KV-27EXR20/27EXR25

RM-Y103 RM-Y104

SERVICE MANUAL

6783

US Model

KV-27EXR20

Chassis No. SCC-D50E-A

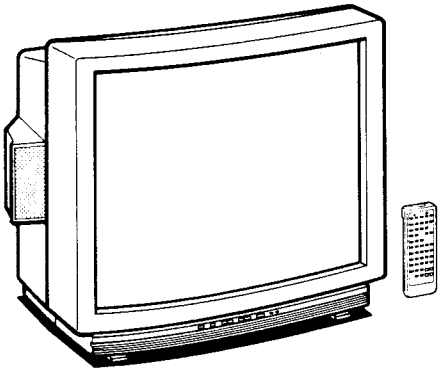
KV-27EXR25

Chassis No. SCC-D50F-A

Canadian Model

KV-27EXR25

Chassis No. SCC-D61C-A



ANU-2 CHASSIS

MODELS OF THE SAME SERIES	
KV-27EXR20/EXR25	
KV-27EXR10/EXR15	

SPECIFICATIONS

Television system American TV standards

Channel coverage VHF: 2 – 13
UHF: 14 – 69
Cable TV: 1 – 125

Picture tube Microblack™ Trinitron* tube
27-inch picture measured diagonally
28-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 × 2

Power requirements 120 V AC, 60 Hz

Power consumption

	Max.	Standby
KV-27EXR20	160 W	1.5 W
KV-27EXR25	165 W	

Supplied accessories
(KV-27EXR20)
Remote commander RM-Y103 with 2 size AA (R6) batteries (1)
(KV-27EXR25)
Remote commander RM-Y104 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 659.0 × 594.3 × 508.5 mm (W × H × D)

Weight 49.0 kg

Design and specifications are subject to change without notice.

TRINITRON® COLOR TV

SONY®

MICROFILM

6783

TABLE OF CONTENTS

(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 ⚠ 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, COURTCIRCUITER 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 CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS ÁLA SÉCURITÉ!!

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

SAFETY CHECK-OUT

(US Model only)

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

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.

2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.

3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.

4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair Point them out to the customer and recommend their replacement.

5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.

6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.

7. Check the 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

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

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 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 coldwater pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

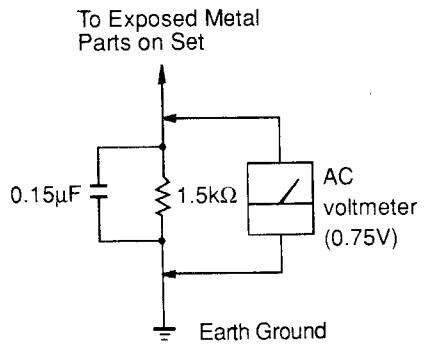


Fig. A. Using an AC voltmeter to check AC leakage.

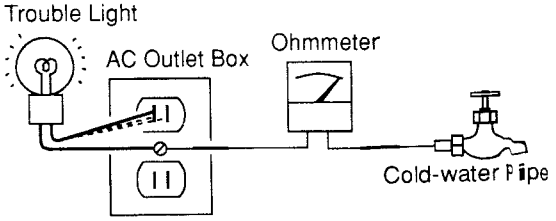
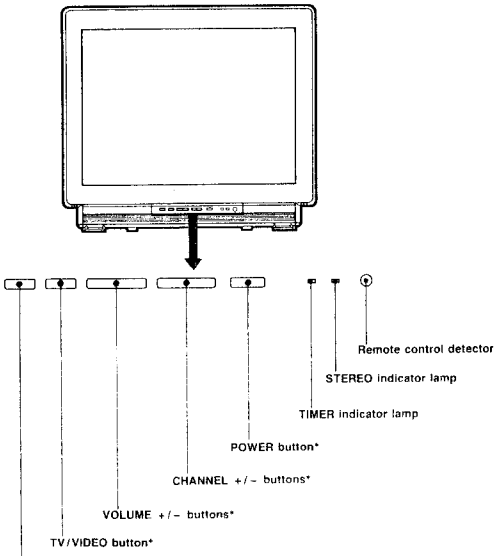


Fig. B. Checking for earth ground.

SECTION 1
GENERAL

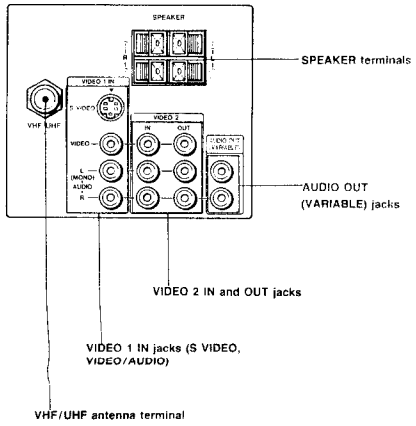
1-1. LOCATION OF CONTROLS

Front panel

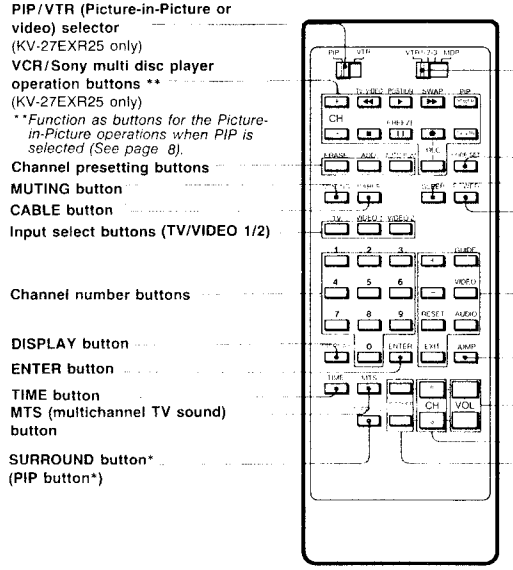


Buttons with the same function are also located on the commander.

Rear Panel



Universal Remote Commander



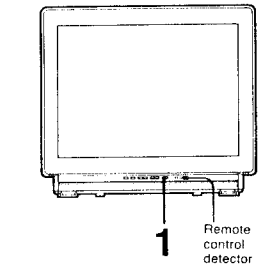
RM-Y104 (Y103)

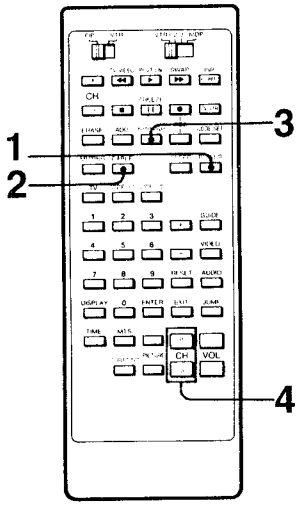
Buttons with the same function are also located on the TV.

Note: Model KV-27EXR25 also has a PIP button on the TV, instead of a SURROUND button.

1-2. PRESETTING TV CHANNELS

To Preset TV Channels Automatically

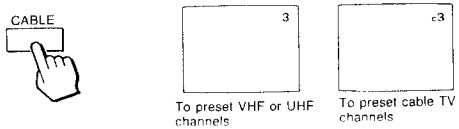




RM-Y104

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

2 Press CABLE so that the appropriate mode appears.



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.

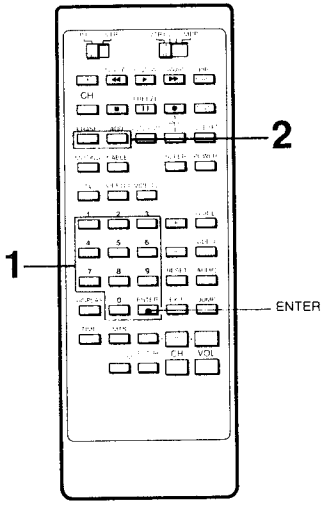
"AUTO PROGRAM" is displayed on the screen and receivable channels (other than the channels already preset) will be preset in numerical sequence. The channels previously preset remain in the TV's memory.
When no more channels can be found, the programming stops and the lowest numbered channel is displayed.

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."

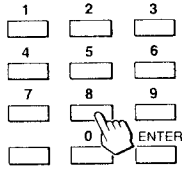
Channels that can be received on this TV:
VHF: 2 – 13
UHF: 14 – 69
Cable: 1 – 125

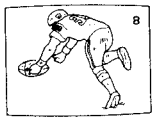
To Preset Only Desired Channels or to Erase Unnecessary Channels



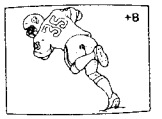
RM-Y104

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



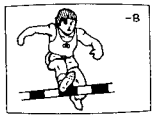


2 To add channels
Press ADD.



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.

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

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

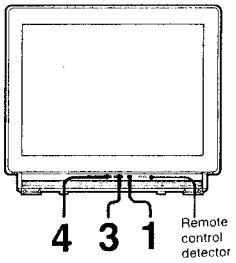
Cable TV channel chart*
Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to the chart below.

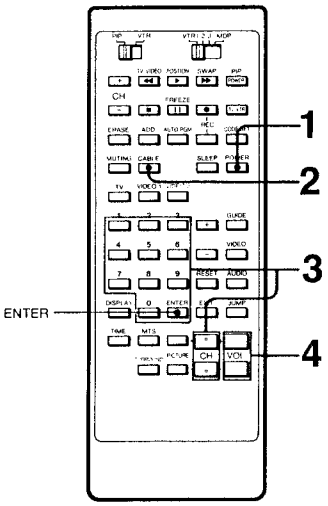
Number on this TV	1	5	6	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Corresponding CATV channel	A-8	A-7	A-6	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q

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+57	W+58	A-5	A-4	A-3	A-2	A-1	W+59	W+60	W+61	. . .	.	W+82	W+83	W+84

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

1-3. WATCHING TV PROGRAMS





RM-Y104

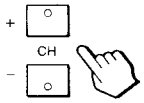
1 Press POWER on the TV or the remote commander to turn the TV on.

2 Press CABLE so that the appropriate mode appears.

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.

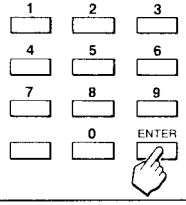
3 Select a channel in one of the following two ways:

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

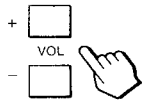


*For more on presetting channels, see p. 5.

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.



4 Press VOL + or − to adjust the volume.

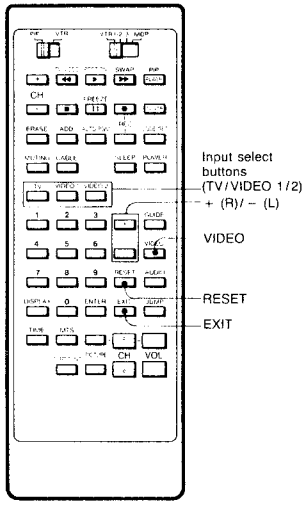


To turn off the TV
Press POWER on the TV or the remote commander again.

1-4. ADJUSTING PICTURE AND SOUND QUALITY

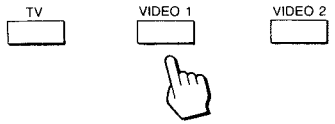
You can set different picture and sound quality levels for each input mode by changing the input mode (TV/VIDEO 1/2) before setting. These settings will be retained even when you turn the TV off.

Adjusting the Picture

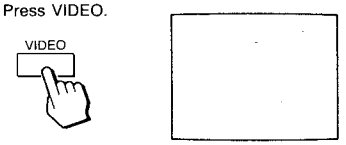


RM-Y104

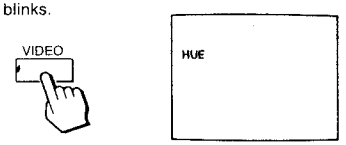
1 Select the input mode you want to adjust with the TV/VIDEO 1/2 buttons.



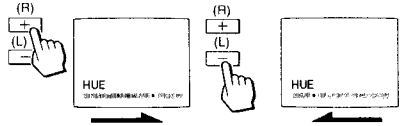
2 Press VIDEO.



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



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



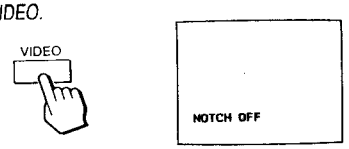
Picture quality	Press − (L) button	Press + (R) button
HUE	Skin tones become purplish	Skin tones become greenish
COLOR	For less color intensity	For more color intensity
BRIGHT	For less brightness	For more brightness
SHARP	For less sharpness	For more sharpness

The display will disappear automatically after a few seconds.

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

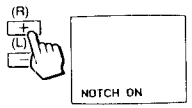
NOTCH filter setting

Press VIDEO.



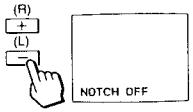
Normally, set to NOTCH OFF.
If dots or stripes appear while you are watching an image from a computer or video source, set to NOTCH ON.

To set NOTCH filter ON.



Press +.

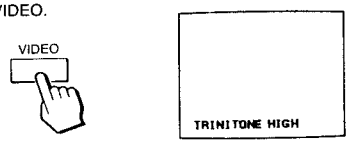
To set NOTCH filter OFF.



Press −.

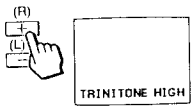
TRINITONE adjustment

Press VIDEO.



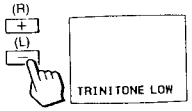
Color picture tubes are usually manufactured with a fixed color temperature (tint) that determines the "warmth" (red tint) or "coolness" (blue tint) of the picture. With Sony's Trinitone feature, you can adjust the picture color to your preference.

For bright white



TRINITONE HIGH
The factory preset whiteness level will be restored.

For soft white



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

Picture Contrast adjustment

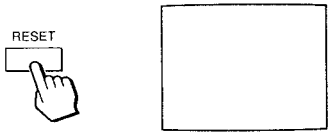
Press to increase picture contrast with vivid color.

Press to decrease picture contrast with soft color.

Note
The picture contrast level cannot be stored under each input mode.

To restore the factory (mid-level) settings

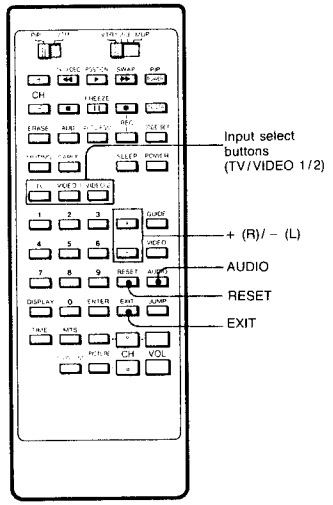
Press RESET.



The display will disappear after a few seconds.

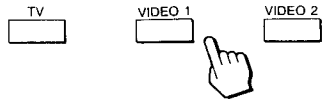
To restore the normal picture
Press EXIT.

Adjusting the Sound

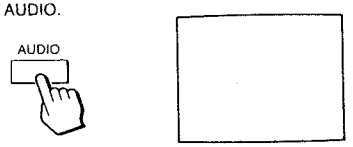


RM-Y104

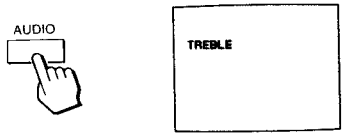
1 Select the input mode you want to adjust with the TV/VIDEO 1/2 buttons.



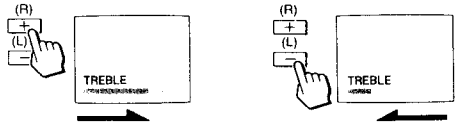
2 Press AUDIO.



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



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

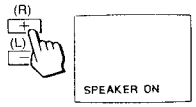


Sound quality	Press − (L) button	Press + (R) button
TREBLE	To decrease treble response	To increase treble response
BASS	To decrease bass response	To increase bass response
BALANCE	To emphasize the left speaker's volume	To emphasize the right speaker's volume

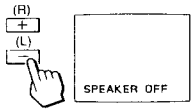
The display will disappear automatically after a few seconds.

SPEAKER ON

Press AUDIO.



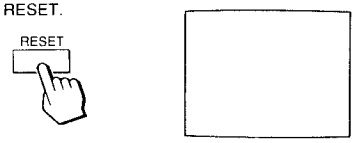
To use the speakers connected to the SPEAKER terminals.



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

To restore the factory (mid-level) settings

Press RESET.

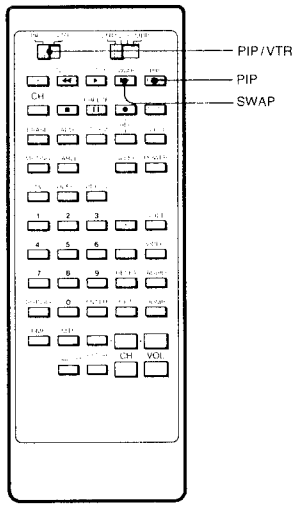


The display will disappear after a few seconds.

To restore the normal picture
Press EXIT.

1-5. USING PICTURE-IN-PICTURE (KV-27EXR25 ONLY)

Picture-in-Picture controls

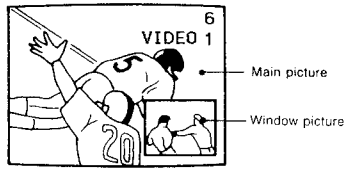


RM-Y104

This function is included only with model KV-27EXR25.

Besides the main picture, you can watch a video source simultaneously as a window picture.

For example, use Picture-in-Picture when you want to watch a TV program and also a video source from connected equipment (VCR, video disc player, etc.). If you connect a VCR, you can watch two different TV programs at the same time.

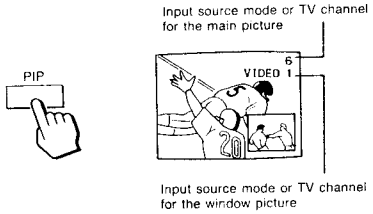


Note
If the main picture is blocked, Picture-in-Picture does not function. Press EXIT to cancel CHANNEL BLOCK.

To display a window picture — PIP

1 Set the PIP/VTR selector to PIP.

2 Press PIP.



A window picture will appear in the same mode as the last time you used PIP.

Picture-in-Picture also functions when the main picture is in the VIDEO mode.

To make the window picture disappear
Press PIP again.

To scan channels in the window picture
Press CH +/– on the remote commander.

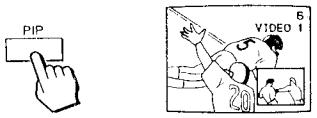
To change the input mode of a window picture
Press TV/VIDEO on the remote commander. Each time you press this button, TV, VIDEO 1 or VIDEO 2 mode will be selected in sequence.

Notes on the sub picture
- You cannot hear the sound of the window picture channel.
- If a window picture is blocked, the "BLOCKED" display will appear on the main screen.

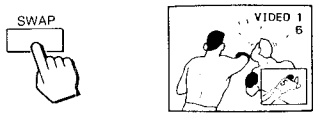
To swap the main and window pictures — SWAP

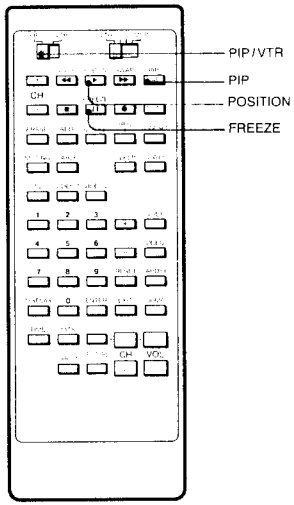
1 Set the PIP/VTR selector to PIP.

2 Press PIP to display a window picture.



3 Press SWAP.



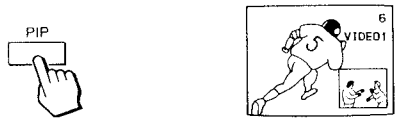


RM-Y104

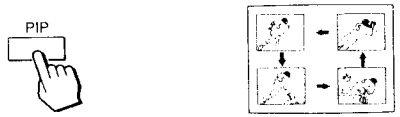
To change the position of the window picture — POSITION

1 Set the PIP/VTR selector to PIP.

2 Press PIP to display a window picture.



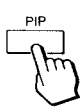
3 Press POSITION.
Each time POSITION is pressed, the window picture will move counterclockwise on the screen as illustrated.



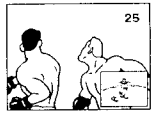
To freeze a window picture

1 Set the PIP/VTR selector to PIP.

2 Press PIP to display a window picture.



3 Press FREEZE.
The window picture will freeze.
Use this feature when you want to write down the recipe of a cooking program or a displayed toll free number, etc.



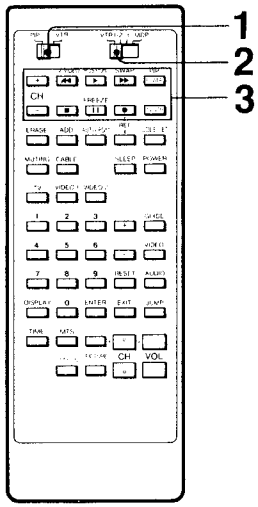
To restore the normal picture
Press FREEZE again.

Note
The broadcast will be progressing normally while the still picture is on the screen.

1-6. 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



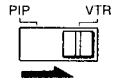
RM-Y104

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

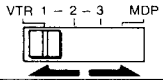
Notes
- If you use only Sony video equipment with your TV, you can operate that equipment following the steps on this page only. However, if you use other makers' video equipment as well as Sony's, please follow the steps instead (Pre-Programmed function).
- If the video equipment does not have a certain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

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.
(KV-27EXR25 only)



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.

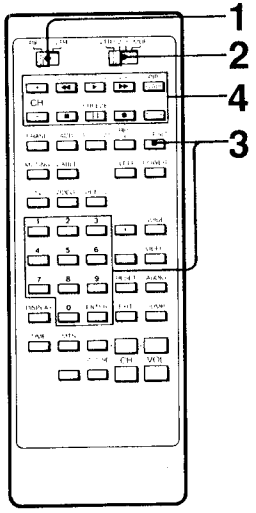
Operating a Video Cassette Recorder

To record	Press ●.
To play	Press ►.
To stop	Press ■.
To fast forward	Press ►►.
To rewind the tape	Press ◄◄.
To freeze a picture	Press ❚❚. *To resume normal playback, press again.*
To search the picture forward and backward	Keep pressing ►► or ◄◄ during playback. *To resume normal playback, release the button.*

Operating a Video Disc Player

To play	Press ►.
To stop	Press ■.
To freeze a picture	Press ❚❚. *To resume normal playback, press again.* *This function is effective only for CAV (standard-play disc). With CLV (extended-play disc), the projector will go into the standby mode if ❚❚ is pressed.
To search the picture forward and backward	Keep pressing ►► or ◄◄ during playback. *To resume normal playback, release the button.*

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

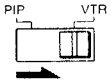


RM-Y104

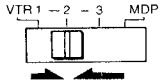
With the supplied remote commander, you can operate non-Sony or Sony video equipment as shown below.

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. (KV-27EXR25 only)



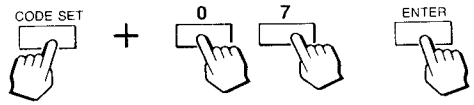
2 Set the VTR 1/2/3/MDP selector to VTR 2.



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.

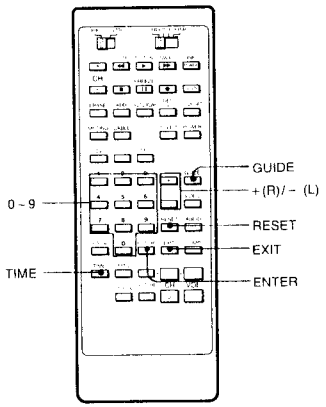
4 Use the video operating buttons to operate video equipment.

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
MITSUBISHI	18, 19, 26, 27
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	05
PHILCO	05, 06
SCOTT	21
MULTITECH	29

1-7. USING THE GUIDE FUNCTION (on-screen menu)

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

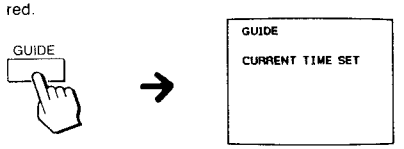


RM-Y104

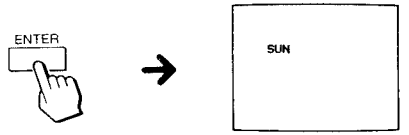
Setting the Clock

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

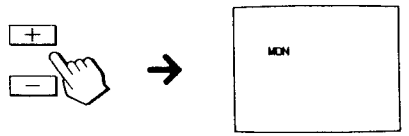
1 Press GUIDE.
Press repeatedly until the "CURRENT TIME SET" display turns red.



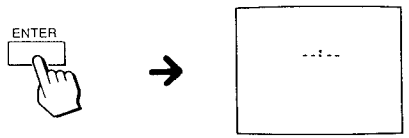
2 Press ENTER.



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

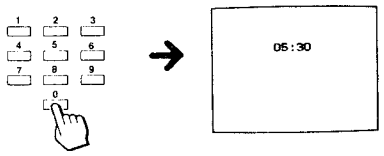


4 Press ENTER.
If the time is already set, the current set time will appear.
To clear these numbers, press any number.

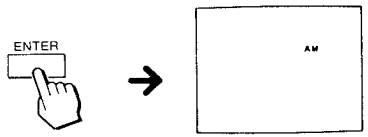


- *All settings will be erased from the TV's memory if the TV is unplugged, or if a power failure occurs.*
- *The ON/OFF TIMER and CHANNEL BLOCK will operate only if the clock is set correctly.*

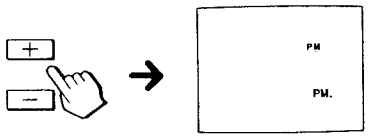
5 Press 0 – 9 to set the desired time.
(For 5:30, press 0, 5, 3, 0.)



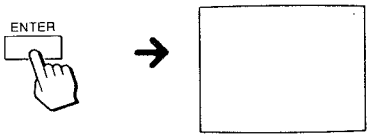
6 Press ENTER.



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.

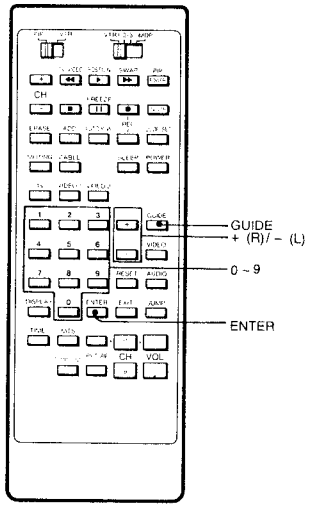
To reset the setting
Display the "CURRENT TIME SET" page and press RESET, then repeat steps 3 to 8.

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.

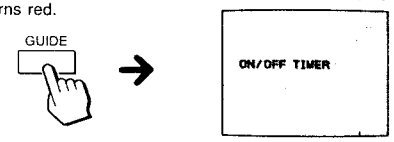


RM-Y104

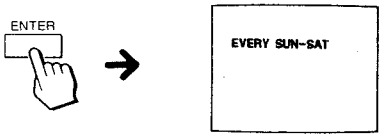
Setting the ON/OFF Timer

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.

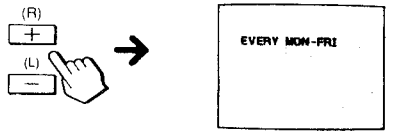
1 Press GUIDE.
Press repeatedly until the "ON/OFF TIMER" display turns red.



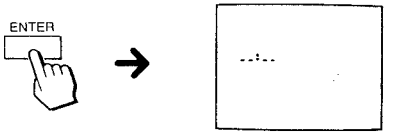
2 Press ENTER.
Instructions for selecting the day appear.
(If the clock has not been set, "PLEASE SET CURRENT TIME FIRST" appears on the screen. Go back to page 11 — Setting the Clock.)



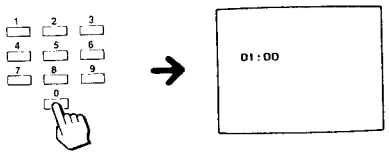
3 Press +/– until the desired day of the week appears.



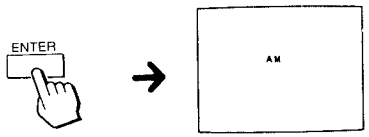
4 Press ENTER.
Instructions for setting the time appear.



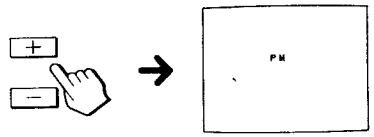
5 Press 0 – 9 to set the desired time.
(For 1:00, press 0, 1, 0, 0.)



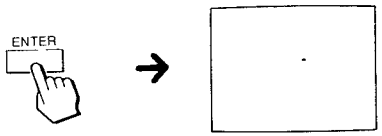
6 Press ENTER.



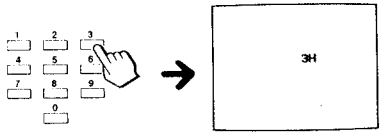
7 Press +/– to set AM or PM.



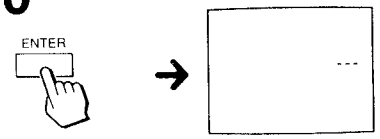
8 Press ENTER.



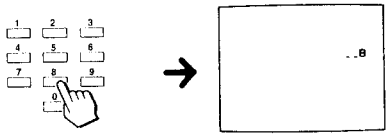
9 Press a channel number button to set the duration. (Up to 9 hours can be set.)



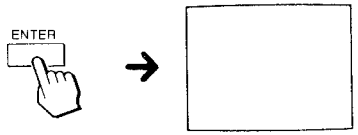
10 Press ENTER.

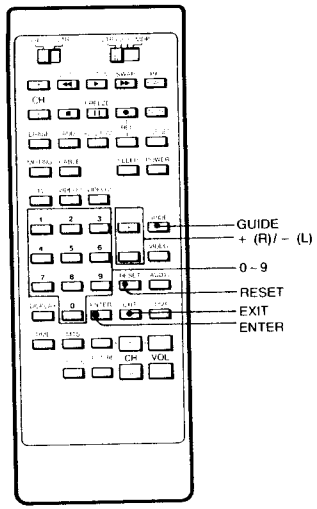


11 Press 0 – 9 to set the desired channel number.



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





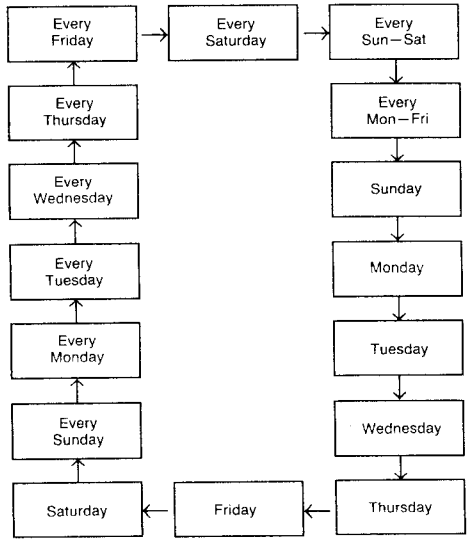
RM-Y104

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 [+]:

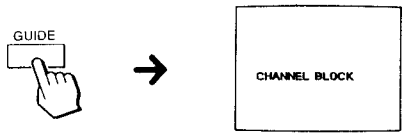


Press [–] to move in the reverse direction.

Setting CHANNEL BLOCK

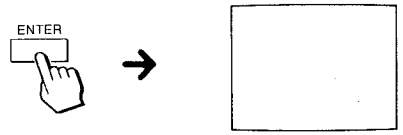
CHANNEL BLOCK prevents a channel from appearing on the screen during the preset time. We suggest you use this function to prevent children from watching undesirable programs.
Example: Set CHANNEL BLOCK at 4:00 PM (for 1 hour), every Saturday, on channel 12.

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



Steps 2 – 11: Same as Setting the ON/OFF Timer.
(See page 12.)

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.

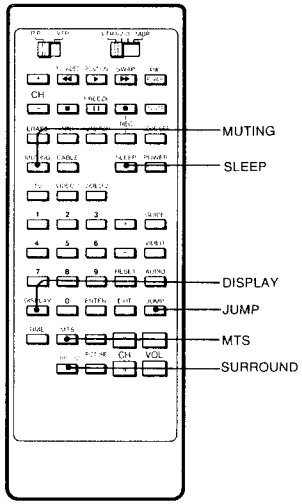


To restore the normal picture
Press EXIT.

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.

1-8. ENJOYING OTHER USEFUL FEATURES



RM-Y104

Muting the sound — MUTING

1. Press MUTING.
2. The display "MUTING" will appear on the screen.
3. To restore the sound, press MUTING again, or press VOL +.

Keeping the channel displayed — DISPLAY

To DISPLAY the channel: Press DISPLAY
All the current displays will appear for a few seconds, then disappear. The channel display will remain on the screen.
To CANCEL the display: Press DISPLAY again
The channel display will disappear.

Receiving a Multichannel TV Sound program — MTS

Each time you press MTS, the MAIN, SAP (Second Audio Program) and MONO modes are selected in sequence. The display (in green) for each mode will appear on the screen for a few seconds.
(NOTE: During SAP modes, the sound of non-SAP programs will be muted.)
TO LISTEN TO STEREO SOUND:
1. Press MTS to select the MAIN mode.
2. The MAIN display will appear on screen.
3. The STEREO indicator lamp on the TV will light up whenever a stereo broadcast is received.

NOTE: A weak incoming signal may cause excessive noise with some stereo broadcasts.
Switch to MONO mode to eliminate this noise.

Listening to surround sound — SURROUND

TO SET: (Gives a surround sound effect to stereo broadcasts and external stereo sources)
1. Press SURROUND.
2. The "" display will appear on the screen for a few seconds.

TO CANCEL: Press SURROUND again. The " " display will appear for a few seconds.

Using the sleep timer — SLEEP

TO SET: (Turns TV off automatically about 1 hour after setting)
1. Press SLEEP.
2. A green "SLEEP ON" display appears for a few seconds.
3. A red "SLEEP" display will appear 1 minute before the TV shuts off.

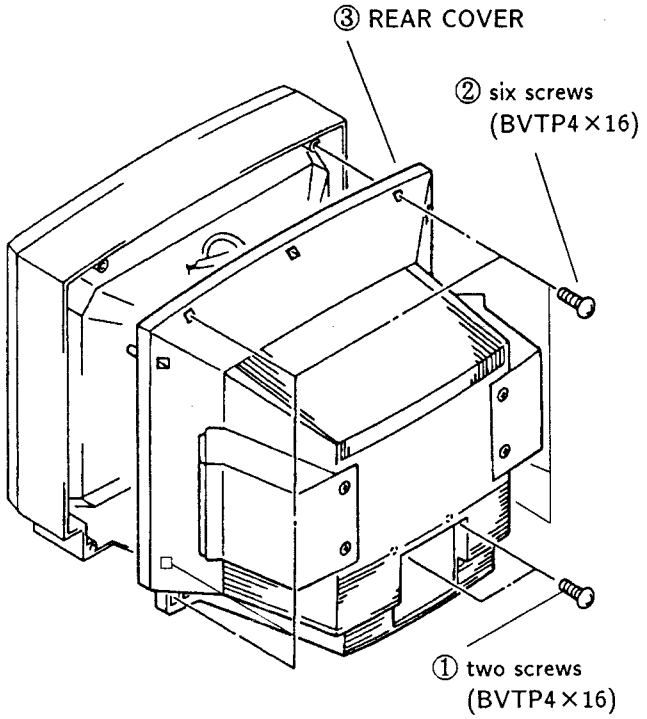
TO CANCEL:
Press SLEEP again.
A green "SLEEP OFF" display appears for a few seconds.
OR
Turn the TV off. *The sleep timer setting will be cancelled.*

Switching quickly between 2 channels — JUMP

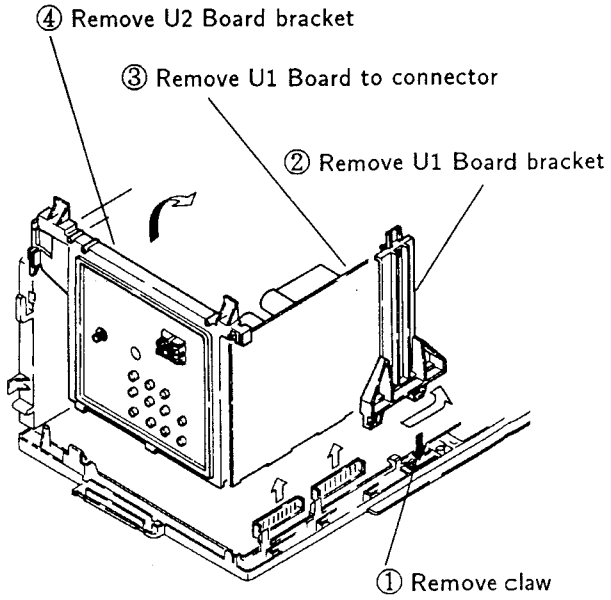
Each time you press the JUMP button, the channel which appeared on the screen immediately before is recalled. Use this feature to keep track of two programs alternately.

SECTION 2
DISASSEMBLY

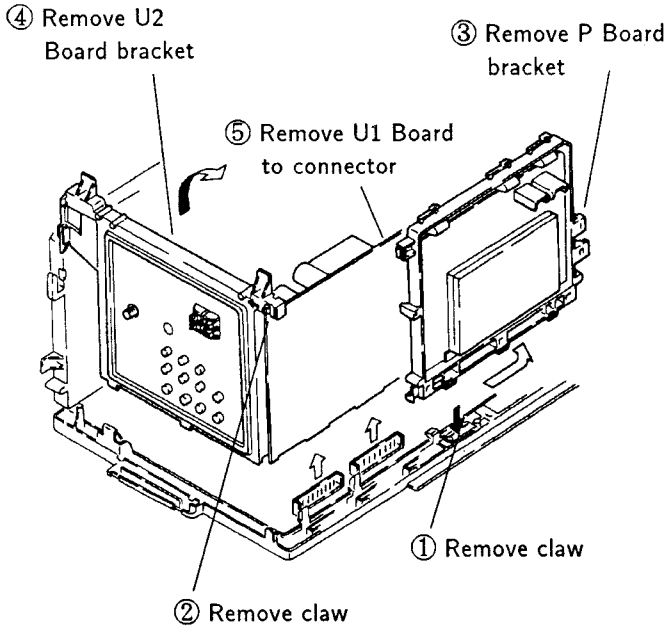
2-1. REAR COVER REMOVAL



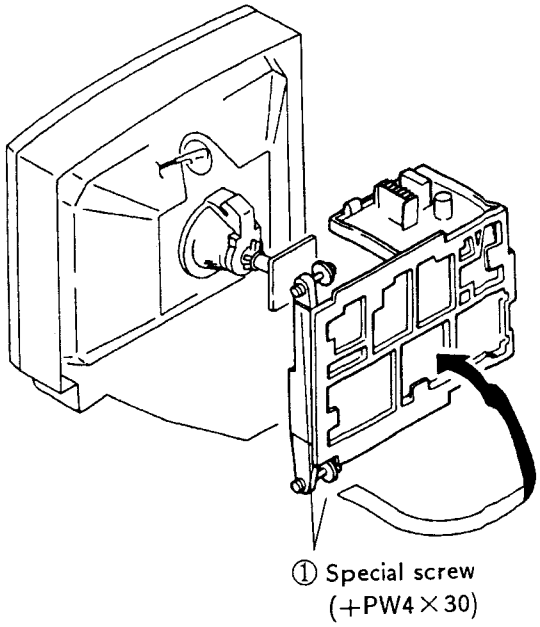
2-2. U1 BOARD AND U2 BOARD REMOVAL (KV-27EXR20)



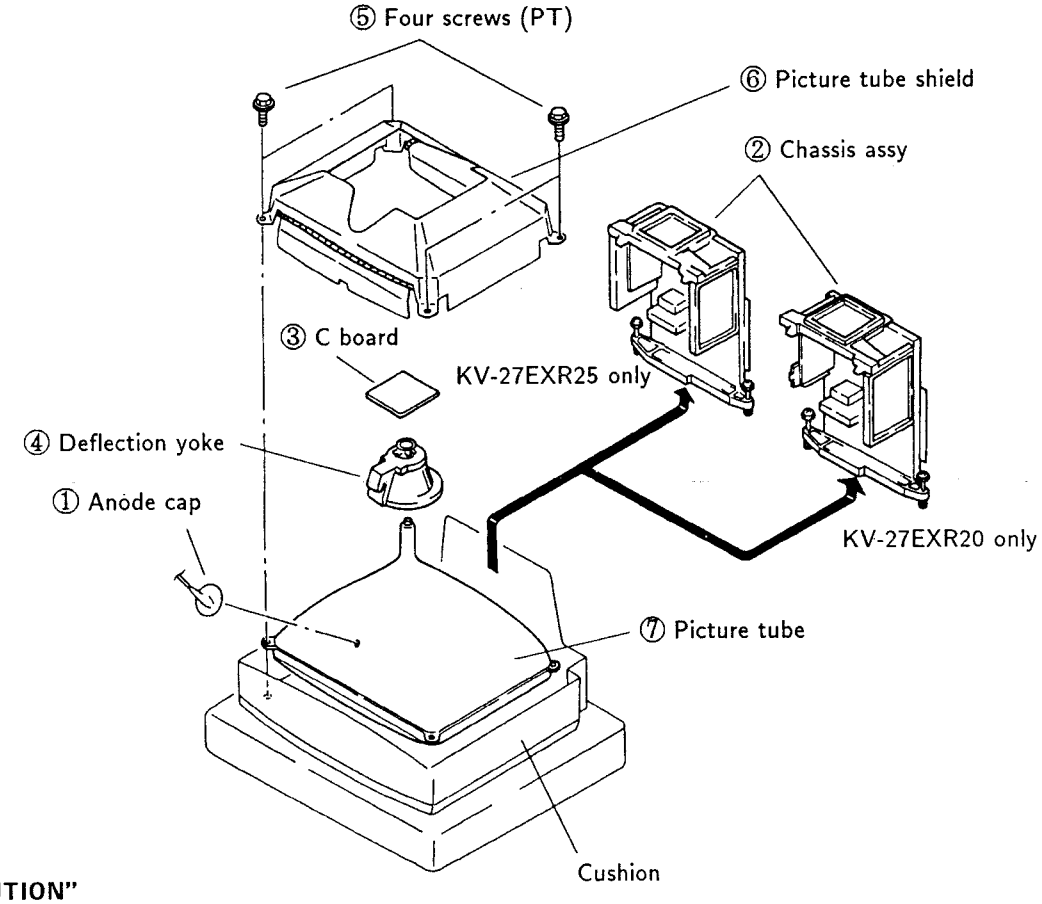
2-3. U1 BOARD, U2 BOARD AND P BOARD REMOVAL (KV-27EXR25)



2-4. SERVICE POSITION



2-5. PICTURE TUBE REMOVAL

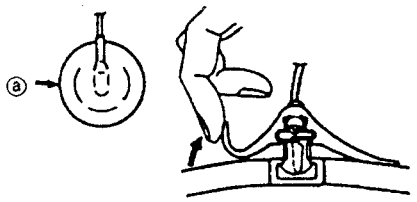


"CAUTION"
TO AVOID AN ELECTRIC SHOCK FROM CHARGED HIGH VOLTAGE OF PICTURE TUBE.

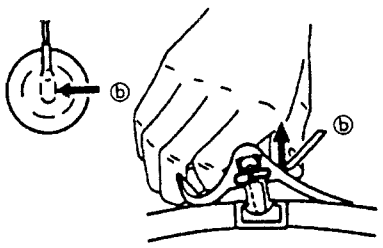
• REMOVAL OF ANODE-CAP

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

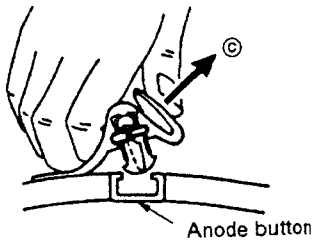
• REMOVING PROCEDURES



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



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



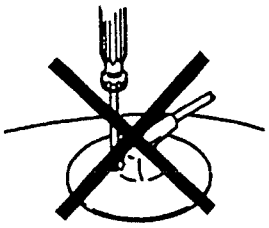
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

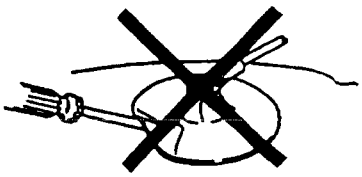
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A 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 ····· To 80% (Full)
BRIGHTNESS control ····· RESET position

Perform the adjustments in order as follows:

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

Note: Test Equipment Required.

1. Pattern Generator
2. Degausser
3. Digital multimeter

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)

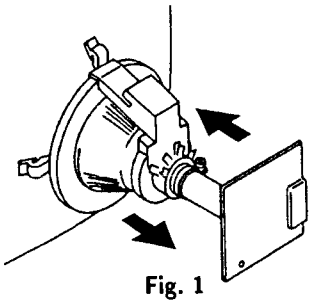


Fig. 1

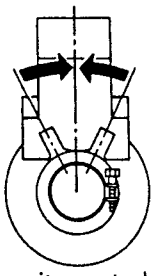


Fig. 2

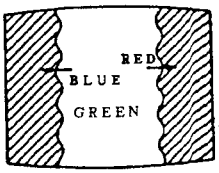


Fig. 3

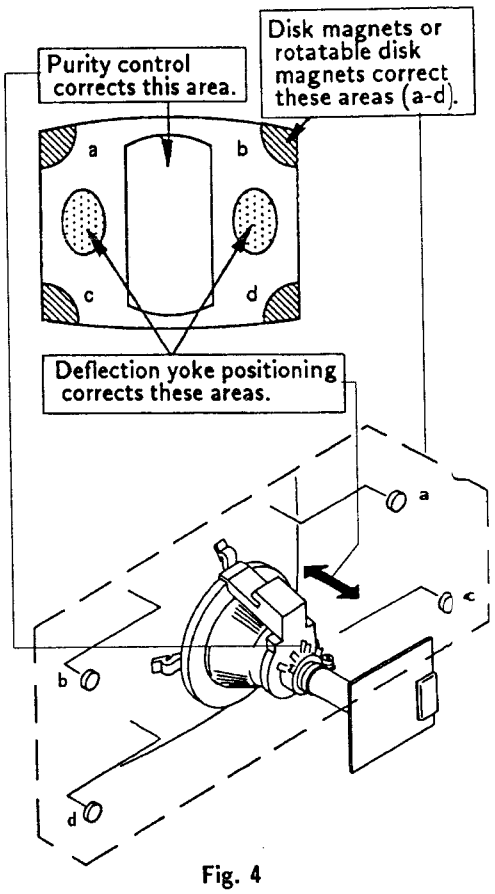


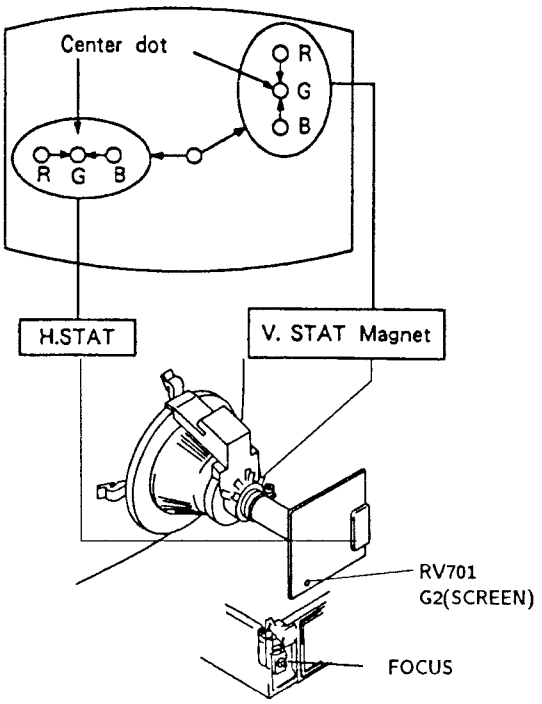
Fig. 4

3-2. CONVERGENCE

Preparation

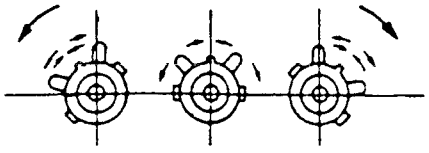
- Before starting, perform FOCUS, H.SIZE, V.LIN and V.SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in dot pattern.

(1) Horizontal and Vertical Static Convergence

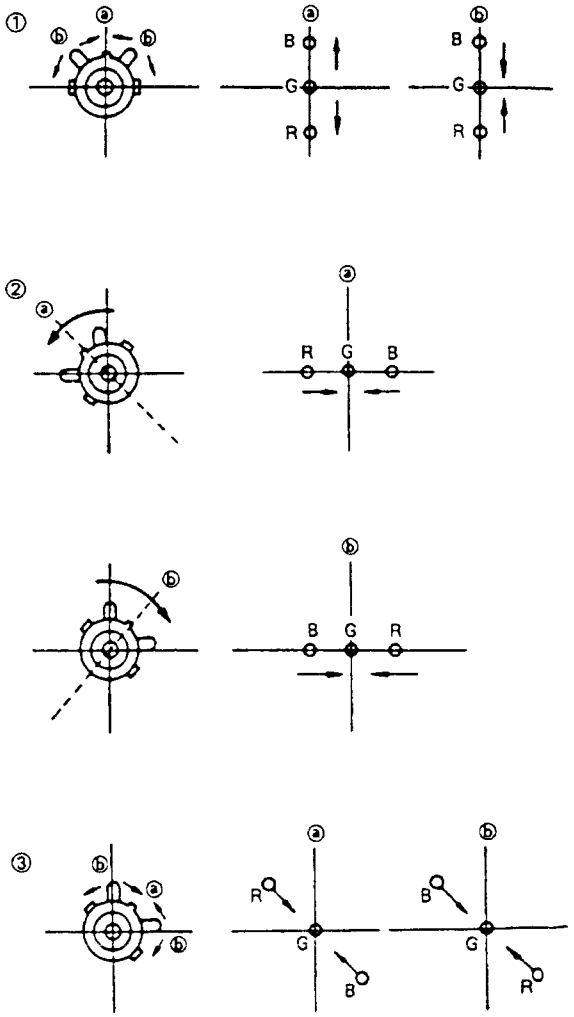


1. Adjust H.STAT VR to converge red, green and blue dots the in center of the screen. (Horizontal movement)
2. Adjust V.STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
3. If the red, green and blue dots do not converge in the center of the screen with 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 ⓐ and ⓑ, red, green and blue dots move as shown below.

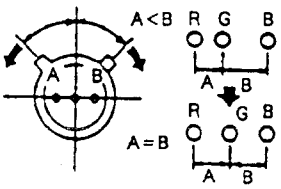


If the blue dot do not converge with red and green dots, perform following steps.

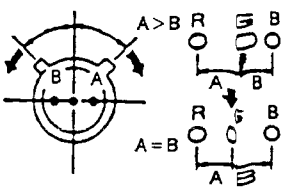
- HMC and VMC correction for BMC (Hexapole) Magnet

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

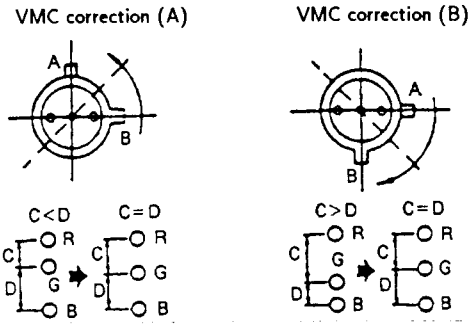
HMC correction (A)

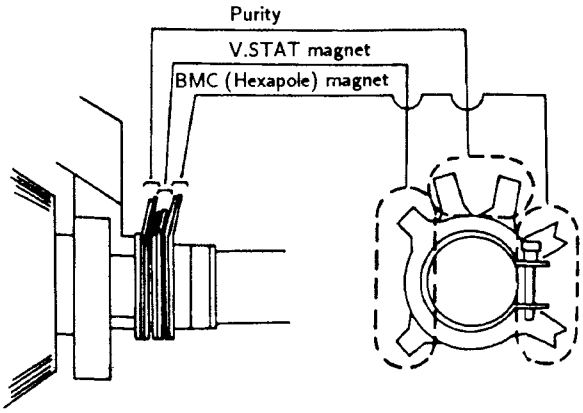


HMC correction (B)



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



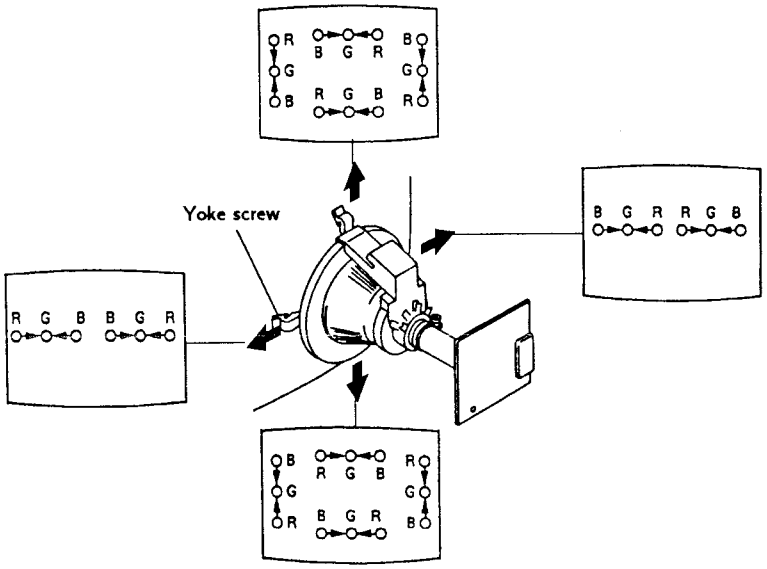


(2) Dynamic Convergence Adjustment

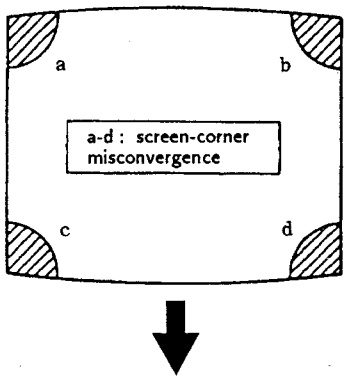
Perpartion :

- Before starting perform Horizontal and Vertical Static convergence adjustment.

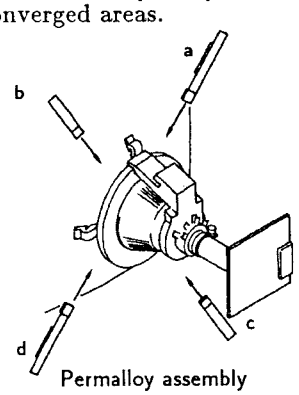
1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.



(4) Screen-corner Convergence



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

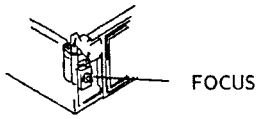


Permalloy assembly

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.)



3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G2 (SCREEN) ADJUSTMENT(RV701)

1) Set the PICTURE and BRIGHTNESS to normal.
2) Confirm G1 voltage is within 30.0±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.

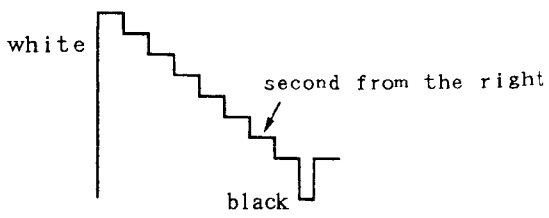
(Using the Remote Commander)

2. WHITE BALANCE ADJUSTMENTS

1) Set to service mode.
2) Press [VIDEO] → [RESET] to normal and if necessaries "TRINITONE" 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].
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.
9) Write into the memory by pressing [MUTING] → then [ENTER].

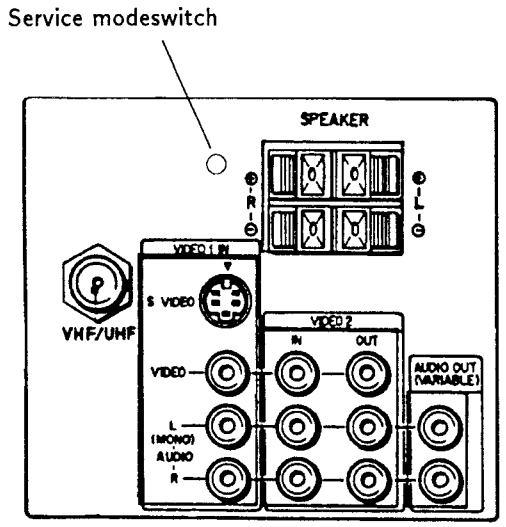
3. SUB BRIGHT ADJUSTMENT

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.



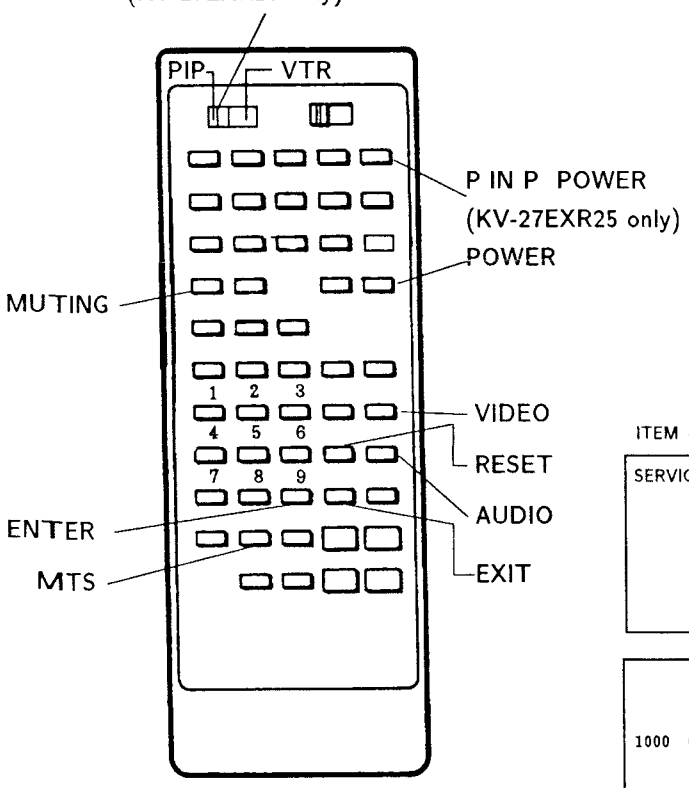
a. METHOD OF SETTING THE SERVICE MODE

Press POWER button on the Remote Commander while pressing switch on the rear of the set.



b. ADJUST BUTTONS AND INDICATOR

(KV-27EXR25 only)



c. AN ITEM OF ADJUSTMENT

ITEM	NAME REGISTER	
GAMP	VP	GREEN AMP.
BAMP	VP	BLUE AMP.
GCUT	VP	GREEN CUT OFF.
BCUT	VP	BLUE CUT OFF
SBRT	VP	BRIGHT

d. METHOD OF CANCELLATION FROM SERVICE MODE

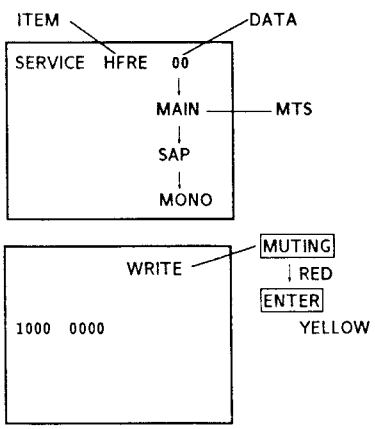
Set the standby condition (Press POWER button on the commander) in the next place, press POWER button again, hereupon it becomes TV mode.

e. 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.)

f. 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.



SECTION 4
SAFETY RELATED ADJUSTMENTS

Note: Test Equipment Required.

1. Ammeter
2. DC Power Supply
3. Digital multimeter
4. Audio OSC
5. Valiable auto-transformer

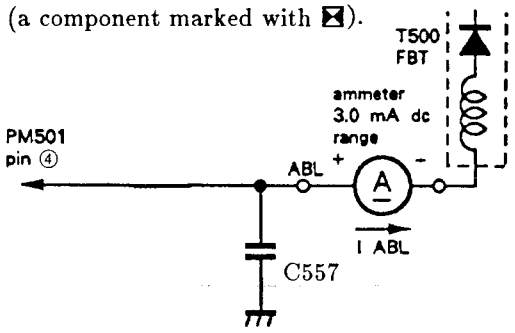
A BOARD AND G BOARD

⊠ 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 10kΩ) between pin ① of IC653 and B+ line.
   2) Supply 120±2.0V AC to with variable auto-transformer.
2. Hold-down operation confirmation
   1) Turn the POWER switch ON, and input an entirely white signals and adjust ABL current to 1650 ±80 μA 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 143.5V 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 input a dot signals and adjust ABL current to 150±50μA 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 146.5V 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. Hold-down readjustment
   When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R559 (a component marked with ⊠).



KV-27EXR20/27EXR25 RM-Y103 RM-Y104

A BOARD AND G BOARD

⊠ 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).

A BOARD: PM501, Q608, Q607, D531, C545, R570, R591, R628, R627, T500

G BOARD: IC653, R675,

[2]

1. Preparation before confirmation

1) Turn the POWER switch ON, and input an 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±2.0V AC supply.

2. Hold-down operation confirmation

1) Turn the POWER switch ON, and input an entirely white signals and adjust ABL current to 1650 ±80 μA with PICTURE and BRIGHT etc controls.
2) Apply DC voltage of over 130V DC gradually to the check terminal of TP85 via 1SS119 from the DC stabilized power source.
   Confirm that the minimum voltage is less than 137.5V 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±50μA with PICTURE and BRIGHT etc controls.
4) Apply DC voltage of over 130V gradually to the check terminal of TP85 via 1SS119 from the DC stabilized power source.
   Confirm that the minimum voltage is less than 138.5V 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. Hold-down readjustment

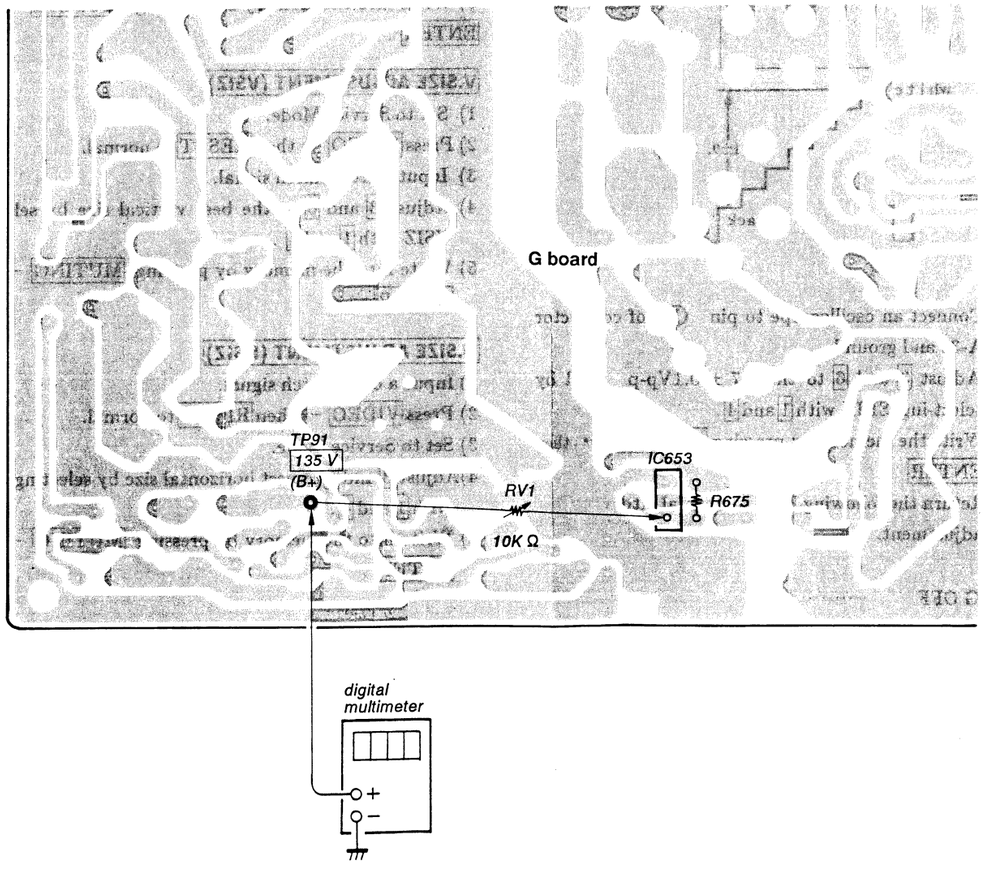
When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R570 carbon 1/4w (a component marked with ⊠).

G BOARD

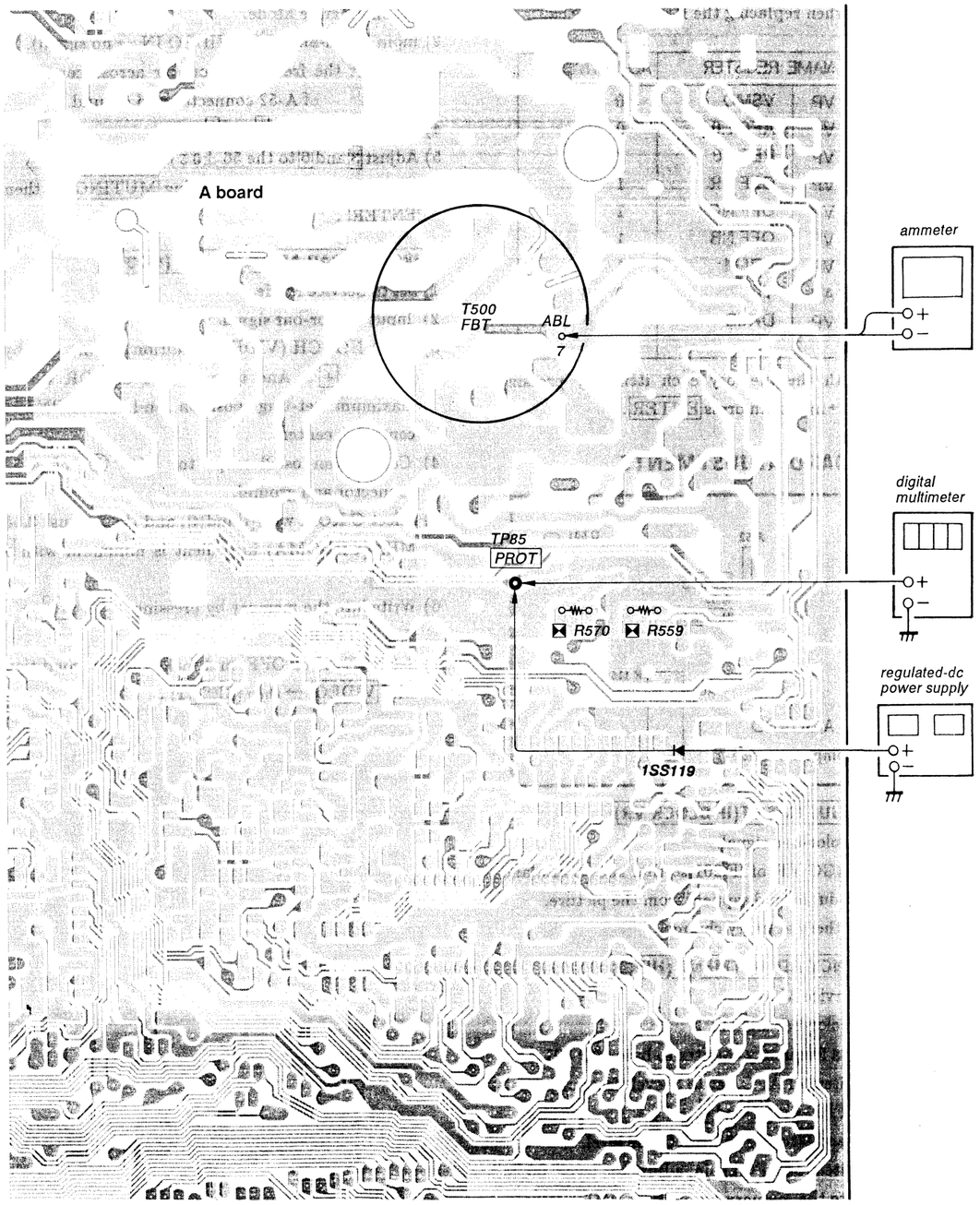
B+ VOLTAGE CONFIRMATION

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

1) Supply $130^{+1.0}_{0}$ V AC to with variable autotransformer.
2) Input an entirely monoscope signal.
3) Set the PICTURE control and the BRIGHT controls in to initial reset.
4) Confirm the voltage of TP91 is less than 137.0V DC.
5) If step 4) is not satisfied, replace IC653 and R675 repeat above steps.



KV-27EXR20/27EXR25 RM-Y103 RM-Y104



SECTION 5
CIRCUIT ADJUSTMENTS

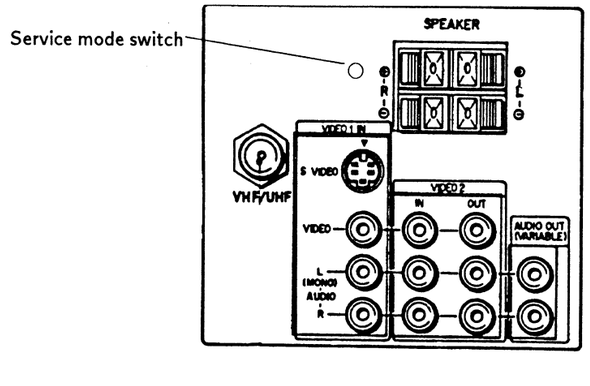
5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use of Remote Commander (RM-Y 103,RM-Y 104) can be performed circuit adjustments about this model.

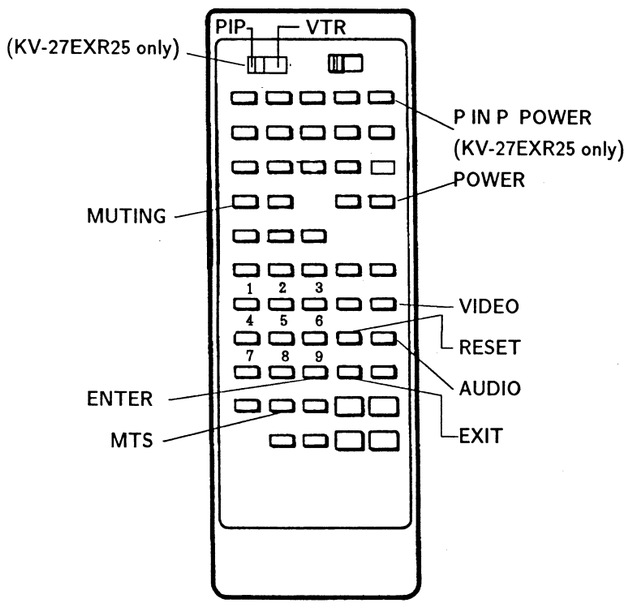
NOTE : Test Equipment Required.
1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC

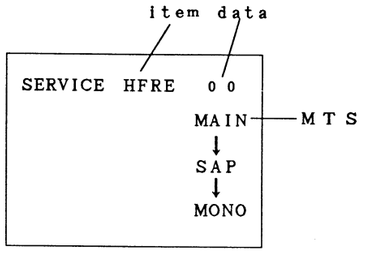
1. METHOD OF SETTING THE SERVICE MODE

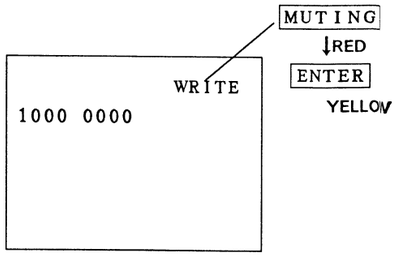
1) Press [POWER] button on the Remote Commander while pressing switch on the rear of the set.



2. ADJUST BUTTONS AND INDICATOR







3. AN ITEM OF ADJUSTMENT

ITEM	REFERENCE DATA	NAME REGIST	
HFRE	44	VP	H-FREQUENCE 1
VFRE	09	VP	V-FREQUENCE 1
VPOS	10	VP	V-SHIFT
VSIZ	1 D	VP	V-SIZE
VLIN	07	VP	V-LINEARITY
VSCO	08	VP	S-CORRECTION
HPOS	07	VP	H-PHASE
HSIZ	11	VP	H-SIZE
PAMP	0 F	VP	PIN AMP.
CPIN	04	VP	CORNER PIN
PPHA	07	VP	PIN PHASE
VCOM	02	VP	V-COMP
GAMP	17	VP	GREEN AMP.
BAMP	18	VP	BLUE AMP.
GCUT	0 D	VP	GREEN CUT OFF.
BCUT	09	VP	BLUE CUT OFF
CROM	1 B	VP	CHROMA TRAP
SPIX	33	VP	PICTURE
SHUE	23	VP	HUE
SCOL	1 C	VP	COLOR
SBRT	3 F	VP	BRIGHT
RGBP	1 E	VP	RGB PICTURE
MPX	08	AP	ATT
FILO	1 B	AP	I 1
DEEM	07	AP	I 2
STEV	21	AP	OSC 1
SAPV	1 F	AP	OSC 2
PILO	08	AP	PILOT
SEP	1 B	AP	WIDE BAND
VD	0 A	AP	SPECTRAL
LVOL	00	AP	VOLUME-L
RVOL	00	AP	VOLUME-R
SHAR	07	VP	SHARPNESS
DISP	37	VP	PWM OUTPUT

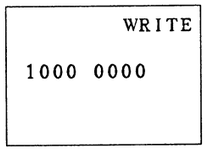
4. METHOD OF CANCELLATION FROM SERVICE MODE

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.)

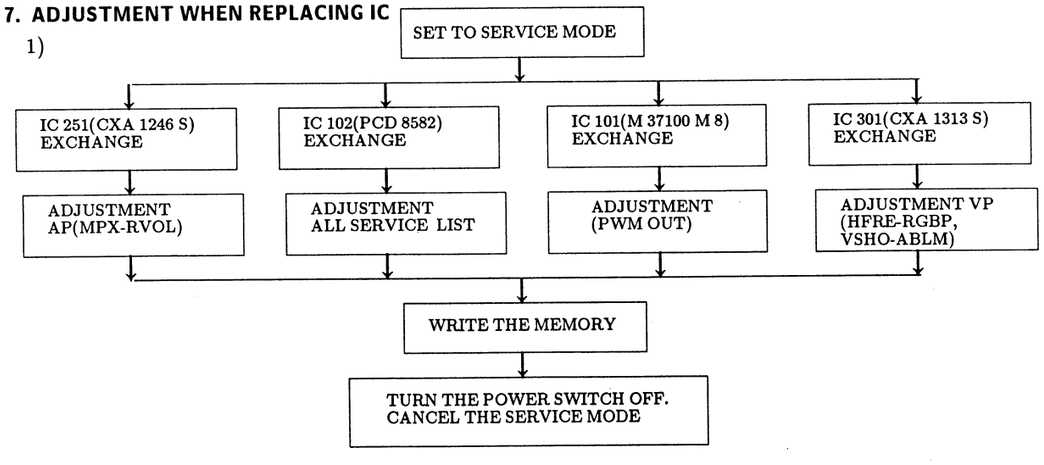
6. MEMORY WRITE CONFIRMATION METHOD



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)



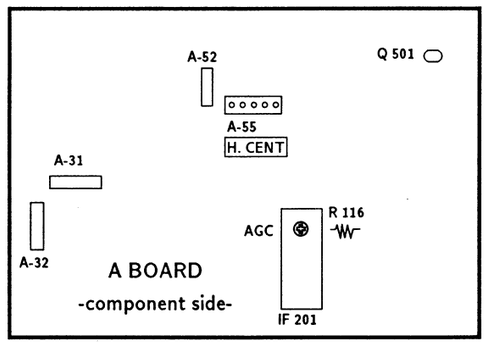
NOTE : If service mode is canceled before writing into memory, the adjustment data is not recorded.
Please write into memory, after adjustment.

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

ITEM	NAME REGISTER		ADJUSTMENT
VSOM	VP	VSMO	0
AFC	VP	AFC 1.0	0
REF	VP	REF 1.0	2
ROFF	VP	OFF NR	1
GOFF	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. A BOARD ADJUSTMENTS



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 501.
4) Call the item of AFC, set to 3 level (free run).
5) Select HFRE with 1 and 4.
6) Adjut 3 and 6 to the 15735± 60 Hz level.
7) Call the item of AFC again, adjust the level" 00 ".
8) Write into the memory by pressing MUTING → then ENTER.

V.FREQUENCY ADJUSTMENT (VFRE)

1) Set to Service Mode.
2) Input an off-air signal (VIDEO IN → no signal).
3) Connect the frequency counter across connector V.DY+ of A-52 connector and ground.
4) Select VFRE with 1 and 4.
5) Adjust 3 and 6 to the 56 ±0.5 Hz.
6) Write the memory by pressing MUTING → then ENTER.

CHROMA TRAP ADJUSTMENT (CROM)

1) Set to Service Mode.
2) Input a color-bar signal.
3) Select NOTCH (VIDEO condition), turn ON by press-ing +. And then set the COLOR VR to maximum set-ting position and SHARPNESS control to center.
4) Connect an oscilloscope to pin ① of A-32 connector and ground.
5) Select C ROM with 1 and 4, and then adjust 3.58 MHz (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.

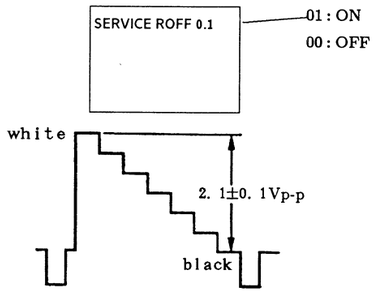
KV-27EXR20/27EXR25 RM-Y103 RM-Y104

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 OFF	·····	ON
G OFF	·····	OFF
B OFF	·····	OFF

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

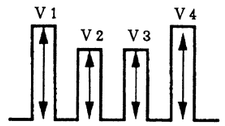


4) Connect an oscilloscope to pin ① of connector A-32 and ground.
5) Adjust 3 and 6 to the 1.7 ± 0.1Vp-p level by select-ing SPIX with 1 and 4.
6) Write the memory by pressing MUTING → then ENTER .
7) Return the following back to normal after adjustment.

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 pin ③ of connector A-32 and ground.
5) Adjust 3 and 4 to the V1=V4 and V2=V3 by select to SHUE and SCOL with 1 and 4.



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

V.SIZE ADJUSTMENT (VSIZ)

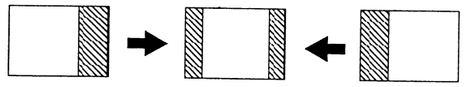
1) Set to Service Mode.
2) Press VIDEO → then RESET to normal.
3) Input a cross-hatch signal.
4) Adjust 3 and 6 to the best vertical size by selecting VSIZ with 1 and 4 .
5) Write into the memory by pressing MUTING →then ENTER .

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 .

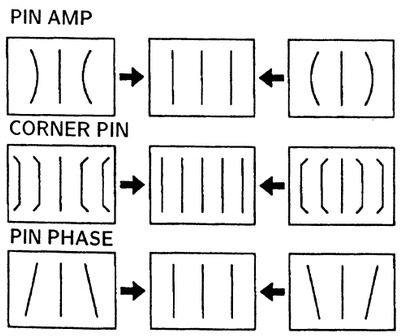
H.CENTER ADJUSTMENT (H POS)

Note: Perform this adjustment after H.FREQUENCY ADJUSTMENT (HFRE) .
1) Input a color bar signal.
2) Set the Service mode.
3) Select HSIZ with 1 and 4 .
4) Press 6 so that the Horizontal size set to min.
5) Adjust A-55 conector position so that both-size branking width of the Raster should be same on the Scrnne.
6) Unplug Set then plug in Set.
7) Set to Service mode.
8) Select HPOS with 1 and 4 .
9) Adjust 3 and 6 so that the color bars center should be set to the CRT Screen center position.
10) White into the memory by the pressing MUTING → then ENTER .



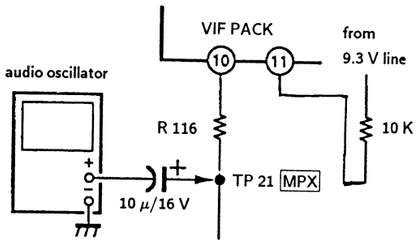
PIN AMP (PAMP) , CORNER PIN (CPIN) AND PIN PHASE (PPHA) ADJUSTMENT

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.



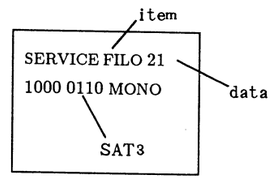
FILTER ADJUSTMENT (MPX, FILO)

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 (10μ F/16V), set frequency to 62.936 kHz±0.1 kHz.
And then, through the 10kΩ resistor, feed 9.3V into the pin ⑪ of VIF pack.



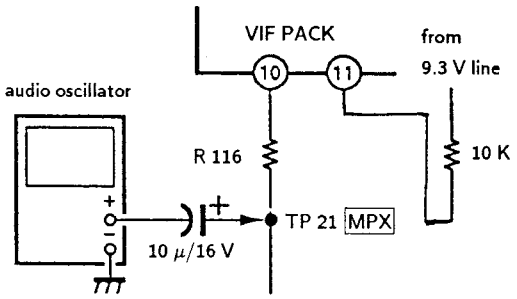
V 4 fh : SINE-WAVE 62.936 KHz±0.1 KHz
LEVEL 3.0 Vp-p

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 .



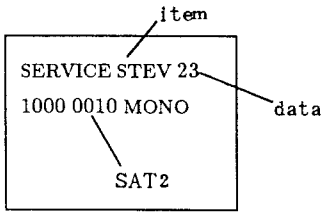
ST VCO ADJUSTMENT (MPX, STEV)

1) Set to Service Mode.
2) Select TEST with [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 R 116 using electrolytic capacitor (10μ F/16V) and appply the frequency VST. Then, apply DC voltage to pin ⑪ of VIF pack using 10kΩ connect to 9.3V line.



V 4 fh : SINE-WAVE 62.936 KHz ± 0.1 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
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].

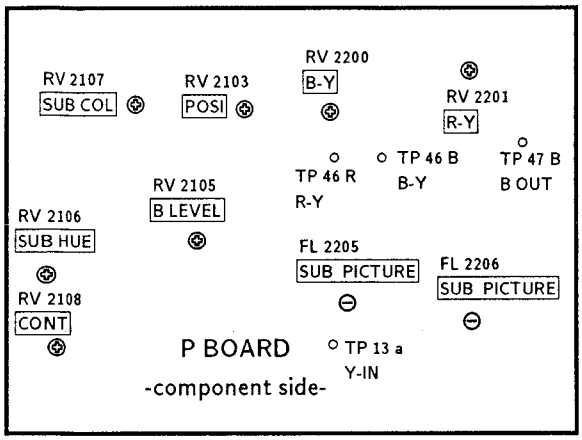
SAP VCO f₀ ADJUSTMENT (SAPV)

1) Set to Service Mode.
2) Input a stereo broadcast signal with SAP.
3) Select TEST with [1] and [4], set the data to "0". And then, press [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 equl V 2.
6) Select SAPV with [1] and [4], adjust [3] and [6] so that V 2=V 1 ± 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 monorabroad -cast 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.

5-3. P BOARD ADJUSTMENTS (KV-27 EXR 25 only)

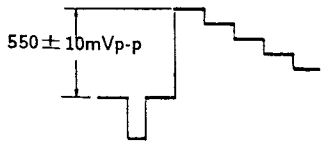


RF AGC ADJUSTMENT(IF BLOCK VR)

1) Input a color-bar signal.
2) Set to PICTURE IN PICTURE mode.
3) Adjust AGC VR of IF 1201 so that snow noise and cross-modulation disappear from the picture.
4) Confirm them at every channel.

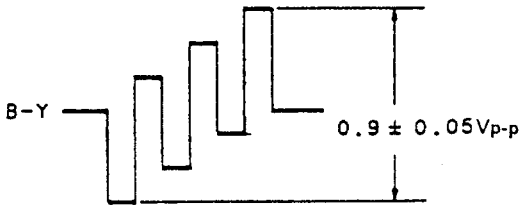
CONTRAST ADJUSTMENT(RV 2108)

1) Input a color-bar signal.
2) Set to PICTURE IN PICTURE mode.
3) Observe signal at TP-13 a an oscilloscope.
4) Adjust RV 2108 (SUB CONT) so that the signal level between white and pedestal becomes 550±10 mVp-p as shown.



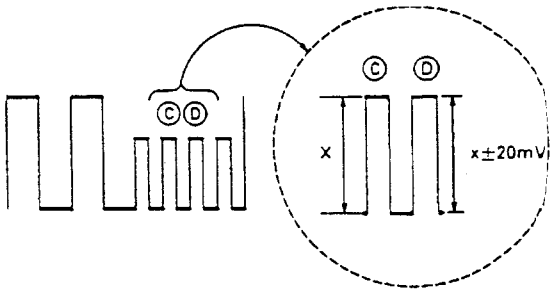
SUB COLOR ADJUSTMENT(RV 2107)

1) Input a color-bar signal.
2) Set to PICTURE IN PICTURE mode.
3) COLOR ····· RESET
   HUE ····· RESET
4) Connect an oscilloscope to TP-47 B.
5) Adjust RV 2107 so that voltage is 0.9±0.05 Vp-p.



SUB HUE ADJUSTMENT(RV 2106)

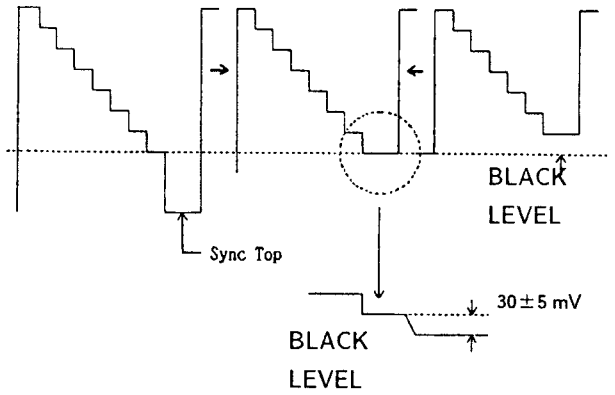
1) Input a color-bar signal.
2) Set to PICTURE IN PICTURE mode.(1/4 SIZE)
3) PICTURE ····· 80%
   BRIGHT ····· RESET
   COLOR ····· RESET
   HUE ····· RESET
4) Connect an oscilloscope to TP-47 B.
5) Adjust RV2106 so that the Ⓒ coincides with Ⓓas shown in figure.



BRT LEVEL ADJUSTMENT(RV 2105)

1) Input a color-bar signal.
2) Observe PICTURE IN PICTURE mode.
3) Adjust RV 2105(B.LEVEL)so that the signal level between C.B.black level and Sync level becomes same level as shown.

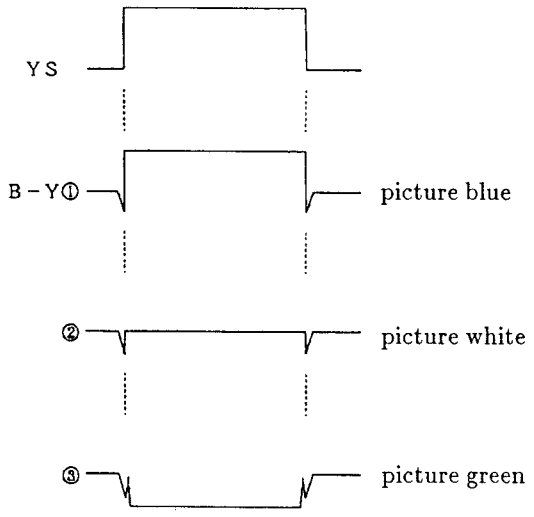
TP-13 a output



A/D OFF SET ADJUSTMENT(RV 2200,2201)

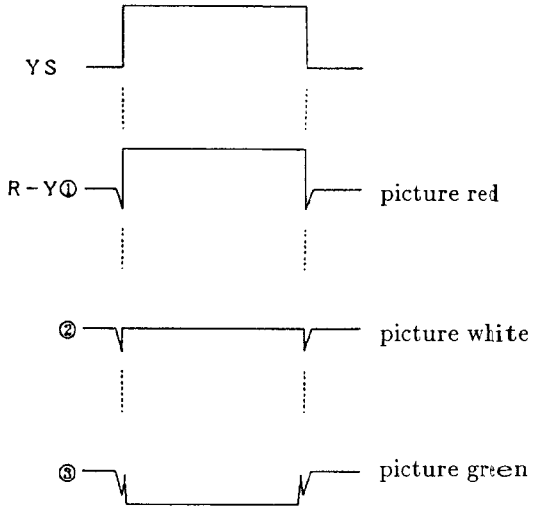
B-Y ADJUSTMENT

1) Input a color-bar signal.
2) Set to PICTURE IN PICTURE mode.
3) Connect an oscilloscope to TP-46 B.
4) Adjust RV 2200 so that the wavefront as shown in figure.



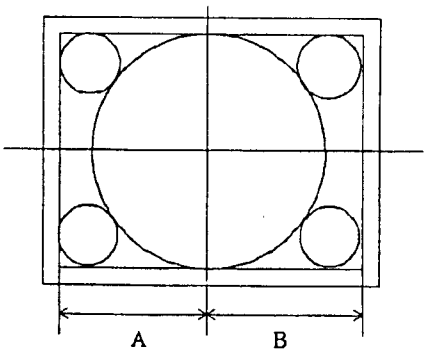
R-Y ADJUSTMENT

1) Input a color-bar signal.
2) Set to PICTURE IN PICTURE mode.
3) Connect an oscilloscope to TP-46 R.
4) Adjust RV 2201 so that the wavefront as shown in figure.



SUB PICTURE ADJUSTMENT(FL 2205,2206)

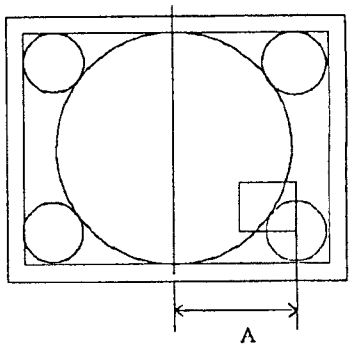
1) Input a monoscope signal.
2) Set to PICTURE IN PICTURE mode.
3) Adjust FL2205,FL2206 so that A and B are same size.



FL-2205=B side
FL-2206=A side

SUB PICTURE POSITION ADJUSTMENT(RV 2103)

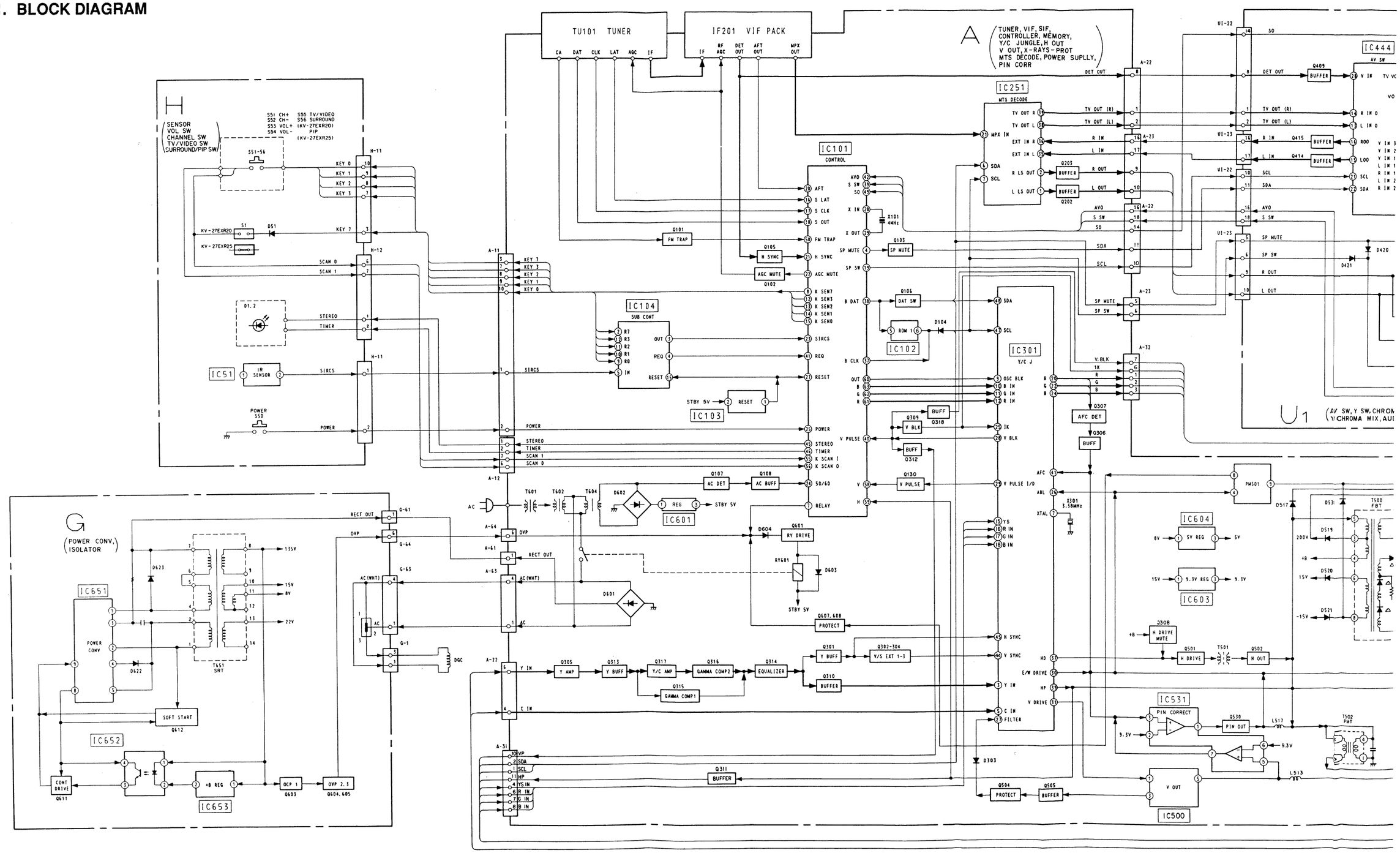
1) Input a cross-hatch signal.
2) Set to PICTURE IN PICTURE mode.
3) Adjust RV 2103 so that the SUB PICTURE is a suitable position.

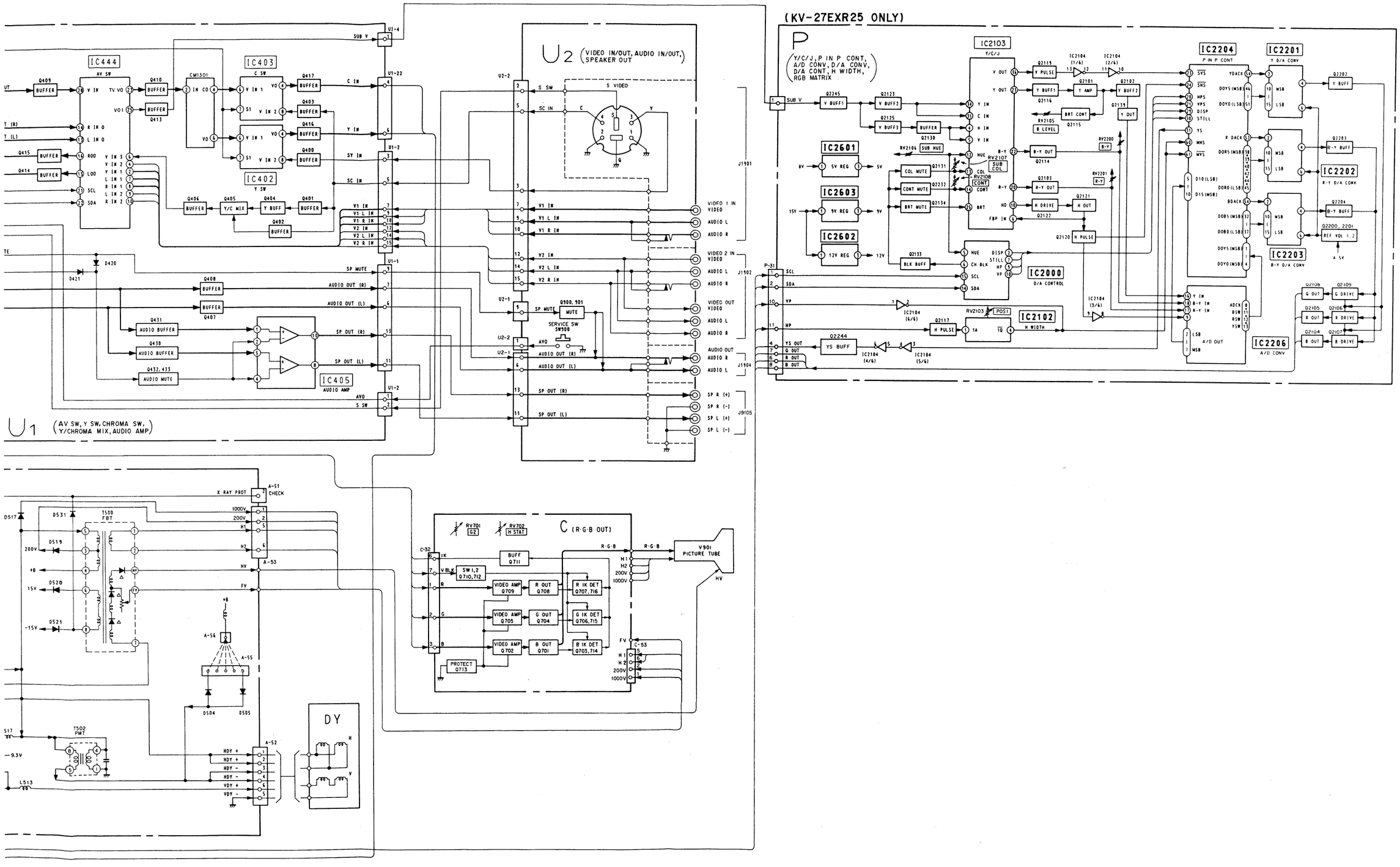


KV-27EXR20/27EXR25 RM-Y103 RM-Y104

SECTION 6
DIAGRAMS

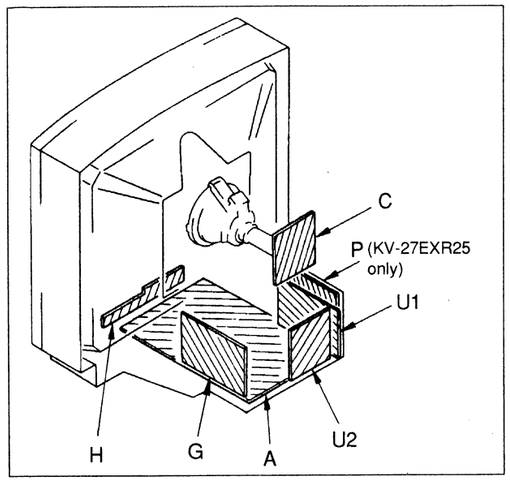
6-1. BLOCK DIAGRAM




U1 (AV SW, Y SW, CHROMA SW, Y/CHROMA MIX, AUDIO AMP)
U2 (VIDEO IN/OUT, AUDIO IN/OUT, SPEAKER OUT)
(KV-27EXR25 ONLY)
P (Y/C/J, P IN P CONT, A/D CONV, D/A CONV, D/A CONT, H WIDTH, RGB MATRIX)
C (R·G·B OUT)
IC444 AV SW
IC403 C SW
IC402 Y SW
IC405 AUDIO AMP
IC2103 Y/C/J
IC2204 P IN P CONT
IC2201 Y D/A CONV
IC2202 R-Y D/A CONV
IC2203 B-Y D/A CONV
IC2206 A/D CONV
IC2601
IC2603
IC2602
IC2000 D/A CONTROL
IC2102 H WIDTH
SERVICE SW SW900
Q900, 901 MUTE
RV2103 POSI
RV2105 B LEVEL
RV2106 SUB HUE
RV2107 SUB COL
RV2108 CONT
RV2200 B-Y
RV2201 R-Y
RV701 G2
RV702 H STAT
T500 FBT
T502 PWT
A-51 CHECK
A-52
A-53
A-55
A-56
DY
V901 PICTURE TUBE
PROTECT Q713
BUFF Q711
SW1, 2 Q710, 712
VIDEO AMP Q709
VIDEO AMP Q705
VIDEO AMP Q702
R OUT Q708
G OUT Q704
B OUT Q701
R IK DET Q707, 716
G IK DET Q706, 715
B IK DET Q703, 714
X RAY PROT
1000V
200V
+B
-15V
-9.3V
VIDEO 1 IN VIDEO
VIDEO 2 IN VIDEO
VIDEO OUT VIDEO
AUDIO OUT
SP R (+)
SP R (-)
SP L (+)
SP L (-)

KV-27EXR20/27EXR25 RM-Y103 RM-Y104

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: µµF 50WV or less are not indicated except for electrolytic and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms.
  kΩ=1000Ω, MΩ=1000kΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W
- Chips resistors are 1/10W.
- ▭: nonflammable resistor.
- △: internal component.
- ▭: panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥ : earth-ground.
- ⏚ : earth-chassis.
- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪ 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 and R559 adjustment on page 22-25)
  When replacing the part in below table, be sure to parform the related adjustment.

Part replaced (◪)	Adjustment (⊠)
PM501, Q607, Q608, R559, R627, R628, R629	R559 Hold-down
IC653, PM501, Q607, Q608, D531, C545, R570, R591, R627, R628, R675, 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

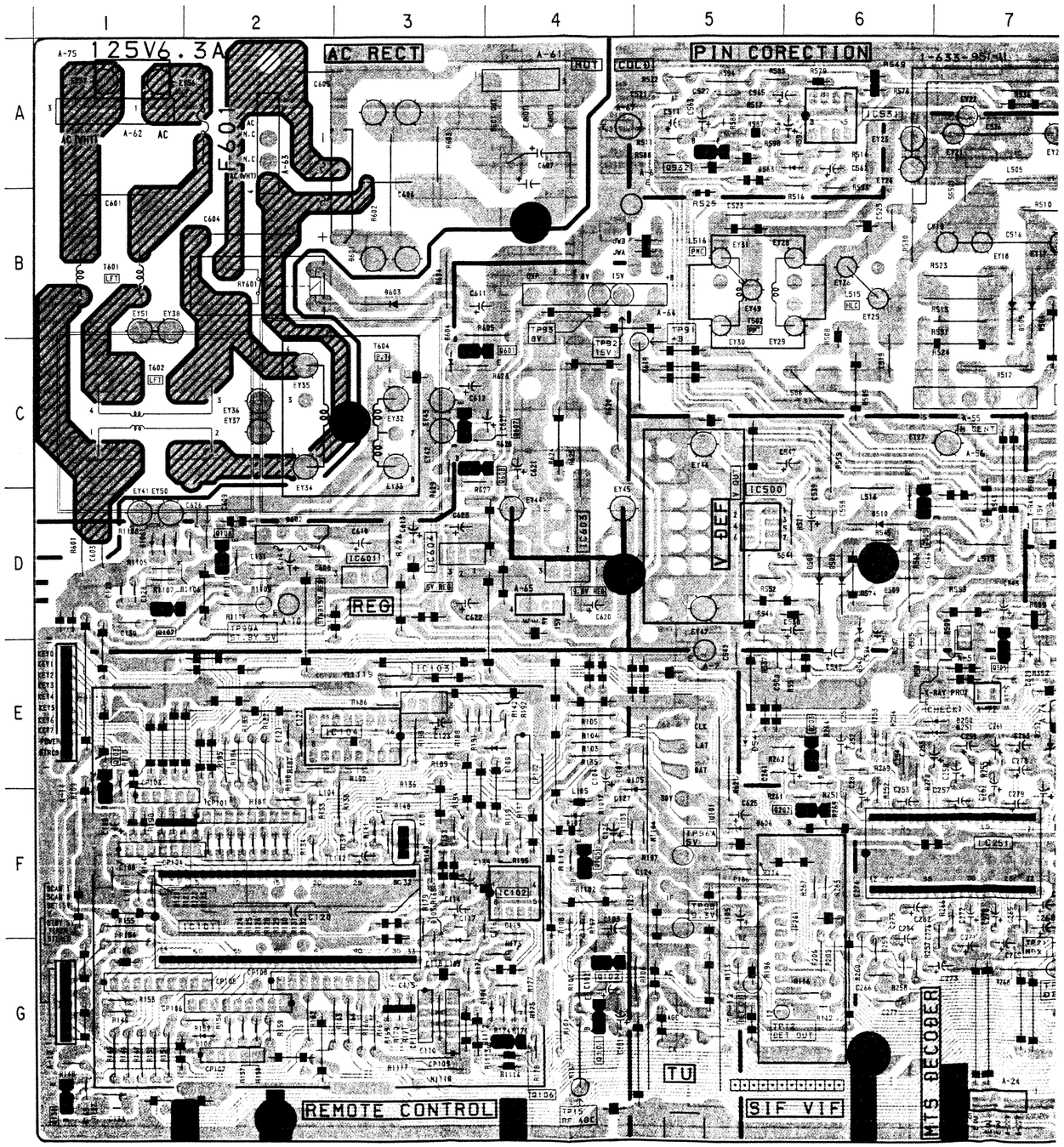
- Readings are taken with a color-bar signal input.
- Readings are taken with a 10 MΩ digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circuled numbers are waveform references.
- ▬▬: B+ bus.
- ▬ ▬ ▬: B– bus.
- ⟹: signal path.

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

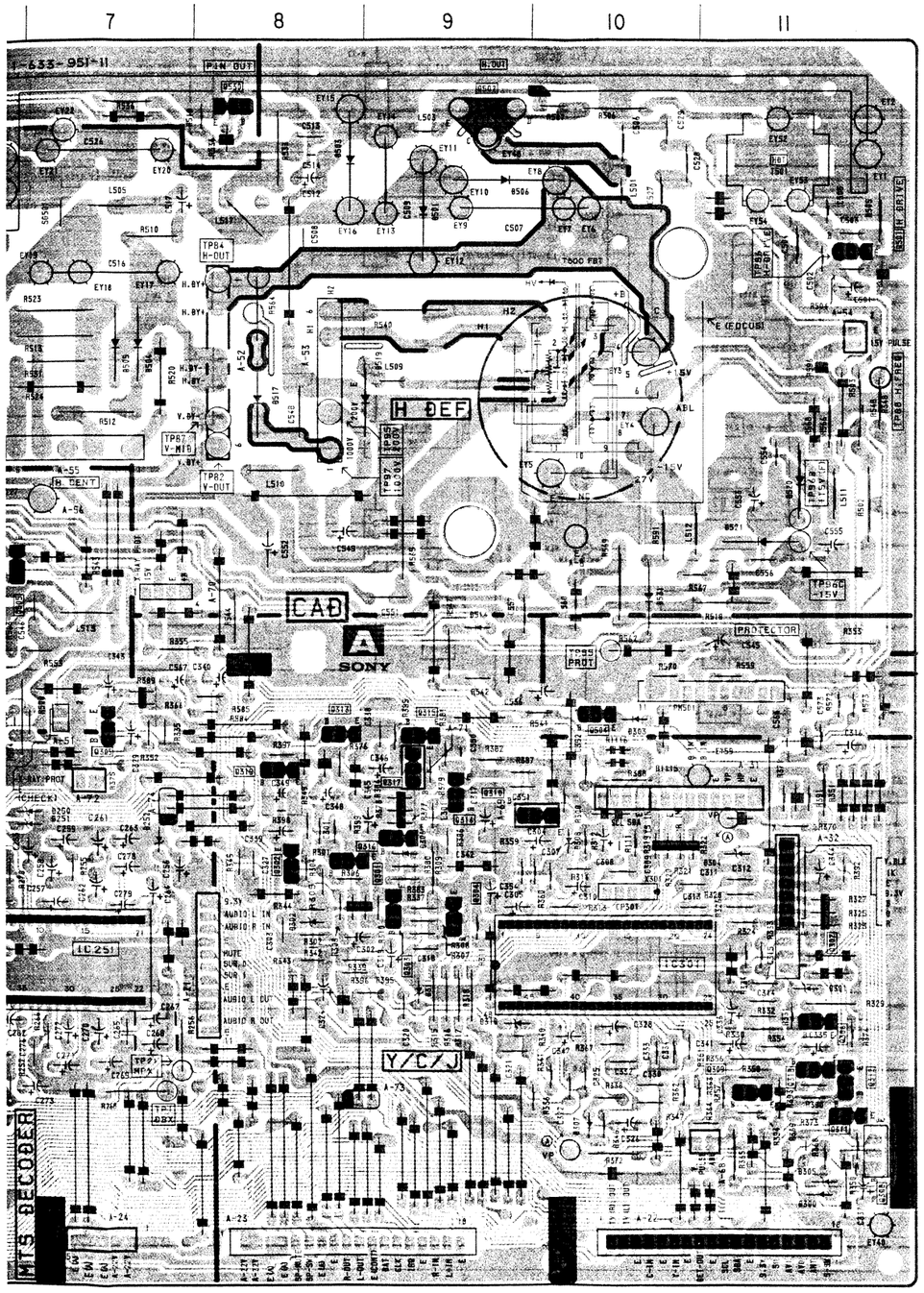
Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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

— A Board —

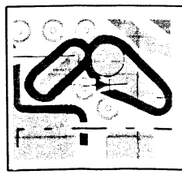


KV-27EXR20/27EXR25 RM-Y103 RM-Y104



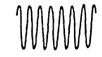
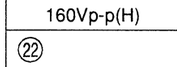
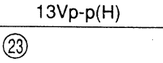
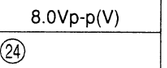
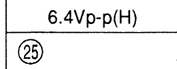
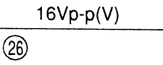
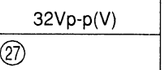
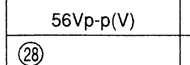
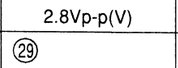
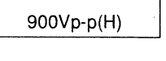
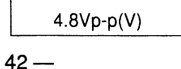
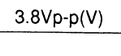
A Board

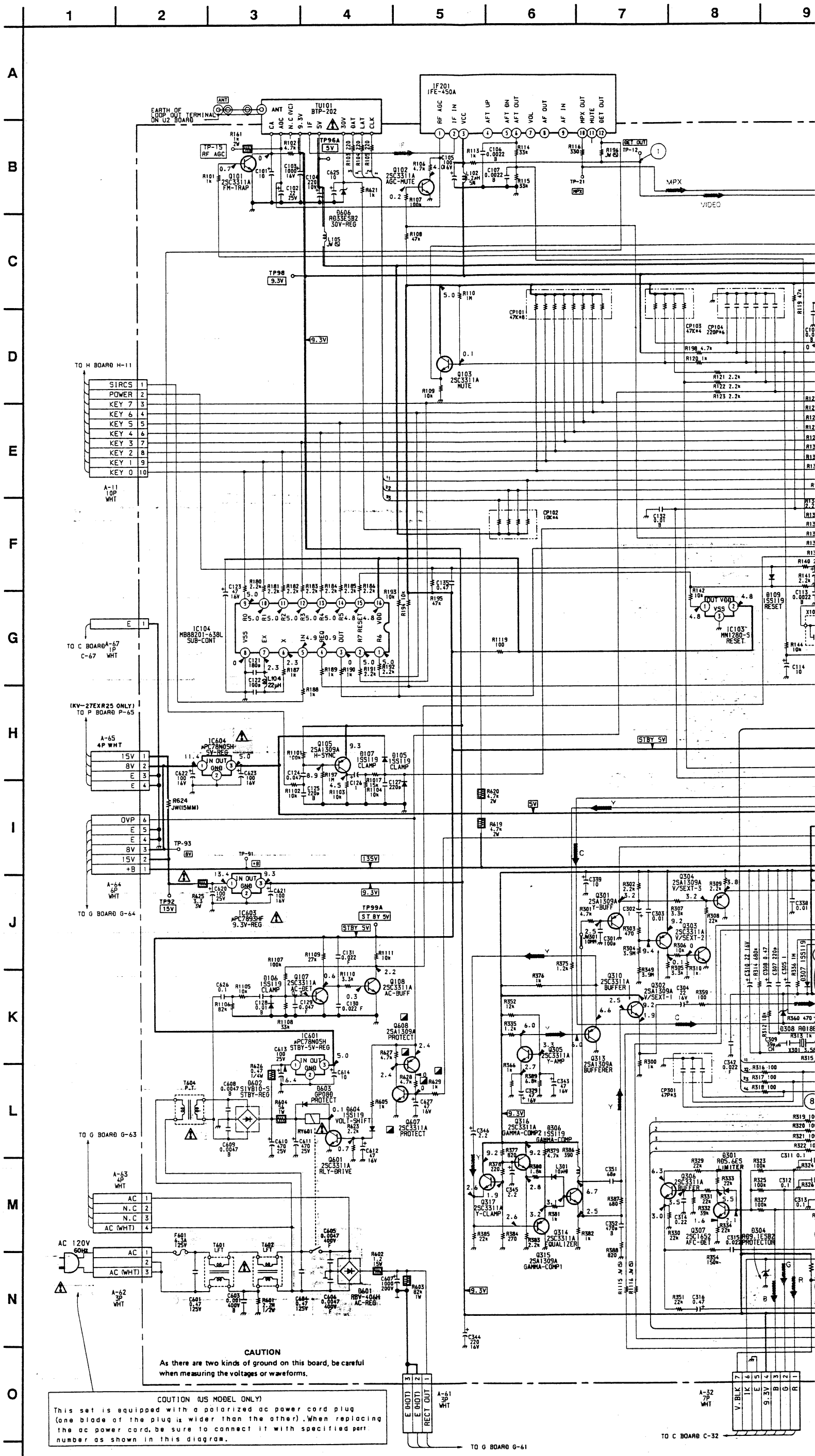
IC		TRANSISTOR		DIODE	
IC101	F-2	Q316	E-9	D506	A-9
IC102	F-4	Q317	E-9	D509	D-6
IC103	E-3	Q318	G-11	D510	D-6
IC104	E-3	Q501	B-11	D514	D-9
IC251	F-7	Q502	A-9	D515	D-6
IC301	F-10	Q504	E-10	D517	C-8
IC500	D-5	Q505	D-6	D519	C-8
IC531	A-6	Q530	A-8	D520	C-11
IC601	D-3	Q601	C-3	D521	C-11
IC603	D-4	Q607	C-3	D531	D-10
IC604	D-3	Q608	C-3	D540	D-6
				D563	A-6
TRANSISTOR		DIODE		D601	B-3
Q101	G-4	D103	G-3	D602	D-2
Q102	G-4	D104	G-4	D603	B-3
Q103	E-1	D105	E-4	D604	C-3
Q105	F-4	D106	D-1	D606	F-5
Q106	G-4	D107	F-4	TEST POINT	
Q107	D-1	D108	G-2		
Q108	D-2	D109	E-4	TP1	G-7
Q130	G-1	D250	E-7	TP12	G-5
Q202	F-6	D251	E-7	TP15	G-4
Q203	E-6	D252	E-7	TP21	G-7
Q301	E-8	D300	G-11	TP82	C-8
Q302	E-8	D301	F-11	TP84	B-8
Q303	F-9	D302	F-8	TP85	D-10
Q304	F-9	D303	E-10	TP86	B-11
Q305	E-7	D304	E-11	TP87	C-8
Q306	F-11	D305	G-11	TP88	C-11
Q307	F-11	D306	E-9	TP91	C-4
Q308	G-11	D307	G-10	TP92	B-4
Q309	G-11	D308	E-10	TP93	B-4
Q310	E-10	D310	F-9	TP95	C-8
Q311	G-11	D311	F-9	TP96A	F-5
Q312	G-11	D500	D-6	TP96B	C-11
Q313	E-8	D501	A-9	TP96C	C-11
Q314	E-9	D502	D-6	TP97	C-8
Q315	E-9	D503	A-8	TP98	F-5
		D504	B-7	TP99A	D-2
		D505	B-7		



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

①  2.4Vp-p(H)	②  7.0Vp-p(H)	③  3.6Vp-p(4MHz)
④  5.0Vp-p(V)	⑤  5Vp-p(V)	⑥  2.4Vp-p(H)
⑦  2.2Vp-p(H)	⑧  3.2Vp-p(H)	⑨  2.2Vp-p(H)
⑩  2.2Vp-p(H)	⑪  0.6Vp-p(V)	⑫  1.6Vp-p(V)
⑬  4.4Vp-p(H)	⑭  6.4Vp-p(H)	⑮ 3.8Vp-p(V)
⑯ 4.8Vp-p(V)	⑰ 3.2Vp-p(H)	⑱ 3.2Vp-p(H)
⑲ 160Vp-p(H)	⑳ 13Vp-p(H)	㉑ 8.0Vp-p(V)
㉒ 6.4Vp-p(H)	㉓ 16Vp-p(V)	㉔ 32Vp-p(V)
㉕ 56Vp-p(V)	㉖ 2.8Vp-p(V)	㉗ 900Vp-p(H)
㉘ 4.8Vp-p(V)	㉙ 3.8Vp-p(V)	


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
IF201
IFE-450A
RF AGC
IF IN
VCC
AFT UP
AFT DN
AFT OUT
VOL
AF OUT
AF IN
MPX OUT
MUTE
DET OUT
TU101
BTP-202
ANT
CA
AGC
N.C (VC)
9.3V
IF
5V
30V
DAT
LAT
CLK
EARTH OF LOOP OUT TERMINAL ON U2 BOARD
TP-15 RF AGC
TP96A 5V
Q101 2SC3311A FM-TRAP
Q102 2SC3311A AGC-MUTE
0606 RD33ESB2 30V-REG
L105 JW (5)
DET OUT
TP-12
TP-21
MPX
VIDEO
TP98 9.3V
Q103 2SC3311A MUTE
CP101 47Kx8
CP103 47Kx4
CP104 220Px6
CP102 10Kx4
TO H BOARD H-11
SIRCS 1
POWER 2
KEY 7 3
KEY 6 4
KEY 5 5
KEY 4 6
KEY 3 7
KEY 2 8
KEY 1 9
KEY 0 10
A-11 10P WHT
IC104 MB88201-638L SUB-CONT
TO C BOARD A-67 1P C-67 WHT
IC103 MN1280-S RESET
Q109 1SS119 RESET
(KV-27EXR25 ONLY) TO P BOARD P-65
A-65 4P WHT
15V 1
8V 2
E 3
E 4
OVP 6
E 5
E 4
8V 3
15V 2
+B 1
A-64 6P WHT
TO G BOARD G-64
IC604 μPC78N05H 5V-REG
IC603 μPC7893HF 9.3V-REG
TP-93
TP-91
TP92 15V
135V
STBY 5V
TP99A ST BY 5V
Q105 2SA1309A H-SYNC
Q107 1SS119 CLAMP
Q105 1SS119 CLAMP
Q106 1SS119 CLAMP
Q107 2SC3311A AC-DET
Q108 2SC3311A AC-BUFF
Q608 2SA1309A PROTECT
IC601 μPC78N05H STBY-5V-REG
Q602 SIVB10-S STBY-REG
Q603 GP080 PROTECT
Q604 1SS119 VOLT-SHIFT
Q607 2SC3311A PROTECT
Q601 2SC3311A RLY-DRIVE
TO G BOARD G-63
A-63 4P WHT
AC 1
N.C 2
N.C 3
AC (WHT) 4
AC 120V 60Hz
AC 1
2
AC (WHT) 3
A-62 3P WHT
F601 6.3A 125V
T601 LFT
T602 LFT
Q601 RBV-406H AC-REG
CAUTION
As there are two kinds of ground on this board, be careful when measuring the voltages or waveforms.
COUTION (US MODEL ONLY)
This set is equipped with a polarized ac power cord plug (one blade of the plug is wider than the other). When replacing the ac power cord, be sure to connect it with specified part number as shown in this diagram.
E (HOT) 3
E (HOT) 2
RECT OUT 1
A-61 3P WHT
TO G BOARD G-61
Q301 2SA1309A Y-BUFF
Q304 2SA1309A V/SEXT-3
Q303 2SC3311A V/SEXT-2
Q302 2SA1309A V/SEXT-1
Q310 2SC3311A BUFFER
Q305 2SC3311A Y-AMP
Q313 2SA1309A BUFFERER
Q316 2SC3311A GAMMA-COMP2
Q306 GAMMA-COMP
Q317 2SC3311A Y-CLAMP
Q314 2SC3311A EQUALIZER
Q315 2SA1309A GAMMA-COMP1
Q301 R05.6ES LIMITER
Q306 2SC3311A BUFFER
Q307 2SC1652 AFC-DET
Q304 R09.1ES82 PROTECTOR
CP301 47Px3
A-32 7P WHT
V.BLK 7
IK 6
E 5
9.3V 4
B 3
G 2
R 1
TO C BOARD C-32

TO H BOARD H-12

A-12 7P RED

STEREO
TIMER
STBY 5V
E
SET 5V
SCAN 0
SCAN 1

MPX

VIDEO

AUDIO (L)

AUDIO (R)

Y

C

<SET5V>
<9.3V>
<STBY5V>

IC101 M37100M8-115SP CONTROL

IC251 CXA1264AS MTS-DECODE

IC103 MN1280-S RESET

IC102 PC08582 ROM-1

IC301 CXA1313S Y/C/J

IC531 RC4558P PIN-CORR

IC500 TOA8172 V-OUT

Q202 2SC3311A BUFFER

Q203 2SC3311A BUFFER

Q106 2SC3311A DAT-SW

Q104 1SS119 CLK-CLAMP

Q109 1SS119 RESET

Q103 CHP.POSI

Q130 2SC3311A V-PULSE

Q501 2SC2688 H-DRIVE

Q502 2SB1886 H-OUT

Q503 RU30A H-DAMPER-2

Q504 2SA1309A PROTECT

Q505 2SC3311A BUFFER

Q309 2SC3311A V-BLK1

Q311 2SC3311A BUFFER

Q312 2SC3311A BUFFER

Q318 2SC3311A BUFFER

Q530 2SB761-F PIN-OUT

Q563 1SS119 CLAMP

Q301 RD5.6ES LIMITER

Q302 RD5.6ESB2 LIMITER

Q303 1SS119 PROTECT

Q304 RD9.1ESB2 PROTECTOR

Q305 RD18ESB1 ABL-PROTECT

Q308 2SA937-R H-DRIVE-MUTE

Q500 GP080 V-BOOST

Q502 GP080 PLS-CLIP-2

Q504 GP080 H.CENT-1

Q505 GP080 H.CENT-2

Q509 1SS119 PLS-CLIP-3

Q510 GP080 PLS-CLIP-1

Q514 1SS119 RECT

Q515 1SS119 TR-PROT

Q520 EGP20G +15V-RECT

Q521 RGP15G -15V-RECT-1

Q531 ELIZ-V1 PROT-RECT

D250 RD6.2ESB2 PROTECT

D251 RD6.2ESB2 PROTECT

D252 RD12ESB2 PROTECT

D310 RD6.2ESB2 PROTECT

D311 RD6.2ESB2 PROTECT

D0108 1SS119

D0130 1SS119

D0308 RD18ESB2

D0500 GP080

D0501 RS3FS H-DAMPER-1

D0502 RS3FS

D0506 RS3FS

D0517 RGP02-17 1000V-RECT

D0519 RGP10G 200V-RECT

D0563 1SS119 CLAMP

PMS01 X-RAYS-PRO

TP82 V.OUT

TP86 V.M

TP88 H.FREQ

TP96 -15V

TP96 (F) +15V

TP97 1000V

TP-1 OBX

TP-2 OBX

T500 FBT

T501 HOT

T502 PRT

SG501

L500 X101 4MHz

L501 0.68

L502 10mH

L503 0.68mH

L504 10mH

L505 3.3mH

L506 10mH

L509 33mH

L510 8.2mH

L511 3.3mH

L512 3.3mH

L513 8.2mH

L514 8.2mH

L515 MLC

L517 3.3mH

JW203 10MH

JW204 10MH

A-55 5P WHT

A-56

A-31 WHT

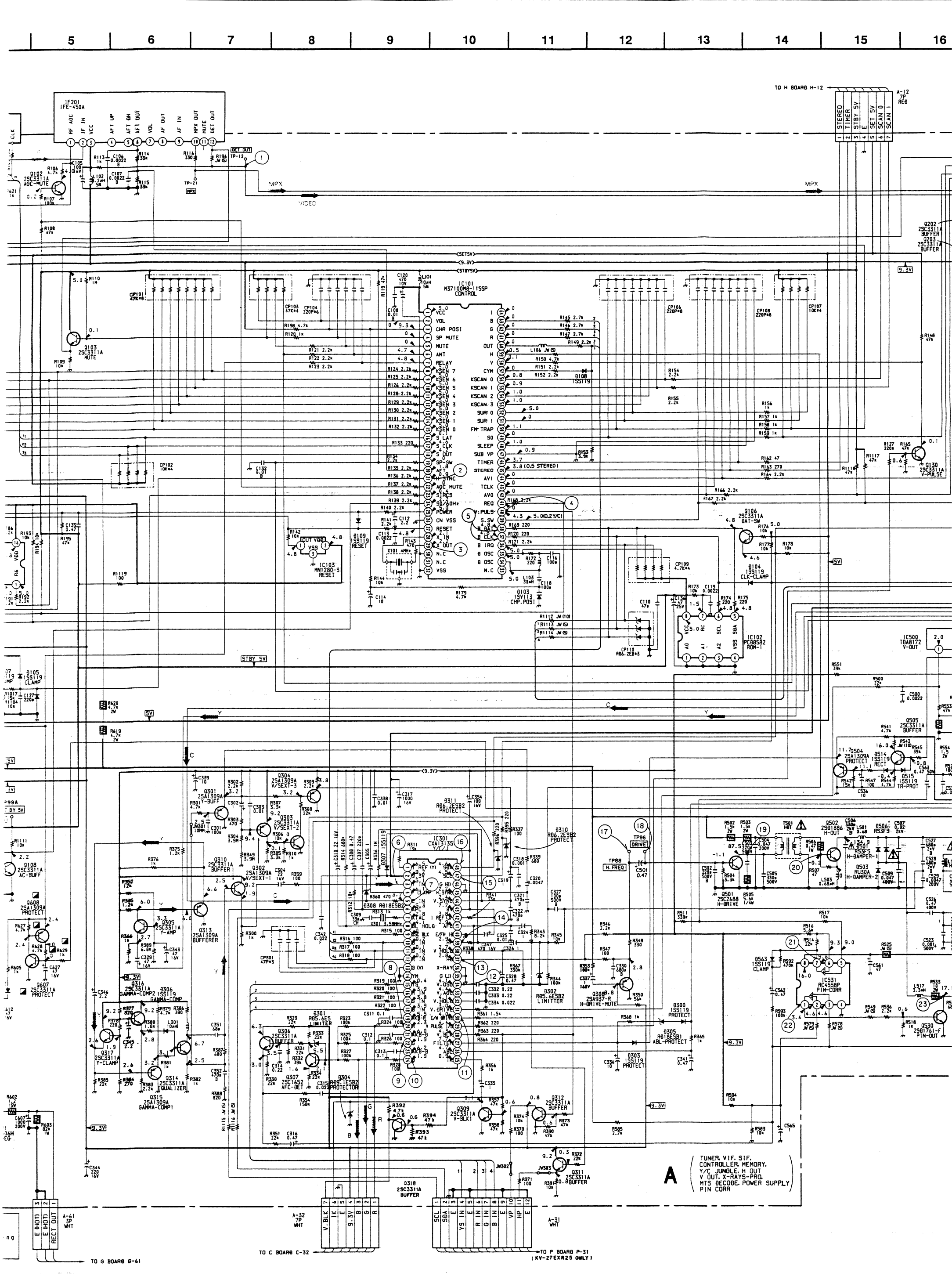
TO P BOARD P-31 (KV-27EXR25 ONLY)

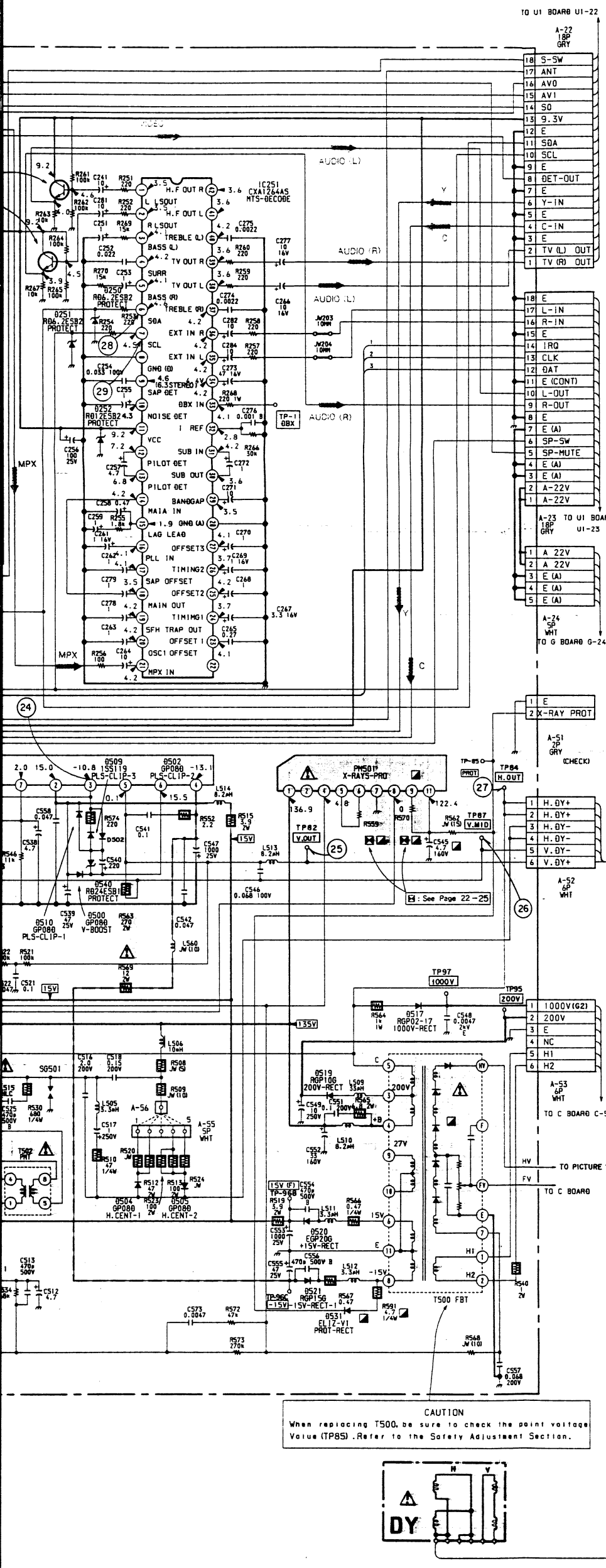
C-32

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

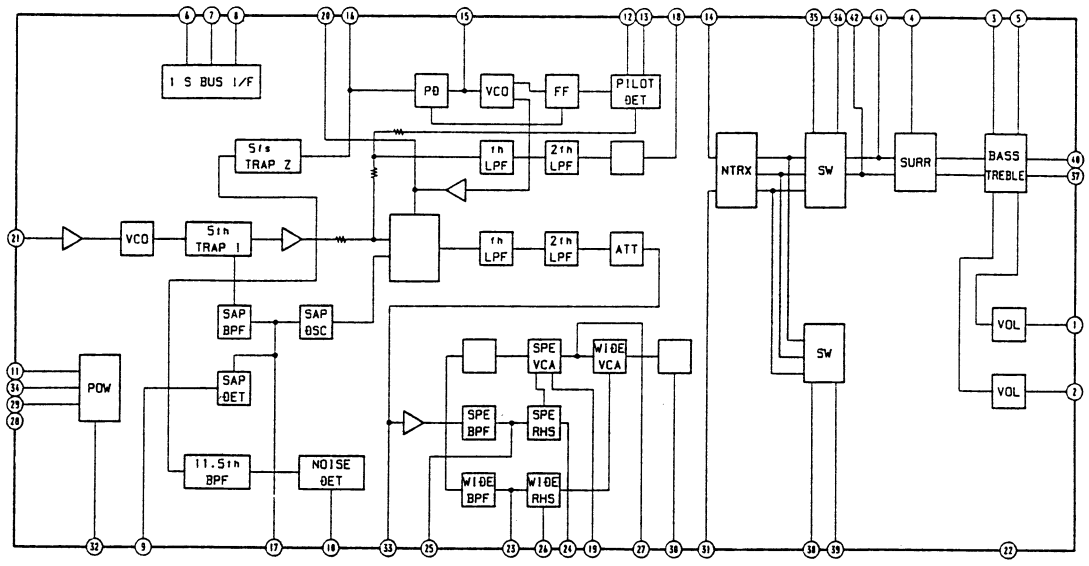
CAUTION
When replacing T500, be sure to ch
Value (TP85). Refer to the Safety A

: See Page 22-2

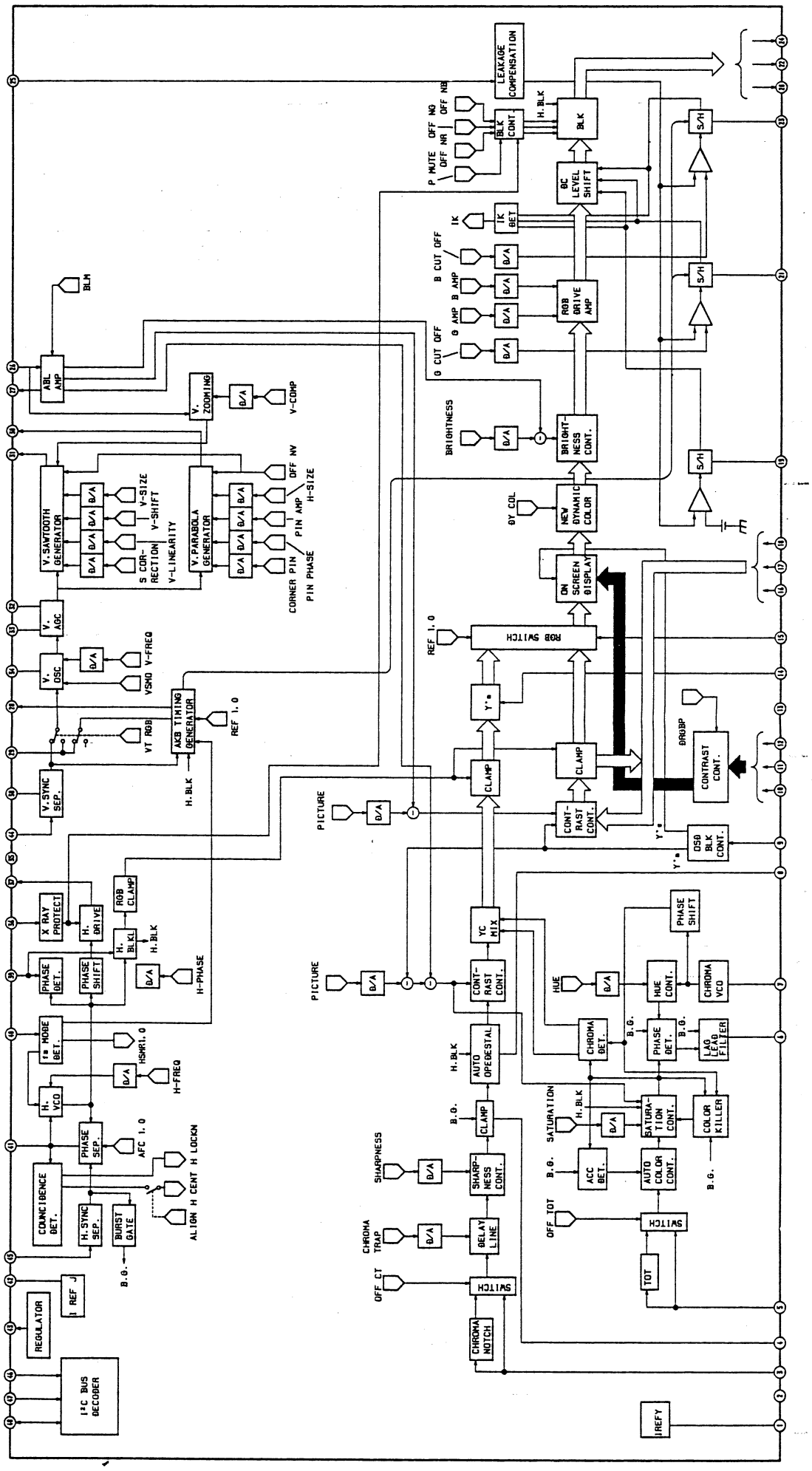

5
6
7
8
9
10
11
12
13
14
15
16
IF201 IFE-450A
RF AGC
IF IN
VCC
AFT UP
AFT GN
AFT OUT
VOL
AF OUT
AF IN
MPX OUT
MUTE
DET OUT
DET OUT
TP-12
MPX
VIDEO
TO H BOARD H-12
A-12 7P RED
STEREO
TIMER
STBY 5V
E
SET 5V
SCAN 0
SCAN 1
Q102 2SC3311A AGC-MUTE
Q103 2SC3311A MUTE
Q108 2SC3311A AC-BUFF
Q608 2SA1309A PROTECT
Q607 2SC3311A PROTECT
Q105 1SS119 CLAMP
Q109 1SS119 CLK-CLAMP
Q106 2SC3311A DAT-SW
Q104 1SS119 CLK-CLAMP
Q130 2SC3311A V-PULSE
Q202 2SC3311A BUFFER
Q203 2SC3311A BUFFER
Q505 2SC3311A BUFFER
Q504 2SA1309A PROTECT
Q514 1SS119 RECT
Q515 1SS119 TR-PROT
Q502 2SD1886 H-OUT
Q501 2SC2688 H-DRIVE
Q503 RU50A H-DAMPER-2
Q507 RS3FS H-DAMPER-1
Q308 2SA937-R H-DRIVE-MUTE
Q530 2SD1761-F PIN-OUT
IC101 M37100M8-115SP CONTROL
IC102 PC08582 ROM-1
IC103 MN1280-S RESET
IC500 TDA8172 V-OUT
IC531 RC4558P PIN-CORR
Q301 2SA1309A Y-BUFF
Q302 2SA1309A V/SEXT-1
Q303 2SC3311A V/SEXT-2
Q304 2SA1309A V/SEXT-3
Q305 2SC3311A Y-AMP
Q306 2SC3311A BUFFER
Q307 2SC1652 AFC-DET
Q309 2SC3311A V-BLK1
Q310 2SC3311A BUFFER
Q311 2SC3311A BUFFER
Q312 2SC3311A BUFFER
Q313 2SA1309A BUFFERER
Q314 2SC3311A EQUALIZER
Q315 2SA1309A GAMMA-COMP1
Q316 2SC3311A GAMMA-COMP2
Q317 2SC3311A Y-CLAMP
Q318 2SC3311A BUFFER
Q0108 1SS119
Q0109 1SS119 RESET
Q0103 1SV113 CHP.POSI
Q0311 R06.2ES82 PROTECT
Q0310 R06.2ES82 PROTECT
Q0308 R018ES82
Q0302 R05.6ES82 LIMITER
Q0301 R05.6ES2 LIMITER
Q0306 R05.1ES82 PROTECTOR
Q0305 R018ES81 ABL-PROTECT
Q0303 1SS119 PROTECT
Q0300 1SS119 PROTECT
D0105 1SS119 CLAMP
D0106 1SS119
D0563 1SS119 CLAMP
D0514 1SS119 RECT
D0515 1SS119 TR-PROT
D0300 1SS119 PROTECT
D0303 1SS119 PROTECT
D0305 R018ES81 ABL-PROTECT
D0310 R06.2ES82 PROTECT
D0311 R06.2ES82 PROTECT
D0308 R018ES82
D0302 R05.6ES82 LIMITER
D0301 R05.6ES2 LIMITER
D0306 R05.1ES82 PROTECTOR
D0304 R09.1ES82 PROTECTOR
D0563 1SS119 CLAMP
D0514 1SS119 RECT
D0515 1SS119 TR-PROT
D0300 1SS119 PROTECT
D0303 1SS119 PROTECT
D0305 R018ES81 ABL-PROTECT
D0310 R06.2ES82 PROTECT
D0311 R06.2ES82 PROTECT
D0308 R018ES82
D0302 R05.6ES82 LIMITER
D0301 R05.6ES2 LIMITER
D0306 R05.1ES82 PROTECTOR
D0304 R09.1ES82 PROTECTOR
TP86 DRIVE
TP88 H.FREQ
TP-2
SETSV
9.3V
STBY 5V
5V
A
TUNER, VIF, SIF, CONTROLLER, MEMORY, Y/C JUNGLE, H OUT V OUT, X-RAYS-PRO, MTS DECODE, POWER SUPPLY PIN CORR
A-61 3P WHT
E (HOT)
E (HOT)
RECT OUT
TO G BOARD G-61
A-32 7P WHT
V.BLK
IK
E
9.3V
B
G
R
TO C BOARD C-32
A-31 WHT
SCL
SDA
E
YS IN
E
R IN
G IN
B IN
E
VP
HP
E
TO P BOARD P-31
(KV-27EXR25 ONLY)



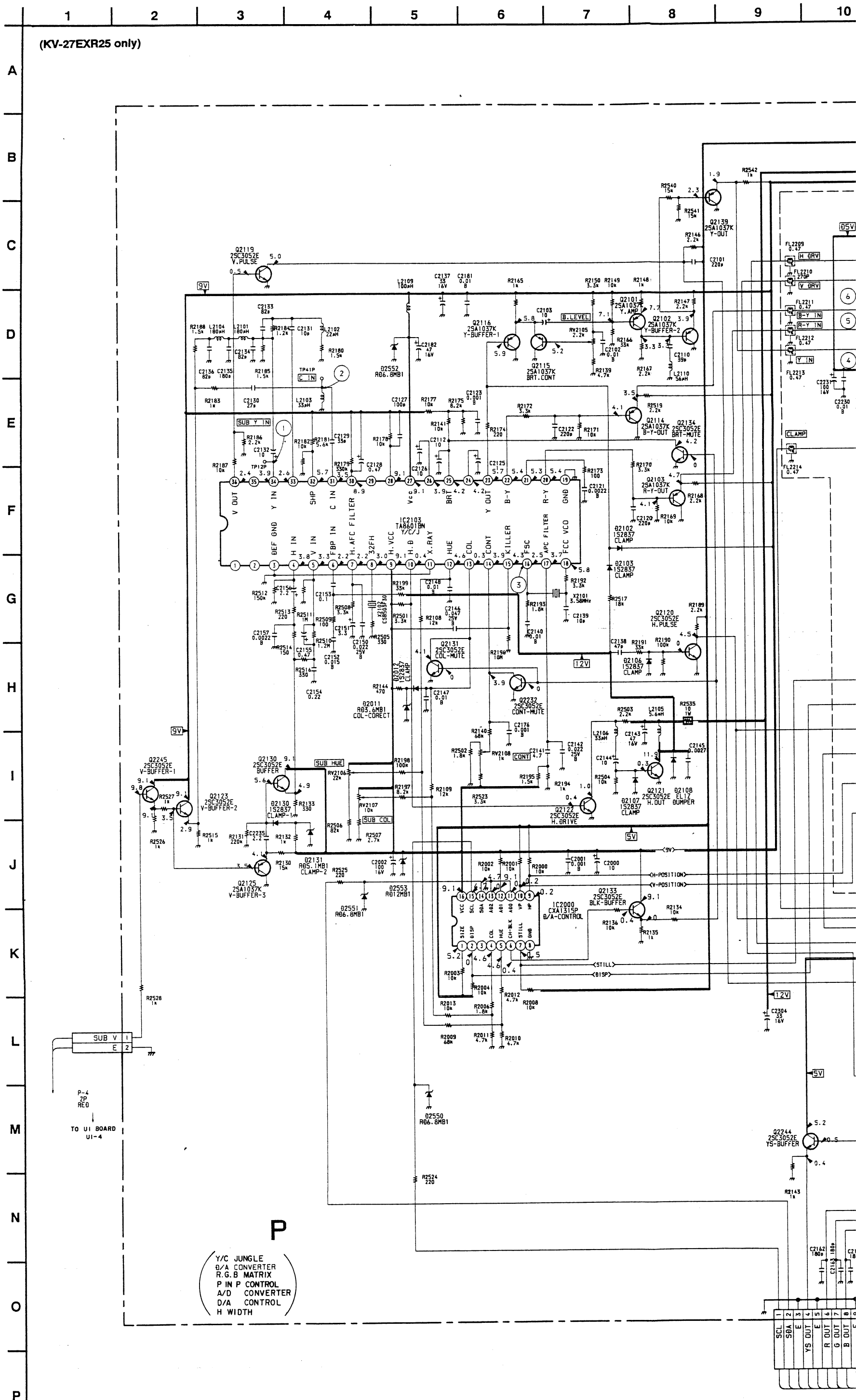
A BOARD IC251 CXA1264AS

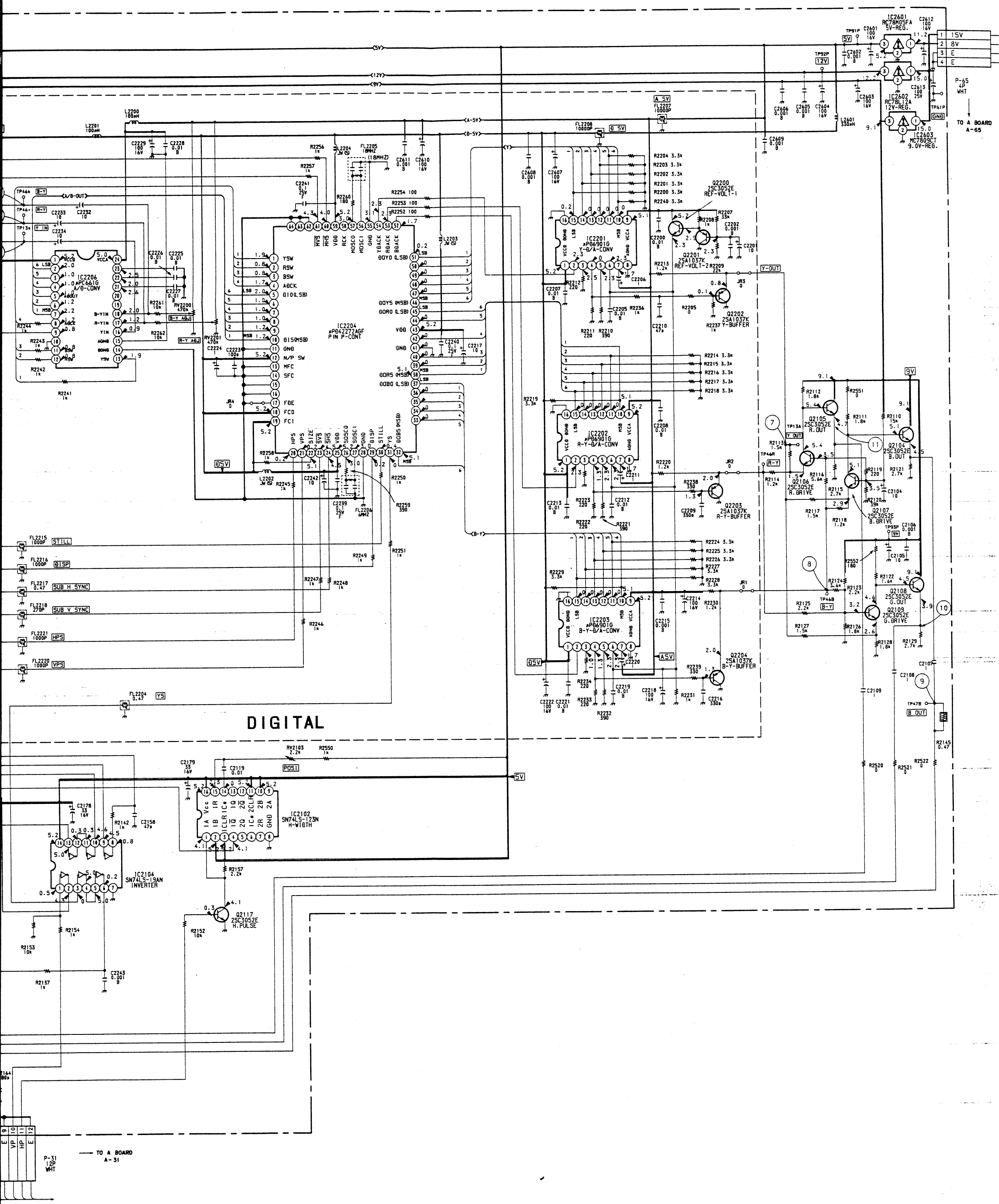


A BOARD IC301 CXA1313S

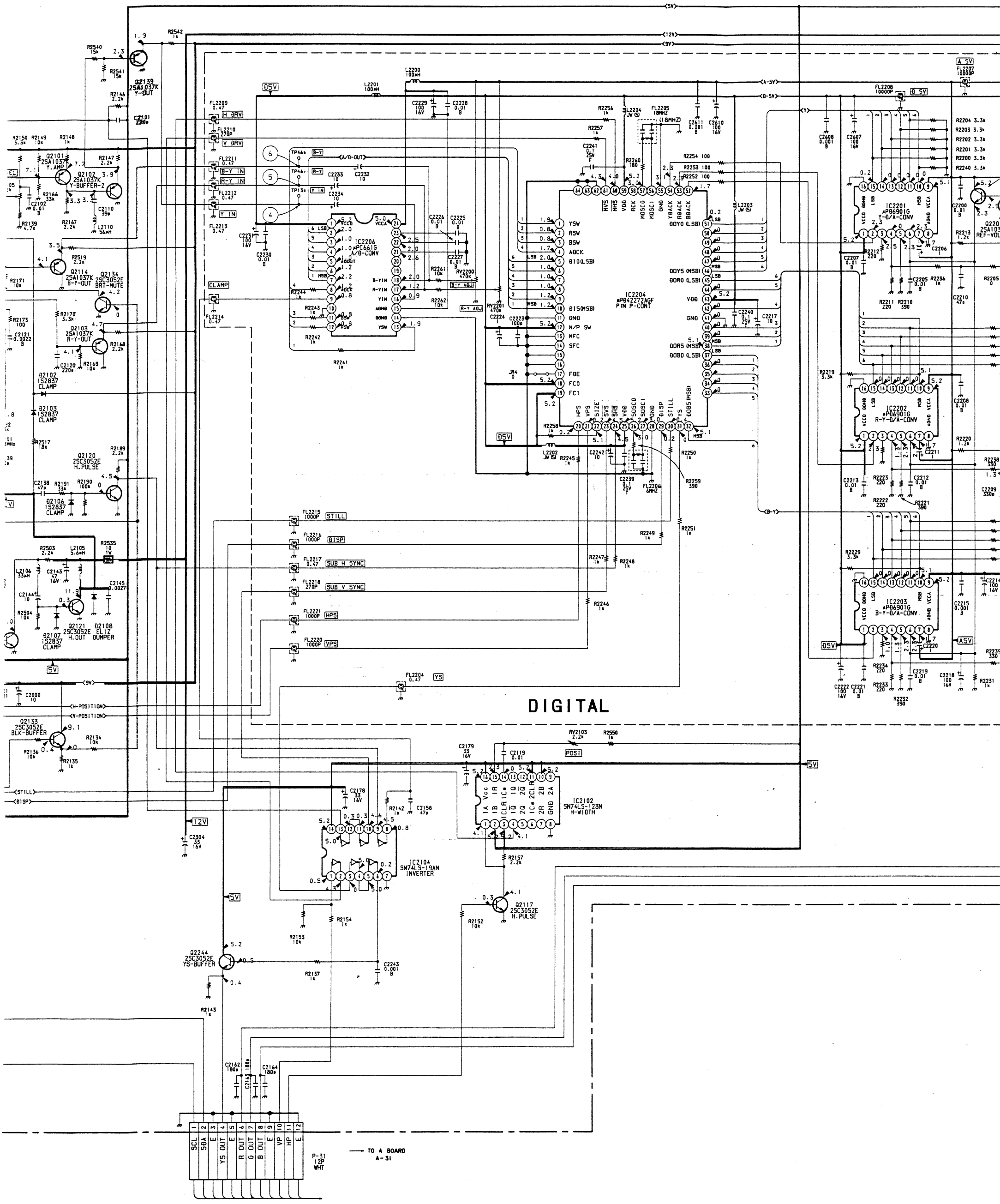


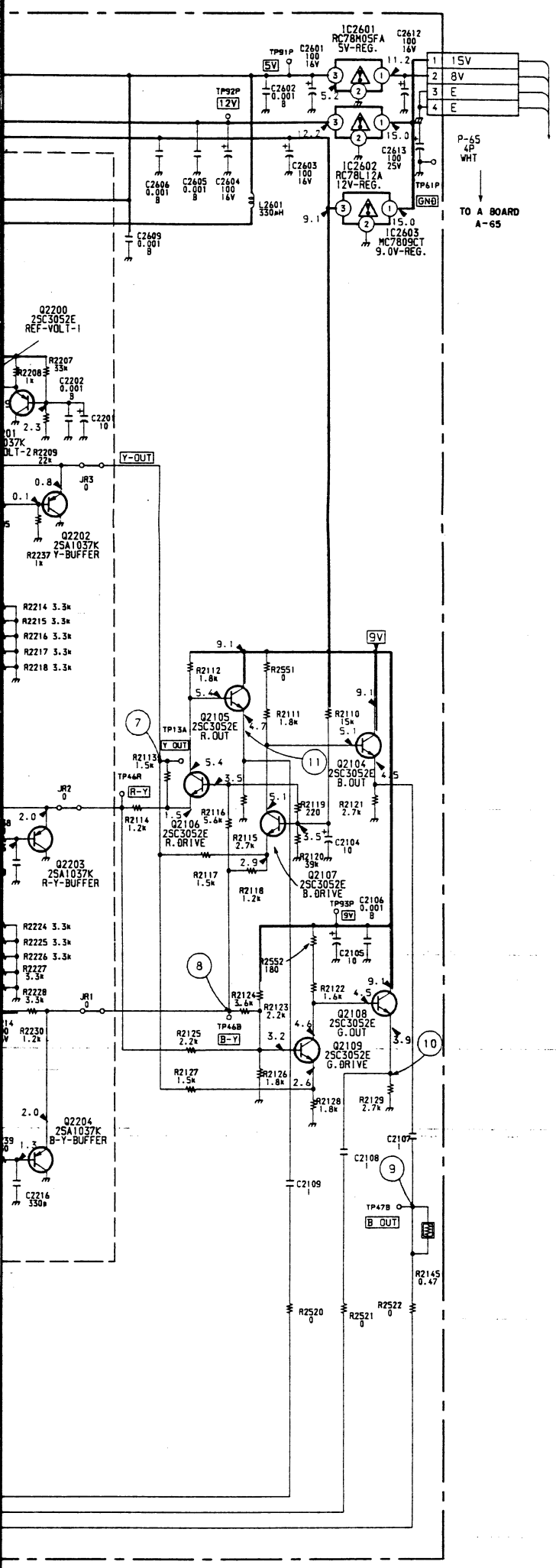
(KV-27EXR25 only)




DIGITAL
IC2206 μPC661G A/B-CONV
IC2204 μPD42272AGF PIN P-CONT
IC2201 μPD6901G Y-B/A-CONV
IC2202 μPD6901G R-Y-B/A-CONV
IC2203 μPD6901G B-Y-B/A-CONV
IC2102 SN74LS-123N H-WIDTH
IC2104 SN74LS-19AN INVERTER
IC2601 RC78M05FA 5V-REG.
IC2602 RC78L12A 12V-REG.
IC2603 MC7809CT 9.0V-REG.
Q2200 2SC3052E REF-VOLT-1
Q2201 2SA1037K REF-VOLT-2
Q2202 2SA1037K Y-BUFFER
Q2203 2SA1037K R-Y-BUFFER
Q2204 2SA1037K B-Y-BUFFER
Q2105 2SC3052E R.OUT
Q2106 2SC3052E R.DRIVE
Q2104 2SC3052E B.OUT
Q2107 2SC3052E B.DRIVE
Q2108 2SC3052E G.OUT
Q2109 2SC3052E G.DRIVE
Q2117 2SC3052E H.PULSE
FL2207 10000P
FL2208 10000P
FL2205 18MHZ
FL2206 6MHZ
L2200 100uH
L2201 100uH
L2202 JW (S)
L2203 JW (S)
L2204 JW (S)
L2601 330uH
TO A BOARD A-65
TO A BOARD A-31
P-65 4P WHT
P-31 12P WHT
Y-OUT
B OUT
STILL
BISP
SUB H SYNC
SUB V SYNC
HPS
VPS
YS
POSI
R-Y ADJ
B-Y ADJ

DIGITAL


IC2206 μPC661G A/B-CONV
IC2204 μPD42272AGF PIN P-CONT
IC2201 μP06901G Y-B/A-CONV
IC2202 μP06901G R-Y-B/A-CONV
IC2203 μP06901G B-Y-B/A-CONV
IC2102 SN74LS-123N H-WIDTH
IC2104 SN74LS-19AN INVERTER
Q2139 2SA1037K Y-OUT
Q2101 2SA1037K Y-AMP
Q2102 2SA1037K Y-BUFFER-2
Q2114 2SA1037K B-Y-OUT
Q2134 2SC3052E BRT-MUTE
Q2103 2SA1037K R-Y-OUT
Q2120 2SC3052E H.PULSE
Q2133 2SC3052E BLK-BUFFER
Q2121 2SC3052E H.OUT
Q2244 2SC3052E YS-BUFFER
Q2117 2SC3052E H.PULSE
D2102 1S2837 CLAMP
D2103 1S2837 CLAMP
D2106 1S2837 CLAMP
D2107 1S2837 CLAMP
D2108 EL1Z JUMPER
FL2205 18MHZ
FL2206 6MHZ
P-31 12P WHT
TO A BOARD A-31



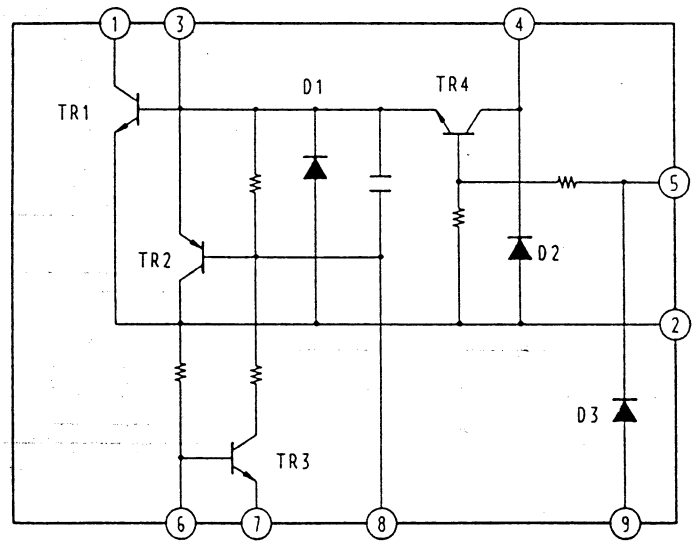
WAVEFORMS P BOARD (KV-27EXR25 only)

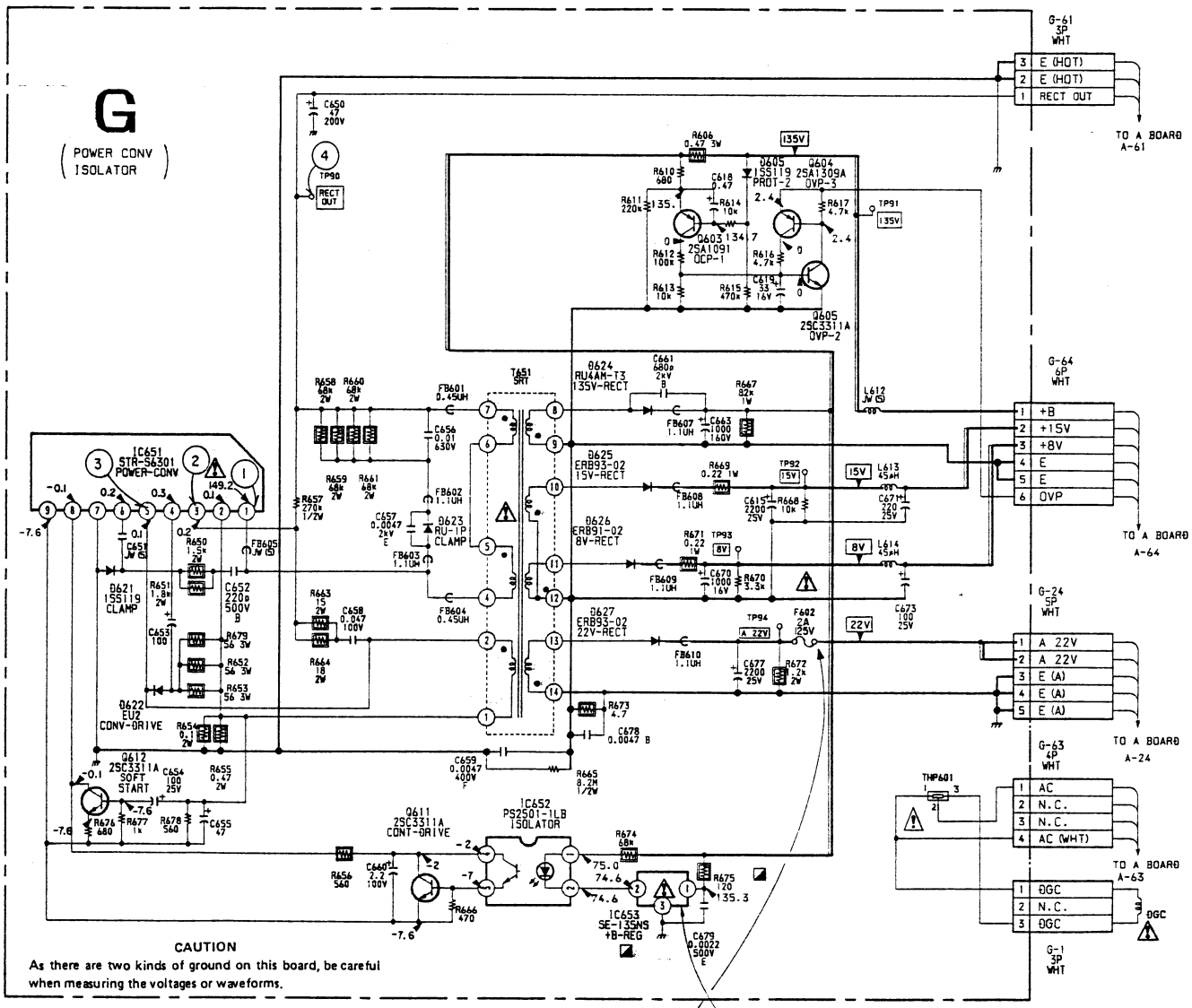
① 0.7Vp-p (H)	② 1.0Vp-p (H)	③ 0.16Vp-p (H)
④ 0.8Vp-p (H)	⑤ 0.4Vp-p (H)	⑥ 0.36 Vp-p(H)
⑦ 0.8Vp-p (H)	⑧ 0.8Vp-p (H)	⑨ 0.9Vp-p (H)
⑩ 0.9Vp-p (H)	⑪ 1.4Vp-p (H)	

WAVEFORMS G BOARD

① 400Vp-p(≒40KHz)	② 10Vp-p(≒40KHz)	③ 20Vp-p(≒40KHz)	④ 4Vp-p(100Hz)

G BOARD IC651 STR-S6301





CAUTION
As there are two kinds of ground on this board, be careful when measuring the voltages or waveforms.

CAUTION
When taking a broken fuse (F602) off, discharge across C677 to avoid shock hazard.

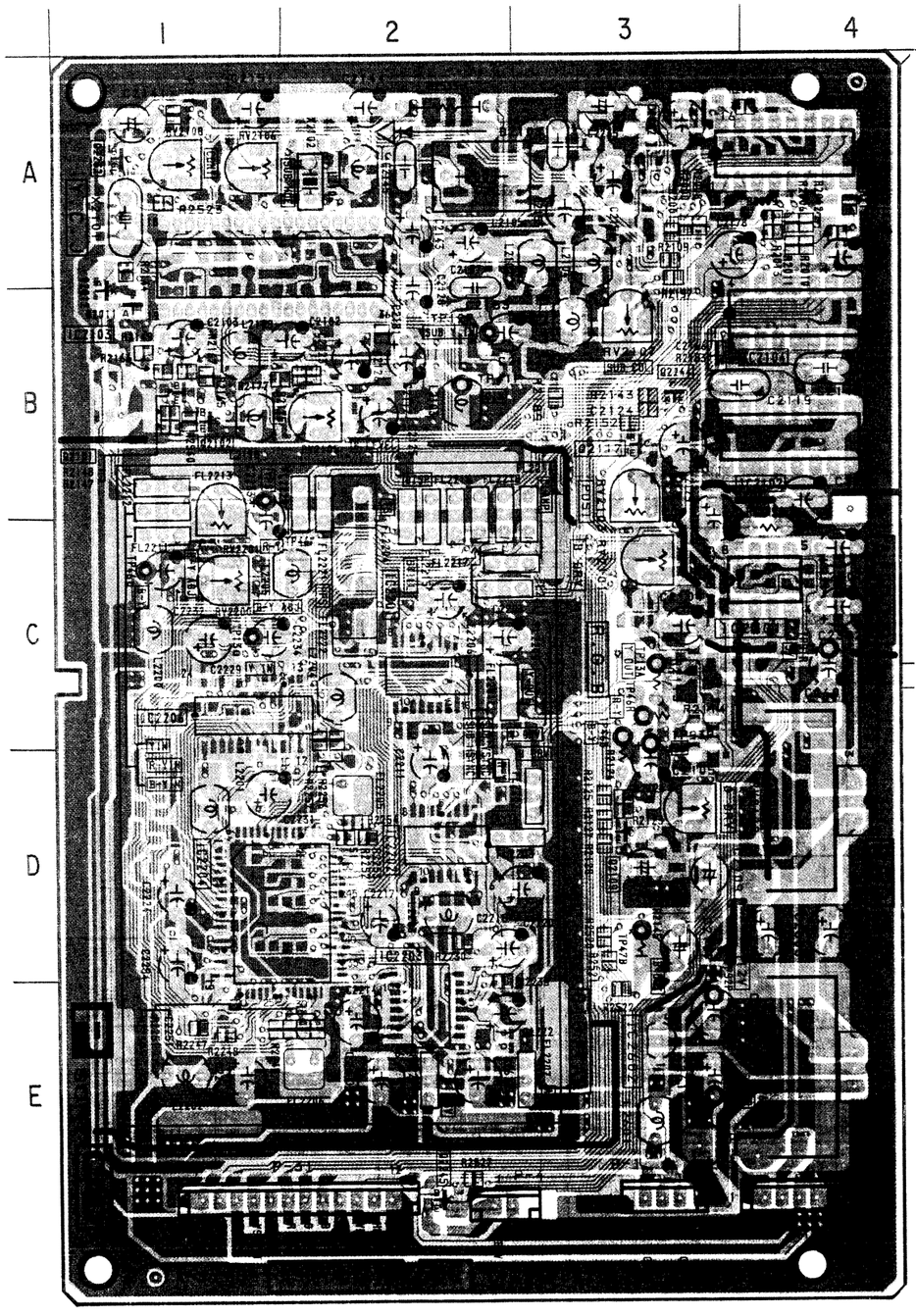
CAUTION
When replacing IC653, be sure to check the B+ line voltage value. Refer to the Safety Adjustment Section.

KV-27EXR20/27EXR25 RM-Y103 RM-Y104

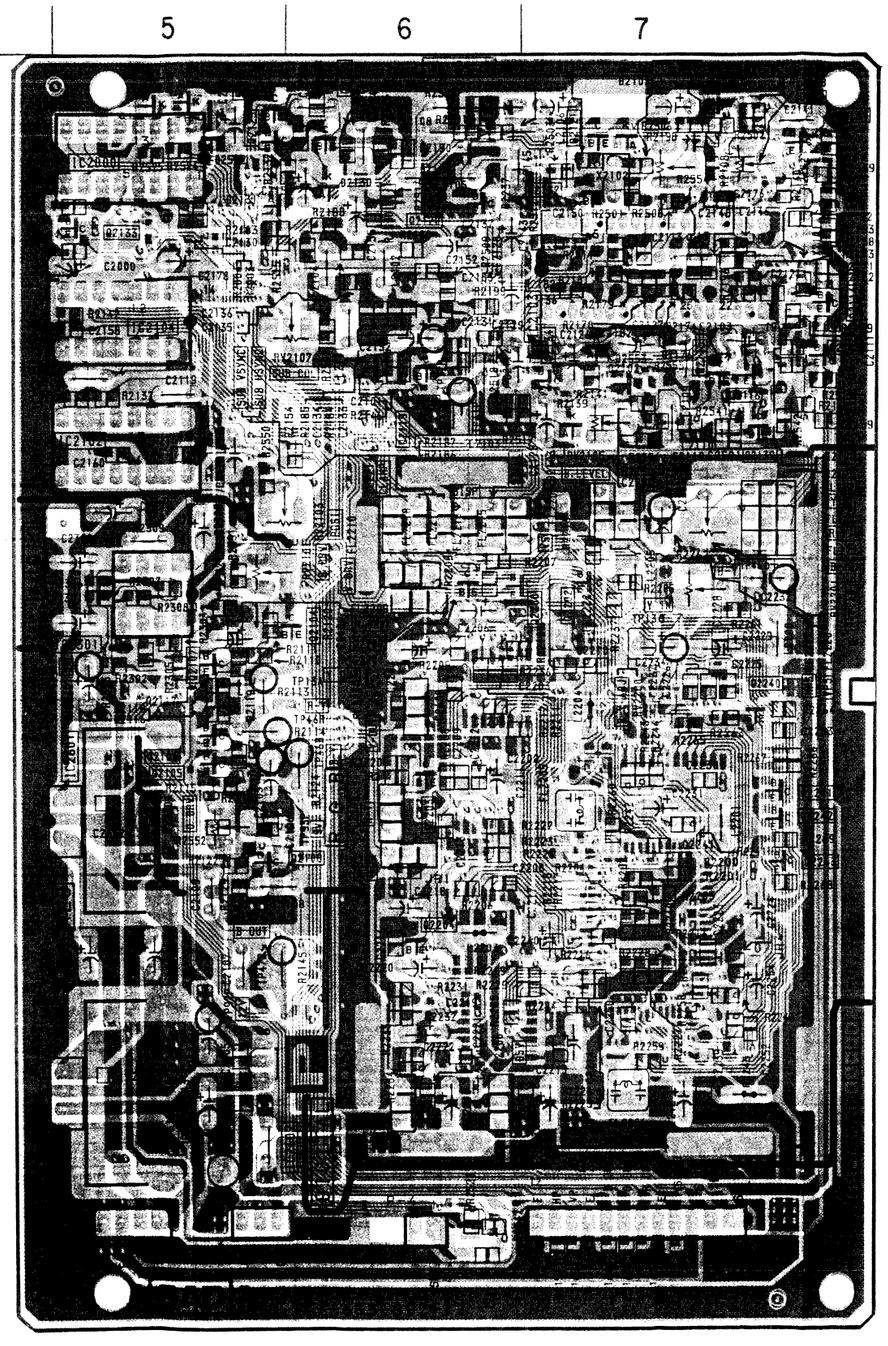
P [Y/C DECODER, D/A CONVERTER, R-Y/B-Y OUT, R.G.B MATRIX]

— P Board — (KV-27EXR25 only)

— Component side —



— Conductor side —



P Board

IC		TRANSISTOR		DIODE	
IC2000	A-5	Q2121	A-7	D2551	A-5
IC2102	B-5	Q2122	A-7	D2552	A-5
IC2103	A-7	Q2123	A-5	D2553	B-7
IC2104	B-5	Q2125	A-5	VARIABLE RESISTOR	
IC2201	C-2	Q2130	A-6		
IC2202	D-2	Q2131	A-7	RV2103	B-5
IC2203	E-2	Q2133	A-5	RV2105	B-7
IC2204	D-1	Q2134	B-7	RV2106	A-7
IC2206	C-1	Q2139	B-7	RV2107	B-6
IC2601	D-5	Q2200	C-6	RV2108	A-7
IC2602	E-5	Q2201	C-6	RV2200	C-7
IC2603	E-5	Q2202	C-7	RV2201	C-7
TRANSISTOR		Q2203	D-6	TEST POINT	
Q2101	B-1	Q2204	D-6		
Q2102	B-1	Q2232	A-1	TP12P	B-6
Q2103	B-7	Q2244	B-3	TP13A	C-5
Q2104	C-6	Q2245	E-2	TP13a	C-7
Q2105	D-5	DIODE		TP41P	B-6
Q2106	C-5	D2011	B-1	TP46B	C-6
Q2107	C-5	D2012	A-1	TP46R	C-5
Q2108	D-5	D2102	B-7	TP46b	C-7
Q2109	D-3	D2103	B-7	TP46r	B-7
Q2114	B-7	D2106	A-6	TP47B	D-5
Q2115	B-7	D2107	A-7	TP61P	E-5
Q2116	B-7	D2108	A-6	TP91P	C-5
Q2117	B-3	D2130	A-6	TP92P	E-5
Q2119	B-6	D2131	A-5	TP93P	D-5
Q2120	A-6	D2550	A-5		

- [ ] : pattern from the side which enables seeing.
- [ ] : pattern of the rear side.

KV-27EXR20/27EXR25 RM-Y103 RM-Y104

G [POWER CONV, ISOLATOR]

— G Board —

DIODE

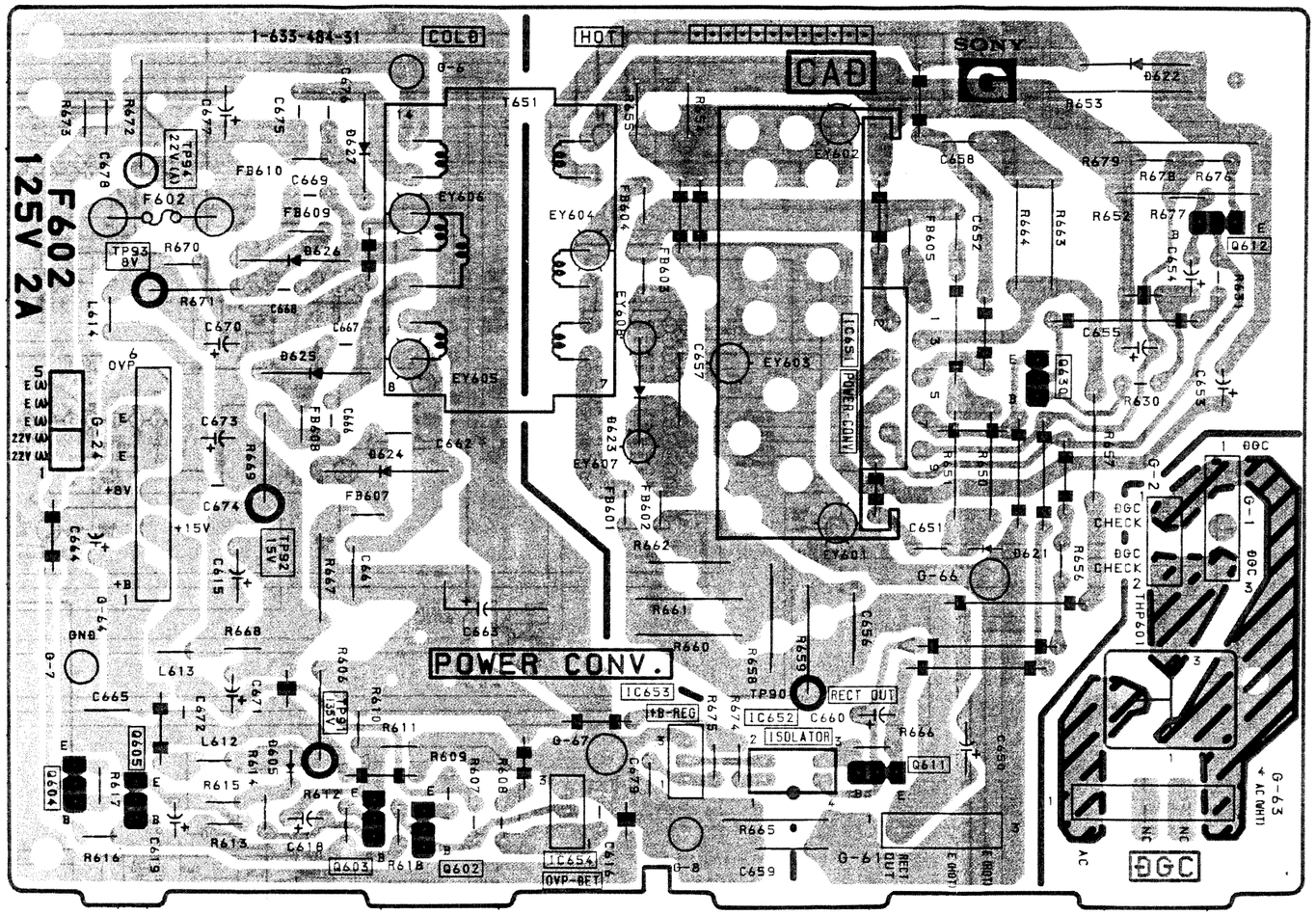
)2551	A-5
)2552	A-5
)2553	B-7

VARIABLE RESISTOR

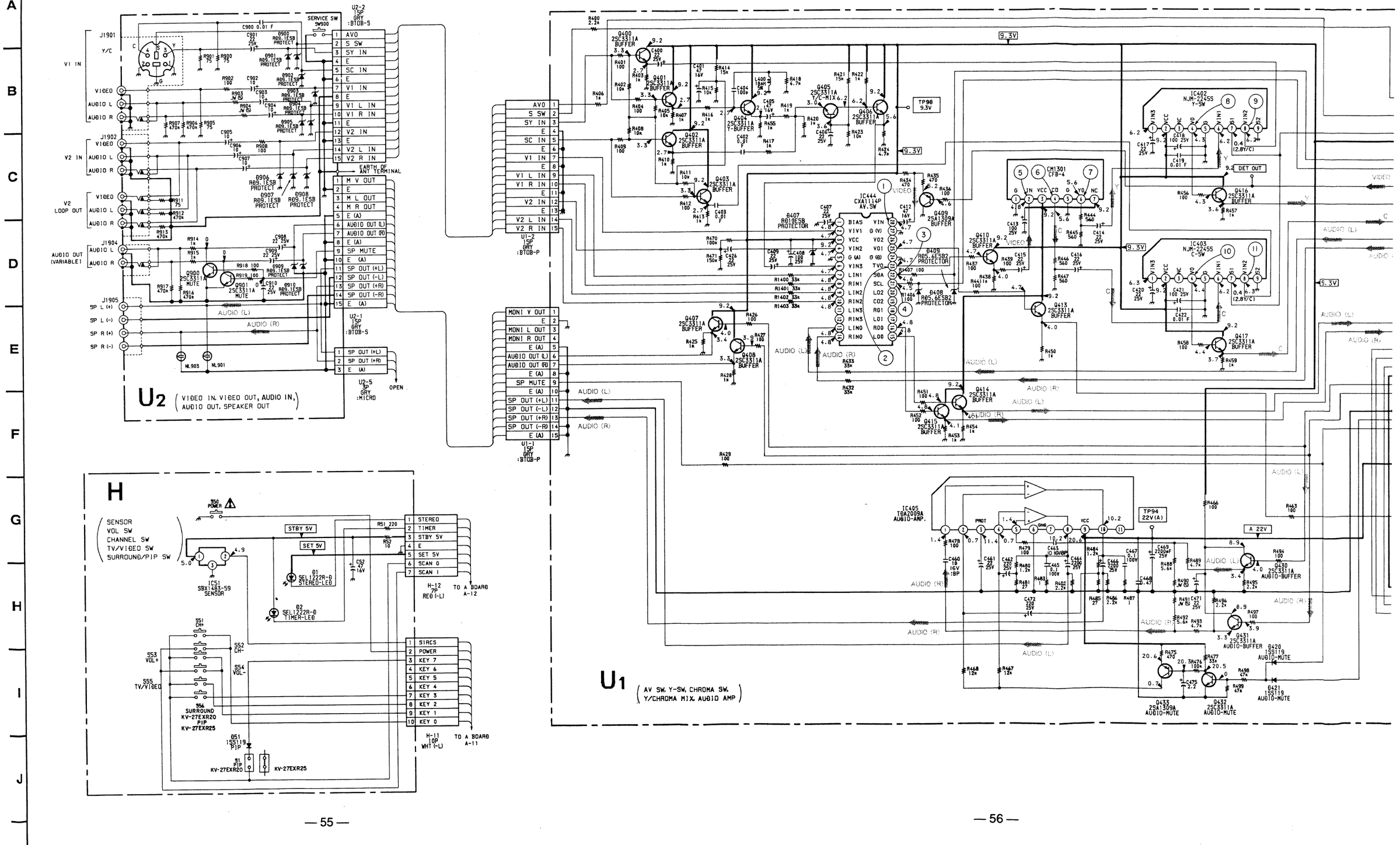
\V2103	B-5
\V2105	B-7
\V2106	A-7
\V2107	B-6
\V2108	A-7
\V2200	C-7
\V2201	C-7

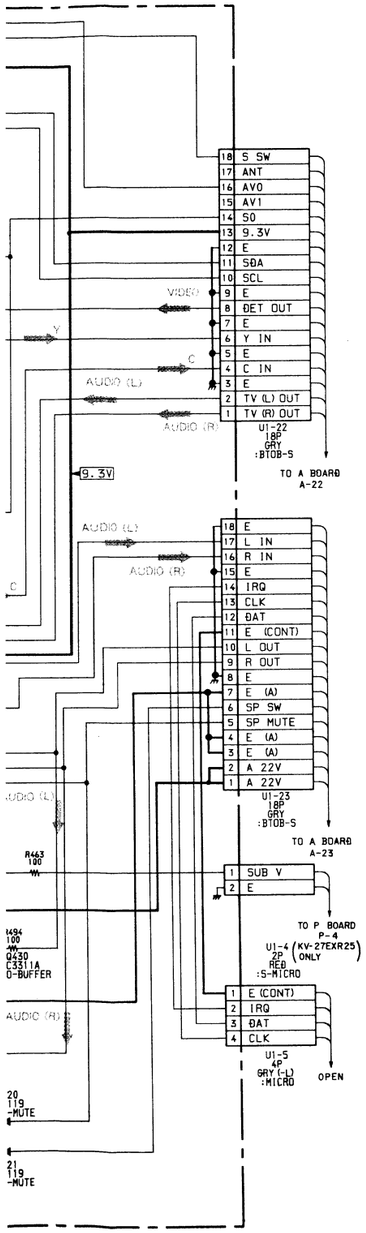
'EST POINT

'P12P	B-6
'P13A	C-5
'P13a	C-7
'P41P	B-6
'P46B	C-6
'P46R	C-5
'P46b	C-7
'P46r	B-7
'P47B	D-5
'P61P	E-5
'P91P	C-5
'P92P	E-5
'P93P	D-5



enables seeing.

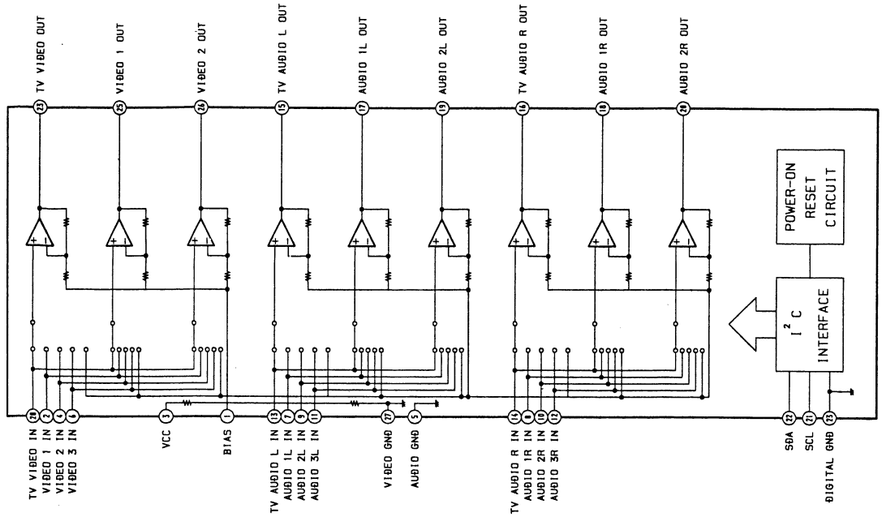

U2 (VIDEO IN, VIDEO OUT, AUDIO IN, AUDIO OUT, SPEAKER OUT)
U1 (AV SW, Y-SW, CHROMA SW, Y/CHROMA MIX, AUDIO AMP)
H
SENSOR
VOL SW
CHANNEL SW
TV/VIDEO SW
SURROUND/PIP SW
SERVICE SW SW900
V1 IN
V2 IN
V2 LOOP OUT
AUDIO OUT (VARIABLE)
EARTH OF ANT TERMINAL
OPEN
AUDIO (L)
AUDIO (R)
9.3V
TP98 9.3V
TP94 22V(A)
A 22V
DET OUT
TO A BOARD A-12
TO A BOARD A-11
KV-27EXR20
KV-27EXR25

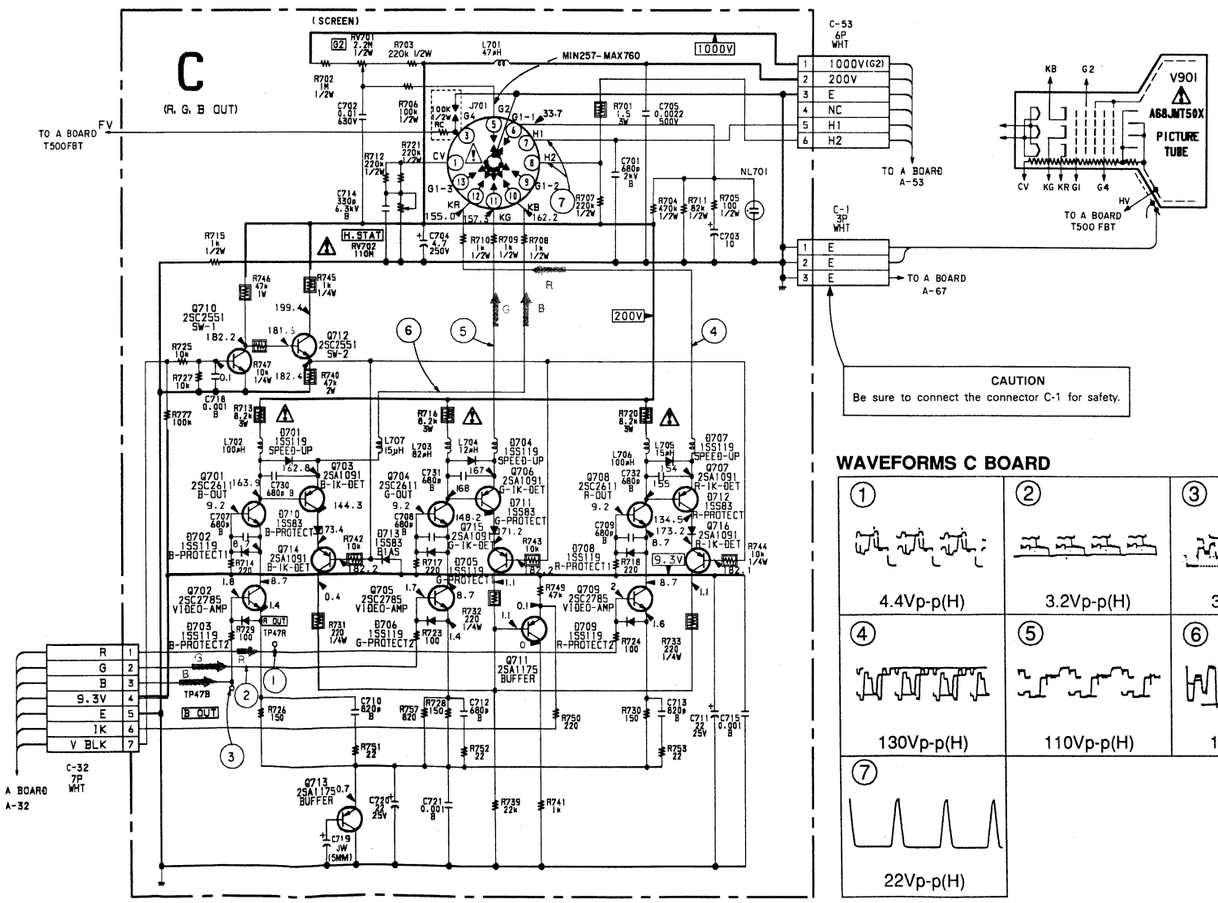


WAVEFORMS U1 BOARD

① RF IN 1.2Vp-p(H)	② RF IN 2.4Vp-p(H)	② VIDEO IN 2Vp-p(H)
③ 4.5Vp-p(V)	④ 4.5Vp-p(V)	⑤ RF IN 2.4Vp-p(H)
⑤ VIDEO IN 2Vp-p(H)	⑥ RF IN 2Vp-p(H)	⑥ VIDEO IN 1.8Vp-p(H)
⑦ RF IN 2Vp-p(H)	⑦ VIDEO IN 1.8Vp-p(H)	⑧ RF IN 2Vp-p(H)
⑧ VIDEO IN 2Vp-p(H)	⑧ Y/C IN 2Vp-p(H)	⑨ Y/C IN 1Vp-p(H)
⑩ RF IN 2.2Vp-p(H)	⑩ VIDEO IN 2Vp-p(H)	⑩ Y/C IN 1.3Vp-p(H)
⑪ Y/C IN 0.6Vp-p(H)		

U1 BOARD IC444 CXA1114P





CAUTION
Be sure to connect the connector C-1 for safety.

WAVEFORMS C BOARD

① 4.4Vp-p(H)	② 3.2Vp-p(H)	③ 3.2Vp-p(H)
④ 130Vp-p(H)	⑤ 110Vp-p(H)	⑥ 100Vp-p(H)
⑦ 22Vp-p(H)		

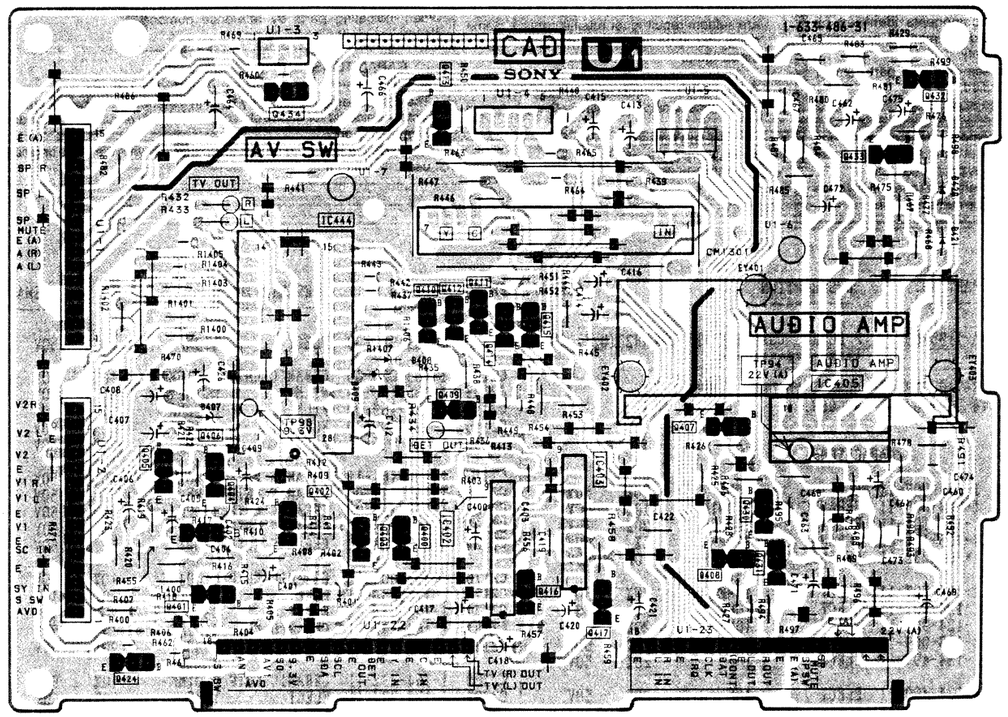
U1 [AV.SW, Y-SW, CHROMA SW, Y/CHROMA MIX, AUDIO AMP]

U2 [VIDEO IN, VIDEO OUT, AUDIO OUT, SPEAKER OUT]

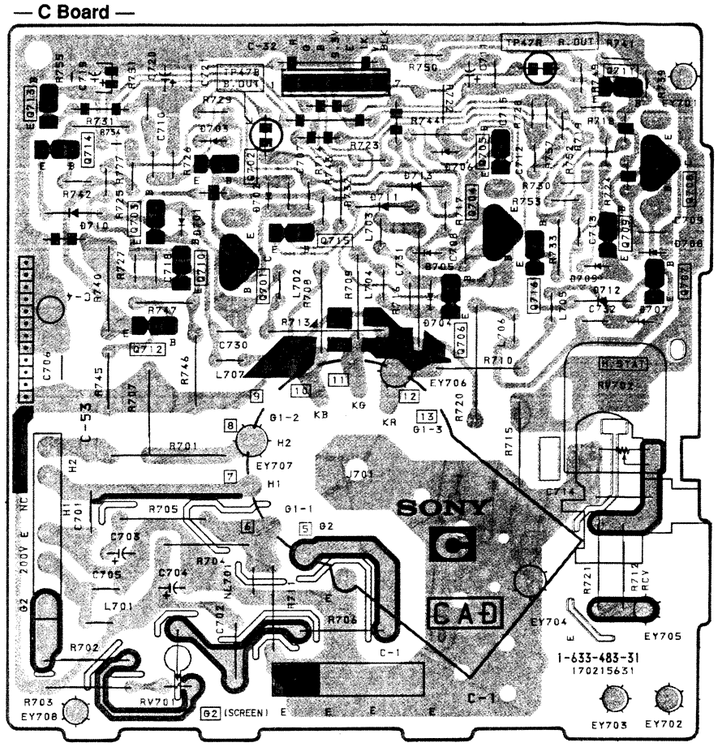
C [R.G.B. OUT]

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

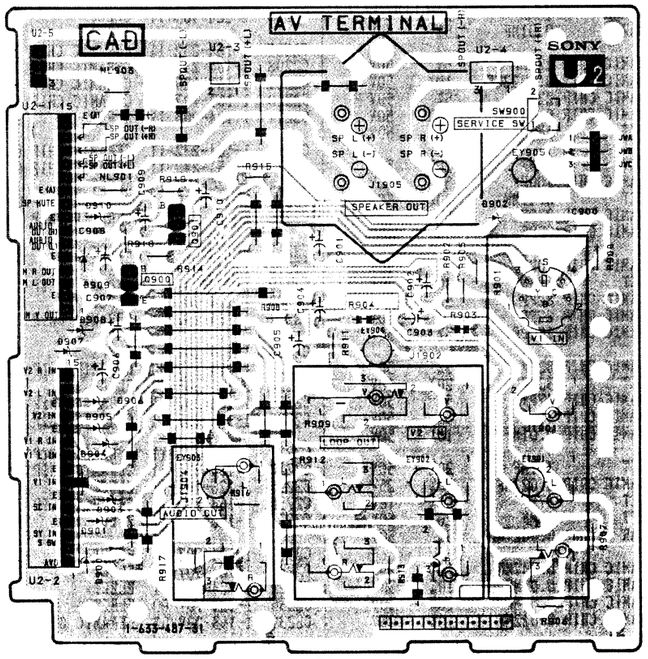
— U1 Board —

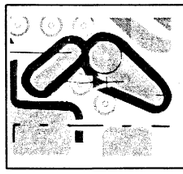


— C Board —



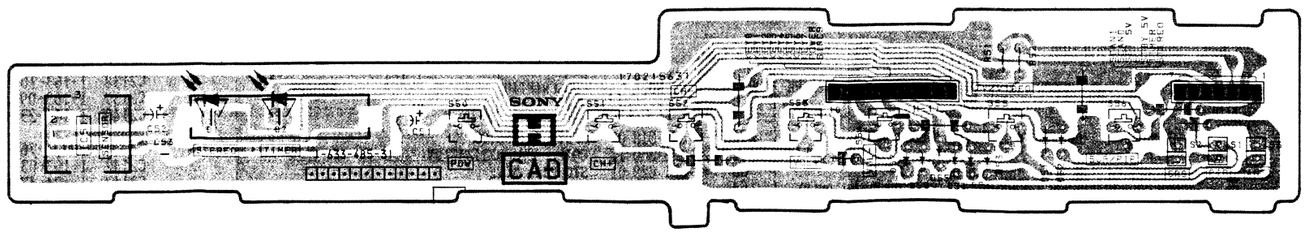
— U2 Board —





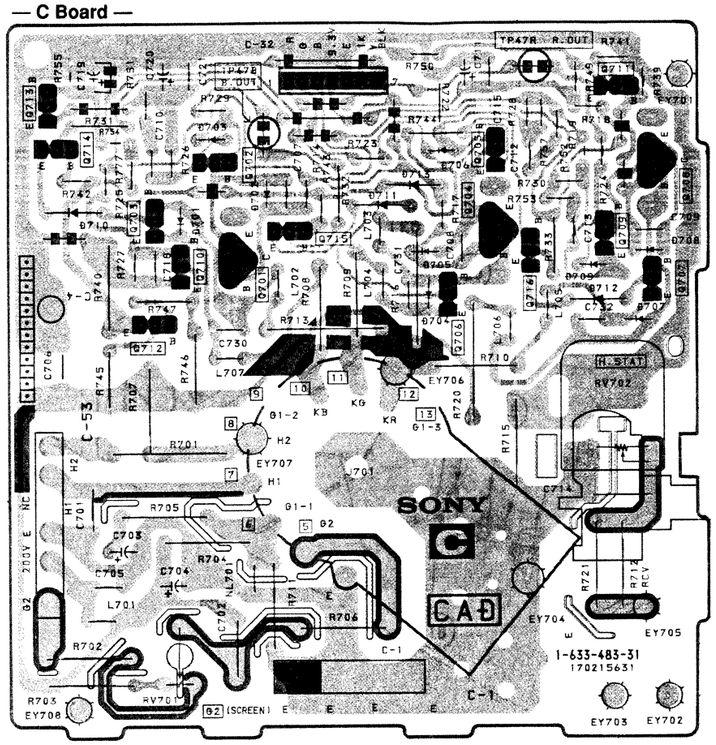
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

— H Board —

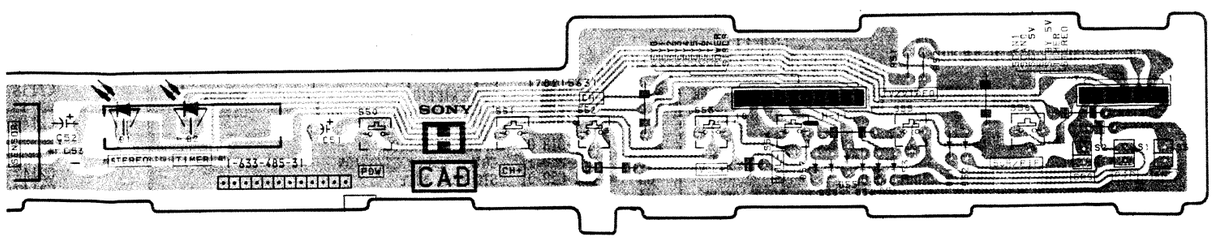


H [SENSOR, VOL SW, CHANNEL SW, TV/VIDEO SW, SURROUND/PIP SW]

— C Board —

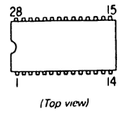


NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

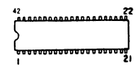


6-4. SEMICONDUCTORS

CXA1114P



CXA1264AS



CXA1315P
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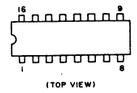
SN74LS123N



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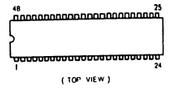
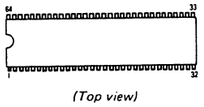


M37100M8-115SP



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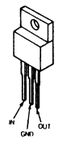
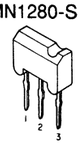
RC7809FA
RD78M05FA
UPC7893HF

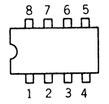


MN1280-S



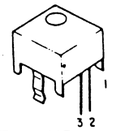
NJM2245S

PCD8582
RC4558P

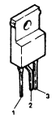


RC78L12A

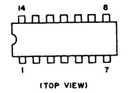
SBX1483-59



SE-135NS



SN74LS19AN



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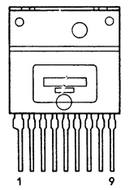

TA8601BN-FA-1

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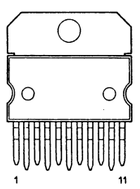

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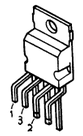
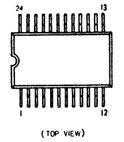


UPC661G
UPC661G-E1



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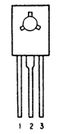

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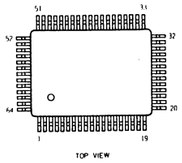
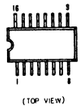


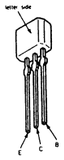
UPD6901G
UPD6901G-E1



2SA1037K
2SA1162
2SA812
2SC1623
2SC2713
2SC3052E
2SC3722K

2SA1091
2SA10910
2SA1091R
2SC2551
2SC25510

2SA1175
2SA1309A
2SC2785
2SC3311A



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2SC1652
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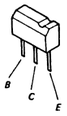
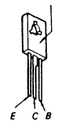


2SC2611
2SC2688



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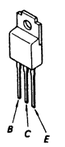
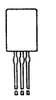
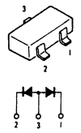
2SD1761



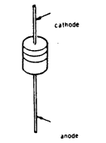
2SD1886CA



1S2837
MA152WK



1SS113
1SS119
RD10ES-B
RD10ES-B2
RD12ES-B2
RD18ES-B1
RD18ES-B2
RD24ES-B1
RD33ES-B2
RD5.6ES-B2
RD6.2ES-B2
RD9.1ES-B
RD9.1ES-B2
WG713A



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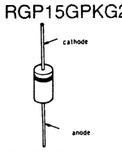
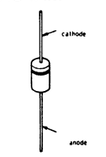
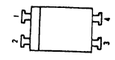
EL1Z
ERB91-02
EU2A
GP08DPKG23
RGP02-17
RGP10GPKG23
RGP15GPKG23



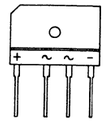
ERB93-02
RS3FS
RU-1P
RU-3AM
RU30A
RU4AM



PC817-C
PS2501-1LB

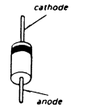


RBV-406H

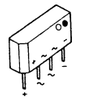


RD12M-B1
RD3.6M-B1
RD5.1M-B1
RD5.1M-B2
RD6.8M-B1

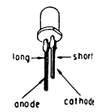
RU4DS



S1VB10-S
S1VB40



SEL1222R



U05G

SECTION 7
EXPLODED VIEWS

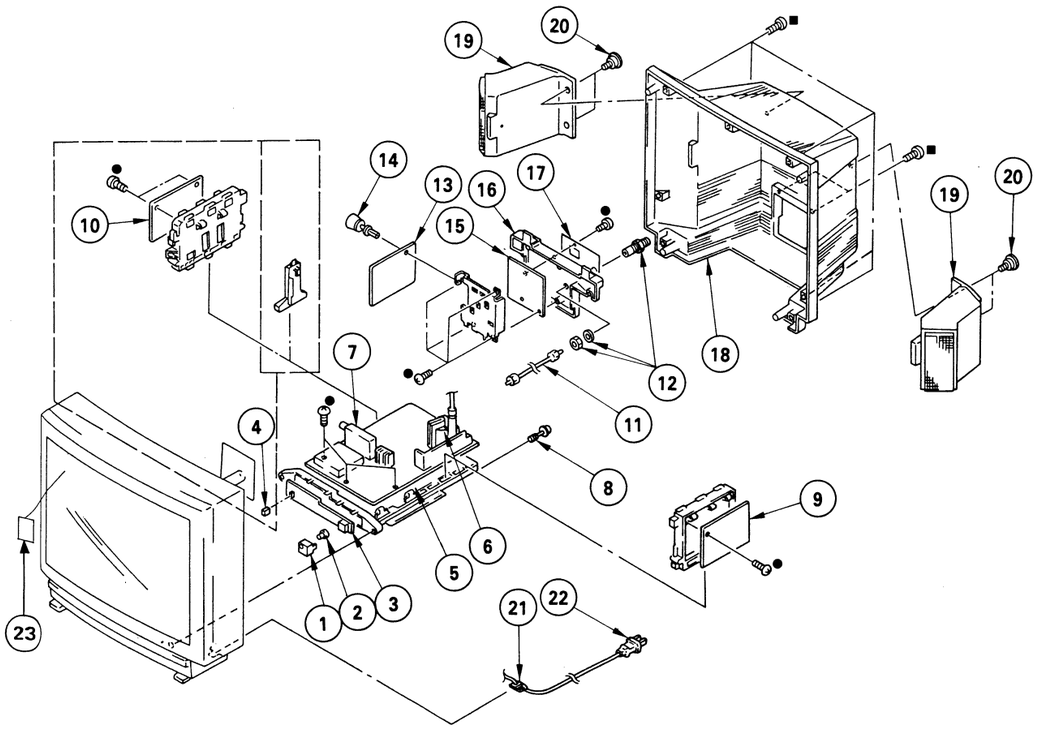
NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

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

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

7-1. CHASSIS

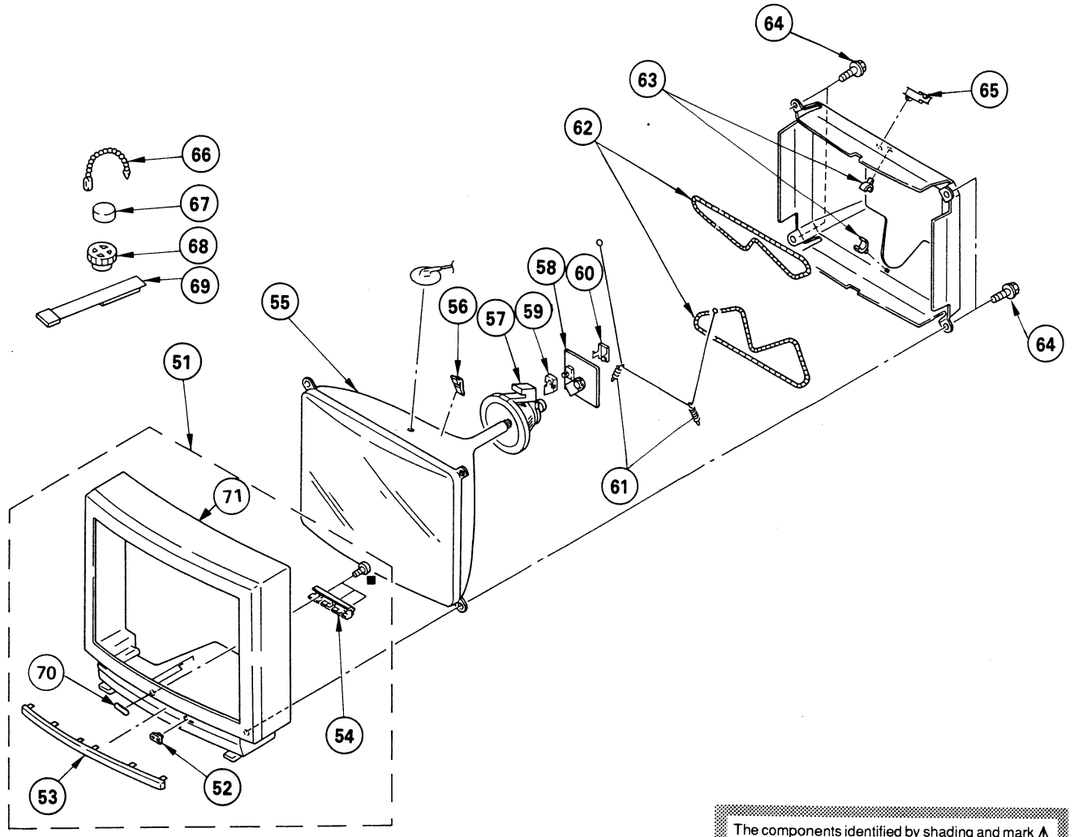
● : BVTP3x12 7-685-648-79
■ : BVTP4x16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*4-381-686-01	BRACKET (B), LIGHT GUIDE	
2	*4-374-987-01	GUIDE, LIGHT	
3	*1-633-485-31	H BOARD	
4	*1-565-514-11	SOCKET, CONNECTOR 2P (KV-27EXR25(U/C) ONLY)	
5	*A-1296-697-A	A BOARD, COMPLETE	
6	⚠1-439-416-41	TRNSFORMER ASSY, FLYBACK (NX-1604)	
7	⚠1-465-384-11	TUNER, ET (BTP-202)	
8	4-319-520-11	SCREW, SPECIAL (+PW4X30)	
9	*A-1316-100-A	G BOARD, COMPLETE	
10	*A-1195-038-A	P BOARD, COMPLETE (KV-27EXR25(U/C) ONLY)	
11	*1-556-945-21	CABLE, P-P	
12	1-561-306-00	JACK, PIN (F)	
13	*A-1394-219-A	U1 BOARD, COMPLETE	
14	*4-397-418-01	RIVET, T TYPE	
15	*1-633-487-31	U2 BOARD	
16	4-397-918-01	TERMINAL BOARD, ANTENNA	
17	4-397-908-01	LABEL (A), ANTENNA	
18	4-397-928-01	COVER, REAR	
19	1-544-313-11	SPEAKER UNIT	
20	4-394-044-01	SCREW, STEP HILO TAPPING	
21	⚠4-388-328-01	GROMMET, AC CORD	
22	⚠1-590-492-11	CORD, POWER (WITH CONNECTOR)	
23	*3-703-703-01	STICKER, SONY SYMBOL (50)	

7-2. PICTURE TUBE

■ : BVTP4x16 7-685-663-79



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

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

REF.NO.	PART NO.	DESCRIPTION	REMARK
51	X-4397-906-1	CABINET ASSY (WITH BEZEL ASSY) 52~54, 70~72	
52	*4-397-927-01	PLATE, LIGHT GUIDE	
53	4-397-929-01	PANEL, ORNAMENTAL (KV-27EXR20(U) ONLY)	
	4-397-929-11	PANEL, ORNAMENTAL (KV-27EXR25(U/C) ONLY)	
54	X-4397-910-1	BUTTON ASSY, MULTI	
55	⚠.8-737-753-05	PICTURE TUBE (A68JMT50X)	
56	3-704-495-01	SPACER, DY	
57	⚠.1-451-275-31	DEFLECTION YOKE (Y28PFA)	
58	*A-1331-055-A	C BOARD, COMPLETE	
59	*4-379-167-01	COVER (MAIN), CV	
60	*4-379-160-01	COVER (REAR LID), CV	
61	4-369-318-00	SPRING, TENSION	
62	⚠.1-426-350-11	COIL, DEMAGNETIZATION	
63	*4-371-629-01	STOPPER, WIRE	
64	4-390-505-01	SCREW (7), TAPPING	
65	*4-387-284-01	HOLDER, LEAD	
66	4-308-870-00	CLIP, LEAD WIRE	
67	1-452-032-00	MAGNET, DISK; 10MMφ	
68	1-452-094-00	MAGNET, ROTATABLE DISK; 15MMφ	
69	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
70	4-394-048-01	EMBLEM (NO.9), SONY	
71	4-397-931-01	BEZNET (KV-27EXR20(U) ONLY)	
	4-397-931-12	BEZNET (KV-27EXR25(U/C) ONLY)	

P

NOTE:

The con
shading
for safety
Replace
specified

Les comp
trame et
critiques
Ne les rer
portant le

REF.NO.	PA
*A-	
3-	
*4-	
C2000	1-
C2001	1-
C2002	1-
C2101	1-
C2102	1-
C2103	1-
C2104	1-
C2105	1-
C2106	1-
C2107	1-
C2108	1-
C2109	1-
C2110	1-
C2112	1-
C2119	1-
C2120	1-
C2121	1-
C2122	1-
C2123	1-
C2125	1-
C2126	1-
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C2139	1-
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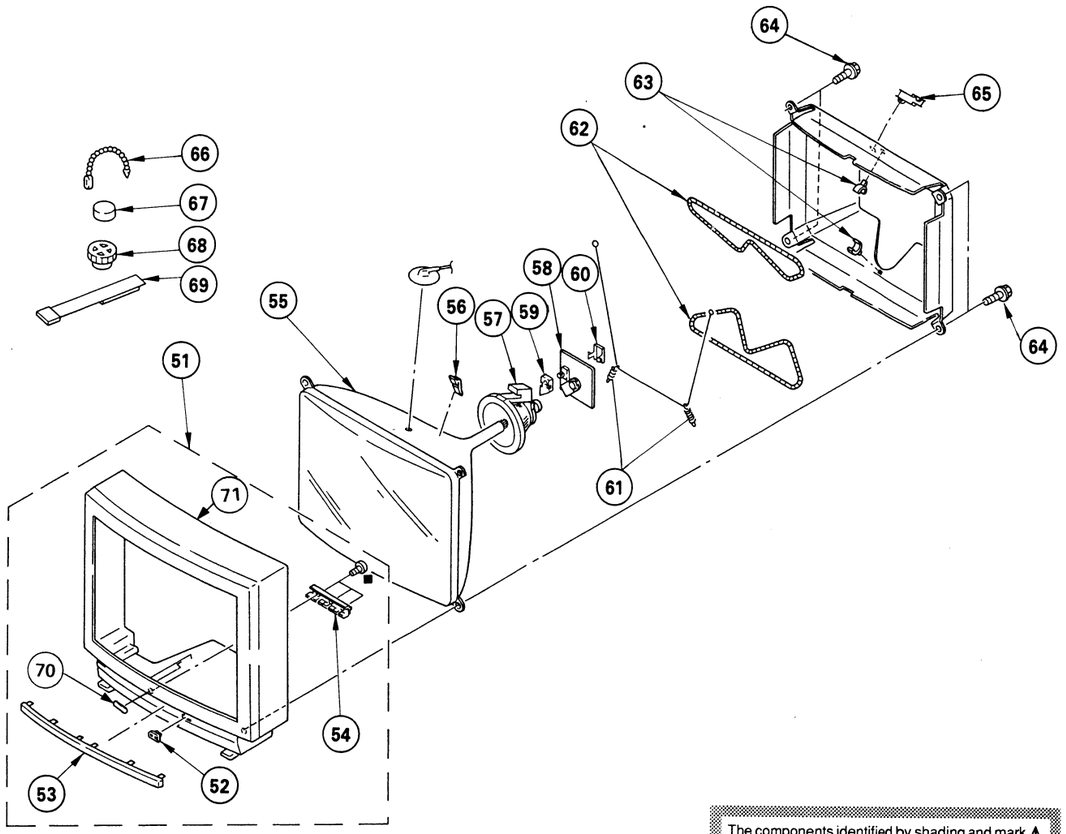
C2141	1-
C2142	1-
C2143	1-
C2144	1-
C2145	1-
C2146	1-
C2147	1-
C2148	1-
C2150	1-

KV-27EXR20/27EXR25 RM-Y103 RM-Y104

7-2. PICTURE TUBE

■ : BVTP4x16 7-685-663-79



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

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

REF.NO.	PART NO.	DESCRIPTION	REMARK
51	X-4397-906-1	CABINET ASSY (WITH BEZEL ASSY) 52~54, 70~72	
52	*4-397-927-01	PLATE, LIGHT GUIDE	
53	4-397-929-01	PANEL, ORNAMENTAL (KV-27EXR20(U) ONLY)	
	4-397-929-11	PANEL, ORNAMENTAL (KV-27EXR25(U/C) ONLY)	
54	X-4397-910-1	BUTTON ASSY, MULTI	
55	⚠.8-737-753-05	PICTURE TUBE (A68JMT50X)	
56	3-704-495-01	SPACER, DY	
57	⚠.1-451-275-31	DEFLECTION YOKE (Y28PFA)	
58	*A-1331-055-A	C BOARD, COMPLETE	
59	*4-379-167-01	COVER (MAIN), CV	
60	*4-379-160-01	COVER (REAR LID), CV	
61	4-369-318-00	SPRING, TENSION	
62	⚠.1-426-350-11	COIL, DEMAGNETIZATION	
63	*4-371-629-01	STOPPER, WIRE	
64	4-390-505-01	SCREW (7), TAPPING	
65	*4-387-284-01	HOLDER, LEAD	
66	4-308-870-00	CLIP, LEAD WIRE	
67	1-452-032-00	MAGNET, DISK; 10MM φ	
68	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ	
69	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
70	4-394-048-01	EMBLEM (NO.9), SONY	
71	4-397-931-01	BEZNET (KV-27EXR20(U) ONLY)	
	4-397-931-12	BEZNET (KV-27EXR25(U/C) ONLY)	

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

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

P

NOTE:

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

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

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

RESISTORS
- All resistors are in ohms
- F: nonflammable

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

CAPACITORS
- MF: μF, PF: μμF

COILS
- MMH: mH, UH: μH

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

SECTION 8
ELECTRICAL PARTS LIST

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-1195-038-A	P BOARD, COMPLETE (KV-27EXR25(U/C) ONLY) **********			
	3-710-578-01	COVER, VOLUME, 6 MOLD			
	*4-363-404-00	HOLDER, IC			
		<CAPACITOR>			
C2000	1-124-907-11	ELECT 10MF	20%	50V	
C2001	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C2002	1-126-101-11	ELECT 100MF	20%	16V	
C2101	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C2102	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2103	1-124-907-11	ELECT 10MF	20%	50V	
C2104	1-124-907-11	ELECT 10MF	20%	50V	
C2105	1-124-907-11	ELECT 10MF	20%	50V	
C2106	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C2107	1-124-499-11	ELECT 1MF	20%	50V	
C2108	1-124-499-11	ELECT 1MF	20%	50V	
C2109	1-124-499-11	ELECT 1MF	20%	50V	
C2110	1-163-107-00	CERAMIC CHIP 39PF	5%	50V	
C2112	1-124-907-11	ELECT 10MF	20%	50V	
C2119	1-130-483-00	MYLAR 0.01MF	5%	50V	
C2120	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C2121	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V	
C2122	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C2123	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C2125	1-124-903-11	ELECT 1MF	20%	50V	
C2126	1-124-907-11	ELECT 10MF	20%	50V	
C2127	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C2128	1-124-902-00	ELECT 0.47MF	20%	50V	
C2129	1-163-105-00	CERAMIC CHIP 33PF	5%	50V	
C2130	1-163-103-00	CERAMIC CHIP 27PF	5%	50V	
C2131	1-163-093-00	CERAMIC CHIP 10PF	5%	50V	
C2132	1-124-907-11	ELECT 10MF	20%	50V	
C2133	1-163-115-00	CERAMIC CHIP 82PF	5%	50V	
C2134	1-163-115-00	CERAMIC CHIP 82PF	5%	50V	
C2135	1-163-123-00	CERAMIC CHIP 180PF	5%	50V	
C2136	1-163-115-00	CERAMIC CHIP 82PF	5%	50V	
C2137	1-124-034-51	ELECT 33MF	20%	16V	
C2138	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C2139	1-163-093-00	CERAMIC CHIP 10PF	5%	50V	
C2140	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2141	1-124-768-11	ELECT 4.7MF	20%	50V	
C2142	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V	
C2143	1-124-477-11	ELECT 47MF	20%	16V	
C2144	1-124-907-11	ELECT 10MF	20%	50V	
C2145	1-130-476-00	MYLAR 0.0027MF	5%	50V	
C2146	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	
C2147	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2148	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2150	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V	
C2151	1-123-382-00	ELECT 3.3MF	20%	50V	
C2152	1-163-023-00	CERAMIC CHIP 0.015MF	10%	50V	
C2153	1-136-165-00	FILM 0.1MF	5%	50V	
C2154	1-136-169-00	FILM 0.22MF	5%	50V	
C2155	1-124-902-00	ELECT 0.47MF	20%	50V	
C2156	1-124-925-11	ELECT 2.2MF	20%	50V	
C2157	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V	
C2158	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C2162	1-163-123-00	CERAMIC CHIP 180PF	5%	50V	
C2163	1-163-123-00	CERAMIC CHIP 180PF	5%	50V	
C2164	1-163-123-00	CERAMIC CHIP 180PF	5%	50V	
C2176	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C2178	1-124-034-51	ELECT 33MF	20%	16V	
C2179	1-124-034-51	ELECT 33MF	20%	16V	
C2181	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2182	1-124-477-11	ELECT 47MF	20%	16V	
C2200	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2201	1-124-907-11	ELECT 10MF	20%	50V	
C2202	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C2205	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2206	1-124-903-11	ELECT 1MF	20%	50V	
C2207	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2208	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2209	1-163-129-00	CERAMIC CHIP 330PF	5%	50V	
C2210	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C2211	1-124-903-11	ELECT 1MF	20%	50V	
C2212	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2213	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2214	1-126-101-11	ELECT 100MF	20%	16V	
C2215	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C2216	1-163-129-00	CERAMIC CHIP 330PF	5%	50V	
C2217	1-124-907-11	ELECT 10MF	20%	50V	
C2218	1-126-101-11	ELECT 100MF	20%	16V	
C2219	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2220	1-124-903-11	ELECT 1MF	20%	50V	
C2221	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2222	1-126-101-11	ELECT 100MF	20%	16V	
C2223	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C2224	1-124-903-11	ELECT 1MF	20%	50V	
C2225	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2226	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2227	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2228	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2229	1-126-101-11	ELECT 100MF	20%	16V	
C2230	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C2231	1-126-101-11	ELECT 100MF	20%	16V	
C2232	1-124-907-11	ELECT 10MF	20%	50V	
C2233	1-124-907-11	ELECT 10MF	20%	50V	
C2234	1-124-907-11	ELECT 10MF	20%	50V	
C2235	1-124-767-00	ELECT 2.2MF	20%	50V	
C2239	1-163-038-00	CERAMIC CHIP 0.1MF		25V	

P

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

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

REF.NO.	PART NO.	DESCRIPTION			REMARK
C2240	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C2241	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C2242	1-124-907-11	ELECT	10MF	20%	50V
C2243	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C2304	1-124-034-51	ELECT	33MF	20%	16V
C2601	1-126-101-11	ELECT	100MF	20%	16V
C2602	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C2603	1-126-101-11	ELECT	100MF	20%	16V
C2604	1-126-101-11	ELECT	100MF	20%	16V
C2605	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C2606	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C2607	1-126-101-11	ELECT	100MF	20%	16V
C2608	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C2609	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C2610	1-126-101-11	ELECT	100MF	20%	16V
C2611	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C2612	1-126-101-11	ELECT	100MF	20%	16V
C2613	1-124-478-11	ELECT	100MF	20%	25V

<DIODE>

D2011	8-719-105-51	DIODE	RD3.6M-B1
D2012	8-719-400-18	DIODE	MA152WK
D2102	8-719-400-18	DIODE	MA152WK
D2103	8-719-400-18	DIODE	MA152WK
D2106	8-719-400-18	DIODE	MA152WK
D2107	8-719-400-18	DIODE	MA152WK
D2108	8-719-302-43	DIODE	EL1Z
D2130	8-719-400-18	DIODE	MA152WK
D2131	8-719-105-82	DIODE	RD5.1M-B2
D2550	8-719-106-16	DIODE	RD6.8M-B1
D2551	8-719-106-16	DIODE	RD6.8M-B1
D2552	8-719-106-70	DIODE	RD12M-B1
D2553	8-719-106-70	DIODE	RD12M-B1

<FILTER>

FL2204	1-249-377-11	CARBON	0.47 5%	1/4W	F
FL2205	1-404-892-11	COIL			
FL2206	1-404-893-11	COIL			
FL2207	1-236-071-11	ENCAPSULATED COMPONENT			
FL2208	1-236-071-11	ENCAPSULATED COMPONENT			
FL2209	1-249-377-11	CARBON	0.47 5%	1/4W	F
FL2210	1-236-129-11	ENCAPSULATED COMPONENT			
FL2211	1-249-377-11	CARBON	0.47 5%	1/4W	F
FL2212	1-249-377-11	CARBON	0.47 5%	1/4W	F
FL2213	1-249-377-11	CARBON	0.47 5%	1/4W	F
FL2214	1-249-377-11	CARBON	0.47 5%	1/4W	F
FL2215	1-236-163-11	ENCAPSULATED COMPONENT			
FL2216	1-236-163-11	ENCAPSULATED COMPONENT			
FL2217	1-249-377-11	CARBON	0.47 5%	1/4W	F
FL2218	1-236-129-11	ENCAPSULATED COMPONENT			
FL2220	1-236-163-11	ENCAPSULATED COMPONENT			
FL2221	1-236-163-11	ENCAPSULATED COMPONENT			

<IC>

IC2000	8-752-035-53	IC CXA1315P
IC2102	8-759-901-23	IC SN74LS123N
IC2103	8-759-234-63	IC TA8601BN-FA-1
IC2104	8-759-989-67	IC SN74LS19AN
IC2201	8-759-148-69	IC UPD6901G
IC2202	8-759-148-69	IC UPD6901G
IC2203	8-759-148-69	IC UPD6901G
IC2204	8-759-149-90	IC UPD42272AGF
IC2206	8-759-148-68	IC UPC661G
IC2601⚠	8-759-982-31	IC RC78M05FA
IC2602⚠	8-759-982-26	IC RC78L12A
IC2603⚠	8-759-030-99	IC MC7809CT

<COIL>

L2101	1-408-424-00	INDUCTOR	180UH
L2102	1-408-413-00	INDUCTOR	22UH
L2103	1-408-415-00	INDUCTOR	33UH
L2104	1-408-424-00	INDUCTOR	180UH
L2105	1-408-163-00	INDUCTOR	5.6MMH
L2106	1-408-415-00	INDUCTOR	33UH
L2109	1-408-421-00	INDUCTOR	100UH
L2110	1-408-418-00	INDUCTOR	56UH
L2200	1-408-421-00	INDUCTOR	100UH
L2201	1-408-421-00	INDUCTOR	100UH
L2601	1-408-427-00	INDUCTOR	330UH

<CONNECTOR>

P4	*1-564-505-11	PLUG, CONNECTOR	2P
P31	*1-564-515-11	PLUG, CONNECTOR	12P
P65	*1-564-507-11	PLUG, CONNECTOR	4P

<TRANSISTOR>

Q2101	8-729-216-22	TRANSISTOR 2SA1162-G
Q2102	8-729-216-22	TRANSISTOR 2SA1162-G
Q2103	8-729-216-22	TRANSISTOR 2SA1162-G
Q2104	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2105	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2106	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2107	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2108	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2109	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2114	8-729-216-22	TRANSISTOR 2SA1162-G
Q2115	8-729-216-22	TRANSISTOR 2SA1162-G
Q2116	8-729-216-22	TRANSISTOR 2SA1162-G
Q2117	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2119	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2120	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2121	8-729-271-32	TRANSISTOR 2SC2713-L
Q2122	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2123	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2125	8-729-216-22	TRANSISTOR 2SA1162-G
Q2130	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2131	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2133	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2134	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2139	8-729-216-22	TRANSISTOR 2SA1162-G
Q2200	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2201	8-729-216-22	TRANSISTOR 2SA1162-G
Q2202	8-729-216-22	TRANSISTOR 2SA1162-G
Q2203	8-729-216-22	TRANSISTOR 2SA1162-G
Q2204	8-729-216-22	TRANSISTOR 2SA1162-G
Q2232	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2244	8-729-100-66	TRANSISTOR 2SC1623-L6
Q2245	8-729-100-66	TRANSISTOR 2SC1623-L6

P

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR1	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR2	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR3	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR4	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2000	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2001	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2002	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2003	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2004	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2006	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R2008	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2009	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R2010	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2011	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2012	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2013	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2108	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R2109	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R2110	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R2111	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R2112	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R2113	1-215-425-00	METAL	1.5K	1%	1/4W	
R2114	1-249-418-11	CARBON	1.2K	5%	1/4W	
R2115	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R2116	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R2117	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R2118	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R2119	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2120	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R2121	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R2122	1-216-656-11	METAL CHIP	1.6K	0.50%	1/10W	
R2123	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2124	1-215-434-00	METAL	3.6K	1%	1/4W	
R2125	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2126	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R2127	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R2128	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R2129	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R2130	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R2131	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R2132	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2133	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R2134	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2135	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2136	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2137	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2139	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2140	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R2141	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2142	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2143	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2144	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R2145	1-249-377-11	CARBON	0.47	5%	1/4W	F
R2146	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2147	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2148	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2149	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2150	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2152	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2153	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2154	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2157	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2165	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2166	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R2167	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2168	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2169	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2170	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2171	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2172	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2173	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2174	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2175	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R2177	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2178	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2179	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R2180	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2181	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R2182	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2183	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2184	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R2185	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2186	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2187	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2188	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2189	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2190	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R2191	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R2192	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2193	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R2194	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2195	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2196	1-216-294-00	METAL GLAZE	10M	5%	1/8W	
R2197	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R2198	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R2199	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R2200	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2201	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2202	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2203	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2204	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2205	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2207	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R2208	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2209	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2210	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R2211	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2212	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2213	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R2214	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2215	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2216	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2217	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2218	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2219	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2220	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R2221	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R2222	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2223	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2224	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2225	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2226	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2227	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2228	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2229	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R2230	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R2231	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2232	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R2233	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2234	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2236	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2237	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2238	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R2239	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R2240	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2241	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2242	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2243	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2244	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2245	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2246	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2247	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2248	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2249	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2250	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2251	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2252	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2253	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2254	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2256	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2257	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2258	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2259	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R2260	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R2261	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2262	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2501	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2502	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R2503	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2504	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2505	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R2506	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R2507	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R2508	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2509	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2510	1-216-123-11	METAL GLAZE	1.2M	5%	1/10W	
R2511	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R2512	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R2513	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2514	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R2515	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2516	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R2517	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R2519	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2520	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2521	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2522	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2523	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2524	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2525	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2526	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2527	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2528	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2535	1-215-857-11	METAL OXIDE	10	5%	1W	F
R2540	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R2541	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R2542	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2550	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2551	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2552	1-216-633-11	METAL CHIP	180	0.50%	1/10W	

<VARIABLE RESISTOR>

RV2103	1-238-013-11	RES, ADJ, CARBON	2.2K
RV2105	1-238-013-11	RES, ADJ, CARBON	2.2K
RV2106	1-238-017-11	RES, ADJ, CARBON	22K
RV2107	1-238-016-11	RES, ADJ, CARBON	10K
RV2108	1-238-012-11	RES, ADJ, CARBON	1K
RV2200	1-238-023-11	RES, ADJ, CARBON	470K
RV2201	1-238-023-11	RES, ADJ, CARBON	470K

<CRYSTAL>

X2101	1-567-505-11	OSCILLATOR, CRYSTAL
X2102	1-577-706-11	VIBRATOR, CERAMIC

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	*A-1296-697-A	A BOARD, COMPLETE
		**********
	*4-393-401-01	SPRING
	*4-341-751-01	EYELET (EY6,EY9,EY13,EY14,EY17,EY19, EY20,EY22,EY25,EY26,EY28~EY31,EY52~EY54, EY59)
	*4-341-752-01	EYELET (EY1~EY5,EY8,EY10~EY12,EY15,EY16, EY23,EY24,EY27,EY32~EY35,EY44~EY48,EY56, EY57,EY60~EY63)

<CONNECTOR>

A11	*1-564-513-11	PLUG, CONNECTOR 10P
A12	*1-564-510-11	PLUG, CONNECTOR 7P
A22	*1-565-509-11	CONNECTOR, BOARD TO BOARD 18P
A23	*1-565-509-11	CONNECTOR, BOARD TO BOARD 18P
A24	*1-564-508-11	PLUG, CONNECTOR 5P
A31	*1-564-515-11	PLUG, CONNECTOR 12P
A32	*1-564-510-11	PLUG, CONNECTOR 7P
A51	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)
A52	*1-568-536-11	PLUG (MINIATURE DY) 6P
A53	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P
A55	*1-508-767-00	PIN, CONNECTOR (5MM PITCH) 5P
A56	*1-559-991-21	CONNECTOR ASSY 1P
A61	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P
A63	*1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P
A64	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P
A65	*1-564-507-11	PLUG, CONNECTOR 4P
A75	*1-580-843-11	PIN, CONNECTOR (POWER)

<CAPACITOR>

C101	1-124-907-11	ELECT	10MF	20%	50 V
C102	1-126-233-11	ELECT	22MF	20%	25 V
C103	1-124-360-00	ELECT	1000MF	20%	16 V
C104	1-126-176-11	ELECT	220MF	20%	10 V
C105	1-126-101-11	ELECT	100MF	20%	16 V
C106	1-102-121-00	CERAMIC	0.0022MF	10%	50 V
C107	1-102-121-00	CERAMIC	0.0022MF	10%	50 V
C108	1-102-129-00	CERAMIC	0.01MF	10%	50 V
C110	1-162-215-31	CERAMIC	47PF	5%	50 V
C112	1-124-925-11	ELECT	2.2MF	20%	50 V
C113	1-102-121-00	CERAMIC	0.0022MF	10%	50 V
C114	1-124-907-11	ELECT	10MF	20%	50 V
C116	1-102-973-00	CERAMIC	100PF	5%	50 V

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

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

REF.NO.	PART NO.	DESCRIPTION			REMARK
C118	1-102-973-00	CERAMIC	100PF	5%	50V
C119	1-130-728-00	FILM	0.0022MF	5%	50V
C120	1-119-160-00	ELECT	470MF		10V
C121	1-102-976-00	CERAMIC	180PF	5%	50V
C122	1-102-973-00	CERAMIC	100PF	5%	50V
C123	1-124-477-11	ELECT	47MF	20%	16V
C124	1-136-161-00	FILM	0.047MF	5%	50V
C125	1-162-286-31	CERAMIC	220PF	10%	50V
C126	1-124-903-11	ELECT	1MF	20%	50V
C127	1-102-978-00	CERAMIC	220PF	5%	50V
C128	1-102-129-00	CERAMIC	0.01MF	10%	50V
C129	1-101-006-00	CERAMIC	0.047MF		50V
C130	1-101-005-00	CERAMIC	0.022MF		50V
C131	1-101-005-00	CERAMIC	0.022MF		50V
C132	1-102-129-00	CERAMIC	0.01MF	10%	50V
C134	1-136-165-00	FILM	0.1MF	5%	50V
C135	1-136-173-00	FILM	0.47MF	5%	50V
C136	1-124-477-11	ELECT	47MF	20%	25V
C241	1-124-907-11	ELECT	10MF	20%	50V
C251	1-124-903-11	ELECT	1MF	20%	50V
C252	1-136-157-00	FILM	0.022MF	5%	50V
C253	1-124-903-11	ELECT	1MF	20%	50V
C254	1-130-309-00	FILM	0.033MF	5%	100V
C255	1-124-903-11	ELECT	1MF	20%	50V
C256	1-124-478-11	ELECT	100MF	20%	25V
C257	1-124-927-11	ELECT	4.7MF	20%	50V
C258	1-124-902-00	ELECT	0.47MF	20%	50V
C259	1-124-903-11	ELECT	1MF	20%	50V
C261	1-131-347-00	TANTALUM	1MF	20%	16V
C262	1-124-903-11	ELECT	1MF	20%	50V
C263	1-124-903-11	ELECT	1MF	20%	50V
C264	1-124-907-11	ELECT	10MF	20%	50V
C265	1-136-170-00	FILM	0.27MF	5%	50V
C266	1-126-320-11	ELECT	10MF	20%	16V
C267	1-131-368-00	TANTALUM	3.3MF	10%	16V
C268	1-124-903-11	ELECT	1MF	20%	50V
C269	1-131-347-00	TANTALUM	1MF	20%	16V
C270	1-124-903-11	ELECT	1MF	20%	50V
C271	1-124-907-11	ELECT	10MF	20%	50V
C272	1-124-903-11	ELECT	1MF	20%	50V
C273	1-124-477-11	ELECT	47MF	20%	16V
C274	1-130-475-00	MYLAR	0.0022MF	5%	50V
C275	1-130-475-00	MYLAR	0.0022MF	5%	50V
C276	1-102-074-00	CERAMIC	0.001MF	10%	50V
C277	1-126-320-11	ELECT	10MF	20%	16V
C278	1-124-903-11	ELECT	1MF	20%	50V
C279	1-124-903-11	ELECT	1MF	20%	50V
C281	1-124-907-11	ELECT	10MF	20%	50V
C282	1-124-907-11	ELECT	10MF	20%	50V
C284	1-124-907-11	ELECT	10MF	20%	50V
C301	1-102-973-00	CERAMIC	100PF	5%	50V
C302	1-124-903-11	ELECT	1MF	20%	50V
C303	1-136-153-00	FILM	0.01MF	5%	50V
C304	1-124-234-00	ELECT	22MF	20%	16V
C305	1-124-903-11	ELECT	1MF	20%	50V
C306	1-101-006-00	CERAMIC	0.047MF		50V
C307	1-102-978-00	CERAMIC	220PF	5%	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
C314	1-136-169-00	FILM	0.22MF	5%	50V
C315	1-136-157-00	FILM	0.022MF	5%	50V
C316	1-124-902-00	ELECT	0.47MF	20%	50V
C317	1-124-360-00	ELECT	1000MF	20%	16V
C318	1-130-471-00	MYLAR	0.001MF	5%	50V
C319	1-124-903-11	ELECT	1MF	20%	50V
C320	1-130-479-00	MYLAR	0.0047MF	5%	50V
C321	1-102-114-00	CERAMIC	470PF	10%	50V
C322	1-102-114-00	CERAMIC	470PF	10%	50V
C324	1-124-903-11	ELECT	1MF	20%	50V
C325	1-136-153-00	FILM	0.01MF	5%	50V
C326	1-124-903-11	ELECT	1MF	20%	50V
C327	1-162-117-00	CERAMIC	100PF	10%	500V
C328	1-124-902-00	ELECT	0.47MF	20%	50V
C329	1-124-477-11	ELECT	47MF	20%	16V
C330	1-102-116-00	CERAMIC	680PF	10%	50V
C332	1-136-169-00	FILM	0.22MF	5%	50V
C333	1-136-169-00	FILM	0.22MF	5%	50V
C334	1-136-157-00	FILM	0.022MF	5%	50V
C335	1-124-903-11	ELECT	1MF	20%	50V
C336	1-124-907-11	ELECT	10MF	20%	50V
C337	1-124-798-11	ELECT	1MF	20%	160V
C338	1-136-153-00	FILM	0.01MF	5%	50V
C339	1-124-907-11	ELECT	10MF	20%	50V
C341	1-124-902-00	ELECT	0.47MF	20%	50V
C342	1-101-005-00	CERAMIC	0.022MF		50V
C343	1-124-477-11	ELECT	47MF	20%	16V
C344	1-124-120-11	ELECT	220MF	20%	16V
C345	1-124-925-11	ELECT	2.2MF	20%	50V
C346	1-124-925-11	ELECT	2.2MF	20%	50V
C347	1-126-103-11	ELECT	470MF	20%	16V
C351	1-101-888-00	CERAMIC	68PF	5%	50V
C352	1-102-114-00	CERAMIC	470PF	10%	50V
C354	1-126-101-11	ELECT	100MF	20%	16V
C500	1-130-475-00	MYLAR	0.0022MF	5%	50V
C501	1-124-902-00	ELECT	0.47MF	20%	50V
C502	1-102-244-00	CERAMIC	220PF	10%	500V
C503	1-102-244-00	CERAMIC	220PF	10%	500V
C504	1-106-383-00	MYLAR	0.047MF		200V
C505	1-102-030-00	CERAMIC	330PF	10%	500V
C506 ⚠	1-162-115-91	CERAMIC	330PF	10%	2KV
C507 ⚠	1-137-024-11	FILM	0.02MF	3%	2KV
C509 ⚠	1-136-313-51	FILM	0.047MF	5%	400V
C512	1-124-927-11	ELECT	4.7MF	20%	50V
C513	1-102-228-00	CERAMIC	470PF	10%	500V
C516	1-136-113-00	FILM	2MF	5%	200V
C517	1-124-634-11	ELECT	1MF	20%	250V
C518	1-106-395-00	MYLAR	0.15MF	10%	200V
C521	1-136-165-00	FILM	0.1MF	5%	50V
C522	1-136-161-00	FILM	0.047MF	5%	50V
C523	1-162-318-11	CERAMIC	0.001MF	10%	500V
C525	1-102-228-00	CERAMIC	470PF	10%	500V
C526	1-136-124-00	FILM	0.56MF	5%	400V
C527	1-162-116-00	CERAMIC	680PF	10%	2KV
C528	1-162-116-00	CERAMIC	680PF	10%	2KV
C529	1-106-359-00	MYLAR	0.0047MF	10%	200V
C536	1-124-907-11	ELECT	10MF	20%	50V
C538	1-124-927-11	ELECT	4.7MF	20%	50V
C539	1-124-477-11	ELECT	47MF	20%	25V
C540	1-124-911-11	ELECT	220MF	20%	50V
C541	1-136-165-00	FILM	0.1MF	5%	50V
C542	1-136-161-00	FILM	0.047MF	5%	50V
C545	1-123-932-00	ELECT	4.7MF	20%	160V
C546	1-106-216-00	MYLAR	0.068MF	10%	100V

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C547	1-124-557-11	ELECT	1000MF	20%	25V
C548	1-162-114-00	CERAMIC	0.0047MF		2KV
C549	1-123-947-00	ELECT	10MF	20%	250V
C551 ⚠	1-108-433-91	MYLAR	0.1MF	10%	200V
C552	1-123-024-21	ELECT	33MF		160V
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
C557	1-106-387-00	MYLAR	0.068MF	10%	200V
C558	1-136-161-00	FILM	0.047MF	5%	50V
C561	1-124-910-11	ELECT	47MF	20%	50V
C562	1-124-902-00	ELECT	0.47MF	20%	50V
C563	1-124-902-00	ELECT	0.47MF	20%	50V
C565	1-124-903-11	ELECT	1MF	20%	50V
C573	1-130-479-00	MYLAR	0.0047MF	5%	50V
C601 ⚠	1-136-311-51	FILM	0.47MF	20%	125V
C603 ⚠	1-162-576-51	CERAMIC	0.001MF	10%	400V
C604 ⚠	1-136-311-51	FILM	0.47MF	20%	125V
C605 ⚠	1-161-953-92	CERAMIC	0.0047MF	20%	400V
C606 ⚠	1-161-953-92	CERAMIC	0.0047MF	20%	400V
C607	1-125-538-11	ELECT(BLOCK)	1000MF	20%	200V
C608	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C609	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C610	1-124-480-11	ELECT	470MF	20%	25V
C611	1-124-480-11	ELECT	470MF	20%	25V
C612	1-124-477-11	ELECT	47MF	20%	16V
C613	1-124-478-11	ELECT	100MF	20%	25V
C614	1-124-907-11	ELECT	10MF	20%	50V
C620	1-124-478-11	ELECT	100MF	20%	25V
C621	1-126-101-11	ELECT	100MF	20%	16V
C622	1-126-101-11	ELECT	100MF	20%	16V
C623	1-126-101-11	ELECT	100MF	20%	16V
C625	1-124-907-11	ELECT	10MF	20%	50V
C626	1-136-165-00	FILM	0.1MF	5%	50V
C627	1-124-477-11	ELECT	47MF	20%	16V

<COMPOSITION CIRCUIT BLOCK>

CP101	1-236-294-11	NETWORK, RES
CP102	1-236-491-11	NETWORK, RES, THICK FILM
CP103	1-236-358-21	NETWORK, RES
CP104	1-236-479-11	NETWORK, C
CP106	1-236-301-11	NETWORK, C
CP107	1-236-491-11	NETWORK, RES, THICK FILM
CP108	1-236-301-11	NETWORK, C
CP109	1-236-776-11	NETWORK, RES
CP110	1-232-680-11	COMPOSITION CIRCUIT BLOCK
CP301	1-236-730-11	NETWORK, C

<DIODE>

D103	8-719-974-81	DIODE 1SV113
D104	8-719-911-19	DIODE 1SS119
D105	8-719-911-19	DIODE 1SS119
D106	8-719-911-19	DIODE 1SS119
D107	8-719-911-19	DIODE 1SS119
D108	8-719-911-19	DIODE 1SS119
D109	8-719-911-19	DIODE 1SS119
D250	8-719-109-93	DIODE RD6.2ES-B2
D251	8-719-109-93	DIODE RD6.2ES-B2
D252	8-719-110-31	DIODE RD12ES-B2
D300	8-719-911-19	DIODE 1SS119
D301	8-719-109-89	DIODE RD5.6ES-B2
D302	8-719-109-89	DIODE RD5.6ES-B2
D303	8-719-911-19	DIODE 1SS119
D304	8-719-110-13	DIODE RD9.1ES-B2
D305	8-719-110-48	DIODE RD18ES-B1
D306	8-719-911-19	DIODE 1SS119
D307	8-719-911-19	DIODE 1SS119
D308	8-719-110-49	DIODE RD18ES-B2
D310	8-719-109-93	DIODE RD6.2ES-B2
D311	8-719-109-93	DIODE RD6.2ES-B2
D500	8-719-911-55	DIODE U05G
D501	8-719-312-71	DIODE RS3FS
D502	8-719-911-55	DIODE U05G
D503	8-719-312-72	DIODE RU30A
D504	8-719-911-55	DIODE U05G
D505	8-719-911-55	DIODE U05G
D506	8-719-312-71	DIODE RS3FS
D507	8-719-109-93	DIODE RD6.2ES-B2
D509	8-719-911-19	DIODE 1SS119
D510	8-719-911-55	DIODE U05G
D514	8-719-911-19	DIODE 1SS119
D515	8-719-911-19	DIODE 1SS119
D517	8-719-976-64	DIODE RGP02-17
D519	8-719-300-33	DIODE RU-3AM
D520	8-719-979-85	DIODE EGP20G
D521	8-719-979-85	DIODE RGP20G
D531	8-719-302-43	DIODE EL1Z
D540	8-719-110-61	DIODE RD24ES-B1
D563	8-719-911-19	DIODE 1SS119
D601 ⚠	8-719-305-07	DIODE RBV-406H
D602	8-719-511-40	DIODE S1VB40
D603	8-719-911-55	DIODE U05G
D604	8-719-911-19	DIODE 1SS119
D606	8-719-110-78	DIODE RD33ES-B2

<FUSE>

F601 ⚠	1-532-748-11	FUSE, GLASS TUBE 6.3A/125V
	1-533-223-11	CLIP, FUSE; F601

<IC>

IC101	8-759-635-34	IC M37100M8-115SP
IC102	8-759-972-43	IC PCD8582
IC103	8-759-403-44	IC MN1280-S
IC104	8-759-978-66	IC MB88201-638L
IC251	8-752-037-24	IC CXA1264AS
IC301	8-752-035-52	IC CXA1313S
IC500	8-759-980-58	IC TDA8172
IC531	8-759-945-58	IC RC4558P
IC601	8-759-112-06	IC UPC78N05H
IC603 ⚠	8-759-142-04	IC UPC7893HF
IC604 ⚠	8-759-112-06	IC UPC78N05H

<IF BLOCK>

IF201	1-464-755-21	IF BLOCK (IFE-450A)

<COIL>

L101	1-410-470-11	INDUCTOR	10UH
L102	1-408-408-00	INDUCTOR	8.2UH
L103	1-410-669-31	INDUCTOR	33UH
L104	1-408-413-00	INDUCTOR	22UH
L301	1-408-409-00	INDUCTOR	10UH

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

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

A

REF.NO.	PART NO.	DESCRIPTION	REMARK
L501	1-422-613-11	COIL, AIR CORE	
L503	1-422-613-11	COIL, AIR CORE	
L505	1-408-237-00	INDUCTOR 3.3MMH	
L506	1-459-104-00	COIL, DUST CORE	
L509	1-410-669-31	INDUCTOR 33UH	
L510 ⚠	1-408-698-21	INDUCTOR 8.2UH	
L511	1-408-225-00	INDUCTOR 3.3UH	
L512	1-408-225-00	INDUCTOR 3.3UH	
L513	1-408-698-00	INDUCTOR 8.2UH	
L514	1-408-698-00	INDUCTOR 8.2UH	
L515 ⚠	1-459-224-13	HLC	
L517	1-459-075-00	COIL,DYNAMIC CONVERSION CHOKE	
		<MODULE>	
PM501 ⚠	1-808-968-11	MODULE, PROTECTOR (PM-20)	
		<TRANSISTOR>	
Q101	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q102	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q103	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q105	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q106	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q107	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q108	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q130	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q202	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q203	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q301	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q302	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q303	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q304	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q305	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q306	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q307	8-729-967-32	TRANSISTOR 2SC2673-Q	
Q308	8-729-993-72	TRANSISTOR 2SA937-Q	
Q309	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q310	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q311	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q312	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q313	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q314	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q315	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q316	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q317	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q318	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q501	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q502	8-729-822-65	TRANSISTOR 2SD1886CA	
Q504	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q505	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q530	8-729-202-03	TRANSISTOR 2SD1408-Y	
Q601	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q607	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q608	8-729-119-76	TRANSISTOR 2SA1175-HFE	
		<RESISTOR>	
R101	1-249-417-11	CARBON 1K 5% 1/4W	
R102	1-249-425-11	CARBON 4.7K 5% 1/4W	
R103	1-249-409-11	CARBON 220 5% 1/4W	
R104	1-249-409-11	CARBON 220 5% 1/4W	
R105	1-249-409-11	CARBON 220 5% 1/4W	
R106	1-249-425-11	CARBON 4.7K 5% 1/4W	
R107	1-249-441-11	CARBON 100K 5% 1/4W	
R108	1-249-437-11	CARBON 47K 5% 1/4W	
R109	1-249-429-11	CARBON 10K 5% 1/4W	
R110	1-247-903-00	CARBON 1M 5% 1/4W	
R113	1-249-417-11	CARBON 1K 5% 1/4W	
R114	1-249-435-11	CARBON 33K 5% 1/4W	
R115	1-249-435-11	CARBON 33K 5% 1/4W	
R116	1-249-411-11	CARBON 330 5% 1/4W	
R119	1-249-437-11	CARBON 47K 5% 1/4W	
R120	1-249-417-11	CARBON 1K 5% 1/4W	
R121	1-249-421-11	CARBON 2.2K 5% 1/4W	
R122	1-249-421-11	CARBON 2.2K 5% 1/4W	
R123	1-249-421-11	CARBON 2.2K 5% 1/4W	
R124	1-249-421-11	CARBON 2.2K 5% 1/4W	
R125	1-249-421-11	CARBON 2.2K 5% 1/4W	
R126	1-249-421-11	CARBON 2.2K 5% 1/4W	
R127	1-247-887-00	CARBON 220K 5% 1/4W	
R128	1-249-421-11	CARBON 2.2K 5% 1/4W	
R129	1-249-421-11	CARBON 2.2K 5% 1/4W	
R130	1-249-421-11	CARBON 2.2K 5% 1/4W	
R131	1-249-421-11	CARBON 2.2K 5% 1/4W	
R132	1-249-421-11	CARBON 2.2K 5% 1/4W	
R133	1-249-409-11	CARBON 220 5% 1/4W	
R134	1-249-421-11	CARBON 2.2K 5% 1/4W	
R135	1-249-421-11	CARBON 2.2K 5% 1/4W	
R136	1-249-421-11	CARBON 2.2K 5% 1/4W	
R137	1-249-421-11	CARBON 2.2K 5% 1/4W	
R138	1-249-421-11	CARBON 2.2K 5% 1/4W	
R139	1-249-421-11	CARBON 2.2K 5% 1/4W	
R140	1-249-421-11	CARBON 2.2K 5% 1/4W	
R141	1-249-421-11	CARBON 2.2K 5% 1/4W	
R142	1-249-429-11	CARBON 10K 5% 1/4W	
R143	1-249-413-11	CARBON 470 5% 1/4W	
R144	1-249-429-11	CARBON 10K 5% 1/4W	
R145	1-249-422-11	CARBON 2.7K 5% 1/4W	
R146	1-249-422-11	CARBON 2.7K 5% 1/4W	
R147	1-249-422-11	CARBON 2.7K 5% 1/4W	
R148	1-249-437-11	CARBON 47K 5% 1/4W	
R149	1-249-421-11	CARBON 2.2K 5% 1/4W	
R150	1-249-425-11	CARBON 4.7K 5% 1/4W	
R151	1-249-421-11	CARBON 2.2K 5% 1/4W	
R152	1-249-421-11	CARBON 2.2K 5% 1/4W	
R153	1-249-424-11	CARBON 3.9K 5% 1/4W	
R154	1-249-421-11	CARBON 2.2K 5% 1/4W	
R155	1-249-421-11	CARBON 2.2K 5% 1/4W	
R156	1-249-417-11	CARBON 1K 5% 1/4W	
R157	1-249-417-11	CARBON 1K 5% 1/4W	
R158	1-249-417-11	CARBON 1K 5% 1/4W	
R159	1-249-417-11	CARBON 1K 5% 1/4W	
R161	1-215-892-11	METAL OXIDE 1K 5% 2W	F
R162	1-249-401-11	CARBON 47 5% 1/4W	
R163	1-249-410-11	CARBON 270 5% 1/4W	
R164	1-249-421-11	CARBON 2.2K 5% 1/4W	
R165	1-249-437-11	CARBON 47K 5% 1/4W	
R166	1-249-421-11	CARBON 2.2K 5% 1/4W	
R167	1-249-421-11	CARBON 2.2K 5% 1/4W	
R168	1-249-421-11	CARBON 2.2K 5% 1/4W	
R169	1-249-409-11	CARBON 220 5% 1/4W	
R170	1-249-409-11	CARBON 220 5% 1/4W	
R171	1-249-421-11	CARBON 2.2K 5% 1/4W	
R172	1-249-409-11	CARBON 220 5% 1/4W	
R173	1-249-429-11	CARBON 10K 5% 1/4W	
R174	1-249-409-11	CARBON 220 5% 1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R175	1-249-409-11	CARBON	220	5%	1/4W	
R176	1-249-429-11	CARBON	10K	5%	1/4W	
R177	1-249-429-11	CARBON	10K	5%	1/4W	
R178	1-249-429-11	CARBON	10K	5%	1/4W	
R179	1-249-425-11	CARBON	4.7K	5%	1/4W	
R180	1-249-421-11	CARBON	2.2K	5%	1/4W	
R181	1-249-421-11	CARBON	2.2K	5%	1/4W	
R182	1-249-421-11	CARBON	2.2K	5%	1/4W	
R183	1-249-421-11	CARBON	2.2K	5%	1/4W	
R184	1-249-421-11	CARBON	2.2K	5%	1/4W	
R185	1-249-421-11	CARBON	2.2K	5%	1/4W	
R186	1-249-421-11	CARBON	2.2K	5%	1/4W	
R187	1-249-417-11	CARBON	1K	5%	1/4W	
R188	1-249-417-11	CARBON	1K	5%	1/4W	
R189	1-249-417-11	CARBON	1K	5%	1/4W	
R190	1-249-417-11	CARBON	1K	5%	1/4W	
R191	1-249-421-11	CARBON	2.2K	5%	1/4W	
R192	1-249-421-11	CARBON	2.2K	5%	1/4W	
R193	1-249-429-11	CARBON	10K	5%	1/4W	
R194	1-249-429-11	CARBON	10K	5%	1/4W	
R195	1-249-437-11	CARBON	47K	5%	1/4W	
R197	1-247-903-00	CARBON	1M	5%	1/4W	
R198	1-249-425-11	CARBON	4.7K	5%	1/4W	
R251	1-249-409-11	CARBON	220	5%	1/4W	
R252	1-249-409-11	CARBON	220	5%	1/4W	
R253	1-249-409-11	CARBON	220	5%	1/4W	
R254	1-249-409-11	CARBON	220	5%	1/4W	
R255	1-249-420-11	CARBON	1.8K	5%	1/4W	
R256	1-249-405-11	CARBON	100	5%	1/4W	
R257	1-249-409-11	CARBON	220	5%	1/4W	
R258	1-249-409-11	CARBON	220	5%	1/4W	
R259	1-249-409-11	CARBON	220	5%	1/4W	
R260	1-249-409-11	CARBON	220	5%	1/4W	
R261	1-249-441-11	CARBON	100K	5%	1/4W	
R262	1-249-441-11	CARBON	100K	5%	1/4W	
R263	1-249-429-11	CARBON	10K	5%	1/4W	
R264	1-249-441-11	CARBON	100K	5%	1/4W	
R265	1-249-441-11	CARBON	100K	5%	1/4W	
R266	1-215-456-00	METAL	30K	1%	1/4W	
R267	1-249-429-11	CARBON	10K	5%	1/4W	
R268	1-215-865-11	METAL OXIDE	220	5%	1W	F
R269	1-249-431-11	CARBON	15K	5%	1/4W	
R270	1-249-431-11	CARBON	15K	5%	1/4W	
R300	1-249-417-11	CARBON	1K	5%	1/4W	
R301	1-249-425-11	CARBON	4.7K	5%	1/4W	
R302	1-249-421-11	CARBON	2.2K	5%	1/4W	
R303	1-249-413-11	CARBON	470	5%	1/4W	
R304	1-259-883-11	CARBON	3.9M	5%	1/4W	
R305	1-249-423-11	CARBON	3.3K	5%	1/4W	
R306	1-249-429-11	CARBON	10K	5%	1/4W	
R307	1-249-423-11	CARBON	3.3K	5%	1/4W	
R308	1-249-433-11	CARBON	22K	5%	1/4W	
R309	1-249-421-11	CARBON	2.2K	5%	1/4W	
R310	1-249-417-11	CARBON	1K	5%	1/4W	
R311	1-215-448-00	METAL	13K	1%	1/4W	
R312	1-249-432-11	CARBON	18K	5%	1/4W	
R313	1-215-421-00	METAL	1K	1%	1/4W	
R314	1-247-899-11	CARBON	680K	5%	1/4W	
R315	1-249-405-11	CARBON	100	5%	1/4W	
R316	1-249-405-11	CARBON	100	5%	1/4W	
R317	1-249-405-11	CARBON	100	5%	1/4W	
R318	1-249-405-11	CARBON	100	5%	1/4W	
R319	1-249-405-11	CARBON	100	5%	1/4W	
R320	1-249-405-11	CARBON	100	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R321	1-249-405-11	CARBON	100	5%	1/4W	
R322	1-249-405-11	CARBON	100	5%	1/4W	
R323	1-249-441-11	CARBON	100K	5%	1/4W	
R324	1-249-405-11	CARBON	100	5%	1/4W	
R325	1-249-441-11	CARBON	100K	5%	1/4W	
R326	1-249-405-11	CARBON	100	5%	1/4W	
R327	1-249-441-11	CARBON	100K	5%	1/4W	
R328	1-249-405-11	CARBON	100	5%	1/4W	
R329	1-249-433-11	CARBON	22K	5%	1/4W	
R330	1-249-433-11	CARBON	22K	5%	1/4W	
R331	1-249-433-11	CARBON	22K	5%	1/4W	
R332	1-249-436-11	CARBON	39K	5%	1/4W	
R333	1-249-433-11	CARBON	22K	5%	1/4W	
R334	1-249-433-11	CARBON	22K	5%	1/4W	
R335	1-249-418-11	CARBON	1.2K	5%	1/4W	
R336	1-247-903-00	CARBON	1M	5%	1/4W	
R337	1-249-405-11	CARBON	100	5%	1/4W	
R338	1-249-417-11	CARBON	1K	5%	1/4W	
R339	1-249-415-11	CARBON	680	5%	1/4W	
R341	1-215-457-00	METAL	33K	1%	1/4W	
R343	1-249-428-11	CARBON	8.2K	5%	1/4W	
R344	1-249-441-11	CARBON	100K	5%	1/4W	
R345	1-249-429-11	CARBON	10K	5%	1/4W	
R346	1-249-421-11	CARBON	2.2K	5%	1/4W	
R347	1-249-405-11	CARBON	100	5%	1/4W	
R348	1-249-411-11	CARBON	330	5%	1/4W	
R349	1-259-883-11	CARBON	3.9M	5%	1/4W	
R350	1-249-438-11	CARBON	56K	5%	1/4W	
R351	1-249-433-11	CARBON	22K	5%	1/4W	
R352	1-249-430-11	CARBON	12K	5%	1/4W	
R353	1-249-441-11	CARBON	100K	5%	1/4W	
R354	1-247-883-00	CARBON	150K	5%	1/4W	
R356	1-249-417-11	CARBON	1K	5%	1/4W	
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	1-249-409-11	CARBON	220	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	
R370	1-249-405-11	CARBON	100	5%	1/4W	
R371	1-249-405-11	CARBON	100	5%	1/4W	
R372	1-249-433-11	CARBON	22K	5%	1/4W	
R373	1-249-437-11	CARBON	47K	5%	1/4W	
R374	1-249-429-11	CARBON	10K	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	

A **G**

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

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

REF.NO.	PART NO.	DESCRIPTION				REMARK
R388	1-249-416-11	CARBON	820	5%	1/4W	
R389	1-249-427-11	CARBON	6.8K	5%	1/4W	
R390	1-249-437-11	CARBON	47K	5%	1/4W	
R391	1-249-429-11	CARBON	10K	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	1-249-433-11	CARBON	22K	5%	1/4W	
R502	1-215-893-11	METAL OXIDE	1.5K	5%	2W	F
R503	1-215-893-11	METAL OXIDE	1.5K	5%	2W	F
R504	1-249-423-11	CARBON	3.3K	5%	1/4W	
R505	1-247-722-11	CARBON	5.6K	5%	1/4W	F
R506	1-216-345-11	METAL OXIDE	0.47	5%	1W	F
R507	1-249-401-11	CARBON	47	5%	1/4W	
R510	1-247-696-11	CARBON	47	5%	1/4W	F
R511	1-247-891-00	CARBON	330K	5%	1/4W	
R512	1-215-884-11	METAL OXIDE	47	5%	2W	F
R513	1-215-886-11	METAL OXIDE	100	5%	2W	F
R514	1-249-433-11	CARBON	22K	5%	1/4W	
R515	1-216-376-00	METAL OXIDE	3.9	5%	2W	F
R516	1-249-426-11	CARBON	5.6K	5%	1/4W	
R517	1-249-429-11	CARBON	10K	5%	1/4W	
R518	1-249-417-11	CARBON	1K	5%	1/4W	
R519	1-216-376-00	METAL OXIDE	3.9	5%	2W	F
R521	1-249-441-11	CARBON	100K	5%	1/4W	
R522	1-247-885-00	CARBON	180K	5%	1/4W	
R523	1-215-886-11	METAL OXIDE	100	5%	2W	F
R530	1-247-711-11	CARBON	680	5%	1/4W	F
R533	1-215-880-00	METAL OXIDE	10	5%	2W	F
R534	1-249-439-11	CARBON	68K	5%	1/4W	
R536	1-249-421-11	CARBON	2.2K	5%	1/4W	
R540	1-216-369-00	METAL OXIDE	1	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	1-215-446-00	METAL	11K	1%	1/4W	
R547	1-249-405-11	CARBON	100	5%	1/4W	
R551	1-215-459-00	METAL	39K	1%	1/4W	
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
⧓R559 ⚠		CARBON			1/4W	
R563 ⚠	1-216-453-91	METAL OXIDE	270	5%	2W	F
R564	1-215-869-11	METAL OXIDE	1K	5%	1W	F
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 ⚠	1-216-445-91	METAL OXIDE	12	5%	2W	F
⧓R570 ⚠		CARBON			1/4W	
R572	1-249-437-11	CARBON	47K	5%	1/4W	
R573	1-247-889-00	CARBON	270K	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
R592	1-247-895-00	CARBON	470K	5%	1/4W	
R593	1-249-441-11	CARBON	100K	5%	1/4W	
R594	1-249-429-11	CARBON	10K	5%	1/4W	
R601 ⚠	1-202-723-91	SOLID	2.2M	10%	1/2W	
R602	1-205-983-11	WIREWOUND	1.2	5%	15W	
R603	1-216-444-11	METAL OXIDE	82K	5%	1W	F
R604	1-216-425-11	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 ⚠	1-515-720-41	RELAY	

<SPARK GAP>

SG501	1-519-422-11	GAP, SPARK	

<TRANSFORMER>

T500 ⚠	1-439-416-41	TRANSFORMER ASSY, FLYBACK (NX-1604)	
T501 ⚠	1-437-195-13	TRANSFORMER, HORIZONTAL DRIVE	
T502 ⚠	1-421-794-11	TRANSFORMER, FERRITE (PMT)	
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)	

<CRYSTAL>

X101	1-577-082-11	VIBRATOR, CERAMIC	
X301	1-567-505-11	OSCILLATOR, CRYSTAL	

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	*A-1316-100-A	G BOARD, COMPLETE	
		**********	
	*4-341-751-01	EYELET (EY607,EY608)	
	*4-341-752-01	EYELET (EY601~EY606)	

<CAPACITOR>

C615	1-124-563-11	ELECT	2200MF	20%	25V	

• 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.

G C

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

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

REF.NO.	PART NO.	DESCRIPTION				REMARK
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	1-162-599-12	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 1SS119	
D621	8-719-911-19	DIODE 1SS119	
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	⚠1-532-743-11	FUSE, GLASS TUBE 2A/125V	
	1-533-223-11	CLIP, FUSE; F602	

<FERRITE BEAD>

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	
FB609	1-410-397-21	FERRITE BEAD INDUCTOR	
FB610	1-410-397-21	FERRITE BEAD INDUCTOR	

<CONNECTOR>

G1	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
G24	*1-564-508-11	PLUG, CONNECTOR 5P	
G61	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
G63	*1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P	
G64	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	

<IC>

IC651	⚠8-749-920-57	IC STR-S6301	
IC652	8-719-156-73	DIODE PS2501-1LB	
IC653	⚠8-749-920-62	IC SE-135NS	

<COIL>

L613	1-459-155-00	COIL (WITH CORE) 45UH	
L614	1-459-155-00	COIL (WITH CORE) 45UH	

<TRANSISTOR>

Q603	8-729-200-17	TRANSISTOR 2SA1091-O	
Q604	8-729-119-76	TRANSISTOR 2SA1175-HFE	
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%	1/4W	
R611	1-215-477-00	METAL	220K	1%	1/4W	
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	⚠1-449-953-11	SRT (CONVERTER TRANSFORMER)	

<THERMISTOR>

THP601	⚠1-808-081-23	THERMISTOR, POSITIVE	

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*A-1331-055-A	C BOARD, COMPLETE	
	**********	
*4-341-751-01	EYELET (EY705,EY709,EY710)	

C

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

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

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*4-341-752-01	EYELET (EY704,EY706,EY707)	
	*4-379-160-01	COVER (REAR LID), CV	
	*4-379-167-01	COVER (MAIN), CV	
		<CONNECTOR>	
C1	1-506-348-99	PIN, CONNECTOR 3P	
C32	*1-564-510-11	PLUG, CONNECTOR 7P	
C82	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
		<CAPACITOR>	
C701	1-162-116-00	CERAMIC 680PF 10% 2KV	
C702	1-136-601-11	FILM 0.01MF 10% 630V	
C703	1-124-907-11	ELECT 10MF 20% 50V	
C704	1-123-946-00	ELECT 4.7MF 20% 250V	
C705	1-101-821-00	CERAMIC 0.0022MF 500V	
C707	1-102-116-00	CERAMIC 680PF 10% 50V	
C708	1-102-116-00	CERAMIC 680PF 10% 50V	
C709	1-102-116-00	CERAMIC 680PF 10% 50V	
C710	1-102-117-00	CERAMIC 820PF 10% 50V	
C711	1-126-233-11	ELECT 22MF 20% 25V	
C712	1-102-116-00	CERAMIC 680PF 10% 50V	
C713	1-102-117-00	CERAMIC 820PF 10% 50V	
C714	1-162-622-11	CERAMIC 330PF 10% 6.3KV	
C715	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C718	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C720	1-126-233-11	ELECT 22MF 20% 25V	
C721	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C730	1-102-116-00	CERAMIC 680PF 10% 50V	
C731	1-102-116-00	CERAMIC 680PF 10% 50V	
C732	1-102-116-00	CERAMIC 680PF 10% 50V	
		<DIODE>	
D701	8-719-911-19	DIODE 1SS119	
D702	8-719-911-19	DIODE 1SS119	
D703	8-719-911-19	DIODE 1SS119	
D704	8-719-911-19	DIODE 1SS119	
D705	8-719-911-19	DIODE 1SS119	
D706	8-719-911-19	DIODE 1SS119	
D707	8-719-911-19	DIODE 1SS119	
D708	8-719-911-19	DIODE 1SS119	
D709	8-719-911-19	DIODE 1SS119	
D710	8-719-901-83	DIODE 1SS83	
D711	8-719-901-83	DIODE 1SS83	
D712	8-719-901-83	DIODE 1SS83	
D713	8-719-901-83	DIODE 1SS83	
		<JACK>	
J701 ⚠	1-540-071-13	SOCKET, PICTURE TUBE	
		<COIL>	
L701	1-408-417-00	INDUCTOR 47UH	
L702	1-408-421-00	INDUCTOR 100UH	
L703	1-408-420-00	INDUCTOR 82UH	
L704	1-408-410-00	INDUCTOR 12UH	
L705	1-408-411-00	INDUCTOR 15UH	
L706	1-408-421-00	INDUCTOR 100UH	
L707	1-408-411-00	INDUCTOR 15UH	
		<NEON LAMP>	
NL701	1-519-154-91	LAMP, NEON	
		<TRANSISTOR>	
Q701	8-729-326-11	TRANSISTOR 2SC2611	
Q702	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q703	8-729-200-17	TRANSISTOR 2SA1091-O	
Q704	8-729-326-11	TRANSISTOR 2SC2611	
Q705	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q706	8-729-200-17	TRANSISTOR 2SA1091-O	
Q707	8-729-200-17	TRANSISTOR 2SA1091-O	
Q708	8-729-326-11	TRANSISTOR 2SC2611	
Q709	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
Q710	8-729-255-12	TRANSISTOR 2SC2551-O	
Q711	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q712	8-729-255-12	TRANSISTOR 2SC2551-O	
Q713	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q714	8-729-200-17	TRANSISTOR 2SA1091-O	
Q715	8-729-200-17	TRANSISTOR 2SA1091-O	
Q716	8-729-200-17	TRANSISTOR 2SA1091-O	
		<RESISTOR>	
R701	1-216-391-11	METAL OXIDE 1.5 5% 3W	F
R702	1-202-719-00	SOLID 1M 10% 1/2W	
R703	1-202-842-11	SOLID 220K 10% 1/2W	
R704	1-202-846-00	SOLID 470K 10% 1/2W	
R705	1-202-549-00	SOLID 100 10% 1/2W	
R706	1-202-838-00	SOLID 100K 10% 1/2W	
R707	1-202-842-11	SOLID 220K 10% 1/2W	
R708	1-202-818-00	SOLID 1K 10% 1/2W	
R709	1-202-818-00	SOLID 1K 10% 1/2W	
R710	1-202-818-00	SOLID 1K 10% 1/2W	
R711	1-202-837-00	SOLID 82K 10% 1/2W	
R712	1-202-842-11	SOLID 220K 10% 1/2W	
R713 ⚠	1-216-486-51	METAL OXIDE 8.2K 5% 3W	F
R714	1-249-409-11	CARBON 220 5% 1/4W	
R715	1-202-818-00	SOLID 1K 10% 1/2W	
R716 ⚠	1-216-486-51	METAL OXIDE 8.2K 5% 3W	F
R717	1-249-409-11	CARBON 220 5% 1/4W	
R718	1-249-409-11	CARBON 220 5% 1/4W	
R720 ⚠	1-216-486-51	METAL OXIDE 8.2K 5% 3W	F
R721	1-202-842-11	SOLID 220K 10% 1/2W	
R723	1-249-405-11	CARBON 100 5% 1/4W	
R724	1-249-405-11	CARBON 100 5% 1/4W	
R725	1-249-429-11	CARBON 10K 5% 1/4W	
R726	1-249-407-11	CARBON 150 5% 1/4W	
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	
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

C H U2

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

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

REF.NO.	PART NO.	DESCRIPTION				REMARK
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	
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				
		*******				
	*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				
		<CONNECTOR>				
H11	*1-564-525-11	PLUG, CONNECTOR 10P				
H12	*1-564-522-11	PLUG, CONNECTOR 7P				
S1	*1-565-513-11	PIN, CONNECTOR 2P				
		<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	
		<SWITCH>				
S50	⚠1-572-198-11	SWITCH, KEYBOARD (POWER)				
S51	1-572-198-11	SWITCH, KEYBOARD				
S52	1-572-198-11	SWITCH, KEYBOARD				
S53	1-572-198-11	SWITCH, KEYBOARD				
S54	1-572-198-11	SWITCH, KEYBOARD				
S55	1-572-198-11	SWITCH, KEYBOARD				
S56	1-572-198-11	SWITCH, KEYBOARD				
**********						
	*1-633-487-31	U2 BOARD				
		********				
	*4-341-752-01	EYELET (EY901~EY904)				
		<CAPACITOR>				
C900	1-101-004-00	CERAMIC	0.01MF		50V	
C901	1-126-233-11	ELECT	22MF	20%	25V	
C902	1-124-907-11	ELECT	10MF	20%	50V	
C903	1-124-907-11	ELECT	10MF	20%	50V	
C904	1-124-907-11	ELECT	10MF	20%	50V	
C905	1-124-907-11	ELECT	10MF	20%	50V	
C906	1-124-907-11	ELECT	10MF	20%	50V	
C907	1-124-907-11	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	
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	

U2 U1

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<SWITCH>			
SW900	1-572-198-11	SWITCH, KEYBOARD (SERVICE SW)			
		<CONNECTOR>			
U2-1	*1-565-491-11	CONNECTOR, BOARD TO BOARD 15P			
U2-2	*1-565-491-11	CONNECTOR, BOARD TO BOARD 15P			
U2-5	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P			
**********					
	*A-1394-219-A	U1 BOARD, COMPLETE			
		**********			
	*4-341-752-01	EYELET (EY401~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
		<FILTER BLOCK>			
CM1301	1-466-162-31	BLOCK, COM 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	8-729-119-76	TRANSISTOR 2SA1175-HFE			
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	8-729-119-76	TRANSISTOR 2SA1175-HFE			
		<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
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

U1

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Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION				REMARK
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	
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	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<CONNECTOR>	
U1-1	*1-565-506-11	CONNECTOR, BOARD TO BOARD 15P	
U1-2	*1-565-506-11	CONNECTOR, BOARD TO BOARD 15P	
U1-4	*1-564-505-11	PLUG, CONNECTOR 2P	
U1-5	*1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH)	
U1-22	*1-565-494-11	CONNECTOR, BOARD TO BOARD 18P	
U1-23	*1-565-494-11	CONNECTOR, BOARD TO BOARD 18P	
		**********	
		MISCELLANEOUS	
		**********	
⚠	1-426-350-11	COIL, DEMAGNETIZATION	
⚠	1-451-275-31	DEFLECTION YOKE (Y28PFA)	
	1-452-032-00	MAGNET, DISK; 10MM φ	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ	
	1-544-313-11	SPEAKER UNIT	
	*1-556-945-21	CABLE, P-P	
	1-561-306-00	JACK, PIN (F)	
	*1-565-514-11	SOCKET, CONNECTOR 2P	(KV-27EXR25(U/C) ONLY)
⚠	1-590-492-11	CORD, POWER (WITH CONNECTOR)	
V901 ⚠	8-737-753-05	PICTURE TUBE (A68JMT50X)	
		**********	
		ACCESSORIES AND PACKING MATERIALS	
		**********	
	PART NO.	DESCRIPTION	REMARK
	1-562-443-11	CONNECTOR, ANTENNA	
	3-752-976-21	MANUAL, INSTRUCTION	
	3-752-976-31	MANUAL, INSTRUCTION (KV-27EXR25(C) ONLY)	
	4-384-027-01	BAG, PROTECTION	
	*4-397-920-01	CUSHION (UPPER) (ASSY)	
	*4-397-921-01	CUSHION (LOWER) (ASSY)	
	*4-397-922-01	INDIVIDUAL CARTON	
		REMOTE COMMANDER	
	1-465-764-11	REMOTE COMMANDER (RM-Y103)	(KV-27EXR20(U) ONLY)
	1-465-765-11	REMOTE COMMANDER (RM-Y104)	(KV-27EXR25(U/C) ONLY)
	3-707-584-01	COVER, BATTERY (FOR RM-Y103,RM-Y104)	

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Printed in Japan

9-964-655-01

KV-27EXR20/27EXR25
RM-Y103/Y104

SONY
SERVICE MANUAL

US Model
KV-27 EXR 20
Chassis No.SCC-D50E-A
KV-27 EXR 25
Chassis No.SCC-D50F-A
Canadian Model
KV-27 EXR 25
Chassis No.SCC-D61C-A

CORRECTION-1

File this correction with the service manual.

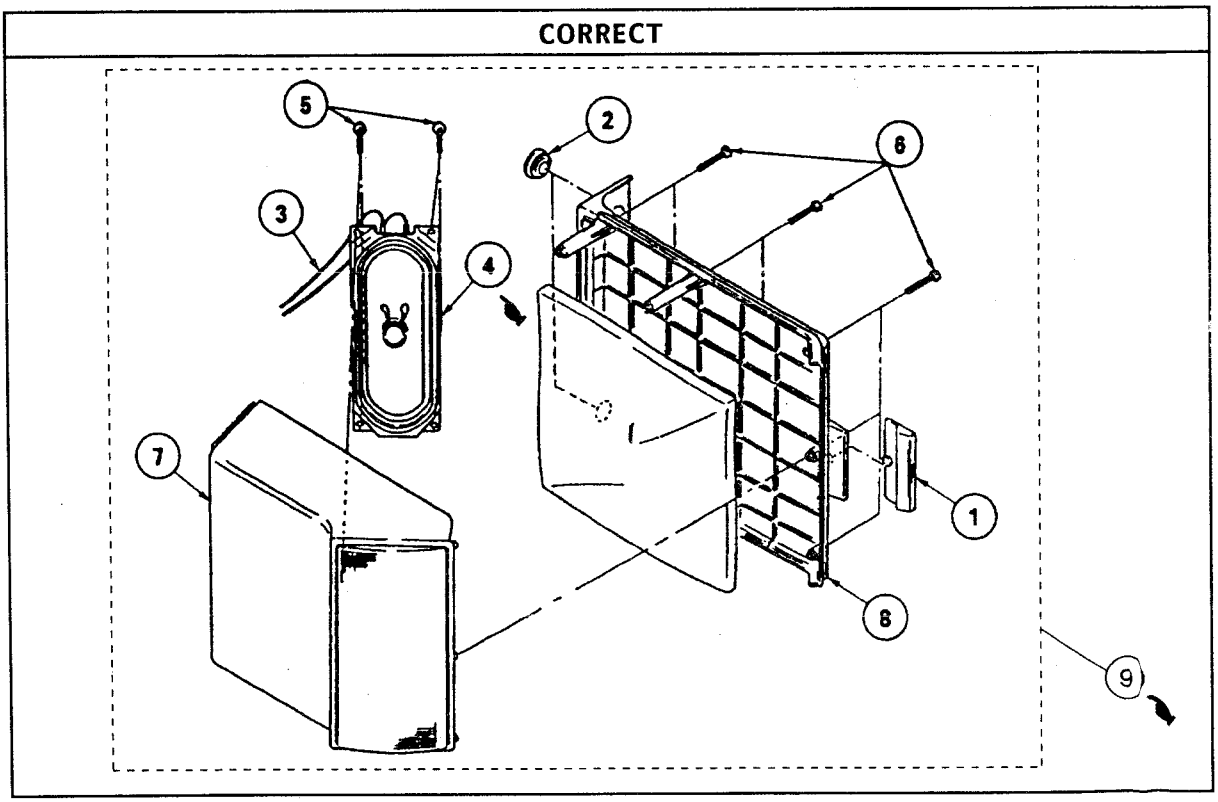
☛: Corrected portion

SECTION 7

7-1.CHASSIS

SPEAKER UNIT

CORRECT



REF. NO.	PART NO.	DESCRIPTION	REMARK
		MISCELLANEOUS	
		**********	
	9-996-897-01	CORD, SPEAKER, ASSY	
		SPEAKER	

REF. NO.	PART NO.	DESCRIPTION	REMARK
1	9-995-677-01	CUSHION-G, 28-72-11	
2	9-995-678-01	CUSHION-G, DIA 8-18-8	
3	9-996-897-01	CORD, SPEAKER, ASSY	
4	1-544-315-11	SPEAKER	
5	9-995-683-01	VFT 2+3-16	
6	9-995-684-01	VT 2+3-16	
7	9-995-686-01	CABINET, TOP, ASSY	
8	9-995-687-01	CABINET, BOTTOM, ASSY	
9	1-544-313-11	SPEAKER UNIT	

MICROFILM

9-964-655-91

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