530 A-8	D520 C-11
IC500 D-5	Q601 C-3	D521 C-11
IC531 A-6	Q607 C-3	D531 D-10
IC601 D-3	Q608 C-3	D540 E-6
IC603 D-4		D563 A-6
IC604 D-3		D601 B-3
		D602 D-2
		D603 B-3
		D604 C-3
		D606 F-5
	DIODE	
TRANSISTOR	D103 G-3	TP
	D104 G-4	TP1 G-7
Q101 G-4	D105 F-5	TP2 (MPX) G-7
Q102 G-4	D106 D-1	TP (DET OUT) G-7
Q103 E-1	D107 F-4	TP15 G-4
Q105 F-4	D108 G-2	TP82 C-8
Q106 G-4	D109 E-4	TP84 B-8
Q107 D-1	D250 E-7	TP85 D-10
Q108 D-2	D251 E-7	TP87 C-8
Q130 G-1	D252 E-7	TP88 B-12
Q202 F-6	D300 G-11	TP91 C-5
Q203 E-6	D301 F-11	TP92 B-4
Q301 E-8	D302 F-8	TP93 B-4
Q302 E-8	D303 E-10	TP95 C-8
Q303 F-9	D304 E-11	TP96A F-5
Q304 F-9	D305 G-11	TP96B C-11
Q305 E-7	D306 E-9	TP96C C-11
Q306 F-11	D307 G-10	TP97 C-8
Q307 F-11	D308 E-10	TP98 F-5
Q308 G-11	D311 F-9	TP99A D-2
Q309 G-11	D500 D-6	
Q310 E-10	D501 A-9	
Q311 G-11	D502 D-6	
Q312 G-11	D503 A-8	
Q313 E-8	D504 B-7	
Q314 E-9	D505 B-7	
Q315 E-9		



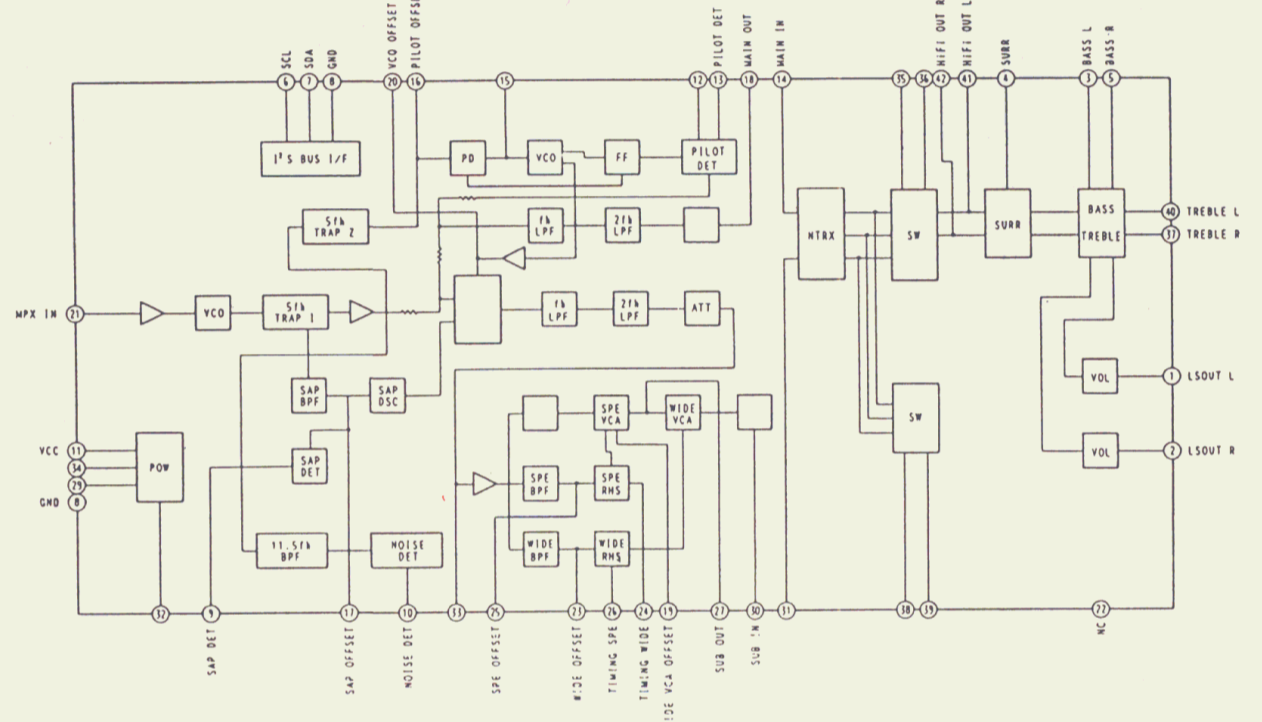
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

WAVEFORMS A BOARD

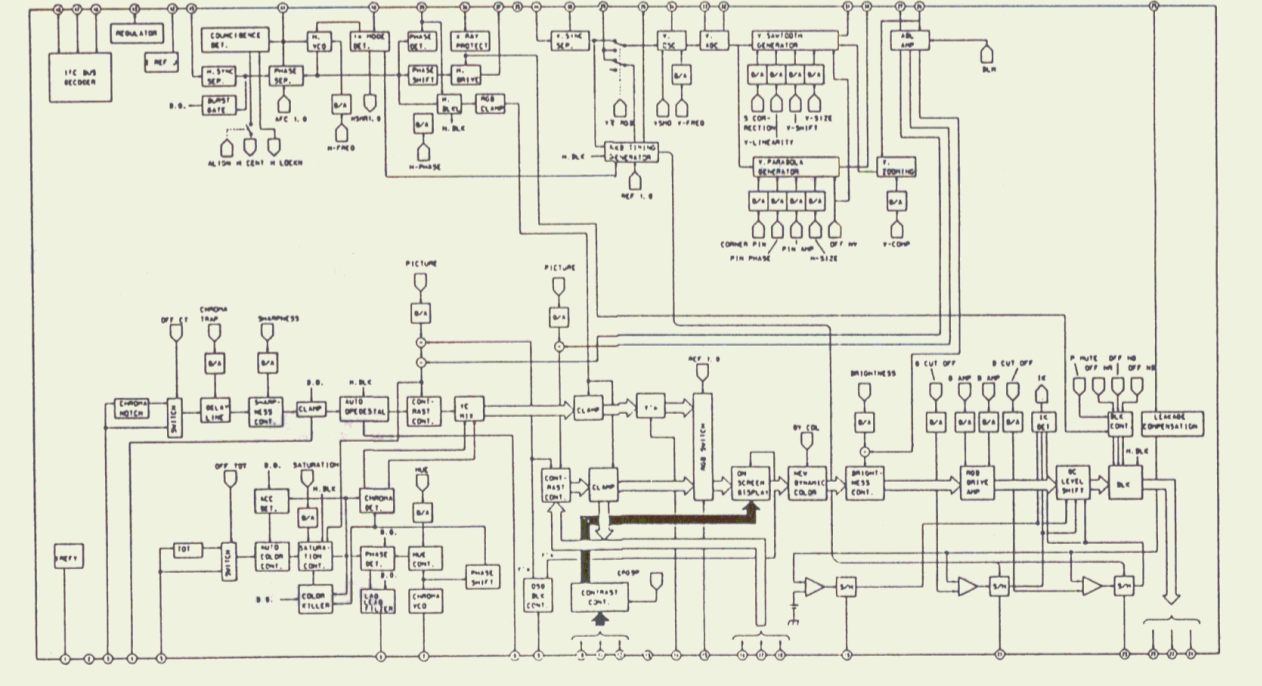




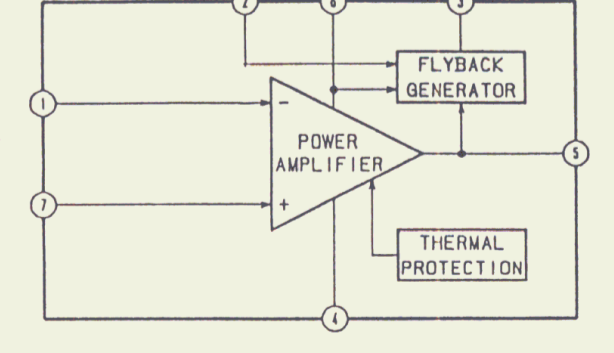
A BOARD IC251 CXA1264AS

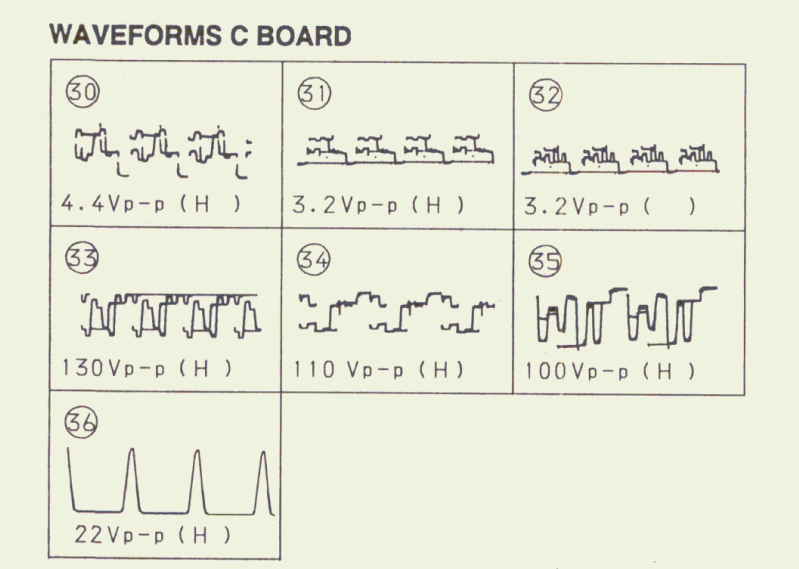
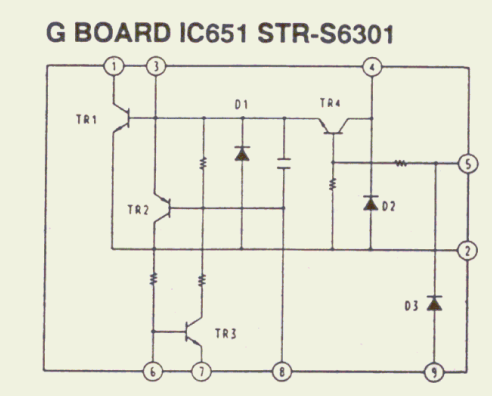
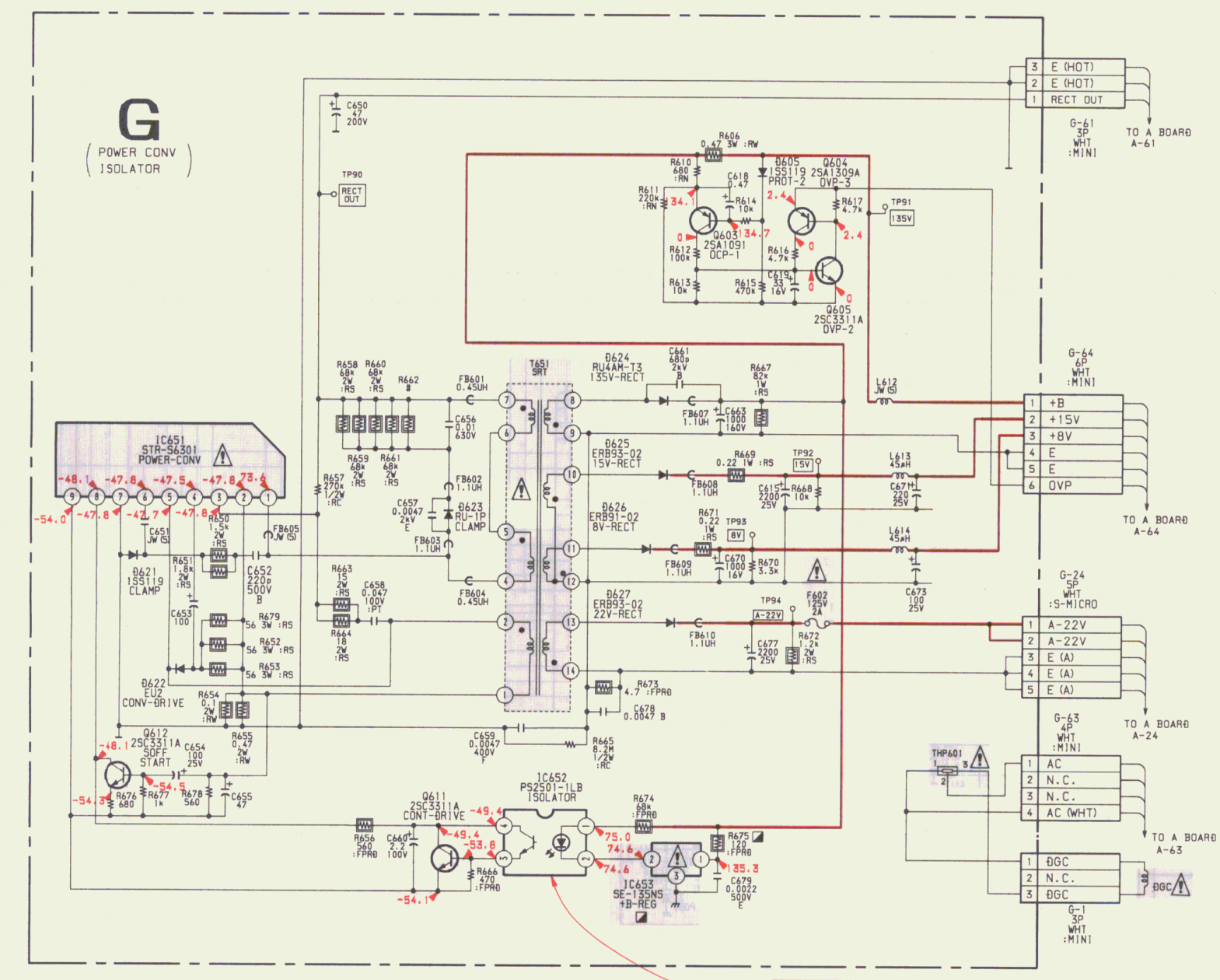
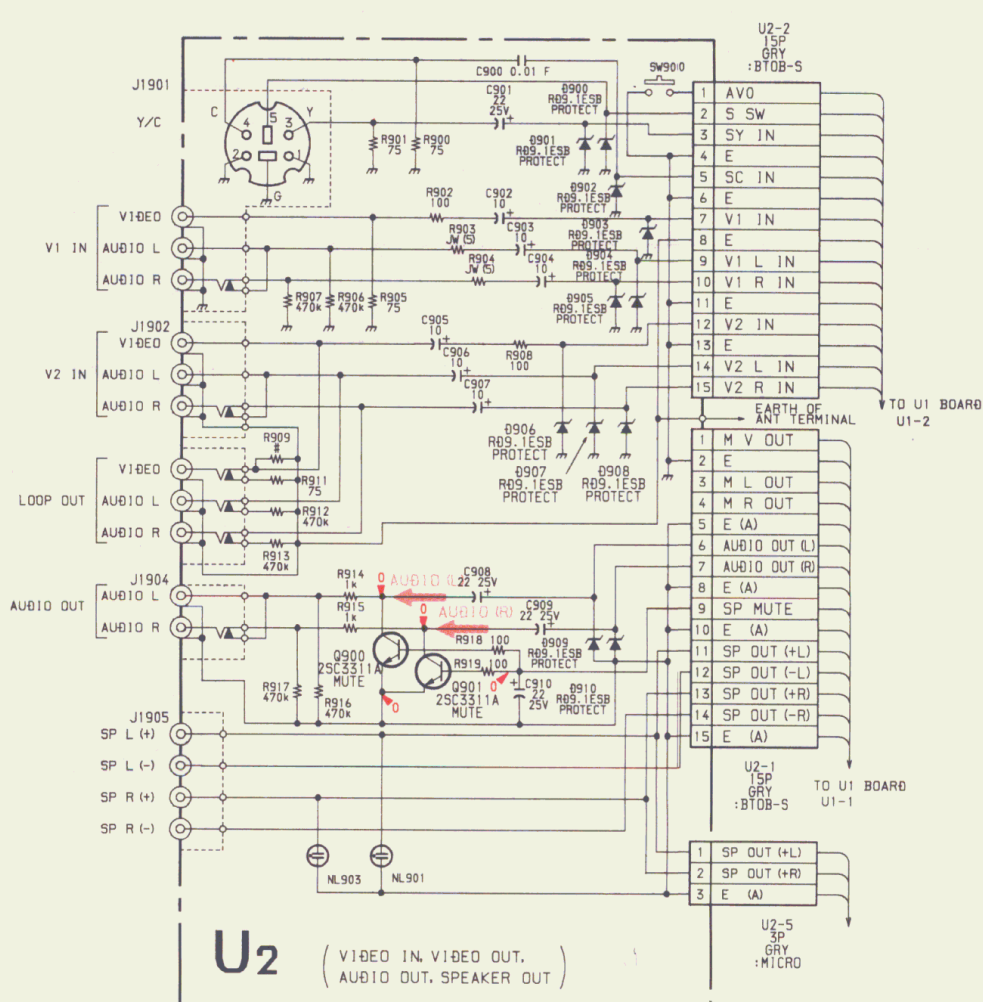
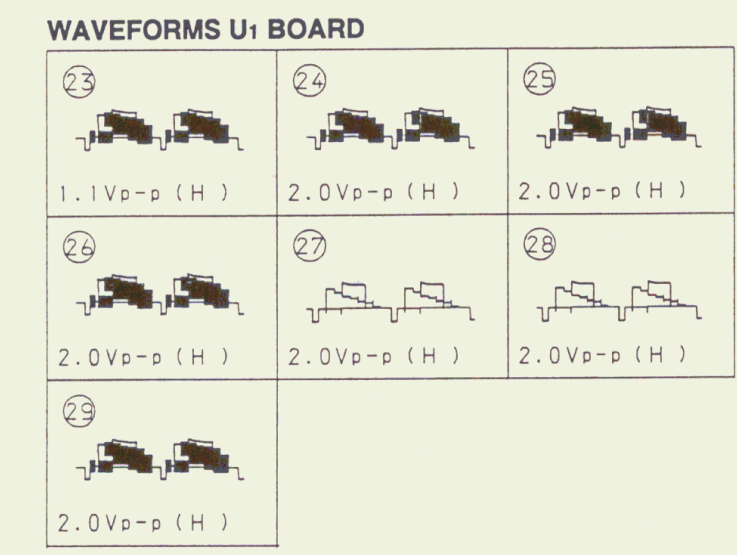
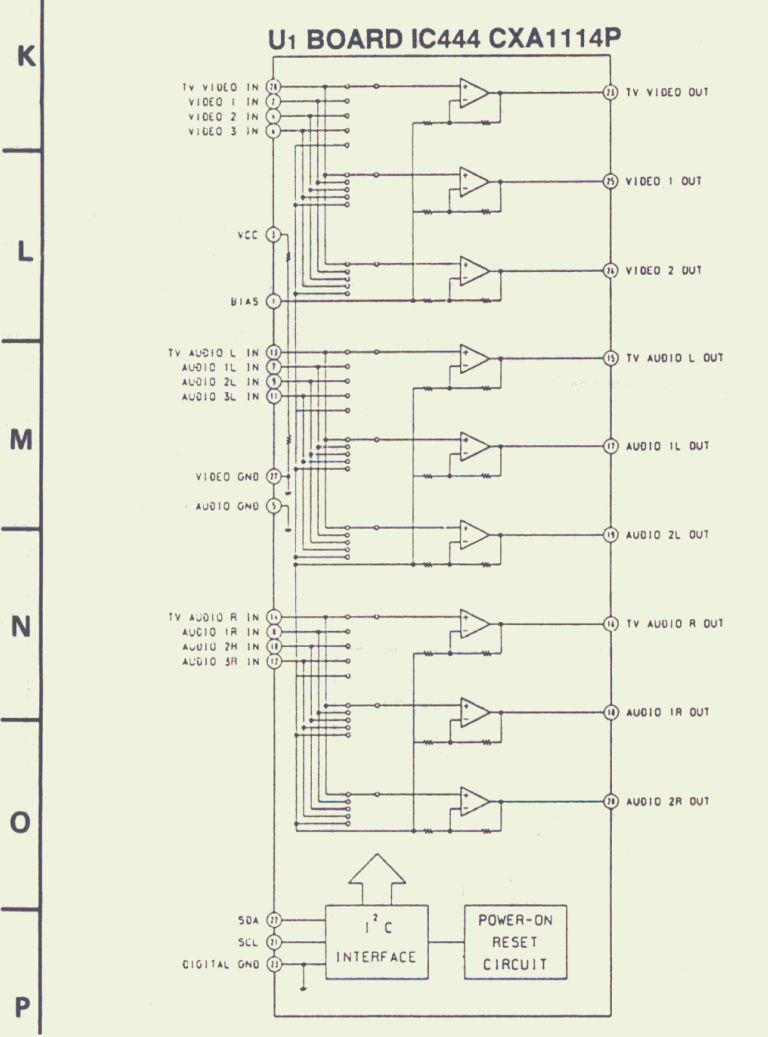
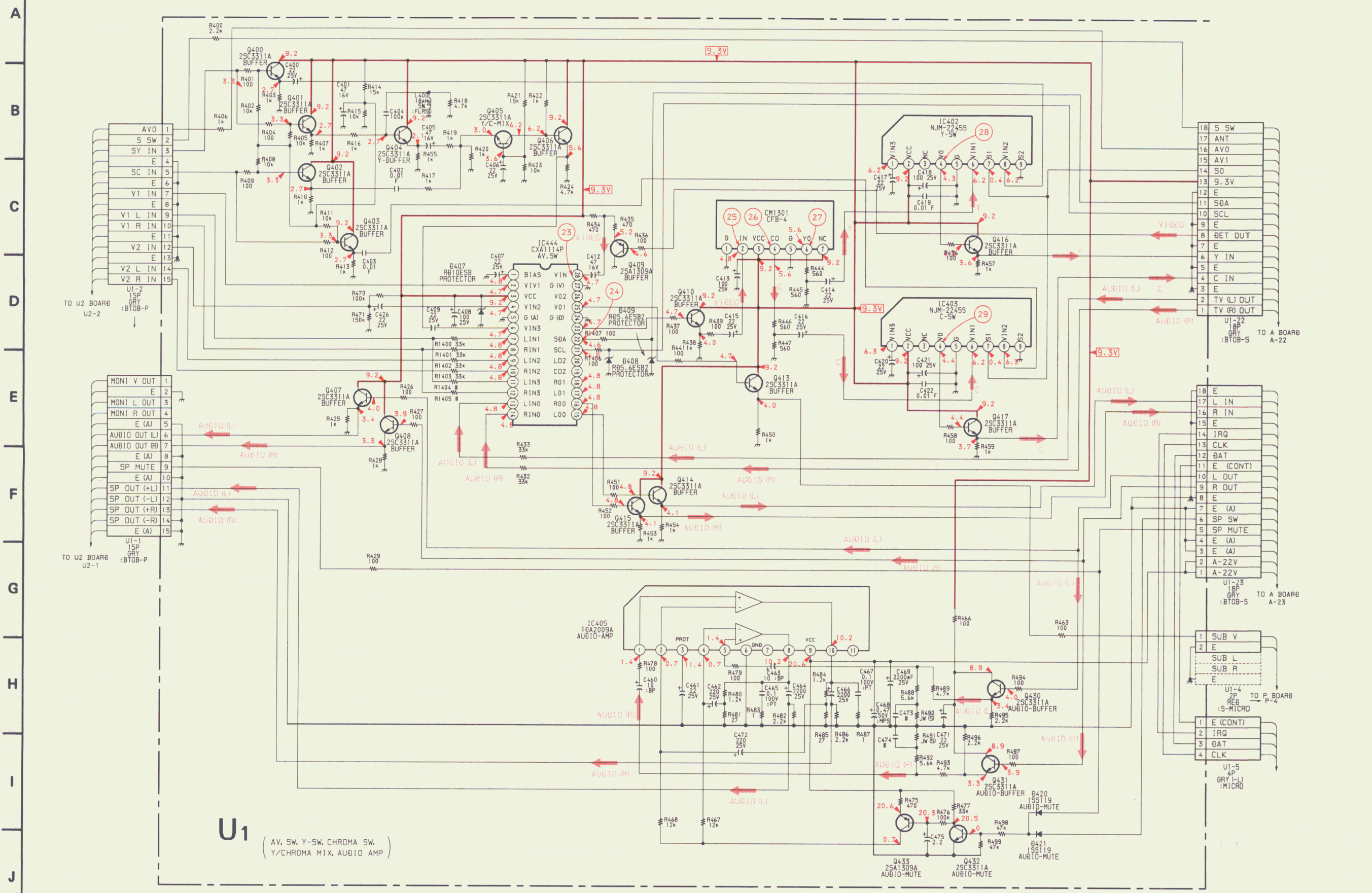


A BOARD IC301 CXA1313S

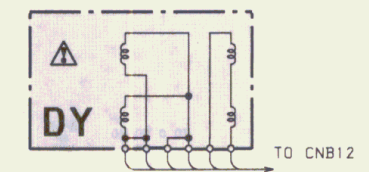
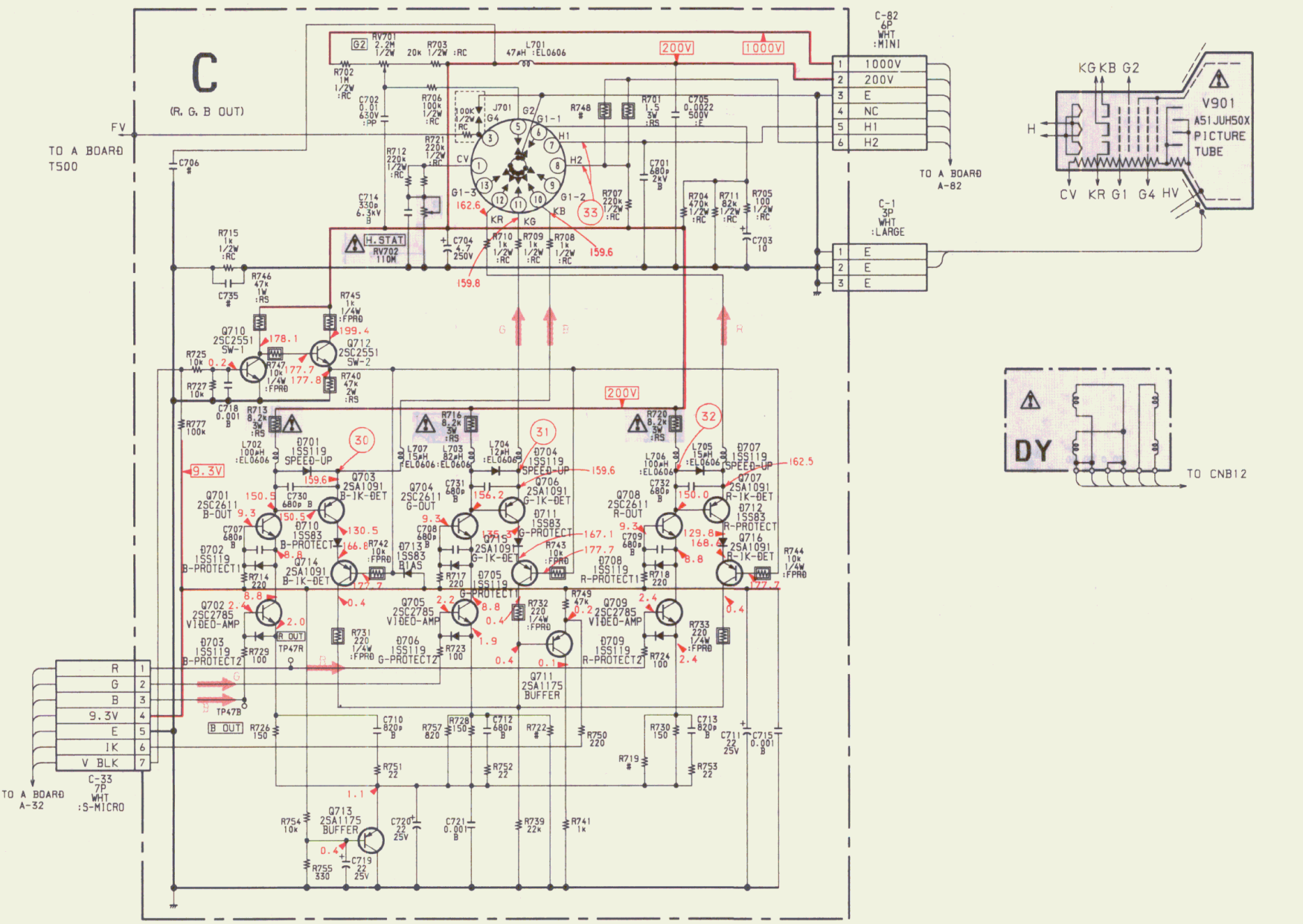
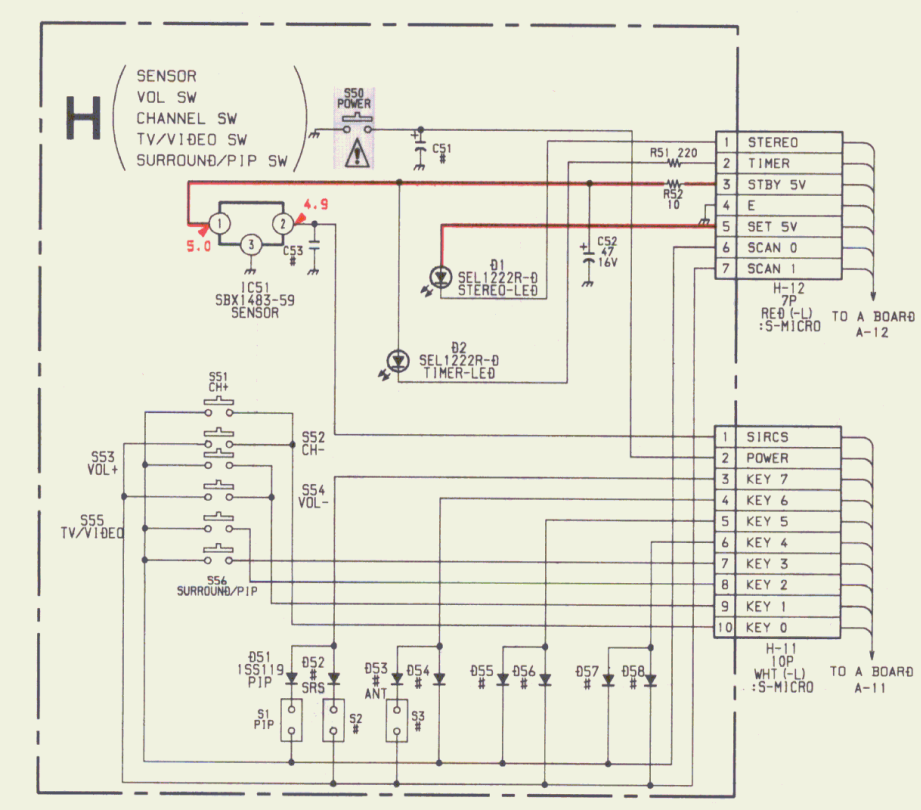


A BOARD IC500 TDA8172





CAUTION
When replacing IC653, be sure to check the B+ line voltage value. Refer to the Safety Adjustment Section.



U1 AV, SW, Y-SW CHROMA MIX,
AUDIO AMP

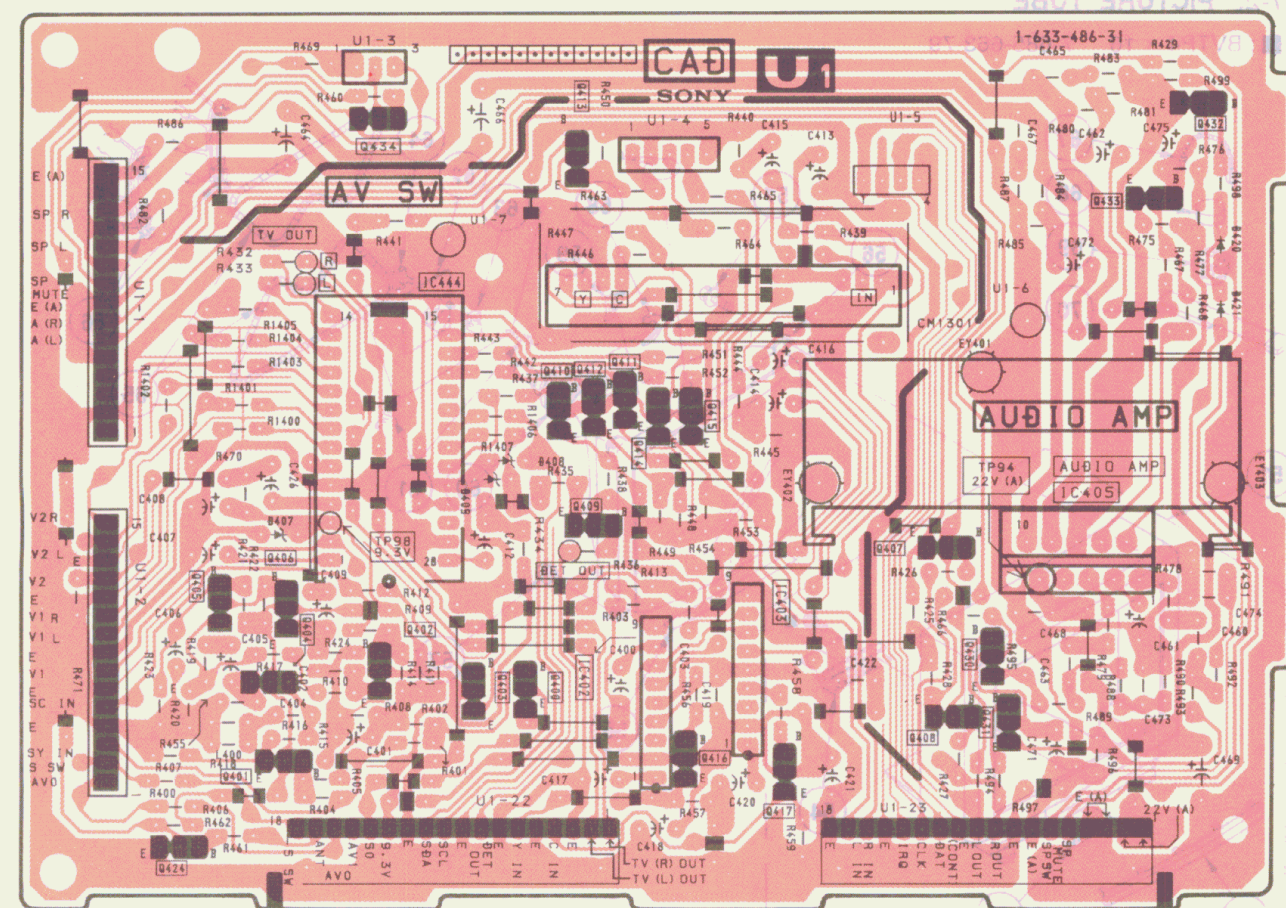
U2 VIDEO IN, VIDEO OUT, AUDIO OUT,
SPEAKER OUT

G [POWER CONV/SOLATOR]

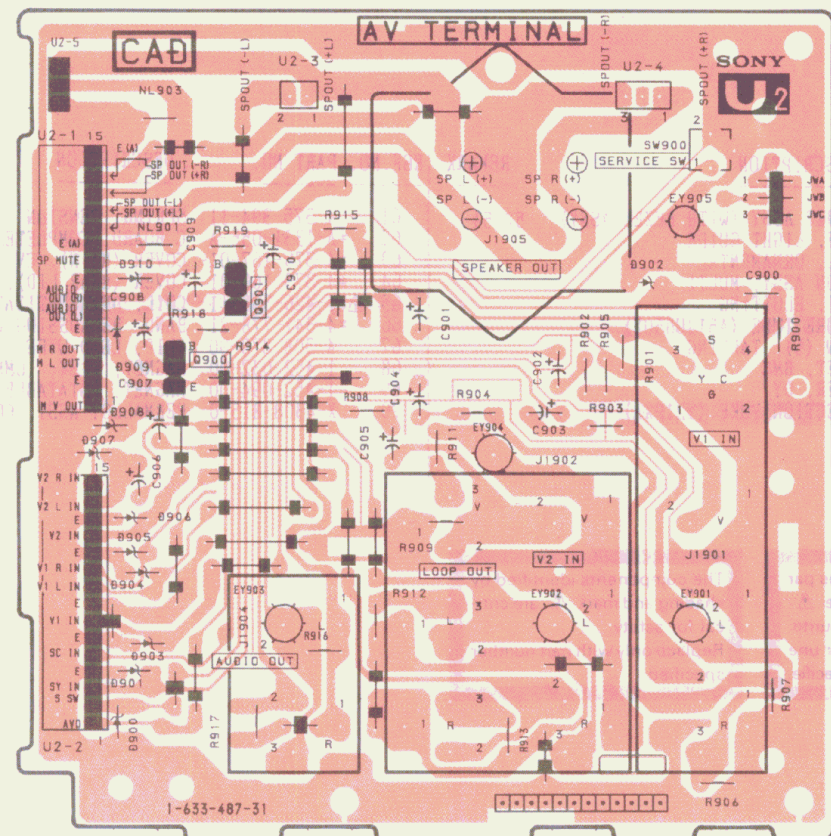
H [SENSOR, VOL, SW, CHANNEL SW, TV/VIDEO]
SW, SURROUND/PIP SW

C [R-G-B OUT]

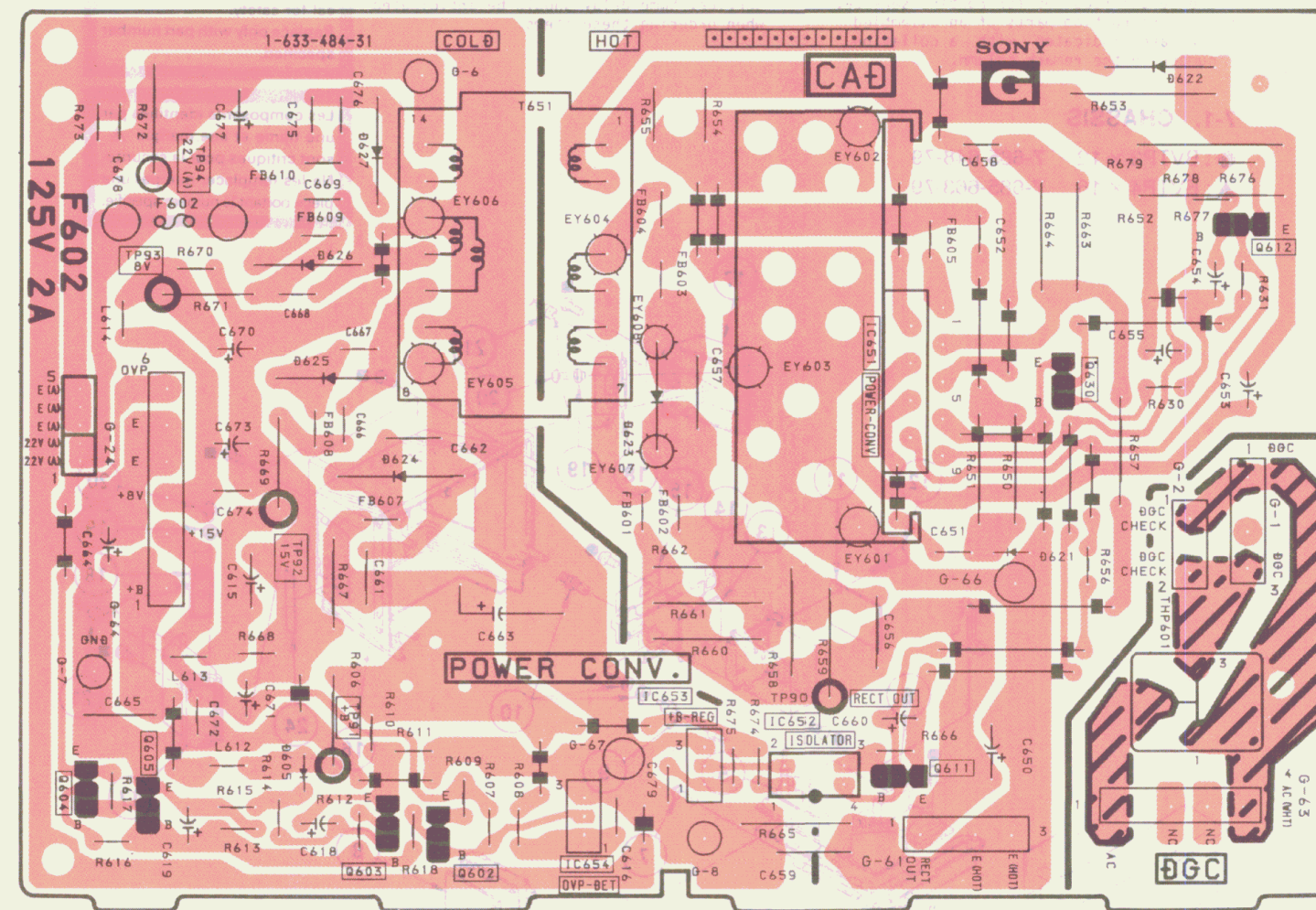
- U1 Board -



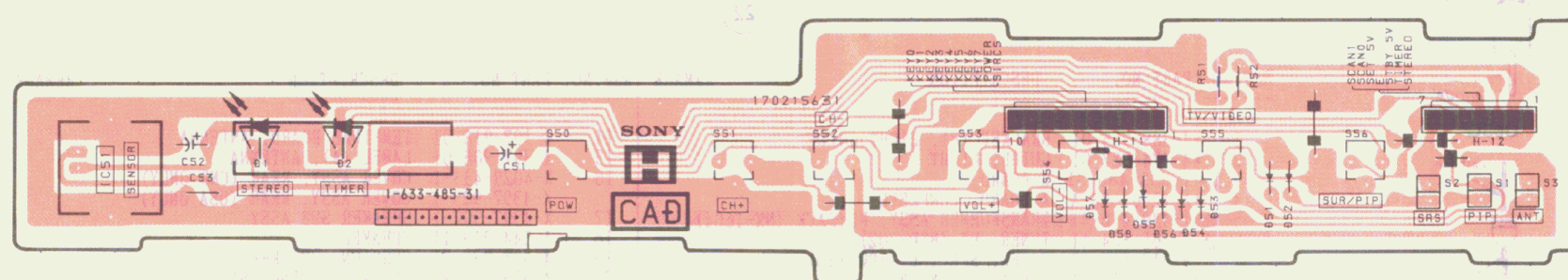
- U2 Board -



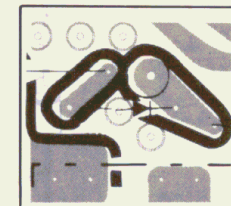
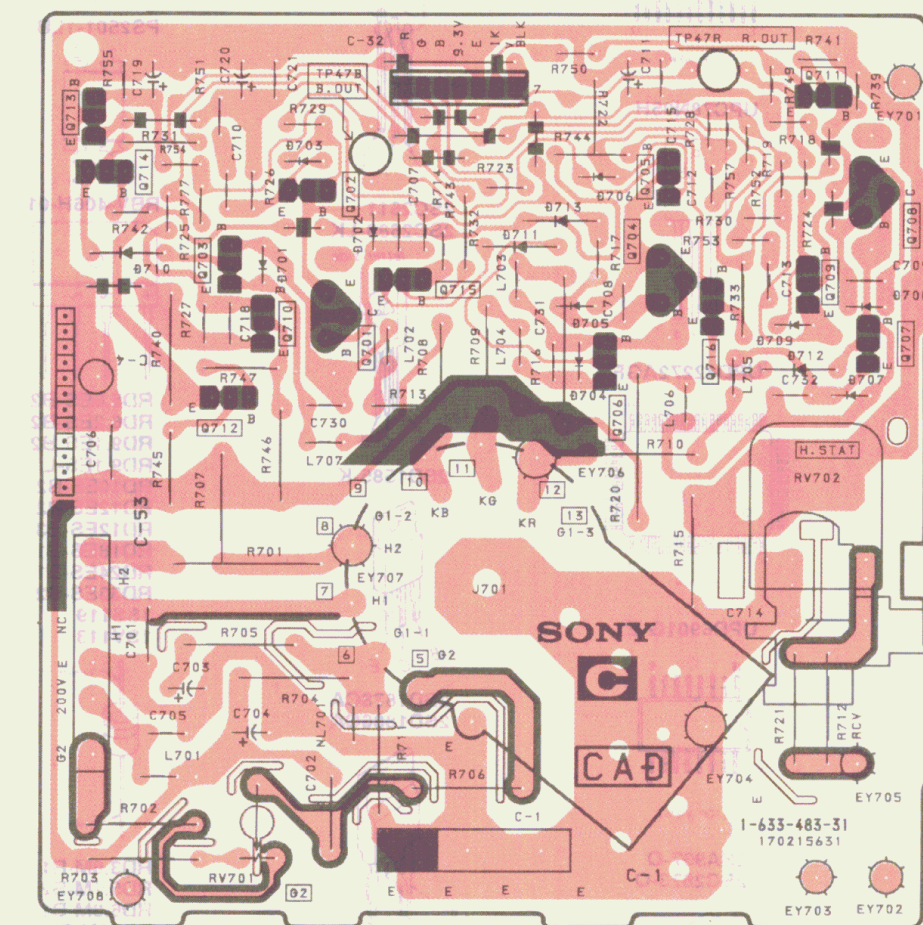
- G Board -



- H Board -



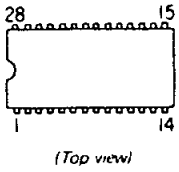
- C Board -



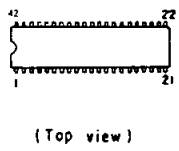
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

6-4. SEMICONDUCTORS

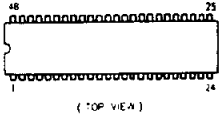
CXA114P



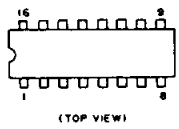
CXA1264AS



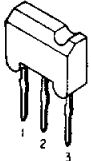
CXA1313S



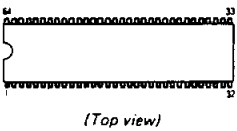
CXA1315P
MB88201-638L
SN74LS123N



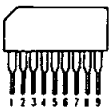
MN1280-S



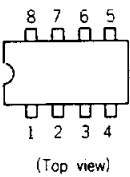
M37100M8-115SP



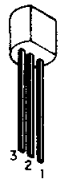
NJM2245S



PCD8582
RC4558P



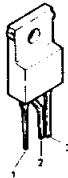
RC78L12A



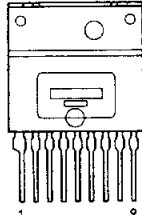
RC78M05FA
RC7809FA
UPC7983HF



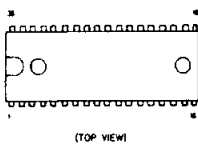
SE-135NS



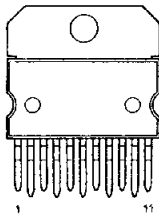
STR-S6301



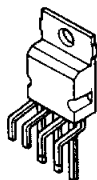
TA8601BN-FA-1



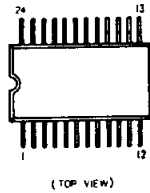
TDA2009A



TDA8172



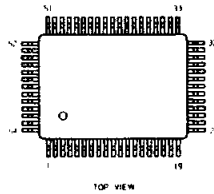
UPC661G-E1



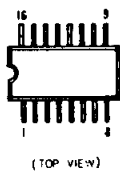
UPC78N05H



UPD42272AGF



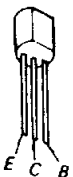
UPD6901G-E1



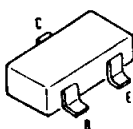
2SA937-Q
2SC2673-Q



2SA1091-0
2SC2551-0



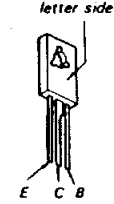
2SA1162-G
2SC1623-L6



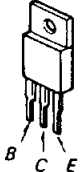
2SA1175-HFE
2SA1309A-QRS
2SC2785-HFE
2SC3311A-QRS



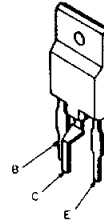
2SC2611
2SC2688-LK



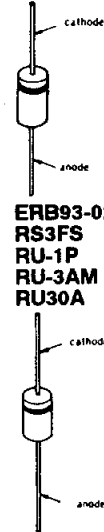
2SD1585-K



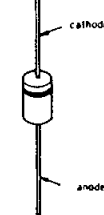
2SD1878CA
2SD1886CA



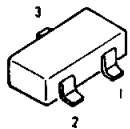
EGP20G
EL1Z
ERB91-02
EU2A
RGP02-17
1SS83



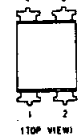
ERB93-02
RS3FS
RU-1P
RU-3AM
RU30A



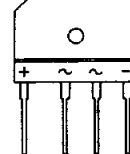
MA152WK



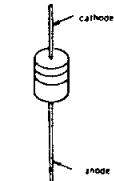
PS2501-1LB



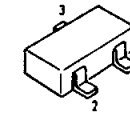
RBV-406H-01



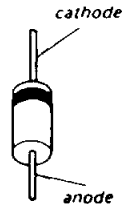
RD5.6ES-B2
RD6.2ES-B2
RD9.1ES-B2
RD9.1ES-L
RD10ES-B2
RD12ES-B2
RD12ES-B3
RD18ES-B1
RD24ES-B1
RD33ES-B2
1SS119
1SV113



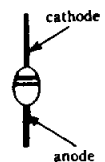
RD3.6M-B1
RD5.1M-B2
RD6.8M-B1
RD12M-B1



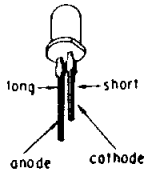
RU4DS



U05G



SEL1222R-C



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.

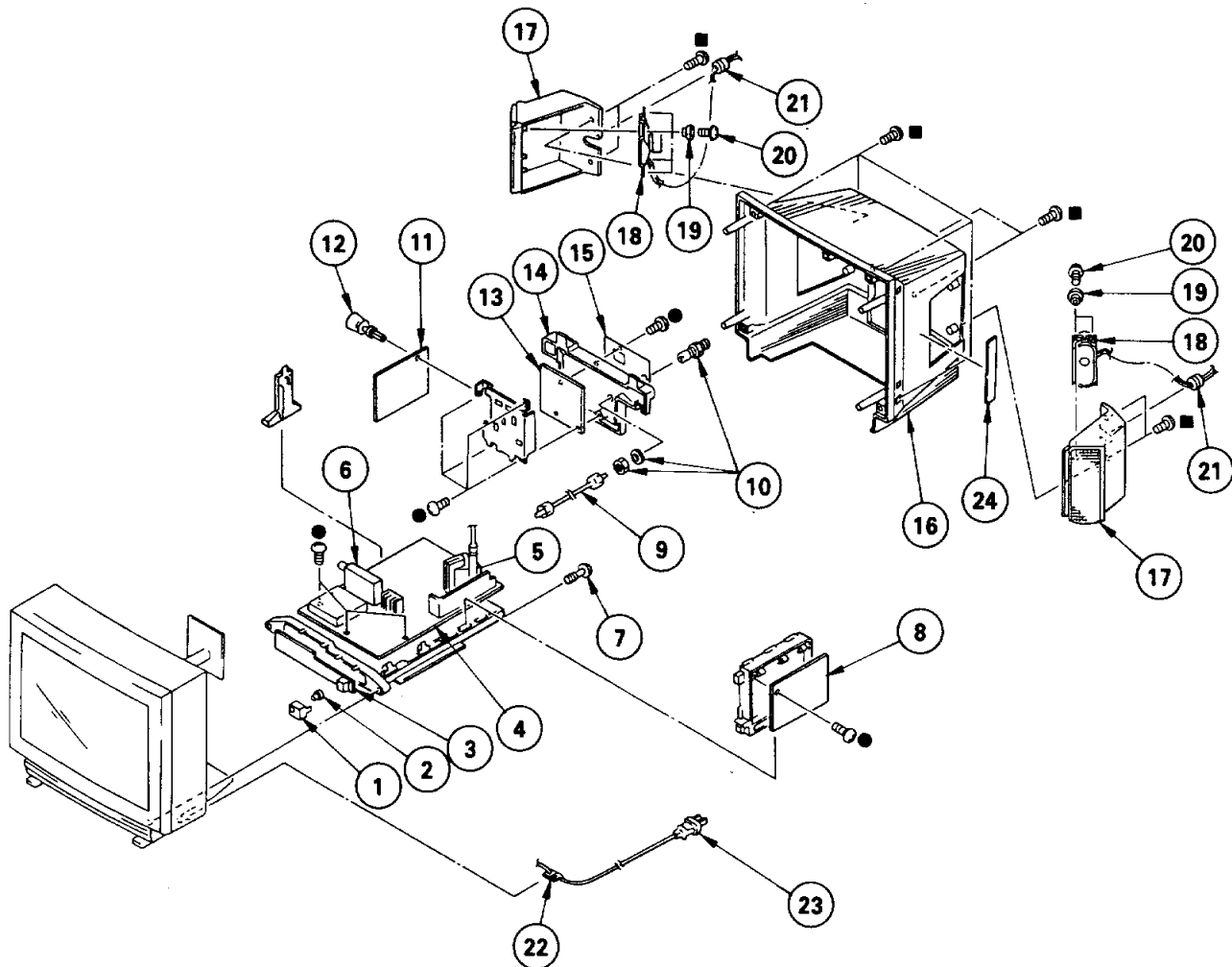
The components identified by shading and mark **▲** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **▲** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

7-1. CHASSIS

● : BVTP3 × 12 7-685-648-79

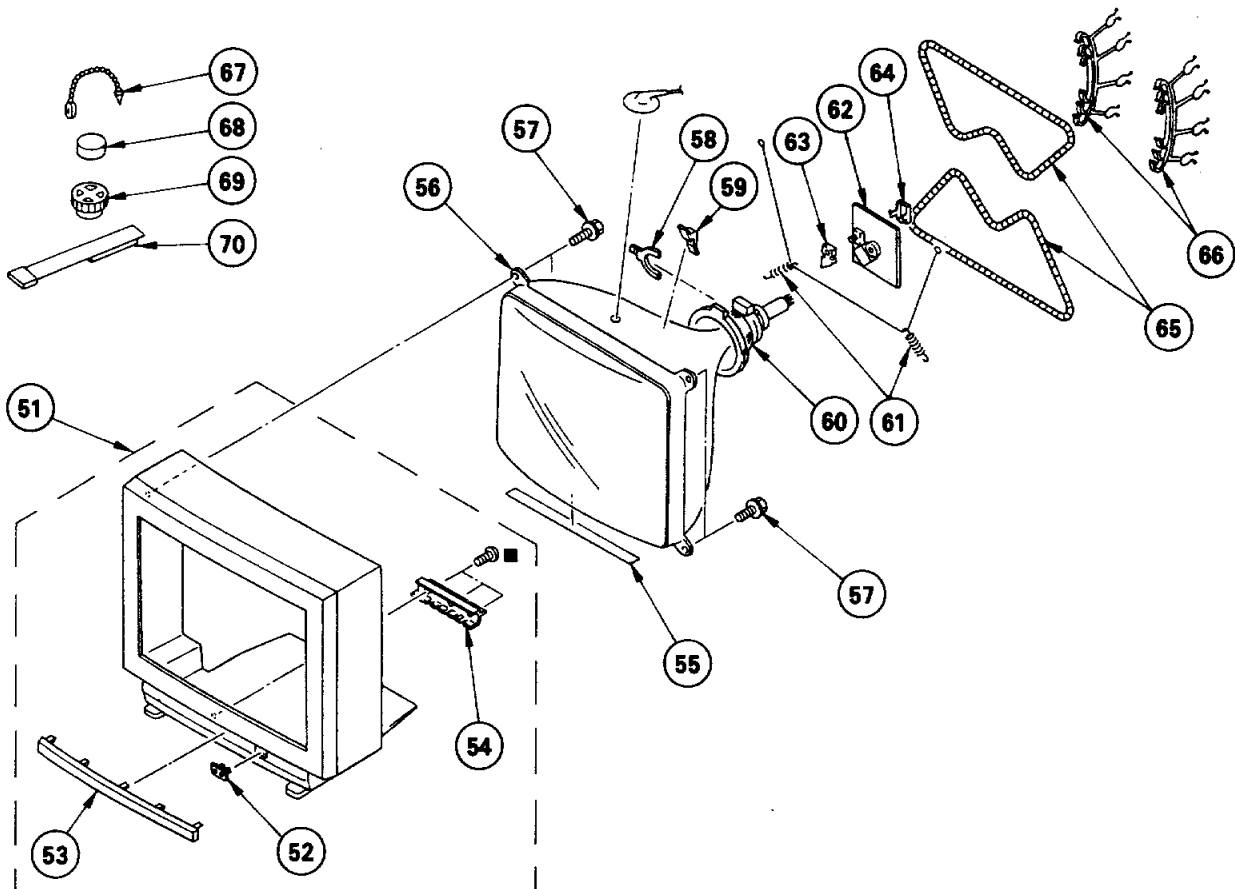
▲ : BVTP4 × 16 7-685-663-79



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	*4-388-955-01	BRACKET (B), LIGHT GUIDE		14	4-397-918-01	TERMINAL BOARD, ANTENNA LABEL (A), ANTENNA	
2	*4-374-987-01	GUIDE, LIGHT		15	4-397-908-01	COVER ASSY, REAR (CND ONLY)	
3	*1-633-485-31	H BOARD		16	X-4029-433-1	COVER ASSY, REAR (USA ONLY)	
4	*A-1296-698-A	A BOARD, COMPLETE		17	X-4397-902-1	SPEAKER SUB ASSY	
5	▲ 1-439-416-41	TRANSFORMER ASSY, FLYBACK (NX-1604)		18	1-544-319-11	SPEAKER	
6	▲ 1-465-384-11	TUNER, ET (BTP-202)		19	4-397-939-01	CUSHION, SPEAKER	
7	4-319-520-11	SCREW, SPECIAL (+PW4X30)		20	4-379-192-01	SCREW, TAPPING, STEP	
8	*A-1316-100-A	G BOARD, COMPLETE		21	4-397-902-01	BUSHING	
9	*1-556-945-21	CABLE, P-P		22	▲ 4-388-328-01	GROMMET, AC CORD	
10	1-561-306-00	JACK, PIN (F)		23	▲ 1-559-396-21	CORD, POWER	
11	*A-1394-219-A	U1 BOARD, COMPLETE		24	4-389-606-01	SHEET, ADHESIVE	
12	*4-397-418-01	RIVET, T TYPE					
13	*1-633-487-31	U2 BOARD					

7-2. PICTURE TUBE

■: BVTP4 x 16 7-685-663-79



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	X-4397-905-1	CABINET ASSY (WITH BEZEL ASSY)	52-54	61	4-375-394-11	SPRING, TENSION	
52	*4-397-903-01	PLATE, LIGHT GUIDE		62	*A-1331-055-A	C BOARD, COMPLETE	
53	4-397-910-01	PANEL, ORNAMENTAL		63	*4-379-167-01	COVER (MAIN), CV	
54	X-4397-910-1	BUTTON ASSY, MULTI		64	*4-379-160-01	COVER (REAR LID), CV	
55	4-385-725-01	SHEET, BLOTTING		65	▲-1-426-358-11	COIL, DEMAGNETIZATION	
56	▲-8-738-752-05	PICTURE TUBE (A51JUH50X)		66	*4-341-778-21	BAND, DEGAUSSING COIL	
57	4-307-249-00	SCREW (5), TAPPING		67	4-308-870-00	CLIP, LEAD WIRE	
58	1-452-277-00	MAGNET, BMC		68	1-452-032-00	MAGNET, DISK; 10MM φ	
59	3-704-495-01	SPACER, DY		69	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ	
60	▲-1-451-268-11	DEFLECTION YOKE (Y21PXA)		70	X-4308-815-0	PERMALLOY ASSY, CONVERGENCE	

Les composants identifiés par une trame et une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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

SECTION 8
ELECTRICAL PARTS LIST

A

NOTE:

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

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

• 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 : μ F, PF : μ μ F

COILS

• MMH : mH, UH : μ H

• The components identified by \square in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
*A	1296-698-A	A BOARD, COMPLETE *****		C130	1-101-005-00	CERAMIC	0.022MF 50V
	1-506-348-99	PIN, CONNECTOR 3P		C131	1-101-005-00	CERAMIC	0.022MF 50V
*1	508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		C132	1-102-129-00	CERAMIC	0.01MF 10% 50V
*1	508-766-00	PIN, CONNECTOR (5MM PITCH) 4P		C135	1-136-173-00	FILM	0.47MF 5% 50V
*1	508-767-00	PIN, CONNECTOR (5MM PITCH) 5P		C136	1-124-477-11	ELECT	47MF 20% 25V
*1	508-768-00	PIN, CONNECTOR (5MM PITCH) 6P		C241	1-123-875-11	ELECT	10MF 20% 50V
*1	559-991-21	CONNECTOR ASSY 1P		C251	1-124-791-11	ELECT	1MF 20% 50V
*1	560-290-00	PLUG, CONNECTOR (2.5MM PITCH)		C252	1-136-157-00	FILM	0.022MF 5% 50V
*1	564-508-11	PLUG, CONNECTOR 5P		C253	1-124-791-11	ELECT	1MF 20% 50V
*1	564-510-11	PLUG, CONNECTOR 7P		C254	1-130-309-00	FILM	0.033MF 5% 100V
*1	564-513-11	PLUG, CONNECTOR 10P		C255	1-124-791-11	ELECT	1MF 20% 50V
*1	565-509-21	CONNECTOR, BOARD TO BOARD 18P		C256	1-124-478-11	ELECT	100MF 20% 25V
*1	568-536-11	PLUG (MINIATURE DY) 6P		C257	1-124-927-11	ELECT	4.7MF 20% 50V
*4	341-751-01	EYELET (EY6, EY7, EY9, EY13, EY14, EY17, EY18, EY19, EY20, EY21, EY22, EY25, EY26, EY28, EY29, EY30, EY31, EY39, EY40, EY49, EY52, EY53, EY54)		C258	1-124-902-00	ELECT	0.47MF 20% 50V
*4	341-752-01	EYELET (EY1, EY2, EY3, EY4, EY5, EY8, EY10, EY11, EY12, EY15, EY16, EY23, EY24, EY27, EY32, EY33, EY34, EY35, EY44, EY45, EY46, EY47, EY48)		C259	1-124-791-11	ELECT	1MF 20% 50V
*4	393-401-01	SPRING		C261	1-131-347-00	TANTALUM	1MF 20% 16V
	<CONNECTOR>			C262	1-124-791-11	ELECT	1MF 20% 50V
A6	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P		C263	1-124-791-11	ELECT	1MF 20% 50V
	<CAPACITOR>			C264	1-123-875-11	ELECT	10MF 20% 50V
C101	1-123-875-11	ELECT	10MF 20% 50V	C265	1-136-170-00	FILM	0.27MF 5% 50V
C102	1-126-233-11	ELECT	22MF 20% 25V	C266	1-126-320-11	ELECT	10MF 20% 16V
C103	1-124-360-00	ELECT	1000MF 20% 16V	C267	1-131-368-00	TANTALUM	3.3MF 10% 16V
C104	1-126-176-11	ELECT	220MF 20% 10V	C268	1-124-791-11	ELECT	1MF 20% 50V
C105	1-126-101-11	ELECT	100MF 20% 16V	C269	1-131-347-00	TANTALUM	1MF 20% 16V
C106	1-102-121-00	CERAMIC	0.0022MF 10% 50V	C270	1-124-791-11	ELECT	1MF 20% 50V
C107	1-102-121-00	CERAMIC	0.0022MF 10% 50V	C271	1-123-875-11	ELECT	10MF 20% 50V
C108	1-102-129-00	CERAMIC	0.01MF 10% 50V	C272	1-124-791-11	ELECT	1MF 20% 50V
C110	1-162-215-31	CERAMIC	47PF 5% 50V	C273	1-124-477-11	ELECT	47MF 20% 16V
C112	1-124-925-11	ELECT	2.2MF 20% 50V	C274	1-130-475-00	MYLAR	0.0022MF 5% 50V
C113	1-102-121-00	CERAMIC	0.0022MF 10% 50V	C275	1-130-475-00	MYLAR	0.0022MF 5% 50V
C114	1-123-875-11	ELECT	10MF 20% 50V	C276	1-102-074-00	CERAMIC	0.001MF 10% 50V
C116	1-102-973-00	CERAMIC	100PF 5% 50V	C277	1-126-320-11	ELECT	10MF 20% 16V
C118	1-102-973-00	CERAMIC	100PF 5% 50V	C278	1-124-791-11	ELECT	1MF 20% 50V
C119	1-130-728-00	FILM	0.0022MF 5% 50V	C279	1-124-791-11	ELECT	1MF 20% 50V
C120	1-119-160-00	ELECT	470MF 10V	C281	1-123-875-11	ELECT	10MF 20% 50V
C121	1-102-976-00	CERAMIC	180PF 5% 50V	C282	1-123-875-11	ELECT	10MF 20% 50V
C122	1-102-973-00	CERAMIC	100PF 5% 50V	C284	1-123-875-11	ELECT	10MF 20% 50V
C123	1-124-477-11	ELECT	47MF 20% 16V	C301	1-102-973-00	CERAMIC	100PF 5% 50V
C124	1-136-161-00	FILM	0.047MF 5% 50V	C302	1-124-791-11	ELECT	1MF 20% 50V
C125	1-162-286-31	CERAMIC	220PF 10% 50V	C303	1-136-153-00	FILM	0.01MF 5% 50V
C126	1-124-791-11	ELECT	1MF 20% 50V	C304	1-124-234-00	ELECT	22MF 20% 16V
C127	1-102-978-00	CERAMIC	220PF 5% 50V	C305	1-124-791-11	ELECT	1MF 20% 50V
C128	1-102-129-00	CERAMIC	0.01MF 10% 50V	C307	1-102-978-00	CERAMIC	220PF 5% 50V
C129	1-101-006-00	CERAMIC	0.047MF 50V	C308	1-124-902-00	ELECT	0.47MF 20% 50V
				C309	1-102-965-00	CERAMIC	39PF 5% 50V
				C310	1-124-234-00	ELECT	22MF 20% 16V
				C311	1-136-165-00	FILM	0.1MF 5% 50V
				C312	1-136-165-00	FILM	0.1MF 5% 50V
				C313	1-136-165-00	FILM	0.1MF 5% 50V
				C317	1-124-360-00	ELECT	1000MF 20% 16V

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Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifique.

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

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C318	1-130-471-00	MYLAR	0.001MF 5% 50V	C557	1-106-387-00	MYLAR	0.068MF 10% 200V
C319	1-124-791-11	ELECT	1MF 20% 50V	C558	1-136-161-00	FILM	0.047MF 5% 50V
C320	1-130-479-00	MYLAR	0.0047MF 5% 50V	C561	1-124-910-11	ELECT	47MF 20% 50V
C321	1-102-114-00	CERAMIC	470PF 10% 50V	C565	1-124-791-11	ELECT	1MF 20% 50V
C322	1-102-114-00	CERAMIC	470PF 10% 50V	C573	1-130-485-00	MYLAR	0.015MF 5% 50V
C324	1-124-791-11	ELECT	1MF 20% 50V	C601 Δ	1-136-311-51	FILM	0.47MF 20% 125V
C325	1-136-153-00	FILM	0.01MF 5% 50V	C603 Δ	1-162-576-51	CERAMIC	0.001MF 10% 400V
C326	1-124-791-11	ELECT	1MF 20% 50V	C604 Δ	1-136-311-51	FILM	0.47MF 20% 125V
C327	1-162-117-00	CERAMIC	100PF 10% 500V	C605 Δ	1-161-953-92	CERAMIC	0.0047MF 20% 400V
C328	1-124-902-00	ELECT	0.47MF 20% 50V	C606 Δ	1-161-953-92	CERAMIC	0.0047MF 20% 400V
C329	1-124-477-11	ELECT	47MF 20% 16V	C607	1-125-538-11	ELECT (BLOCK)	1000MF 20% 200V
C330	1-102-116-00	CERAMIC	680PF 10% 50V	C608	1-102-125-00	CERAMIC	0.0047MF 10% 50V
C332	1-136-169-00	FILM	0.22MF 5% 50V	C609	1-102-125-00	CERAMIC	0.0047MF 10% 50V
C333	1-136-169-00	FILM	0.22MF 5% 50V	C610	1-124-480-11	ELECT	470MF 20% 25V
C334	1-136-157-00	FILM	0.022MF 5% 50V	C611	1-124-480-11	ELECT	470MF 20% 25V
C335	1-124-791-11	ELECT	1MF 20% 50V	C612	1-124-477-11	ELECT	47MF 20% 16V
C336	1-123-875-11	ELECT	10MF 20% 50V	C613	1-124-478-11	ELECT	100MF 20% 25V
C337	1-124-798-11	ELECT	1MF 20% 160V	C614	1-123-875-11	ELECT	10MF 20% 50V
C338	1-136-153-00	FILM	0.01MF 5% 50V	C620	1-124-478-11	ELECT	100MF 20% 25V
C339	1-123-875-11	ELECT	10MF 20% 50V	C621	1-126-101-11	ELECT	100MF 20% 16V
C341	1-124-902-00	ELECT	0.47MF 20% 50V	C622	1-126-101-11	ELECT	100MF 20% 16V
C342	1-101-005-00	CERAMIC	0.022MF 50V	C623	1-126-101-11	ELECT	100MF 20% 16V
C343	1-124-477-11	ELECT	47MF 20% 16V	C625	1-123-875-11	ELECT	10MF 20% 50V
C344	1-124-120-11	ELECT	220MF 20% 16V	C626	1-136-165-00	FILM	0.1MF 5% 50V
C345	1-124-925-11	ELECT	2.2MF 20% 50V	C627	1-124-477-11	ELECT	47MF 20% 16V
C346	1-124-925-11	ELECT	2.2MF 20% 50V	<COMPOSITION CIRCUIT BLOCK>			
C347	1-126-103-11	ELECT	470MF 20% 16V	CP101	1-236-294-11	NETWORK, RES	
C351	1-101-888-00	CERAMIC	68PF 5% 50V	CP102	1-236-491-11	NETWORK, RES, THICK FILM	
C352	1-102-114-00	CERAMIC	470PF 10% 50V	CP103	1-236-358-21	NETWORK, RES	
C354	1-126-101-11	ELECT	100MF 20% 16V	CP104	1-236-479-11	NETWORK, C	
C500	1-130-475-00	MYLAR	0.0022MF 5% 50V	CP106	1-236-301-11	NETWORK, C	
C501	1-124-902-00	ELECT	0.47MF 20% 50V	CP107	1-236-491-11	NETWORK, RES, THICK FILM	
C502	1-102-244-00	CERAMIC	220PF 10% 500V	CP108	1-236-301-11	NETWORK, C	
C504	1-106-371-00	MYLAR	0.015MF 200V	CP109	1-236-776-11	NETWORK, RES	
C505	1-102-228-00	CERAMIC	470PF 10% 500V	CP110	1-232-680-11	COMPOSITION CIRCUIT BLOCK	
C506 Δ	1-162-115-91	CERAMIC	330PF 10% 2KV	CP301	1-236-730-11	NETWORK, C	
C507 Δ	1-136-904-11	FILM	0.0115MF 3% 2KV	<DIODE>			
C509 Δ	1-136-313-51	FILM	0.047MF 5% 400V	D103	8-719-974-81	DIODE 1SV113	
C512	1-124-927-11	ELECT	4.7MF 20% 50V	D104	8-719-911-19	DIODE 1SS119	
C516	1-136-109-00	FILM	0.68MF 5% 200V	D105	8-719-911-19	DIODE 1SS119	
C517	1-124-634-11	ELECT	1MF 20% 250V	D106	8-719-911-19	DIODE 1SS119	
C518	1-106-391-12	MYLAR	0.1MF 10% 200V	D107	8-719-911-19	DIODE 1SS119	
C525	1-102-228-00	CERAMIC	470PF 10% 500V	D108	8-719-911-19	DIODE 1SS119	
C526	1-136-111-00	FILM	1MF 5% 200V	D109	8-719-911-19	DIODE 1SS119	
C527	1-162-116-00	CERAMIC	680PF 10% 2KV	D250	8-719-109-93	DIODE RD6.2ES-B2	
C528	1-162-116-00	CERAMIC	680PF 10% 2KV	D251	8-719-109-93	DIODE RD6.2ES-B2	
C529	1-106-367-00	MYLAR	0.01MF 10% 200V	D252	8-719-110-31	DIODE RD12ES-B2	
C536	1-123-875-11	ELECT	10MF 20% 50V	D300	8-719-911-19	DIODE 1SS119	
C538	1-124-927-11	ELECT	4.7MF 20% 50V	D302	8-719-110-33	DIODE RD12ES-B3	
C539	1-124-477-11	ELECT	47MF 20% 25V	D303	8-719-911-19	DIODE 1SS119	
C540	1-124-911-11	ELECT	220MF 20% 50V	D304	8-719-110-13	DIODE RD9.1ES-B2	
C541	1-136-165-00	FILM	0.1MF 5% 50V	D305	8-719-110-48	DIODE RD18ES-B1	
C542	1-136-161-00	FILM	0.047MF 5% 50V	D306	8-719-911-19	DIODE 1SS119	
C545	1-123-932-00	ELECT	4.7MF 20% 160V	D307	8-719-911-19	DIODE 1SS119	
C546	1-106-216-00	MYLAR	0.068MF 10% 100V	D308	8-719-110-49	DIODE RD18ES-B2	
C547	1-124-557-11	ELECT	1000MF 20% 25V	D310	8-719-109-93	DIODE RD6.2ES-B2	
C548	1-162-114-00	CERAMIC	0.0047MF 2KV	D311	8-719-109-93	DIODE RD6.2ES-B2	
C549	1-123-947-00	ELECT	10MF 20% 250V	D500	8-719-911-55	DIODE U05G	
C551 Δ	1-108-425-91	MYLAR	0.022MF 200V	D501	8-719-312-71	DIODE RS3FS	
C552	1-123-024-21	ELECT	33MF 160V	D502	8-719-911-55	DIODE U05G	
C553	1-124-557-11	ELECT	1000MF 20% 25V				
C554	1-102-228-00	CERAMIC	470PF 10% 500V				
C555	1-124-477-11	ELECT	47MF 20% 25V				
C556	1-102-228-00	CERAMIC	470PF 10% 500V				

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R129	1-249-421-11	CARBON	2.2K 5% 1/4W	R194	1-249-429-11	CARBON	10K 5% 1/4W
R130	1-249-421-11	CARBON	2.2K 5% 1/4W	R195	1-249-437-11	CARBON	47K 5% 1/4W
R131	1-249-421-11	CARBON	2.2K 5% 1/4W	R197	1-247-903-00	CARBON	1M 5% 1/4W
R132	1-249-421-11	CARBON	2.2K 5% 1/4W	R198	1-249-425-11	CARBON	4.7K 5% 1/4W
R133	1-249-409-11	CARBON	220 5% 1/4W	R251	1-249-409-11	CARBON	220 5% 1/4W
R134	1-249-421-11	CARBON	2.2K 5% 1/4W	R252	1-249-409-11	CARBON	220 5% 1/4W
R135	1-249-421-11	CARBON	2.2K 5% 1/4W	R253	1-249-409-11	CARBON	220 5% 1/4W
R136	1-249-421-11	CARBON	2.2K 5% 1/4W	R254	1-249-409-11	CARBON	220 5% 1/4W
R137	1-249-421-11	CARBON	2.2K 5% 1/4W	R255	1-249-420-11	CARBON	1.8K 5% 1/4W
R138	1-249-421-11	CARBON	2.2K 5% 1/4W	R256	1-249-405-11	CARBON	100 5% 1/4W
R139	1-249-421-11	CARBON	2.2K 5% 1/4W	R257	1-249-409-11	CARBON	220 5% 1/4W
R140	1-249-421-11	CARBON	2.2K 5% 1/4W	R258	1-249-409-11	CARBON	220 5% 1/4W
R141	1-249-421-11	CARBON	2.2K 5% 1/4W	R259	1-249-409-11	CARBON	220 5% 1/4W
R142	1-249-429-11	CARBON	10K 5% 1/4W	R260	1-249-409-11	CARBON	220 5% 1/4W
R143	1-249-413-11	CARBON	470 5% 1/4W	R261	1-249-441-11	CARBON	100K 5% 1/4W
R144	1-249-429-11	CARBON	10K 5% 1/4W	R262	1-249-441-11	CARBON	100K 5% 1/4W
R145	1-249-422-11	CARBON	2.7K 5% 1/4W	R263	1-249-429-11	CARBON	10K 5% 1/4W
R146	1-249-422-11	CARBON	2.7K 5% 1/4W	R264	1-249-441-11	CARBON	100K 5% 1/4W
R147	1-249-422-11	CARBON	2.7K 5% 1/4W	R265	1-249-441-11	CARBON	100K 5% 1/4W
R148	1-249-437-11	CARBON	47K 5% 1/4W	R266	1-215-456-00	METAL	30K 1% 1/6W
R149	1-249-421-11	CARBON	2.2K 5% 1/4W	R267	1-249-429-11	CARBON	10K 5% 1/4W
R150	1-249-425-11	CARBON	4.7K 5% 1/4W	R268	1-215-865-11	METAL OXIDE	220 5% 1W F
R151	1-249-421-11	CARBON	2.2K 5% 1/4W	R269	1-249-431-11	CARBON	15K 5% 1/4W
R152	1-249-421-11	CARBON	2.2K 5% 1/4W	R270	1-249-431-11	CARBON	15K 5% 1/4W
R153	1-249-424-11	CARBON	3.9K 5% 1/4W	R300	1-249-417-11	CARBON	1K 5% 1/4W
R154	1-249-421-11	CARBON	2.2K 5% 1/4W	R301	1-249-425-11	CARBON	4.7K 5% 1/4W
R155	1-249-421-11	CARBON	2.2K 5% 1/4W	R302	1-249-421-11	CARBON	2.2K 5% 1/4W
R156	1-249-417-11	CARBON	1K 5% 1/4W	R303	1-249-413-11	CARBON	470 5% 1/4W
R157	1-249-417-11	CARBON	1K 5% 1/4W	R304	1-259-883-11	CARBON	3.9M 5% 1/4W
R158	1-249-417-11	CARBON	1K 5% 1/4W	R305	1-249-423-11	CARBON	3.3K 5% 1/4W
R159	1-249-417-11	CARBON	1K 5% 1/4W	R306	1-249-429-11	CARBON	10K 5% 1/4W
R161	1-215-892-11	METAL OXIDE	1K 5% 2W F	R307	1-249-423-11	CARBON	3.3K 5% 1/4W
R162	1-249-401-11	CARBON	47 5% 1/4W	R308	1-249-433-11	CARBON	22K 5% 1/4W
R163	1-249-410-11	CARBON	270 5% 1/4W	R309	1-249-421-11	CARBON	2.2K 5% 1/4W
R164	1-249-421-11	CARBON	2.2K 5% 1/4W	R310	1-249-417-11	CARBON	1K 5% 1/4W
R165	1-249-437-11	CARBON	47K 5% 1/4W	R311	1-215-448-00	METAL	13K 1% 1/6W
R166	1-249-421-11	CARBON	2.2K 5% 1/4W	R312	1-249-432-11	CARBON	18K 5% 1/4W
R167	1-249-421-11	CARBON	2.2K 5% 1/4W	R313	1-215-421-00	METAL	1K 1% 1/6W
R168	1-249-421-11	CARBON	2.2K 5% 1/4W	R314	1-247-899-11	CARBON	680K 5% 1/4W
R169	1-249-409-11	CARBON	220 5% 1/4W	R315	1-249-405-11	CARBON	100 5% 1/4W
R170	1-249-409-11	CARBON	220 5% 1/4W	R316	1-249-405-11	CARBON	100 5% 1/4W
R171	1-249-421-11	CARBON	2.2K 5% 1/4W	R317	1-249-405-11	CARBON	100 5% 1/4W
R172	1-249-409-11	CARBON	220 5% 1/4W	R318	1-249-405-11	CARBON	100 5% 1/4W
R173	1-249-429-11	CARBON	10K 5% 1/4W	R324	1-249-405-11	CARBON	100 5% 1/4W
R174	1-249-409-11	CARBON	220 5% 1/4W	R326	1-249-405-11	CARBON	100 5% 1/4W
R175	1-249-409-11	CARBON	220 5% 1/4W	R328	1-249-405-11	CARBON	100 5% 1/4W
R176	1-249-429-11	CARBON	10K 5% 1/4W	R335	1-249-418-11	CARBON	1.2K 5% 1/4W
R177	1-249-429-11	CARBON	10K 5% 1/4W	R336	1-247-903-00	CARBON	1M 5% 1/4W
R178	1-249-429-11	CARBON	10K 5% 1/4W	R337	1-249-405-11	CARBON	100 5% 1/4W
R179	1-249-425-11	CARBON	4.7K 5% 1/4W	R338	1-249-417-11	CARBON	1K 5% 1/4W
R180	1-249-421-11	CARBON	2.2K 5% 1/4W	R339	1-249-415-11	CARBON	680 5% 1/4W
R181	1-249-421-11	CARBON	2.2K 5% 1/4W	R341	1-215-457-00	METAL	33K 1% 1/6W
R182	1-249-421-11	CARBON	2.2K 5% 1/4W	R343	1-249-428-11	CARBON	8.2K 5% 1/4W
R183	1-249-421-11	CARBON	2.2K 5% 1/4W	R344	1-249-430-11	CARBON	12K 5% 1/4W
R184	1-249-421-11	CARBON	2.2K 5% 1/4W	R345	1-249-429-11	CARBON	10K 5% 1/4W
R185	1-249-421-11	CARBON	2.2K 5% 1/4W	R346	1-249-421-11	CARBON	2.2K 5% 1/4W
R186	1-249-421-11	CARBON	2.2K 5% 1/4W	R347	1-249-405-11	CARBON	100 5% 1/4W
R187	1-249-417-11	CARBON	1K 5% 1/4W	R348	1-249-411-11	CARBON	330 5% 1/4W
R188	1-249-417-11	CARBON	1K 5% 1/4W	R349	1-259-883-11	CARBON	3.9M 5% 1/4W
R189	1-249-417-11	CARBON	1K 5% 1/4W	R350	1-249-438-11	CARBON	56K 5% 1/4W
R190	1-249-417-11	CARBON	1K 5% 1/4W	R352	1-249-430-11	CARBON	12K 5% 1/4W
R191	1-249-421-11	CARBON	2.2K 5% 1/4W	R353	1-247-887-00	CARBON	220K 5% 1/4W
R192	1-249-421-11	CARBON	2.2K 5% 1/4W	R356	1-249-417-11	CARBON	1K 5% 1/4W
R193	1-249-429-11	CARBON	10K 5% 1/4W				

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifique.

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

The components identified by \blacksquare 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.

KV-20EXR20
RM-Y103

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REF. NO.	PART NO.	DESCRIPTION			REMARK
R357	1-249-437-11	CARBON	47K	5%	1/4W
R358	1-249-437-11	CARBON	47K	5%	1/4W
R359	1-249-405-11	CARBON	100	5%	1/4W
R360	1-249-413-11	CARBON	470	5%	1/4W
R361	1-249-419-11	CARBON	1.5K	5%	1/4W
R362	1-249-415-11	CARBON	680	5%	1/4W
R363	1-249-409-11	CARBON	220	5%	1/4W
R364	1-249-409-11	CARBON	220	5%	1/4W
R365	1-249-417-11	CARBON	1K	5%	1/4W
R366	1-249-417-11	CARBON	1K	5%	1/4W
R367	1-247-891-00	CARBON	330K	5%	1/4W
R368	1-249-417-11	CARBON	1K	5%	1/4W
R375	1-249-418-11	CARBON	1.2K	5%	1/4W
R376	1-249-417-11	CARBON	1K	5%	1/4W
R377	1-249-416-11	CARBON	820	5%	1/4W
R378	1-249-409-11	CARBON	220	5%	1/4W
R379	1-249-425-11	CARBON	4.7K	5%	1/4W
R380	1-249-420-11	CARBON	1.8K	5%	1/4W
R381	1-249-417-11	CARBON	1K	5%	1/4W
R382	1-249-417-11	CARBON	1K	5%	1/4W
R383	1-249-421-11	CARBON	2.2K	5%	1/4W
R384	1-249-410-11	CARBON	270	5%	1/4W
R385	1-249-433-11	CARBON	22K	5%	1/4W
R386	1-249-412-11	CARBON	390	5%	1/4W
R387	1-249-415-11	CARBON	680	5%	1/4W
R388	1-249-416-11	CARBON	820	5%	1/4W
R389	1-249-427-11	CARBON	6.8K	5%	1/4W
R392	1-249-425-11	CARBON	4.7K	5%	1/4W
R393	1-249-437-11	CARBON	47K	5%	1/4W
R394	1-249-437-11	CARBON	47K	5%	1/4W
R395	1-249-409-11	CARBON	220	5%	1/4W
R396	1-249-409-11	CARBON	220	5%	1/4W
R500	1-249-434-11	CARBON	27K	5%	1/4W
R503	1-215-898-11	METAL OXIDE	10K	5%	2W F
R504	1-249-423-11	CARBON	3.3K	5%	1/4W
R507	1-249-401-11	CARBON	47	5%	1/4W
R509	1-215-884-11	METAL OXIDE	47	5%	2W F
R510	1-247-696-11	CARBON	47	5%	1/4W F
R512	1-216-452-11	METAL OXIDE	180	5%	2W F
R513	1-216-455-11	METAL OXIDE	560	5%	2W F
R515	1-216-378-11	METAL OXIDE	5.6	5%	2W F
R518	1-249-417-11	CARBON	1K	5%	1/4W
R519	1-216-378-11	METAL OXIDE	5.6	5%	2W F
R520	1-215-884-11	METAL OXIDE	47	5%	2W F
R523	1-216-455-11	METAL OXIDE	560	5%	2W F
R524	1-215-888-00	METAL OXIDE	220	5%	2W F
R530	1-247-711-11	CARBON	680	5%	1/4W F
R531	1-215-888-00	METAL OXIDE	220	5%	2W F
R534	1-249-436-11	CARBON	39K	5%	1/4W
R536	1-249-422-11	CARBON	2.7K	5%	1/4W
R540	1-216-368-11	METAL OXIDE	0.82	5%	2W F
R541	1-249-425-11	CARBON	4.7K	5%	1/4W
R542	1-249-431-11	CARBON	15K	5%	1/4W
R544	1-249-425-11	CARBON	4.7K	5%	1/4W
R545	1-249-436-11	CARBON	39K	5%	1/4W
R546	1-215-449-00	METAL	15K	1%	1/6W
R547	1-249-405-11	CARBON	100	5%	1/4W
R551	1-215-463-00	METAL	56K	1%	1/6W
R552	1-249-385-11	CARBON	2.2	5%	1/4W F
R553	1-249-437-11	CARBON	47K	5%	1/4W
R554	1-216-371-00	METAL OXIDE	1.5	5%	2W F
R555	1-216-371-00	CARBON			1/4W F
R563	1-216-453-91	METAL OXIDE	270	5%	2W F
R564	1-215-870-11	METAL OXIDE	1.5K	5%	1W F

REF. NO.	PART NO.	DESCRIPTION			REMARK
R565	1-216-379-91	METAL OXIDE	6.8	5%	2W F
R566	1-249-443-11	CARBON	0.47	5%	1/4W F
R567	1-249-377-11	CARBON	0.47	5%	1/4W F
R569	1-216-446-91	METAL OXIDE	18	5%	2W F
R570		CARBON			1/4W
R572	1-249-437-11	CARBON	47K	5%	1/4W
R573	1-247-883-00	CARBON	150K	5%	1/4W
R574	1-249-409-11	CARBON	220	5%	1/4W F
R583	1-249-429-11	CARBON	10K	5%	1/4W
R585	1-249-422-11	CARBON	2.7K	5%	1/4W
R591	1-249-455-11	CARBON	4.7	5%	1/4W F
R594	1-249-429-11	CARBON	10K	5%	1/4W
R601	1-202-723-91	SOLID	2.2M	10%	1/2W
R602	1-205-900-11	WIREWOUND	1.2	5%	15W
R603	1-216-444-11	METAL OXIDE	82K	5%	1W F
R604	1-216-425-91	METAL OXIDE	56	5%	1W F
R605	1-249-417-11	CARBON	1K	5%	1/4W
R619	1-215-896-00	METAL OXIDE	4.7K	5%	2W F
R620	1-215-896-00	METAL OXIDE	4.7K	5%	2W F
R621	1-249-417-11	CARBON	1K	5%	1/4W
R623	1-249-421-11	CARBON	2.2K	5%	1/4W
R625	1-216-395-51	METAL OXIDE	3.3	5%	3W F
R626	1-249-443-11	CARBON	0.47	5%	1/4W F
R627	1-249-425-11	CARBON	4.7K	5%	1/4W
R628	1-249-425-11	CARBON	4.7K	5%	1/4W
R629	1-249-417-11	CARBON	1K	5%	1/4W
R1017	1-249-431-11	CARBON	15K	5%	1/4W
R1101	1-249-441-11	CARBON	100K	5%	1/4W
R1102	1-249-429-11	CARBON	10K	5%	1/4W
R1103	1-249-429-11	CARBON	10K	5%	1/4W
R1104	1-249-429-11	CARBON	10K	5%	1/4W
R1105	1-249-429-11	CARBON	10K	5%	1/4W
R1106	1-249-440-11	CARBON	82K	5%	1/4W
R1107	1-249-441-11	CARBON	100K	5%	1/4W
R1108	1-249-435-11	CARBON	33K	5%	1/4W
R1109	1-249-434-11	CARBON	27K	5%	1/4W
R1110	1-249-423-11	CARBON	3.3K	5%	1/4W
R1111	1-249-429-11	CARBON	10K	5%	1/4W
R1117	1-249-437-11	CARBON	47K	5%	1/4W
R1118	1-249-437-11	CARBON	47K	5%	1/4W
R1119	1-249-405-11	CARBON	100	5%	1/4W
<RELAY>					
RY601	1-515-684-22	RELAY			
<SPARK GAP>					
SG501	1-519-422-11	GAP, SPARK			
<TRANSFORMER>					
T500	1-439-416-41	TRANSFORMER ASSY, FLYBACK (NX-1604)			
T501	1-437-195-12	TRANSFORMER, HORIZONTAL DRIVE			
T601	1-424-220-21	TRANSFORMER, LINE FILTER			
T602	1-424-205-21	TRANSFORMER, LINE FILTER			
T604	1-448-916-11	TRANSFORMER, POWER			
<TUNER>					
TU101	1-465-384-11	TUNER, ET (BTP-202)			

A G

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REF. NO.	PART NO.	DESCRIPTION	REMARK
<CRYSTAL>			
X101	1-577-082-11	VIBRATOR, CERAMIC	
X301	1-567-505-11	OSCILLATOR, CRYSTAL	

*A-1316-100-A	G BOARD, COMPLETE		

*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		
*1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P		
*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P		
*1-564-508-11	PLUG, CONNECTOR 5P		
*4-341-751-01	EYELET (EY607, EY608)		
*4-341-752-01	EYELET (EY601, EY602, EY603, EY604, EY605, EY606)		
<CAPACITOR>			
C615	1-124-563-11	ELECT	2200MF 20% 25V
C618	1-124-902-00	ELECT	0.47MF 20% 50V
C619	1-124-034-51	ELECT	33MF 20% 16V
C650	1-124-562-11	ELECT	47MF 20% 200V
C652	1-102-244-00	CERAMIC	220PF 10% 500V
C653	1-124-122-11	ELECT	100MF 20% 50V
C654	1-124-478-11	ELECT	100MF 20% 25V
C655	1-124-910-11	ELECT	47MF 20% 50V
C656	1-136-601-11	FILM	0.01MF 10% 630V
C657	1-162-114-00	CERAMIC	0.0047MF 2KV
C658	1-106-383-00	MYLAR	0.047MF 10% 100V
C659	1-161-953-92	CERAMIC	0.0047MF 20% 400V
C660	1-124-925-11	ELECT	2.2MF 20% 100V
C661	1-162-116-00	CERAMIC	680PF 10% 2KV
C663	1-125-512-11	ELECT (BLOCK)	1000MF 20% 160V
C670	1-124-360-00	ELECT	1000MF 20% 16V
C671	1-124-120-11	ELECT	220MF 20% 25V
C673	1-124-478-11	ELECT	100MF 20% 25V
C677	1-124-563-11	ELECT	2200MF 20% 25V
C678	1-102-125-00	CERAMIC	0.0047MF 10% 50V
C679	1-101-821-00	CERAMIC	0.0022MF 500V
<DIODE>			
D605	8-719-911-19	DIODE ISS119	
D621	8-719-911-19	DIODE ISS119	
D622	8-719-302-06	DIODE EU2A	
D623	8-719-311-31	DIODE RU-1P	
D624	8-719-301-64	DIODE RU4DS	
D625	8-719-948-59	DIODE ERB93-02	
D626	8-719-941-74	DIODE ERB91-02	
D627	8-719-948-59	DIODE ERB93-02	
<FUSE>			
F602 Δ	1-532-743-11	FUSE; GLASS TUBE 2A/125V	
	1-533-223-11	CLIP, FUSE; F602	
<COIL>			
FB601	1-410-396-41	FERRITE BEAD INDUCTOR	
FB602	1-410-397-21	FERRITE BEAD INDUCTOR	
FB603	1-410-397-21	FERRITE BEAD INDUCTOR	
FB604	1-410-396-41	FERRITE BEAD INDUCTOR	
FB607	1-410-397-21	FERRITE BEAD INDUCTOR	
FB608	1-410-397-21	FERRITE BEAD INDUCTOR	

REF. NO.	PART NO.	DESCRIPTION	REMARK
FB609	1-410-397-21	FERRITE BEAD INDUCTOR	
FB610	1-410-397-21	FERRITE BEAD INDUCTOR	
L613	1-459-155-00	COIL (WITH CORE) 45UH	
L614	1-459-155-00	COIL (WITH CORE) 45UH	
<IC>			
IC651 Δ	8-749-920-57	IC STR-S6301	
IC652	8-719-156-73	DIODE PS2501-1LB	
IC653 Δ	8-749-920-62	IC SE-135NS	
<TRANSISTOR>			
Q603	8-729-200-17	TRANSISTOR 2SA1091-0	
Q604	8-729-423-44	TRANSISTOR 2SA1309A-QRS	
Q605	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q611	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q612	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
<RESISTOR>			
R606	1-207-645-00	WIREWOUND	0.47 5% 3W F
R610	1-215-417-00	METAL	680 1% 1/6W
R611	1-215-477-00	METAL	220K 1% 1/6W
R612	1-249-441-11	CARBON	100K 5% 1/4W
R613	1-249-429-11	CARBON	10K 5% 1/4W
R614	1-249-429-11	CARBON	10K 5% 1/4W
R615	1-247-895-00	CARBON	470K 5% 1/4W
R616	1-249-425-11	CARBON	4.7K 5% 1/4W
R617	1-249-425-11	CARBON	4.7K 5% 1/4W
R650	1-215-893-11	METAL OXIDE	1.5K 5% 2W F
R651	1-216-458-11	METAL OXIDE	1.8K 5% 2W F
R652	1-216-473-11	METAL OXIDE	56 5% 3W F
R653	1-216-473-11	METAL OXIDE	56 5% 3W F
R654	1-207-612-00	WIREWOUND	0.1 10% 2W F
R655	1-207-616-00	WIREWOUND	0.47 10% 2W F
R656	1-249-414-11	CARBON	560 5% 1/4W F
R657	1-202-843-11	SOLID	270K 10% 1/2W
R658	1-215-903-11	METAL OXIDE	68K 5% 2W F
R659	1-215-903-11	METAL OXIDE	68K 5% 2W F
R660	1-215-903-11	METAL OXIDE	68K 5% 2W F
R661	1-215-903-11	METAL OXIDE	68K 5% 2W F
R663	1-215-881-11	METAL OXIDE	15 5% 2W F
R664	1-216-446-00	METAL OXIDE	18 5% 2W F
R665	1-202-730-00	SOLID	8.2M 10% 1/2W
R666	1-249-413-11	CARBON	470 5% 1/4W F
R667	1-216-444-11	METAL OXIDE	82K 5% 1W F
R668	1-249-429-11	CARBON	10K 5% 1/4W
R669	1-216-341-11	METAL OXIDE	0.22 5% 1W F
R670	1-249-423-11	CARBON	3.3K 5% 1/4W
R671	1-216-341-11	METAL OXIDE	0.22 5% 1W F
R672	1-216-457-00	METAL OXIDE	1.2K 5% 2W F
R673	1-249-389-11	CARBON	4.7 5% 1/4W F
R674	1-249-439-11	CARBON	68K 5% 1/4W F
R675	1-249-406-11	CARBON	120 5% 1/4W F
R676	1-249-415-11	CARBON	680 5% 1/4W
R677	1-249-417-11	CARBON	1K 5% 1/4W
R678	1-249-414-11	CARBON	560 5% 1/4W
R679	1-216-473-11	METAL OXIDE	56 5% 3W F
<TRANSFORMER>			
T651 Δ	1-449-953-11	SRT (CONVERTER TRANSFORMER)	

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<THERMISTOR>							
THP601	Δ 1-808-081-23	THERMISTOR, POSITIVE		L701	1-408-417-00	INDUCTOR	47UH
*****				L702	1-408-421-00	INDUCTOR	100UH
	*A-1331-055-A	C BOARD, COMPLETE		L703	1-408-420-00	INDUCTOR	82UH
		*****		L704	1-408-410-00	INDUCTOR	12UH
	*1-564-510-11	PLUG, CONNECTOR 7P		L705	1-408-411-00	INDUCTOR	15UH
	*4-341-751-01	EYELET (EY705)		L706	1-408-421-00	INDUCTOR	100UH
	*4-341-752-01	EYELET (EY704, EY706, EY707)		L707	1-408-411-00	INDUCTOR	15UH
	*4-379-160-01	COVER (REAR LID), CV		<TRANSISTOR>			
	*4-379-167-01	COVER (MAIN), CV		Q701	8-729-326-11	TRANSISTOR	2SC2611
<CONNECTOR>				Q702	8-729-423-37	TRANSISTOR	2SC3311A-QRS
C1	1-506-348-99	PIN, CONNECTOR 3P		Q703	8-729-200-17	TRANSISTOR	2SA1091-0
C82	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P		Q704	8-729-326-11	TRANSISTOR	2SC2611
<CAPACITOR>				Q705	8-729-423-37	TRANSISTOR	2SC3311A-QRS
C701	1-162-116-00	CERAMIC	680PF 10% 2KV	Q706	8-729-200-17	TRANSISTOR	2SA1091-0
C702	1-136-601-11	FILM	0.01MF 5% 630V	Q707	8-729-200-17	TRANSISTOR	2SA1091-0
C703	1-123-875-11	ELECT	10MF 20% 50V	Q708	8-729-326-11	TRANSISTOR	2SC2611
C704	1-123-946-00	ELECT	4.7MF 20% 250V	Q709	8-729-423-37	TRANSISTOR	2SC3311A-QRS
C705	1-101-821-00	CERAMIC	0.0022MF 500V	Q710	8-729-255-12	TRANSISTOR	2SC2551-0
C707	1-102-116-00	CERAMIC	680PF 10% 50V	Q711	8-729-423-44	TRANSISTOR	2SA1309A-QRS
C708	1-102-116-00	CERAMIC	680PF 10% 50V	Q712	8-729-255-12	TRANSISTOR	2SC2551-0
C709	1-102-116-00	CERAMIC	680PF 10% 50V	Q713	8-729-423-44	TRANSISTOR	2SA1309A-QRS
C710	1-102-117-00	CERAMIC	820PF 10% 50V	Q714	8-729-200-17	TRANSISTOR	2SA1091-0
C711	1-126-233-11	ELECT	22MF 20% 25V	Q715	8-729-200-17	TRANSISTOR	2SA1091-0
C712	1-102-116-00	CERAMIC	680PF 10% 50V	Q716	8-729-200-17	TRANSISTOR	2SA1091-0
C713	1-102-117-00	CERAMIC	820PF 10% 50V	<RESISTOR>			
C714	1-162-622-11	CERAMIC	330PF 10% 6.3KV	R701	1-216-391-11	METAL OXIDE	1.5 5% 3W F
C715	1-102-074-00	CERAMIC	0.001MF 10% 50V	R702	1-202-719-00	SOLID	1M 10% 1/2W
C718	1-102-074-00	CERAMIC	0.001MF 10% 50V	R703	1-202-842-11	SOLID	220K 10% 1/2W
C719	1-126-233-11	ELECT	22MF 20% 25V	R704	1-202-846-00	SOLID	470K 10% 1/2W
C720	1-126-233-11	ELECT	22MF 20% 25V	R705	1-202-549-00	SOLID	100 10% 1/2W
C721	1-102-074-00	CERAMIC	0.001MF 10% 50V	R706	1-202-838-00	SOLID	100K 10% 1/2W
C730	1-102-116-00	CERAMIC	680PF 10% 50V	R707	1-202-842-11	SOLID	220K 10% 1/2W
C731	1-102-116-00	CERAMIC	680PF 10% 50V	R708	1-202-818-00	SOLID	1K 10% 1/2W
C732	1-102-116-00	CERAMIC	680PF 10% 50V	R709	1-202-818-00	SOLID	1K 10% 1/2W
<DIODE>				R710	1-202-818-00	SOLID	1K 10% 1/2W
D701	8-719-911-19	DIODE	ISS119	R711	1-202-837-00	SOLID	82K 10% 1/2W
D702	8-719-911-19	DIODE	ISS119	R712	1-202-842-11	SOLID	220K 10% 1/2W
D703	8-719-911-19	DIODE	ISS119	R713 Δ	1-216-486-51	METAL OXIDE	8.2K 5% 3W F
D704	8-719-911-19	DIODE	ISS119	R714	1-249-409-11	CARBON	220 5% 1/4W
D705	8-719-911-19	DIODE	ISS119	R715	1-202-818-00	SOLID	1K 10% 1/2W
D706	8-719-911-19	DIODE	ISS119	R716 Δ	1-216-486-51	METAL OXIDE	8.2K 5% 3W F
D707	8-719-911-19	DIODE	ISS119	R717	1-249-409-11	CARBON	220 5% 1/4W
D708	8-719-911-19	DIODE	ISS119	R718	1-249-409-11	CARBON	220 5% 1/4W
D709	8-719-911-19	DIODE	ISS119	R720 Δ	1-216-486-51	METAL OXIDE	8.2K 5% 3W F
D710	8-719-901-83	DIODE	ISS83	R721	1-202-842-11	SOLID	220K 10% 1/2W
D711	8-719-901-83	DIODE	ISS83	R722	1-249-405-11	CARBON	100 5% 1/4W
D712	8-719-901-83	DIODE	ISS83	R723	1-249-405-11	CARBON	100 5% 1/4W
D713	8-719-901-83	DIODE	ISS83	R724	1-249-405-11	CARBON	100 5% 1/4W
<JACK>				R725	1-249-429-11	CARBON	10K 5% 1/4W
J701	1-540-071-11	SOCKET, PICTURE TUBE		R726	1-249-407-11	CARBON	150 5% 1/4W
<COIL>				R727	1-249-429-11	CARBON	10K 5% 1/4W
				R728	1-249-407-11	CARBON	150 5% 1/4W
				R729	1-249-405-11	CARBON	100 5% 1/4W
				R730	1-249-407-11	CARBON	150 5% 1/4W
				R731	1-247-704-11	CARBON	220 5% 1/4W F
				R732	1-247-704-11	CARBON	220 5% 1/4W F
				R733	1-247-704-11	CARBON	220 5% 1/4W F
				R739	1-249-433-11	CARBON	22K 5% 1/4W
				R740	1-215-902-11	METAL OXIDE	47K 5% 2W F
				R741	1-249-417-11	CARBON	1K 5% 1/4W

C H U2

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

REF. NO.	PART NO.	DESCRIPTION	REMARK
R742	1-249-429-11	CARBON 10K 5% 1/4W	F
R743	1-249-429-11	CARBON 10K 5% 1/4W	F
R744	1-247-725-11	CARBON 10K 5% 1/4W	F
R745	1-247-713-11	CARBON 1K 5% 1/4W	F
R746	1-215-902-11	METAL OXIDE 47K 5% 1W	F
R747	1-247-725-11	CARBON 10K 5% 1/4W	F
R749	1-249-437-11	CARBON 47K 5% 1/4W	
R750	1-249-409-11	CARBON 220 5% 1/4W	
R751	1-249-397-11	CARBON 22 5% 1/4W	
R752	1-249-397-11	CARBON 22 5% 1/4W	
R753	1-249-397-11	CARBON 22 5% 1/4W	
R754	1-249-429-11	CARBON 10K 5% 1/4W	
R755	1-249-411-11	CARBON 330 5% 1/4W	
R757	1-249-416-11	CARBON 820 5% 1/4W	
R777	1-249-441-11	CARBON 100K 5% 1/4W	
<VARIABLE RESISTOR>			
RV701	1-230-641-11	RES. ADJ, METAL GLAZE 2.2M	
RV702	1-230-619-11	RES. ADJ, METAL GLAZE 110M	

*1-633-485-31		H BOARD	

*1-564-522-11		PLUG, CONNECTOR 7P	
*1-564-525-11		PLUG, CONNECTOR 10P	
*4-334-315-00		CAP, LED	
*4-334-322-00		HOLDER (A), LED	
*4-374-987-01		GUIDE, LIGHT	
*4-381-686-01		BRACKET (B), LIGHT GUIDE	
<CAPACITOR>			
C52	1-124-477-11	ELECT 47MF 20% 16V	
<DIODE>			
D1	8-719-311-89	DIODE SEL1222R-C	
D2	8-719-311-89	DIODE SEL1222R-C	
D51	8-719-911-19	DIODE 1SS119	
<IC>			
IC51	8-741-148-33	IC SBX1483-59	
<RESISTOR>			
R51	1-249-409-11	CARBON 220 5% 1/4W	
R52	1-249-393-11	CARBON 10 5% 1/4W	
<CONNECTOR>			
S1	*1-565-513-11	PIN, CONNECTOR 2P	
<SWITCH>			
S50	A.1-572-198-11	SWITCH, KEYBOARD (POWER)	
S51	1-554-303-21	SWITCH, KEYBOARD	
S52	1-554-303-21	SWITCH, KEYBOARD	
S53	1-554-303-21	SWITCH, KEYBOARD	
S54	1-554-303-21	SWITCH, KEYBOARD	
S55	1-554-303-21	SWITCH, KEYBOARD	
S56	1-554-303-21	SWITCH, KEYBOARD	

REF. NO.	PART NO.	DESCRIPTION	REMARK

*1-633-487-31		U2 BOARD	

*1-560-123-00		PLUG, CONNECTOR (2.5MM) 3P	
*1-565-491-21		CONNECTOR, BOARD TO BOARD 15P	
*4-341-752-01		EYELET (EY901, EY902, EY903, EY904)	
<CAPACITOR>			
C900	1-101-004-00	CERAMIC 0.01MF	50V
C901	1-126-233-11	ELECT 22MF	20% 25V
C902	1-123-875-11	ELECT 10MF	20% 50V
C903	1-123-875-11	ELECT 10MF	20% 50V
C904	1-123-875-11	ELECT 10MF	20% 50V
C905	1-123-875-11	ELECT 10MF	20% 50V
C906	1-123-875-11	ELECT 10MF	20% 50V
C907	1-123-875-11	ELECT 10MF	20% 50V
C908	1-126-233-11	ELECT 22MF	20% 25V
C909	1-126-233-11	ELECT 22MF	20% 25V
C910	1-126-233-11	ELECT 22MF	20% 25V
<DIODE>			
D900	8-719-110-13	DIODE RD9.1ES-B2	
D901	8-719-110-13	DIODE RD9.1ES-B2	
D902	8-719-110-13	DIODE RD9.1ES-B2	
D903	8-719-110-13	DIODE RD9.1ES-B2	
D904	8-719-110-13	DIODE RD9.1ES-B2	
D905	8-719-110-13	DIODE RD9.1ES-B2	
D906	8-719-110-13	DIODE RD9.1ES-B2	
D907	8-719-110-13	DIODE RD9.1ES-B2	
D908	8-719-110-13	DIODE RD9.1ES-B2	
D909	8-719-110-13	DIODE RD9.1ES-B2	
D910	8-719-110-13	DIODE RD9.1ES-B2	
<JACK>			
J1901	1-565-931-11	TERMINAL BLOCK, S 3P	
J1902	1-565-840-41	PIN JACK BLOCK 5P	
J1904	1-565-838-11	JACK BLOCK, PIN 2P	
J1905	1-537-187-11	TERMINAL, PUSH (4P)	
<NEON LAMP>			
NL901	1-519-108-99	LAMP, NEON	
NL903	1-519-108-99	LAMP, NEON	
<TRANSISTOR>			
Q900	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q901	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
<RESISTOR>			
R900	1-247-804-11	CARBON 75 5% 1/4W	
R901	1-247-804-11	CARBON 75 5% 1/4W	
R902	1-249-405-11	CARBON 100 5% 1/4W	
R905	1-247-804-11	CARBON 75 5% 1/4W	
R906	1-247-895-00	CARBON 470K 5% 1/4W	
R907	1-247-895-00	CARBON 470K 5% 1/4W	
R908	1-249-405-11	CARBON 100 5% 1/4W	
R911	1-247-804-11	CARBON 75 5% 1/4W	

U2

U1

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R912	1-247-895-00	CARBON	470K 5% 1/4W				
R913	1-247-895-00	CARBON	470K 5% 1/4W				
R914	1-249-417-11	CARBON	1K 5% 1/4W				
R915	1-249-417-11	CARBON	1K 5% 1/4W				
R916	1-247-895-00	CARBON	470K 5% 1/4W				
R917	1-247-895-00	CARBON	470K 5% 1/4W				
R918	1-249-405-11	CARBON	100 5% 1/4W				
R919	1-249-405-11	CARBON	100 5% 1/4W				
<SWITCH>							
SW900	1-554-303-21	SWITCH, KEYBOARD					

*A-1394-219-A	UI BOARD, COMPLETE			*****			
*1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH)						
*1-564-505-11	PLUG, CONNECTOR 2P						
*1-565-494-21	CONNECTOR, BOARD TO BOARD 18P						
*1-565-506-21	CONNECTOR, BOARD TO BOARD 15P						
*4-341-752-01	EYELET (EY401,EY402,EY403)						
<CAPACITOR>							
C400	1-126-233-11	ELECT	22MF 20% 25V				
C401	1-124-477-11	ELECT	47MF 20% 16V				
C402	1-101-004-00	CERAMIC	0.01MF 50V				
C403	1-101-004-00	CERAMIC	0.01MF 50V				
C404	1-102-973-00	CERAMIC	100PF 5% 50V				
C405	1-124-477-11	ELECT	47MF 20% 16V				
C406	1-126-233-11	ELECT	22MF 20% 25V				
C407	1-126-233-11	ELECT	22MF 20% 25V				
C408	1-124-478-11	ELECT	100MF 20% 25V				
C409	1-126-233-11	ELECT	22MF 20% 25V				
C412	1-124-477-11	ELECT	47MF 20% 16V				
C413	1-124-478-11	ELECT	100MF 20% 25V				
C414	1-126-233-11	ELECT	22MF 20% 25V				
C415	1-126-233-11	ELECT	22MF 20% 25V				
C416	1-126-233-11	ELECT	22MF 20% 25V				
C417	1-126-233-11	ELECT	22MF 20% 25V				
C418	1-124-478-11	ELECT	100MF 20% 25V				
C419	1-101-004-00	CERAMIC	0.01MF 50V				
C420	1-126-233-11	ELECT	22MF 20% 25V				
C421	1-124-478-11	ELECT	100MF 20% 25V				
C422	1-101-004-00	CERAMIC	0.01MF 50V				
C426	1-126-233-11	ELECT	22MF 20% 25V				
C460	1-126-320-11	ELECT	10MF 20% 16V				
C461	1-126-233-11	ELECT	22MF 20% 25V				
C462	1-124-120-11	ELECT	220MF 20% 25V				
C463	1-126-320-11	ELECT	10MF 20% 16V				
C464	1-124-563-11	ELECT	2200MF 20% 25V				
C465	1-106-220-00	MYLAR	0.1MF 10% 100V				
C466	1-124-563-11	ELECT	2200MF 20% 25V				
C467	1-106-220-00	MYLAR	0.1MF 10% 100V				
C468	1-136-173-00	FILM	0.47MF 5% 50V				
C469	1-124-563-11	ELECT	2200MF 20% 25V				
C471	1-126-233-11	ELECT	22MF 20% 25V				
C472	1-124-120-11	ELECT	220MF 20% 25V				
C475	1-124-925-11	ELECT	2.2MF 20% 50V				
<BLOCK>							
CM1301	1-466-162-31	BLOCK, CDM FILTER (CFB-4)					
<DIODE>							
D407	8-719-110-17	DIODE RD10ES-B2					
D408	8-719-109-89	DIODE RD5.6ES-B2					
D409	8-719-109-89	DIODE RD5.6ES-B2					
D420	8-719-911-19	DIODE 1SS119					
D421	8-719-911-19	DIODE 1SS119					
<IC>							
IC402	8-759-710-68	IC NJM2245S					
IC403	8-759-710-68	IC NJM2245S					
IC405	8-759-980-43	IC TDA2009A					
IC444	8-752-053-17	IC CXA1114P					
<COIL>							
L400	1-410-473-11	INDUCTOR	18UH				
<TRANSISTOR>							
Q400	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q401	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q402	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q403	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q404	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q405	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q406	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q407	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q408	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q409	8-729-423-44	TRANSISTOR 2SA1309A-QRS					
Q410	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q413	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q414	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q415	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q416	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q417	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q430	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q431	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q432	8-729-423-37	TRANSISTOR 2SC3311A-QRS					
Q433	8-729-423-44	TRANSISTOR 2SA1309A-QRS					
<RESISTOR>							
R400	1-249-421-11	CARBON	2.2K 5% 1/4W				
R401	1-249-405-11	CARBON	100 5% 1/4W				
R402	1-249-429-11	CARBON	10K 5% 1/4W				
R403	1-249-417-11	CARBON	1K 5% 1/4W				
R404	1-249-405-11	CARBON	100 5% 1/4W				
R405	1-249-429-11	CARBON	10K 5% 1/4W				
R406	1-249-417-11	CARBON	1K 5% 1/4W				
R407	1-249-417-11	CARBON	1K 5% 1/4W				
R408	1-249-429-11	CARBON	10K 5% 1/4W				
R409	1-249-405-11	CARBON	100 5% 1/4W				
R410	1-249-417-11	CARBON	1K 5% 1/4W				
R411	1-249-429-11	CARBON	10K 5% 1/4W				
R412	1-249-405-11	CARBON	100 5% 1/4W				
R413	1-249-417-11	CARBON	1K 5% 1/4W				
R414	1-249-431-11	CARBON	15K 5% 1/4W				
R415	1-249-429-11	CARBON	10K 5% 1/4W				
R416	1-249-417-11	CARBON	1K 5% 1/4W				
R417	1-249-417-11	CARBON	1K 5% 1/4W				
R418	1-249-425-11	CARBON	4.7K 5% 1/4W				
R419	1-249-417-11	CARBON	1K 5% 1/4W				

U1

Les composants identifiés par
une trame et une marque Δ
sont critiques pour la sécurité.
Ne les remplacer que par une
pièce portant le numéro spécifié.

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

REF. NO.	PART NO.	DESCRIPTION	REMARK
R420	1-249-417-11	CARBON	1K 5% 1/4W
R421	1-249-431-11	CARBON	15K 5% 1/4W
R422	1-249-417-11	CARBON	1K 5% 1/4W
R423	1-249-429-11	CARBON	10K 5% 1/4W
R424	1-249-425-11	CARBON	4.7K 5% 1/4W
R425	1-249-417-11	CARBON	1K 5% 1/4W
R426	1-249-405-11	CARBON	100 5% 1/4W
R427	1-249-405-11	CARBON	100 5% 1/4W
R428	1-249-417-11	CARBON	1K 5% 1/4W
R429	1-249-405-11	CARBON	100 5% 1/4W
R432	1-249-435-11	CARBON	33K 5% 1/4W
R433	1-249-435-11	CARBON	33K 5% 1/4W
R434	1-249-413-11	CARBON	470 5% 1/4W
R435	1-249-413-11	CARBON	470 5% 1/4W
R436	1-249-405-11	CARBON	100 5% 1/4W
R437	1-249-405-11	CARBON	100 5% 1/4W
R438	1-249-417-11	CARBON	1K 5% 1/4W
R439	1-249-405-11	CARBON	100 5% 1/4W
R441	1-249-405-11	CARBON	100 5% 1/4W
R444	1-249-414-11	CARBON	560 5% 1/4W
R445	1-249-414-11	CARBON	560 5% 1/4W
R446	1-249-414-11	CARBON	560 5% 1/4W
R447	1-249-414-11	CARBON	560 5% 1/4W
R450	1-249-417-11	CARBON	1K 5% 1/4W
R451	1-249-405-11	CARBON	100 5% 1/4W
R452	1-249-405-11	CARBON	100 5% 1/4W
R453	1-249-417-11	CARBON	1K 5% 1/4W
R454	1-249-417-11	CARBON	1K 5% 1/4W
R455	1-249-417-11	CARBON	1K 5% 1/4W
R456	1-249-405-11	CARBON	100 5% 1/4W
R457	1-249-417-11	CARBON	1K 5% 1/4W
R458	1-249-405-11	CARBON	100 5% 1/4W
R459	1-249-417-11	CARBON	1K 5% 1/4W
R463	1-249-405-11	CARBON	100 5% 1/4W
R466	1-249-405-11	CARBON	100 5% 1/4W
R467	1-249-430-11	CARBON	12K 5% 1/4W
R468	1-249-430-11	CARBON	12K 5% 1/4W
R470	1-249-441-11	CARBON	100K 5% 1/4W
R471	1-247-883-00	CARBON	150K 5% 1/4W
R475	1-249-413-11	CARBON	470 5% 1/4W
R476	1-249-441-11	CARBON	100K 5% 1/4W
R477	1-249-435-11	CARBON	33K 5% 1/4W
R478	1-249-405-11	CARBON	100 5% 1/4W
R479	1-249-405-11	CARBON	100 5% 1/4W
R480	1-249-418-11	CARBON	1.2K 5% 1/4W
R481	1-249-398-11	CARBON	27 5% 1/4W
R482	1-249-421-11	CARBON	2.2K 5% 1/4W
R483	1-249-381-11	CARBON	1 5% 1/4W
R484	1-249-418-11	CARBON	1.2K 5% 1/4W
R485	1-249-398-11	CARBON	27 5% 1/4W
R486	1-249-421-11	CARBON	2.2K 5% 1/4W
R487	1-249-381-11	CARBON	1 5% 1/4W
R488	1-249-426-11	CARBON	5.6K 5% 1/4W
R489	1-249-425-11	CARBON	4.7K 5% 1/4W
R492	1-249-426-11	CARBON	5.6K 5% 1/4W
R493	1-249-425-11	CARBON	4.7K 5% 1/4W
R494	1-249-405-11	CARBON	100 5% 1/4W
R495	1-249-421-11	CARBON	2.2K 5% 1/4W
R496	1-249-421-11	CARBON	2.2K 5% 1/4W
R497	1-249-405-11	CARBON	100 5% 1/4W
R498	1-249-437-11	CARBON	47K 5% 1/4W
R499	1-249-437-11	CARBON	47K 5% 1/4W
R1400	1-249-435-11	CARBON	33K 5% 1/4W
R1401	1-249-435-11	CARBON	33K 5% 1/4W

REF. NO.	PART NO.	DESCRIPTION	REMARK
R1402	1-249-435-11	CARBON	33K 5% 1/4W
R1403	1-249-435-11	CARBON	33K 5% 1/4W
R1406	1-249-405-11	CARBON	100 5% 1/4W
R1407	1-249-405-11	CARBON	100 5% 1/4W

MISCELLANEOUS

- Δ 1-426-358-11 COIL, DEMAGNETIZATION
- Δ 1-451-268-11 DEFLECTION YOKE (Y21PXA)
- 1-452-032-00 MAGNET, DISK; 10MM ϕ
- 1-452-094-00 MAGNET, ROTATABLE DISK; 15MM ϕ
- 1-452-277-00 MAGNET, BMC
- 1-544-319-11 SPEAKER
- *1-556-945-21 CABLE, P-P
- Δ 1-559-396-21 CORD, POWER

V901 Δ 8-738-752-05 PICTURE TUBE (A51JUH50X)

ACCESSORIES AND PACKING MATERIALS

PART NO.	DESCRIPTION	REMARK
1-562-443-11	CONNECTOR, ANTENNA	
3-752-976-21	MANUAL, INSTRUCTION (USA ONLY)	
3-752-976-31	MANUAL, INSTRUCTION (CND ONLY)	
*4-380-340-01	BAG, PROTECTION	
*4-397-932-01	CUSHION (LOWER) (ASSY)	
*4-397-933-01	CUSHION (UPPER) (ASSY)	
*4-397-934-01	INDIVIDUAL CARTON	

REMOTE COMMANDER

- 1-465-764-11 REMOTE COMMANDER (RM-Y103)
- 3-707-584-01 COVER, BATTERY (FOR RM-Y103)