

KV-13M10 / MT1300 / 14R10 / 1460R

RM-Y116

RM-Y123

RM-Y116

RM-Y123

SERVICE MANUAL

US Model

KV-13M10

Chassis No. SCC-G92A-A

Canadian Model

KV-13M10

Chassis No. SCC-G94B-A

KV-MT1300

Chassis No. SCC-G94A-A

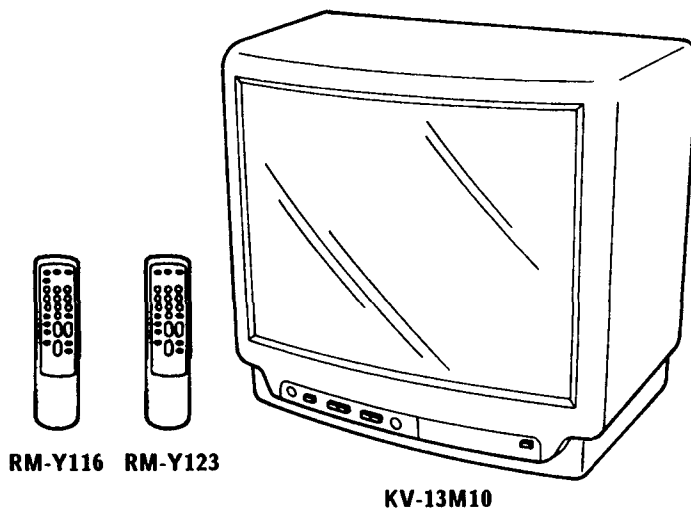
E Model

KV-14R10

Chassis No. SCC-G93D-A

KV-1460R

Chassis No. SCC-G93A-A



RM-Y116 RM-Y123

KV-13M10

BA-2 CHASSIS

MODELS OF THE SAME SERIES

KV-13M10/MT1300/14R10/1460R

KV-20M10/20S10/MT2000/ST2050

KV-21R10/21RS10/2180R/2190RS

SPECIFICATIONS

Television system
American TV standard

Channel coverage
VHF: 2-13
UHF: 14-69
CATV: 1-125

Antenna
75-ohm external antenna terminal for VHF/UHF

Picture tube
Trinitron® tube

Power requirements
120 V, 60 Hz

Screen size
13 in.

Inputs
1 video, 1 audio (*KV-13M10/14R10 only*)

Speaker output
1 W

Power consumption
75 W when in use
4 W in standby

Dimensions (W/H/D)
372 × 339 × 408 mm
(14³/₄ × 13³/₈ × 16¹/₈ in.)

Mass
10.3 kg (22 lb 12 oz)

Supplied accessories
Size AA batteries (2)
KV-13M10: Remote commander
RM-Y116 (1) Dipole antenna(1)
KV-MT1300: Remote commander
RM-Y123 (1) Antenna connector (1)
KV-1460R: Remote commander
RM-Y123 (1) Dipole antenna(1),
Antenna connector (1)

Design and specifications are subject to change without notice.



TRINITRON® COLOR TV
SONY®

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(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

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 Δ 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)

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHASSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISE LORS DE TOUT DEPANNAGE. LE CHASSIS DE CE RECEPTEUR EST DIRECTEMENT RACCORDE A L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET PAR UNE MAPQUE Δ SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMERO DE PIECE EST INDIQUE DANS LE PRESENT MANUEL OU DANS DES SUPPLEMENTS PUBLIES PAR SONY. LES REGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRESENT MANUEL. SUIVRE CES PROCEDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTE.

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.

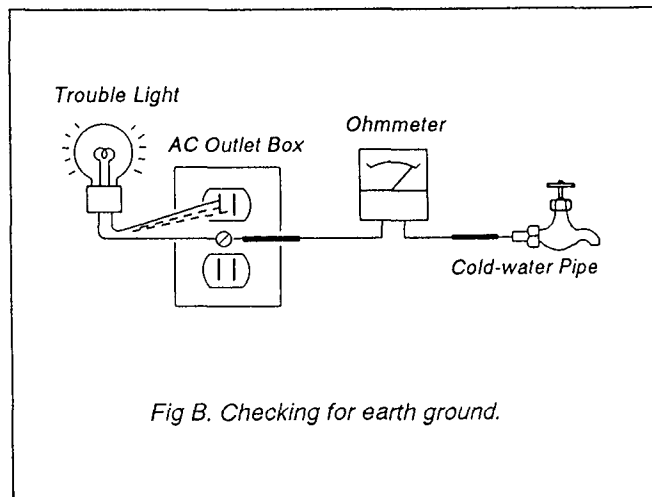
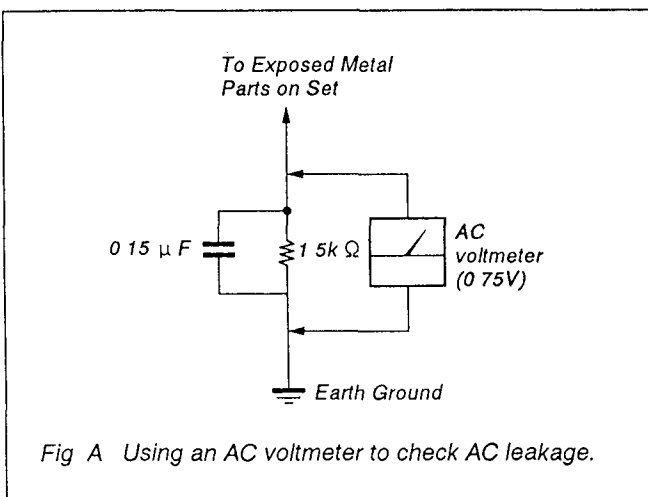
LEAKAGE TEST

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 0.5mA (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 0.75V, 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 watt 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

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

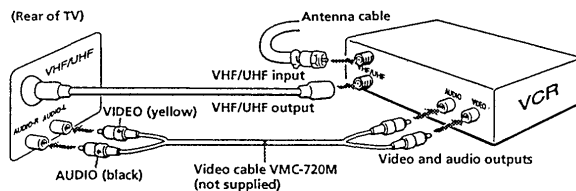
Connections

Connecting to a VCR

To connect the VCR to the TV, first check the model number of the TV and select the appropriate connection diagram below. For details on connection, see the instruction manual of the VCR. Before making the connection, disconnect the AC power cords of equipment being used.

■ For KV-13M10/14R10

(Rear of TV)

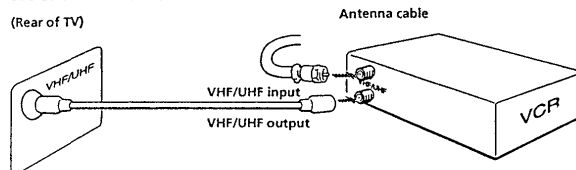


To watch video tapes

Press the TV/VIDEO button until "VIDEO" appears on the screen.

■ For KV-MT1300/1460R

(Rear of TV)



To watch video tapes

- 1 On the TV: Preset channel 3 or 4, whichever is not used in your area, following the instructions for adding channels in "Presetting channels" (page 13).
- 2 On the VCR: Set the channel to the same channel as chosen above. Then begin viewing the video tape.

8 **Setting up**

Setting cable TV on or off

If the TV is connected to a cable TV system, then the factory setting CABLE ON is correct. If the TV is not connected, set CABLE to OFF.

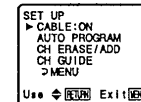
Note

If more than 90 seconds elapse after you press a button, the menu disappears automatically.

- 1 Press MENU.
The main menu appears.



- 2 Press Δ + or ∇ - on the remote commander to move the cursor (\blacktriangleright) on the screen to SET UP. To select that function, press RETURN.
The SET UP menu appears.



Note

If CABLE appears in black, the TV is set to video input and CABLE cannot be selected. Press TV/VIDEO so that a channel number appears.

- 3 Set CABLE to ON or OFF.

(1) If the cursor is not beside CABLE, press Δ + or ∇ - to move the cursor and press RETURN.

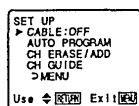


10 **Setting up**

(2) Press $\Delta+$ or $\nabla-$, to select ON or OFF.



(3) Press RETURN.



4 Press MENU to return to the original screen.

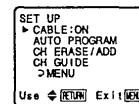


Presetting channels

TV channels can be preset easily: first store all the receivable channels automatically, following the procedure below. Next, erase unwanted channels or add additional channels. Preset channels during the day rather than late at night, when some channels may not be broadcasting.

1 Press MENU.

2 Press $\Delta+$ or $\nabla-$ on the remote commander to move the cursor (\blacktriangleright) on the screen to SET UP and press RETURN.
The SET UP menu appears.

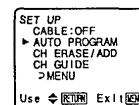


Note

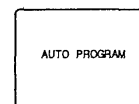
If AUTO PROGRAM appears in black, the TV is set to video input and AUTO PROGRAM cannot be selected. Press TV/VIDEO so that a channel number appears.

3 Select AUTO PROGRAM.

(1) Press $\Delta+$ or $\nabla-$ to move the cursor (\blacktriangleright) to AUTO PROGRAM.



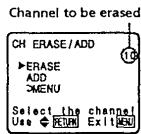
(2) Press RETURN.



"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, "AUTO PROGRAM" disappears and the lowest numbered channel is displayed.

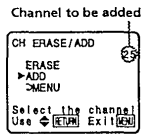
Erasing or adding channels

- 1 Press MENU.
- 2 Press Δ + or ∇ - to select SET UP and press RETURN.
- 3 Press Δ + or ∇ - to select CH ERASE/ADD and press RETURN.
- 4 To erase an unwanted channel:
 - (1) Press CH +/- to select the channel you want to erase.
 - (2) Make sure the cursor (\blacktriangleright) is beside ERASE.



- (3) Press RETURN.
The indication "-" appears beside the channel number, showing that the channel is erased from the preset memory.

- To add a channel that you want:
- (1) Press 0-9 +/- to select the channel you want to add and press ENTER.
 - (2) Press Δ + or ∇ - to select ADD.



- (3) Press RETURN.
The indication "+" appears beside the channel number, showing that the channel is added to the preset memory.

- 5 To erase and/or add other channels, repeat step 4.
- 6 When finished, press MENU.

Note
If you erase or add a VHF or UHF channel, the cable TV channel with the same number is also erased or added, and vice versa.

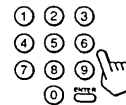
Available Features

Functions

Note
If "VIDEO" appears on the screen, press TV/VIDEO so that a channel number appears.

Selecting a channel directly

Press the 0-9 buttons to select a channel. Or press ENTER after entering the channel for immediate selection.



To scan through channels

Press CH +/- until the channel you want appears.



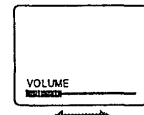
Switching quickly between two channels

Press JUMP.
The channel you watched previously appears. Pressing JUMP again switches back to the previous channel.



Adjusting the volume

Press VOL +/- to adjust the volume.



Muting the sound

Press MUTING.
"MUTING" appears on the screen.



To restore the sound, press MUTING again, or press VOL +.

Displaying on-screen information

Use this feature to check your channels and MTS mode.
Press DISPLAY.



To cancel the display, press DISPLAY again.

Setting the Sleep Timer

The TV stays on for the length of time specified and then shuts off automatically.
Press SLEEP repeatedly until the time (minutes) wanted appears. Each time you press SLEEP, the time changes as follows: 30 → 60 → 90 → OFF.



To cancel the Sleep Timer, press SLEEP repeatedly until "SLEEP OFF" appears, or turn the TV off.

Note

If DISPLAY or MUTING is pressed with Caption Vision selected, the channel or muting display will disappear after a few seconds.

Setting the language preference

■ For models KV-14R10/1460R

If Spanish is preferred to English, the menu language can be changed.

- 1 Press MENU.
- 2 Press Δ+ or ▽- to move the cursor (▶) to ENGLISH and press RETURN.



- 3 Press Δ+ or ▽- to select SPANISH and press RETURN.



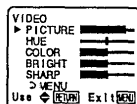
- 4 Press MENU to return to the normal screen.



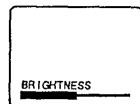
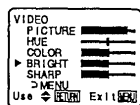
Adjusting the picture

When watching TV programs, the quality of the picture can be adjusted to suit your taste.

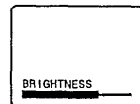
- 1 Press MENU.
- 2 Make sure the cursor (▶) is beside VIDEO and press RETURN.



- 3 Select the item to adjust. See following chart for details on results of adjustments. For example:
To adjust brightness, press Δ+ or ▽- to select BRIGHT and press RETURN.



- 4 Adjust the selected item:
(1) Press Δ+ or ▽- to adjust the item.



- (2) Press RETURN.
The new setting appears in the VIDEO menu.

- 5 To adjust other items, repeat steps 3 and 4 above.

Description of adjustable items

Item	Adjustment	
	Press Δ+ to	Press ▽- to
PICTURE	Increase picture contrast for vivid color	Decrease picture contrast for soft color
HUE	Make skin tones become greenish	Make skin tones become purplish
COLOR	Increase color intensity	Decrease color intensity
BRIGHT	Brighten the picture	Darken the picture
SHARP	Sharpen the picture	Soften the picture

To restore the factory settings

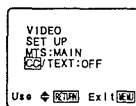
Press RESET while the VIDEO menu is displayed. All the settings except PICTURE are restored to factory settings.

Displaying Caption Vision

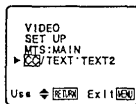
■ USA and Canadian models only

Some programs are broadcast with Caption Vision. To display Caption Vision, select either CC1, CC2, TEXT1, or TEXT2 from the menu. CC1 or CC2 shows you a caption, that is a printed version of the dialog or sound effects of a program. (The mode should be set to CC1 for most programs.) TEXT1 or TEXT2 shows you text, that is information presented using half of the screen. It is not usually related to the program.

- 1 Press MENU.
- 2 Press $\Delta+$ or $\nabla-$ to select **CC** /TEXT and press RETURN.



- 3 Press $\Delta+$ or $\nabla-$ to select the caption type and press RETURN.



Notes

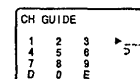
- Captions disappear for a few seconds when you press the DISPLAY or MUTING button.
- Captions may appear with a white box or other errors instead of a certain word. Poor reception of TV programs can also cause errors in captions.

Customizing the channel number buttons

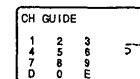
Up to 12 channels can be assigned to a specific channel number. This feature allows the easy selection of your favorite channels using the on-screen menu. For example, channel number button 2 can be assigned to channel 124.

Assigning a channel number button to a favorite channel

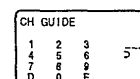
- 1 Press MENU.
- 2 Press $\Delta+$ or $\nabla-$ to select SET UP and press RETURN.
- 3 Press $\Delta+$ or $\nabla-$ to select CH GUIDE and press RETURN.



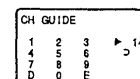
- 4 Press RETURN again.



- 5 Press $\Delta+$ or $\nabla-$ to select a customized channel number (chosen number will appear in red) and press RETURN. Numbers 0-9 and DISPLAY and ENTER are available for use as a customized channel number. DISPLAY and ENTER are shown as D and E respectively on the screen. The channel number button selected will be the one you press to call up your favorite channel.



- 6 Press $\Delta+$ or $\nabla-$ to select the channel and press RETURN.



- 7 Repeat steps 5 and 6 to set other channels.

To cancel a setting

Select the channel you want to cancel in step 5, then press RESET.

Using the customized channel number buttons

- 1 Press CH GUIDE.
The CHANNEL GUIDE menu appears showing channel number buttons and the corresponding channels.
- 2 Press a channel number button, DISPLAY or ENTER on the commander to select the channel you want.

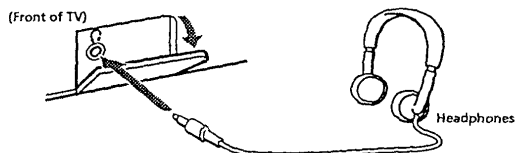
To cancel the CHANNEL GUIDE menu

Press CH GUIDE while the CHANNEL GUIDE menu is displayed.

Listening with headphones

■ For models KV-13M10/14R10

Plug the headphones into the headphones jack.

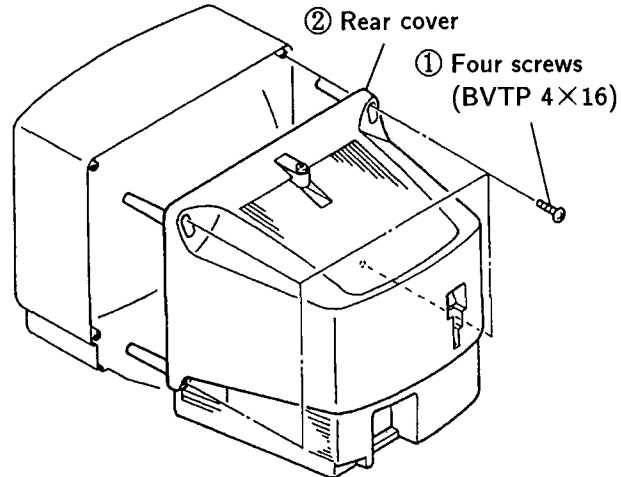


Notes

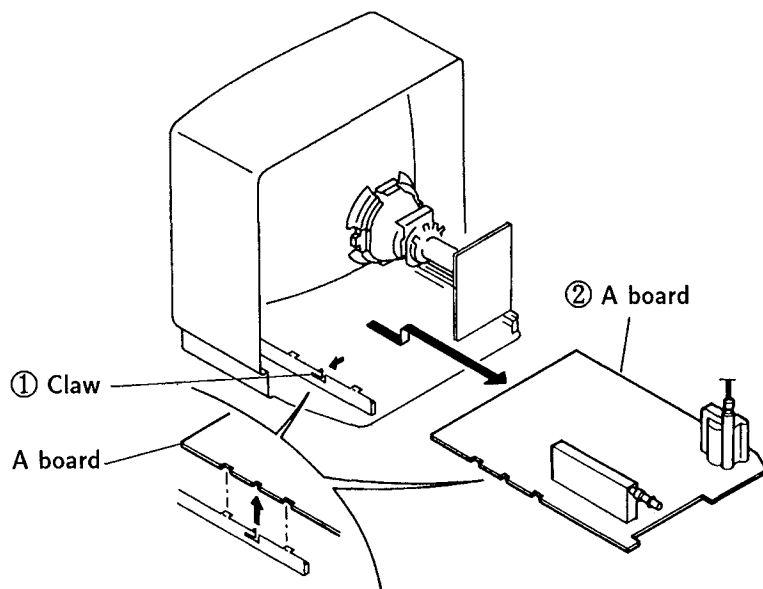
- To prevent hearing damage due to sudden or prolonged excessive volume, do not raise the headphones volume too high while listening.
- Using the headphones jack will turn off the sound to TV speakers.
- If your TV is a monaural TV, the monaural sound will be heard from both headphones.

SECTION 2 DISASSEMBLY

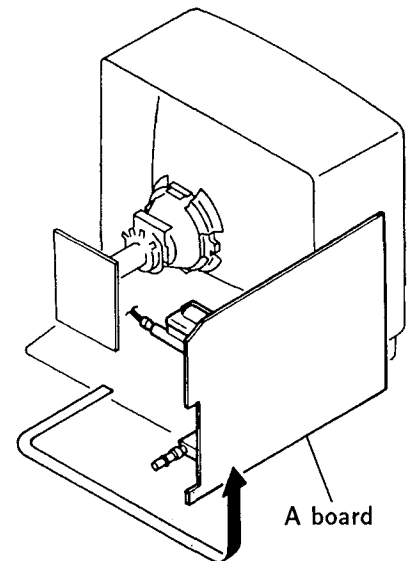
2-1. REAR COVER REMOVAL



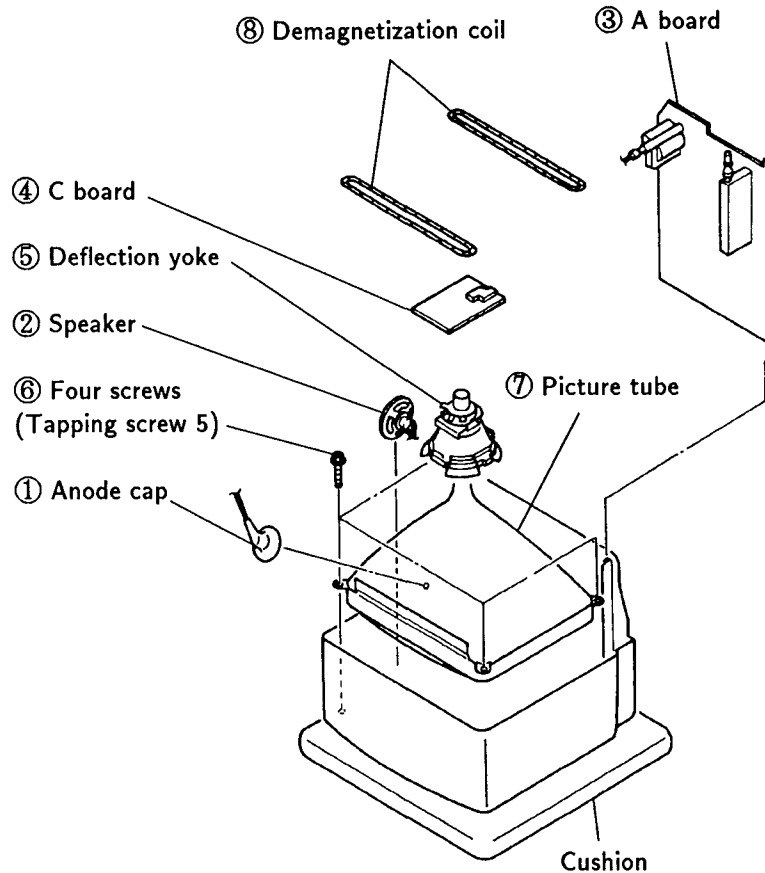
2-2. A BOARD REMOVAL



2-3. SERVICE POSITION



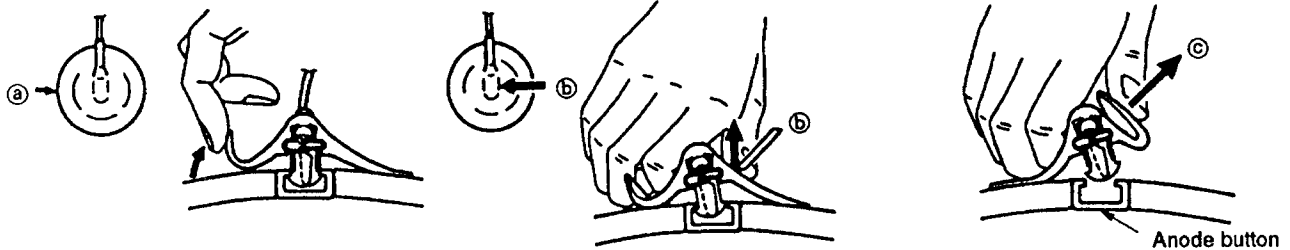
2-4. PICTURE TUBE REMOVAL



• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

• REMOVING PROCEDURES



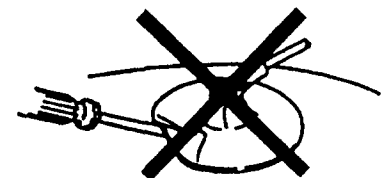
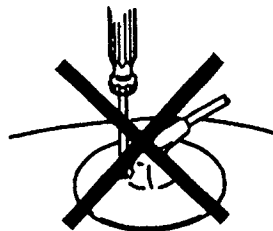
① Turn up one side of the rubber cap in the direction indicated by the arrow ③.

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

PICTURE control	normal
BRIGHTNESS control	normal

Preparation:

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

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 the 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 corner is not right, adjust by using the disk magnets. (Fig.4)

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G 2) and White Balance

Note: Test Equipment Required.

1. Color bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multi-ner

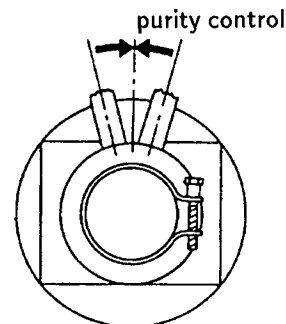


Fig.2

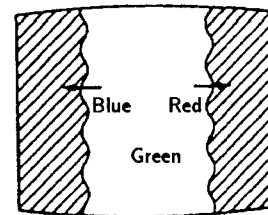


Fig.3

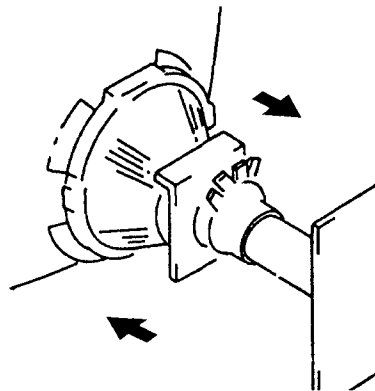


Fig.1

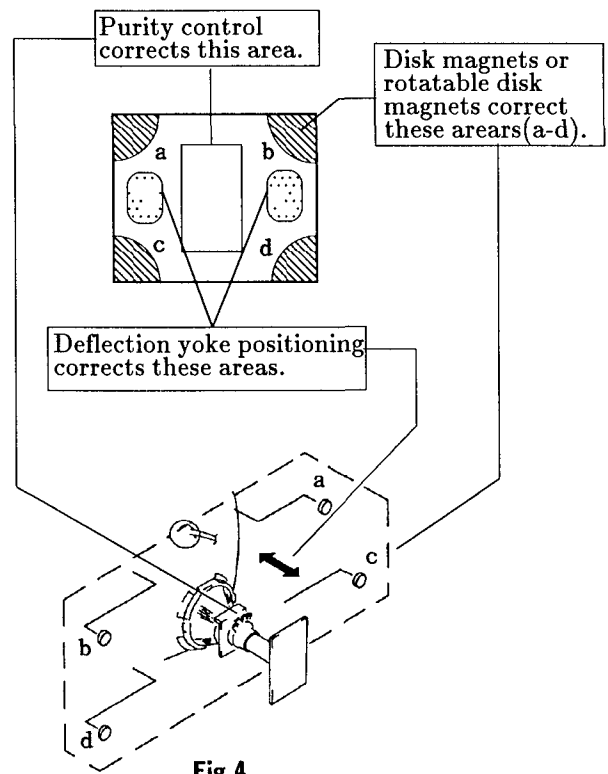


Fig.4

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

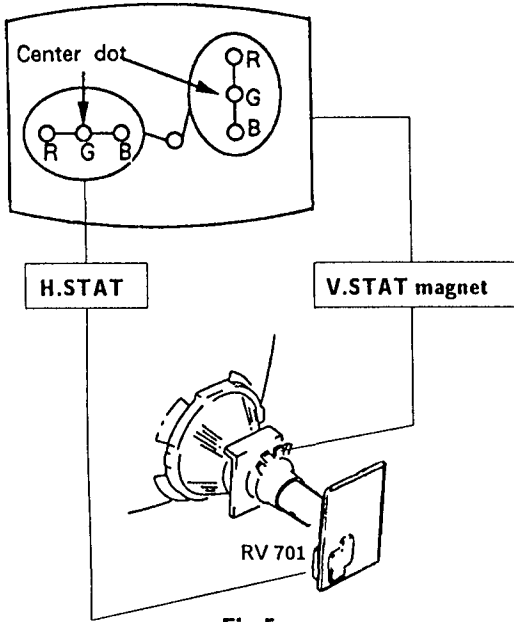
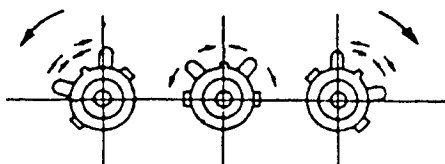
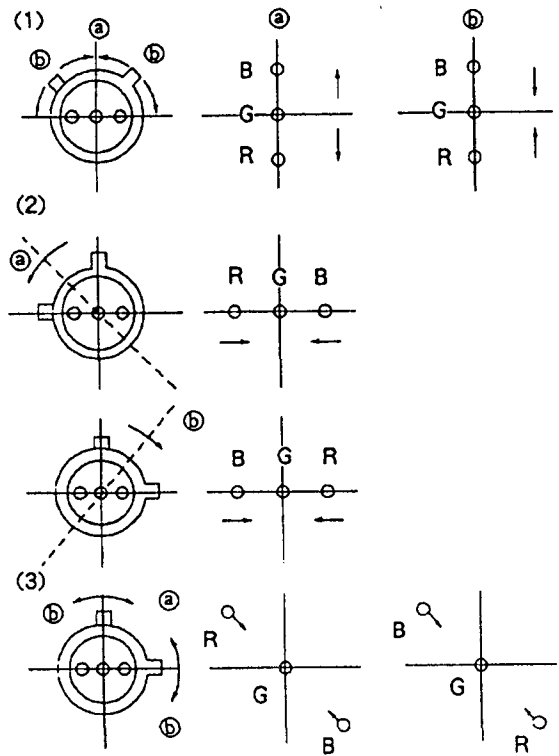


Fig.5

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 on the center of 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 does not converge with red and green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H.static convergence.

Rotate BMC magnet (b) to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.

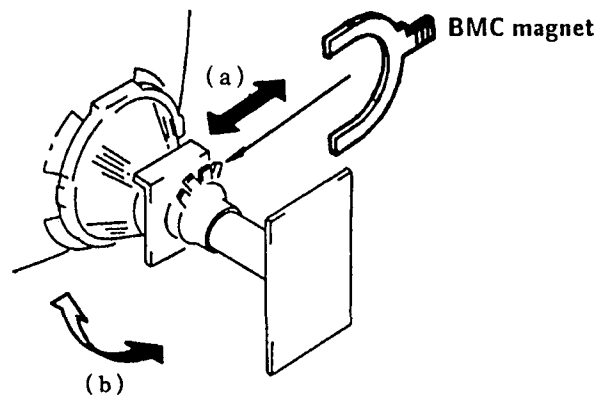


Fig.6

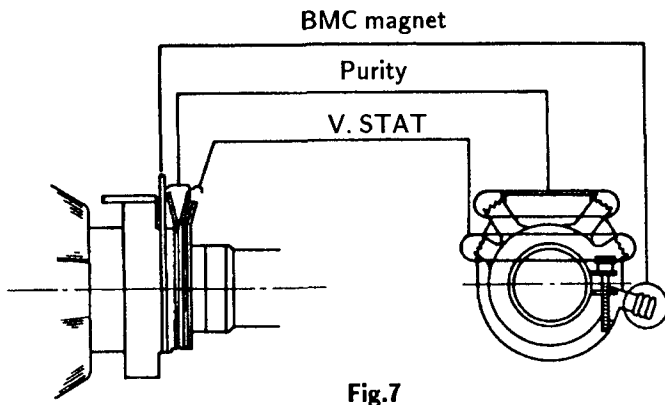


Fig.7

(2) Dynamic Convergence Adjustment

Preparation:

- 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.

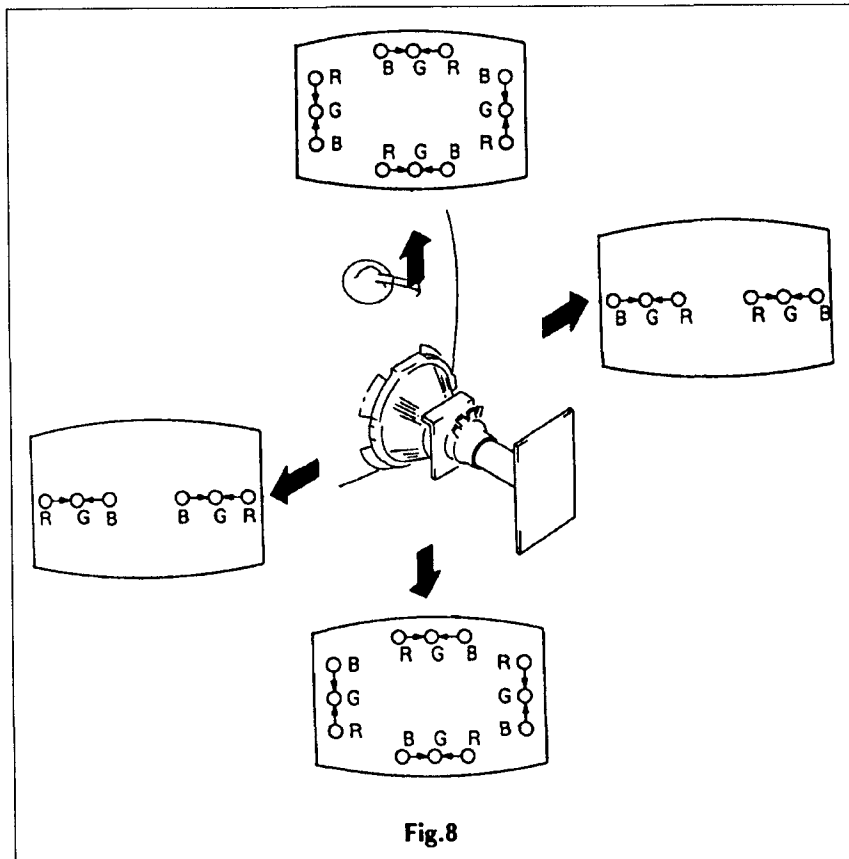


Fig.8

(3) Screen-corner Convergence

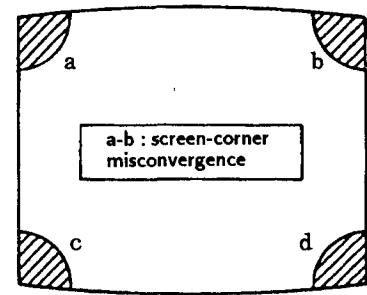
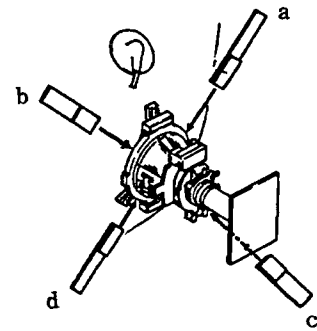


Fig.9



Affix a Permalloy ass'y corresponding to the misconverged areas



Permalloy assembly

3-3. FOCUS

Adjust FOCUS (RV 703) control for best picture.

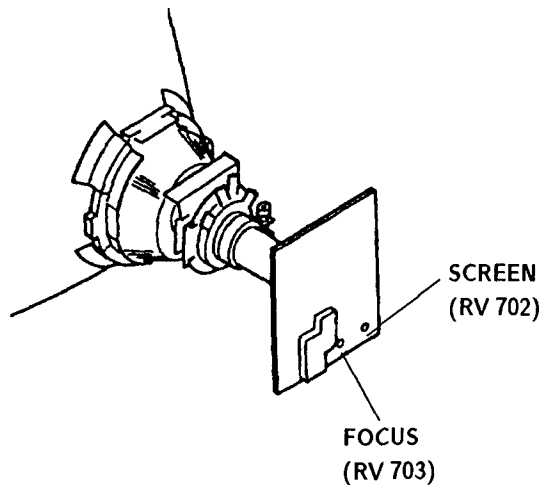


Fig.10

3-4. SCREEN(G 2)

1. Input a dots pattern.
2. Set the PICTURE and BRIGHT controls at minimum and COLOR control at normal.
3. Adjust BKG VRs so that voltages on the red, green and blue cathodes are 160 V dc with an oscilloscope as shown in Fig.11.
4. Observe the screen and adjust SCREEN (G 2 RV 702) to obtain the faintly visible background of dot signal.

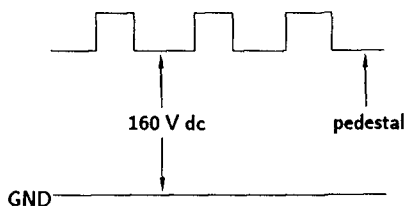


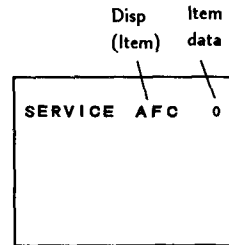
Fig.11

3-5. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

SERVICE MODE PROCEDURE

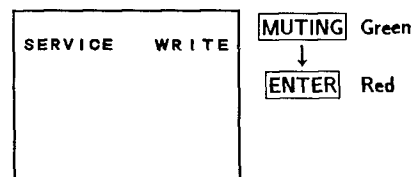
1. Standby mode.(Power off)
2. **DISPLAY** → **5** → **VOL (+)** → **POWER** on the Remote Commander. (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN



3. The CRT displays the item Being adjusted.
4. Press **1** or **4** on the Remote Commander to select the item.
5. Press **3** or **6** on the Remote Commander to change the data.
6. Press **MUTING** then **ENTER** to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



7. Turn set off and on to exit.

3-6. WHITE BALANCE ADJUSTMENTS

1. Input an entire white signal.
2. Set to service adjustment mode.
3. Set the PICTURE and BRIGHT to minimum.
4. Adjust with SBRT if necessary.
5. Select G CUT and B CUT with **1** and **4**.
6. Adjust with **3** and **6** for the best white balance.
7. Set the PICTURE and BRIGHT to maximum.
8. Select GAMP and BAMP with **1** and **4**.
9. Adjust with **3** and **6** for the best white balance.
10. Write into the memory by pressing **MUTING** then **ENTER**.

SECTION 4 SAFETY RELATED ADJUSTMENTS

A BOARD

☒ R525 CONFIRMATION METHOD (HV HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ☒ on the schematic diagram).

IC502, IC601, Q554, Q555, D505, D506, D507, D510, DY, C511, C513, C528, C531, R511, R519, R520, R523, R525, R527, R557, R558, R559, R560, R617, R618, T504 (FBT)

1. Preparation before confirmation

- 1) Turn the POWER switch ON, and receive entirely white signal and set the PICTURE and BRIGHT controls to maximum.
- 2) Confirm that the voltage of the check terminal of TP85 is more than 90VDC when the set is operating normally with 120.0 ± 2.0 VAC supply.

2. Hold-down operation confirmation

- 1) Connect the currentmeter between the 7th pin of FBT (T504) and the land of it with connect polarity.
- 2) Receive White Signal and adjust the ABL current to follows with the PICTURE and the BRIGHT controls.
 $1040 \pm 100 \mu\text{A}$
- 3) Confirm the voltage of A board TP-91 is 115.0 ± 0.5 VDC.
- 4) Connect the Digital Voltmeter and DC power Supply via 1SS 119 to TP-85.
- 5) Increase the DC power voltage gradually until the Picture just blanks out.
- 6) Read the digital voltmeter indication.
- 7) Turn DC power Source off immediatery.

STANDARD

Less or equal to 124.5 VDC

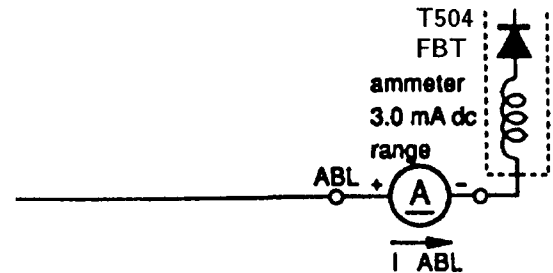
- 8) Receive Dot Signal and adjust the ABL current to follows, with the PIX and the BRT controls.
 $40+100/-50 \mu\text{A}$
- 9) Repeat steps from (3) to (7).

STANDARD

Less or equal to 124.5 VDC

3. Hold-down readjustment

When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R525 (a component marked with ☒).

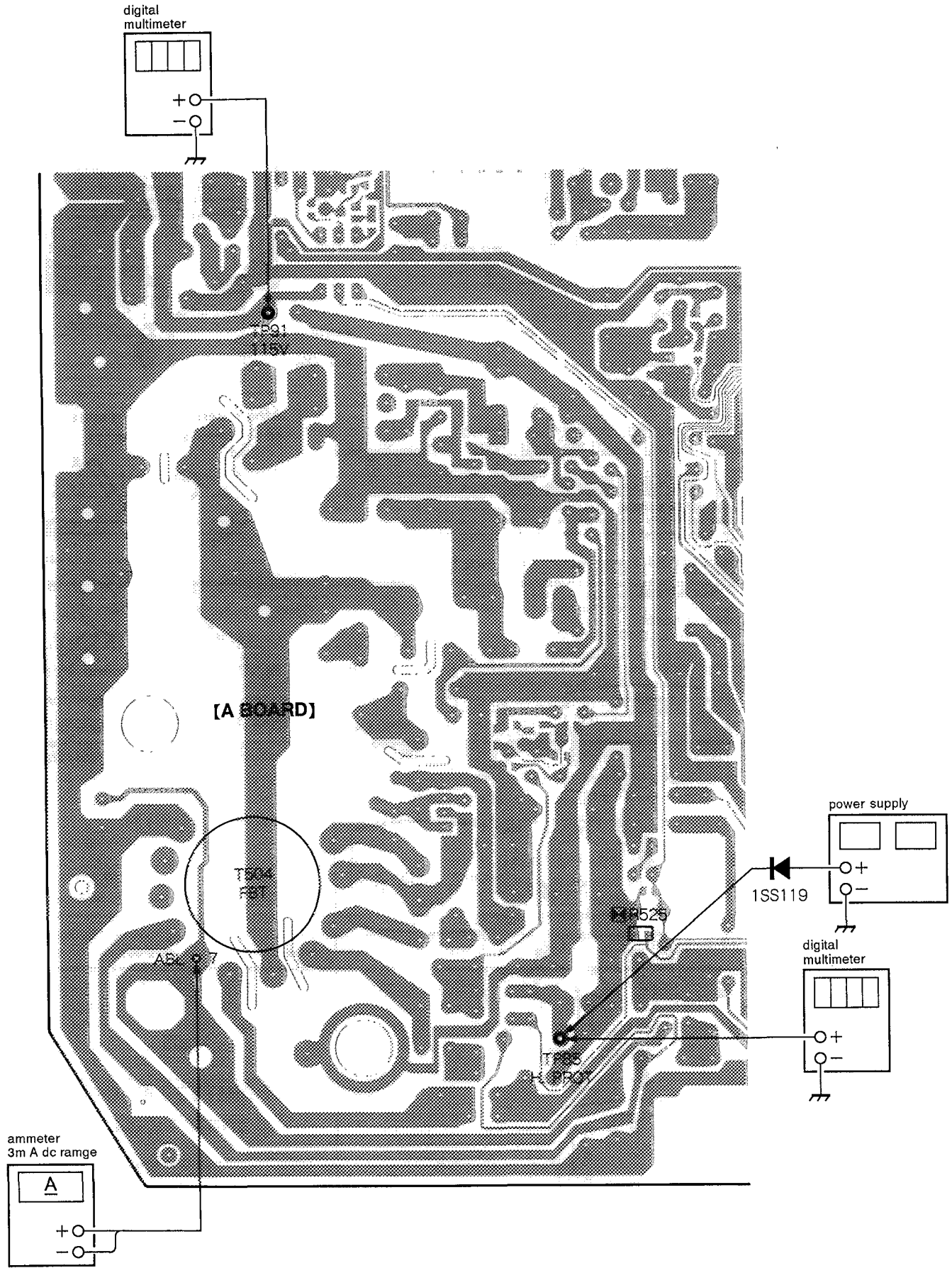


B+ VOLTAGE CONFIRMATION AND ADJUSTMENT

The following adjustments should always be performed when replacing the following components. (marked with ☒ on the schematic diagram).

IC101, IC601, Q609, R030, R617, R618, R629, R630, R636, R637

- 1) Supply $130 \pm 2\%$ V AC to with variable autotrans-former.
- 2) Input an entirely monoscope signal.
- 3) Set the PICTURE control and the BRIGHT controls in to initial reset.
- 4) Set to Service adjustment Mode.
- 5) Select PADJ with **[1]** and **[4]**.
- 6) Adjust with **[6]** for the 63 level.
- 7) Confirm the voltage of A BOARD TP91 is less than 123.0V DC.
- 8) If step 7) is not satisfied, replace the components repeat above steps.
- 9) Supply 120 ± 2.0 V AC to with variable auto trans former.
- 10) Adjust with **[3]** and **[6]** for the 115 ± 0.5 V DC.
- 11) Write into the memory by pressing **[MUTING]** then **[ENTER]**.



SECTION 5 CIRCUIT ADJUSTMENTS

5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use of Remote Commander (RM-Y116/Y123) can be performed circuit adjustments about this model.

NOTE : Test Equipment Required.

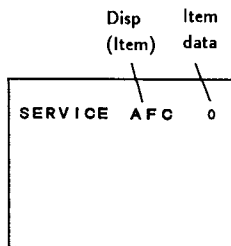
1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC

1. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

SERVICE MODE PROCEDURE

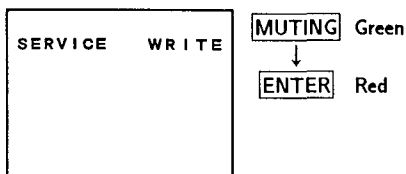
1. Standby mode.(Power off)
2. **DISPLAY** → **5** → **VOL (+)** → **POWER** on the Remote Commander. (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN

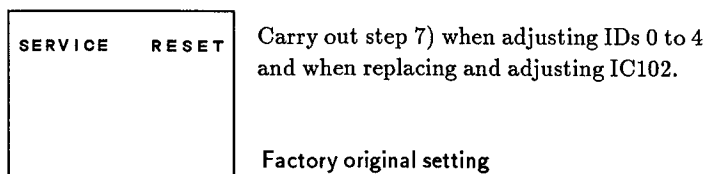


3. The CRT displays the item Being adjusted.
4. Press **1** or **4** on the Remote Commander to select the item.
5. Press **3** or **6** on the Remote Commander to change the data.
6. Press **MUTING** then **ENTER** to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



7. Press **8** then **ENTER** on the Remote Commander to initialize.

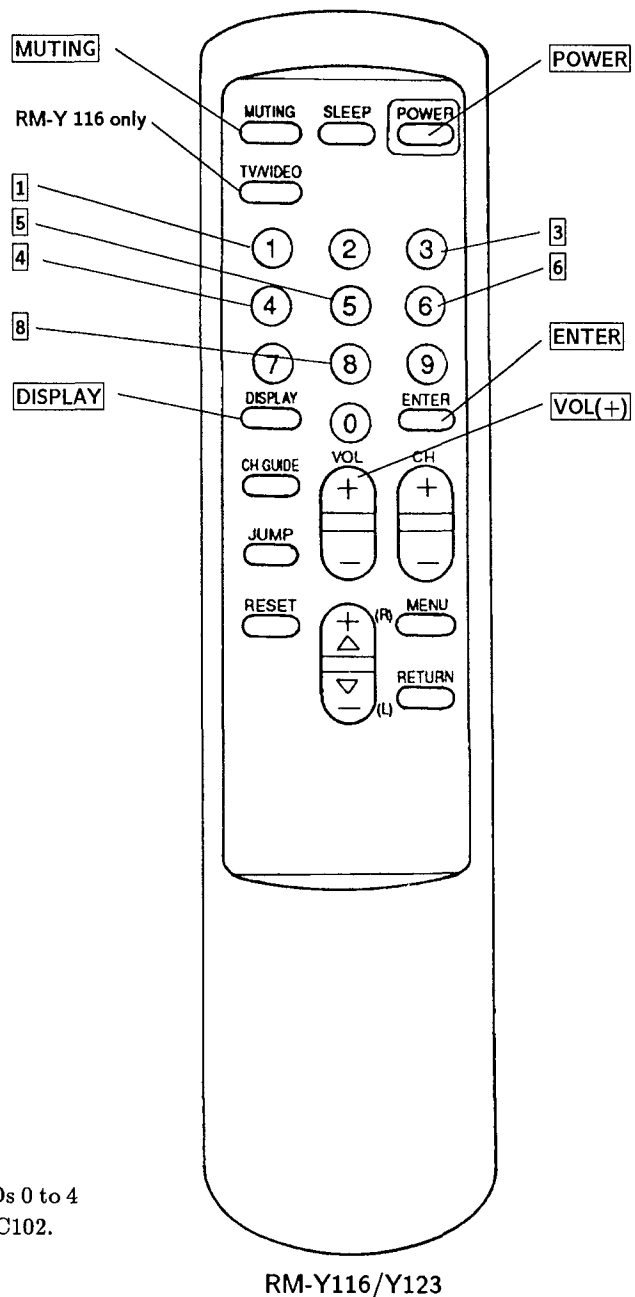


8. Turn set off and on to exit.

2. 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.

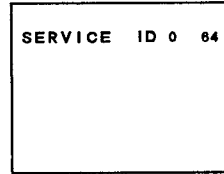
3. ADJUST BUTTONS AND INDICATOR



4. AN ITEM OF ADJUSTMENTS

No.	Disp.	Item	Data range	Ave. data
1	AFC	AFC Loop Gain	0~3	* 0
2	HFRE	H. Frequency	0~127	78
3	VFRE	V. Frequency	0~31	15
4	VPOS	V. Center	0~31	18
5	VSIZ	V. Size	0~63	16
6	VLIN	V. Linearity	0~15	9
7	VSCO	V. Correction	0~15	6
8	HPOS	H. Center	0~15	5
9	VCOM	V. Compensation	0~7	* 2
10	GAMP	Green Amp	0~31	19
11	BAMP	Blue Amp	0~31	19
12	GCUT	Green Cut Off	0~15	8
13	BCUT	Blue Cut Off	0~15	7
14	CROM	Chroma Trap	0~63	26
15	SPIX	Sub Contrast	0~63	24
16	SHUE	Sub Hue	0~63	25
17	SCOL	Sub Color	0~63	30
18	SBRT	Sub Bright	0~63	25
19	SVOL	Sub Volume	0~15	* 0
20	SHAP	Sharpness	0~15	* 7
21	VSMO	V Pull in Range	0, 1	* 0
22	REF	Reference line	0~3	* 2
23	ROFF	Red Out	0, 1	—
24	GOFF	Green Out	0, 1	—
25	BOFF	Blue Out	0, 1	—
26	ABLM	ABL Mode	0, 1	* 0
27	NOTC	Notch On/Off	0, 1	—
28	DRGB	OSD intensity	0, 1	* 0
29	DISP	Display Position	0~63	4
30	PADJ	Plus B Adjust	0~63	43
31	ID-0	Model ID	0~127	by Model
32	ID-1	Model ID	0~127	by Model
33	ID-2	Model ID	0~127	by Model
34	ID-3	Model ID	0~127	by Model
35	ID-4	Model ID	0~127	by Model

Note : No. from 1 to 35 is to show adjustment order.



Note : IC101 of the A circuit board inputs a V sync signal to pin ⑤, and is always in operation. If on V sync signal is input to pin ⑤, there will be a waiting period of 2-4 seconds, and the power is shut off. When entering the service mode, the above function is cancelled and operation is possible.

* : Set-up value

Please adjust the function values as shown below when IC 102 on A board was replaced.

KV-13M10

No.	Disp.	Data
31	ID-0	64
32	ID-1	8
33	ID-2	64
34	ID-3	1
35	ID-4	16

KV-MT1300

No.	Disp.	Data
31	ID-0	0
32	ID-1	8
33	ID-2	64
34	ID-3	1
35	ID-4	16

KV-14R10

No.	Disp.	Data
31	ID-0	64
32	ID-1	8
33	ID-2	32
34	ID-3	1
35	ID-4	16

KV-1460R

No.	Disp.	Data
31	ID-0	0
32	ID-1	8
33	ID-2	32
34	ID-3	1
35	ID-4	16

5-2. A BOARD ADJUSTMENTS

RF AGC ADJUSTMENT (IF BLOCK VR)

1. Input a color-bar signal.
2. Adjust AGC VR of TU 101 so that snow noise and cross-modulation disappear from the picture.
3. Confirm them at every channel.

H.FREQUENCY ADJUSTMENT (HFRE)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Connect a frequency counter to base of Q 550 (TP-86 H.DRIVE).
4. Call the item of AFC, set to 3 level (free run).
5. Select HFRE with **[1]** and **[4]**.
6. Adjust with **[3]** and **[6]** for the 15734 ± 60 Hz.
7. Call the item of AFC again, adjust the level "0".
8. Write into the memory by pressing **[MUTING]** then **[ENTER]**.

V.FREQUENCY ADJUSTMENT (VFRE)

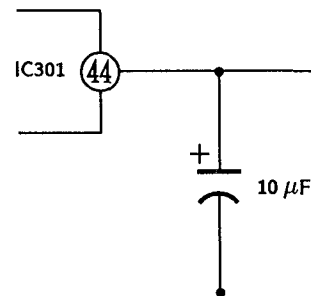
KV-13M10/14R10 only

1. Select video 1 with no connecting the signal.
2. Set to Service adjustment Mode.
3. Connect the frequency counter across connector VDY (+) (CN501) connector and ground.
4. Select VFRE with **[1]** and **[4]**.
5. Adjust with **[3]** and **[6]** for the 55 ± 0.5 Hz.
6. Write the memory by pressing **[MUTING]** then **[ENTER]**.

V.FREQUENCY ADJUSTMENT (VFRE)

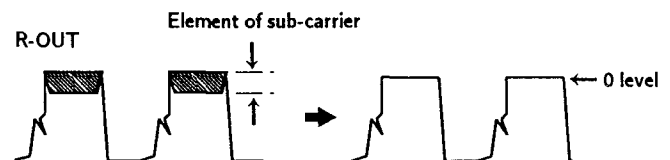
KV-MT1300/1460R only

1. Connect a capacitor (10 μ F) across pin **[44]** of IC 301 (V. SYNC) and ground.
2. Set to Service adjustment Mode.
3. Connect the frequency counter across connector VDY (+) (CN501) connector and ground.
4. Select VFRE with **[1]** and **[4]**.
5. Adjust with **[3]** and **[6]** for the 55 ± 0.5 Hz.
6. Write the memory by pressing **[MUTING]** then **[ENTER]**.
7. Disconnect a capacitor from IC 301.



CROMA TRAP ADJUSTMENT (CROM)

1. Input a red signal
2. Set to Service adjustment Mode.
3. Connect an oscilloscope CN703 Pin **[1]** (R OUT) of C board ground.
4. Select CROM with **[1]** and **[4]**.
5. Adjust with **[3]** and **[6]** for the 0 level.



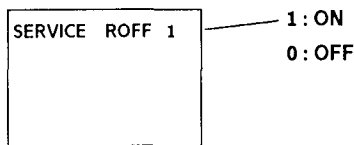
6. Write the memory by pressing **[MUTING]** then **[ENTER]**.

SUB CONTRAST ADJUSTMENT (SPIX)

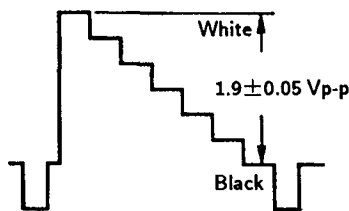
1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Set the conditions as follows.

PICTURE MAX
COLOR MIN
BRIGHT MIN

R OFF ON (1)
G OFF OFF (0)
B OFF OFF (0)



4. Connect an oscilloscope to CN703 Pin① (R OUT) of C board and ground.
5. Select SPIX with **1** and **4**.
6. Adjust with **3** and **6** for the 1.9 ± 0.05 Vp-p.

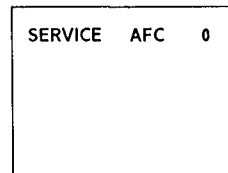


7. Write the memory by pressing **MUTING** then **ENTER**.
8. Return the following back to normal after adjustment.

PICTURE MAX
BRIGHT CENTER
COLOR CENTER
R OFF ON
G OFF ON
B OFF ON

DISPLAY POSITION ADJUSTMENT (DISP)

1. Input a color-bar signal.
2. Set to service adjustment Mode.
3. Select DISP with **1** and **4**.
4. Adjust with **3** and **6** for the bar center.
5. Write the memory by pressing **MUTING** then **ENTER**.
6. Check if the text is displayed on the screen.

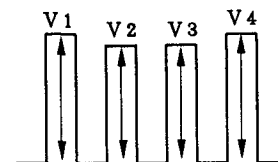


SUB BRIGHT ADJUSTMENT (SBRT)

1. Input a cross-hatch signal.
2. Set to service adjustment mode.
3. Set the PICTURE and BRIGHT to minimum.
4. Select SBRT with **1** and **4**.
5. Adjust with **3** and **6** for obtain a faintly visible cross-hatch.
6. Write into the memory by pressing **MUTING** then **ENTER**.

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

1. Input a color-bar signal.
2. Set to service adjustment Mode.
3. Connect an oscilloscope to CN703 Pin③ (B OUT) of C board.
4. Select SHUE and SCOL with **1** and **4**.
5. Adjust with **3** and **6** for the $V1=V4$ (SCOR) and $V2=V3$ (SHUE).

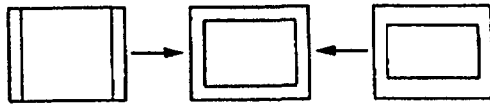


6. Write into the memory by pressing **MUTING** then **ENTER**.

V.SIZE ADJUSTMENT (VSIZ)

1. Input a cross-hatch signal.
2. Set to service adjustment Mode.
3. Select VSIZ with **1** and **4**.
4. Adjust with **3** and **6** for the best vertical size.
5. Write into the memory by pressing **MUTING** then **ENTER**.

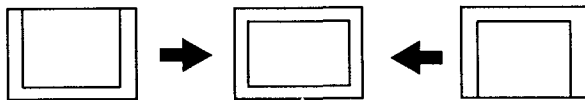
V. SIZE (VSIZ)



V.CENTER ADJUSTMENT (VPOS)

1. Input a cross-hatch signal.
2. Set to service adjustment Mode.
3. Select VPOS with **1** and **4**.
4. Adjust with **3** and **6** for the best vertical center.
5. Write into the memory by pressing **MUTING** then **ENTER**.

V. CENTER (VPOS)

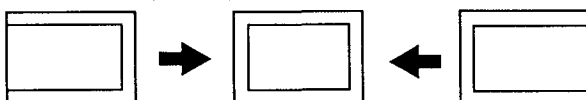


H.CENTER ADJUSTMENT (H POS)

Note: Perform this adjustment after H.FREQUENCY ADJUSTMENT (HFRE).

1. Input a cross-hatch signal.
2. Set the Service adjustment mode.
3. Select HPOS with **1** and **4**.
4. Adjust with **3** and **6** to the best horizontal center.
5. Write into the memory by pressing **MUTING** then **ENTER**.

H. CENTER (HPOS)



V LINEARITY (VLIN) AND V CORRECTION (VSCO) ADJUSTMENTS

1. Input a cross-hatch signal.
2. Set to Service adjustment Mode.
3. Select VLIN and VSCO with **1** and **4**.
4. Adjust with **3** and **6** for the best picture.
5. Write the memory by Pressing **MUTING** then **ENTER**.

V LINEARITY (VLIN)



V CORRECTION (VSCO)



SECTION 6
DIAGRAMS

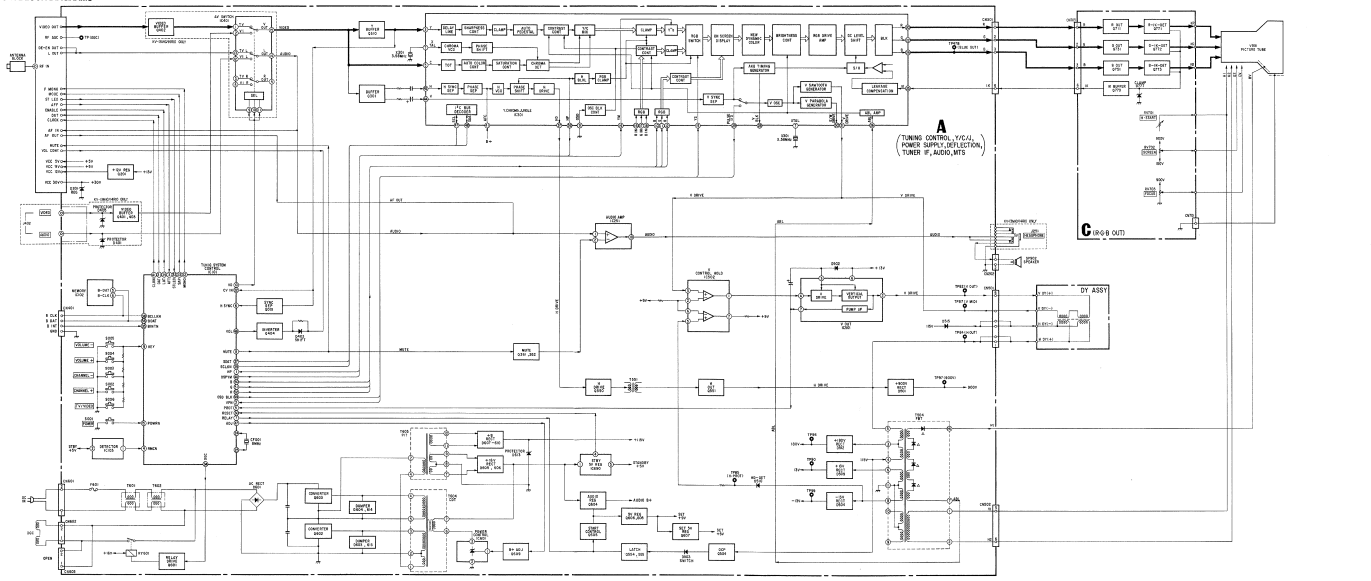
KV-13M10/MT1300/
RB710 RB710
KV-14R10/1400/
RB710 RB710

KV-13M10/MT1300/
RB710 RB710
KV-14R10/1400/
RB710 RB710

KV-13M10/MT1300/
RB710 RB710
KV-14R10/1400/
RB710 RB710

KV-13M10/MT1300/
RB710 RB710
KV-14R10/1400/
RB710 RB710

6-1. BLOCK DIAGRAMS



- 25 -

- 26 -

- 27 -

- 28 -

KV-13M10/MT1300/
RM-Y116 RM-Y123
KV-14R10/1460R
RM-Y116 RM-Y123

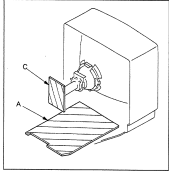
KV-12M10/MT1200
REV.11/14 PART 104
KV-14R10/1440R
REV.11/14 PART 104

KV-12M10/MT1200
REV.11/14 PART 104
KV-14R10/1440R
REV.11/14 PART 104

KV-12M10/MT1200
REV.11/14 PART 104
KV-14R10/1440R
REV.11/14 PART 104

KV-12M10/MT1200
REV.11/14 PART 104
KV-14R10/1440R
REV.11/14 PART 104

6-2. CIRCUIT BOARDS LOCATION



Part replaced (A)	Adjustment (B)
IC602, IC601, Q554, Q555, Q556, Q558, Q557, Q515, Q517, Q511, C513, C528, C531, R511, R519, R520, R529, R530, R531, R537, R558, R559, R560, R517, R518, T504(FET)	HV HOLD-DOWN (R520)
IC101, IC609, Q609, R617, R618, R629, R630, R638, R637	B+ VOLTAGE CONFIRMATION

- All voltages are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- Critical numbers are underlined.
- B+ Line.
- Internal jump.
- Serial jump.

Reference Information

RESISTOR	RES	METAL FILM	RES
FFR0	NONFLAMMABLE CARBON	FR02	NONFLAMMABLE FUSIBLE
FR02	NONFLAMMABLE WIREWOUND	FR03	NONFLAMMABLE METAL OXIDE
FR03	NONFLAMMABLE CEMENT	FR04	ADJUSTMENT RESISTOR
FR04	MICRO INDUCTOR	FR05	TANTALUM
FR05	STYROL	FR06	POLYPROPYLENE
FR06	MILAR	FR07	METALIZED POLYESTER
FR07	METALIZED POLYPROPYLENE	FR08	BIPOLAR
FR08	HIGH TEMPERATURE	FR09	HIGH RIPPLE

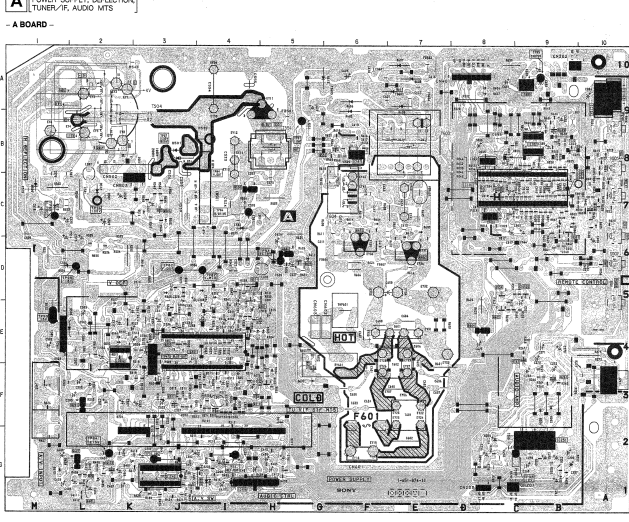
Note: The symbol \ominus on the component side, indicates the components identified by shading and mark, and are critical for safety. Replace only with part number specified.

The symbol \oplus indicates fast operating fuse. Replace only with fuse of same rating as marked.

Note: Les composants identifiés par un ombrage et une marque \ominus sont critiques pour la sécurité. Ne les remplacez que par une pièce portant le numéro spécifié.

Le symbole \oplus indique une fusible à action rapide. Doit être remplacé par une fusible de même valeur, comme marqué.

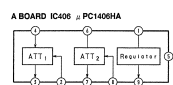
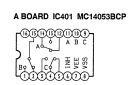
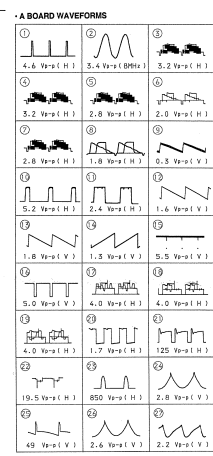
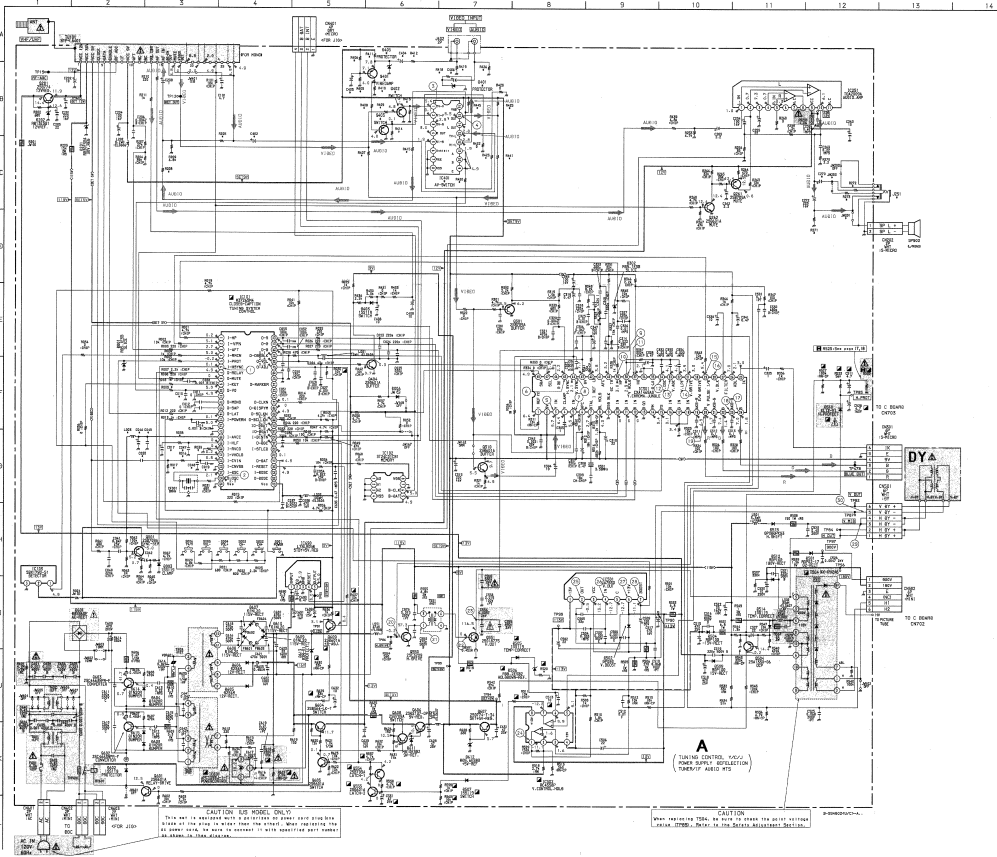
A TUNING CONTROL, V/C, L, POWER SUPPLY, DEFLECTION, TUNER, RF, AUDIO MTS



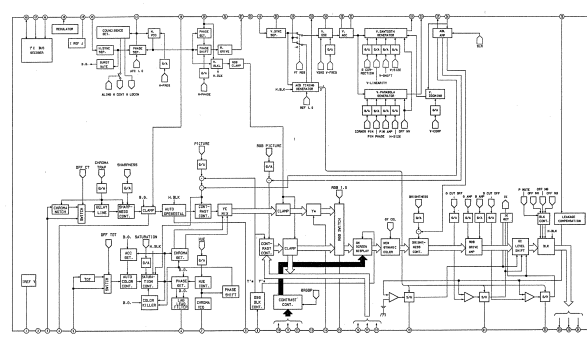
A BOARD * MARK

Part No.	Location	EQ-1000	EQ-1010	EQ-1015	EQ-1020
IC601	C-8	Q601	C-9		
IC602	D-9	Q602	C-9		
Q554	A-10	Q554	F-2		
Q555	F-2	Q555	F-2		
Q556	F-2	Q556	F-2		
Q557	F-2	Q557	F-2		
Q558	F-2	Q558	F-2		
Q559	F-2	Q559	F-2		
Q560	F-2	Q560	F-2		
Q561	F-2	Q561	F-2		
Q562	F-2	Q562	F-2		
Q563	F-2	Q563	F-2		
Q564	F-2	Q564	F-2		
Q565	F-2	Q565	F-2		
Q566	F-2	Q566	F-2		
Q567	F-2	Q567	F-2		
Q568	F-2	Q568	F-2		
Q569	F-2	Q569	F-2		
Q570	F-2	Q570	F-2		
Q571	F-2	Q571	F-2		
Q572	F-2	Q572	F-2		
Q573	F-2	Q573	F-2		
Q574	F-2	Q574	F-2		
Q575	F-2	Q575	F-2		
Q576	F-2	Q576	F-2		
Q577	F-2	Q577	F-2		
Q578	F-2	Q578	F-2		
Q579	F-2	Q579	F-2		
Q580	F-2	Q580	F-2		
Q581	F-2	Q581	F-2		
Q582	F-2	Q582	F-2		
Q583	F-2	Q583	F-2		
Q584	F-2	Q584	F-2		
Q585	F-2	Q585	F-2		
Q586	F-2	Q586	F-2		
Q587	F-2	Q587	F-2		
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Q669	F-2	Q669	F-2		
Q670	F-2	Q670	F-2		
Q671	F-2	Q671	F-2		
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Q696	F-2	Q696	F-2		
Q697	F-2	Q697	F-2		
Q698	F-2	Q698	F-2		
Q699	F-2	Q699	F-2		
Q700	F-2	Q700	F-2		

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

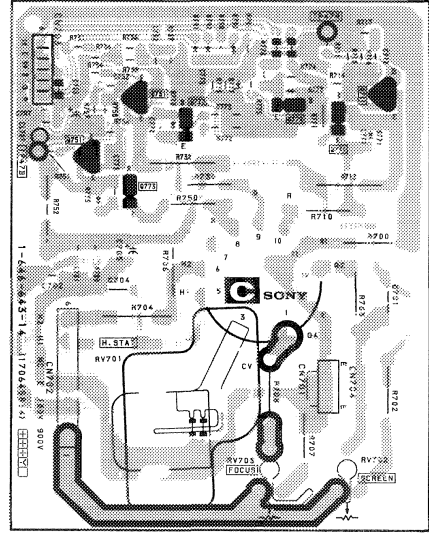


A BOARD IC301 CXA1405AS

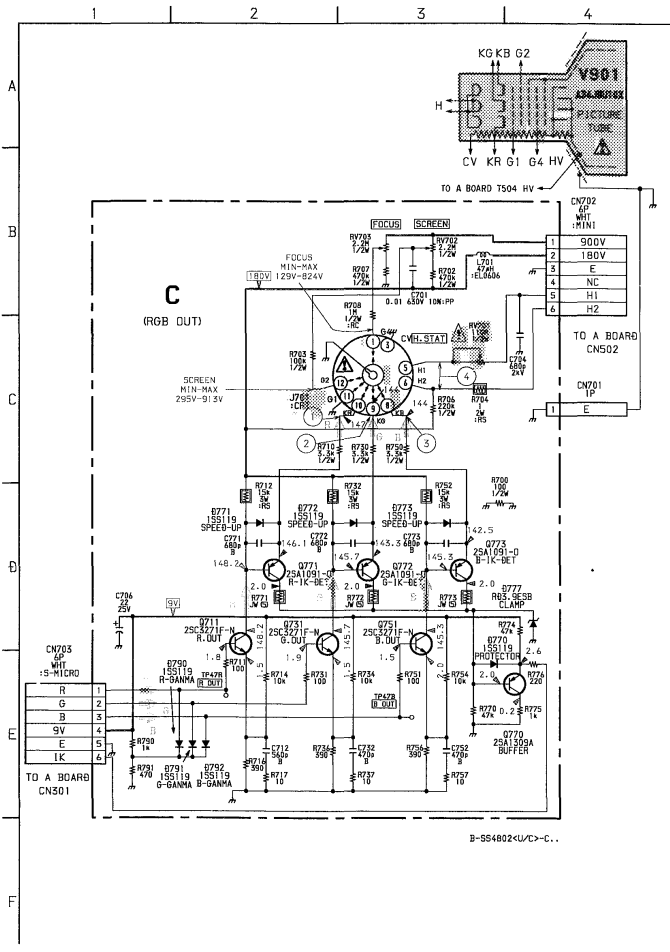
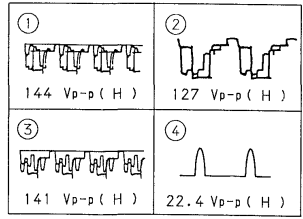


C [R. G. B. OUT]

- C BOARD -



• C BOARD WAVEFORMS



Schematic diagrams

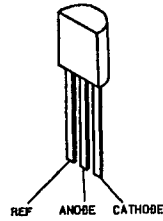
← **A** board

Schematic diagrams

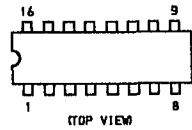
C board →

6-4. SEMICONDUCTONS

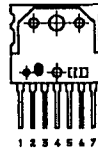
AN1431T



BU4053BC
HC14053BFP
MC14053BCP
#P04053BC



LA7830



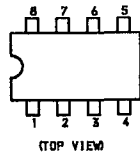
L78LR05D-MA



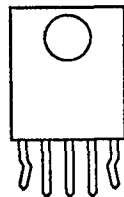
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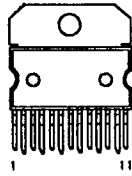
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ST24C01B1
#PC4558P



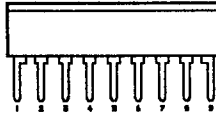
SBX1790-51



T0A2009A



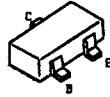
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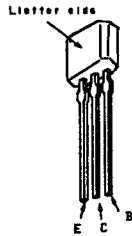
2SA1091-0



2SA1037K
2SA1162-G/2SA
2SB709A-QRS-TX
2SD601A-Q



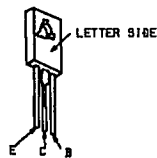
2SA1175
2SA1309A



2SB564
2SB733-34
2SC3209LK
2SD774-34



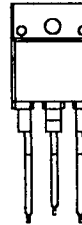
2SC2611
2SC3271F-N



2SC4663NPR-F



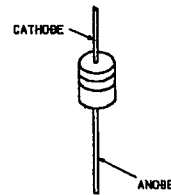
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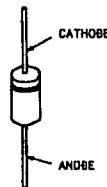
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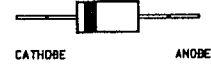
01N20R R03.9ESB2
R010ESB2 R05.1ESB1
R013ESB1 R05.6ESB2
R013ESB2 R06.8ESB2
R030ESB2 1SS119
R030ESB4 1SS119TD
R036ESB2



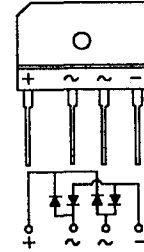
01NL20
EL1Z
GP08D
RGP02-17PKG23



02S4MF



03SB60F



SECTION 7 EXPLODED VIEW

NOTE:

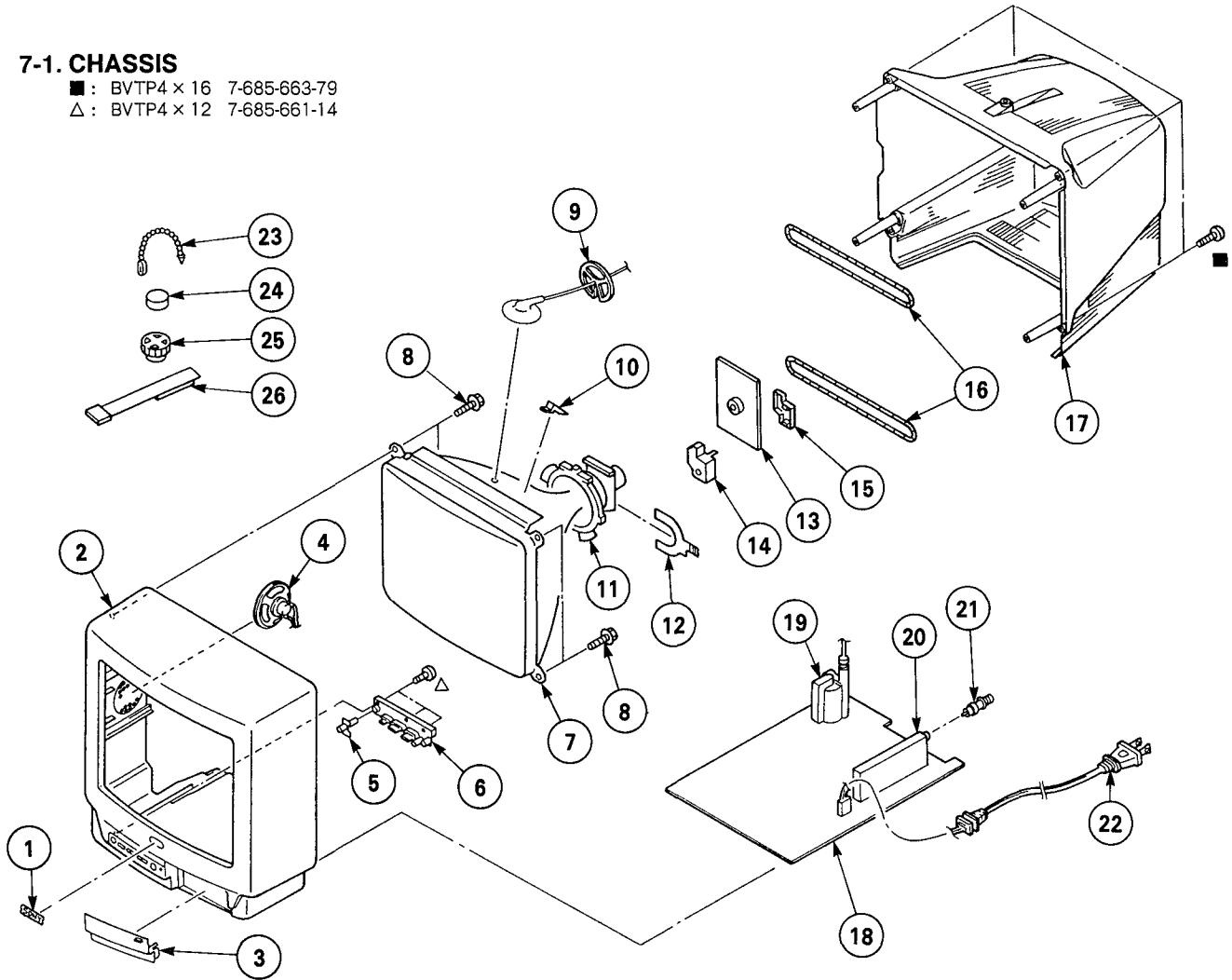
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine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

- : BVTP4 × 16 7-685-663-79
- △: BVTP4 × 12 7-685-661-14



(KV-13M10/14R10 only)

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	4-393-157-01	EMBLEM (NO.6), SONY		13	*A-1331-346-A	C BOARD, COMPLETE	
2	X-4031-909-1	CABINET ASSY (WITE BEZEL ASSY)	3 (KV-13M10)	14	*4-374-912-01	COVER (MAIN), CV VOL	
	X-4031-933-1	CABINET ASSY (WITE BEZEL ASSY)	3 (KV-14R10)	15	*4-374-913-01	COVER (REAR LID), CV VOL	
	4-044-855-01	CABINET (WITE BEZEL) (KV-1460R)		16	▲ 1-428-346-31	COIL, DEMAGNETIZATION	
	4-045-060-01	CABINET (WITE BEZEL) (KV-MT1300)		17	4-044-857-01	COVER, REAR	
3	4-044-856-01	DOOR, CONTROL (KV-13M10/14R10)		18	*A-1297-261-A	A BOARD, COMPLETE (KV-13M10)	
4	1-504-256-11	SPEAKER (8CM)			*A-1297-307-A	A BOARD, COMPLETE (KV-1460R)	
5	4-039-846-01	FILTER, REMOTE			*A-1297-311-A	A BOARD, COMPLETE (KV-14R10)	
6	4-039-849-01	BUTTON, MULTI			*A-1297-364-A	A BOARD, COMPLETE (KV-MT1300)	
7	▲ 1-735-561-05	PICTURE TUBE (A34J8U10X)		19	▲ 1-453-142-11	TRANSFORMER ASSY, FLYBACK (KV-17C2A5)	
8	4-041-267-01	SCREW (5), TAPPING		20	▲ 8-598-047-00	TUNER EXP-LARDI	
9	*3-704-372-01	HOLDER, HV CABLE		21	1-766-374-11	PLUG, F-PIN	
10	4-041-361-01	SPACER, DEFLECTION YOKE		22	▲ 1-765-486-11	CORD, POWER (WITH CONNECTOR) 10A/25V	
11	▲ 1-451-418-11	DEFLECTION YOKE YL40K2		23	4-308-870-00	CLIP, LEAD WIRE	
12	1-452-277-00	MAGNET, BMC		24	1-452-032-00	MAGNET, DISK; 10 MM φ	
				25	1-452-094-00	MAGNET, ROTATABLE DISK; 15 MM φ	
				26	X-4308-815-0	PERMALLOY ASSY, CONVERGENCE	

SECTION 8 ELECTRICAL PARTS LIST

KV-13M10/MT1300/
RM-Y116 RM-Y123
KV-14R10/1460R
RM-Y116 RM-Y123

A

NOTE:

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.

- 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 COILS

• MF : μ F, PF : μ μ F • MMH : mH, UH : μ H

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

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
*A-1297-261-A		A BOARD, COMPLETE (KV-13M10)		C201	1-126-934-11	ELECT 220MF	20% 16V
		*****		C202	1-126-964-11	ELECT 10MF	20% 50V
*A-1297-307-A		A BOARD, COMPLETE (KV-1460R)		C204	1-126-933-11	ELECT 100MF	20% 16V
		*****		C205	1-126-233-11	ELECT 22MF	20% 50V
*A-1297-311-A		A BOARD, COMPLETE (KV-14R10)		C206	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V

*A-1297-364-A		A BOARD, COMPLETE (KV-MT1300)		C208	1-124-903-11	ELECT 1MF	20% 50V
		*****		C209	1-124-925-11	ELECT 2.2MF	20% 50V
4-382-854-11		SCREW (M3X10), P, SW (+)		C254	1-126-933-11	ELECT 100MF	20% 16V
				C255	1-126-233-11	ELECT 22MF	20% 50V
				C259	1-136-173-00	FILM 0.47MF	5% 50V
		<CAPACITOR>		C260	1-126-964-11	ELECT 10MF	20% 50V
C001	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C262	1-124-925-11	ELECT 2.2MF	20% 50V
C008	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C263	1-136-169-00	FILM 0.22MF	5% 50V
C010	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C270	1-126-964-11	ELECT 10MF	20% 50V
C011	1-216-295-00	METAL GLAZE 0 5%	1/10W				
C012	1-216-295-00	METAL GLAZE 0 5%	1/10W	C272	1-126-934-11	ELECT 220MF	20% 16V
C014	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C301	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C017	1-124-903-11	ELECT 1MF	20% 50V	C304	1-126-964-11	ELECT 10MF	20% 50V
				C305	1-124-903-11	ELECT 1MF	20% 50V
C019	1-163-135-00	CERAMIC CHIP 560PF	5% 50V	C306	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C020	1-137-399-11	FILM 0 1MF	5% 50V	C307	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
				C308	1-124-902-00	ELECT 0.47MF	20% 50V
C023	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C309	1-163-099-00	CERAMIC CHIP 18PF	5% 50V
C024	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C310	1-126-233-11	ELECT 22MF	20% 50V
				C311	1-137-399-11	FILM 0.1MF	5% 50V
C025	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C312	1-137-399-11	FILM 0.1MF	5% 50V
C026	1-163-109-00	CERAMIC CHIP 47PF	5% 50V	C313	1-137-399-11	FILM 0.1MF	5% 50V
C027	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C314	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
C028	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C315	1-126-934-11	ELECT 220MF	20% 16V
C030	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C318	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
C034	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C319	1-124-902-00	ELECT 0.47MF	20% 50V
C037	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	C320	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C038	1-126-935-11	ELECT 470MF	20% 16V	C321	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
C040	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C322	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V
C041	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	C323	1-163-007-11	CERAMIC CHIP 680PF	10% 50V
C042	1-124-903-11	ELECT 1MF	20% 50V	C324	1-124-903-11	ELECT 1MF	20% 50V
C043	1-216-295-00	METAL GLAZE 0 5%	1/10W	C325	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C045	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	C326	1-137-370-11	FILM 0.01MF	5% 50V
				C327	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
C046	1-104-664-11	ELECT 47MF	20% 25V	C328	1-124-902-00	ELECT 0.47MF	20% 50V
C047	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C330	1-163-007-11	CERAMIC CHIP 680PF	10% 50V
				C332	1-136-169-00	FILM 0.22MF	5% 50V
C048	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C333	1-136-169-00	FILM 0.22MF	5% 50V
				C334	1-137-372-11	FILM 0.022MF	5% 50V
				C335	1-124-903-11	ELECT 1MF	20% 50V
C050	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C336	1-126-964-11	ELECT 10MF	20% 50V
C051	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C341	1-124-902-00	ELECT 0.47MF	20% 50V
C052	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C342	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
C053	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C345	1-126-933-11	ELECT 100MF	20% 16V
C101	1-124-927-11	ELECT 4.7MF	20% 50V	C347	1-126-933-11	ELECT 100MF	20% 16V

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REF. NO.	PART NO	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C348	1-163-129-00	CERAMIC CHIP	330PF 5% 50V	C623	1-123-024-21	ELECT	33MF 160V
C402	1-124-903-11	ELECT	1MF 20% 50V	C624 Δ 1-161-741-71	CERAMIC	1000PF	10% 400V
C403	1-126-964-11	ELECT	10MF 20% 50V	C625	1-126-933-11	ELECT	100MF 20% 16V
C404	1-126-933-11	ELECT	100MF 20% 16V	C628	1-104-664-11	ELECT	47MF 20% 25V
C406	1-124-903-11	ELECT	1MF 20% 50V	C631	1-104-664-11	ELECT	47MF 20% 25V
C408	1-126-964-11	ELECT	10MF 20% 50V	C632	1-126-964-11	ELECT	10MF 20% 50V
C409	1-126-964-11	ELECT	10MF 20% 50V	C636 Δ 1-161-741-71	CERAMIC	1000PF	10% 400V
C501	1-137-399-11	FILM	0.1MF 5% 50V	C637 Δ 1-161-741-71	CERAMIC	1000PF	10% 400V
C502	1-126-233-11	ELECT	22MF 20% 50V	C638 Δ 1-161-741-71	CERAMIC	1000PF	10% 400V
C504	1-130-489-00	FILM	0.033MF 5% 50V	C639 Δ 1-161-741-71	CERAMIC	1000PF	10% 400V
C505	1-164-058-11	CERAMIC	33PF 5% 50V	C640 Δ 1-136-311-51	FILM	0.47MF	20% 125V
C506	1-126-233-11	ELECT	22MF 20% 50V	C641	1-137-374-11	FILM	0.047MF 5% 50V
C507	1-102-038-00	CERAMIC	0.001MF 500V	C642	1-137-374-11	FILM	0.047MF 5% 50V
C508	1-102-038-00	CERAMIC	0.001MF 500V	C690	1-124-902-00	ELECT	0.47MF 20% 50V
C509	1-126-948-11	ELECT	100MF 20% 35V	C691	1-126-935-11	ELECT	470MF 20% 16V
C510	1-108-702-11	MYLAR	0.068MF 10% 100V	C692	1-104-664-11	ELECT	47MF 20% 25V
C511	1-124-927-11	ELECT	4.7MF 20% 50V	C693	1-136-173-00	FILM	0.47MF 5% 50V
C512	1-164-096-11	CERAMIC	0.01MF 50V	<CONNECTOR>			
C513	1-126-964-11	ELECT	10MF 20% 50V	CN202	1-564-505-11	PLUG, CONNECTOR	2P
C514	1-104-664-11	ELECT	47MF 20% 25V	CN301	*1-564-509-11	PLUG, CONNECTOR	6P
C515	1-126-941-11	ELECT	470MF 20% 25V	CN401	*1-560-124-00	PLUG, CONNECTOR (2.5MM)	4P
C516	1-102-244-00	CERAMIC	220PF 10% 500V	CN501	*1-580-798-11	CONNECTOR PIN (DY)	6P
C517	1-126-935-11	ELECT	470MF 20% 16V	CN502	1-508-768-00	PIN, CONNECTOR (5MM PITCH)	6P
C518	1-126-941-11	ELECT	470MF 20% 25V	CN601	*1-580-843-11	PIN, CONNECTOR (POWER)	
C519	1-102-244-00	CERAMIC	220PF 10% 500V	CN602	1-508-786-00	PIN, CONNECTOR (5MM PITCH)	2P
C520	1-107-652-91	ELECT	10MF 20% 250V	CN603	1-508-786-00	PIN, CONNECTOR (5MM PITCH)	2P
C521	1-102-244-00	CERAMIC	220PF 10% 500V	<DIODE>			
C522	1-123-024-21	ELECT	33MF 160V	D001	8-719-109-84	DIODE RD5.1ESB1	
C523	1-136-108-00	FILM	0.43MF 5% 200V	D003	8-719-911-19	DIODE 1SS119	
C525	1-106-387-00	MYLAR	0.068MF 10% 200V	D201	8-719-110-72	DIODE RD30ESB2	
C526	1-162-114-00	CERAMIC	0.0047MF 2KV	D302	8-719-109-84	DIODE RD5.1ESB1	
C527	1-126-233-11	ELECT	22MF 20% 50V	D401	8-719-110-36	DIODE RD13ESB2 (KV-13M10/14R10)	
C528	1-107-635-91	ELECT	4.7MF 20% 160V	D403	8-719-911-19	DIODE 1SS119	
C530	1-104-664-11	ELECT	47MF 20% 25V	D405	8-719-110-36	DIODE RD13ESB2 (KV-13M10/14R10)	
C531	1-104-664-11	ELECT	47MF 20% 25V	D501	8-719-028-72	DIODE RGPO2-17EL-6433	
C553	1-102-228-00	CERAMIC	470PF 10% 500V	D502	8-719-908-03	DIODE GPO8D	
C554 Δ 1-109-681-11	FILM	0.0057MF	3% 1.5KV	D503	8-719-911-19	DIODE 1SS119	
C555 Δ 1-162-116-91	CERAMIC	680PF	10% 2KV	D504	8-719-302-43	DIODE EL1Z	
C558 1-106-371-00	MYLAR	0.015MF	10% 100V	D505	8-719-911-19	DIODE 1SS119	
C559 Δ 1-162-116-91	CERAMIC	330PF	10% 2KV	D506	8-719-110-08	DIODE RD8.2ESB2	
C575	1-106-371-00	MYLAR	0.015MF 200V	D507	8-719-911-19	DIODE 1SS119	
C578 Δ 1-106-379-91	MYLAR	0.015MF	10% 100V	D509	8-719-302-43	DIODE EL1Z	
C601 Δ 1-161-741-71	CERAMIC	1000PF	10% 400V	D510 Δ 8-719-302-43	DIODE EL1Z-V1		
C602 Δ 1-136-311-51	FILM	0.47MF	20% 125V	D512	8-719-302-43	DIODE EL1Z	
C603 Δ 1-161-741-71	CERAMIC	1000PF	10% 400V	D514	8-719-911-19	DIODE 1SS119	
C605 Δ 1-161-741-71	CERAMIC	1000PF	10% 400V	D515	8-719-908-03	DIODE GPO8D	
C606 Δ 1-161-741-71	CERAMIC	1000PF	10% 400V	D601 Δ 8-719-510-51	DIODE D3S863F		
C609	1-104-759-11	ELECT	470MF 20% 200V	D602	8-719-911-19	DIODE 1SS119	
C610	1-164-625-11	CERAMIC	680PF 10% 500V	D603	8-719-510-48	DIODE D1N20R	
C611	1-164-625-11	CERAMIC	680PF 10% 500V	D604	8-719-510-48	DIODE D1N20R	
C612	1-136-169-00	FILM	0.22MF 5% 50V	D605	8-719-022-97	DIODE D2S4MF	
C613	1-136-169-00	FILM	0.22MF 5% 50V	D606	8-719-022-97	DIODE D2S4MF	
C614	1-129-719-91	FILM	0.027MF 10% 630V	D607	8-719-510-26	DIODE D1N120	
C615	1-164-625-11	CERAMIC	680PF 10% 500V	D608	8-719-510-26	DIODE D1N120	
C616	1-165-127-11	CERAMIC	470PF 10% 500V	D609	8-719-510-26	DIODE D1N120	
C617	1-137-366-11	FILM	0.0022MF 5% 50V	D610	8-719-510-26	DIODE D1N120	
C618	1-165-127-11	CERAMIC	470PF 10% 500V	D611	8-719-110-17	DIODE RD10ESB2	
C619	1-106-367-00	MYLAR	0.01MF 10% 200V	D612	8-719-109-90	DIODE RD5.6ESB3	
C620	1-165-127-11	CERAMIC	470PF 10% 500V	D613	8-719-303-49	DIODE R2M	
C621	1-165-127-11	CERAMIC	470PF 10% 500V				
C622	1-126-952-11	ELECT	1000MF 20% 16V				

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KV-13M10/MT1300/
RM-Y116 RM-Y123
KV-14R10/1460R
RM-Y116 RM-Y123

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D614	8-719-510-48	DIODE D1N20R		Q310	8-729-422-27	TRANSISTOR 2SD601A-Q	
D615	8-719-510-48	DIODE D1N20R		Q401	8-729-216-22	TRANSISTOR 2SA1162-G (KV-13M10/14R10)	
		<FILTER>		Q402	8-729-216-22	TRANSISTOR 2SA1162-G (KV-13M10/14R10)	
CF001	1-579-952-21	VIBRATOR, CERAMIC		Q403	8-729-216-22	TRANSISTOR 2SA1162-G (KV-13M10/14R10)	
		<FUSE>		Q404	8-729-422-27	TRANSISTOR 2SD601A-Q	
F601	1-576-193-11	FUSE 6.3A/125V		Q504	8-729-105-08	TRANSISTOR 2SA1330-06	
	1-533-223-11	CLIP, FUSE: F601		Q550	8-729-140-96	TRANSISTOR 2SD774-34	
		<FERRITE BEAD>		Q551	8-729-810-49	TRANSISTOR 2SD1877S-SONY-CA	
FB501	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH		Q554	8-729-216-22	TRANSISTOR 2SA1162-G	
FB601	1-412-911-11	INDUCTOR, FERRITE BEAD		Q555	8-729-422-27	TRANSISTOR 2SD601A-Q	
FB602	1-412-911-11	INDUCTOR, FERRITE BEAD		Q601	8-729-422-27	TRANSISTOR 2SD601A-Q	
FB603	1-412-911-11	INDUCTOR, FERRITE BEAD		Q602	8-729-025-77	TRANSISTOR 2SC4663NPR-F	
FB604	1-412-911-11	INDUCTOR, FERRITE BEAD		Q603	8-729-025-77	TRANSISTOR 2SC4663NPR-F	
FB605	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH		Q604	8-729-140-93	TRANSISTOR 2SB733-34	
FB606	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH		Q605	8-729-422-27	TRANSISTOR 2SD601A-Q	
FB607	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH		Q606	8-729-423-99	TRANSISTOR 2SD2137-0P	
		<IC>		Q607	8-729-140-96	TRANSISTOR 2SD774-34	
IC101	8-759-274-78	IC M37265M4-A11SP		Q608	8-729-216-22	TRANSISTOR 2SA1162-G	
IC102	8-759-280-75	IC ST24C01CB1		Q609	8-729-422-27	TRANSISTOR 2SD601A-Q	
IC103	8-741-790-11	IC SBX1790-11				<RESISTOR>	
IC251	8-759-980-43	IC TDA2009A		R001	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
IC301	8-752-059-67	IC CXA1465AS		R002	1-216-073-00	METAL GLAZE 10K 5%	1/10W
IC401	8-759-140-53	IC UPD4053BC (KV-13M10/14R10)		R003	1-216-033-00	METAL GLAZE 220 5%	1/10W
IC501	8-759-801-98	IC LA7830		R004	1-216-049-00	METAL GLAZE 1K 5%	1/10W
IC502	8-759-145-58	IC UPC4558C		R005	1-216-073-00	METAL GLAZE 10K 5%	1/10W
IC601	8-759-420-24	IC AN1431T-TA		R007	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
IC690	8-759-805-37	IC L78LR05D-MA		R008	1-216-033-00	METAL GLAZE 220 5%	1/10W
		<JACK>		R009	1-216-033-00	METAL GLAZE 220 5%	1/10W (KV-13M10/14R10)
J251	1-568-267-21	JACK (KV-13M10/14R10)		R012	1-216-033-00	METAL GLAZE 220 5%	1/10W
J402	1-695-239-11	JACK BLOCK, PIN 2P (KV-13M10/14R10)		R013	1-216-049-00	METAL GLAZE 1K 5%	1/10W
		<COIL>		R014	1-216-033-00	METAL GLAZE 220 5%	1/10W
L001	1-408-409-00	INDUCTOR 10UH		R015	1-216-033-00	METAL GLAZE 220 5%	1/10W
L002	1-408-421-00	INDUCTOR 100UH		R016	1-216-041-00	METAL GLAZE 470 5%	1/10W (KV-13M10/MT1300)
L003	1-408-421-00	INDUCTOR 100UH (KV-13M10/MT1300)		R017	1-216-121-00	METAL GLAZE 1M 5%	1/10W (KV-13M10/MT1300)
L202	1-408-408-00	INDUCTOR 8 2UH		R018	1-216-049-00	METAL GLAZE 1K 5%	1/10W
L501	1-412-553-11	INDUCTOR 3 3MMH		R019	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
L502	1-410-669-31	INDUCTOR 33UH		R020	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
L503	1-412-533-21	INDUCTOR 33UH		R021	1-216-045-00	METAL GLAZE 680 5%	1/10W
L551	1-412-533-21	INDUCTOR 47UH		R022	1-216-047-00	METAL GLAZE 820 5%	1/10W
L602	1-410-670-31	INDUCTOR 39UH		R023	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
		<IC LINK>		R025	1-216-033-00	METAL GLAZE 220 5%	1/10W
PS201A	1-532-637-91	LINK IC 1.0A		R026	1-216-033-00	METAL GLAZE 220 5%	1/10W
		<TRANSISTOR>		R027	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q001	8-729-216-22	TRANSISTOR 2SA1162-G		R028	1-216-041-00	METAL GLAZE 470 5%	1/10W
Q201	8-729-140-96	TRANSISTOR 2SD774-34		R029	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q261	8-729-216-22	TRANSISTOR 2SA1162-G		R030	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q262	8-729-422-27	TRANSISTOR 2SD601A-Q		R031	1-216-045-00	METAL GLAZE 680 5%	1/10W
Q301	8-729-216-22	TRANSISTOR 2SA1162-G		R032	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R033	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R034	1-216-295-00	METAL GLAZE 0 5%	1/10W
				R036	1-216-295-00	METAL GLAZE 0 5%	1/10W
				R038	1-216-049-00	METAL GLAZE 1K 5%	1/10W (KV-13M10/MT1300)
				R039	1-216-077-00	METAL GLAZE 15K 5%	1/10W (KV-13M10/MT1300)
				R041	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R044	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R045	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
				R046	1-216-033-00	METAL GLAZE 220 5%	1/10W

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R047	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R339	1-216-045-00	METAL GLAZE	680 5% 1/10W
R048	1-216-025-00	METAL GLAZE	100 5% 1/10W	R341	1-216-687-11	METAL CHIP	33K 0.50% 1/10W
R049	1-216-089-91	METAL GLAZE	47K 5% 1/10W	R343	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R050	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R345	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R052	1-216-295-00	METAL GLAZE	0 5% 1/10W	R346	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R054	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R347	1-216-025-00	METAL GLAZE	100 5% 1/10W
R056	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R351	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R057	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R356	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R058	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R360	1-216-041-00	METAL GLAZE	470 5% 1/10W
R060	1-216-295-00	METAL GLAZE	0 5% 1/10W	R363	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R061	1-216-045-00	METAL GLAZE	680 5% 1/10W	R366	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R062	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R367	1-216-109-00	METAL GLAZE	330K 5% 1/10W
R063	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R405	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R064	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R406	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R065	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R407	1-216-025-00	METAL GLAZE	100 5% 1/10W
R067	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R408	1-216-295-00	METAL GLAZE	0 5% 1/10W
R101	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R409	1-216-295-00	METAL GLAZE	0 5% 1/10W
R202	1-249-415-11	CARBON	680 5% 1/4W	R410	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R203	1-215-899-11	METAL OXIDE	15K 5% 2W F	R411	1-216-041-00	METAL GLAZE	470 5% 1/10W
R205	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R412	1-216-041-00	METAL GLAZE	470 5% 1/10W
R206	1-216-689-11	METAL GLAZE	39K 5% 1/10W	R413	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R207	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R414	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R208	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R415	1-216-295-00	METAL GLAZE	0 5% 1/10W
R209	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R418	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R210	1-216-033-00	METAL GLAZE	220 5% 1/10W	R419	1-216-023-00	METAL GLAZE	82 5% 1/10W
R211	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R420	1-249-417-11	CARBON	1K 5% 1/4W
R253	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R422	1-216-295-00	METAL GLAZE	0 5% 1/10W
R254	1-216-015-00	METAL GLAZE	39 5% 1/10W	R423	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R258	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R425	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R260	1-216-295-00	METAL GLAZE	0 5% 1/10W	R426	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R263	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R428	1-216-295-00	METAL GLAZE	0 5% 1/10W
R264	1-216-041-00	METAL GLAZE	470 5% 1/10W	R430	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R265	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R431	1-216-295-00	METAL GLAZE	0 5% 1/10W
R266	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R433	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R267	1-216-089-91	METAL GLAZE	47K 5% 1/10W	R436	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R268	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R439	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R270	1-249-385-11	CARBON	2.2 5% 1/4W	R441	1-216-025-00	METAL GLAZE	100 5% 1/10W
R271	1-249-417-11	CARBON	1K 5% 1/4W	R442	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R272	1-249-411-11	CARBON	330 5% 1/4W	R445	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R273	1-249-411-11	CARBON	330 5% 1/4W	R501	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R301	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R505	1-216-349-00	METAL OXIDE	1 5% 1W F
R302	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R506	1-216-429-00	METAL OXIDE	270 5% 1W F
R311	1-216-678-11	METAL CHIP	13K 0.50% 1/10W	R507	1-247-891-00	CARBON	330K 5% 1/4W
R312	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R508	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R313	1-216-653-11	METAL CHIP	1.2K 0.50% 1/10W	R509	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R314	1-216-117-00	METAL GLAZE	680K 5% 1/10W				
R315	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W				
R321	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R322	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R323	1-216-121-00	METAL GLAZE	1M 5% 1/10W				
R324	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R325	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R326	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R327	1-216-077-00	METAL GLAZE	15K 5% 1/10W				
R328	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R333	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R334	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R336	1-216-121-00	METAL GLAZE	1M 5% 1/10W				
R338	1-216-049-00	METAL GLAZE	1K 5% 1/10W				

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KV-13M10/MT1300/
RM-Y116 RM-Y123
KV-14R10/1460R
RM-Y116 RM-Y123

A **C**

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R510	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R637	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R511	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R690	1-216-355-11	METAL OXIDE	3.3 5% 1W F
R512	1-215-445-00	METAL	10K 1% 1/4W			<RELAY>	
R513	1-216-645-11	METAL CHIP	560 0.50% 1/10W	R601 Δ 1-755-032-11		RELAY	
R515	1-216-675-11	METAL CHIP	10K 0.50% 1/10W			<SWITCH>	
R518	1-215-431-00	METAL	2.7K 1% 1/4W	S001	1-571-532-21	SWITCH, TACTIL	
R519	1-215-879-11	METAL OXIDE	47K 5% 1W F	S002	1-571-532-21	SWITCH, TACTIL	
R520	1-216-648-11	METAL CHIP	750 0.50% 1/10W	S003	1-571-532-21	SWITCH, TACTIL	
R523	1-215-471-00	METAL	120K 1% 1/4W	S004	1-571-532-21	SWITCH, TACTIL	
R525 Δ		METAL CHIP	10K 1% 1/10W	S005	1-571-532-21	SWITCH, TACTIL	
R527	1-216-678-11	METAL CHIP	13K 0.50% 1/10W	S006	1-571-532-21	SWITCH, TACTIL	
R531	1-216-359-00	METAL OXIDE	6.8 5% 1W F			<TRANSFORMER>	
R532	1-215-457-00	METAL	33K 1% 1/4W	T501 Δ 1-853-142-11		TRANSFORMER ASSY. FLYBACK (MX-E70245)	
R533	1-216-359-00	METAL OXIDE	6.8 5% 1W F	T551 1-437-195-11		TRANSFORMER HORIZONTAL DRIVE	
R534	1-215-462-00	METAL	51K 1% 1/4W	T601 Δ 1-423-895-11		TRANSFORMER LINE FILTER (LFT)	
R536	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W	T602 Δ 1-423-895-11		TRANSFORMER LINE FILTER (LFT)	
R538	1-215-864-00	METAL OXIDE	150 5% 1W F	T603 Δ 1-426-819-11		TRANSFORMER CONVERTER (FLT)	
R539	1-215-870-11	METAL OXIDE	1.5K 5% 1W F	T604 Δ 1-423-906-31		TRANSFORMER CONVERTER (PRT)	
R540	1-249-441-11	CARBON	100K 5% 1/4W			<THERMISTOR>	
R542	1-216-083-00	METAL GLAZE	27K 5% 1/10W	T8P601 Δ 1-810-511-21		THERMISTOR POSITIVE	
R543	1-218-764-11	METAL CHIP	330K 0.50% 1/10W			<TUNER>	
R544	1-216-654-11	METAL CHIP	1.3K 0.50% 1/10W	T9101 Δ 8-538-047-00		TUNER BTP-L4401	
R545	1-216-097-00	METAL GLAZE	100K 5% 1/10W			<VARISTOR>	
R547	1-216-073-00	METAL GLAZE	10K 5% 1/10W	VDR601	1-810-551-21	VARISTOR	
R548	1-216-113-00	METAL GLAZE	470K 5% 1/10W			<CRYSTAL>	
R549	1-216-369-00	METAL OXIDE	1 5% 2W F	X301	1-760-190-41	VIBRATOR, CRYSTAL	
R554	1-216-043-00	METAL GLAZE	560 5% 1/10W			*****	
R555	1-215-897-11	METAL OXIDE	6.8K 5% 2W F			*A-1331-346-A	C BOARD, COMPLETE *****
R557	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W			*4-374-912-01	COVER (MAIN), CV VOL
R558	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W			*4-374-913-01	COVER (REAR LID), CV VOL
R559	1-216-049-00	METAL GLAZE	1K 5% 1/10W			<CAPACITOR>	
R560	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C701	1-136-601-11	FILM	0.01MF 10% 630V
R583 Δ 1-215-882-71		METAL OXIDE	22 5% 2W F	C701	1-137-490-11	FILM	0.01MF 10% 1KV
R601 Δ 1-202-892-91		SOLID	4.7K 20% 1/2W	C704	1-162-116-00	CERAMIC	680PF 10% 2KV
R602	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C706	1-124-916-11	ELECT	22MF 20% 25V
R605	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	C712	1-164-082-11	CERAMIC	560PF 10% 50V
R606	1-260-288-11	CARBON	0.47 5% 1/2W			C732	1-164-081-11 CERAMIC 470PF 10% 50V
R607	1-247-889-00	CARBON	270K 5% 1/4W			C752	1-164-081-11 CERAMIC 470PF 10% 50V
R608	1-247-889-00	CARBON	270K 5% 1/4W			C771	1-164-083-11 CERAMIC 680PF 10% 50V
R609	1-216-355-11	METAL OXIDE	3.3 5% 1W F			C772	1-164-083-11 CERAMIC 680PF 10% 50V
R610	1-216-355-11	METAL OXIDE	3.3 5% 1W F			C773	1-164-083-11 CERAMIC 680PF 10% 50V
R611	1-247-889-00	CARBON	270K 5% 1/4W				
R612	1-247-889-00	CARBON	270K 5% 1/4W				
R613	1-249-409-11	CARBON	220 5% 1/4W				
R614	1-247-891-00	CARBON	330K 5% 1/4W				
R615	1-216-101-00	METAL GLAZE	150K 5% 1/10W				
R616	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R617	1-216-661-11	METAL CHIP	2.7K 0.50% 1/10W				
R618	1-215-471-00	METAL	120K 1% 1/4W				
R619	1-247-811-31	CARBON	150 5% 1/4W				
R620	1-249-430-11	CARBON	12K 5% 1/4W				
R621	1-260-099-11	CARBON	1K 5% 1/2W				
R622	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R623	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R625	1-216-355-11	METAL OXIDE	3.3 5% 1W F				
R626	1-247-811-31	CARBON	150 5% 1/4W				
R628	1-249-415-11	CARBON	680 5% 1/4W				
R629	1-216-687-11	METAL CHIP	33K 0.50% 1/10W				
R630	1-216-687-11	METAL CHIP	33K 0.50% 1/10W				
R631	1-249-431-11	CARBON	15K 5% 1/4W				
R632	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R634	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R635	1-212-857-00	FUSIBLE	10 5% 1/4W F				
R636	1-216-049-00	METAL GLAZE	1K 5% 1/10W				

• The components identified by **Δ** 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.

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



REF. NO.	PART NO.	DESCRIPTION	REMARK
<CONNECTOR>			
CN701	1-695-915-11	TAB (CONTACT)	
CN702	1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
CN703	*1-564-509-11	PLUG, CONNECTOR 6P	
<DIODE>			
D770	8-719-911-19	DIODE 1SS119	
D771	8-719-911-19	DIODE 1SS119	
D772	8-719-911-19	DIODE 1SS119	
D773	8-719-911-19	DIODE 1SS119	
D777	8-719-109-72	DIODE RD3.9ESB2	
D790	8-719-911-19	DIODE 1SS119	
D791	8-719-911-19	DIODE 1SS119	
D792	8-719-911-19	DIODE 1SS119	
<JACK>			
J701	1-526-819-11	SOCKET, PICTURE TUBE	
<COIL>			
L701	1-410-478-11	INDUCTOR 47UH	
<TRANSISTOR>			
Q711	8-729-326-11	TRANSISTOR 2SC2611	
Q731	8-729-326-11	TRANSISTOR 2SC2611	
Q751	8-729-326-11	TRANSISTOR 2SC2611	
Q770	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q771	8-729-200-17	TRANSISTOR 2SA1091-0	
Q772	8-729-200-17	TRANSISTOR 2SA1091-0	
Q773	8-729-200-17	TRANSISTOR 2SA1091-0	
<RESISTOR>			
R700	1-260-087-11	CARBON 100 5%	1/2W
R702	1-260-131-11	CARBON 470K 5%	1/2W
R703	1-260-123-11	CARBON 100K 5%	1/2W
R704	1-216-369-00	METAL OXIDE 1 5%	2W F
R706	1-260-127-11	CARBON 220K 5%	1/2W
R707	1-260-131-11	CARBON 470K 5%	1/2W
R708	1-202-719-00	SOLID 1M 20%	1/2W
R710	1-260-105-11	CARBON 3.3K 5%	1/2W
R711	1-247-807-31	CARBON 100 5%	1/4W
R712	1-215-924-00	METAL OXIDE 15K 5%	3W F
R714	1-249-429-11	CARBON 10K 5%	1/4W
R716	1-249-412-11	CARBON 390 5%	1/4W
R717	1-249-393-11	CARBON 10 5%	1/4W
R730	1-260-105-11	CARBON 3.3K 5%	1/2W
R731	1-247-807-31	CARBON 100 5%	1/4W
R732	1-215-924-00	METAL OXIDE 15K 5%	3W F
R734	1-249-429-11	CARBON 10K 5%	1/4W
R736	1-249-412-11	CARBON 390 5%	1/4W
R737	1-249-393-11	CARBON 10 5%	1/4W
R750	1-260-105-11	CARBON 3.3K 5%	1/2W
R751	1-247-807-31	CARBON 100 5%	1/4W
R752	1-215-924-00	METAL OXIDE 15K 5%	3W F
R754	1-249-429-11	CARBON 10K 5%	1/4W
R756	1-249-412-11	CARBON 390 5%	1/4W
R757	1-249-393-11	CARBON 10 5%	1/4W
R770	1-249-437-11	CARBON 47K 5%	1/4W

REF. NO.	PART NO.	DESCRIPTION	REMARK
R774	1-249-437-11	CARBON 47K 5%	1/4W
R775	1-249-417-11	CARBON 1K 5%	1/4W
R776	1-249-409-11	CARBON 220 5%	1/4W
R790	1-249-417-11	CARBON 1K 5%	1/4W
R791	1-249-413-11	CARBON 470 5%	1/4W
<VARIABLE RESISTOR>			
RV701	1-230-619-11	RES, ADJ, METAL GLAZE 10M	
RV702	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
RV703	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	

MISCELLANEOUS			

Δ 1-426-146-01		COIL, DEMAGNETIZATION	
1-452-277-00		MAGNET, BMC	
1-504-256-11		SPEAKER (8CM)	
Δ 1-765-486-11		CORD, POWER (WITH CONNECTOR) 10A/125V	
1-766-374-11		PLUG, F-PIN	
Δ 8-451-418-11		REFLECTION YOKE Y14NSA2	
Y901	8-735-561-05	PICTURE TUBE (A34J8U10X)	

ACCESSORIES AND PACKING MATERIALS			

1-417-182-11		CONVERTER	
1-501-372-41		ANTENNA, TELESCOPIC	
3-758-850-21		MANUAL, INSTRUCTION	
3-758-850-31		MANUAL, INSTRUCTION	(KV-13M10(CND)/MT1300)
3-758-850-41		MANUAL, INSTRUCTION	(KV-1460R/14R10)
*4-039-866-01		CUSHION (UPPER) (ASSY)	
*4-039-867-01		CUSHION (LOWER) (ASSY)	
*4-039-871-01		INDIVIDUAL CARTON	(KV-13M10/MT1300)
*4-040-502-01		INDIVIDUAL CARTON	(KV-1460R/14R10)
*4-041-253-11		BAG, PROTECTION	
REMOTE COMMANDER			
1-466-966-11		REMOTE COMMANDER (RM-Y116)	(KV-13M10/14R10)
9-903-826-01		COVER, BATTERY (FOR RM-Y116)	(KV-13M10/14R10)
1-467-738-11		REMOTE COMMANDER (RM-Y123)	(KV-MT1300/1460R)
9-907-089-01		COVER, BATTERY (FOR RM-Y123)	(KV-MT1300/1460R)