

KV-27S10 / 27S15 / 29RS10

RM-Y116

RM-Y121

RM-Y116

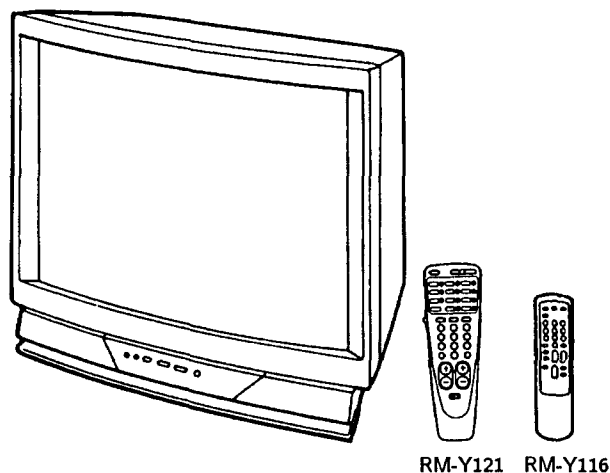
KV-29RS15 / 32S10 / 32S15

RM-Y121

RM-Y116

RM-Y121

SERVICE MANUAL



US Model

KV-27S10 Chassis No. SCC-F84L-A

KV-27S15 Chassis No. SCC-F84M-A

KV-32S10 Chassis No. SCC-F84N-A

KV-32S15 Chassis No. SCC-F84P-A

Canadian Model

KV-27S10 Chassis No. SCC-F85G-A

KV-27S15 Chassis No. SCC-F85H-A

KV-32S10 Chassis No. SCC-F85J-A

KV-32S15 Chassis No. SCC-F85K-A

E Model

KV-29RS10 Chassis No. SCC-F89F-A

KV-29RS15 Chassis No. SCC-F89G-A

AA-1 CHASSIS

MODELS OF THE SAME SERIES

KV-27S10/27S15/29RS10	KV-27TS29/27TS32/27TS36
KV-29RS15/32S10/32S15	KV-32TS36/32TS46
KV-2970RS/2970M/2975M	KV-27V55/29V55M

SPECIFICATIONS

Television system
Channel coverage

American TV standards

VHF: 2-13

UHF: 14-69

CABLE TV: 1-125

Picture tube

Hi-Black™ Trinitron® tube

27-inch picture measured diagonally

29-inch picture measured diagonally

(KV-27S10/27S15/29RS10/29RS15)

32-inch picture measured diagonally

34-inch picture measured diagonally

(KV-32S10/32S15)

Antenna

75-ohm external antenna terminal
for VHF/UHF

Input VIDEO and S VIDEO

S VIDEO IN

Y: 1 Vp-p, 75-ohms unbalanced, sync negative

C: 0.286 Vp-p (Burst signal), 75-ohms

(KV-27S15/29RS15/32S10/32S15)

Video: 1 Vp-p, 75-ohms

unbalanced, sync negative

Audio: 500 mVrms

(100% modulation)

Impedance: 47 kilo-ohms

- Continued on next page -



996580101

TRINITRON® COLOR TV

SONY®

Output AUDIO OUT :
 More than 408 mVrms at the maximum volume setting (variable)
 More than 408 mVrms (fix)
 Impedances : 5 kilo-ohms
 (KV-27S15/29RS15/32S15)

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

KV-27S10	165 W
KV-27S15	170 W
KV-29RS10	165 W
KV-29RS15	170 W
KV-32S10	190 W
KV-32S15	195 W
standby mode	6 W

Dimensions/Weight

	Dimensions (w/h/d)	Weight
KV-27S10	661×603×524 mm (26 ¹ / ₈ ×23 ³ / ₄ ×20 ³ / ₄ inches)	42.2 kg (93 lbs)
KV-27S15	661×603×524 mm (26 ¹ / ₈ ×23 ³ / ₄ ×20 ³ / ₄ inches)	42.2 kg (93 lbs)
KV-29RS10	661×603×524 mm (26 ¹ / ₈ ×23 ³ / ₄ ×20 ³ / ₄ inches)	42.2 kg (93 lbs)
KV-29RS15	661×603×524 mm (26 ¹ / ₈ ×23 ³ / ₄ ×20 ³ / ₄ inches)	42.2 kg (93 lbs)
KV-32S10	781×714×613 mm (30 ³ / ₄ ×28 ¹ / ₈ ×24 ¹ / ₄ inches)	69 kg (152 lbs 9 oz)
KV-32S15	781×714×613 mm (30 ³ / ₄ ×28 ¹ / ₈ ×24 ¹ / ₄ inches)	69 kg (152 lbs 9 oz)

Supplied accessories (KV-27S10/29RS10/32S10)
 Remote Commander RM-Y116 (1)
 with 2 size AA (R6) batteries
 (KV-27S15/29RS15/32S15)
 Remote Commander RM-Y121 (1)
 with 1 size AA (R6) battery

Optional accessories U/V mixer EAC-66
 Connecting cable
 VMC-810S/820S, VMC-720M,
 YC-15V/30V, RK-74A

Design and specifications are subject to change without notice.

(CAUTION)

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

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.

THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

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

(ATTENTION)

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

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHASSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISE LORS DE TOUT DEPANNAGE.

LE CHASSIS DE CE RECEPTEUR EST DIRECTEMENT RACCORDE A L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

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

SAFETY CHECK-OUT

(US model only)

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

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

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

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

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 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)

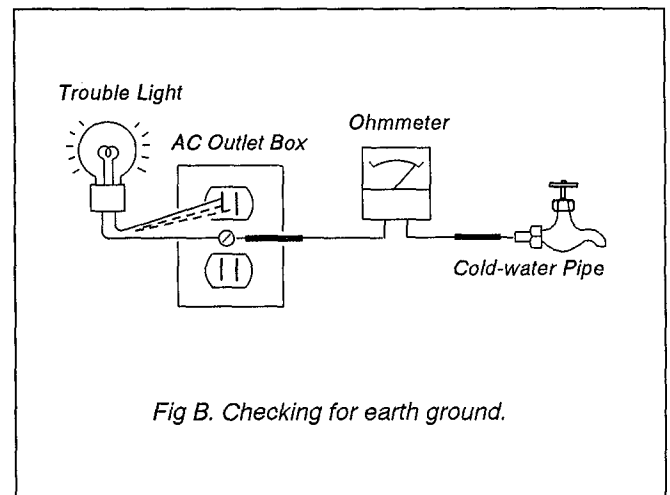
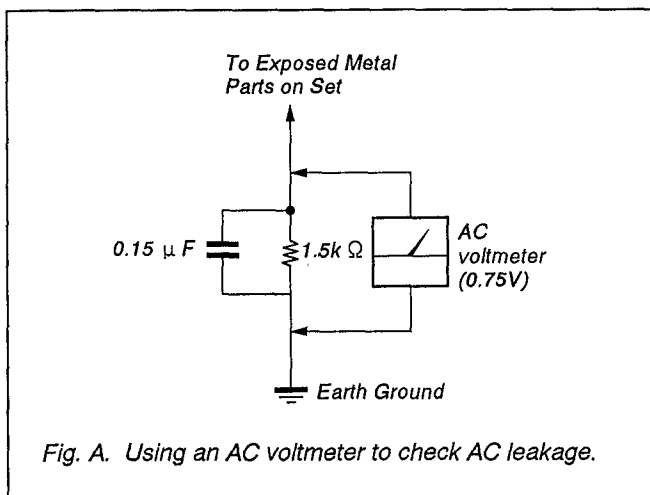


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● KV-27S10/29RS10/32S10

Step 1: Hookup

SECTION 1 GENERAL

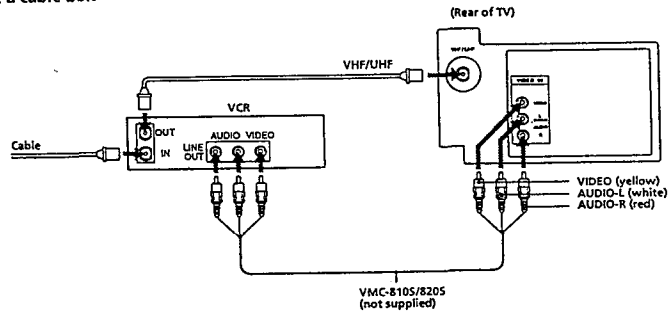
The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

Connecting an antenna/cable TV system with a VCR

To connect your VCR to the TV, first check the model number of your TV and select the corresponding connection. For details on connection, see the instruction manual of your VCR. Before making connection, disconnect the AC power cords of the equipment to be connected.

- After making these connections, you will be able to do the following:
- View the playback of video tapes
 - Record one TV program while viewing another program

Without a cable box

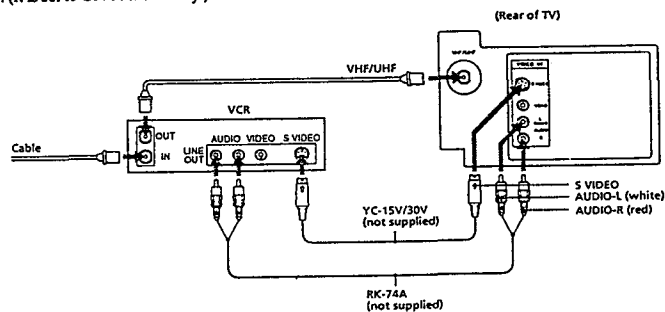


- Note
- To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 1 IN on the TV.

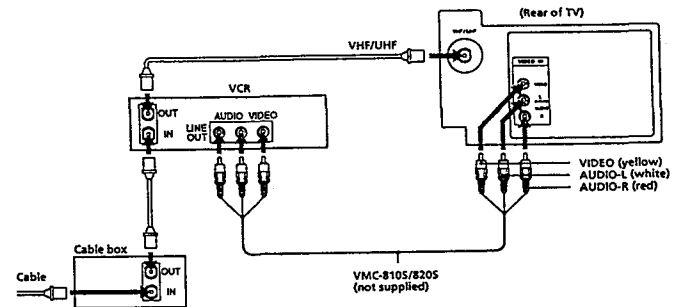
To an S video equipped VCR without a cable box

■ KV-27V10I29V10CI29V10MI32S10 only

If your VCR has an S video output jack, hook up as follows and then set S VIDEO to ON on your TV (page 12). (It is set to ON at the factory.)

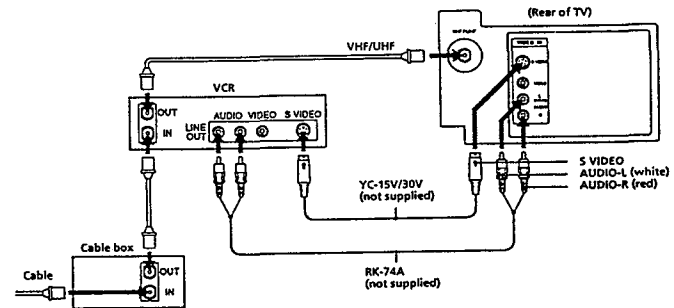


With a cable box



- Note
- To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 1 IN on the TV.

To an S video equipped VCR with a cable box

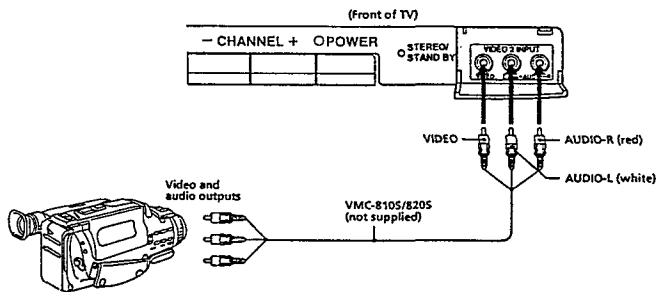


- Note
- Video signals are composed of Y (luminance) and C (chroma) signals. The S connection sends the two signals separately preventing degradation, and gives better picture quality compared to conventional connection.

Connecting a camcorder

■ KV-27V10/29V10C/29V10M only

This connection is convenient for viewing a camcorder.



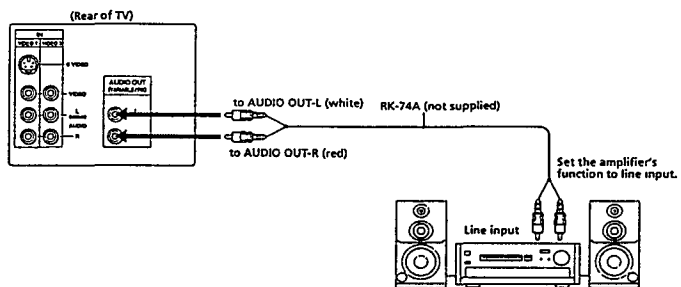
Note

- To connect a monaural camcorder, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 2 INPUT on the TV.

Connecting an audio system

■ KV-27V10/29V10C/29V10M only

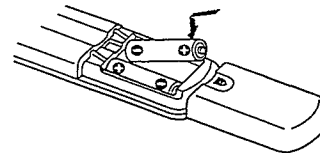
When connecting audio equipment, see page 17 and 18 for more information.



Step 2: Setting up the remote commander

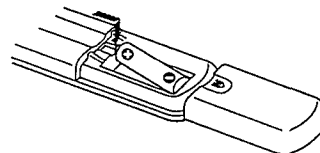
■ KV-27S10/29S10C/32S10
RM-Y116 remote commander

Insert two size AA (R6) batteries in correct polarity.



■ KV-27V10/29V10C/29V10M
RM-Y117 remote commander

Insert a size AA (R6) battery in correct polarity.



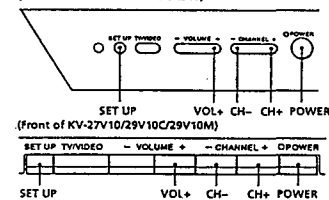
Notes

- With normal use, the battery should last for approximately six months.
- If you do not use the remote commander for an extended period of time, remove the battery to avoid possible damage from battery leakage.
- Do not handle the remote commander roughly. Do not drop it step on it or let it get wet.
- Do not place the remote commander in locations where it is direct sunlight, near a heater, or where the humidity is high.

Step 3: Setting up the TV automatically (AUTO SET UP)

You can set up your TV easily by using AUTO SET UP feature. It presets all the receivable channels. To set up the TV manually, see "Setting cable TV on or off" and "Presetting channels" (page 11). If the TV is set to a video input, you cannot execute AUTO SET UP. Press TV/VIDEO so that a channel number appears.

(Front of KV-27S10/29S10/32S10)



1 Press POWER to turn the TV on.



2 Press SET UP on the front of the TV.

The menu appears.



3 Press CH+.



"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, "AUTO PROGRAM" disappears and the lowest numbered channel is displayed. If the TV receives cable TV channels, CATV is set to ON automatically.

Note

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

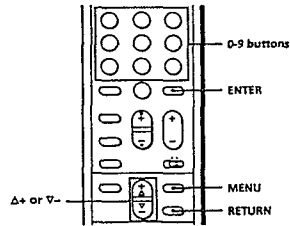
DEMO: To browse the main functions.

Press VOL+ in step3. The functions and menus a displayed one by one.

FACTORY PRESET: To restore the factory settings when you are confused about the TV settings. Press CH- in step3. The settings of picture and sound are restored to the factory setting.

Erasing or adding channels

After AUTO SET UP you can erase unnecessary channels or add the channels you want. Preset channels during the day rather than late at night, when some channels may not be broadcasting.



1 Press MENU.

The main menu appears.



2 Press Δ+ or ∇- to select SET UP and press RETURN.

The SET UP menu appears.



3 Press Δ+ or ∇- to select CH SET UP and press RETURN.

The CH SET UP menu appears.



4 Press Δ+ or ∇- to select CH ERASE/ADD and press RETURN.

The CH ERASE/ADD menu appears.

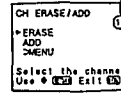


5 Erase and/or add the channel you want:

To erase an unwanted channel

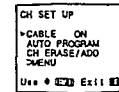
- (1) Make sure the cursor (▶) is beside ERASE.
- (2) Press CH +/- to select the channel you want to erase and,

Selected channel number



(3) press RETURN.

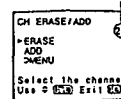
The indication "—" appears beside the channel number, showing that the channel is erased from the preset memory.



To add a channel that you want

- (1) Press Δ+ or ∇- to select ADD.
- (2) Press the 0-9 buttons to select the channel you want to add and press ENTER and,

Selected channel number



(3) press RETURN.

The indication "+" appears beside the channel number, showing that the channel is added to the preset memory.



6 To erase and/or add other channels, repeat step 5.

7 When you finish, press MENU.



Note

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

Setting cable TV on or off

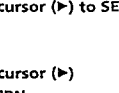
If you have connected the TV to a cable TV system, set CABLE to ON, the factory setting. If not, set CABLE to OFF.

You do not have to do this procedure if you execute AUTO SET UP (page 9). Do this procedure only when you want to set it manually.

1 Press MENU.

2 Press Δ+ or ∇- to move the cursor (▶) to SET UP and press RETURN.

3 Press Δ+ or ∇- to move the cursor (▶) to CH SET UP and press RETURN.



4 Set CABLE to ON or OFF:

- (1) Make sure the cursor (▶) is beside CABLE and press RETURN.

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

- (2) Press Δ+ or ∇- to select ON or OFF and,
- (3) press RETURN.



5 Press MENU to return to the original screen.

Note

- If CH SET UP menu appears in black, the TV is set to a video input and you cannot select CABLE. Press TV/VIDEO so that a channel number appears.

Presetting channels

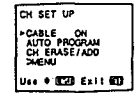
You can preset TV channels easily by AUTO PROGRAM feature.

You do not have to do this procedure if you execute AUTO SET UP (page 9). Do this procedure only when you want to set it manually.

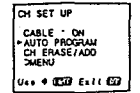
1 Press MENU.

2 Press Δ+ or ∇- to move the cursor (▶) to SET UP and press RETURN.

3 Press Δ+ or ∇- to move the cursor (▶) to CH SET UP and press RETURN.



4 Press Δ+ or ∇- to move the cursor (▶) to AUTO PROGRAM and press RETURN.



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

5 Press MENU to return to the original screen.

Note

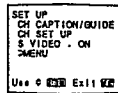
- If the CH SET UP menu appears in black, the TV is set to a video input and you cannot select AUTO PROGRAM. Press TV/VIDEO or TV so that a channel number appears.

Setting S video on or off

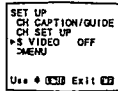
■ KV-27V10I29V10C/29V10M/32S10 only

You can change the S VIDEO menu to ON or OFF.

- 1 Press TV/VIDEO select VIDEO 1.
- 2 Press MENU.
- 3 Press Δ + or ∇ - to move the cursor (\blacktriangleright) to SET UP and press RETURN.
- 4 Press Δ + or ∇ - to move the cursor (\blacktriangleright) to S VIDEO and press RETURN.



- 5 Press Δ + or ∇ - to select ON or OFF and press RETURN.



- 6 Press MENU to return to the original screen.

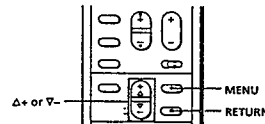
Note

- If S VIDEO appears in black, set a video input to VIDEO 1.
- If you set S VIDEO to ON, the TV automatically receive S video signals whenever a VCR with S video is connected

Changing the menu language

■ KV-29R510I29V10C/29V10M only

If you prefer Spanish to English, you can change the menu language.



- 1 Press MENU.
The main menu appears.



- 2 Press Δ + or ∇ - to move the cursor (\blacktriangleright) to ENGLISH and press RETURN.



- 3 Press Δ + or ∇ - to select ESPAÑOL and press RETURN.



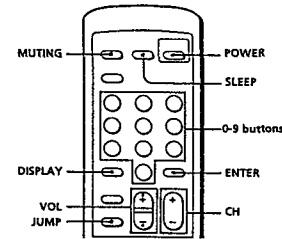
- 4 Press MENU to return to the original screen.

Note

- Certain parts of the ESPAÑOL menus remain in English

Operations

Watching the TV

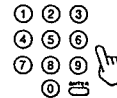


- 1 Press POWER to turn the TV on.



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

- 2 Select the channel you want:
To select a channel directly
Press the 0-9 buttons and then press ENTER.



The channel can also be selected without pressing ENTER.

To scan through channels
Press CH +/- until the channel you want appears



- 3 Press VOL +/- to adjust the volume.



Note

- Set the CABLE BOX/TV selector to TV.
(KV-27V10I29V10C/29V10M only)

Switching quickly between two channels

Press JUMP.
The channel you watched previously appears.



Pressing JUMP again switches back the channel.

Muting the sound

Press MUTING.
"MUTING" appears on the screen.



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

Displaying on-screen information

Use this feature to check the channel number, channel caption (if set), and MTS mode (if SAP is selected).

Press DISPLAY.



To cancel the display, press DISPLAY again

Setting the Sleep Timer

The TV stays on for the length of time you specify and then shuts off automatically.
Press SLEEP repeatedly until the time (minutes) you want appears.

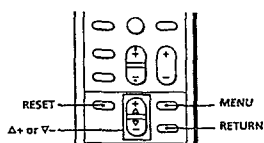
Each time you press SLEEP, the time changes as follows 30 \rightarrow 60 \rightarrow 90 \rightarrow OFF.



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

Adjusting the picture (VIDEO)

When watching TV programs, you can adjust the quality of the picture to suit your taste. You can adjust the picture of video input(s) as well. These settings are stored separately from those for the TV picture.



1 Press MENU.

2 Make sure the cursor (▶) is beside VIDEO and press RETURN.



3 Select the item you want to adjust.

For example:
(1) To adjust brightness, press Δ+ or ∇- to select BRIGHT and,

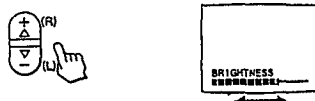


(2) press RETURN.



4 Adjust the selected item:

(1) Press Δ+ or ∇- to adjust the item and,



(2) press RETURN.

The new setting appears in the VIDEO menu.



For details on each item, see "Description of adjustable items" below.

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

Description of adjustable items

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

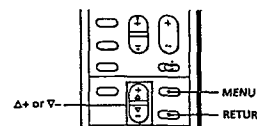
To restore the factory settings

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

Adjusting screen brightness automatically (LUMISPONDER)

■ KV-27V10I29V10C/29V10M only

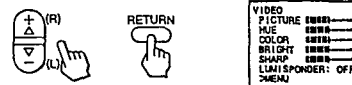
The LUMISPONDER feature adjusts the brightness of the screen automatically according to the ambient brightness. The LUMISPONDER function automatically adjusts the level set by the user in the VIDEO menu to the standard.



1 Press MENU.

2 Press Δ+ or ∇- to select VIDEO and press RETURN.

3 Press Δ+ or ∇- to select LUMISPONDER and press RETURN.



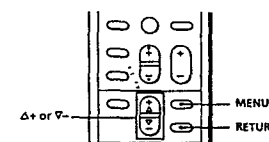
4 Press Δ+ or ∇- to select ON or OFF and press RETURN.



Adjusting the sound (AUDIO)

You can adjust the quality of the sound to suit your taste.

You can adjust the sound of video input(s) as well. These settings are stored separately from those for the TV sound.



1 Press MENU.

2 Press Δ+ or ∇- to select AUDIO and press RETURN.



3 Select the item you want to adjust.

For example:
(1) To adjust bass, press Δ+ or ∇- to select BASS and,



(2) press RETURN.



4 Adjust the selected item:

(1) Press $\Delta+$ or $\nabla-$ to adjust the item and,



(2) press RETURN.

The new setting appears in the AUDIO menu.



For details on each item, see "Description of adjustable items" below.

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

Description of adjustable items

Item	Press $\Delta+$ to	Press $\nabla-$ to
TREBLE	Increase the treble response	Decrease the treble response
BASS	Increase the bass response	Decrease the bass response
BALANCE	Emphasize the right speaker's volume	Emphasize the left speaker's volume

To restore the factory settings

Press RESET while the AUDIO menu is displayed.

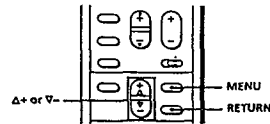
Note

- When SPEAKER (page 17) is OFF and AUDIO OUT (page 18) is FIXED condition, sound menu appears mid-level setting and it cannot be adjusted.

Listening to surround sound (SURROUND)

■ KV-27V10/29V10CI/29V10M only

SURROUND feature simulate sound reproduction with the atmosphere of a movie theater or a concert hall. Surround sound is only effective for stereo programs.



1 Press MENU.

2 Press $\Delta+$ or $\nabla-$ to select AUDIO and press RETURN.

3 Press $\Delta+$ or $\nabla-$ to select SURROUND and press RETURN.

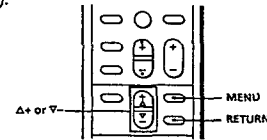


4 Press $\Delta+$ or $\nabla-$ to select ON and press RETURN.



Selecting stereo or bilingual programs (MTS)

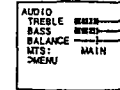
The Multichannel TV Sound (MTS) feature allows you to enjoy stereo sound or Second Audio Programs (SAP) at your choice. The initial setting is stereo sound (MAIN).



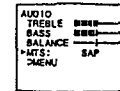
1 Press MENU.

2 Press $\Delta+$ or $\nabla-$ to select AUDIO and press RETURN.

3 Press $\Delta+$ or $\nabla-$ to select MTS and press RETURN.



4 Press $\Delta+$ or $\nabla-$ to select MAIN, SAP, or MONO and press RETURN.



Choose	To
MAIN	Listen to stereo sound. The STEREO indicator on the TV lights up while a stereo broadcast is received.
SAP	Listen to bilingual programs. The sound of non-SAP programs will be muted when SAP is selected.
MONO	Reduce noise during stereo broadcasts.

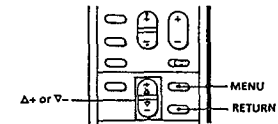
Note

- Stereo and SAP sounds are subject to program sources.

Setting the speaker switch (SPEAKER)

■ KV-27V10/29V10CI/29V10M only

You may switch off the TV speakers when, for example, you want to listen to the sound through a stereo system.



1 Press MENU.

2 Press $\Delta+$ or $\nabla-$ to select AUDIO and press RETURN.

3 Press $\Delta+$ or $\nabla-$ to select SPEAKER SWITCH and press RETURN.



4 Make sure the cursor (\blacktriangleright) is beside SPEAKER and press RETURN.



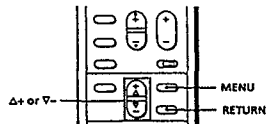
5 Press $\Delta+$ or $\nabla-$ to select ON or OFF and press RETURN.



Setting audio out (AUDIO OUT)

■ KV-27V10/29V10C/29V10M only

You can select audio out to variable or fixed when SPEAKER is set to OFF. Audio out is variable when SPEAKER is set to ON.



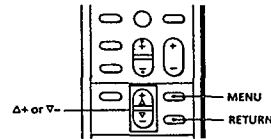
- 1 Press MENU.
- 2 Press $\Delta+$ or $\nabla-$ to select AUDIO and press RETURN.
- 3 Press $\Delta+$ or $\nabla-$ to select SPEAKER SWITCH and press RETURN.
- 4 Press $\Delta+$ or $\nabla-$ to select AUDIO OUT and press RETURN.
- 5 Press $\Delta+$ or $\nabla-$ to select VAR or FIXED and press RETURN.

VAR: Sound output varied according to the TV settings. You can adjust the volume, bass, treble and balance.
FIXED: Sound output is always fixed to a certain level. You cannot adjust the volume.

Customizing the channel number buttons (CH CAPTION/ GUIDE)

You can choose up to 12 channels, caption each channel, and assign a specific channel number to each channel. This feature allows you to select your favorite channels easily by name. For example, you can name channel 20 "ESPN," and assign the channel number 4 button to it.

Setting captions to favorite channels



- 1 Press TV/VIDEO to select TV mode.
- 2 Press MENU.
- 3 Press $\Delta+$ or $\nabla-$ to select SET UP and press RETURN.
- 4 Press $\Delta+$ or $\nabla-$ to select CH CAPTION/GUIDE and press RETURN.
- 5 Press RETURN again.

- 6 Press $\Delta+$ or $\nabla-$ to select a channel guide number button and press RETURN. Each time you press $\Delta+$ or $\nabla-$, the channel numbers change to red in turns. The channel number button you select will be the one you press to call up your favorite channel.



- 7 Press $\Delta+$ or $\nabla-$ to select the channel that you want to caption and press RETURN.



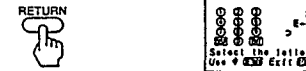
- 8 Enter the letters (up to four) to caption the channel:

(1) Press $\Delta+$ or $\nabla-$ to select the first letter. Each time you press $\Delta+$ or $\nabla-$, the letter changes as shown below and,

0 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 Q R S T U V W X Y Z [blank space]



(2) press RETURN.



(3) Repeat steps (1) and (2) to select the remaining letters and press RETURN.



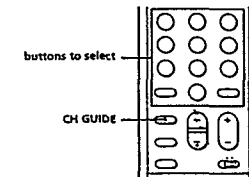
- 9 Repeat step 5 to 7 to caption other channels.

To erase a caption
Press RESET after step 5.

Notes

- The position number you already selected appears in yellow.
- If the CH CAPTION/GUIDE menu appears in black, the TV is set to a video input and you cannot select CH CAPTION/GUIDE. Press TV/VIDEO to select TV mode.
- If more than 90 seconds elapse after you press a button, the menu disappears automatically.

Selecting a captioned channel



- 1 Press CH GUIDE. The CHANNEL GUIDE menu appears showing channel captions and the corresponding channel number buttons.



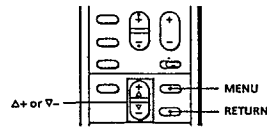
- 2 Press a channel number button, the DISPLAY or ENTER button to select the channel you want.

To cancel the CHANNEL GUIDE menu
Press CH GUIDE again.

Setting video labels (VIDEO LABEL)

■ KV-27V10/29V10CI29V10M only

This feature allows you to label each input mode so that you can easily identify the connected equipment. For example, you can label VIDEO 1 IN as VHS



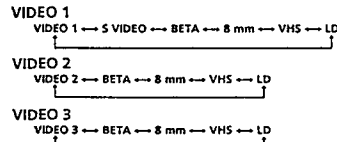
- 1 Press MENU.
- 2 Press Δ+ or ∇- to select SET UP and press RETURN.
- 3 Press Δ+ or ∇- to select VIDEO LABEL and press RETURN.
- 4 Press Δ+ or ∇- to select the input mode you want to label and press RETURN.



- 5 Press Δ+ or ∇- to select the label and press RETURN.



Each time you press Δ+ or ∇-, the label changes as shown below.



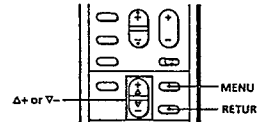
- 6 Repeat steps 4 and 5 to label other input modes.

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

Displaying Caption Vision (CAPTION VISION)

■ KV-27S10/27V10/32S10 only

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



- 1 Press MENU.
- 2 Press Δ+ or ∇- to select CAPTION VISION and press RETURN.
- 3 Press Δ+ or ∇- to select the caption type and press RETURN.



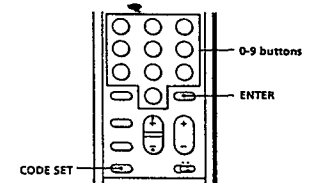
Note
• Captions may appear with a white box or another error instead of a certain word. Poor reception of TV programs can also cause errors in Caption Vision.

Operating video equipment

■ KV-27V10/29V10CI29V10M only

You can operate video equipment that has an infrared remote sensor with the supplied remote commander. For the operations, set the manufacturer's code number.

Setting the manufacturer's code



While pressing CODE SET, press 0 - 9 to enter the manufacturer's code number (see the chart on the next page). For example, to operate a Sony 8 mm VCR, press 0, 2 and ENTER.



The code numbers for Sony equipment are assigned as follows:
01..... Beta, ED Beta VCR
02..... 8 mm VCR
03..... VHS VCR (Factory setting)
04..... MDP

● KV-27S15/29RS15/32S15

Step 1: Hookup

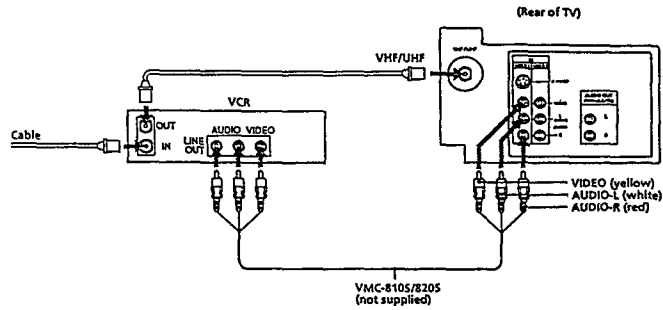
Connecting an antenna/cable TV system with a VCR

To connect your VCR to the TV, first check the model number of your TV and select the corresponding connection. For details on connection, see the instruction manual of your VCR. Before making connection, disconnect the AC power cords of the equipment to be connected.

After making these connections, you will be able to do the following:

- View the playback of video tapes
- Record one TV program while viewing another Program
- Watch two TV programs at once using a window Picture (Picture in Picture)

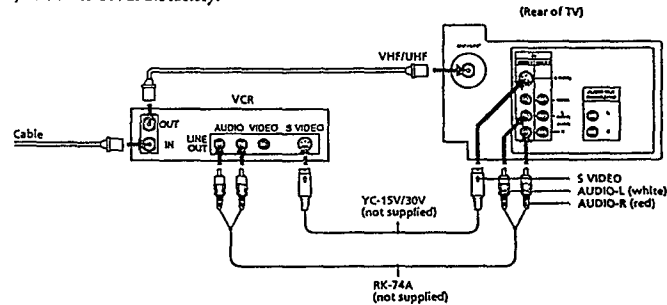
Without a cable box



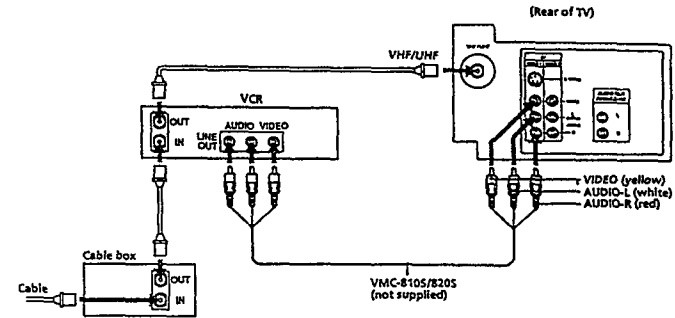
Note
• To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 1 IN on the TV.

To an S video equipped VCR without a cable box

If your VCR has an S video output jack, hook up as follows and then set S VIDEO to ON on your TV (page 12). It is set to ON at the factory.

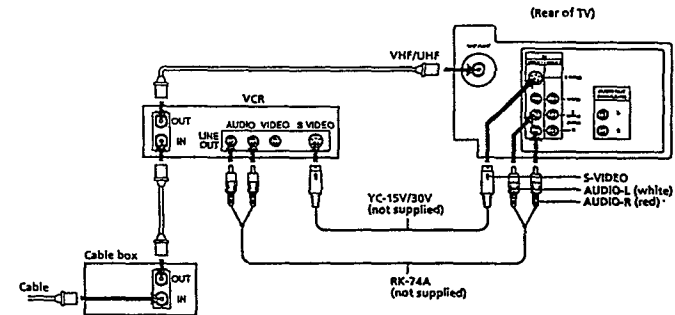


With a cable box



Note
• To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 1 IN on the TV.

To an S video equipped VCR with a cable box

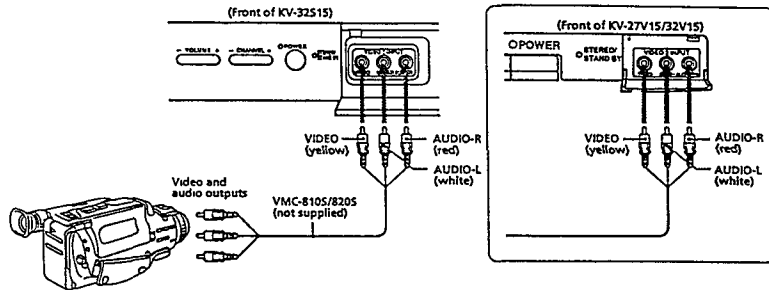


Note
• Video signals are composed of Y (luminance) and C (chroma) signals. The S connection sends the two signals separately preventing degradation, and gives better picture quality compared to conventional connection.

Connecting a camcorder

■ KV-27V15/32S15/32V15 only

This connection is convenient for viewing a camcorder.

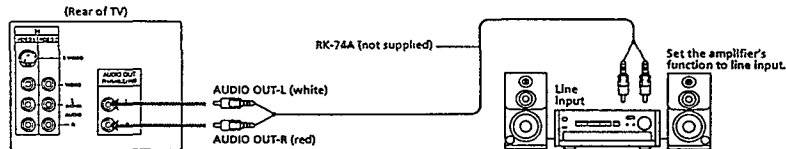


Note

- To connect a monaural camcorder, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 2 INPUT on the TV.

Connecting an audio system

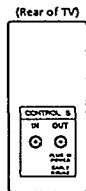
when connecting audio equipment, see page 20 for more information.



Connecting other Sony equipment with CONTROL 5 jack

■ KV-27V15/32V15 only

Connect the supplied cable box controller (Cable Mouse) to the CONTROL 5 OUT jack. Refer to the Cable Mouse's manual for details on the connection.

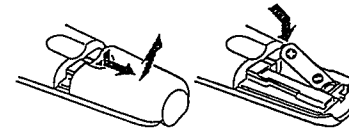


Make the following connections to control the TV and connected equipment with one remote commander.

- To control other Sony equipment with the TV's remote commander, connect the input of the equipment to CONTROL 5 OUT jack on the TV.
- To control the TV with the remote commander of other Sony equipment, connect the output of the equipment to CONTROL 5 IN jack on the TV.

Step 2: Setting up the remote commander

Insert one size AA (R6) battery (supplied) by matching the + and - on the battery to the diagram inside the battery compartment.



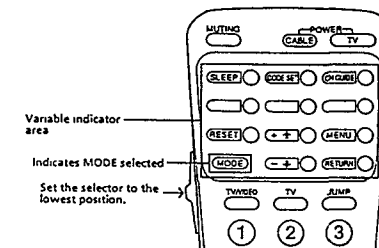
Notes

- With normal use, the battery should last for approximately six months.
- If you do not use the remote commander for an extended period of time, remove the battery to avoid possible damage from battery leakage.
- Do not handle the remote commander roughly. Do not drop it, step on it or let it get wet.
- Do not place the remote commander in direct sunlight, near a heater, or where the humidity is high.

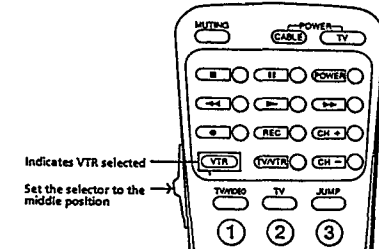
Using the remote commander

The upper half of the remote commander has three selectable operation modes. Each button in this area has three different functions. You can select the mode by sliding a selector on the left side.

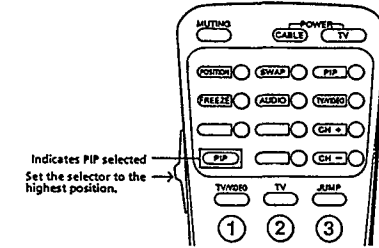
For normal TV viewing



For operating video equipment



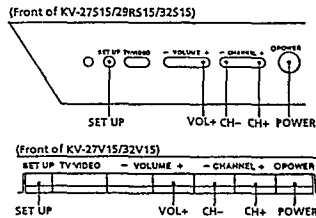
For using the Picture-in-Picture feature



Step 3: Setting up the TV automatically (AUTO SET UP)

For cable box control (Cable Mouse) users (KV-27V15/32V15 only) Refer to the supplied manual of Cable Mouse on how to set up your TV.

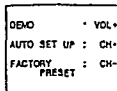
You can set up your TV easily by using AUTO SET UP feature. It presets all the receivable channels. To set up the TV manually, see "Setting cable TV on or off" (page 12) and "Presetting channels" (page 12). If the TV is set to a video input, you cannot execute AUTO SET UP. Press TV/VIDEO or TV so that a channel number appears.



- 1 Press POWER to turn the TV on.



- 2 Press SET UP on the front of the TV. The menu appears.



- 3 Press CH +.



"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, "AUTO PROGRAM" disappears and the lowest numbered channel is displayed. If the TV receives cable TV channels, CATV is set to ON automatically.

Note

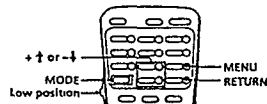
- If more than 90 seconds elapse after you press a button, the menu disappears automatically.

DEMO: To browse the main functions, Press VOL + in step 3. The functions and menus are displayed one by one.

FACTORY PRESET: To restore the factory settings when you are confused about the TV settings, Press CH- in step 3. The settings of picture and sound are restored to the factory setting.

Erasing or adding channels

After AUTOSET UP you can erase unnecessary channels or add the channels you want. Preset channels during the day rather than late at night, when some channels may not be broadcasting.



- 1 Press MENU.

The main menu appears.

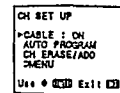
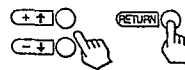


(continued)

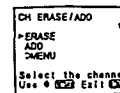
- 2 Press + + or - - to move the cursor (▶) to SET UP and press RETURN. The SET UP menu appears.



- 3 Press + + or - - to move the cursor (▶) to CH SET UP and press RETURN. The CH SET UP menu appears.



- 4 Press + + or - - to move the cursor (▶) to CH ERASE/ADD and press RETURN. The CH ERASE/ADD menu appears.



- 5 Erase and/or add the channel you want:

To erase an unwanted channel

- Make sure the cursor (▶) is beside ERASE.
- Press CH +/- to select the channel you want to erase and,



Selected channel number



- press RETURN.

The indication "-" appears beside the channel number, showing that the channel is erased from the preset memory.

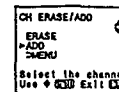


To add a channel that you want

- Press + + or - - to move the cursor (▶) to ADD.
- Press the 0-9 buttons to select the channel you want to add and press ENTER and,



Selected channel number



- press RETURN.

The indication "+" appears beside the channel number, showing that the channel is added to the preset memory.



- 6 To erase and/or add other channels, repeat step 5.

- 7 When you finish, press MENU.



Note

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

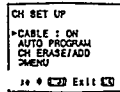
Setting cable TV on or off

For cable box control (Cable Mouse) users (KV-27V15/B2V15 only)
Refer to the supplied manual of Cable Mouse on how to set cable TV.

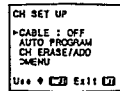
If you have connected the TV to a cable TV system, set CABLE to ON, the factory setting. If not, set CABLE to OFF.

You do not have to do this procedure if you execute AUTO SET UP (page 10). Do this procedure only when you want to set it manually.

- 1 Press MENU.
- 2 Press ++ or -- to move the cursor (▶) to SET UP and press RETURN.
- 3 Press ++ or -- to move the cursor (▶) to CH SET UP and press RETURN.



- 4 Set CABLE to ON or OFF:
(1) Make sure the cursor (▶) is beside CABLE and press RETURN.
If the cursor is not beside CABLE, press ++ or -- to move the cursor and press RETURN.
(2) Press ++ or -- to select ON or OFF and, press RETURN.



- 5 Press MENU to return to the original screen.

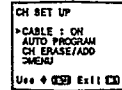
Note
• If CH SET UP appears in black, the TV is set to a video input and you cannot select CABLE. Press TV/VIDEO or TV so that a channel number appears.

Presetting channels

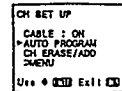
For cable box control (Cable Mouse) users (KV-27V15/B2V15 only)
Refer to the supplied manual of Cable Mouse on how to preset channels.

You can preset TV channels easily by AUTO PROGRAM feature.
You do not have to do this procedure if you execute AUTO SET UP (page 10). Do this procedure only when you want to set it manually.

- 1 Press MENU.
- 2 Press ++ or -- to move the cursor (▶) to SET UP and press RETURN.
- 3 Press ++ or -- to move the cursor (▶) to CH SET UP and press RETURN.



- 4 Press ++ or -- to move the cursor (▶) to AUTO PROGRAM and press RETURN.



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

- 5 Press MENU to return to the original screen.

Note
• If the CH SET UP menu appears in black, the TV is set to a video input and you cannot select AUTO PROGRAM. Press TV/VIDEO or TV so that a channel number appears.

Setting S video on or off

You can change the S VIDEO menu to ON or OFF.

- 1 Press TV/VIDEO to select VIDEO 1.
- 2 Press MENU.
- 3 Press ++ or -- to move the cursor (▶) to SET UP and press RETURN.
- 4 Press ++ or -- to move the cursor (▶) to S VIDEO and press RETURN.



- 5 Press ++ or -- to select ON or OFF and press RETURN.



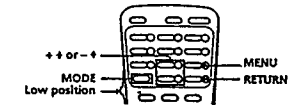
- 6 Press MENU to return to the original screen.

Notes
• If S VIDEO appears in black, set a video input to VIDEO 1.
• If you set S VIDEO to ON, the TV automatically receive S video signals whenever a VCR with S video is connected.

Changing the menu language

■ KV-29RS15 only

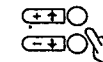
If you prefer Spanish to English, you can change the menu language.



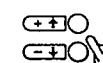
- 1 Press MENU.
The main menu appears.



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



- 3 Press ++ or -- to select ESPAÑOL and press RETURN.

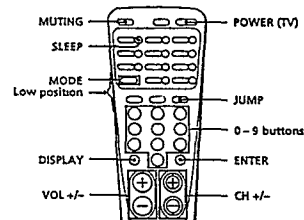


- 4 Press MENU to return to the original screen.

Note
• Certain parts of the ESPAÑOL menus remain in English.

Watching the TV

For cable box control (Cable Mouse) users (KV-27V15B2V15 only)
Refer to the supplied manual of Cable Mouse on how to watch the TV using the cable box control.



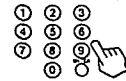
1 Press POWER (TV) to turn the TV on.



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

2 Select the channel you want:

To select a channel directly
Press the 0-9 buttons and then press ENTER.



The channel can also be selected without pressing ENTER.

To scan through channels

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



3 Press VOL +/- to adjust the volume.



Note

- Set the CABLE BOX/TV selector to TV.

Switching quickly between two channels

Press JUMP.

The channel you watched previously appears.



Pressing JUMP again switches back the channel.

Muting the sound

Press MUTING.

"MUTING" appears on the screen.



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

Displaying on-screen information

Use this feature to check the channel number, channel caption (if set), and MTS mode (if SAP is selected).

Press DISPLAY.



To cancel the display, press DISPLAY again.

Setting the Sleep Timer

The TV stays on for the length of time you specify and then shuts off automatically.

Press SLEEP repeatedly until the time (minutes) you want appears.

Each time you press SLEEP, the time changes as follows: 30 → 60 → 90 → OFF.

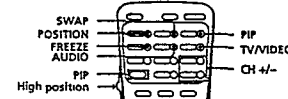


To cancel the Sleep Timer, press SLEEP repeatedly until "SLEEP OFF" appears, or turn the TV off.

Watching two programs at a time — PIP

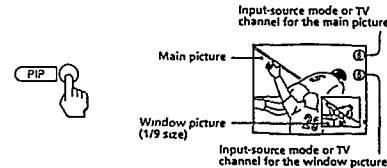
The Picture-in-Picture (PIP) feature allows you to watch both the main picture and a window picture simultaneously.

You can watch two TV channels at a time with this feature. See "Connecting an antenna/cable TV system with a VCR" (page 6) for connections.

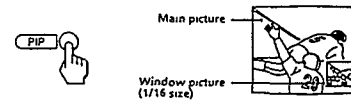


Displaying a window picture

Press PIP.



Press PIP again to display a smaller window picture.



To remove the window picture, press PIP again.

Notes

- If the main picture is not receiving an image, the window picture may be in black and white.
- The window picture may be affected by the condition of the main picture.
- The window picture sound is also output from the VARIABLE/FIX AUDIO OUT jacks when you listen to it.

Changing the window picture input mode

Press TV/VIDEO in the PIP control area to select the input mode.

Each time you press TV/VIDEO, "TV", "VIDEO 1", "VIDEO 2" and "VIDEO 3 (except for KV-27S15/29RS15)" appear in sequence.



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

Listening to the sound of the window picture

Press AUDIO.

The δ display appears for a few seconds, indicating that the window picture sound is being received.



To restore the main picture sound, press AUDIO again.

Changing TV channels in the window picture

Press CH +/- in the PIP control area.



Changing the position of the window picture

Press POSITION.

Each time you press POSITION, the window picture will move counterclockwise on the screen.



Freezing the window picture

This feature is useful when you want to write down a recipe from a cooking program, a displayed address or a phone number and so on.

Press FREEZE.

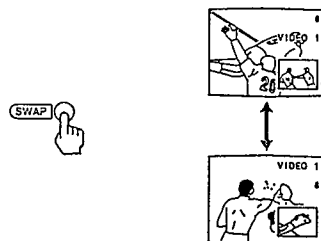


To restore the normal screen, press FREEZE again.

Swapping the main and window pictures

Press SWAP.

Each time you press SWAP, the images from the main and window pictures switch places along with the sound.

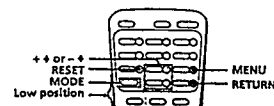


Note

- The channels being received through the AUX jack cannot be displayed as a window picture (KV-32V15 only).

Adjusting the picture (VIDEO)

When watching TV programs, you can adjust the quality of the picture to suit your taste. You can adjust the picture of video input(s) as well. These settings are stored separately from those for the TV picture.



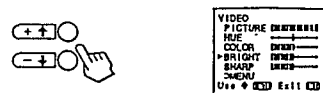
- Press MENU.
- Make sure the cursor (▶) is beside VIDEO and press RETURN.



- Select the item you want to adjust.

For example:

- To adjust brightness, press + + or - - to select BRIGHT and,



- press RETURN.



- Adjust the selected item:

- Press + + or - - to adjust the item and,



- press RETURN.

The new setting appears in the VIDEO menu.



For details on each item, see "Description of adjustable items" below.

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

Description of adjustable items

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

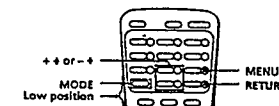
To restore the factory settings

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

Adjusting screen brightness automatically (LUMISPONDER)

■ KV-27V15/32V15 only

The LUMISPONDER feature adjusts the brightness of the screen automatically according to the ambient brightness. The LUMISPONDER function automatically adjusts the level set by the user in the VIDEO menu to the standard.



- Press MENU.
- Press + + or - - to select VIDEO and press RETURN.
- Press + + or - - to select LUMISPONDER and press RETURN.

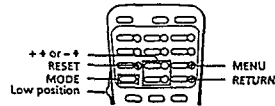


- Press + + or - - to select ON or OFF and press RETURN.



Adjusting the sound (AUDIO)

You can adjust the quality of the TV sound to suit your taste. You can adjust the sound of video input(s) as well. These settings are stored separately from those for the TV sound.



- 1 Press MENU.
- 2 Press ++ or -- to select AUDIO and press RETURN.



- 3 Select the item you want to adjust. For example: (1) To adjust bass, press ++ or -- to select BASS and,



- (2) press RETURN.



- 4 Adjust the selected item: (1) Press ++ or -- to adjust the item and,



- (2) press RETURN. The new setting appears in the AUDIO menu.



For details on each item, see "Description of adjustable items" below.

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

Description of adjustable items

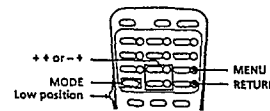
Item	Press ++ to	Press -- to
TREBLE	Increase the treble response	Decrease the treble response
BASS	Increase the bass response	Decrease the bass response
BALANCE	Emphasize the right speaker's volume	Emphasize the left speaker's volume

To restore the factory settings Press RESET while the AUDIO menu is displayed.

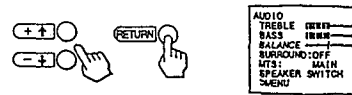
Note
 • When SPEAKER (page 20) is OFF and AUDIO OUT (page 20) is FIXED condition, the sound is set to mid-level and it cannot be adjusted.

Listening to surround sound (SURROUND)

SURROUND feature simulates sound reproduction with the atmosphere of a movie theater or a concert hall. Surround sound is only effective for stereo programs.



- 1 Press MENU.
- 2 Press ++ or -- to select AUDIO and press RETURN.
- 3 Press ++ or -- to select SURROUND and press RETURN.

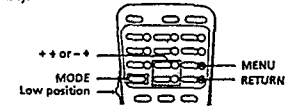


- 4 Press ++ or -- to select ON and press RETURN.



Selecting stereo or bilingual programs (MTS)

The Multichannel TV Sound (MTS) feature allows you to enjoy stereo sound or Second Audio Programs (SAP) at your choice. The initial setting is stereo sound (MAIN).



- 1 Press MENU.
- 2 Press ++ or -- to select AUDIO and press RETURN.
- 3 Press ++ or -- to select MTS and press RETURN.



- 4 Press ++ or -- to select MAIN, SAP, or MONO and press RETURN.

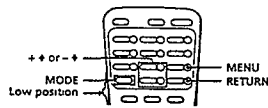


Choose	To
MAIN	Listen to stereo sound. The STEREO indicator on the TV lights up while a stereo broadcast is received.
SAP	Listen to bilingual programs. The sound of non-SAP programs will be muted when SAP is selected.
MONO	Reduce noise during stereo broadcasts.

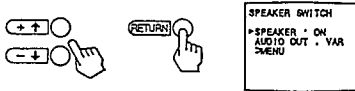
Note
 • Stereo and SAP sounds are subject to program sources.

Setting the speaker switch (SPEAKER)

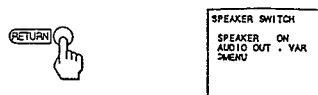
You may switch off the TV speakers when, for example, you want to listen to the sound through a stereo system.



- 1 Press MENU.
- 2 Press + + or - - to select AUDIO and press RETURN.
- 3 Press + + or - - to select SPEAKER SWITCH and press RETURN.



- 4 Make sure the cursor (▶) is beside SPEAKER and press RETURN.

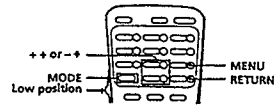


- 5 Press + + or - - to select ON or OFF and press RETURN.

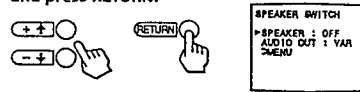


Setting audio out (AUDIO OUT)

You can select audio out to variable or fixed when SPEAKER is set to OFF. Audio out is variable when SPEAKER is set to ON.



- 1 Press MENU.
- 2 Press + + or - - to select AUDIO and press RETURN.
- 3 Press + + or - - to select SPEAKER SWITCH and press RETURN.



- 4 Press + + or - - to select AUDIO OUT and press RETURN.



- 5 Press + + or - - to select VAR or FIXED and press RETURN.



VAR: Sound output varied according to the TV settings. You can adjust the volume, bass, treble and balance.

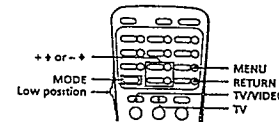
FIXED: Sound output is always fixed to a certain level. You cannot adjust the volume.

Customizing the channel number buttons (CH CAPTION/GUIDE)

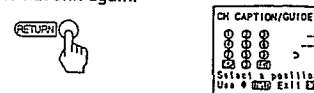
For cable box control (Cable Mouse) users (KV-27V15/B2V15 only)
Make the setting of Cable Mouse before customizing the channel number buttons.

You can choose up to 12 channels, caption each channel, and assign a specific channel number button to each channel. This feature allows you to select your favorite channels easily by name. For example, you can name channel 20 "ESPN," and assign the channel number 4 button to it.

Setting captions to favorite channels



- 1 Press TV/VIDEO or TV to select TV mode.
- 2 Press MENU.
- 3 Press + + or - - to select SET UP and press RETURN.
- 4 Press + + or - - to select CH CAPTION/GUIDE and press RETURN.
- 5 Press RETURN again.



- 6 Press + + or - - to select a channel guide number button and press RETURN. Each time you press + + or - -, the channel positions change to red in turns. The channel number button you select will be the one you press to call up your favorite channel.



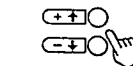
- 7 Press + + or - - to select the channel that you want to caption and press RETURN.



- 8 Enter the letters (up to four) to caption the channel:

(1) Press + + or - - to select the first letter. Each time you press + + or - -, the letter changes as shown below and,

0 → 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 → Q → R → S → T → U → V → W → X → Y → Z → & → / → _ (blank space)



- (2) press RETURN.



- (3) Repeat steps (1) and (2) to select the remaining letters and press RETURN.



(continued)

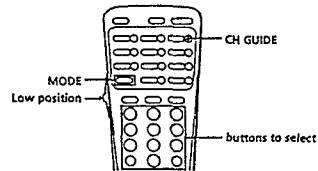
9 Repeat step 5 to 7 to caption other channels.

To erase a caption
Press RESET after step 5.

NOTE

- The position number you already selected appears in yellow.
- If the CH CAPTION/GUIDE menu appears in black, the TV is set to a video input and you cannot select CH CAPTION/GUIDE.
- If more than 90 seconds elapse after you press a button, the menu disappears automatically.

Selecting a captioned channel



1 Press CH GUIDE.
The CHANNEL GUIDE menu appears showing channel captions and the corresponding channel number buttons.



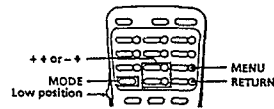
2 Press a channel number button, the DISP or ENT button to select the channel you want.

To cancel the CHANNEL GUIDE menu
Press CH GUIDE again.



KV-27V15I32S15I32V15 only

This feature allows you to label each input mode so that you can easily identify the connected equipment. For example, you can label VIDEO 1 IN as VHS.



- 1 Press MENU.
- 2 Press + + or - - to select SET UP and press RETURN.
- 3 Press + + or - - to select VIDEO LABEL and press RETURN.
- 4 Press + + or - - to select the input mode you want to label and press RETURN.



5 Press + + or - - to select the label and press RETURN.



Each time you press + + or - -, the label changes as shown below.

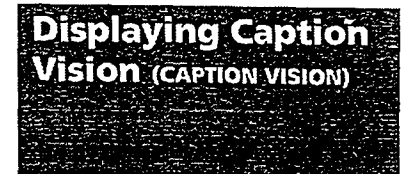
VIDEO 1
VIDEO 1 → S VIDEO → BETA → 8 mm → VHS → LD

VIDEO 2
VIDEO 2 → BETA → 8 mm → VHS → LD

VIDEO 3
VIDEO 3 → BETA → 8 mm → VHS → LD

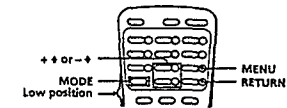
6 Repeat steps 4 and 5 to label other input modes.

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



KV-27S15I27V15I32S15I32V15 only

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



- 1 Press MENU.
- 2 Press + + or - - to select CAPTION VISION and press RETURN.



3 Press + + or - - to select the caption type and press RETURN.

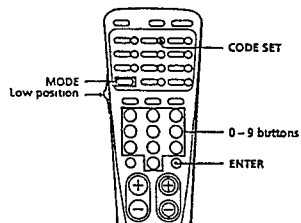


Note
• Captions may appear with a white box or another error instead of a certain word. Poor reception of TV programs can also cause errors in Caption Vision.

Operating video equipment

You can operate video equipment that has an infrared remote sensor with the supplied remote commander. For the operations, set the manufacturer's code number.

Setting the manufacturer's code



While pressing CODE SET, press 0 - 9 to enter the manufacturer's code number (see the chart in the right column). For example, to operate a Sony 8 mm VCR, press 0, 2 and ENTER.



The code numbers for Sony equipment are assigned as follows:

- 01 Beta, ED Beta VCR
- 02 8 mm VCR
- 03 VHS VCR (Factory preset of Remote Commander.)

VCR Manufacturer Code numbers

Manufacturer	Code number
SONY	01, 02, 03
CANON	05
EMERSON	22, 30, 33
FISHER	10, 11, 12, 15
FUNAI	29
GENERAL ELECTRIC	05, 08
GOLDSTAR	25
HITACHI	07, 08, 36
JVC	16, 35
MAGNAVOX	05, 06, 09
MITSUBISHI	18, 19, 26, 27
MULTITECH	29
NEC	16, 23, 31
PANASONIC	05, 06
PHILCO	05, 06
PHILIPS	05, 06, 09
QUASAR	05, 06
RCA	07, 08
SAMSUNG	24, 32
SANYO	11, 15
SCOTT	21
SHARP	13, 14
SHENTOM	34
SYLVANIA	05, 06, 09
SYMPHONIC	29
TEKNIKA	28, 29
TOSHIBA	20, 21
TOTE VISION	25
ZENITH	17

MDP manufacturer code numbers

Manufacturer	Code number
SONY	04
KENWOOD	58
MAGNAVOX	52
MARANZ	54
MITSUBISHI	51
PANASONIC	55
PHILIPS	52
PIONEER	51
RCA	51
SANYO	57
SHARP	56
YAMAHA	53

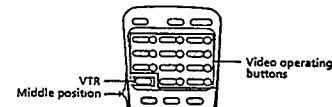
Notes

- If more than one code number is listed, try entering them one by one, until you come to the correct code for your equipment.
- In some rare cases, you may not be able to operate your non-Sony video equipment with this remote commander. This is because your equipment may use a code that is not provided with this remote commander. In this case, please use the equipment's own remote control unit.

Caution

When you remove a battery from the remote commander, the code may revert to 03. Reset the code each time you replace the battery, if necessary.

Operating video equipment



Use the video operating buttons on the remote commander to operate the video equipment.

Operating a VCR	Buttons on the remote commander
To turn on or off	Press POWER
To change channels	Press CH +/-
To record	Press ● and REC simultaneously
To play	Press ►
To stop	Press ■
To fast forward	Press ►►
To rewind the tape	Press ◄◄
To pause	Press
To search the picture forward and backward	Press ►► or ◄◄ during playback

Operating the laser-disc player	Buttons on the remote commander
To play	Press ►
To stop	Press ■
To pause	Press
To search the picture forward and backward	Keep pressing ►► or ◄◄ during playback
To search the chapter	Press CH +/-

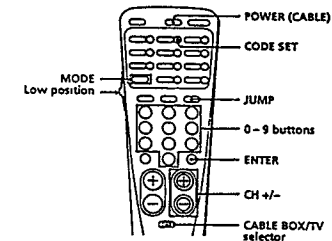
Note

- If the video equipment does not have a certain function, the corresponding button on this remote commander will not operate.

Operating a cable box

For cable box control (Cable Mouse) users (KV-27M15B2V15 only)
Set the CABLE BOX/TV selector to TV.

Follow these instructions to set the manufacturer's code which will enable you to operate a connected cable box with the pre-programmed remote commander. For example, you can set the remote commander to operate a connected Zenith cable box.



1 Set the CABLE BOX/TV selector to CABLE BOX.

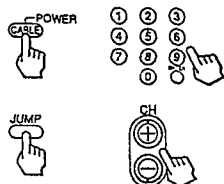


2 While pressing CODE SET, press 6 and 8 (Zenith's code number—see chart on the next page) and ENTER.



(continued)

- 3 Use POWER(CABLE) and the TV control buttons (0 - 9, ENTER, JUMP and CH +/-) to operate the cable box.



To operate the TV
Set the CABLE BOX/TV selector to TV. Then use the TV control buttons to control the TV.

For more details on operating the cable box
Refer to the operating instructions that come with the cable box.

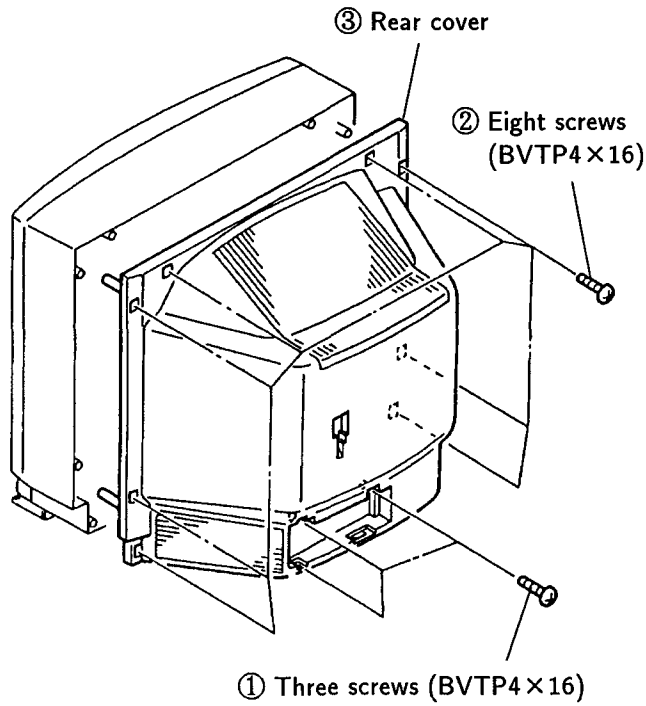
Manufactures and code numbers (cable box)	
Manufacturer	Code number
JERROLD	60, 61, 62, 63, 64, 65, 73
PIONEER	69, 70
SCIENTIFIC ATLANTA	66, 67
TOCOM	71, 72
ZENITH	68

Notes

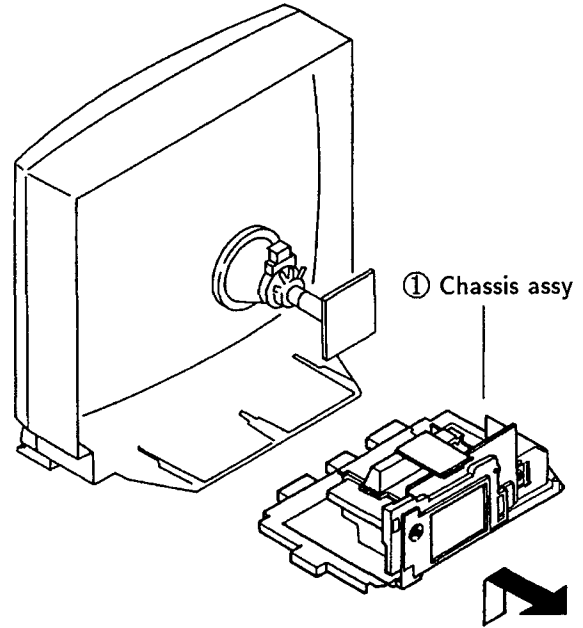
- If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.
- If you enter a new code number, the code number you previously entered at that setting is erased.
- In some cases, your equipment may use a code that is not provided with this remote commander and you may not be able to operate your cable box with the supplied remote commander. In this case, use the equipment's own remote control unit.
- When you remove a battery from the remote commander, the code may be erased. Reset the code each time you replace the battery, if necessary.

SECTION 2 DISASSEMBLY

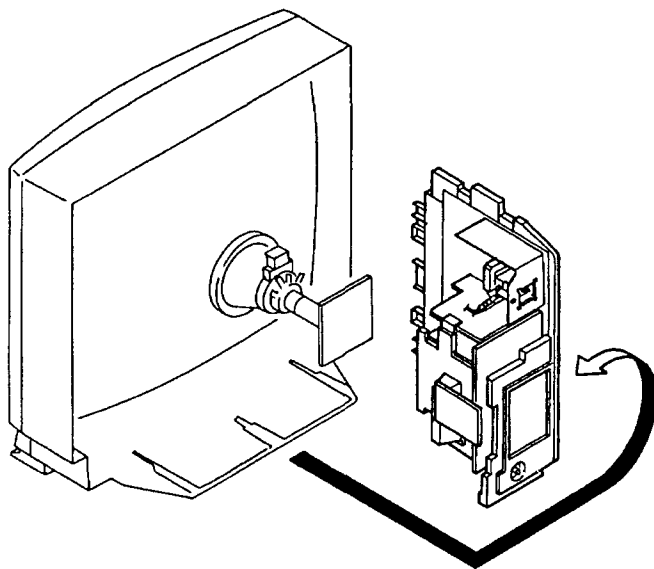
2-1. REAR COVER REMOVAL



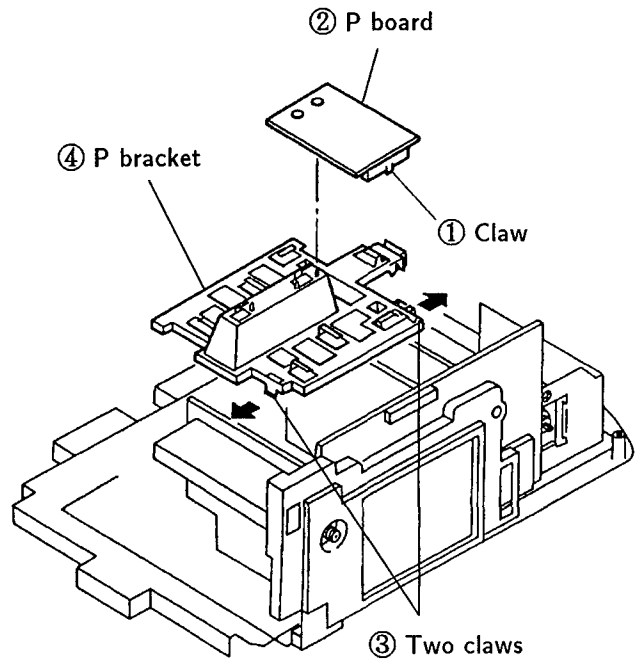
2-2. CHASSIS ASSY REMOVAL



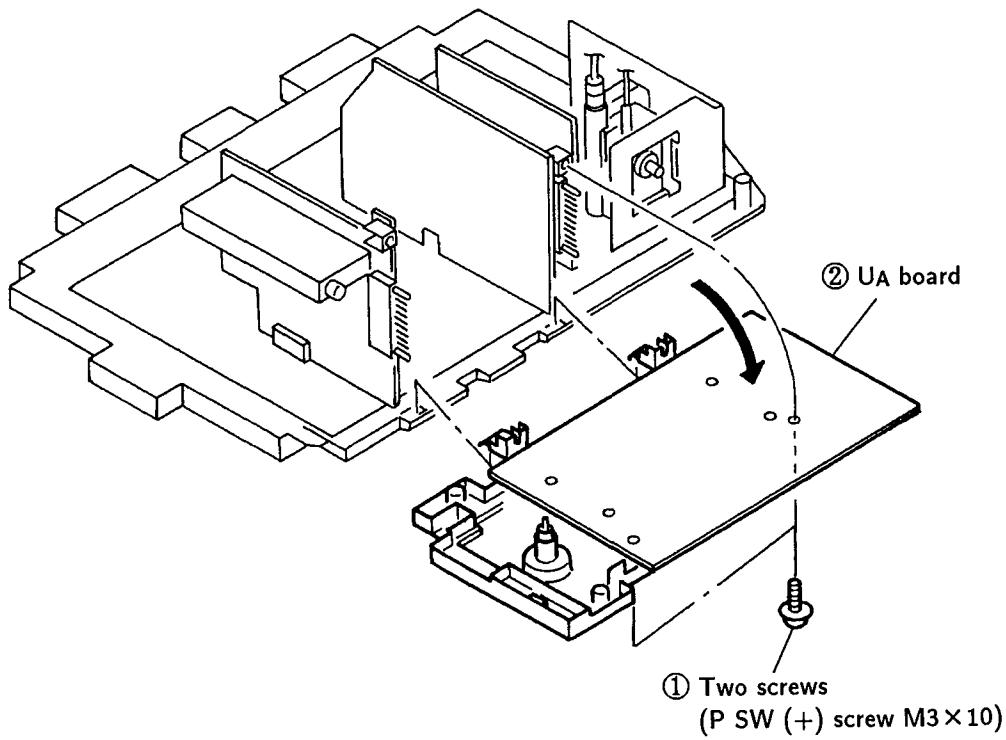
2-3. SERVICE POSITION



2-4. P BOARD AND P BRACKET REMOVAL (KV-27S15/29RS15/32S15 only)

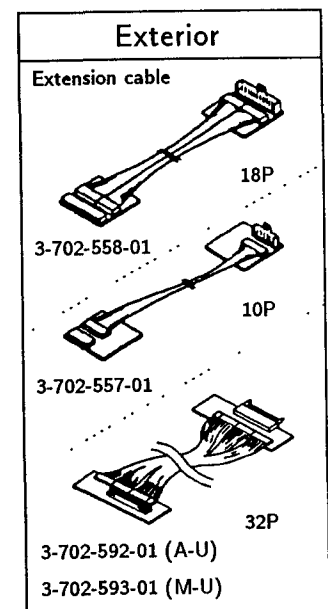
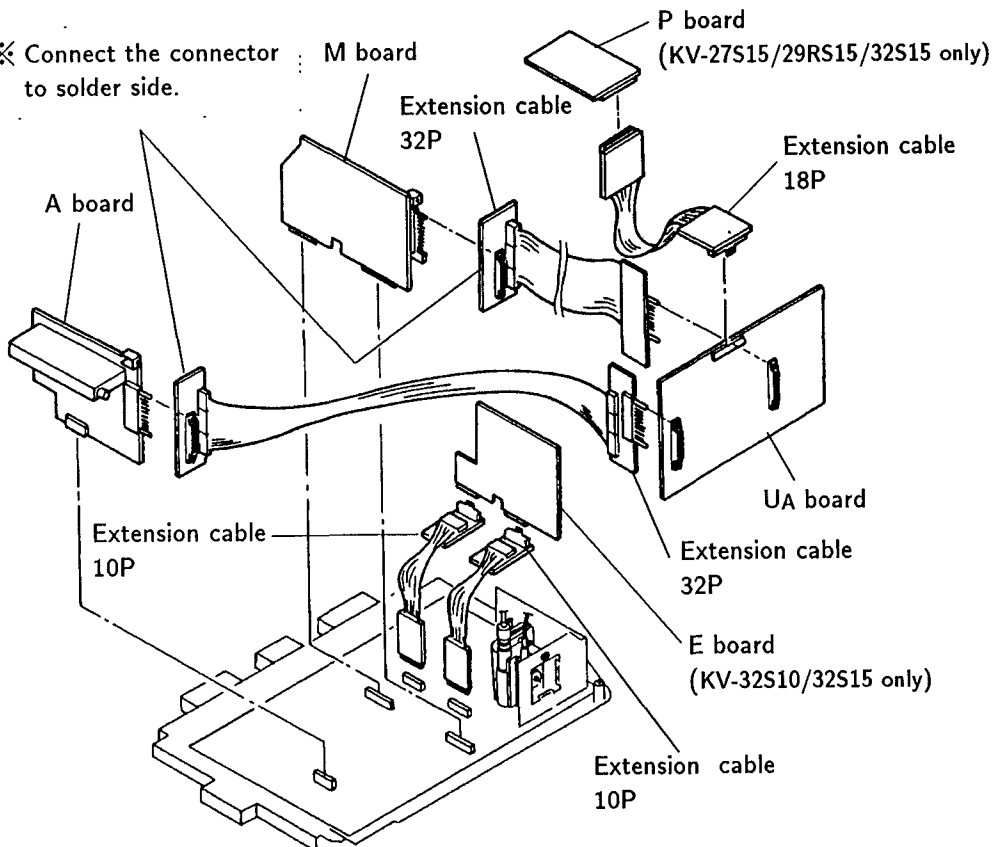


2-5. UA BOARD REMOVAL

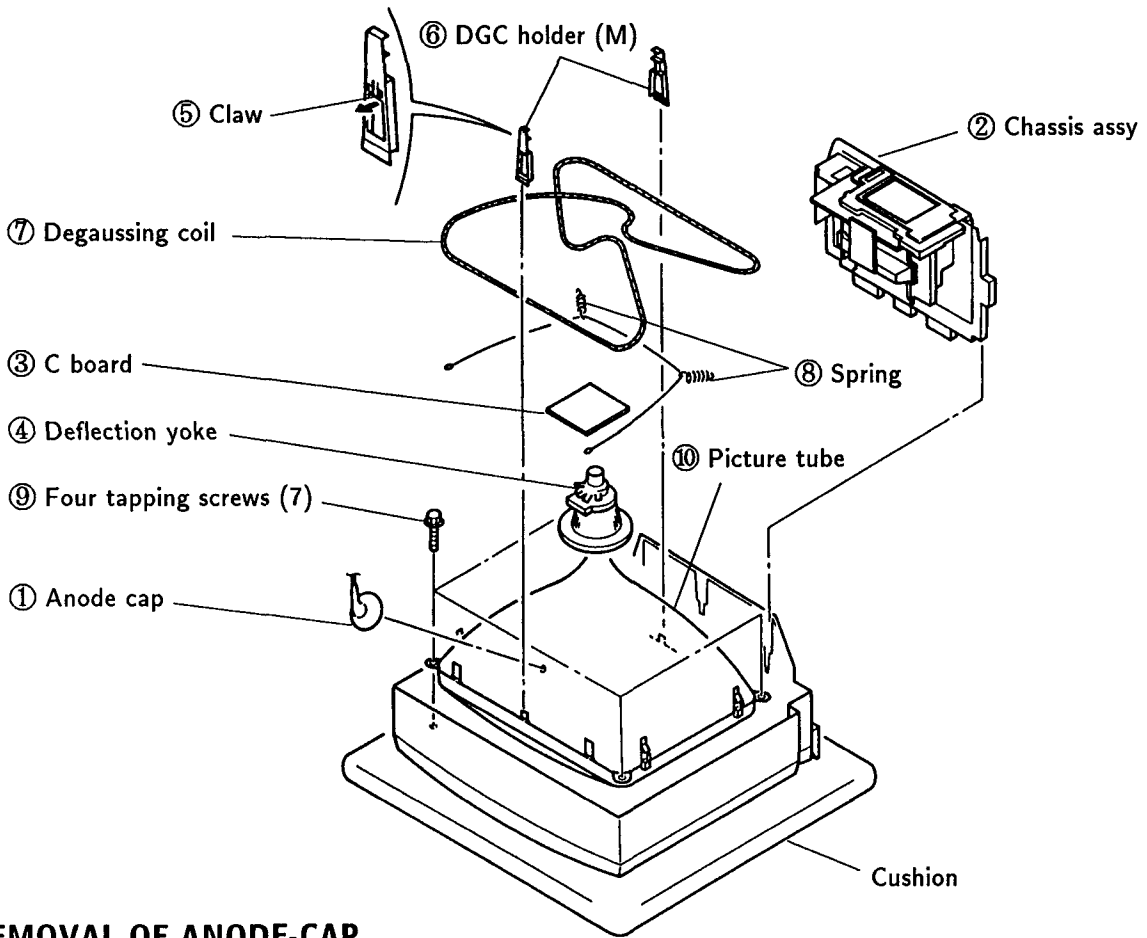


2-6. EXTENSION CABLE

※ Connect the connector to solder side.



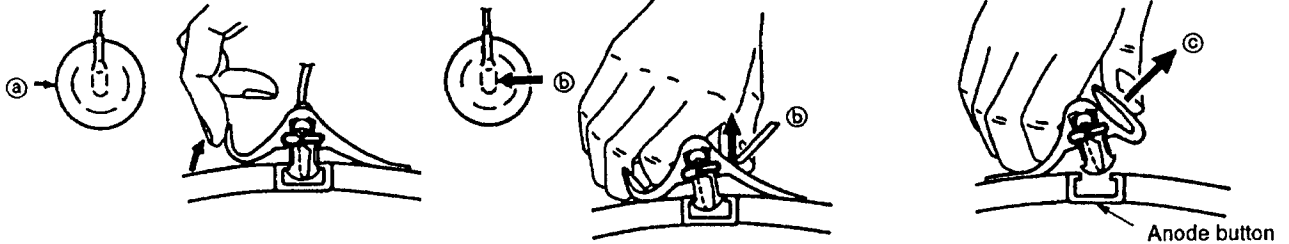
2-7. PICTURE TUBE REMOVAL (1) (KV-27S10/27S15/29RS10/29RS15 only)



• REMOVAL OF ANODE-CAP

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

• REMOVING PROCEDURES



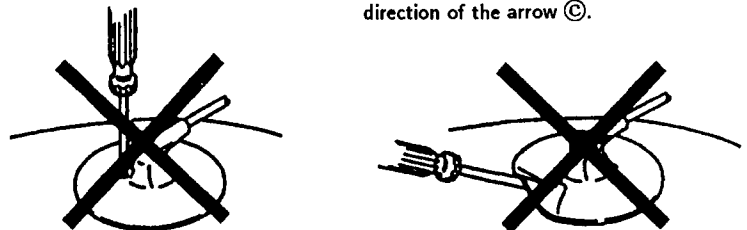
① Turn up one side of the rubber cap in the direction indicated by the arrow ①.

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

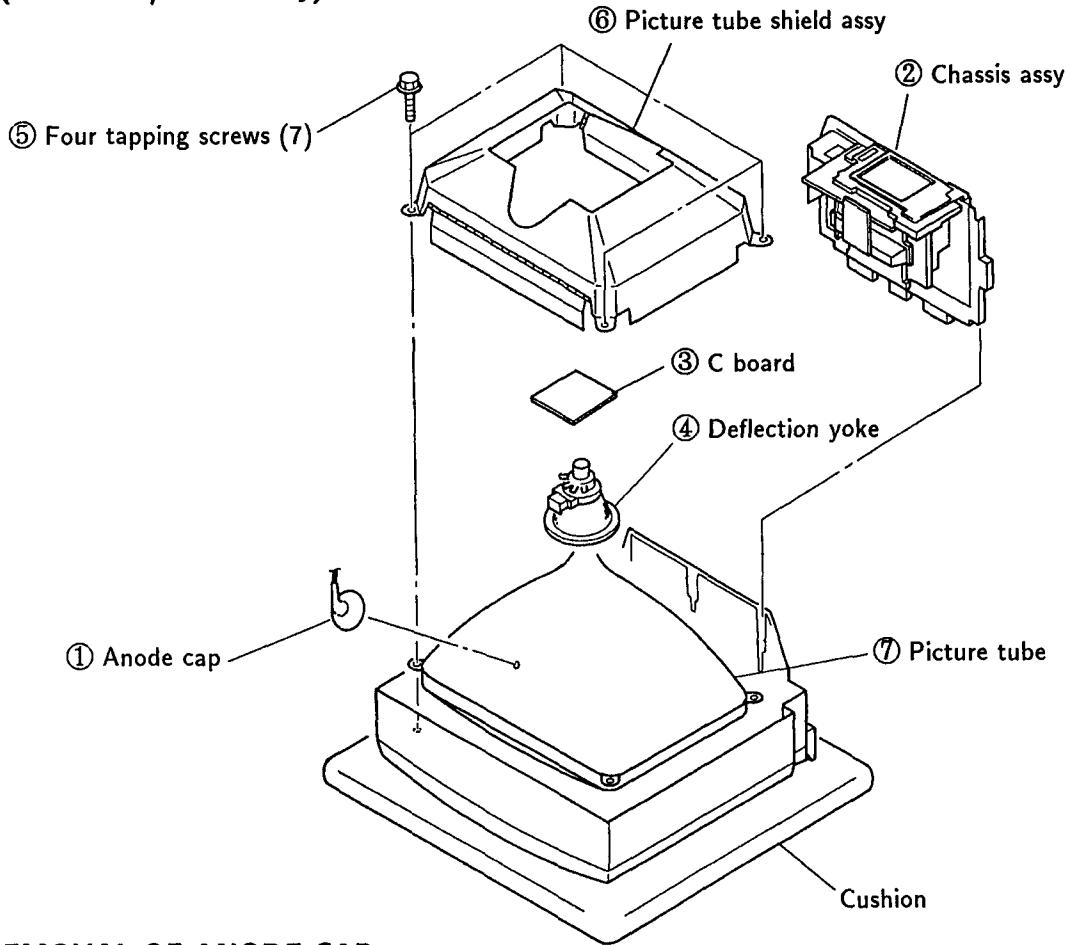
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ③.

• HOW TO HANDLE AN ANODE-CAP

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



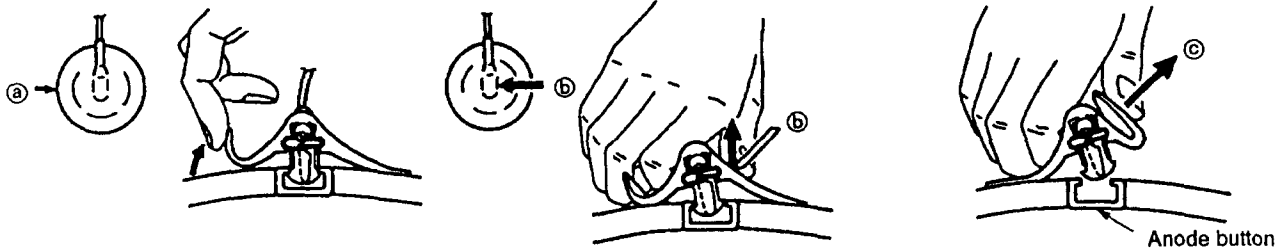
2-7. PICTURE TUBE REMOVAL (2) (KV-32S10/32S15 only)



• REMOVAL OF ANODE-CAP

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

• REMOVING PROCEDURES



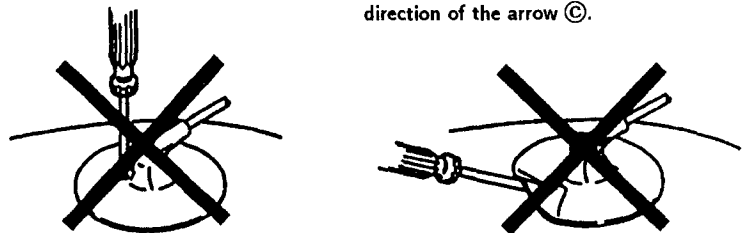
① Turn up one side of the rubber cap in the direction indicated by the arrow ①.

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

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

• HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardy 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.

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

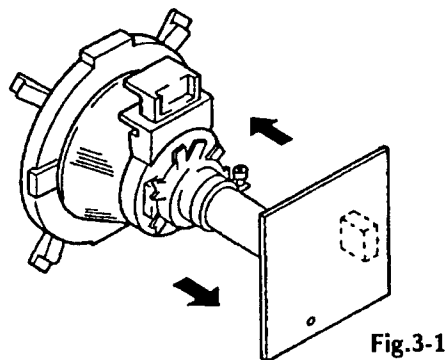
PICTURE control RESET
 BRIGHTNESS control center

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
 Contrast } normal
 Bightness } normal
2. Set the pattern generator raster signal to green.
3. Move the deflection yoke to the rear and adjust with the purity control so that the green is at the center and the blue and the red take up equally sized areas on each side.
 (See Figures 3-1 through 3-3.)
4. Move the deflection yoke forward and adjust so that entire screen is green. (See Figure 3-1.)
5. Switch the raster signal to blue, then to red and verify the condition.
6. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
7. If the beam does not land correctly in all the corners, use a magnet to adjust it.
 (See Figure 3-4.)

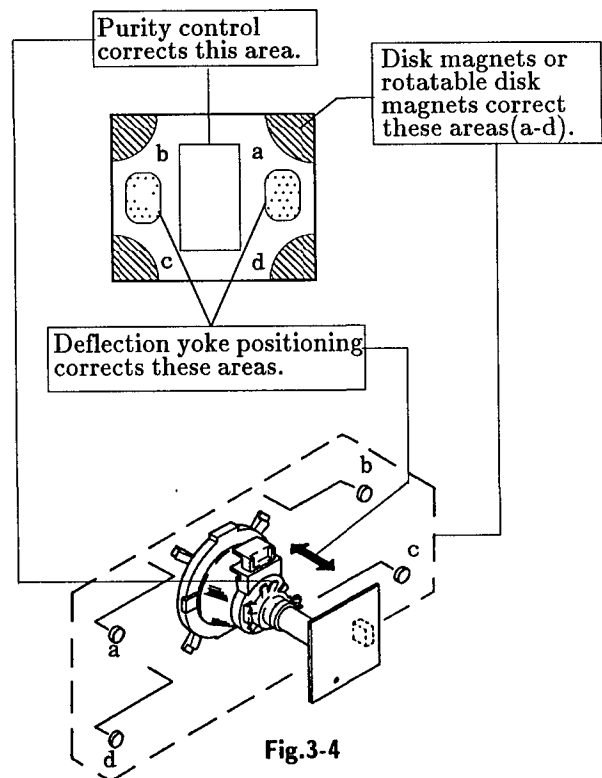
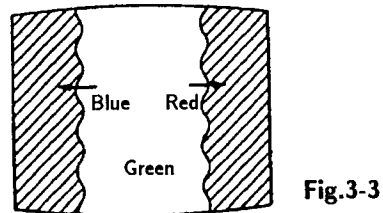
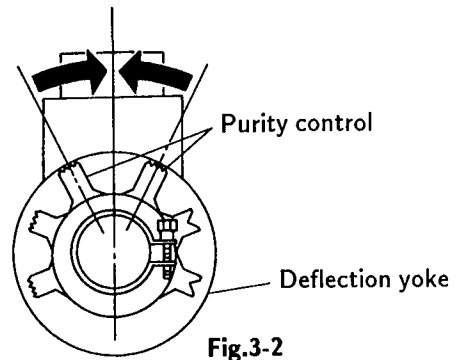


Perform the adjustments in order as follows :

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

Note : Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser
3. Oscilloscope

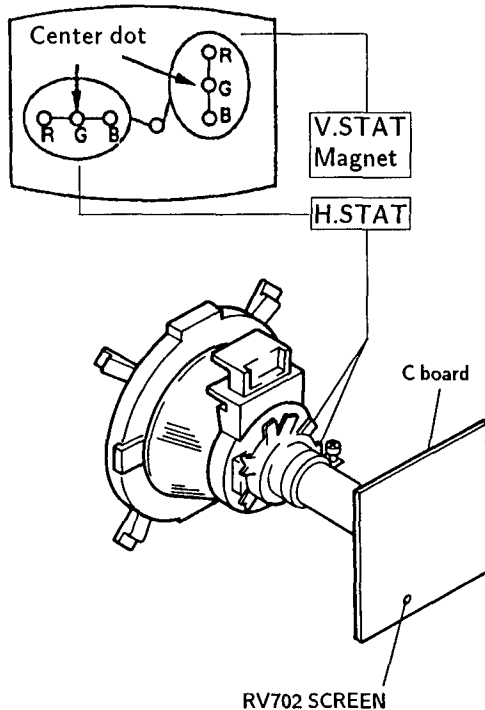


3-2. CONVERGENCE

Preparation :

- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and Vertical Static Convergence



1. V. STAT Adjustment

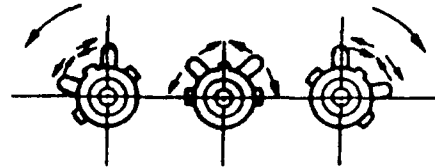
Turn the V. STAT tabs to left or right so that the vertical red, green and blue dots converge in the center of the screen.

2. H. STAT Adjustment

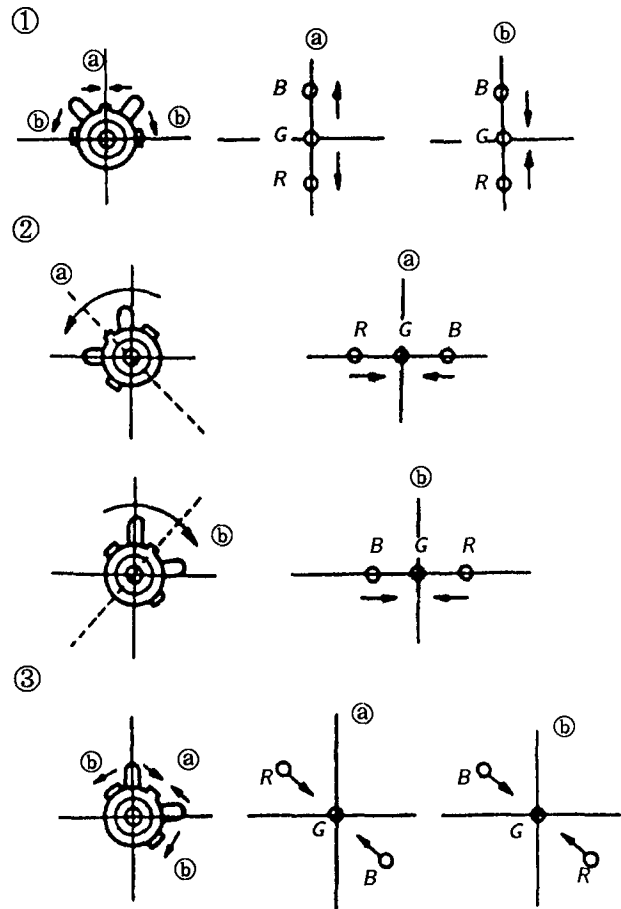
Simultaneously turn the 2 V. STAT tabs in the same direction so that the horizontal red, green and blue dots converge in the center of the screen.

Note : Do not move the purity tab during adjustment with the V. STAT tab. If the purity tab is moved, the convergence condition will change, and possibly lead to misadjustment of a different yoke.

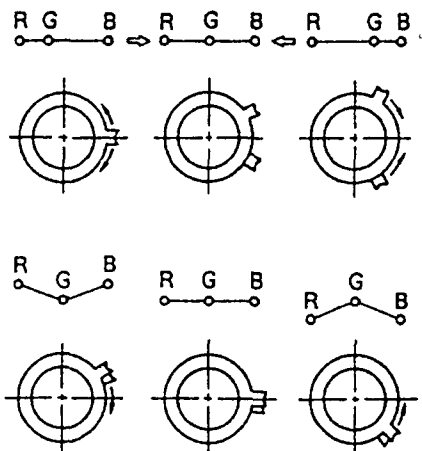
- Tilt the V. STAT tabs and adjust the static convergence by turning the V. STAT tabs to the left or right.



- The V. STAT tabs are moved in the direction of the (a) and (b) arrows and the red, green and blue points move as shown below.



● Operation of BMC (Hexapole) Magnet

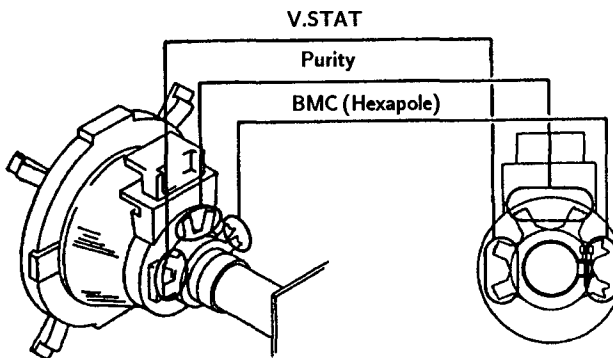


- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking. Use the V.STAT tabs to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

(2) Dynamic Convergence Adjustment

Preparations :

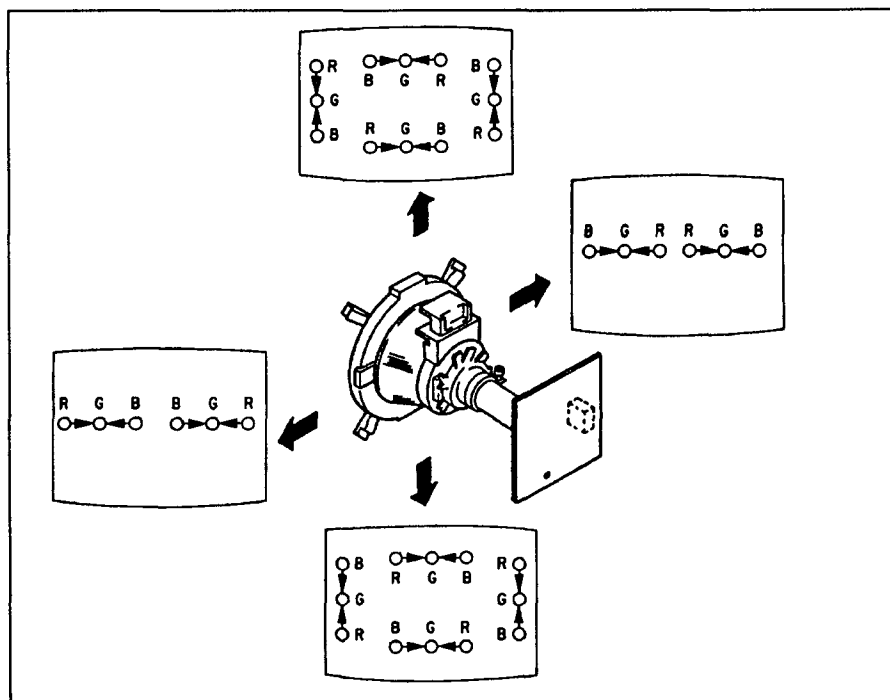
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.
1. Slightly loosen the deflection yoke screws.
 2. Remove the deflection yoke spacer.



● Y separation axis correction magnet adjustment

1. Receive the cross-hatch signal, and adjust [PIX] to "MIN" and [BRT] to "standard".
2. Adjust the deflection yoke to the upright condition when it hits the CRT.
3. Adjust so that the Y separation axis correction magnet on the neck assembly is symmetrical at the top and bottom (open state).
4. Return the deflection yoke to its original position.

3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.

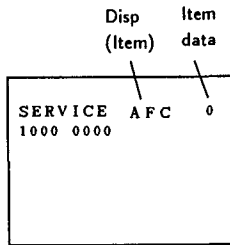


(3) Dynamic Convergence Circuit Adjustment

SERVICE MODE PROCEDURE

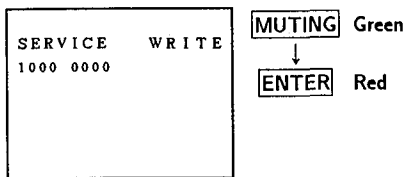
- Standby mode. (Power off)
- DISPLAY** → **5** → **VOL (+)** → **POWER** on the Remote Commander. (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN

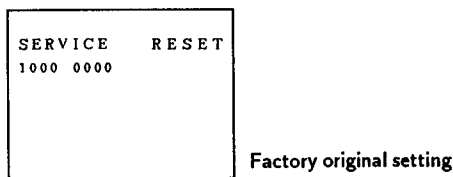


- The CRT displays the item Being adjusted.
- Press **1** or **4** on the Remote Commander to select the item.
- Press **3** or **6** on the Remote Commander to change the data.
- Press **MUTING** then **ENTER** to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



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



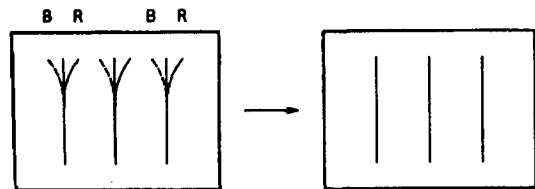
- Turn set off and on to exit.

- Set to Service Mode.
- Input a cross-hatch signal.
- Press **1** and **4** select an item of adjustments.
- Adjust **3** and **6** to the best picture.

No.	Disp.	Item	Ave.Data
40	UYBO	Upper Y-Bow	31
41	LYBO	Lower Y-Bow	25
42	HAMP	H. Amp	33
43	HTIL	H. Tilt	33
44	UCBO	Upper C-Bow	38
45	UTIL	Upper Tilt	40
46	LCBO	Lower C-Bow	41
47	LTIL	Lower Tilt	46
48	DCSH	DC Shift	37

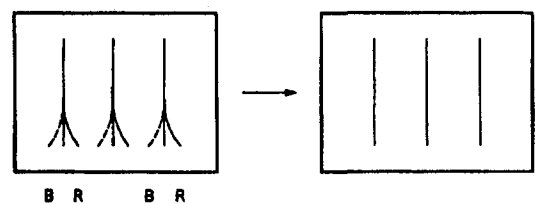
U. YBOW

Select UYBO with **1** and **4**



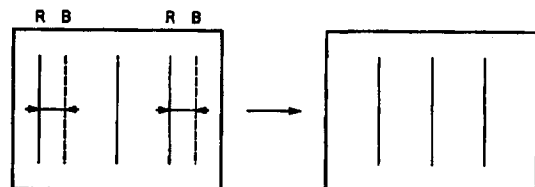
L. YBOW

Select LYBO with **1** and **4**



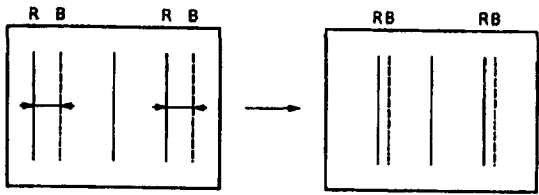
H. AMP

Select HAMP with **1** and **4**

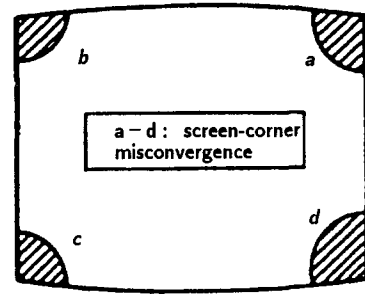


H. TILT

Select HTILT with 1 and 4

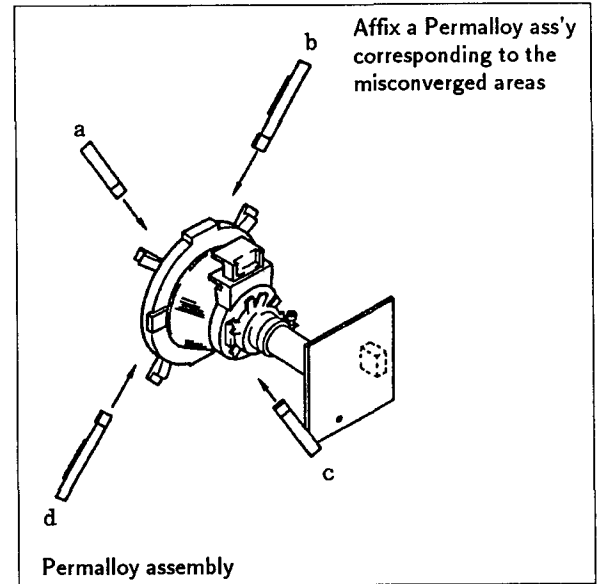
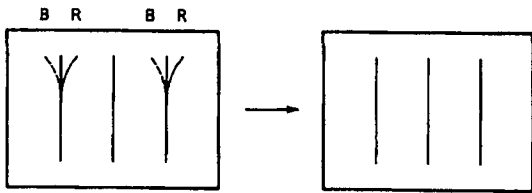


(4) Screen-corner Convergence



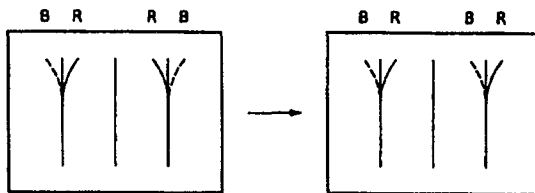
U. CBOW

Select UCBO with 1 and 4



U. TILT

Select UTIL with 1 and 4

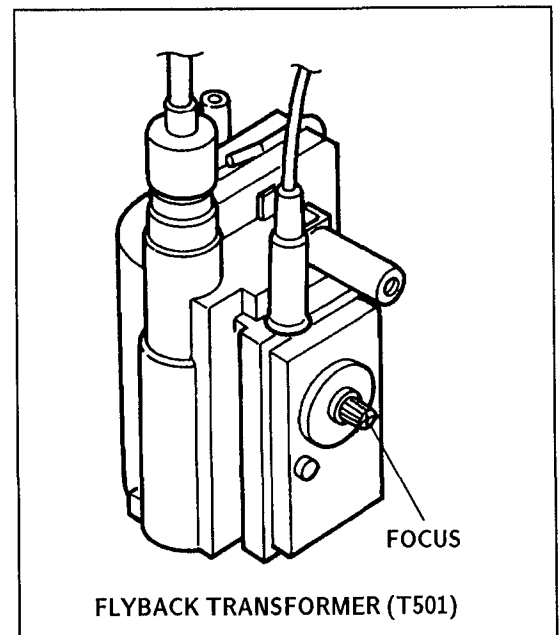
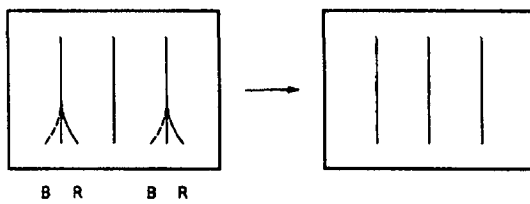


3-3. FOCUS ADJUSTMENT

Adjust FOCUS control on the flyback transformer for a best focus.

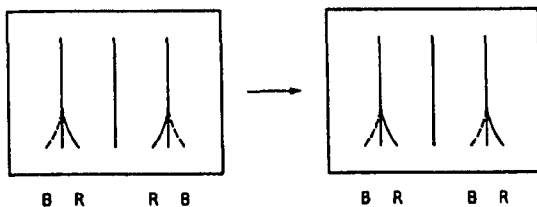
L. CBOW

Select LCBO with 1 and 4



L. TILT

Select L. TIL with 1 and 4



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

1. G 2 (SCREEN) ADJUSTMENT(RV 702)

1. Set the PICTURE and BRIGHTNESS to normal.
2. Apply DC voltage of 170 V to the cathodes of R,G and B from DC stabilized power source.
3. While watching the picture, adjust the G2 control (RV 702) to the just the retrace line disappears.

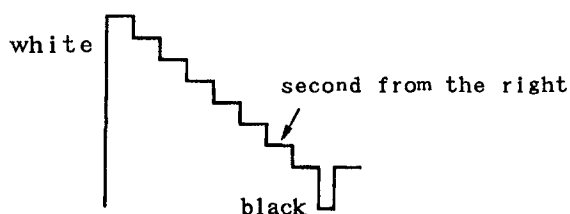
2. WHITE BALANCE ADJUSTMENTS

No.	Disp.	Item	Ave. Data
14	GAMP	Green Amp	20
15	BAMP	Blue Amp	17
16	GCUT	Green Cut-off	7
17	BCUT	Blue Cut-off	8
22	SBRT	Sub Bright	35

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

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 SBRT with **[1]** and **[4]**, and adjust SUB BRIGHT level with **[3]** and **[6]** so that the stripe second from the right is dimly lit.



SECTION 4 SAFETY RELATED ADJUSTMENTS

☒ R511 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, R338, R511, R632, R645, R650

- ①
1. Preparation before confirmation
 - 1) Remove R635 on the D board and connect a variable resistor (RV1: about $4.7k\Omega$ - $10k\Omega$) between pin ① of IC601 and B+ line.
 - 2) Supply $130 \pm 2.0V$ AC to with variable auto-transformer.
 2. Hold-down operation confirmation
 - 1) Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to $1760 \pm 50\mu A$ with PICTURE and BRIGHT etc controls.
 - 2) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than $142.5V$ DC (27 inch) $140.0V$ DC (32 inch) 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 $160 \pm 50\mu A$ with PICTURE and BRIGHT etc controls.
 - 4) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than $145.0V$ DC (27 inch), $143.5V$ DC (32 inch) 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 R511 (a component marked with ☒).

☒ R524 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).
 IC601, PM501, D504, C598, R338, R509, R524, R632, R635, R645, T501

- ②
1. Preparation before confirmation
 - 1) Turn the POWER switch ON, and receive entirely white signals and set the PICTURE and BRIGHT controls to maximum.
 - 2) Confirm that voltage of the check terminal of TP-85 (D BOARD) is more than $114.0V$ DC (27 inch) $122.3V$ DC (32inch) when the set is operating normally with $120.0 \pm 2.0V$ AC supply.
 2. Hold-down operation confirmation
 - 1) Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to $1760 \pm 50\mu A$ with PICTURE and BRIGHT etc controls .
 - 2) Apply DC voltage of over $130.0V$ DC gradually to the check terminal of TP-85 (D BOARD) via 1T40 from the DC stabilized power source. Confirm that the minimum voltage is less than $137.5V$ DC (27inch) $143.5V$ DC (32inch) 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 $160 \pm 50\mu A$ with PICTURE and BRIGHT etc controls .
 - 4) Apply DC voltage of over $130.0V$ gradually to the check terminal of TP-85 (D BOARD) via 1 T40 from the DC stabilized power source. Confirm that the minimum voltage is less than $138.0V$ DC (27inch) $144.1V$ DC (32inch) 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

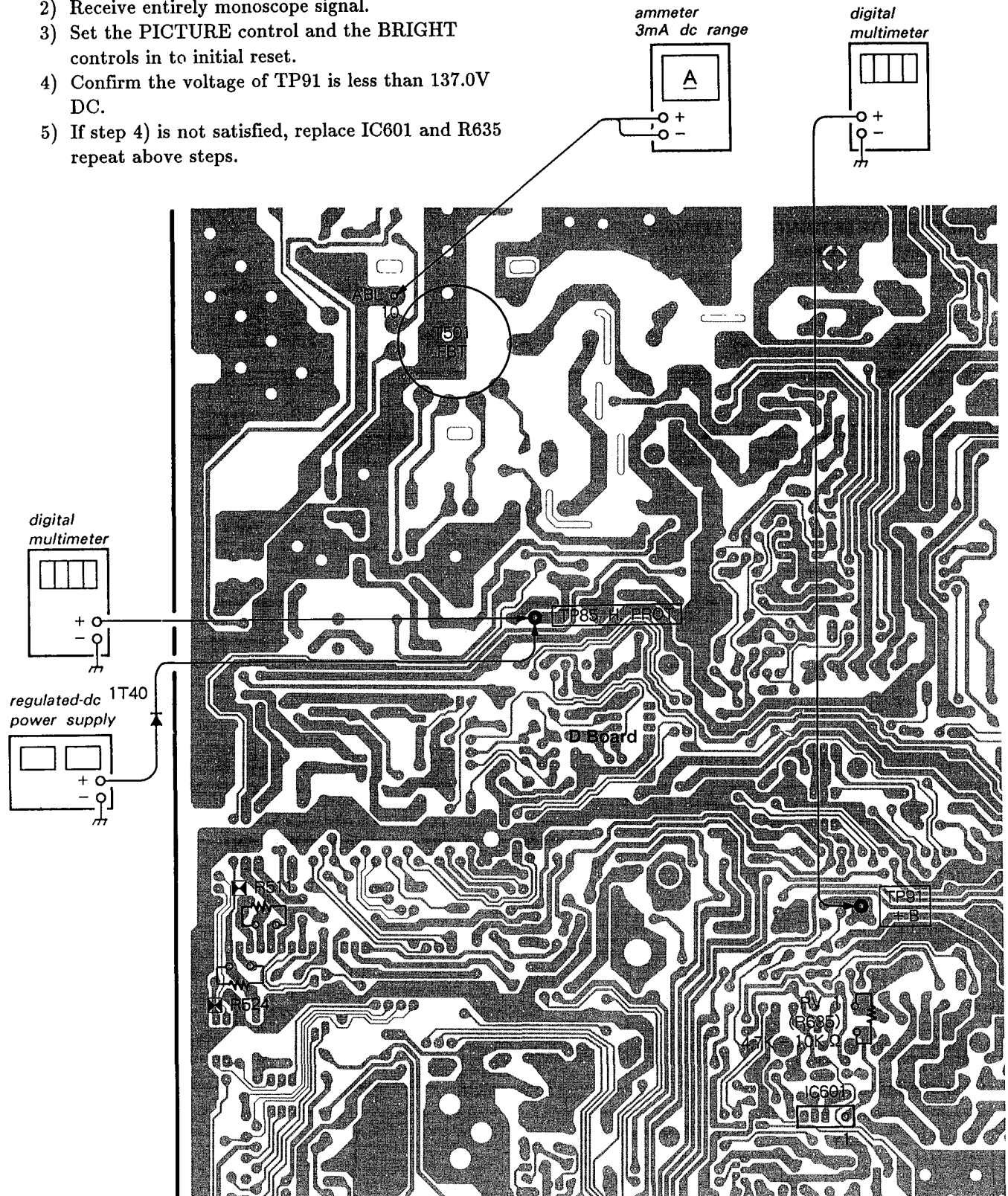
When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R524 (a component marked with ☒).

B+ VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC601 and R635.

- 1) Supply $130 \pm 2\%$ V AC to with variable autotransformer.
- 2) Receive 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 IC601 and R635 repeat above steps.

* Use a digital multimeter whose input impedance over 100 M Ω when confirming the voltage of the protector terminal of TP85.



SECTION 5 CIRCUIT ADJUSTMENTS

5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use of Remote Commander can be performed circuit adjustments about this model.

NOTE : Test Equipment Required.

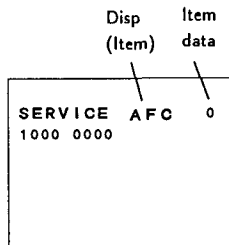
1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC

1. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

SERVICE MODE PROCEDURE

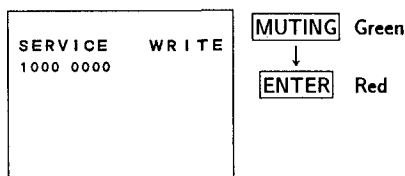
1. Standby mode.(Power off)
2. **DISPLAY** → **5** → **VOL (+)** → **POWER** on the Remote Commander. (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN

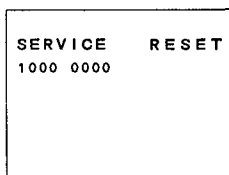


3. The CRT displays the item Being adjusted.
4. Press **1** or **4** on the Remote Commander to select the item.
5. Press **3** or **6** on the Remote Commander to change the data.
6. Press **MUTING** then **ENTER** to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



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



Carry out step 7) when adjusting IDs 0 to 4 and when replacing and adjusting IC102.

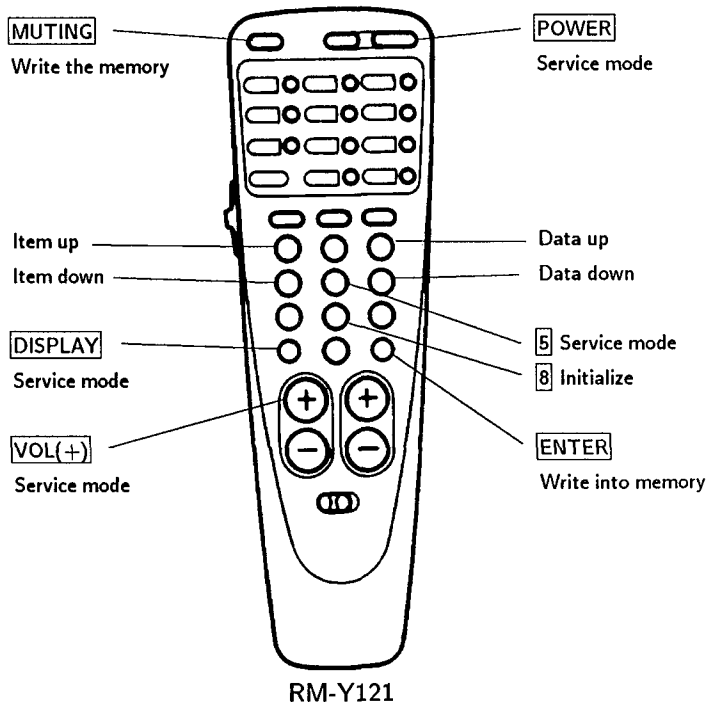
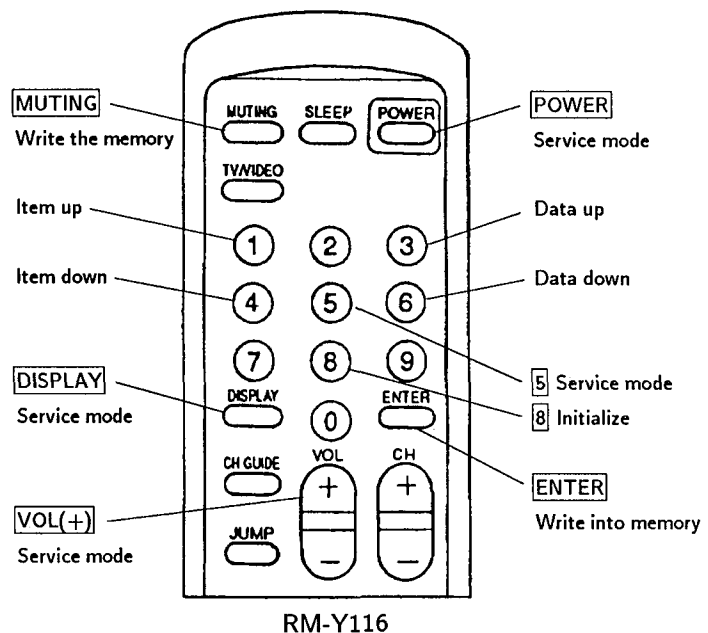
Factory original setting

8. Turn set off and on to exit.

2. MEMORY WRITE CONFIRMATION METHOD

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

3. ADJUST BUTTONS AND INDICATOR



4. AN ITEM OF ADJUSTMENTS

No.	Disp.	Item	Data range	Ave. data (27 inch)	Ave. data (32 inch)
1	AFC	AFC Loop Gain	0~3	* 0	* 0
2	HFRE	H. Frequency	0~127	70	70
3	VFRE	V. Frequency	0~31	14	14
4	VPOS	V. Center	0~31	17	17
5	VSIZ	V. Size	0~63	28	28
6	VLIN	V. Linearity	0~15	8	8
7	VSCO	V. Correction	0~15	6	6
8	HPOS	H. Center	0~15	6	6
9	HSIZ	H. Size	0~31	31	31
10	PAMP	Pin Amp	0~31	24	24
11	CPIN	Corner Pin	0~7	3	3
12	PPHA	Pin Phase	0~15	6	6
13	VCOM	V. Compensation	0~7	* 2	* 2
14	GAMP	Green Amp	0~31	20	20
15	BAMP	Blue Amp	0~31	17	17
16	GCUT	Green Cut Off	0~15	7	7
17	BCUT	Blue Cut Off	0~15	8	8
18	CROM	Chroma Trap	0~63	* 28	* 28
19	SPIX	Sub Contrast	0~63	20	20
20	SHUE	Sub Hue	0~63	33	33
21	SCOL	Sub Color	0~63	32	32
22	SBRT	Sub Bright	0~63	35	35
23	RGBP	RGB Picture	0~63	* 35	* 10
24	SHAP	Sharpness	0~15	* 10	7
25	VSMO	V Pull in Range	0, 1	* 0	* 0
26	REF	Reference line	0~3	* 2	* 2
27	ROFF	Red Out	0, 1	1	1
28	GOFF	Green Out	0, 1	1	1
29	BOFF	Blue Out	0, 1	1	1
30	ABLM	ABL Mode	0, 1	* 0	* 0
31	NOTC	Notch On/Off	0, 1	* 1	* 1
32	DRGB	OSD intensity	0, 1	* 0	* 0
33	DISP	Display Position	0~63	40	40
34	DPDV	Lumipon (dpdv)	0~3	* 1	* 1
35	MPIC	Lumipon (depth)	0~63	* 48	* 48
36	SVOL	Sub Volume	0~15	* 0	* 0
37	SBAL	Sub Balance	0~15	7	7
38	BASS	Sub Bass	0~15	* 8	* 8
39	TRE	Sub Treble	0~15	* 7	* 7
40	UYBO	Upper Y. Bow	0~63	31	31
41	LYBO	Lower Y. Bow	0~63	25	25
42	HAMP	H. Amp	0~63	33	33
43	HTIL	H. Tilt	0~63	33	33
44	UCBO	Upper C. Bow	0~63	38	38
45	UTIL	Upper Tilt	0~63	40	40
46	LCBO	Lower C. Bow	0~63	41	41
47	LTIL	Lower Tilt	0~63	46	46
48	DCSH	DC. Shift	0~63	37	37
49	PHPO	PinP H Position	0~127	76	76
50	PHUE	PinP Hue	0~127	* 0	* 0
51	ID-0	Model ID	0~127	by Model	by Model
52	ID-1	Model ID	0~127	by Model	by Model
53	ID-2	Model ID	0~127	by Model	by Model
54	ID-3	Model ID	0~127	by Model	by Model
55	ID-4	Model ID	0~127	by Model	by Model

* : Set-up value

Note : No. from 1 to 55 is to show adjustment order.

SERVICE	ID 0	64
1000	0000	1000 000

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

KV-27S10 (US/CND)

No.	Disp.	Disp.	Data
51	ID-0	1 0 0 0 0 0 0	64
52	ID-1	1 0 0 1 1 0 1	77
53	ID-2	1 0 0 0 0 0 0	64
54	ID-3	0 0 0 0 0 0 0	0
55	ID-4	0 0 1 0 0 0 0	16

KV-27S15 (US/CND)

No.	Disp.	Disp.	Data
51	ID-0	1 0 1 1 0 0 0	88
52	ID-1	1 1 1 1 1 1 1	127
53	ID-2	1 0 0 0 0 0 0	64
54	ID-3	1 0 0 0 0 0 0	64
55	ID-4	0 0 1 0 0 0 0	16

KV-29RS10 (E)

No.	Disp.	Disp.	Data
51	ID-0	1 0 0 0 0 0 0	64
52	ID-1	1 0 0 1 1 0 1	77
53	ID-2	0 1 0 0 0 0 0	32
54	ID-3	0 0 0 0 0 0 0	0
55	ID-4	0 0 1 0 0 0 0	16

KV-29RS15 (E)

No.	Disp.	Disp.	Data
51	ID-0	1 0 1 1 0 0 0	88
52	ID-1	1 1 1 1 1 1 1	127
53	ID-2	0 1 0 0 0 0 0	32
54	ID-3	1 0 0 0 0 0 0	64
55	ID-4	0 0 1 0 0 0 0	16

KV-32S10 (US/CND)

No.	Disp.	Disp.	Data
51	ID-0	1 0 0 1 0 0 0	72
52	ID-1	1 0 0 1 1 0 1	77
53	ID-2	1 0 0 0 0 0 0	64
54	ID-3	0 0 0 0 0 0 0	0
55	ID-4	0 0 1 0 0 0 0	16

KV-32S15 (US/CND)

No.	Disp.	Disp.	Data
51	ID-0	1 1 1 1 0 0 0	120
52	ID-1	1 1 1 1 1 1 1	127
53	ID-2	1 0 0 1 0 0 0	72
54	ID-3	1 0 0 0 1 0 0	64
55	ID-4	0 0 1 0 0 0 0	16

5-2. MBOARD ADJUSTMENTS

H.FREQUENCY ADJUSTMENT (HFRE)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Connect a frequency counter to CN131 Pin③ (H. DRIVE) connector and ground.
4. Call the item of AFC, set to 3 level (free run).
5. Select HFRE with **[1]** and **[4]**.
6. Adjust with **[3]** and **[6]** for the 15734 ± 60 Hz.
7. Call the item of AFC again, adjust the level "0".
8. Write into the memory by pressing **[MUTING]** then **[ENTER]**.

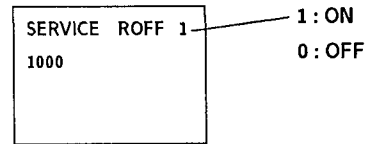
V.FREQUENCY ADJUSTMENT (VFRE)

1. Select video 1 with no connecting the signal.
2. Set to Service adjustment Mode.
3. Connect the frequency counter across connector CN131 Pin⑦ (V. DRIVE) connector and ground.
4. Select VFRE with **[1]** and **[4]**.
5. Adjust with **[3]** and **[6]** for the 56 ± 0.5 Hz.
6. Write the memory by pressing **[MUTING]** then **[ENTER]**.

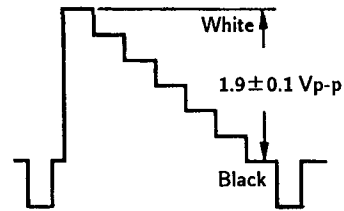
SUB CONTRAST ADJUSTMENT (SPIX)

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

PICTURE MAX
 COLOR MIN
 BRIGHT CENTER
 R OFF ON (1)
 G OFF OFF (0)
 B OFF OFF (0)



4. Connect an oscilloscope to CN703 Pin① (R OUT) of C board and ground.
5. Select SPIX with **[1]** and **[4]**.
6. Adjust with **[3]** and **[6]** for the 1.9 ± 0.1 Vp-p.

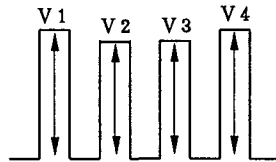


7. Write the memory by pressing **[MUTING]** then **[ENTER]**.
8. Return the following back to normal after adjustment.

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

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

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



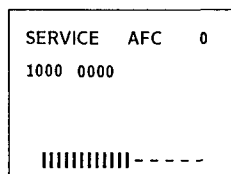
6. Increase the data of SCOL by 5 steps.
7. Write into the memory by pressing **[MUTING]** then **[ENTER]**.

SUB BARANCE ADJUSTMENT (SBAL)

1. Input a stereo signal.
2. Set to service adjustment mode.
3. Select SBAL with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the best sound balance
5. Write into the memory by pressing **[MUTING]** then **[ENTER]**.

DISPLAY POSITION ADJUSTMENT (DISP)

1. Input a color-bar signal.
2. Set to service adjustment Mode.
3. Select DISP with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the bar center.
5. Write the memory by pressing **[MUTING]** then **[ENTER]**.

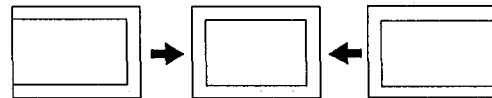


H.CENTER ADJUSTMENT (H POS)

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

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

H. CENTER (HPOS)



H.SIZE ADJUSTMENT (HSIZ)

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

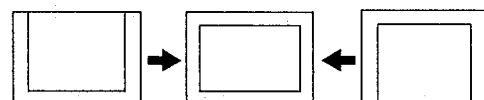
H. SIZE (HSIZ)



V.CENTER ADJUSTMENT (VPOS)

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

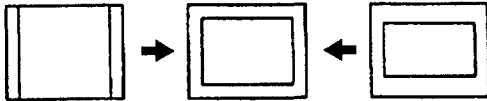
V. CENTER (VPOS)



V.SIZE ADJUSTMENT (VSIZ)

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

V. SIZE (VSIZ)



**V LINEARITY(VLIN), VS CORRECTION(VSCO),
 PIN AMP(PAMP), CORNER PIN(CPIN), AND
 PIN PHASE(PPHA) ADJUSTMENTS**

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

V LINEARITY (VLIN)



VS CORRECTION (VSCO)



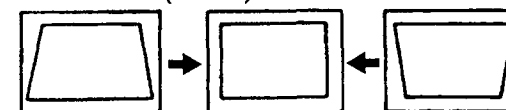
PIN AMP (PAMP)



CORNER PIN (CPIN)



PIN PHASE (PPHA)

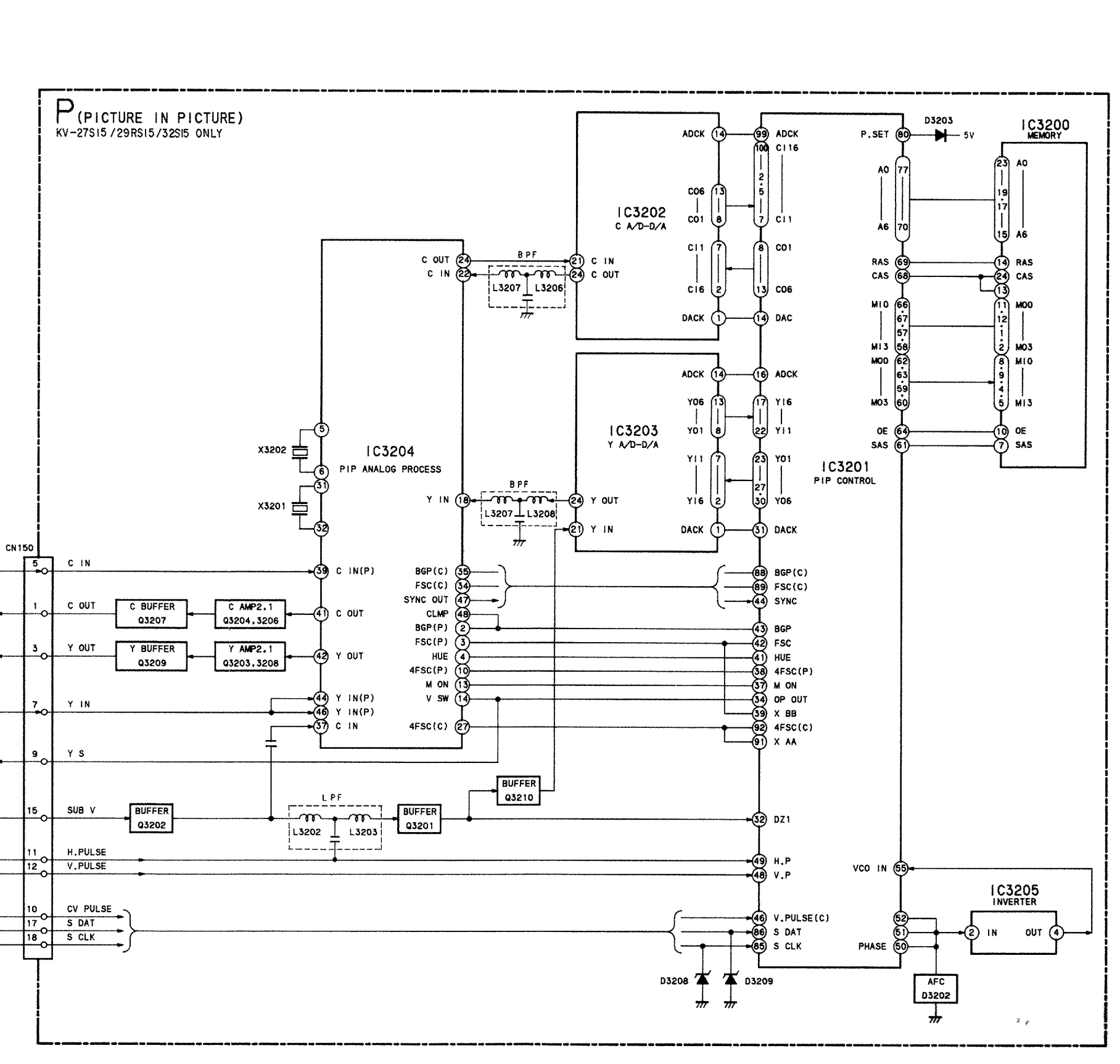
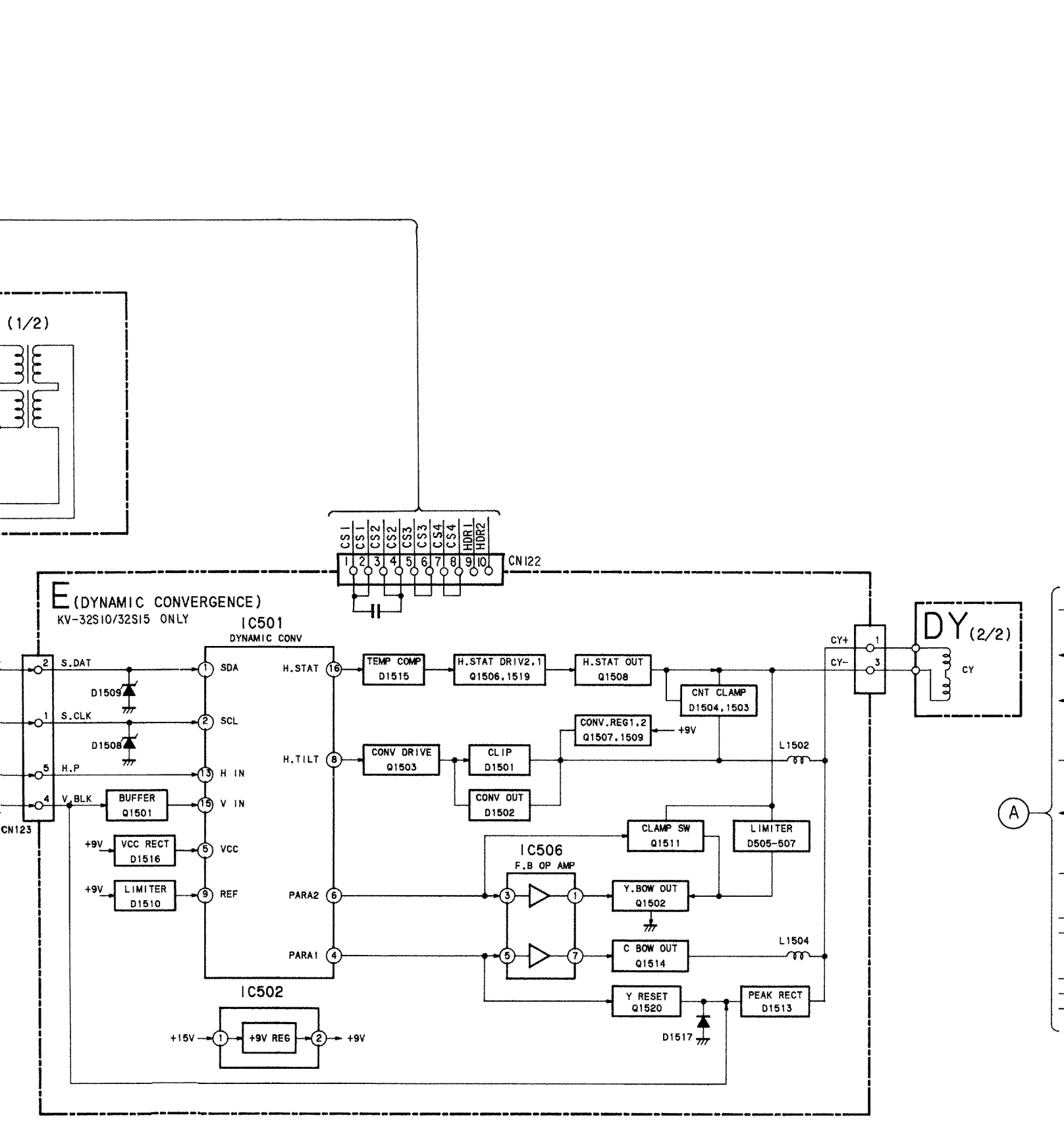
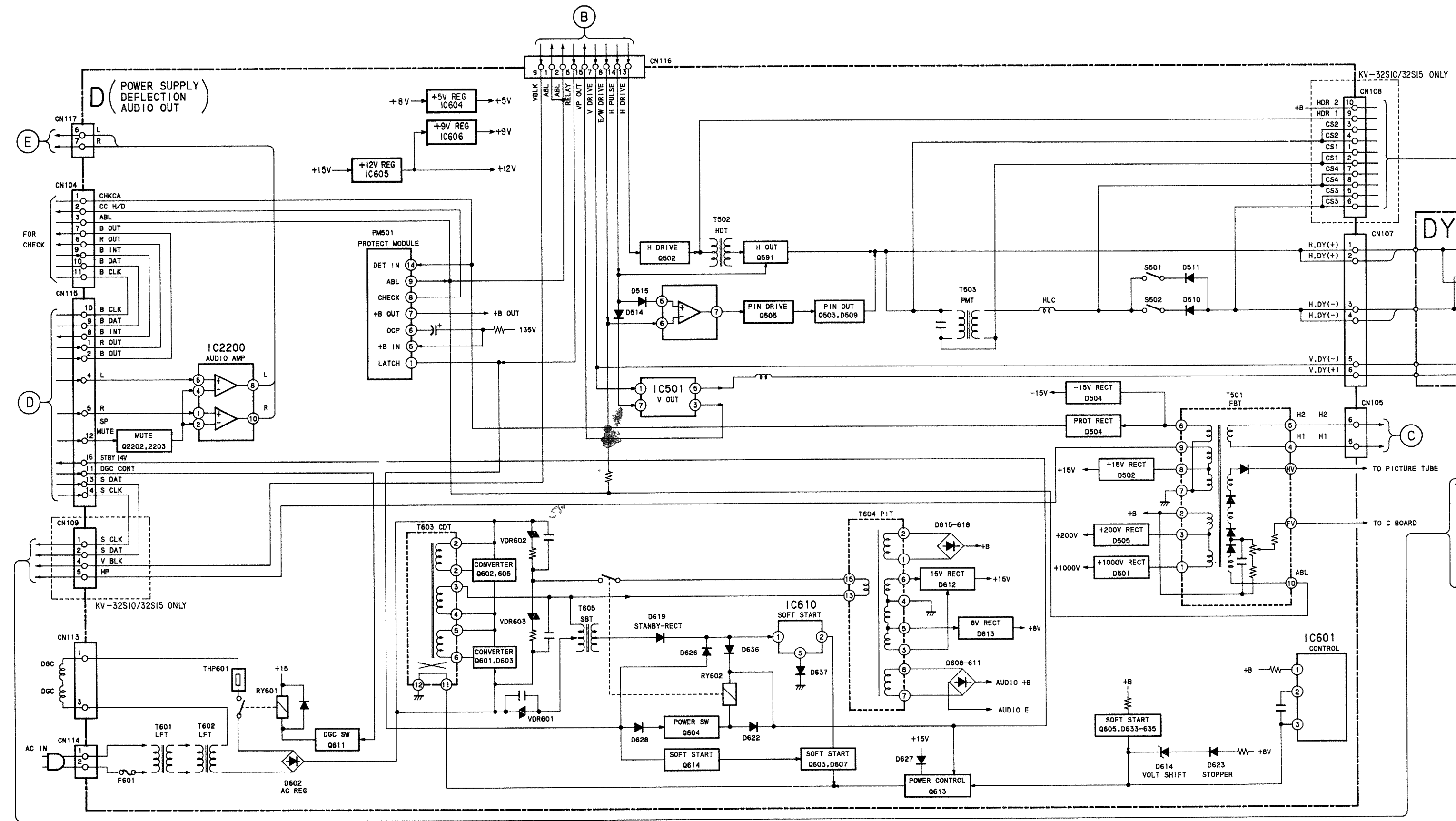


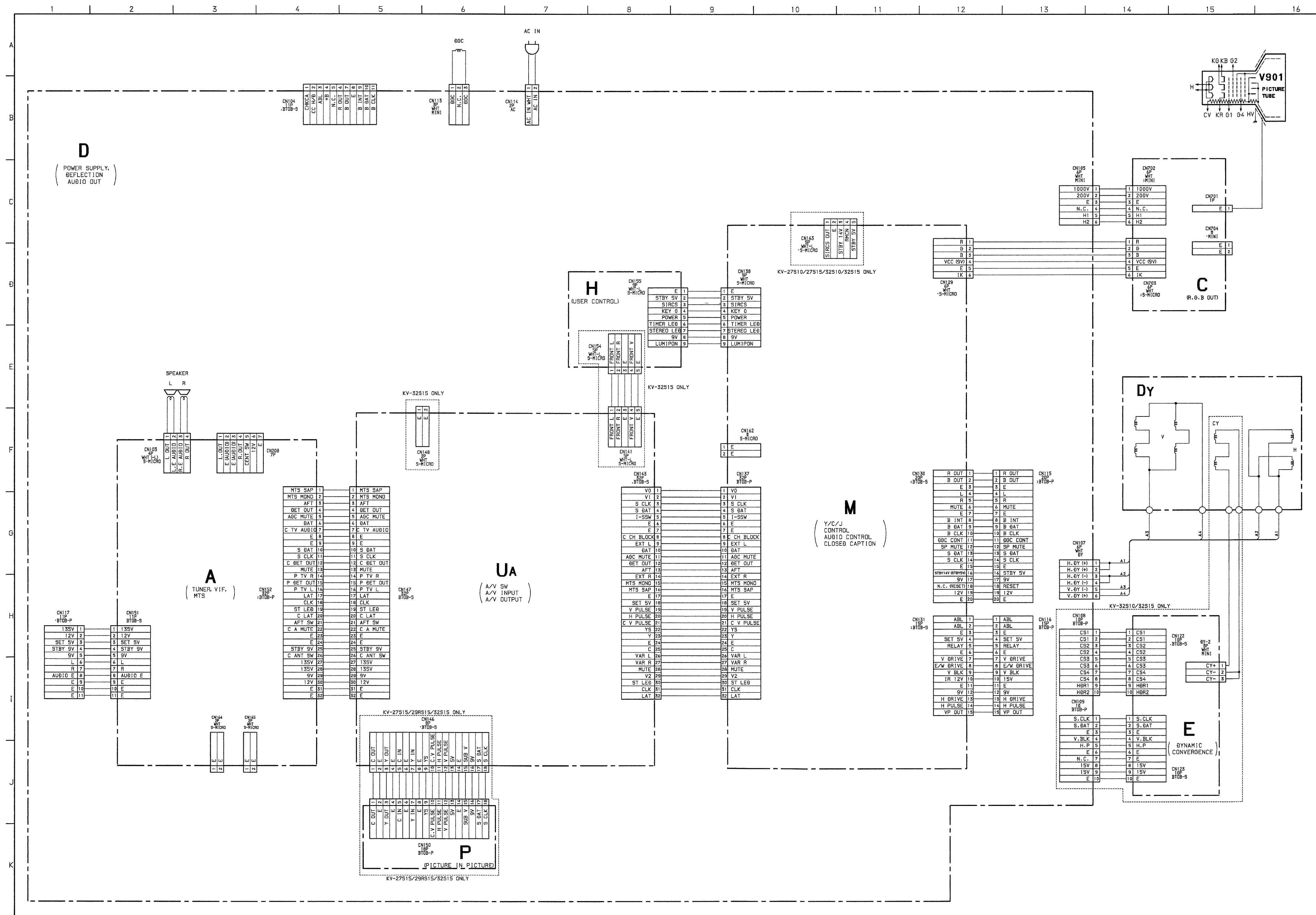
5-3. P BOARD ADJUSTMENTS

P IN P H. POSITION (PHPO)

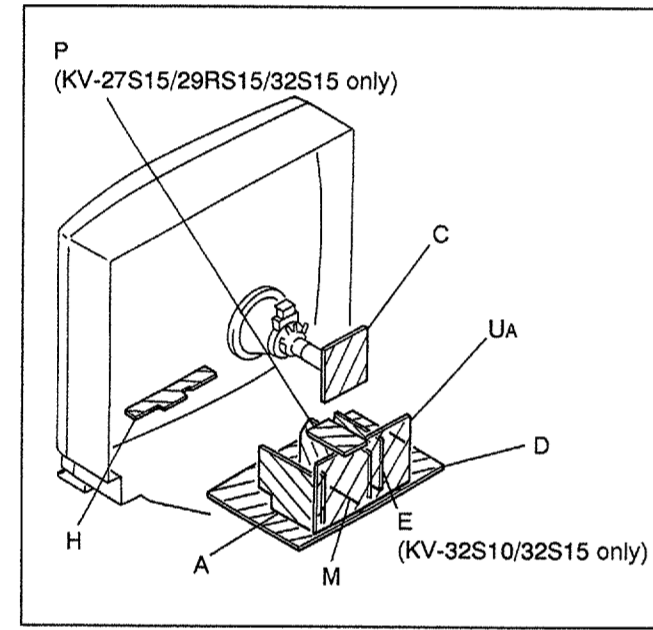
1. Input a color-bar signal
2. Set to Service adjustment Mode.
3. Select PHPO with **1** and **4**.
4. Adjust with **3** and **6** for the best balanced cent position at 4 corner P in P display position.
5. Write the memory by pressing **MUTING** then **ENTER**.

6-2. BLOCK DIAGRAMS (2)





6-4. CIRCUIT BOARDS LOCATION



Part replaced (■)	Adjustment (⊠)
PM501, R511, R632, R645, R650, R338	D BOARD HOLD-DOWN (R511)
IC601, PM501, D504, C598, R509, R524, R632, R635, R645, T501, R338	D BOARD HOLD-DOWN (R524)

- All voltages are in V
- Voltage are dc with respect to ground unless otherwise noted
- Readings are taken with a 10 MΩ digital multimeter
- Readings are taken with a color-bar signal input
- Voltage variations may be noted due to normal production tolerance
- Circled numbers are waveform references
- ⊠ B+ line
- ⊡ B- line
- signal path

6-5. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

- Note:**
- All capacitors are in μF unless otherwise noted.
 - pF: μF 50WV or less are not indicated except for electrolytic and tantalums.
 - All electrolytics are in 50V unless otherwise specified.
 - 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.
 - All resistors are in ohms.
 - kΩ=1000Ω, MΩ=1000KΩ
 - ⊠: nonflammable resistor.
 - ⊡: fusible resistor.
 - ⊠: internal component.
 - : panel designation, and adjustment for repair.
 - All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
 - ⊠: earth-ground. (cool)
 - ⊡: earth-chassis. (hot)
 - 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 ■, make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⊠ and repeat the adjustment until the specified value is achieved. (Refer to R511 and R524 on page 34, 35)
 - When replacing the part in below table be sure to perform the related adjustment.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: *	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

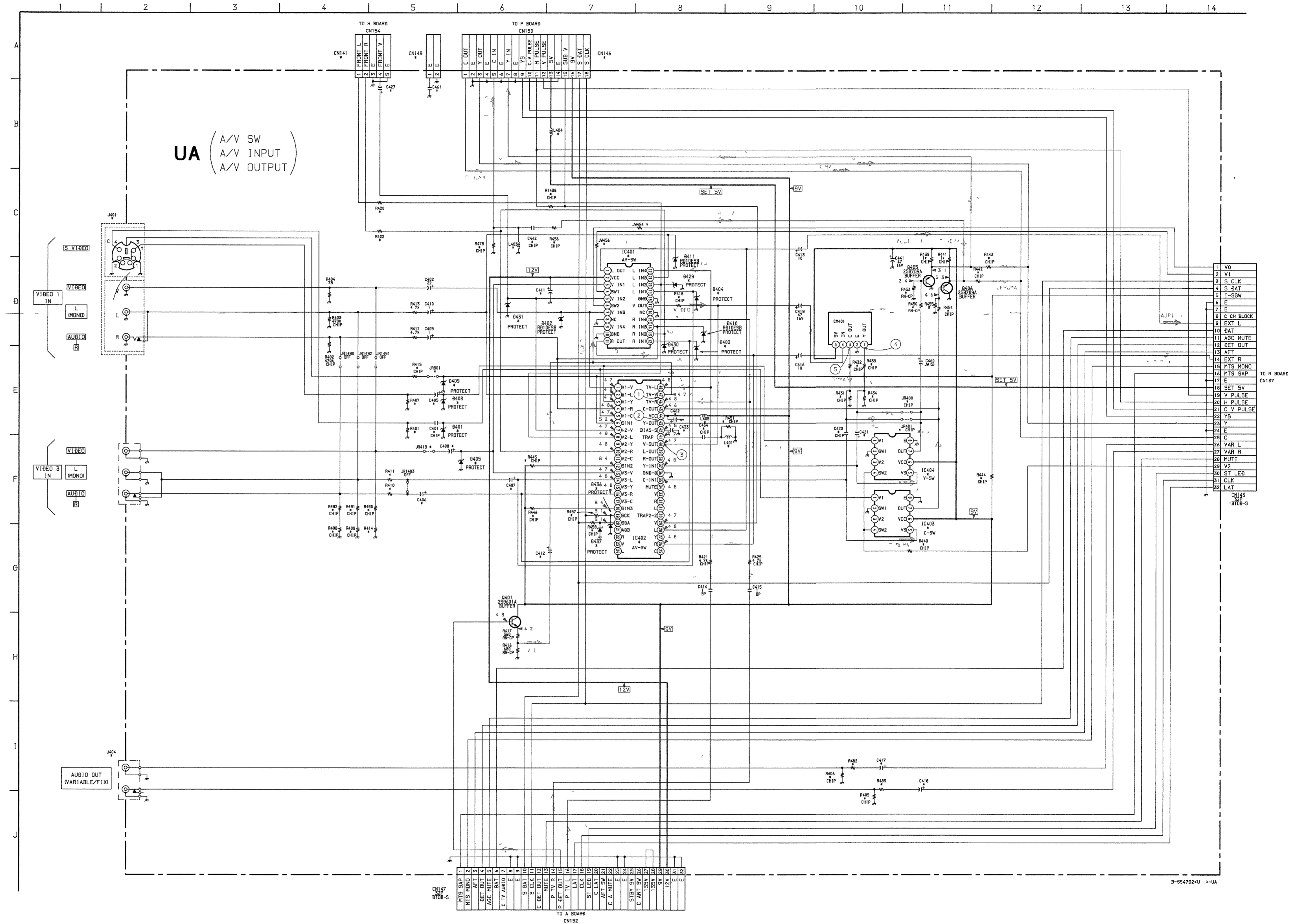
Note: The symbol ⊠ display is on the component side.

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

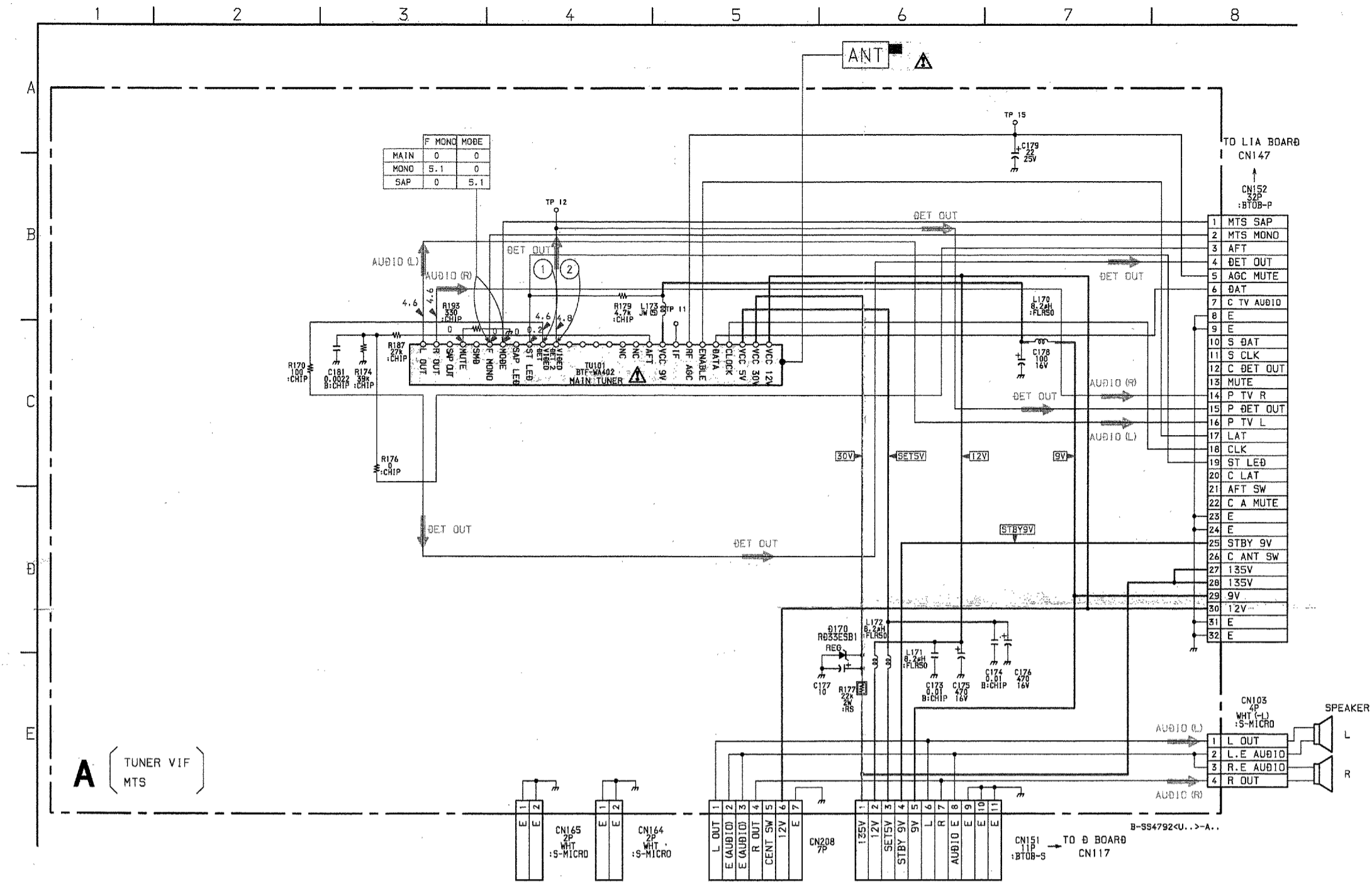
The symbol ⊡ indicate fast operating fuse. Replace only with fuse of same rating as marked.

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.

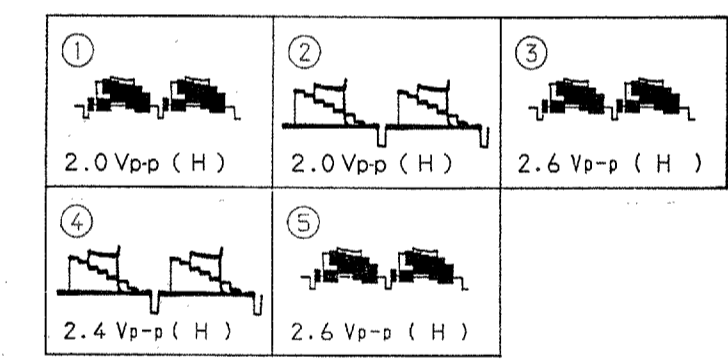
Le symbole ⊡ indique une fusible a action rapide. Doit être remplacée par une fusible de meme valeur, comme maque.



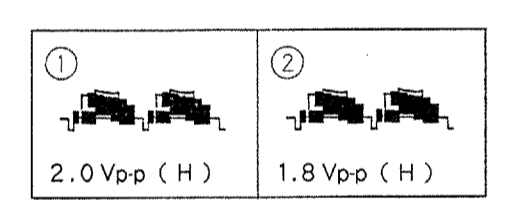
Ref	LOCATION	KV-27S10 (U/C) KV-29RS10 (E)	KV-32S10 (U/C)	KV-27S15 (U/C) KV-29RS15 (E)	KV-32S15 (U/C)
C401	E-5	-	0.01 F: CHIP	0.01 F: CHIP	0.01 F: CHIP
C405	E-5	-	22 25V	22 25V	22 25V
C406	F-5	-	-	1	1
C407	F-6	-	-	1	1
C408	F-6	-	-	22 25V	22 25V
C411	D-7	100 25V	100 25V	-	-
C417	H-10	-	-	0.47	0.47
C418	I-11	-	-	0.47	0.47
C420	E-10	-	0.01 F: CHIP	0.01 F: CHIP	0.01 F: CHIP
C421	E-10	-	0.047	22 25V	22 25V
C427	A-5	-	-	JW (5)	JW (5)
C433	E-8	-	-	33 25V	33 25V
C434	E-8	-	-	100P: CHIP	100P: CHIP
C442	C-6	-	-	100P: CHIP	100P: CHIP
C461	A-5	-	-	JW (5)	JW (5)
C482	E-8	-	-	100 16V	100 16V
CN141	A-4	-	-	5P WHT-L: S-MICRO	5P WHT-L: S-MICRO
CN146	A-6	-	-	18P: BTOB-S	18P: BTOB-S
CN148	A-5	-	-	2P WHT-L: S-MICRO	2P WHT-L: S-MICRO
D401	E-5	-	-	RD10ESB	RD10ESB
D403	D-8	-	-	RD10ESB	RD10ESB
D404	D-8	-	-	RD10ESB	RD10ESB
D405	F-6	-	-	RD10ESB	RD10ESB
D408	E-5	-	RD10ESB	RD10ESB	RD10ESB
D409	E-5	-	RD10ESB	RD10ESB	RD10ESB
D429	D-8	-	-	RD10ESB	RD10ESB
D430	D-8	-	-	RD10ESB	RD10ESB
D431	D-8	-	-	RD10ESB	RD10ESB
D436	F-7	-	-	RD10ESB	RD10ESB
D437	F-7	-	-	RD10ESB	RD10ESB
IC401	D-7	M52470AP	M52470AP	CXA1545AS	CXA1545AS
IC402	F-8	-	-	-	-
IC403	F-10	-	MM1114XFF	-	-
IC404	F-10	-	MM1118XFF	-	-
J401	D-4	PIN JACK BLOCK	S-TERMINAL BLOCK	S-TERMINAL BLOCK	S-TERMINAL BLOCK
J402	E-2	-	-	-	-
J404	I-2	-	-	-	-
JR400	E-11	0: CHIP	-	-	-
JR401	E-11	0: CHIP	-	-	-
JR419	F-5	-	-	0: CHIP	0: CHIP
JR901	E-5	-	0: CHIP	0: CHIP	0: CHIP
JW454	C-8	10K	10K	-	-
JW456	C-7	10K	10K	-	-
L401	E-9	-	-	18uH: FLR50	18uH: FLR50
L403	C-6	-	-	33uH: FLR50	33uH: FLR50
L404	B-7	-	-	33uH: ELO607	33uH: ELO607
L405	E-8	-	-	JW (5)	JW (5)
R401	E-5	-	75	75	75
R405	I-10	-	-	470K: CHIP	470K: CHIP
R406	H-10	-	-	470K: CHIP	470K: CHIP
R407	E-5	-	75	75	75
R408	G-4	-	-	470K: CHIP	470K: CHIP
R409	G-4	-	-	470K: CHIP	470K: CHIP
R410	F-5	-	-	4.7K	4.7K
R411	F-5	-	-	4.7K	4.7K
R414	F-5	-	75	75	75
R415	E-5	-	4.7K	4.7K	4.7K
R418	D-8	100: CHIP	100: CHIP	-	-
R420	C-5	-	-	-	JW (5)
R422	C-5	-	-	-	JW (5)
R431	E-10	1K: CHIP	680: CHIP	1K: CHIP	1K: CHIP
R432	E-10	0: CHIP	680: CHIP	0: CHIP	0: CHIP
R434	E-10	1K: CHIP	680: CHIP	1K: CHIP	1K: CHIP
R435	E-10	0: CHIP	680: CHIP	0: CHIP	0: CHIP
R440	G-11	-	100: CHIP	-	-
R442	C-11	100: CHIP	100: CHIP	-	-
R443	C-11	100: CHIP	100: CHIP	-	-
R444	F-12	-	82K: CHIP	82K: CHIP	82K: CHIP
R445	F-6	-	-	10K: CHIP	10K: CHIP
R446	F-6	-	-	10K: CHIP	10K: CHIP
R450	D-11	100: RN-CP	100: RN-CP	470: RN-CP	470: RN-CP
R451	E-9	-	-	4.7K: CHIP	4.7K: CHIP
R453	D-11	1.2K: RN-CP	1.2K: RN-CP	560: RN-CP	560: RN-CP
R454	D-11	100: CHIP	100: CHIP	0: CHIP	0: CHIP
R456	C-7	-	-	470: CHIP	470: CHIP
R457	F-7	-	-	220: CHIP	220: CHIP
R458	F-7	-	-	220: CHIP	220: CHIP
R478	C-6	-	-	470: CHIP	470: CHIP
R482	H-10	-	-	1K	1K
R483	I-10	-	-	1K	1K
R490	F-5	-	-	0: CHIP	0: CHIP
R491	F-4	-	-	0: CHIP	0: CHIP
R492	G-4	-	-	0: CHIP	0: CHIP
R1438	C-7	-	-	22K: CHIP	22K: CHIP



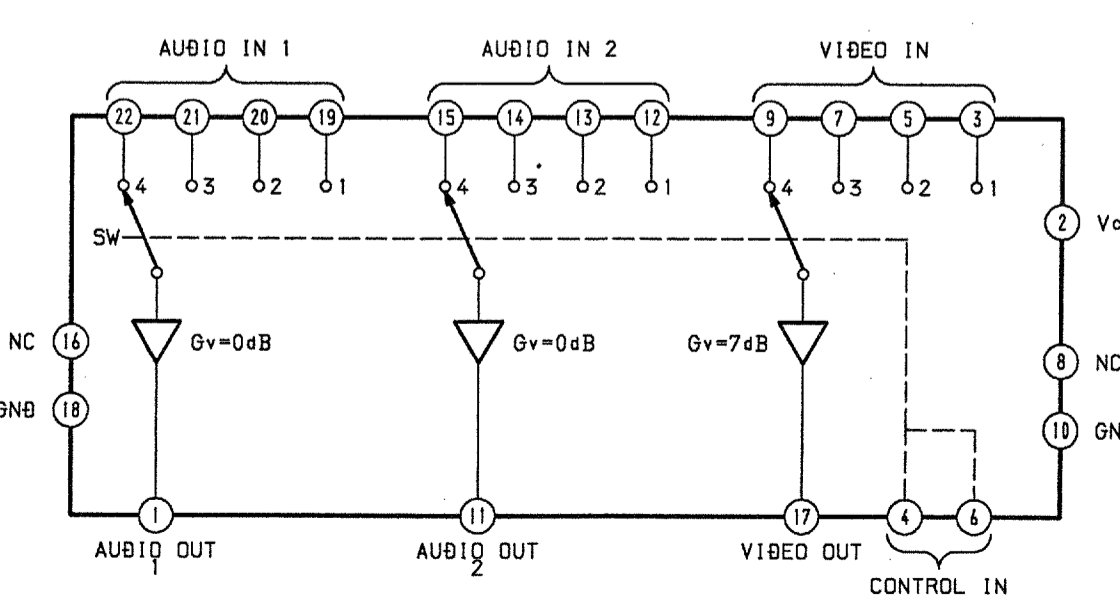
• UA BOARD WAVEFORMS



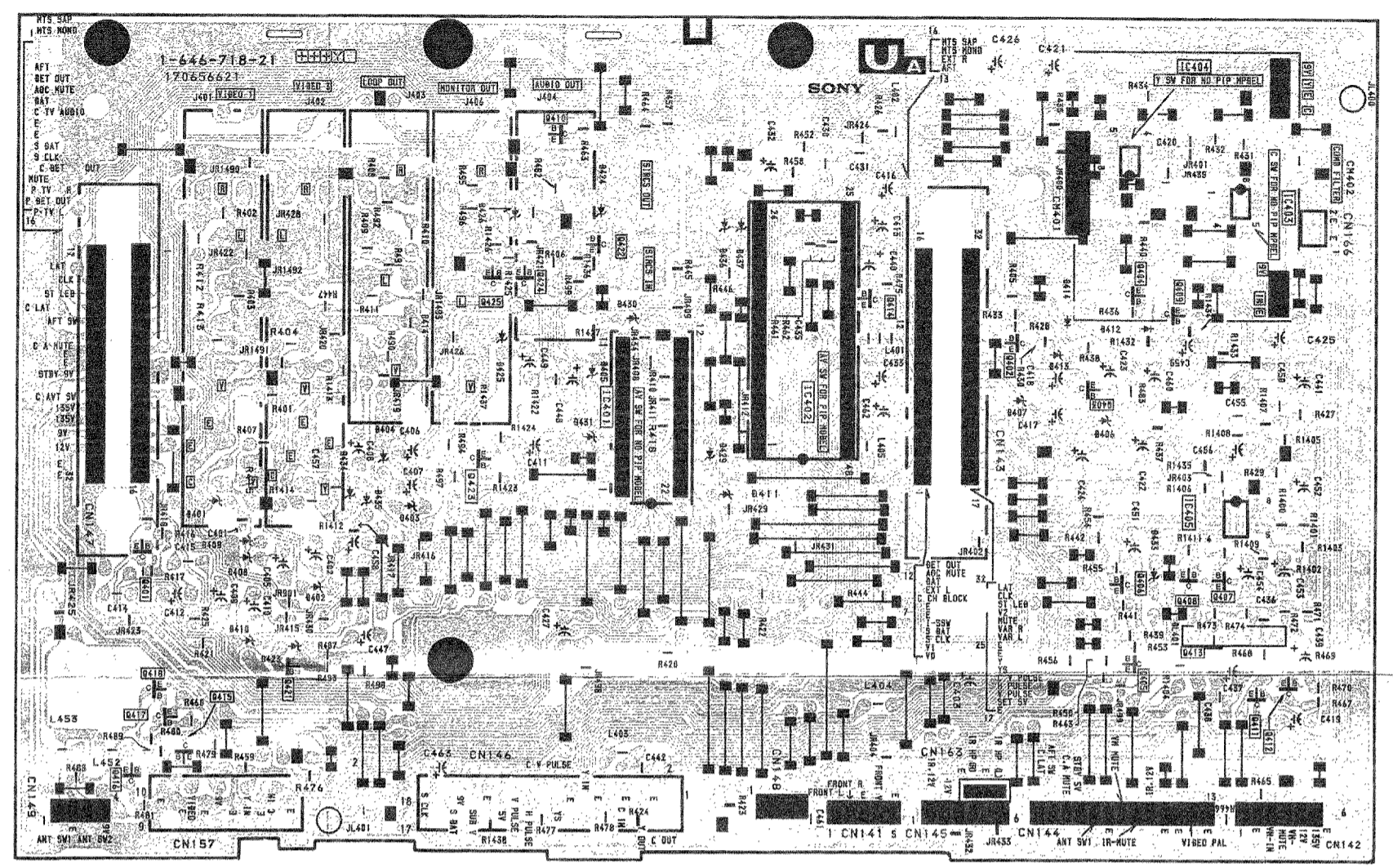
• A BOARD WAVEFORMS



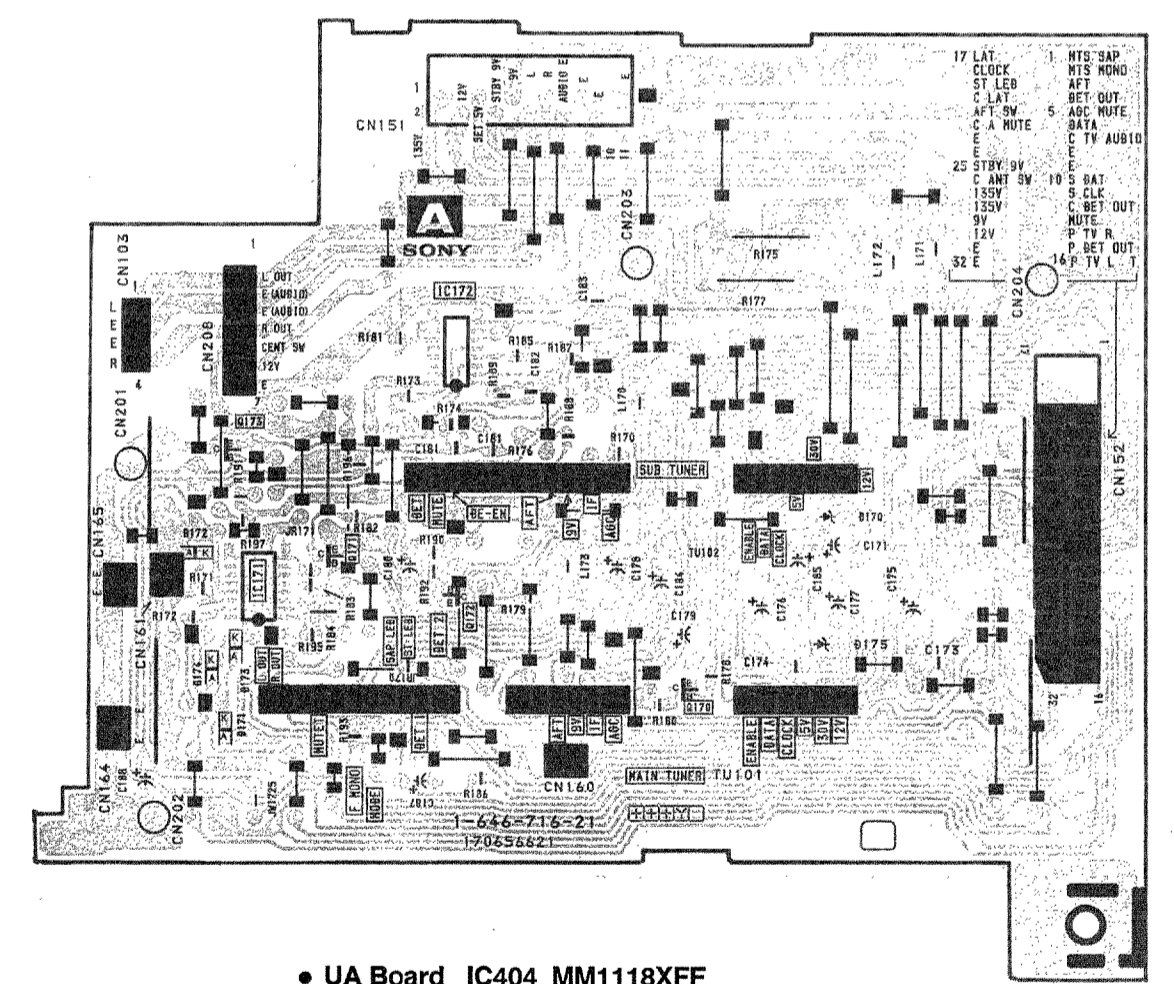
• UA Board IC401 M52470AP



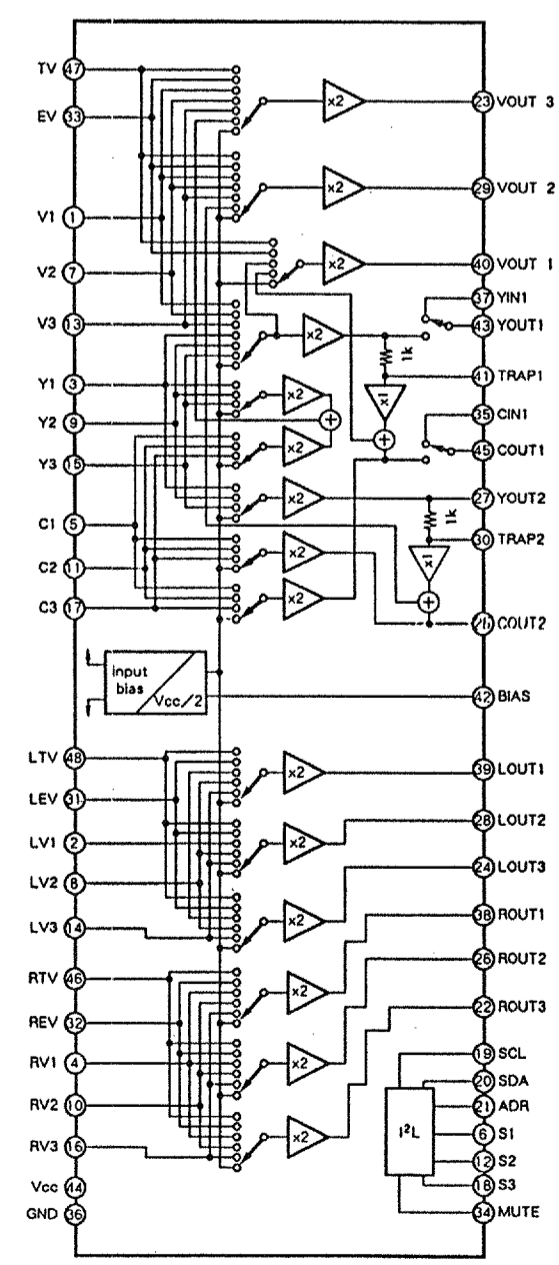
UA BOARD (Conductor Side)



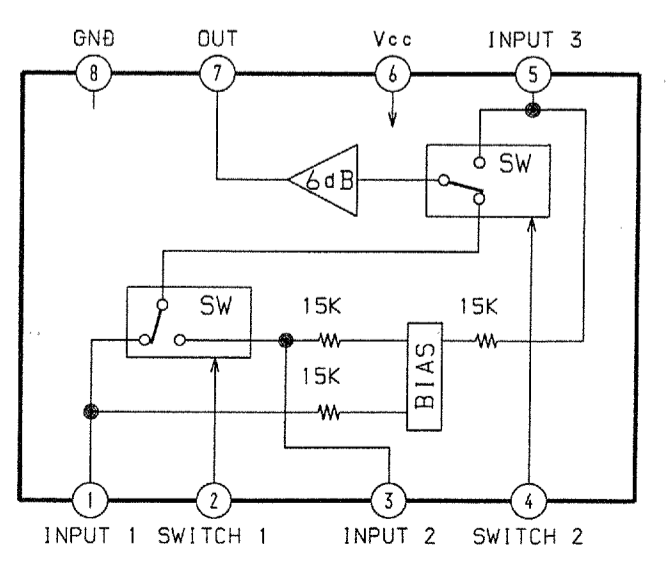
• A BOARD



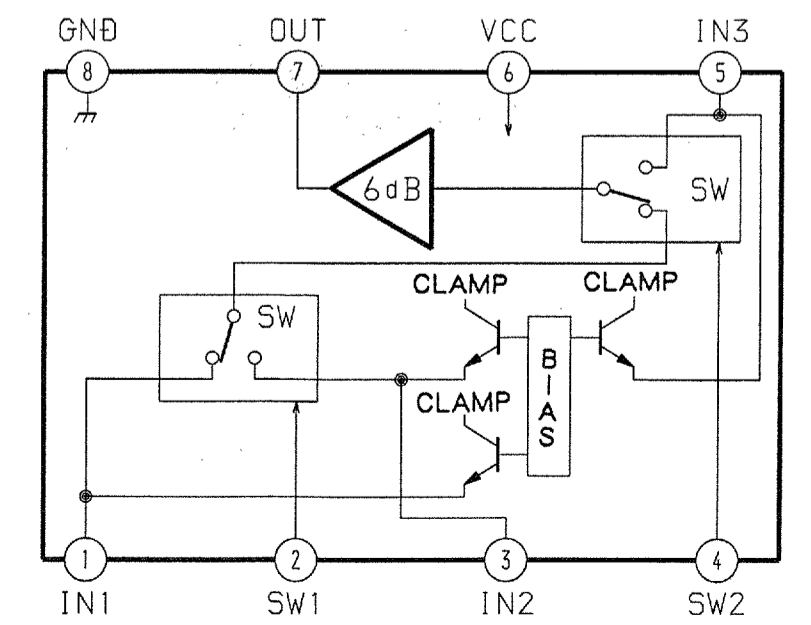
• UA Board IC402 CXA1545AS



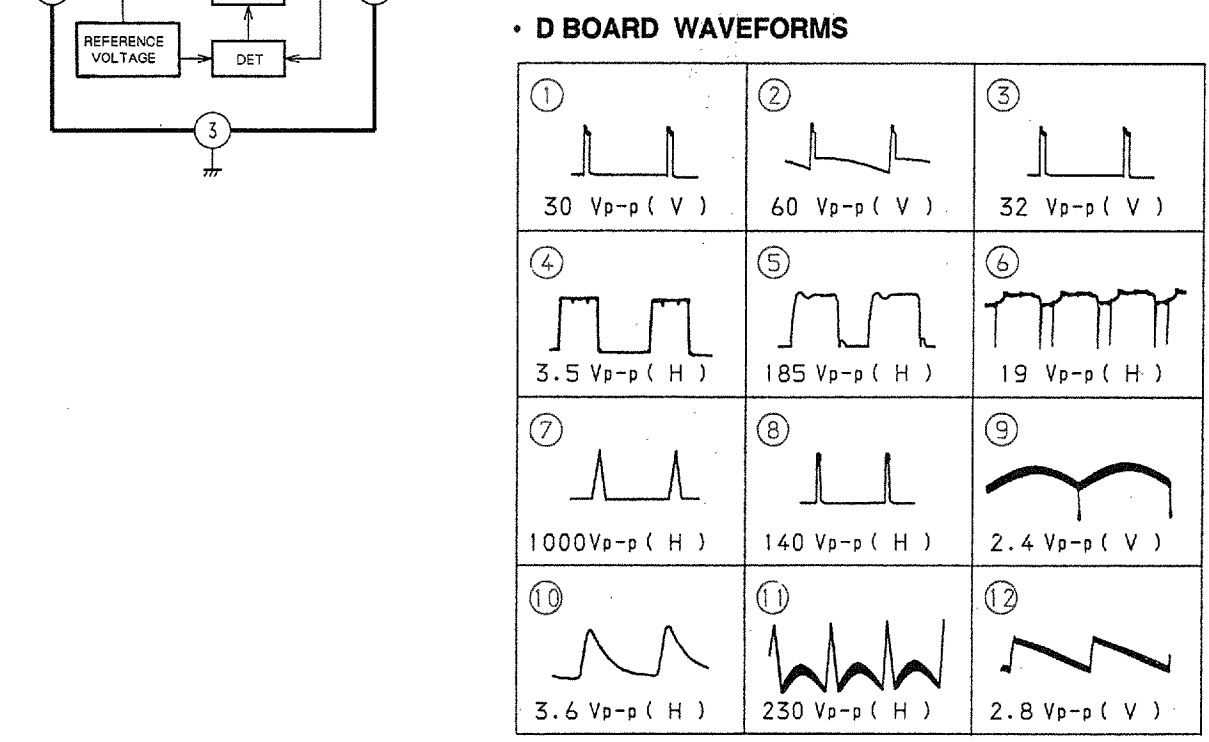
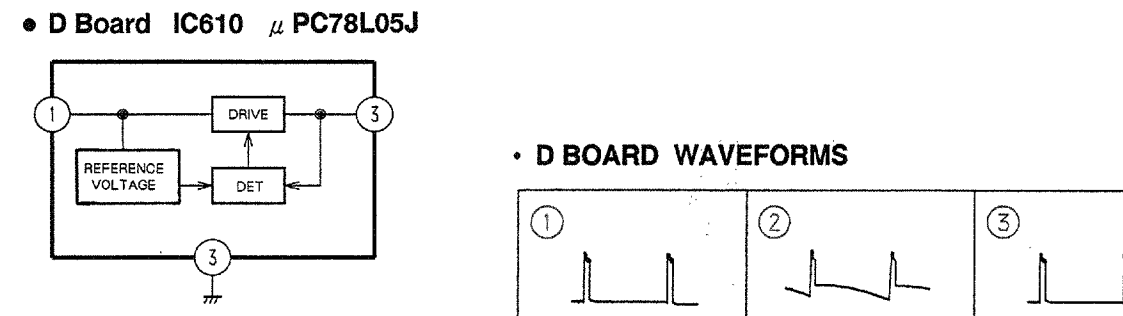
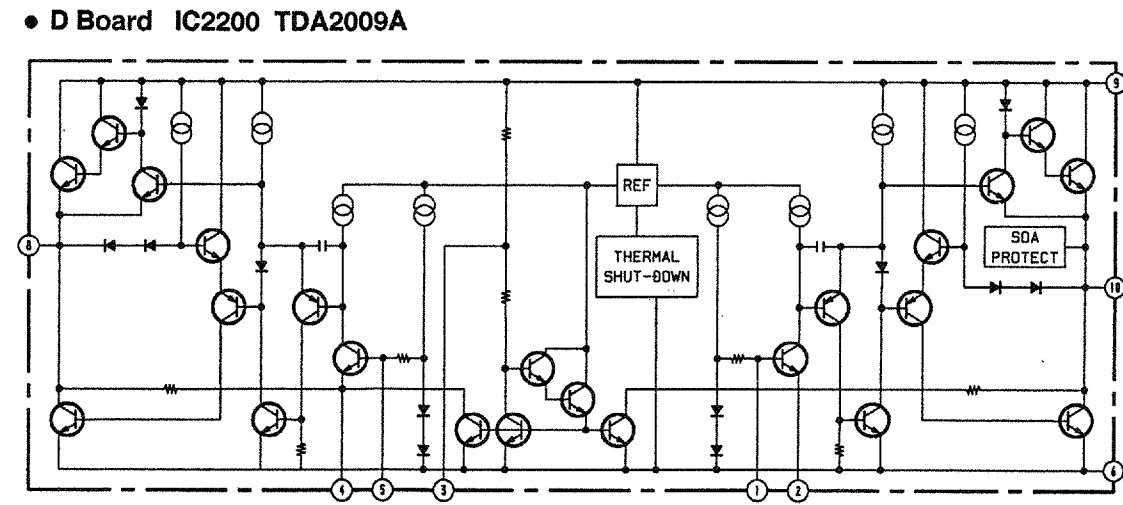
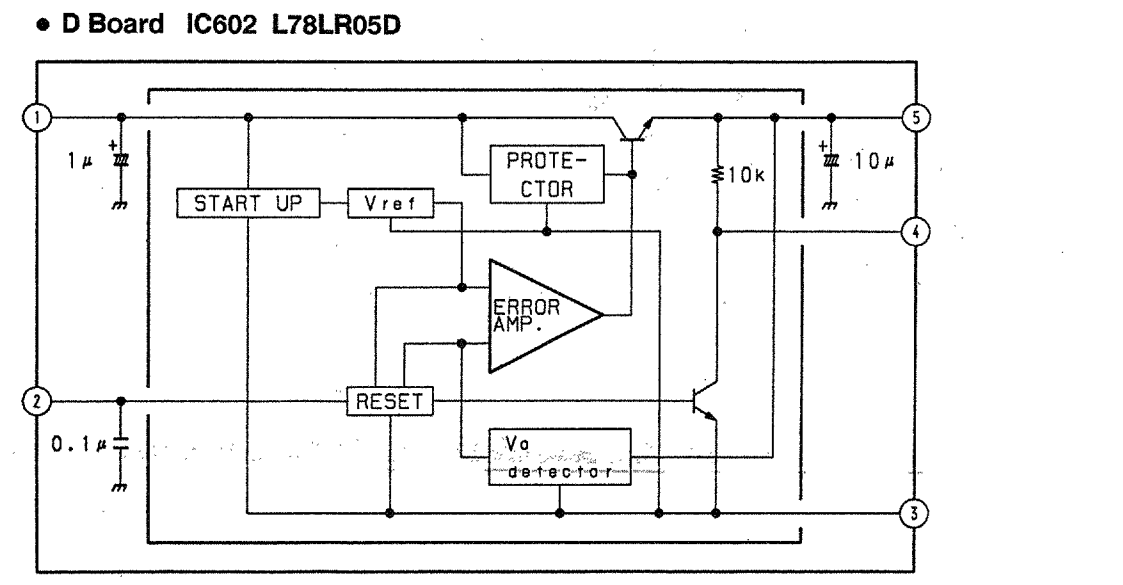
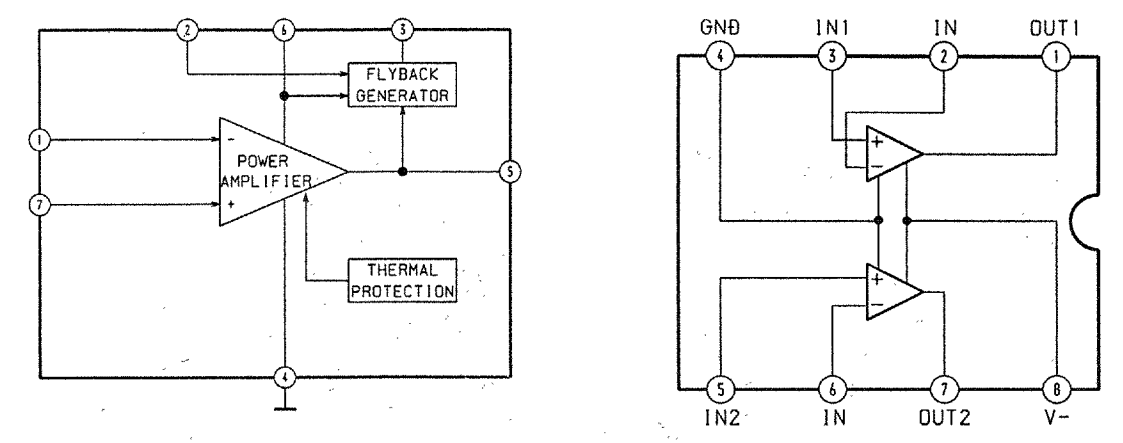
• UA Board IC403 MM1114XFF



• UA Board IC404 MM1118XFF



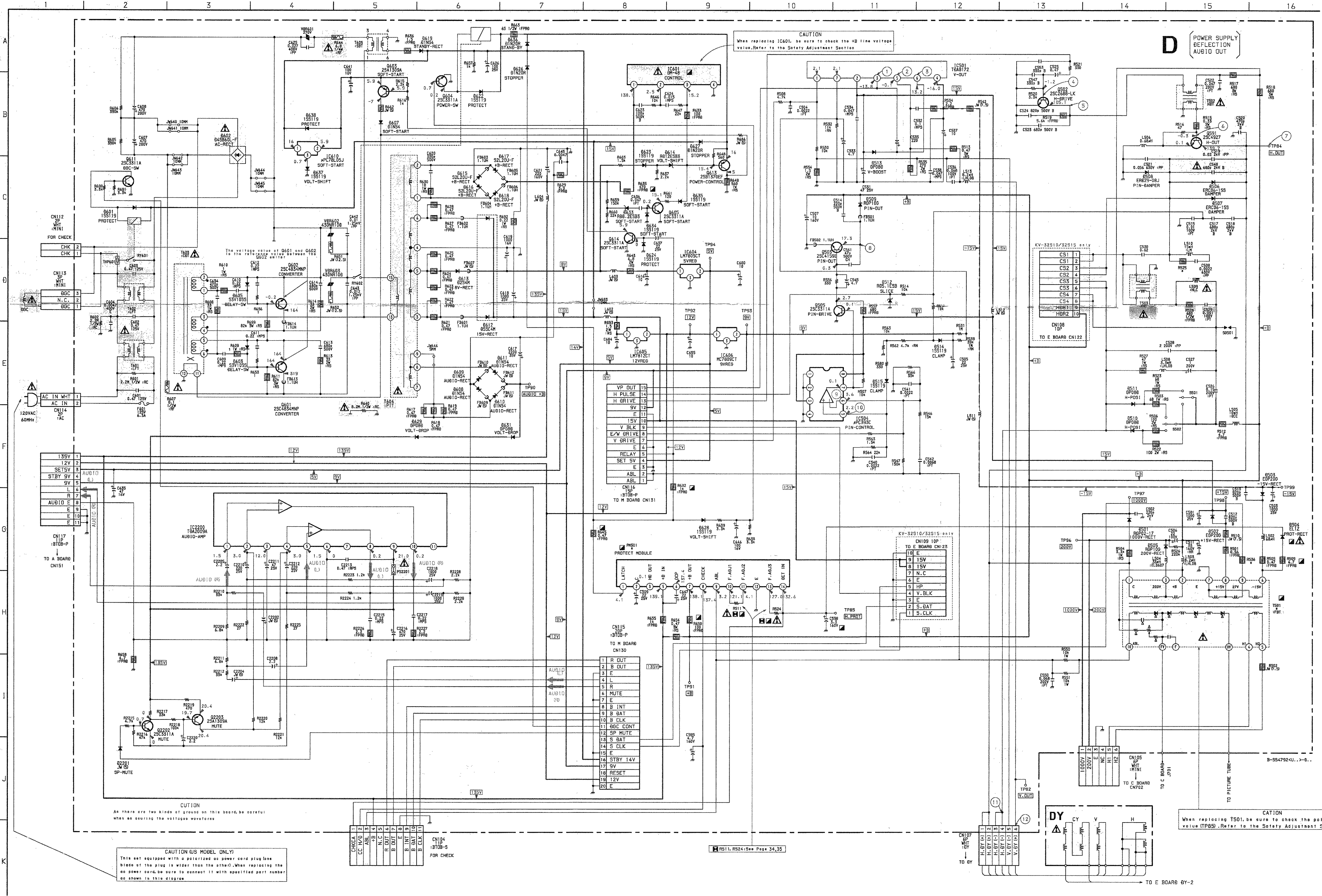
• D Board IC501 TDA8172 • D Board IC504 μ PC393C



— D board —

Ref	LOCATION	KV-27S10/27S15	KV-29RS10/29RS15	KV-32S10/32S15
RM501	G - 9	PM-39	PM-39	PM-38
RS25	D - 15	47 2W	47 2W	-
RS36	G - 15	-	-	4.7
TS01	H - 16	NX-A2604A3	NX-A2604A3	NX-A2604A3

— NOT MOUNT



CAUTION: When replacing IC601, be sure to check the +B line voltage value. Refer to the Safety Adjustment Section.

CAUTION: When replacing TS01, be sure to check the point voltage value (TP85). Refer to the Safety Adjustment Section.

CAUTION: There are two kinds of ground on this board, be careful when measuring the voltages waveforms.

CAUTION: This set equipped with a polarized AC power cord plug (see 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.

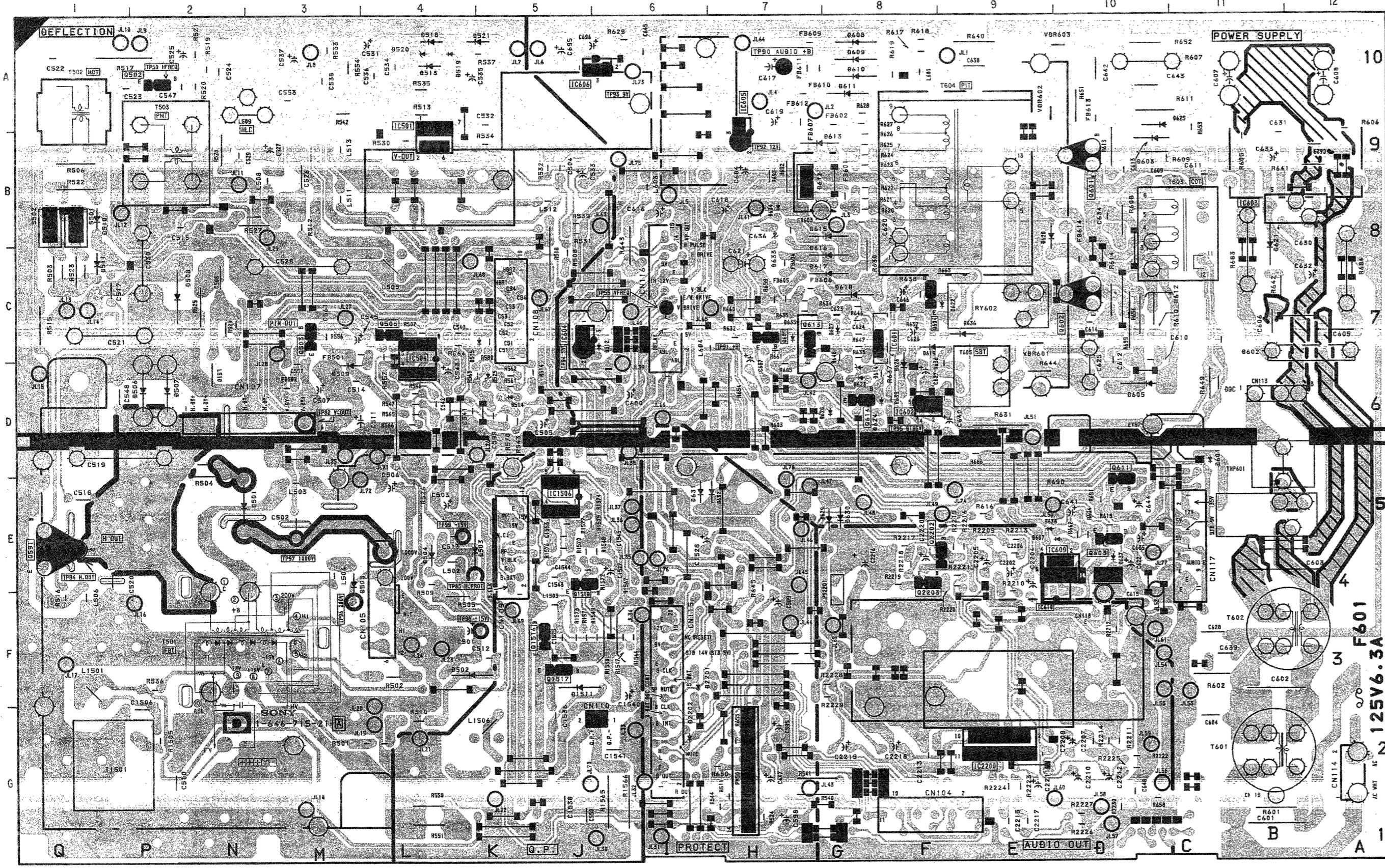
CAUTION: GUS MODEL ONLY. This set equipped with a polarized AC power cord plug (see blade of the plug is wider than the other). When replacing the AC power cord, be sure to connect it with specified part number as shown in this diagram.

D POWER SUPPLY,
DEFLECTION,
AUDIO OUT

KV-27S10/27S15/29RS10
RM-Y116 RM-Y121 RM-Y116
KV-29RS15/32S10/32S15
RM-Y121 RM-Y116 RM-Y121

KV-27S10/27S15/29RS10
RM-Y116 RM-Y121 RM-Y116
KV-29RS15/32S10/32S15
RM-Y121 RM-Y116 RM-Y121

- D BOARD - (Conductor Side)



IC		D511	C-1
IC501	A-4	D512	C-6
IC504	C-4	D513	A-4
IC601	C-8	D514	D-5
IC604	C-5	D515	C-4
IC605	A-7	D601	D-11
IC606	A-5	D602	C-11
IC610	F-10	D603	B-10
IC2200	G-9	D605	D-10
		D607	E-10
		D608	A-8
		D609	A-8
		D610	A-8
		D611	A-8
		D612	B-7
		D613	B-8
		D614	D-8
		D615	B-8
		D616	C-8
		D617	C-8
		D618	C-8
		D619	C-8
		D622	C-9
		D623	D-8
		D624	D-8
		D626	D-8
		D627	C-8
		D628	D-8
		D633	B-7
		D634	B-7
		D635	C-8
		D636	C-9
		D637	E-10
		D638	E-10

TRANSISTOR	
Q502	A-2
Q503	C-3
Q505	C-4
Q591	E-1
Q601	B-10
Q602	C-10
Q603	E-10
Q604	C-8
Q605	C-7
Q611	E-10
Q613	C-7
Q614	D-8
Q2202	E-8
Q2203	E-8

DIODE	
D501	E-3
D502	F-4
D503	E-4
D504	E-4
D505	E-3
D506	D-2
D507	D-2
D508	C-2
D509	D-3
D510	B-1

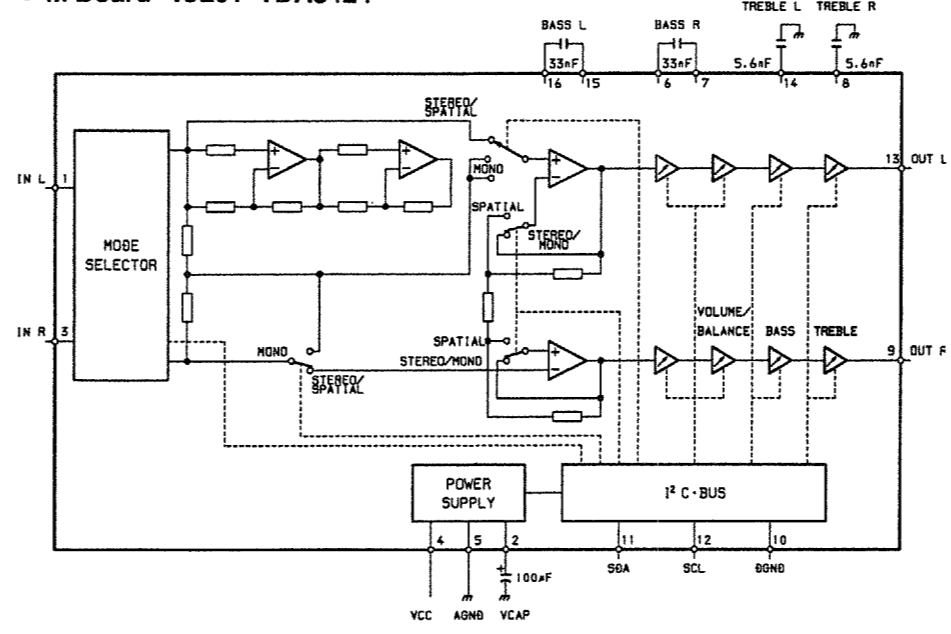
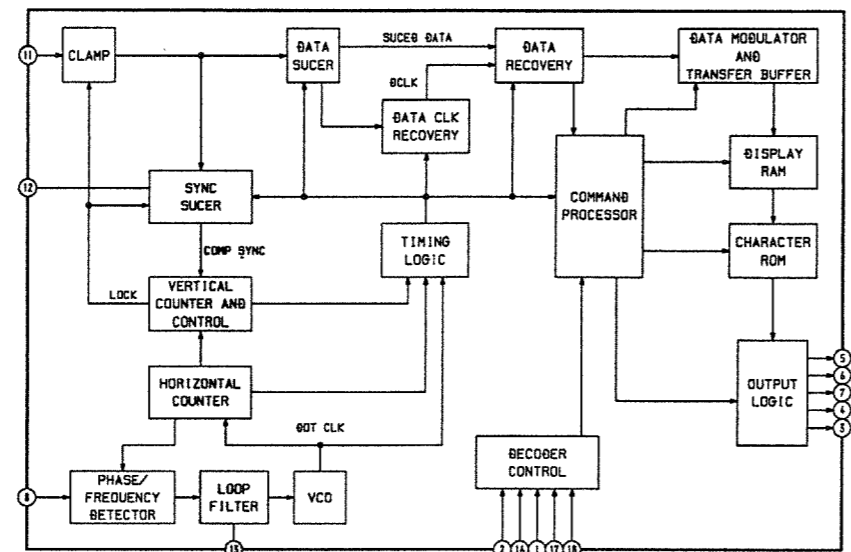
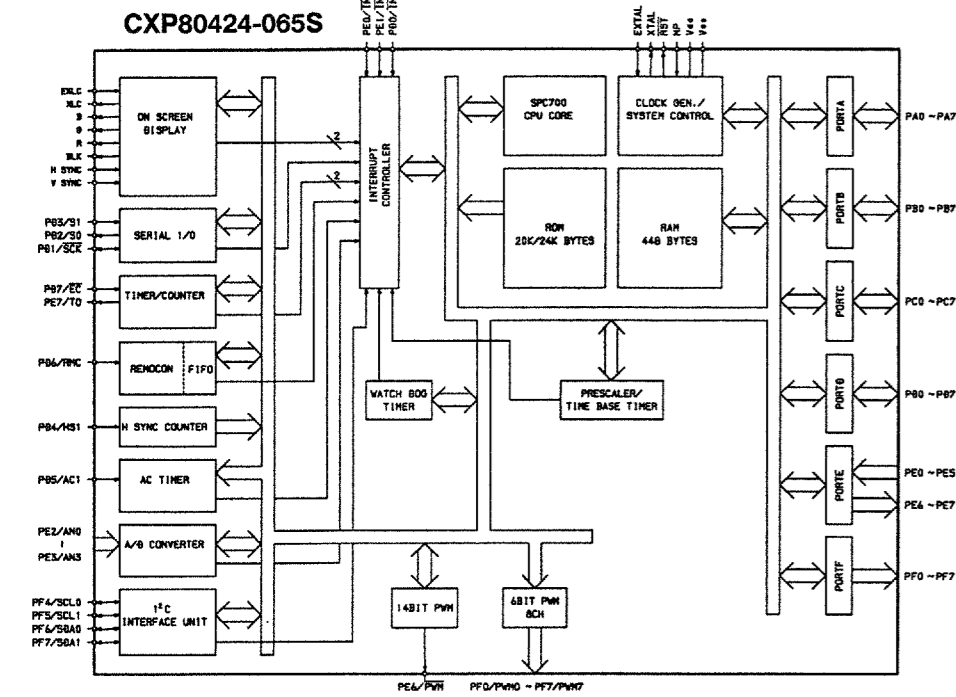
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

• M Board IC101

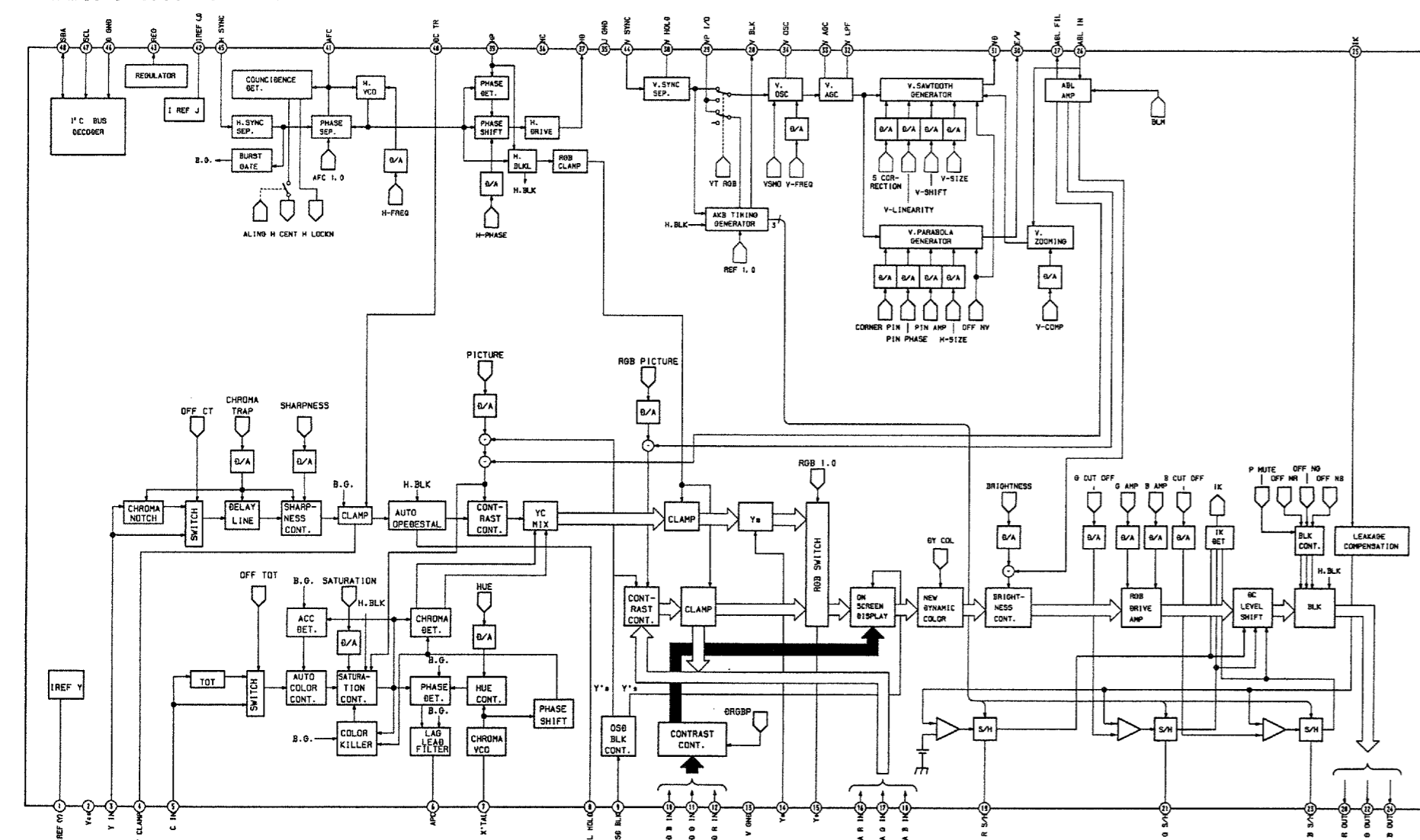
• M Board IC150 MC144143

• M Board IC201 TDA8424

• M Board IC202 LM358PS-T1

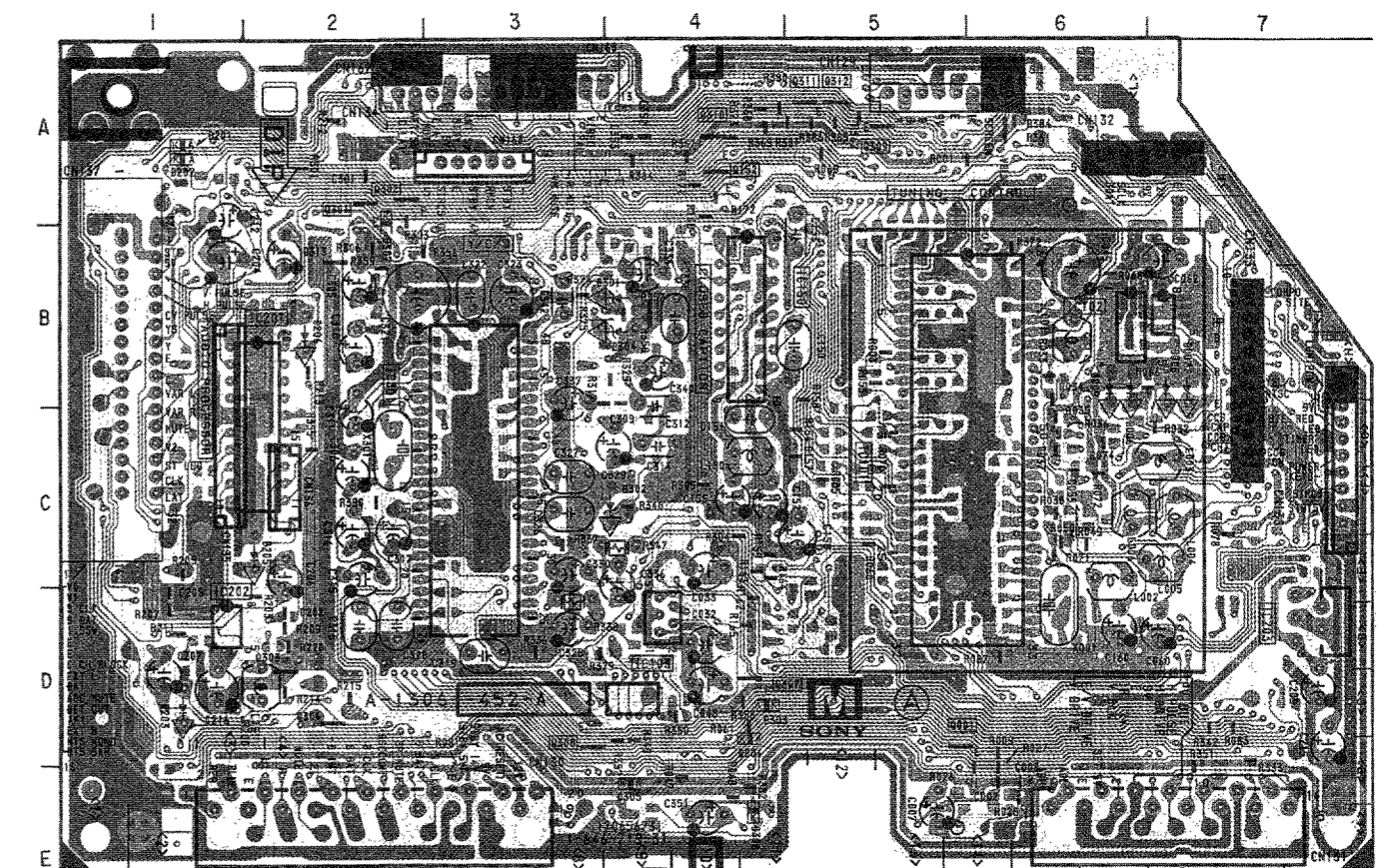


• M Board IC301 CXA1468AS

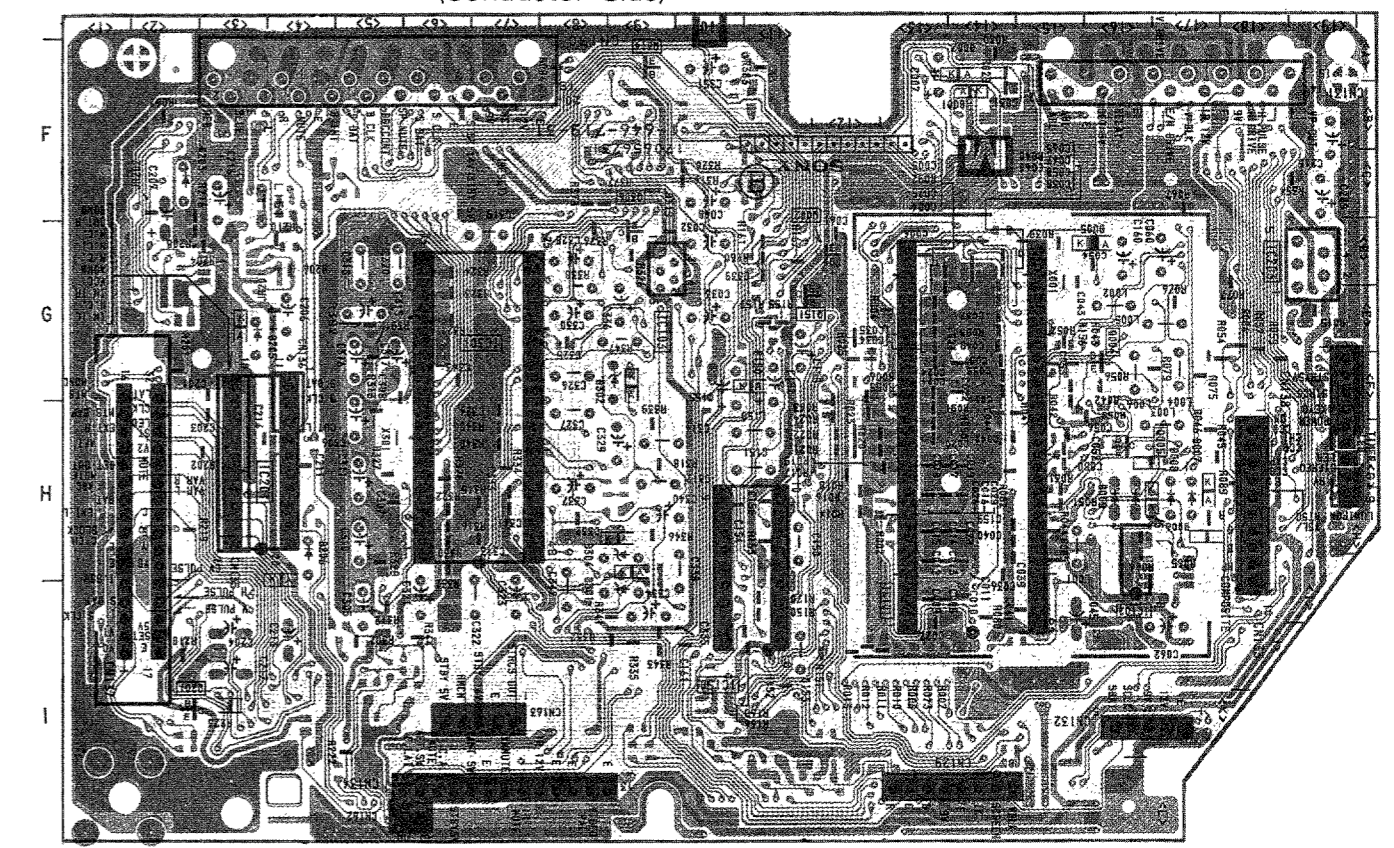


M Y/C/J,
 CONTROL AUDIO,
 CONTROL CLOSED CAPATION

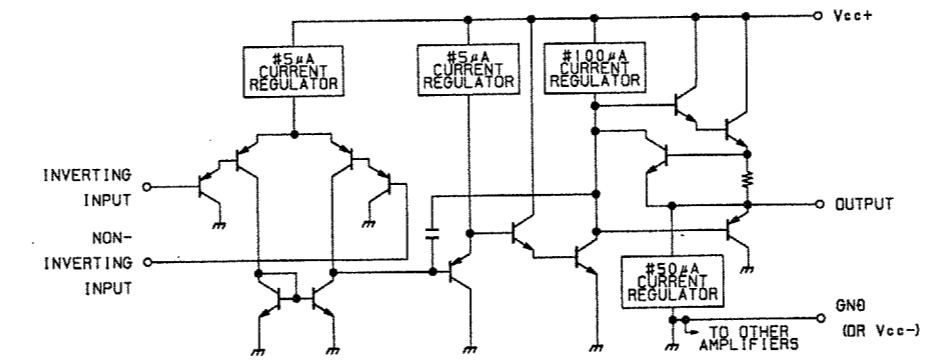
- M BOARD - (Component Side)



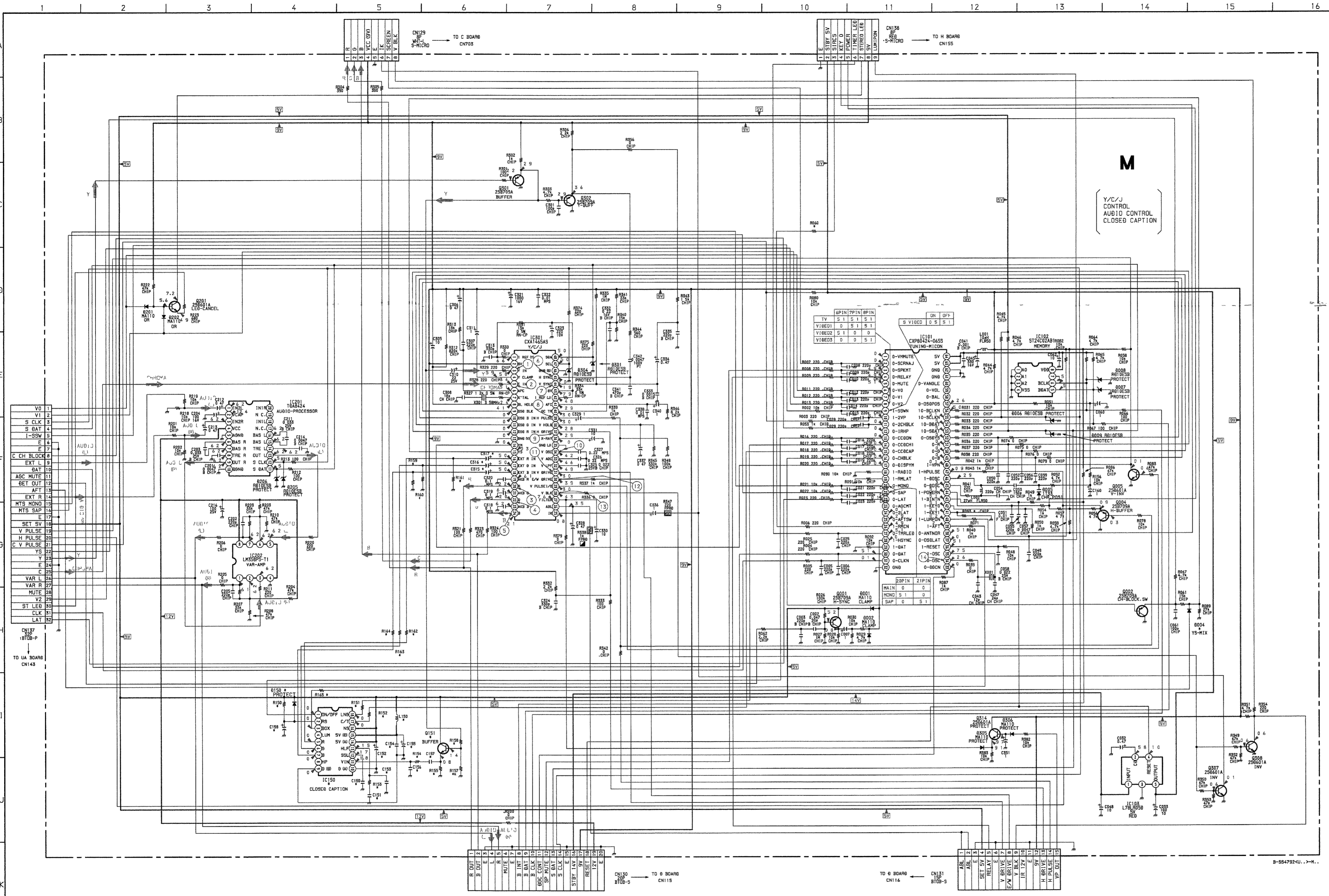
(Conductor Side)



Note:
 • : Pattern from the side which enables seeing.
 • : Pattern of the rear side.



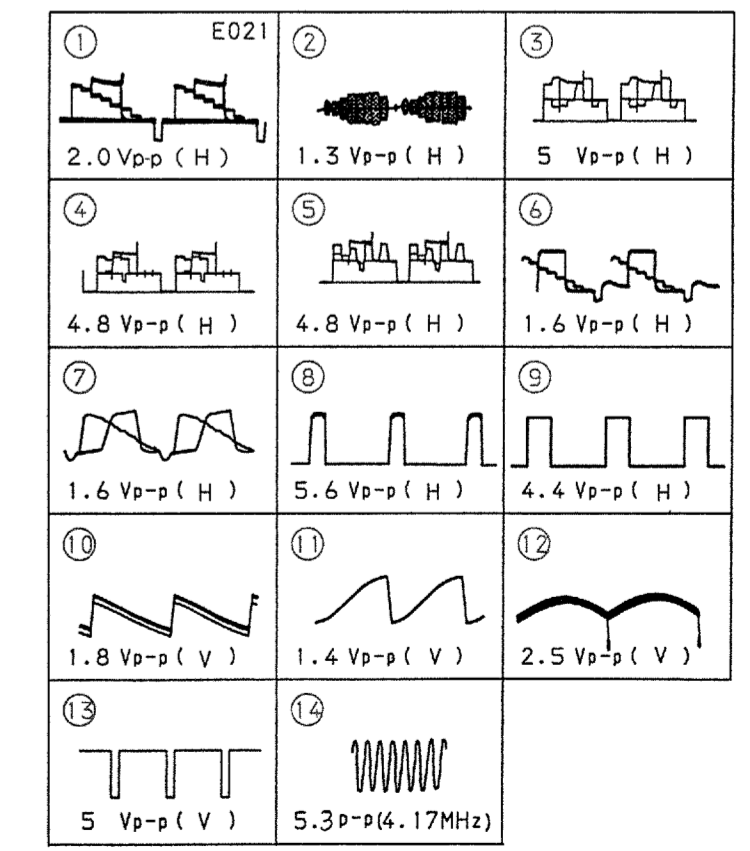
IC		DIODE	
IC101	C-6, H-6	D001	F-5
IC102	B-6, H-6	D002	F-5
IC103	D-4, G-4	D004	D-4
IC150	B-4, H-4	D005	G-6
IC201	B-2, H-2	D006	B-6, H-6
IC202	D-1	D007	B-7, H-7
IC301	B-3, G-3	D008	B-7, H-7
		D009	B-6, H-6
		D150	G-4
TRANSISTOR			
Q001	D-6	D201	A-1
Q004	G-6	D202	A-1
Q005	H-6	D205	C-2, G-2
Q151	G-5	D206	B-2, H-2
Q201	I-1	D301	B-4, H-4
Q301	A-2	D304	B-4, H-4
Q302	A-2		
Q308	D-3		



Ref	LOCATION	KV-27S10 / 27S15 (US) KV-32S10 / 32S15	KV-29RS10 (E) KV-29RS15
C150	J-5	0.1	-
C151	J-5	0.068	-
C152	I-5	ELECT 10	-
C153	I-5	0.003	-
C154	I-5	0.1	-
C155	I-5	ELECT 10	-
C156	I-5	560P	-
C157	I-6	0.1	-
C158	I-4	ELECT 1	-
C315	F-6	ELECT 10	-
C316	F-6	ELECT 10	-
C317	F-6	ELECT 10	-
D004	H-14	MA-110	-
D150	I-4	MA-110	-
IC150	I-4	MC144143	-
L150	I-5	10uH	0
Q151	I-6	2SD601A	-
R071	G-12	1K	-
R093	F-12	100K	-
R150	I-4	100K	-
R151	I-5	1K	-
R152	I-5	1K	-
R153	J-5	6.8K	-
R154	I-5	470	-
R155	I-6	1K	-
R157	I-6	10K	-
R158	I-6	10K	-
R159	F-5	1K	-
R160	F-5	1K	-
R161	F-6	1K	-
R162	H-5	4.7K	-
R163	H-5	4.7K	-
R164	H-5	4.7K	-
R165	I-4	4.7K	-

-- NOT MOUNT

• M BOARD WAVEFORMS



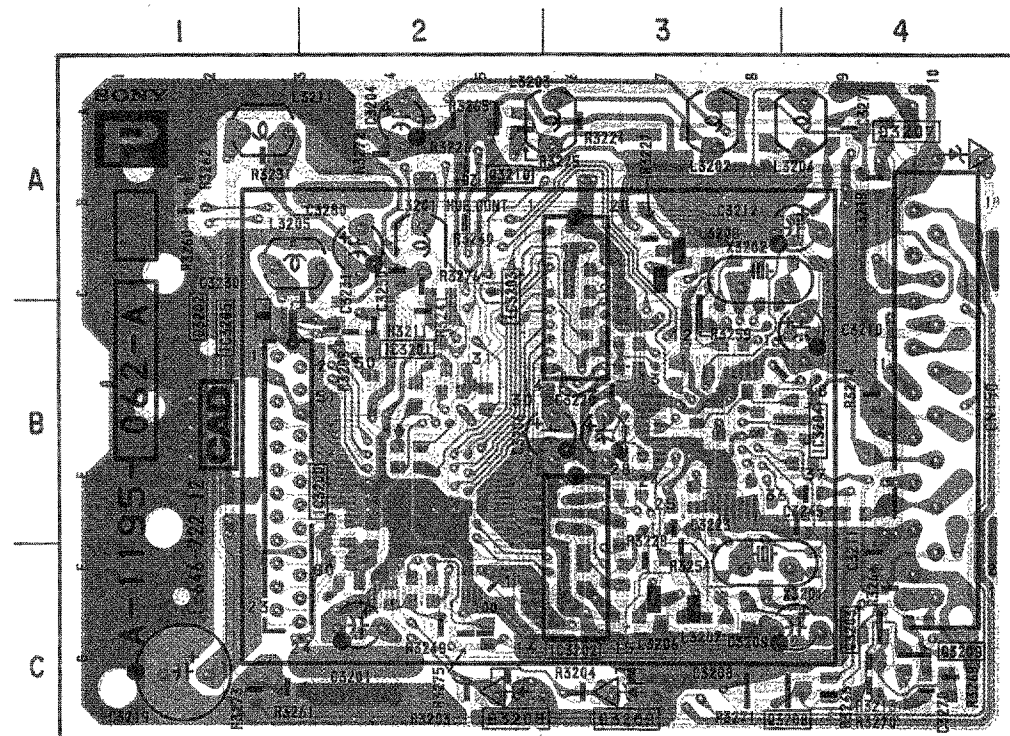
P [PICTURE IN PICTURE] **H** [USER CONTROL]

- P BOARD - (Component Side)

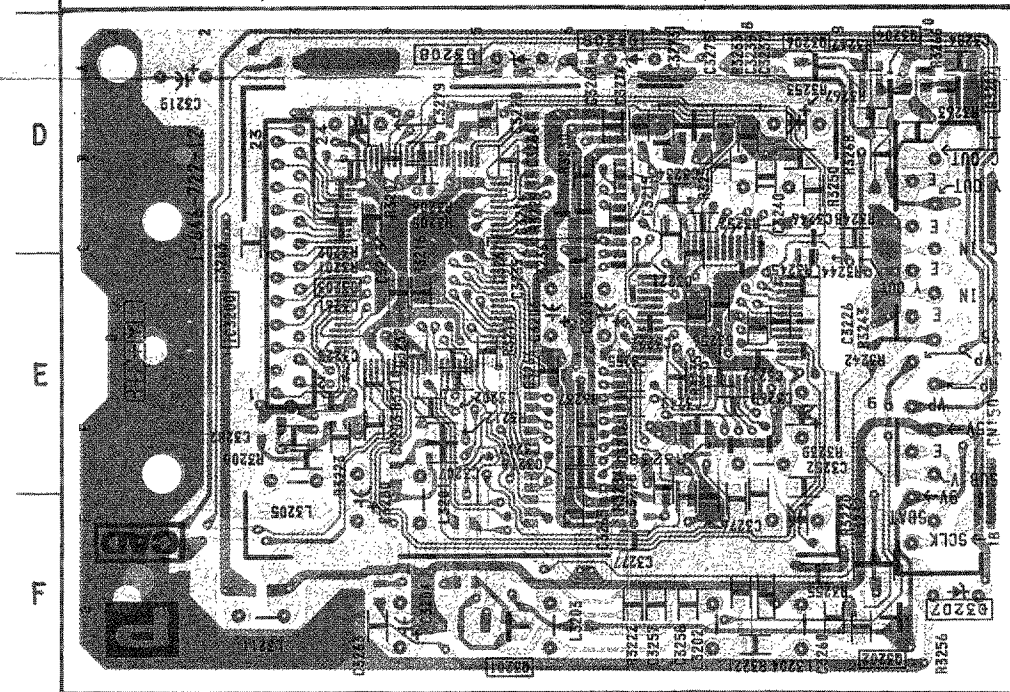
IC	
IC3200	B-1, E-1
IC3201	B-1
IC3202	C-3
IC3203	A-3
IC3204	B-3
IC3205	B-1

TRANSISTOR	
Q3201	F-2
Q3202	F-4
Q3203	C-4
Q3204	D-4
Q3206	D-4
Q3207	D-4
Q3208	C-4
Q3209	C-9
Q3210	A-2

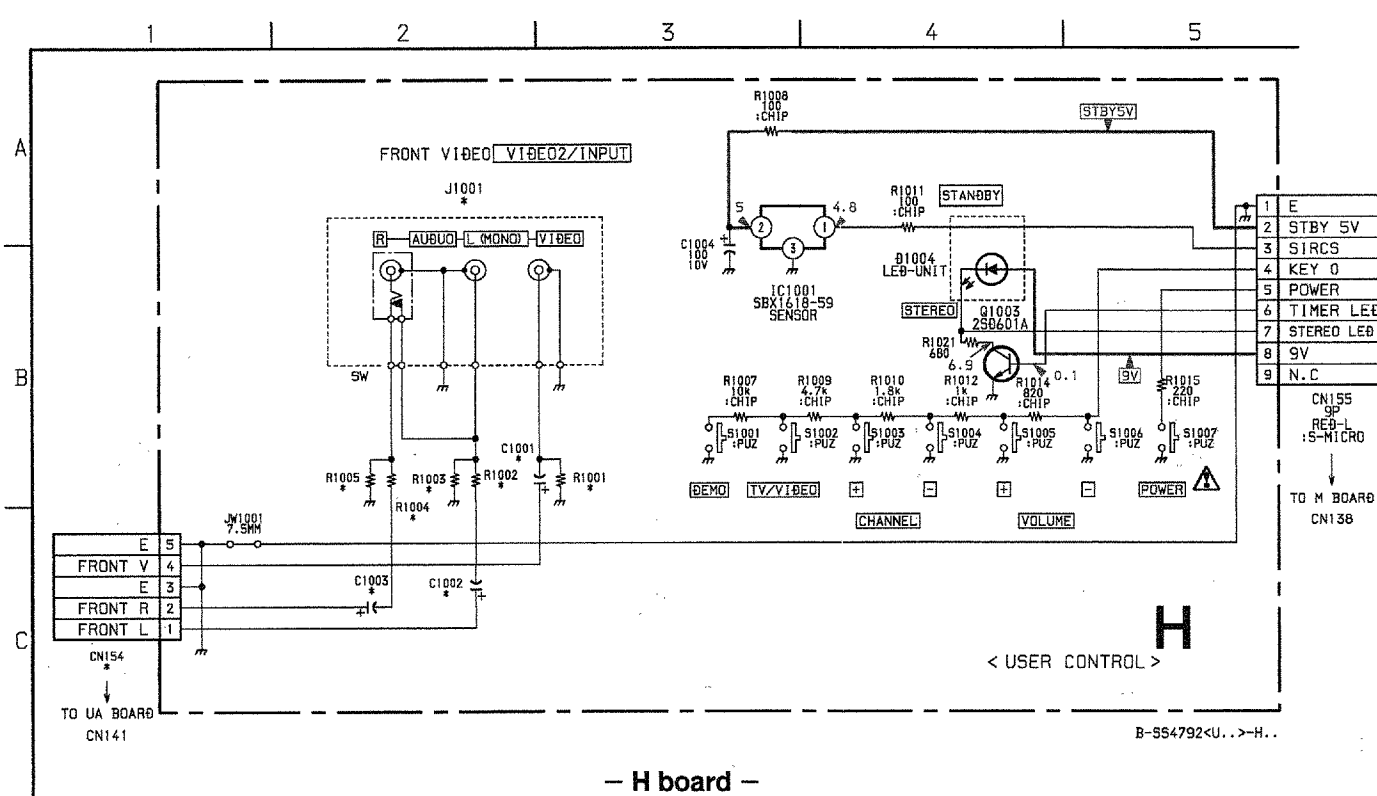
DIODE	
D3202	B-1
D3203	D-2
D3208	C-2, D-2
D3209	C-3, D-3



(Conductor Side)



Note:
 - Pattern from the side which enables seeing.
 - Pattern of the rear side.

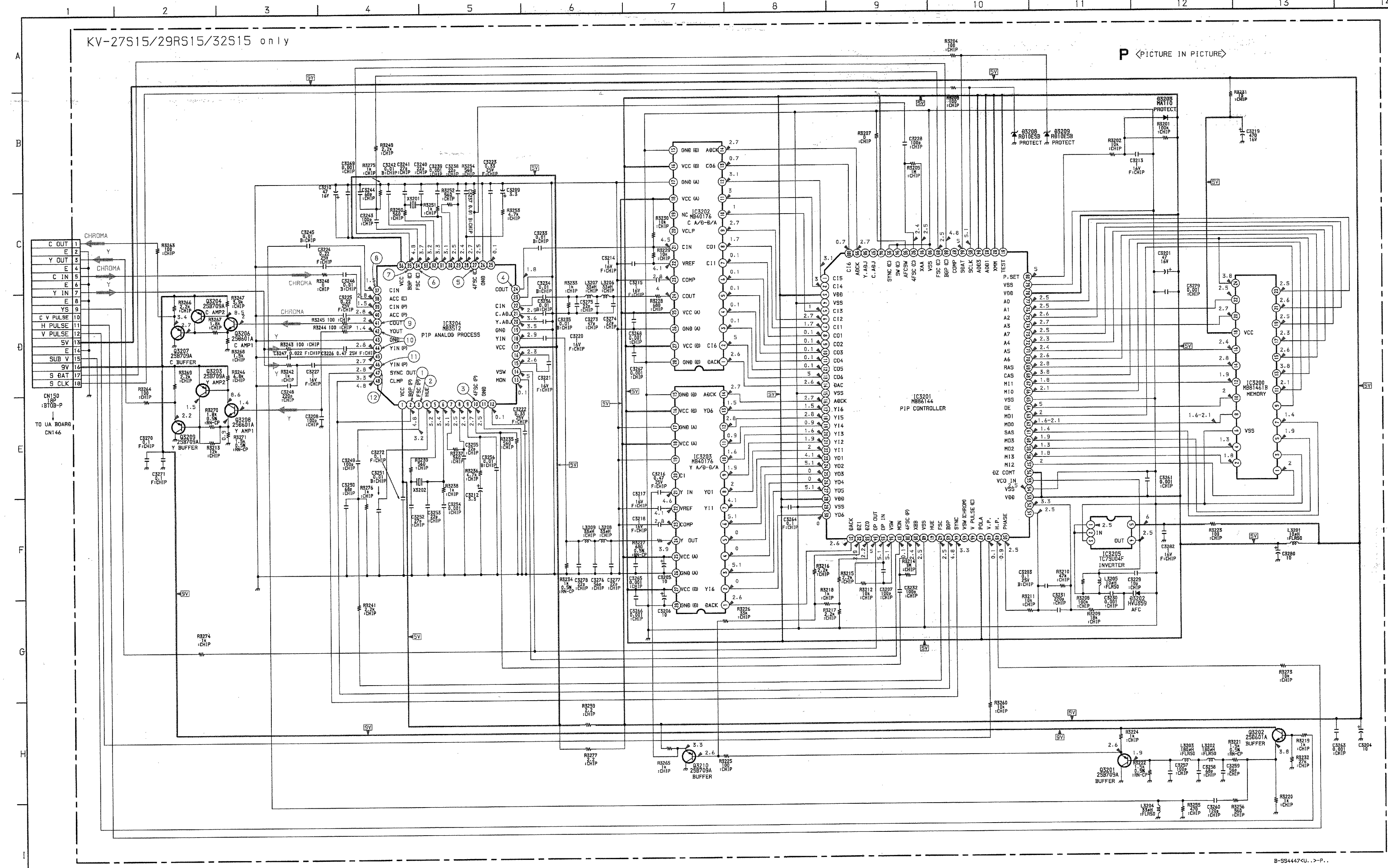
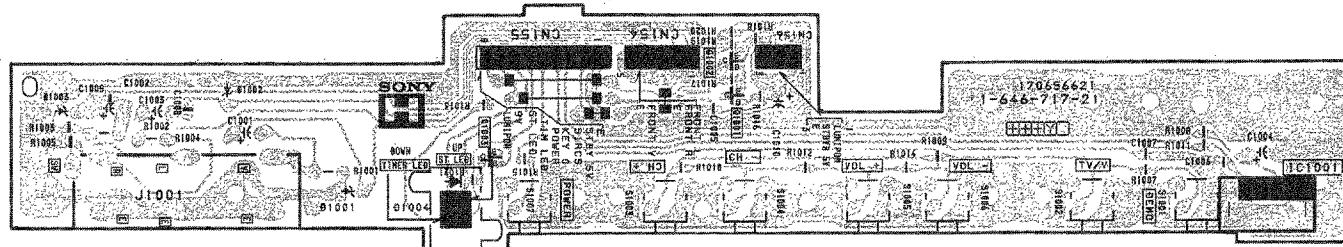


- H board -

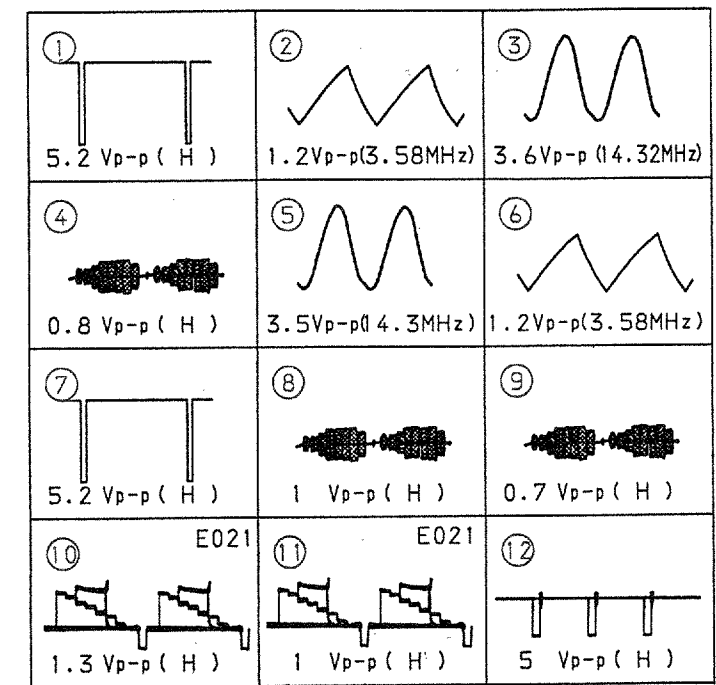
Ref	LOCATION	KV-27S10 / 27S15 KV-29RS10 / 29RS15	KV-32S10 / 32S15
C1001	B-2	-	22 25V
C1002	C-2	-	1
C1003	C-2	-	1
CN154	C-1	-	5P
J1001	A-2	-	3P
R1001	B-3	-	75
R1002	B-2	-	4.7K
R1003	B-2	-	470K
R1004	B-2	-	4.7K
R1005	B-2	-	470K

- NOT MOUNT

- H BOARD -



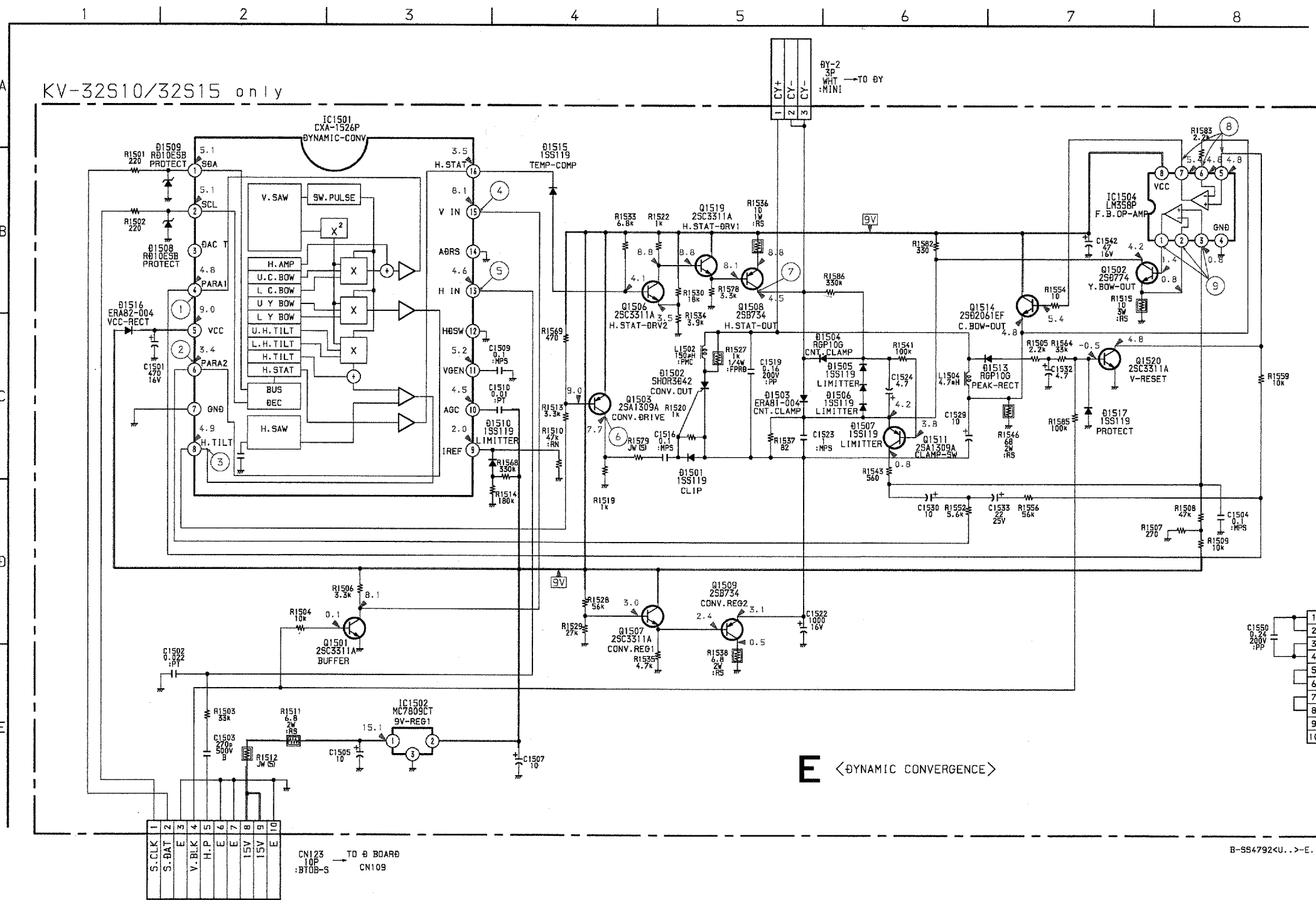
P BOARD WAVEFORMS



E [DYNAMIC CONVERGENCE]

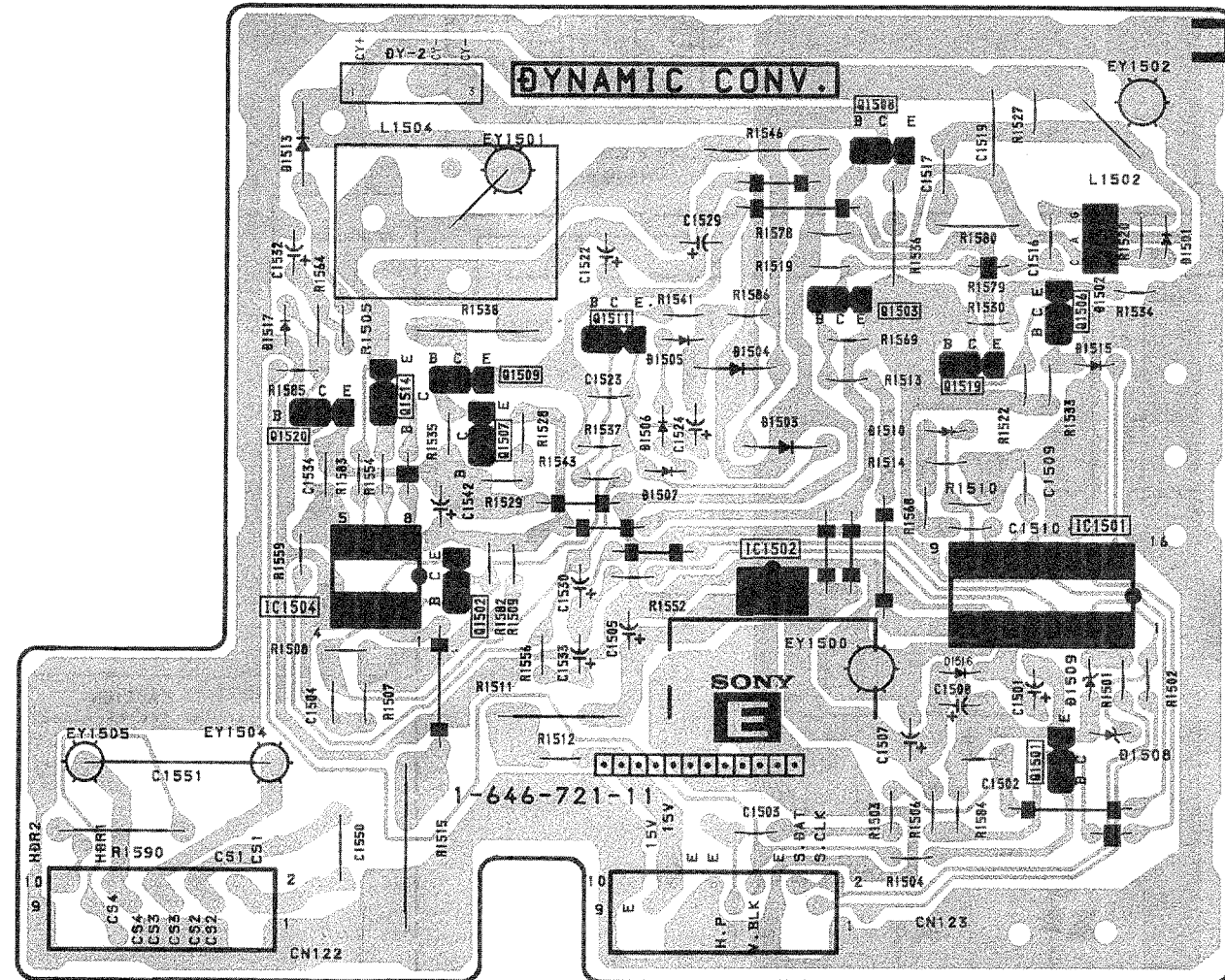
- E BOARD -

(KV-32S10/32S15 only)

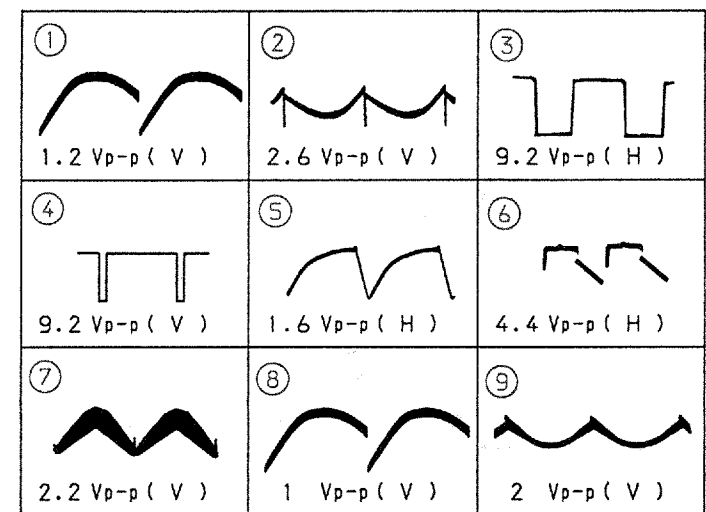


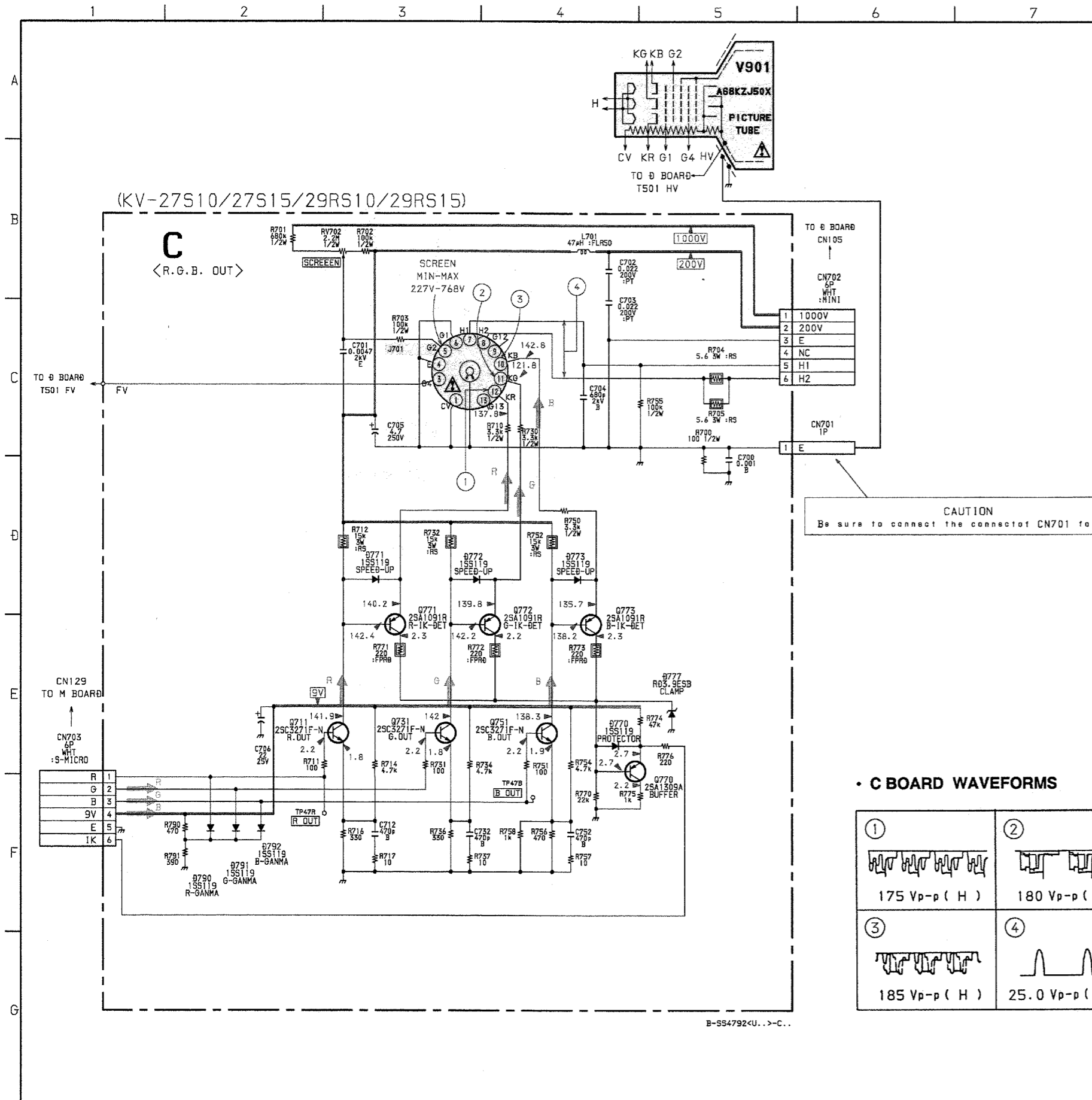
E <DYNAMIC CONVERGENCE>

B-554792<U...>E..

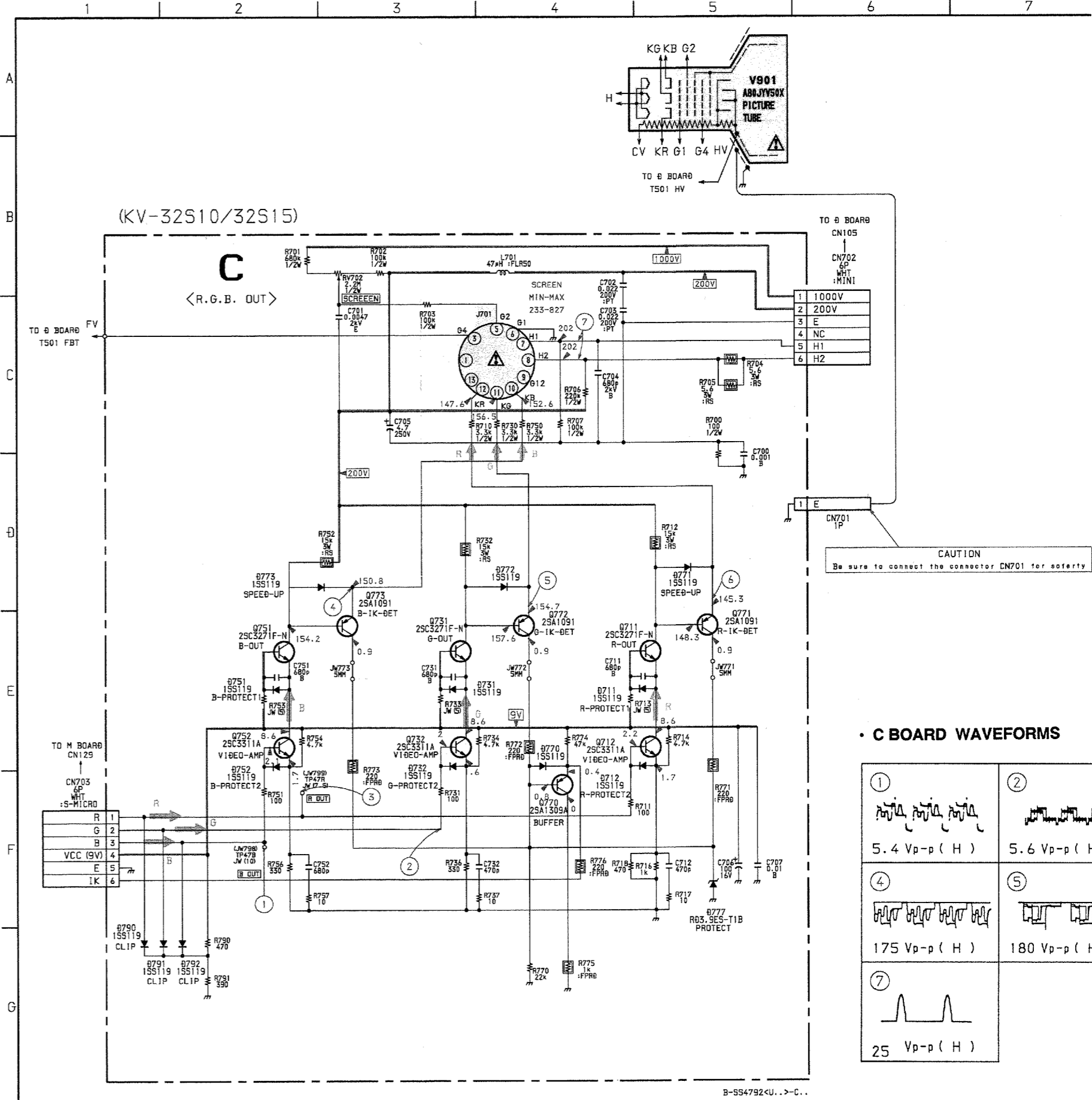
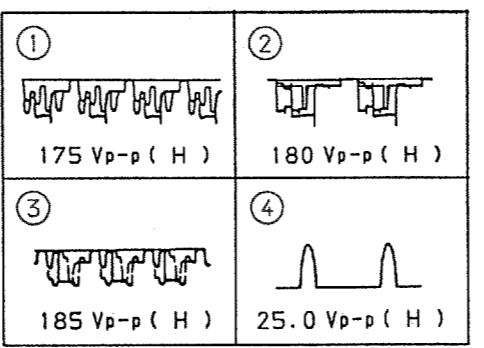


• E BOARD WAVEFORMS

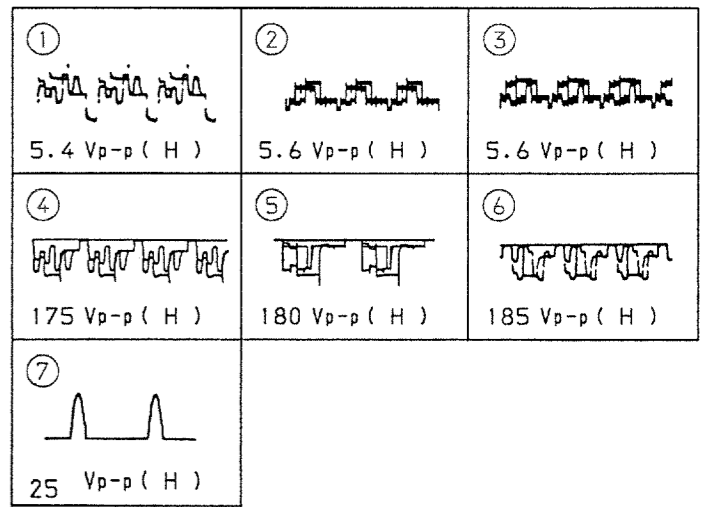




• C BOARD WAVEFORMS

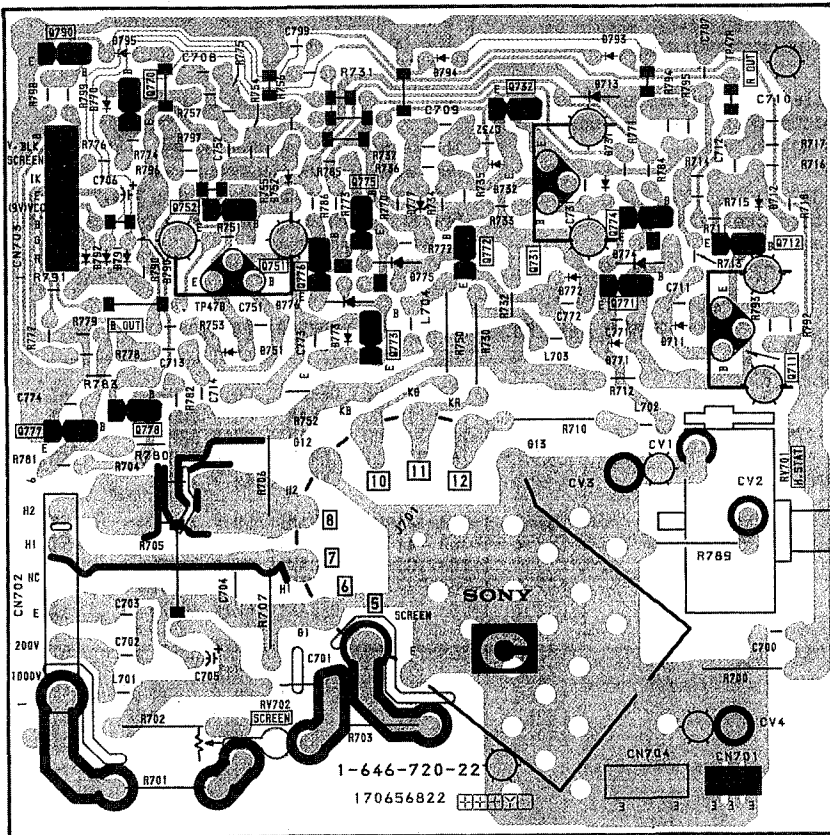


• C BOARD WAVEFORMS

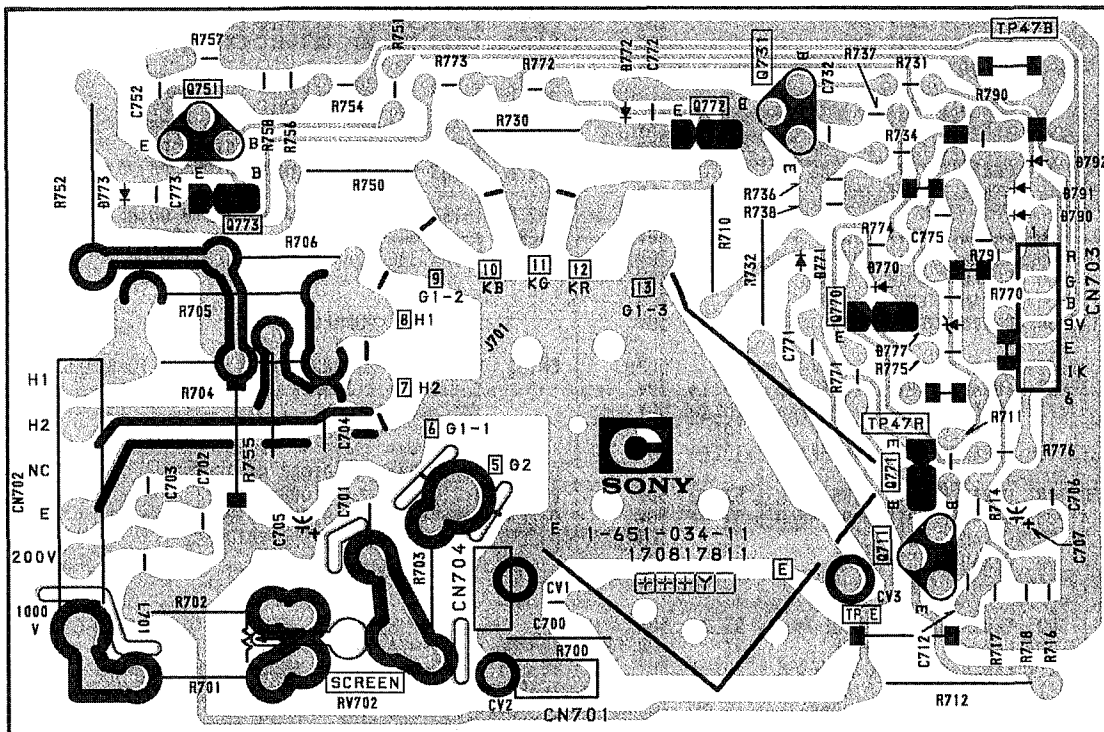


C [R. G. B. OUT]

- C BOARD - (KV-32S10/32S15)

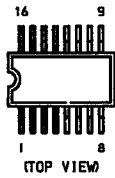


- C BOARD - (KV-27S10/27S15/29RS10/29RS15)

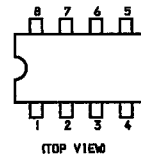


6-5. SEMICONDUCTORS

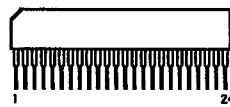
BU4053BF
 CXA1315M



LM358P
 ST24C02AB1
 ST24C01B1
 #PC358C
 #PC393C
 24C02A1/P



MB81461B-12RS-PSZ



SI-3120C



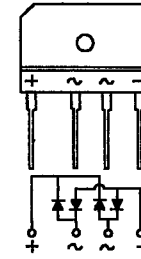
2SA1091-0
 2SA1091-R
 2SC2551-0



2SC2611
 2SC2688-LK
 2SC3271F-N



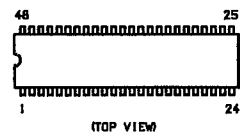
Ø4SB60L



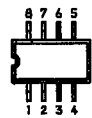
ES1F-LF-G2



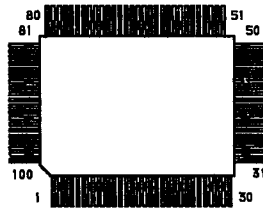
CXA1213BS
 CXA1465AS
 CXA1545AS



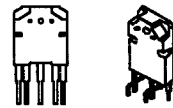
LM358PS
 MM1114XFF
 MM1118XFF



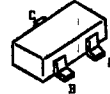
MB86144BPF-G-BNØ



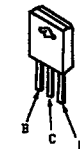
STR81159A



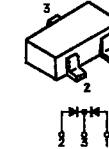
2SA1162G
 2SB709A
 2SD601A



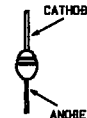
2SC4834MNP



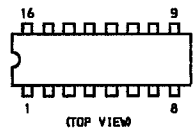
Ø5SC4M



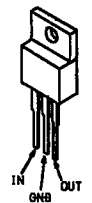
GP08ØPKG3



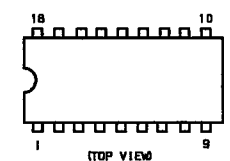
CXA1526P
 MB40176PF-G-BNØ-EF



LM7805CT
 LM7812CT
 MC7809CT
 NJM78M09FA
 NJM7812FA



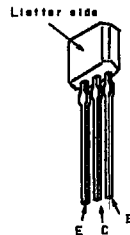
MC144143P1



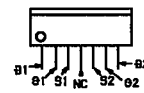
TC7SU04F



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

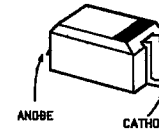


2SC4927-01
 2SC4927-02

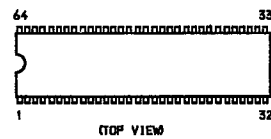


EGP20G
 EL1Z
 GP08Ø
 RGP02-17EL-6433
 RGP10GPKG3
 RGP10GPKG23
 1SS83

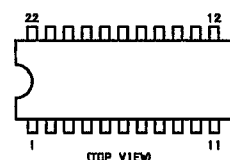
HVU359TRF
 MA110
 1T33



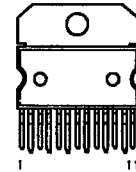
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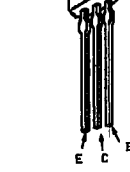
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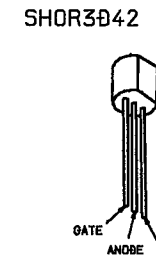
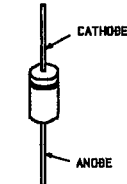
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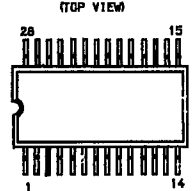
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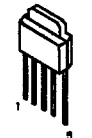
Ø1NS4
 Ø1N20R
 ERA82-004TP
 ERA83-006
 ERA85-009
 RØ10ESB
 RØ10ESB1
 RØ10ESB2
 RØ12ESB3
 RØ13ESB2
 RØ3.3ESB2
 RØ3.9ESB2
 RØ33ESB1
 RØ39ESB4
 RØ5.1ESB
 RØ5.1ESB1
 RØ6.2ESB2
 RØ8.2ESB3
 RØ9.1ESB1
 RØ9.1ESL
 1SS119



CXP80424-0775



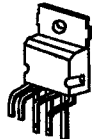
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NJM78L05A



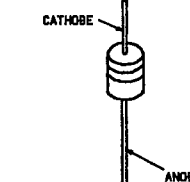
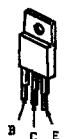
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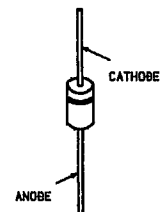
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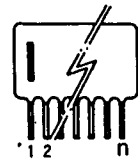
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 2SD2012
 2SD2061



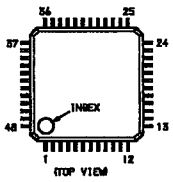
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 ERA83-006
 ERC06-15S
 S2L20UF
 S3V10SS



ØM-48
 ØM-38
 ØM-39



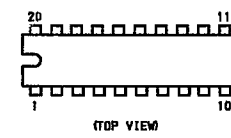
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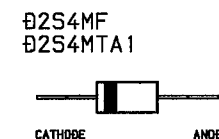
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 SBX1618-51



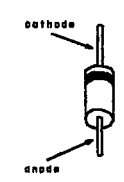
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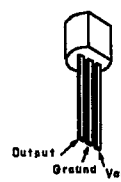
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 2SB734
 2SC3733
 2SD774



ERØ29-Ø8J



#PC78L05J



SECTION 7 EXPLODED VIEWS

NOTE:

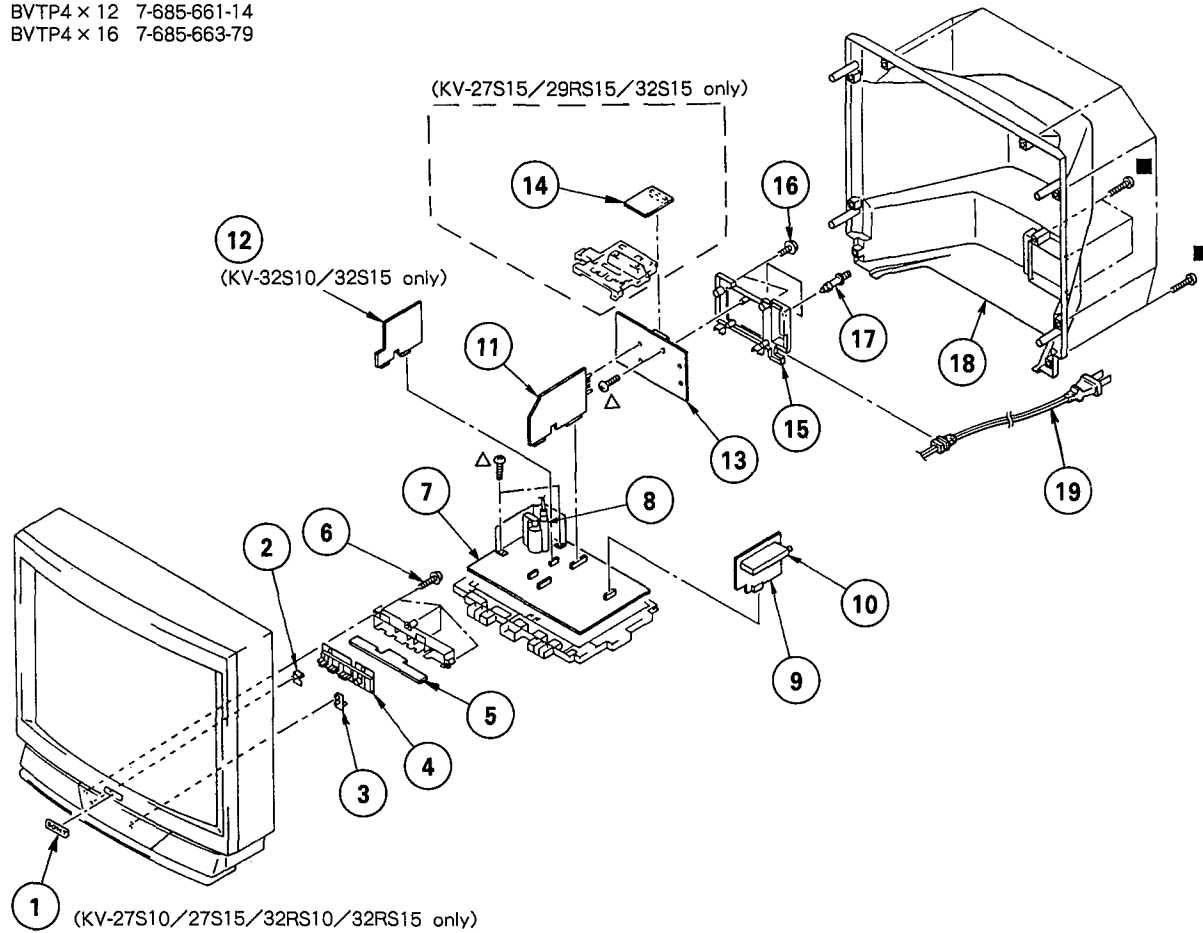
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine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

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

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

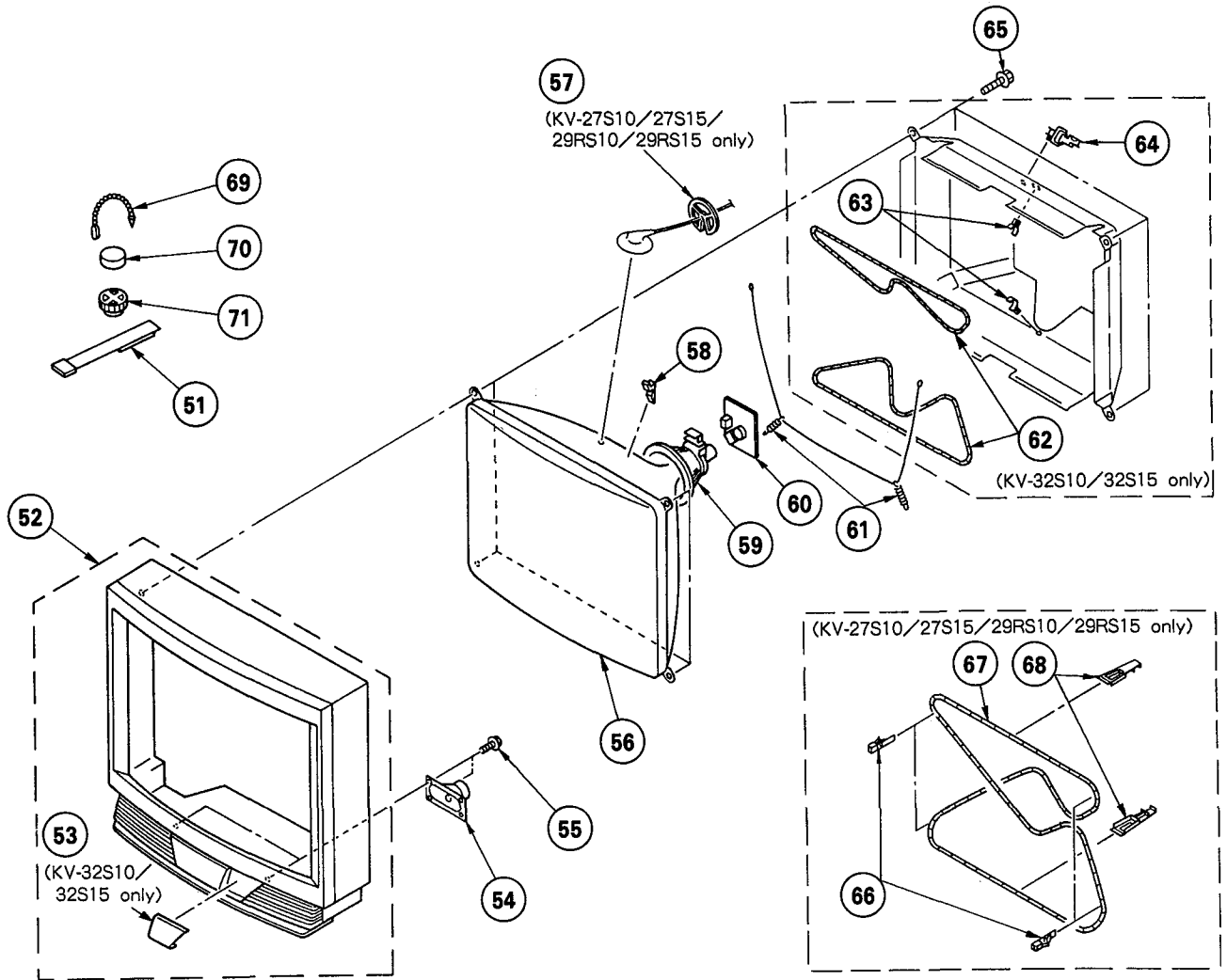
7-1. CHASSIS

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



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	4-394-048-01	EMBLEM (NO.9), SONY		11	*A-1306-454-A	M BOARD, COMPLETE (KV-27S10/27S15/32S10/32S15)	
2	4-039-458-01	FILTER, REMOTE			*A-1306-462-A	M BOARD, COMPLETE (KV-29RS10/29RS15)	
3	4-039-457-21	GUIDE, LED		12	*A-1341-622-A	E BOARD, COMPLETE (KV-32S10/32S15)	
4	4-043-303-01	BUTTON, MULTI		13	*A-1394-526-A	UA BOARD, COMPLETE (KV-27S15/29RS15)	
5	*1-646-717-11	H BOARD			*A-1394-527-A	UA BOARD, COMPLETE (KV-32S15)	
6	4-319-520-11	SCREW, SPECIAL (+PW4X30)			*A-1394-543-A	UA BOARD, COMPLETE (KV-27S10/29RS10)	
7	*A-1346-192-A	D BOARD, COMPLETE (KV-27S10/27S15/29RS10/29RS15)			*A-1394-544-A	UA BOARD, COMPLETE (KV-32S10)	
	*A-1346-193-A	D BOARD, COMPLETE (KV-32S10/32S15)		14	*A-1195-062-A	P BOARD, COMPLETE (KV-27S15/29RS15/32S15)	
8	△ 1-453-146-21	TRANSFORMER ASSY, FLYBACK (NX-A2604A3) (KV-27S10/27S15)		15	4-039-524-01	PANEL, ANTENNA TERMINAL	
	△ 1-453-416-11	TRANSFORMER ASSY, FLYBACK (NX-2604A3) (KV-29RS10/29RS15/32S10/32S15)		16	4-382-854-11	SCREW (M3X10), P, SW (+)	
9	*A-1297-221-A	A BOARD, COMPLETE		17	1-573-657-11	PLUG, F-PIN	
10	△ 8-598-254-00	TUNER BTF-WA402		18	4-039-463-01	COVER, REAR (KV-27S10/27S15/29RS10/29RS15)	
					4-039-634-11	COVER, REAR (KV-32S10/32S15)	
				19	△ 1-751-059-11	CORD, POWER (WITH CONNECTOR) 10A/125V	

7-2. PICTURE TUBE



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

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

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE		60	*A-1331-327-A	C BOARD, COMPLETE (KV-27S10/27S15/29RS10/29RS15)	
52	X-4031-657-1	BEZNET ASSY (KV-32S15)	53				
	X-4031-657-2	BEZNET ASSY (KV-32S10)	53		*A-1331-351-A	C BOARD, COMPLETE (KV-32S10/32S15)	
	4-043-224-01	BEZNET (KV-27S15/29RS15)		61	4-036-329-01	SPRING (B), TENSION	
	4-043-224-11	BEZNET (KV-27S10/29RS10)		62	Δ 1-402-952-12	COIL, DEMAGNETIZATION (KV-32S10/32S15)	
53	4-043-221-01	PANEL, CONTROL (KV-32S10)		63	*4-371-629-01	STOPPER, WIRE (KV-32S10/32S15)	
	4-043-222-01	LID, CONTROL (KV-32S15)		64	4-033-681-01	HOLDER, LEAD (KV-32S10/32S15)	
54	1-504-531-11	SPEAKER (13.1X6.2CM)		65	4-041-268-01	SCREW (7), TAPPING	
55	4-388-477-01	SCREW(3X16), TAPPING, +BV WASHER		66	4-040-388-01	HOLDER (S), DGC (KV-27S10/27S15/29RS10/29RS15)	
56	Δ 8-733-723-05	PICTURE TUBE (A80JYV50X) (KV-32S10/32S15)		67	Δ 1-406-726-22	COIL, DEMAGNETIZATION (KV-27S10/27S15/29RS10/29RS15)	
	Δ 8-733-848-05	PICTURE TUBE (A68KZJ50X) (KV-27S10/27S15/29RS10/29RS15)		68	4-040-387-01	HOLDER (M), DGC (KV-27S10/27S15/29RS10/29RS15)	
57	3-704-372-31	HOLDER, HV CABLE (KV-27S10/27S15/29RS10/29RS15)		69	4-308-870-00	CLIP, LEAD WIRE	
58	4-041-361-01	SPACER, DY		70	1-452-032-00	MAGNET ,DISK; 10MM ϕ	
59	Δ 8-451-275-42	DEFLECTION YOKE Y28PFA(VTM) (KV-27S10/27S15/29RS10/29RS15)		71	1-452-094-00	MAGNET ,ROTATABLE DISK; 15MM ϕ	
	Δ 8-451-315-41	DEFLECTION YOKE Y34PXA(VTM) (KV-32S10/32S15)					

P (KV-27S15/29RS15/32S15)

A

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
IC3205	8-759-243-19	IC TC7SU04F					
<COIL>							
L3201	1-410-470-11	INDUCTOR	10UH	R3238	1-216-049-00	METAL GLAZE	1K 5% 1/10W
L3202	1-408-424-00	INDUCTOR	180UH	R3239	1-216-043-00	METAL GLAZE	560 5% 1/10W
L3203	1-408-424-00	INDUCTOR	180UH	R3241	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
L3204	1-410-476-11	INDUCTOR	33UH	R3242	1-216-049-00	METAL GLAZE	1K 5% 1/10W
L3205	1-410-470-11	INDUCTOR	10UH				
L3206	1-410-387-11	INDUCTOR	33UH	R3243	1-216-025-00	METAL GLAZE	100 5% 1/10W
L3207	1-410-387-11	INDUCTOR	33UH	R3244	1-216-025-00	METAL GLAZE	100 5% 1/10W
L3208	1-410-387-11	INDUCTOR	33UH	R3245	1-216-025-00	METAL GLAZE	100 5% 1/10W
L3209	1-410-387-11	INDUCTOR	33UH	R3246	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
				R3247	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
<TRANSISTOR>							
Q3201	8-729-216-22	TRANSISTOR 2SA1162-G		R3248	1-216-295-00	METAL GLAZE	0 5% 1/10W
Q3202	8-729-422-27	TRANSISTOR 2SD601A-Q		R3249	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
Q3203	8-729-216-22	TRANSISTOR 2SA1162-G		R3250	1-216-043-00	METAL GLAZE	560 5% 1/10W
Q3204	8-729-216-22	TRANSISTOR 2SA1162-G		R3251	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q3206	8-729-422-27	TRANSISTOR 2SD601A-Q		R3252	1-216-043-00	METAL GLAZE	560 5% 1/10W
Q3207	8-729-216-22	TRANSISTOR 2SA1162-G					
Q3208	8-729-422-27	TRANSISTOR 2SD601A-Q		R3253	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
Q3209	8-729-216-22	TRANSISTOR 2SA1162-G		R3254	1-216-043-00	METAL GLAZE	560 5% 1/10W
Q3210	8-729-216-22	TRANSISTOR 2SA1162-G		R3255	1-216-041-00	METAL GLAZE	470 5% 1/10W
				R3256	1-216-043-00	METAL GLAZE	560 5% 1/10W
				R3259	1-216-298-00	METAL GLAZE	2.2 5% 1/10W
<RESISTOR>							
R3201	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R3260	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R3202	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R3263	1-216-025-00	METAL GLAZE	100 5% 1/10W
R3203	1-216-025-00	METAL GLAZE	100 5% 1/10W	R3264	1-216-025-00	METAL GLAZE	100 5% 1/10W
R3204	1-216-025-00	METAL GLAZE	100 5% 1/10W	R3265	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R3205	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R3266	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R3207	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R3208	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R3267	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R3209	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R3268	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R3210	1-216-089-91	METAL GLAZE	47K 5% 1/10W	R3269	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R3211	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R3270	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W
R3212	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R3271	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W
R3213	1-216-075-00	METAL GLAZE	12K 5% 1/10W				
R3214	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R3273	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R3215	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R3274	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R3216	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R3275	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R3217	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R3276	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R3218	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R3277	1-216-298-00	METAL GLAZE	2.2 5% 1/10W
R3219	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R3220	1-216-049-00	METAL GLAZE	1K 5% 1/10W	<CRYSTAL>			
R3221	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W	X3201	1-567-878-11	VIBRATOR, CRYSTAL	
R3222	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W	X3202	1-567-878-11	VIBRATOR, CRYSTAL	
R3223	1-216-025-00	METAL GLAZE	100 5% 1/10W	*****			
R3224	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*A-1297-221-A A BOARD, COMPLETE			
R3225	1-216-025-00	METAL GLAZE	100 5% 1/10W	*****			
R3226	1-216-085-00	METAL GLAZE	33K 5% 1/10W	<CAPACITOR>			
R3227	1-216-647-11	METAL CHIP	680 0.50% 1/10W	C173	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
R3228	1-216-045-00	METAL GLAZE	680 5% 1/10W	C174	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
R3229	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C175	1-126-935-11	ELECT	470MF 20% 16V
R3230	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C176	1-126-935-11	ELECT	470MF 20% 16V
R3231	1-216-001-00	METAL GLAZE	10 5% 1/10W	C177	1-126-964-11	ELECT	10MF 20% 50V
R3232	1-216-083-00	METAL GLAZE	27K 5% 1/10W	C178	1-126-933-11	ELECT	100MF 20% 16V
R3233	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C179	1-124-916-11	ELECT	22MF 20% 25V
R3234	1-216-651-11	METAL CHIP	1K 0.50% 1/10W	C181	1-164-161-11	CERAMIC CHIP	0.0022MF 10% 50V
R3235	1-216-043-00	METAL GLAZE	560 5% 1/10W	<CONNECTOR>			
R3236	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	CN103	*1-564-519-11	PLUG, CONNECTOR	4P
R3237	1-216-043-00	METAL GLAZE	560 5% 1/10W	CN151	1-573-979-21	CONNECTOR, BOARD TO BOARD	11P
				CN152	1-750-394-11	PIN, CONNECTOR (STAKING)	32P
				CN164	1-564-505-11	PLUG, CONNECTOR	2P
				CN165	1-564-505-11	PLUG, CONNECTOR	2P
				CN208	1-564-510-11	PLUG, CONNECTOR	7P



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

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

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
		<DIODE>					
D170	8-719-110-76	DIODE RD33ESB1		C045	1-126-940-11	ELECT 330MF 20%	16V
		<COIL>		C047	1-104-896-11	CERAMIC CHIP 24PF	2%
L170	1-408-408-00	INDUCTOR 8.2UH		C048	1-126-964-11	ELECT 10MF	20%
L171	1-408-408-00	INDUCTOR 8.2UH		C049	1-163-001-11	CERAMIC CHIP 220PF	10%
L172	1-408-408-00	INDUCTOR 8.2UH		C050	1-163-001-11	CERAMIC CHIP 220PF	10%
		<RESISTOR>		C051	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R170	1-216-025-00	METAL GLAZE 100 5%	1/10W	C052	1-163-001-11	CERAMIC CHIP 220PF	10%
R174	1-216-689-11	METAL GLAZE 39K 5%	1/10W	C053	1-163-121-00	CERAMIC CHIP 150PF	5%
R176	1-216-295-00	METAL GLAZE 0 5%	1/10W	C054	1-163-125-00	CERAMIC CHIP 220PF	5%
R177	1-215-900-11	METAL OXIDE 22K 5%	2W	C055	1-163-001-11	CERAMIC CHIP 220PF	10%
R179	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C056	1-163-001-11	CERAMIC CHIP 220PF	10%
R187	1-216-083-00	METAL GLAZE 27K 5%	1/10W	C057	1-163-017-00	CERAMIC CHIP 0.0047MF	10%
R193	1-216-037-00	METAL GLAZE 330 5%	1/10W	C058	1-163-037-11	CERAMIC CHIP 0.022MF	10%
R196	1-216-037-00	METAL GLAZE 330 5%	1/10W	C059	1-163-001-11	CERAMIC CHIP 220PF	10%
		<TUNER>		C060	1-124-903-11	ELECT 1MF	20%
TU101A	8-598-254-00	TUNER BTF-WA402		C062	1-126-964-11	ELECT 10MF	20%
*****				C150	1-136-165-00	FILM 0.1MF	5% 50V
*A-1306-454-A	M BOARD, COMPLETE			(KV-27S10/27S15/32S10/32S15)			
*A-1306-462-A	M BOARD, COMPLETE	(KV-29RS10/29RS15)		C151	1-136-175-00	FILM 0.068MF	5% 50V
*****				(KV-27S10/27S15/32S10/32S15)			
		<CAPACITOR>		C152	1-126-964-11	ELECT 10MF	20%
C002	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V			
C003	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C005	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C006	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C007	1-124-903-11	ELECT 1MF	20%	50V			
C008	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C009	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C010	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C012	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C013	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C014	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C015	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C016	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C017	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C018	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C019	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C021	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C022	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C023	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C025	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C028	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C029	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C032	1-124-902-00	ELECT 0.47MF	20%	50V			
C033	1-126-933-11	ELECT 100MF	20%	10V			
C034	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
		(KV-27S10/27S15/32S10/32S15)					
C035	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
		(KV-27S10/27S15/32S10/32S15)					
C041	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V			
C043	1-163-159-00	CERAMIC CHIP 12PF	2%	50V			
C201	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V			
C202	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C203	1-163-989-11	CERAMIC CHIP 0.033MF	10%	25V			
C204	1-126-933-11	ELECT 100MF	20%	16V			
C205	1-163-001-11	CERAMIC CHIP 220PF	10%	50V			
C211	1-163-989-11	CERAMIC CHIP 0.033MF	10%	25V			
C212	1-124-902-00	ELECT 0.47MF	20%	50V			
C213	1-124-902-00	ELECT 0.47MF	20%	50V			
C214	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V			
C216	1-104-665-11	ELECT 100MF	20%	25V			
C301	1-163-117-00	CERAMIC CHIP 100PF	5%	50V			
C305	1-126-964-11	ELECT 10MF	20%	50V			
C306	1-124-902-00	ELECT 0.47MF	20%	50V			
C307	1-163-125-00	CERAMIC CHIP 220PF	5%	50V			
C308	1-163-099-00	CERAMIC CHIP 18PF	5%	50V			
C310	1-124-916-11	ELECT 22MF	20%	25V			
C311	1-124-903-11	ELECT 1MF	20%	50V			
C313	1-163-003-11	CERAMIC CHIP 330PF	10%	50V			
C315	1-126-964-11	ELECT 10MF	20%	50V			
		(KV-27S10/27S15/32S10/32S15)					
C316	1-126-964-11	ELECT 10MF	20%	50V			
		(KV-27S10/27S15/32S10/32S15)					
C317	1-126-964-11	ELECT 10MF	20%	50V			
		(KV-27S10/27S15/32S10/32S15)					
C318	1-136-165-00	FILM 0.1MF	5%	50V			
C319	1-136-165-00	FILM 0.1MF	5%	50V			
C320	1-136-165-00	FILM 0.1MF	5%	50V			
C321	1-126-952-11	ELECT 1000MF	20%	16V			
C322	1-136-153-00	FILM 0.01MF	5%	50V			



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C323	1-126-923-11	ELECT 220MF 20%	10V			<COIL>	
C324	1-163-003-11	CERAMIC CHIP 330PF 10%	50V				
C325	1-163-037-11	CERAMIC CHIP 0.022MF 10%	25V	L001	1-410-470-11	INDUCTOR 10UH	
C326	1-136-169-00	FILM 0.22MF 5%	50V	L002	1-408-414-00	INDUCTOR 27UH	
C327	1-136-169-00	FILM 0.22MF 5%	50V	L150	1-410-470-11	INDUCTOR 10UH	(KV-27S10/27S15/32S10/32S15)
C328	1-124-902-00	ELECT 0.47MF 20%	50V			<TRANSISTOR>	
C329	1-124-903-11	ELECT 1MF 20%	50V				
C330	1-126-964-11	ELECT 10MF 20%	50V	Q001	8-729-216-22	TRANSISTOR 2SA1162-G	
C332	1-164-489-11	CERAMIC CHIP 0.22MF 10%	16V	Q004	8-729-216-22	TRANSISTOR 2SA1162-G	
C333	1-163-011-11	CERAMIC CHIP 0.0015MF 10%	50V	Q005	8-729-422-27	TRANSISTOR 2SD601A-Q	
C334	1-124-902-00	ELECT 0.47MF 20%	50V	Q151	8-729-422-27	TRANSISTOR 2SD601A-Q	(KV-27S10/27S15/32S10/32S15)
C335	1-163-001-11	CERAMIC CHIP 220PF 10%	50V				
C336	1-124-903-11	ELECT 1MF 20%	50V	Q201	8-729-422-27	TRANSISTOR 2SD601A-Q	
C337	1-124-902-00	ELECT 0.47MF 20%	50V	Q301	8-729-216-22	TRANSISTOR 2SA1162-G	
C338	1-136-153-00	FILM 0.01MF 5%	50V	Q302	8-729-216-22	TRANSISTOR 2SA1162-G	
C340	1-124-903-11	ELECT 1MF 20%	50V	Q308	8-729-422-27	TRANSISTOR 2SD601A-Q	
C341	1-163-005-11	CERAMIC CHIP 470PF 10%	50V			<RESISTOR>	
C342	1-137-414-11	FILM 0.0047MF 10%	100V	JR200	1-216-295-00	METAL GLAZE 0 5%	1/10W
		<CONNECTOR>		JR201	1-216-295-00	METAL GLAZE 0 5%	1/10W
CN129	*1-564-521-11	PLUG, CONNECTOR 6P		JR202	1-216-295-00	METAL GLAZE 0 5%	1/10W
CN130	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P		R002	1-216-073-00	METAL GLAZE 10K 5%	1/10W
CN131	*1-691-914-11	CONNECTOR, BOARD TO BOARD 15P		R003	1-216-033-00	METAL GLAZE 220 5%	1/10W
CN134	*1-564-521-11	PLUG, CONNECTOR 6P	(KV-27S10/27S15/32S10/32S15)	R004	1-216-033-00	METAL GLAZE 220 5%	1/10W
CN137	1-750-394-11	PIN, CONNECTOR (STAKING) 32P		R005	1-216-033-00	METAL GLAZE 220 5%	1/10W
CN138	*1-564-512-11	PLUG, CONNECTOR 9P		R006	1-216-049-00	METAL GLAZE 1K 5%	1/10W
CN163	*1-564-508-11	PLUG, CONNECTOR 5P	(KV-27S10/27S15/32S10/32S15)	R007	1-216-033-00	METAL GLAZE 220 5%	1/10W
CN168	1-564-505-11	PLUG, CONNECTOR 2P		R008	1-216-033-00	METAL GLAZE 220 5%	1/10W
		<DIODE>		R009	1-216-033-00	METAL GLAZE 220 5%	1/10W
D001	8-719-404-46	DIODE MA110		R011	1-216-033-00	METAL GLAZE 220 5%	1/10W
D002	8-719-404-46	DIODE MA110		R012	1-216-033-00	METAL GLAZE 220 5%	1/10W
D004	8-719-404-46	DIODE MA110	(KV-27S10/27S15/32S10/32S15)	R013	1-216-033-00	METAL GLAZE 220 5%	1/10W
D005	8-713-300-57	DIODE 1T33		R016	1-216-033-00	METAL GLAZE 220 5%	1/10W
D006	8-719-110-17	DIODE RD10ESB2		R017	1-216-033-00	METAL GLAZE 220 5%	1/10W
D007	8-719-110-17	DIODE RD10ESB2		R018	1-216-033-00	METAL GLAZE 220 5%	1/10W
D008	8-719-110-17	DIODE RD10ESB2		R019	1-216-033-00	METAL GLAZE 220 5%	1/10W
D009	8-719-110-17	DIODE RD10ESB2		R020	1-216-033-00	METAL GLAZE 220 5%	1/10W
D150	8-719-404-46	DIODE MA110	(KV-27S10/27S15/32S10/32S15)	R021	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D201	8-719-404-46	DIODE MA110		R022	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D202	8-719-404-46	DIODE MA110		R023	1-216-033-00	METAL GLAZE 220 5%	1/10W
D205	8-719-110-17	DIODE RD10ESB2		R025	1-216-033-00	METAL GLAZE 220 5%	1/10W
D206	8-719-110-17	DIODE RD10ESB2		R026	1-216-097-00	METAL GLAZE 100K 5%	1/10W
D207	8-719-510-48	DIODE D1N20R		R027	1-216-121-00	METAL GLAZE 1M 5%	1/10W
D301	8-719-110-17	DIODE RD10ESB2		R028	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D304	8-719-110-17	DIODE RD10ESB2		R029	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
		<IC>		R030	1-216-073-00	METAL GLAZE 10K 5%	1/10W
IC101	8-752-851-01	IC CXP80424-079S		R031	1-216-033-00	METAL GLAZE 220 5%	1/10W
IC102	8-759-168-37	IC ST24C01B1		R032	1-216-033-00	METAL GLAZE 220 5%	1/10W
IC103	8-759-805-37	IC L78LRO5D-MA		R033	1-216-033-00	METAL GLAZE 220 5%	1/10W
IC150	8-759-084-28	IC MC144143P1	(KV-27S10/27S15/32S10/32S15)	R034	1-216-033-00	METAL GLAZE 220 5%	1/10W
IC201	8-759-090-21	IC TDA8424		R035	1-216-033-00	METAL GLAZE 220 5%	1/10W
IC202	8-759-983-69	IC LM358PS		R036	1-216-033-00	METAL GLAZE 220 5%	1/10W
IC301	8-752-059-67	IC CXA1465AS		R037	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R038	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R039	1-216-295-00	METAL GLAZE 0 5%	1/10W
				R040	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R041	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R042	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R043	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R044	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
				R045	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
				R046	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R048	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R049	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R050	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R051	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R052	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
R053	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R054	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R055	1-216-033-00	METAL GLAZE 220 5%	1/10W				
R056	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
R057	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
R058	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R059	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
R060	1-216-079-00	METAL GLAZE 18K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
	1-216-295-00	METAL GLAZE 0 5%	1/10W				
		(KV-29RS10/29RS15)					
R062	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W				
R063	1-216-033-00	METAL GLAZE 220 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R064	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
R065	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
R066	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R067	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R069	1-216-033-00	METAL GLAZE 220 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R070	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R071	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R074	1-216-295-00	METAL GLAZE 0 5%	1/10W				
R075	1-216-295-00	METAL GLAZE 0 5%	1/10W				
R076	1-216-295-00	METAL GLAZE 0 5%	1/10W				
R078	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R079	1-216-295-00	METAL GLAZE 0 5%	1/10W				
R080	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R082	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R083	1-216-089-91	METAL GLAZE 47K 5%	1/10W				
R086	1-216-089-91	METAL GLAZE 47K 5%	1/10W				
R087	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R091	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R092	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R093	1-216-097-00	METAL GLAZE 100K 5%	1/10W				
R150	1-216-097-00	METAL GLAZE 100K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R151	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R152	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R153	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R154	1-216-041-00	METAL GLAZE 470 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R155	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R156	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R157	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R158	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R159	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R160	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R161	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R162	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R163	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R164	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R165	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R166	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R168	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
		(KV-27S10/27S15/32S10/32S15)					
R201	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R202	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R203	1-216-089-91	METAL GLAZE 47K 5%	1/10W				
R204	1-216-089-91	METAL GLAZE 47K 5%	1/10W				
R205	1-216-295-00	METAL GLAZE 0 5%	1/10W				
R206	1-216-295-00	METAL GLAZE 0 5%	1/10W				
R207	1-216-085-00	METAL GLAZE 33K 5%	1/10W				
R208	1-216-089-91	METAL GLAZE 47K 5%	1/10W				
R209	1-216-085-00	METAL GLAZE 33K 5%	1/10W				
R210	1-216-089-91	METAL GLAZE 47K 5%	1/10W				
R211	1-216-033-00	METAL GLAZE 220 5%	1/10W				
R212	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R213	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R218	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R219	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R220	1-216-033-00	METAL GLAZE 220 5%	1/10W				
R222	1-216-089-91	METAL GLAZE 47K 5%	1/10W				
R223	1-216-045-00	METAL GLAZE 680 5%	1/10W				
R301	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R302	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R303	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
R304	1-216-039-00	METAL GLAZE 390 5%	1/10W				
R305	1-216-039-00	METAL GLAZE 390 5%	1/10W				
R306	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W				
R312	1-216-119-00	METAL GLAZE 820K 5%	1/10W				
R313	1-216-079-00	METAL GLAZE 18K 5%	1/10W				
R321	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R323	1-216-041-00	METAL GLAZE 470 5%	1/10W				
R324	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R327	1-216-653-11	METAL CHIP 1.2K 0.50%	1/10W				
R328	1-216-033-00	METAL GLAZE 220 5%	1/10W				
R329	1-216-033-00	METAL GLAZE 220 5%	1/10W				
R330	1-216-295-00	METAL GLAZE 0 5%	1/10W				
R331	1-216-678-11	METAL CHIP 13K 0.50%	1/10W				
R332	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W				
R333	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R334	1-216-687-11	METAL CHIP 33K 0.50%	1/10W				
R335	1-216-121-00	METAL GLAZE 1M 5%	1/10W				
R336	1-216-295-00	METAL GLAZE 0 5%	1/10W				
R337	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R338	1-249-417-11	CARBON 1K 5%	1/4W F				
R339	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R340	1-216-077-00	METAL GLAZE 15K 5%	1/10W				
R341	1-216-085-00	METAL GLAZE 33K 5%	1/10W				
R342	1-216-295-00	METAL GLAZE 0 5%	1/10W				
R343	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W				
R344	1-216-043-00	METAL GLAZE 560 5%	1/10W				
R345	1-216-109-00	METAL GLAZE 330K 5%	1/10W				
R346	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W				

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

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

KV-27S10/27S15/29RS10
RM-Y116 RM-Y121 RM-Y116
KV-29RS15/32S10/32S15
RM-Y121 RM-Y116 RM-Y121



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R347	1-249-409-11	CARBON	220 5% 1/4W F	D772	8-719-911-19	DIODE 1SS119	
R348	1-216-097-00	METAL GLAZE	100K 5% 1/10W	D773	8-719-911-19	DIODE 1SS119	
R349	1-216-089-91	METAL GLAZE	47K 5% 1/10W	D777	8-719-109-72	DIODE RD3.9ESB2	
R351	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	D790	8-719-911-19	DIODE 1SS119	
R352	1-216-089-91	METAL GLAZE	47K 5% 1/10W	D791	8-719-911-19	DIODE 1SS119	
R354	1-216-033-00	METAL GLAZE	220 5% 1/10W	D792	8-719-911-19	DIODE 1SS119	
R356	1-216-295-00	METAL GLAZE	0 5% 1/10W			<JACK>	
R374	1-216-033-00	METAL GLAZE	220 5% 1/10W	J701	Δ 1-540-124-11	SOCKET, PICTURE TUBE	
R375	1-216-033-00	METAL GLAZE	220 5% 1/10W			<COIL>	
		<CRYSTAL>		L701	1-410-478-11	INDUCTOR	47UH
X001	1-579-917-21	VIBRATOR, CRYSTAL				<TRANSISTOR>	
X301	1-567-505-11	OSCILLATOR, CRYSTAL		Q711	8-729-326-11	TRANSISTOR 2SC2611	
*****				Q712	8-729-119-78	TRANSISTOR 2SC2785-HFE (KV-32S10/32S15)	
*A-1331-327-A	C BOARD, COMPLETE			Q731	8-729-326-11	TRANSISTOR 2SC2611	
				Q732	8-729-119-78	TRANSISTOR 2SC2785-HFE (KV-32S10/32S15)	
				Q751	8-729-326-11	TRANSISTOR 2SC2611	
*A-1331-351-A	C BOARD, COMPLETE (KV-32S10/32S15)			Q752	8-729-119-78	TRANSISTOR 2SC2785-HFE (KV-32S10/32S15)	
				Q770	8-729-119-76	TRANSISTOR 2SA1175-HFE	
				Q771	8-729-200-17	TRANSISTOR 2SA1091-0	
				Q772	8-729-200-17	TRANSISTOR 2SA1091-0	
				Q773	8-729-200-17	TRANSISTOR 2SA1091-0	
		<CAPACITOR>				<RESISTOR>	
C700	1-102-074-00	CERAMIC	0.001MF 10% 50V	R700	1-247-739-11	CARBON	100 5% 1/2W
C701	1-162-114-00	CERAMIC	0.0047MF 2KV	R701	1-244-941-00	CARBON	680K 5% 1/2W
C702	1-106-375-12	MYLAR	0.022MF 200V	R702	1-249-496-11	CARBON	100K 5% 1/2W
C703	1-106-375-12	MYLAR	0.022MF 200V	R703	1-249-496-11	CARBON	100K 5% 1/2W
C704	1-162-116-00	CERAMIC	680PF 10% 2KV	R704	1-216-398-11	METAL OXIDE	5.6 5% 3W F
C705	1-123-946-00	ELECT	4.7MF 20% 250V	R705	1-216-398-11	METAL OXIDE	5.6 5% 3W F
C706	1-124-916-11	ELECT	22MF 20% 25V	R707	1-249-496-11	CARBON	100K 5% 1/2W
	1-126-933-11	ELECT	100MF 20% 16V (KV-32S10/32S15)	R710	1-247-758-31	CARBON	3.3K 5% 1/4W (KV-27S10/27S15/29RS10/29RS15)
					1-260-105-11	CARBON	3.3K 5% 1/2W (KV-32S10/32S15)
C707	1-102-129-00	CERAMIC	0.01MF 10% 50V (KV-32S10/32S15)	R711	1-247-807-31	CARBON	100 5% 1/4W
C711	1-164-083-11	CERAMIC	680PF 10% 50V (KV-32S10/32S15)	R712	1-215-924-71	METAL OXIDE	15K 5% 3W F
C712	1-164-081-11	CERAMIC	470PF 10% 50V	R714	1-249-425-11	CARBON	4.7K 5% 1/4W
C731	1-164-083-11	CERAMIC	680PF 10% 50V (KV-32S10/32S15)	R716	1-249-411-11	CARBON	330 5% 1/4W (KV-27S10/27S15/29RS10/29RS15)
C732	1-164-081-11	CERAMIC	470PF 10% 50V		1-249-417-11	CARBON	1K 5% 1/4W (KV-32S10/32S15)
C751	1-164-083-11	CERAMIC	680PF 10% 50V (KV-32S10/32S15)	R717	1-249-393-11	CARBON	10 5% 1/4W
C752	1-164-081-11	CERAMIC	470PF 10% 50V (KV-27S10/27S15/29RS10/29RS15)	R718	1-249-413-11	CARBON	470 5% 1/4W (KV-32S10/32S15)
	1-164-083-11	CERAMIC	680PF 10% 50V (KV-32S10/32S15)	R730	1-247-758-31	CARBON	3.3K 5% 1/4W (KV-27S10/27S15/29RS10/29RS15)
					1-260-105-11	CARBON	3.3K 5% 1/2W (KV-32S10/32S15)
		<CONNECTOR>		R731	1-247-807-31	CARBON	100 5% 1/4W
CN701	1-695-915-11	TAB (CONTACT)		R732	1-215-924-71	METAL OXIDE	15K 5% 3W F
CN702	1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P		R734	1-249-425-11	CARBON	4.7K 5% 1/4W
CN703	*1-564-509-11	PLUG, CONNECTOR 6P		R736	1-249-411-11	CARBON	330 5% 1/4W
				R737	1-249-393-11	CARBON	10 5% 1/4W
		<DIODE>		R750	1-247-758-31	CARBON	3.3K 5% 1/4W (KV-27S10/27S15/29RS10/29RS15)
D711	8-719-911-19	DIODE 1SS119	(KV-32S10/32S15)		1-260-105-11	CARBON	3.3K 5% 1/2W (KV-32S10/32S15)
D712	8-719-911-19	DIODE 1SS119	(KV-32S10/32S15)				
D731	8-719-911-19	DIODE 1SS119	(KV-32S10/32S15)				
D732	8-719-911-19	DIODE 1SS119	(KV-32S10/32S15)				
D751	8-719-911-19	DIODE 1SS119	(KV-32S10/32S15)				
D752	8-719-911-19	DIODE 1SS119					
D770	8-719-911-19	DIODE 1SS119					
D771	8-719-911-19	DIODE 1SS119					

C E (KV-32S10/32S15)

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R751	1-247-807-31	CARBON 100 5% 1/4W				<DIODE>	
R752	1-215-924-71	METAL OXIDE 15K 5% 3W F		D1501	8-719-911-19	DIODE 1SS119	
R754	1-249-425-11	CARBON 4.7K 5% 1/4W		D1502	8-719-801-35	THYRISTOR SHOR3D42	
R755	1-247-758-31	CARBON 3.3K 5% 1/4W		D1503	8-719-980-78	DIODE ERA83-006	
		(KV-27S10/27S15/29RS10/29RS15)		D1504	8-719-302-43	DIODE EL1Z	
R756	1-249-411-11	CARBON 330 5% 1/4W		D1505	8-719-911-19	DIODE 1SS119	
		(KV-32S10/32S15)					
	1-249-413-11	CARBON 470 5% 1/4W		D1506	8-719-911-19	DIODE 1SS119	
		(KV-27S10/27S15/29RS10/29RS15)		D1507	8-719-911-19	DIODE 1SS119	
R757	1-249-393-11	CARBON 10 5% 1/4W		D1508	8-719-110-17	DIODE RD10ESB2	
R758	1-249-417-11	CARBON 1K 5% 1/4W F		D1509	8-719-110-17	DIODE RD10ESB2	
		(KV-27S10/27S15/29RS10/29RS15)		D1510	8-719-911-19	DIODE 1SS119	
R770	1-249-433-11	CARBON 22K 5% 1/4W					
R771	1-249-409-11	CARBON 220 5% 1/4W F		D1513	8-719-302-43	DIODE EL1Z	
R772	1-249-409-11	CARBON 220 5% 1/4W F		D1515	8-719-911-19	DIODE 1SS119	
R773	1-249-409-11	CARBON 220 5% 1/4W F		D1516	8-719-987-87	DIODE ERA85-009	
R774	1-249-437-11	CARBON 47K 5% 1/4W		D1517	8-719-911-19	DIODE 1SS119	
R775	1-249-417-11	CARBON 1K 5% 1/4W F				<IC>	
R776	1-249-409-11	CARBON 220 5% 1/4W F		IC1501	8-752-052-88	IC CXA1526P	
R790	1-249-413-11	CARBON 470 5% 1/4W		IC1502	8-759-701-59	IC NJM78M09FA	
R791	1-249-412-11	CARBON 390 5% 1/4W		IC1504	8-759-135-80	IC UPC358C	
		<VARIABLE RESISTOR>				<COIL>	
RV702	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M		L1502	1-459-592-11	COIL (WITH CORE) (PMC)	
		*****		L1504	1-459-474-11	COIL (WITH CORE)	
	*A-1341-622-A	E BOARD, COMPLETE (KV-32S10/32S15)				<TRANSISTOR>	
		*****		Q1501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
	4-382-854-11	SCREW (M3X10), P, SW (+)		Q1502	8-729-140-96	TRANSISTOR 2SD774-34	
		<CAPACITOR>		Q1503	8-729-119-76	TRANSISTOR 2SA1175-HFE	
C1501	1-126-103-11	ELECT 470MF 20% 16V		Q1506	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C1502	1-137-372-11	FILM 0.022MF 5% 50V		Q1507	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C1503	1-102-234-00	CERAMIC 270PF 10% 500V		Q1508	8-729-140-93	TRANSISTOR 2SB733-34	
C1504	1-136-165-00	FILM 0.1MF 5% 50V		Q1509	8-729-140-93	TRANSISTOR 2SB733-34	
C1505	1-124-907-11	ELECT 10MF 20% 50V		Q1511	8-729-119-76	TRANSISTOR 2SA1175-HFE	
C1507	1-124-907-11	ELECT 10MF 20% 50V		Q1514	8-729-209-15	TRANSISTOR 2SD2012	
C1509	1-136-165-00	FILM 0.1MF 5% 50V		Q1519	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C1510	1-137-370-11	FILM 0.01MF 5% 50V		Q1520	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C1516	1-136-165-00	FILM 0.1MF 5% 50V				<RESISTOR>	
C1519	1-136-104-00	FILM 0.16MF 5% 200V		R1501	1-249-409-11	CARBON 220 5% 1/4W	
C1522	1-124-360-00	ELECT 1000MF 20% 16V		R1502	1-249-409-11	CARBON 220 5% 1/4W	
C1523	1-136-177-00	FILM 1MF 5% 50V		R1503	1-249-435-11	CARBON 33K 5% 1/4W	
C1524	1-124-927-11	ELECT 4.7MF 20% 50V		R1504	1-249-429-11	CARBON 10K 5% 1/4W	
C1529	1-124-907-11	ELECT 10MF 20% 50V		R1505	1-249-421-11	CARBON 2.2K 5% 1/4W	
C1530	1-124-907-11	ELECT 10MF 20% 50V		R1506	1-249-423-11	CARBON 3.3K 5% 1/4W	
C1532	1-124-927-11	ELECT 4.7MF 20% 50V		R1507	1-249-410-11	CARBON 270 5% 1/4W	
C1533	1-126-233-11	ELECT 22MF 20% 25V		R1508	1-249-437-11	CARBON 47K 5% 1/4W	
C1542	1-124-477-11	ELECT 47MF 20% 16V		R1509	1-249-429-11	CARBON 10K 5% 1/4W	
C1550	1-136-756-11	FILM 0.24MF 5% 200V		R1510	1-215-461-00	METAL 47K 1% 1/4W	
		<CONNECTOR>		R1511	1-216-379-11	METAL OXIDE 6.8 5% 2W F	
CN122	1-573-299-21	CONNECTOR, BOARD TO BOARD 10P		R1513	1-249-423-11	CARBON 3.3K 5% 1/4W	
CN123	1-573-299-21	CONNECTOR, BOARD TO BOARD 10P		R1514	1-247-885-00	CARBON 180K 5% 1/4W	
DY-2	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		R1515	1-215-905-11	METAL OXIDE 10 5% 3W F	
				R1519	1-249-417-11	CARBON 1K 5% 1/4W	
				R1520	1-249-417-11	CARBON 1K 5% 1/4W	
				R1522	1-249-417-11	CARBON 1K 5% 1/4W	
				R1527	1-249-417-11	CARBON 1K 5% 1/4W F	
				R1528	1-249-438-11	CARBON 56K 5% 1/4W	
				R1529	1-249-434-11	CARBON 27K 5% 1/4W	

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KV-27S10/27S15/29RS10
RM-Y116 RM-Y121 RM-Y116
KV-29RS15/32S10/32S15
RM-Y121 RM-Y116 RM-Y121

E (KV-32S10/32S15) D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R1530	1-249-432-11	CARBON 18K 5% 1/4W		C532	1-136-165-00	FILM 0.1MF 5% 50V	
R1533	1-249-427-11	CARBON 6.8K 5% 1/4W		C533	1-124-927-11	ELECT 4.7MF 20% 50V	
R1534	1-249-424-11	CARBON 3.9K 5% 1/4W		C534	1-136-161-00	FILM 0.047MF 5% 50V	
R1535	1-249-425-11	CARBON 4.7K 5% 1/4W		C535	1-126-969-11	ELECT 220MF 20% 50V	
R1536	1-215-857-11	METAL OXIDE 10 5% 1W	F	C536	1-137-398-11	FILM 0.068MF 10% 100V	
R1537	1-249-404-00	CARBON 82 5% 1/4W		C537	1-126-964-11	ELECT 10MF 20% 50V	
R1538	1-216-379-11	METAL OXIDE 6.8 5% 2W	F	C538	1-136-161-00	FILM 0.047MF 5% 50V	
R1541	1-249-441-11	CARBON 100K 5% 1/4W		C540	1-137-366-11	FILM 0.0022MF 5% 50V	
R1543	1-249-414-11	CARBON 560 5% 1/4W		C541	1-137-366-11	FILM 0.0022MF 5% 50V	
R1546	1-215-885-00	METAL OXIDE 68 5% 2W	F	C542	1-130-481-00	FILM 0.0068MF 5% 50V	
R1552	1-249-426-11	CARBON 5.6K 5% 1/4W		C545	1-124-927-11	ELECT 4.7MF 20% 50V	
R1554	1-249-393-11	CARBON 10 5% 1/4W		C547	1-164-079-11	CERAMIC 330PF 10% 50V	
R1556	1-249-438-11	CARBON 56K 5% 1/4W		C548 Δ	1-162-116-91	CERAMIC 680PF 10% 2KV	
R1559	1-249-429-11	CARBON 10K 5% 1/4W		C550	1-106-387-00	MYLAR 0.068MF 10% 200V	
R1564	1-249-435-11	CARBON 33K 5% 1/4W		C553	1-164-079-11	CERAMIC 330PF 10% 50V	
R1568	1-247-891-00	CARBON 330K 5% 1/4W		C561	1-162-815-11	CERAMIC 47PF 5% 500V	
R1569	1-249-413-11	CARBON 470 5% 1/4W		C595	1-123-932-00	ELECT 4.7MF 20% 160V	
R1578	1-249-423-11	CARBON 3.3K 5% 1/4W		C598	1-124-342-00	ELECT 3.3MF 20% 160V	
R1582	1-249-411-11	CARBON 330 5% 1/4W		C600	1-126-964-11	ELECT 10MF 20% 50V	
R1583	1-249-421-11	CARBON 2.2K 5% 1/4W		C601 Δ	1-136-311-51	FILM 0.47MF 20% 125V	
R1585	1-249-441-11	CARBON 100K 5% 1/4W		C602 Δ	1-136-311-51	FILM 0.47MF 20% 125V	
R1586	1-247-891-00	CARBON 330K 5% 1/4W		C603 Δ	1-136-311-51	FILM 0.47MF 20% 125V	

*A-1346-192-A	D BOARD, COMPLETE			C604 Δ	1-162-578-81	CERAMIC 0.0047MF 20% 400V	
	*****			C607	1-125-495-11	ELECT 470MF 20% 200V	
	(KV-27S10/27S15/29RS10/29RS15)			C608	1-125-495-11	ELECT 470MF 20% 200V	
*A-1346-193-A	D BOARD, COMPLETE (KV-32S10/32S15)			C609	1-136-169-00	FILM 0.22MF 5% 50V	
	*****			C610	1-136-169-00	FILM 0.22MF 5% 50V	
	4-382-854-11 SCREW (M3X10), P, SW (+)			C611	1-136-169-00	FILM 0.22MF 5% 50V	
	<CAPACITOR>			C612	1-136-169-00	FILM 0.22MF 5% 50V	
C501	1-124-557-11	ELECT 1000MF 20% 25V		C613	1-164-625-11	CERAMIC 680PF 10% 500V	
C502	1-162-131-11	CERAMIC 220PF 10% 2KV		C614	1-164-625-11	CERAMIC 680PF 10% 500V	
C503	1-124-557-11	ELECT 1000MF 20% 25V		C616	1-126-964-11	ELECT 10MF 20% 50V	
C504	1-137-366-11	FILM 0.0022MF 5% 50V		C617	1-126-953-11	ELECT 2200MF 20% 35V	
C505	1-124-916-11	ELECT 22MF 20% 25V		C618	1-124-557-11	ELECT 1000MF 20% 25V	
C506	1-128-560-11	ELECT 22MF 20% 100V		C619	1-126-952-11	ELECT 1000MF 20% 16V	
C507	1-123-947-00	ELECT 10MF 20% 160V		C620	1-164-644-11	CERAMIC 330PF 10% 500V	
C508	1-129-898-00	FILM 0.0022MF 5% 630V		C621	1-126-356-11	ELECT 220MF 20% 160V	
C509	1-124-916-11	ELECT 22MF 20% 25V	(KV-27S10/27S15/29RS10/29RS15)	C623	1-162-117-00	CERAMIC 100PF 10% 500V	
C511	1-123-024-21	ELECT 33MF 10% 160V		C624	1-136-155-00	FILM 0.015MF 5% 50V	
C512	1-102-212-00	CERAMIC 820PF 10% 500V		C625	1-129-719-00	FILM 0.027MF 10% 400V	
C513	1-102-212-00	CERAMIC 820PF 10% 500V		C626	1-104-665-11	ELECT 100MF 20% 25V	
C514	1-102-244-00	CERAMIC 220PF 10% 500V		C634	1-165-127-11	CERAMIC 470PF 10% 500V	
C515	1-137-416-11	FILM 0.01MF 10% 100V		C635	1-124-126-00	ELECT 47MF 20% 16V	
C517	1-162-116-00	CERAMIC 680PF 10% 2KV		C636	1-137-374-11	FILM 0.047MF 5% 50V	
C518	1-162-116-00	CERAMIC 680PF 10% 2KV		C637	1-124-916-11	ELECT 22MF 20% 25V	
C519 Δ	1-104-771-11	FILM 0.02MF 3% 2KV		C639	1-161-740-00	CERAMIC 470PF 10% 400V	
C520 Δ	1-162-134-91	CERAMIC 470PF 10% 2KV		C641	1-126-933-11	ELECT 100MF 20% 10V	
C521 Δ	1-136-316-51	FILM 0.056MF 5% 630V		C642	1-137-217-11	FILM 0.01MF 5% 0	
C522	1-106-383-00	MYLAR 0.047MF 200V		C643	1-137-218-11	FILM 0.012MF 5% 0	
C523	1-102-002-00	CERAMIC 680PF 10% 500V		C645	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
C524	1-102-212-00	CERAMIC 820PF 10% 500V		C646	1-126-933-11	ELECT 100MF 20% 16V	
C525	1-124-902-00	ELECT 0.47MF 20% 50V		C647	1-124-916-11	ELECT 22MF 20% 25V	
C526	1-106-395-00	MYLAR 0.15MF 10% 200V		C684	1-124-667-11	ELECT 10MF 20% 50V	
C527	1-124-341-00	ELECT 1MF 20% 200V		C695	1-126-964-11	ELECT 10MF 20% 50V	
C528	1-136-113-00	FILM 2MF 5% 200V		C2205	1-124-925-11	ELECT 2.2MF 20% 50V	
C529	1-137-410-11	FILM 0.001MF 10% 100V		C2208	1-124-925-11	ELECT 2.2MF 20% 50V	
C530	1-104-844-11	FILM 0.62MF 5% 200V		C2210	1-104-666-11	ELECT 220MF 20% 25V	
C531	1-104-664-11	ELECT 47MF 20% 25V		C2211	1-104-664-11	ELECT 47MF 20% 25V	
				C2212	1-104-666-11	ELECT 220MF 20% 25V	
				C2213	1-136-173-00	FILM 0.47MF 5% 50V	
				C2215	1-136-169-00	FILM 0.22MF 5% 50V	
				C2216	1-126-941-11	ELECT 470MF 20% 25V	
				C2217	1-136-169-00	FILM 0.22MF 5% 50V	
				C2218	1-124-557-11	ELECT 1000MF 20% 25V	

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KV-27S10/27S15/29RS10
RM-Y116 RM-Y121 RM-Y116
KV-29RS15/32S10/32S15
RM-Y121 RM-Y116 RM-Y121

D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
Q614	8-729-119-78	TRANSISTOR 2SC2785-HFE		R614	1-215-883-11	METAL OXIDE	33 5% 2W F
Q2202	8-729-119-78	TRANSISTOR 2SC2785-HFE		R615	1-249-421-11	CARBON	2.2K 5% 1/4W
Q2203	8-729-119-76	TRANSISTOR 2SA1175-HFE		R616	1-249-417-11	CARBON	1K 5% 1/4W
<RESISTOR>				R617	1-249-377-11	CARBON	0.47 5% 1/4W F
R501	1-249-444-11	CARBON	0.56 5% 1/4W F	R618	1-249-377-11	CARBON	0.47 5% 1/4W F
R503	1-215-862-11	METAL OXIDE	68 5% 1W F	R619	1-249-377-11	CARBON	0.47 5% 1/4W F
R504	1-215-872-11	METAL OXIDE	3.3K 5% 1W F	R621	1-249-377-11	CARBON	0.47 5% 1/4W F
R505	1-249-443-11	CARBON	0.47 5% 1/4W F	R622	1-249-377-11	CARBON	0.47 5% 1/4W F
R506	1-215-886-11	METAL OXIDE	100 5% 2W F	R623	1-249-377-11	CARBON	0.47 5% 1/4W F
R507	1-249-429-11	CARBON	10K 5% 1/4W	R624	1-249-377-11	CARBON	0.47 5% 1/4W F
R508	1-249-425-11	CARBON	4.7K 5% 1/4W	R625	1-249-377-11	CARBON	0.47 5% 1/4W F
R509	1-249-389-11	CARBON	4.7 5% 1/4W F	R627	1-249-377-11	CARBON	0.47 5% 1/4W F
Δ R511		CARBON	1/4W	R628	1-249-377-11	CARBON	0.47 5% 1/4W F
R512	1-249-389-11	CARBON	4.7 5% 1/4W F	R629	1-249-388-11	CARBON	3.9 5% 1/4W F
R513	1-216-385-11	METAL OXIDE	0.47 5% 3W F	R630	1-215-857-11	METAL OXIDE	10 5% 1W F
R514	1-249-429-11	CARBON	10K 5% 1/4W	R632	1-249-417-11	CARBON	1K 5% 1/4W F
R515	1-216-363-00	METAL OXIDE	0.33 5% 2W F	R633	1-249-405-11	CARBON	100 5% 1/4W F
R516	1-249-401-11	CARBON	47 5% 1/4W	R635	1-249-413-11	CARBON	470 5% 1/4W F
R517	1-215-916-00	METAL OXIDE	680 5% 3W F	R636	1-249-383-11	CARBON	1.5 5% 1/4W F
R518	1-215-916-00	METAL OXIDE	680 5% 3W F	R637	1-249-421-11	CARBON	2.2K 5% 1/4W
R519	1-249-426-11	CARBON	5.6K 5% 1/4W F	R638	1-249-423-11	CARBON	3.3K 5% 1/4W
R520	1-249-423-11	CARBON	3.3K 5% 1/4W	R639	1-249-423-11	CARBON	3.3K 5% 1/4W
R521	1-249-411-11	CARBON	330 5% 1/4W	R640 Δ	1-202-893-91	SOLID	8.2M 20% 1/2W
R522	1-215-886-11	METAL OXIDE	100 5% 2W F	R643	1-216-379-11	METAL OXIDE	6.8 5% 2W F
R523	1-215-862-11	METAL OXIDE	68 5% 1W F	R644 Δ	1-212-853-61	FUSIBLE	6.8 5% 1/4W F
Δ R524		CARBON	1/4W	R645	1-249-377-11	CARBON	0.47 5% 1/4W F
R525	1-215-884-91	METAL OXIDE	47 5% 2W F	R646	1-249-429-11	CARBON	10K 5% 1/4W
R526	1-247-887-00	CARBON	220K 5% 1/4W	R647	1-249-433-11	CARBON	22K 5% 1/4W
R527	1-215-861-00	METAL OXIDE	47 5% 1W F	R648	1-249-414-11	CARBON	560 5% 1/4W
R528	1-247-750-11	CARBON	680 5% 1/2W F	R649	1-216-431-11	METAL OXIDE	560 5% 1W F
R530	1-215-445-00	METAL	10K 1% 1/4W	R650	1-249-405-11	CARBON	100 5% 1/4W F
R531	1-247-903-00	CARBON	1M 5% 1/4W	R653	1-249-381-11	CARBON	1 5% 1/4W
R532	1-215-446-00	METAL	11K 1% 1/4W	R654	1-216-385-11	METAL OXIDE	0.47 5% 3W F
R534	1-249-385-11	CARBON	2.2 5% 1/4W F	R655	1-249-417-11	CARBON	1K 5% 1/4W F
R535	1-216-453-00	METAL OXIDE	270 5% 2W F	R656	1-249-381-11	CARBON	1 5% 1/4W
R536	1-249-389-11	CARBON	4.7 5% 1/4W F	R657	1-249-417-11	CARBON	1K 5% 1/4W
R539	1-215-459-00	METAL	39K 1% 1/4W	R658	1-249-389-11	CARBON	4.7 5% 1/4W F
R543	1-249-419-11	CARBON	1.5K 5% 1/4W	R659	1-247-883-00	CARBON	150K 5% 1/4W
R546	1-249-431-11	CARBON	15K 5% 1/4W	R660	1-249-433-11	CARBON	22K 5% 1/4W
R547	1-247-883-00	CARBON	150K 5% 1/4W	R661	1-249-406-11	CARBON	120 5% 1/4W
R550	1-215-875-11	METAL OXIDE	10K 5% 1W F	R663	1-247-737-11	CARBON	68 5% 1/2W F
R551	1-215-875-11	METAL OXIDE	10K 5% 1W F	R687	1-216-359-00	METAL OXIDE	6.8 5% 1W F
R554	1-216-371-00	METAL OXIDE	1.5 5% 2W F	R690	1-249-423-11	CARBON	3.3K 5% 1/4W
R556	1-249-411-11	CARBON	330 5% 1/4W	R691	1-249-423-11	CARBON	3.3K 5% 1/4W
R557	1-249-415-11	CARBON	680 5% 1/4W F	R692	1-216-341-11	METAL OXIDE	0.22 5% 1W F
R561	1-249-429-11	CARBON	10K 5% 1/4W	R693	1-216-371-00	METAL OXIDE	1.5 5% 2W F
R562	1-215-437-00	METAL	4.7K 1% 1/4W	R699	1-216-492-11	METAL OXIDE	82K 5% 3W F
R563	1-249-429-11	CARBON	10K 5% 1/4W	R2209	1-249-427-11	CARBON	6.8K 5% 1/4W
R564	1-249-433-11	CARBON	22K 5% 1/4W	R2210	1-249-435-11	CARBON	33K 5% 1/4W
R566	1-249-435-11	CARBON	33K 5% 1/4W	R2211	1-249-427-11	CARBON	6.8K 5% 1/4W
R580	1-249-411-11	CARBON	330 5% 1/4W	R2212	1-249-435-11	CARBON	33K 5% 1/4W
R601 Δ	1-202-888-91	SOLID	2.2M 20% 1/2W	R2215	1-249-425-11	CARBON	4.7K 5% 1/4W
R602 Δ	1-202-888-91	SOLID	2.2M 20% 1/2W	R2216	1-249-437-11	CARBON	47K 5% 1/4W
R603	1-249-419-11	CARBON	1.5K 5% 1/4W	R2217	1-249-435-11	CARBON	33K 5% 1/4W
R605	1-247-893-11	CARBON	390K 5% 1/4W	R2218	1-249-441-11	CARBON	100K 5% 1/4W
R606	1-247-893-11	CARBON	390K 5% 1/4W	R2219	1-249-413-11	CARBON	470 5% 1/4W
R607 Δ	1-202-933-61	FUSIBLE	0.1 10% 1/2W F	R2220	1-249-430-11	CARBON	12K 5% 1/4W
R608	1-215-860-11	METAL OXIDE	33 5% 1W F	R2221	1-249-430-11	CARBON	12K 5% 1/4W
R609	1-216-349-00	METAL OXIDE	1 5% 1W F	R2222	1-249-398-11	CARBON	27 5% 1/4W
R610	1-216-349-00	METAL OXIDE	1 5% 1W F	R2223	1-249-418-11	CARBON	1.2K 5% 1/4W
R611	1-216-492-11	METAL OXIDE	82K 5% 3W F	R2224	1-249-418-11	CARBON	1.2K 5% 1/4W
R613	1-215-883-11	METAL OXIDE	33 5% 2W F	R2225	1-249-398-11	CARBON	27 5% 1/4W
				R2226	1-249-385-11	CARBON	2.2 5% 1/4W F
				R2227	1-249-385-11	CARBON	2.2 5% 1/4W F

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

KV-27S10/27S15/29RS10
 RM-Y116 RM-Y121 RM-Y116
KV-29RS15/32S10/32S15
 RM-Y121 RM-Y116 RM-Y121

D H UA

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

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

REF. NO.	PART NO.	DESCRIPTION	REMARK
R2228	1-249-421-11	CARBON	2.2K 5% 1/4W
R2229	1-249-421-11	CARBON	2.2K 5% 1/4W
<RELAY>			
RY601 Δ	1-515-684-31	RELAY	
RY602	1-515-684-31	RELAY	
<SWITCH>			
S501	1-572-707-11	SWITCH, LEVER	
S502	1-572-707-11	SWITCH, LEVER	
<TRANSFORMER>			
T501 Δ	1-453-146-21	TRANSFORMER ASSY, FLYBACK (NX-A2604A3)	(KV-27S10/27S15)
Δ	1-453-416-11	TRANSFORMER ASSY, FLYBACK (NX-2604A3)	(KV-29RS10/29RS15/32S10/32S15)
T502 Δ	1-437-195-14	TRANSFORMER, HORIZONTAL DRIVE	
T503 Δ	1-424-545-22	TRANSFORMER, FERRITE (PMT)	
T601 Δ	1-423-593-11	TRANSFORMER, LINE FILTER (LFT)	
T602 Δ	1-424-220-21	TRANSFORMER, LINE FILTER	
T603 Δ	1-423-563-11	TRANSFORMER, CONVERTER DRIVE	
T604 Δ	1-423-615-11	TRANSFORMER, CONVERTER (PIT)	
T605	1-423-582-11	TRANSFORMER, FERRITE (SBT)	
<THERMISTOR>			
THP601 Δ	1-809-539-21	THERMISTOR, POSITIVE	
<VARISTOR>			
VDR601	1-807-288-11	VARISTOR	
VDR602	1-810-053-11	VARISTOR	
VDR603	1-810-053-11	VARISTOR	

*1-646-717-11	H BOARD		*****
<CAPACITOR>			
C1001	1-124-916-11	ELECT	22MF 20% 25V (KV-32S15)
C1002	1-124-903-11	ELECT	1MF 20% 50V (KV-32S15)
C1003	1-124-903-11	ELECT	1MF 20% 50V (KV-32S15)
C1004	1-126-933-11	ELECT	100MF 20% 10V
<CONNECTOR>			
CN154	*1-564-520-11	PLUG, CONNECTOR 5P	(KV-32S15)
CN155	1-564-524-11	PLUG, CONNECTOR 9P	
<DIODE>			
D1004	1-810-039-31	LED UNIT	
<IC>			
IC1001	8-741-100-62	IC SBX1618-51	

REF. NO.	PART NO.	DESCRIPTION	REMARK
<JACK>			
J1001	1-695-585-11	JACK BLOCK, PIN (L TYPE) 3P	
<TRANSISTOR>			
Q1003	8-729-422-27	TRANSISTOR 2SD601A-Q	
<RESISTOR>			
R1001	1-247-804-11	CARBON	75 5% 1/4W (KV-32S15)
R1002	1-249-425-11	CARBON	4.7K 5% 1/4W (KV-32S15)
R1003	1-216-113-00	METAL GLAZE	470K 5% 1/10W (KV-32S15)
R1004	1-249-425-11	CARBON	4.7K 5% 1/4W (KV-32S15)
R1005	1-216-113-00	METAL GLAZE	470K 5% 1/10W (KV-32S15)
R1007	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1008	1-216-025-00	METAL GLAZE	100 5% 1/10W
R1009	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R1010	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R1011	1-216-025-00	METAL GLAZE	100 5% 1/10W
R1012	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R1014	1-216-047-00	METAL GLAZE	820 5% 1/10W
R1015	1-216-033-00	METAL GLAZE	220 5% 1/10W
R1021	1-216-045-00	METAL GLAZE	680 5% 1/10W
<SWITCH>			
S1001	1-692-431-21	SWITCH, TACTILE	
S1002	1-692-431-21	SWITCH, TACTILE	
S1003	1-692-431-21	SWITCH, TACTILE	
S1004	1-692-431-21	SWITCH, TACTILE	
S1005	1-692-431-21	SWITCH, TACTILE	
S1006	1-692-431-21	SWITCH, TACTILE	
S1007 Δ	1-692-431-21	SWITCH, TACTILE	

*A-1394-526-A	UA BOARD, COMPLETE	(KV-27S15/29RS15)	*****
*A-1394-527-A	UA BOARD, COMPLETE	(KV-32S15)	*****
*A-1394-543-A	UA BOARD, COMPLETE	(KV-27S10/29RS10)	*****
*A-1394-544-A	UA BOARD, COMPLETE	(KV-32S10)	*****
<CAPACITOR>			
C401	1-163-031-11	CERAMIC CHIP 0.01MF	50V (KV-27S15/29RS15/32S10/32S15)
C402	1-124-916-11	ELECT	22MF 20% 25V
C405	1-124-916-11	ELECT	22MF 20% 25V (KV-27S15/29RS15/32S10/32S15)
C406	1-124-903-11	ELECT	1MF 20% 50V (KV-27S15/29RS15/32S15)
C407	1-124-903-11	ELECT	1MF 20% 50V (KV-27S15/29RS15/32S15)
C408	1-124-916-11	ELECT	22MF 20% 25V (KV-27S15/29RS15/32S15)
C409	1-124-903-11	ELECT	1MF 20% 50V
C410	1-124-903-11	ELECT	1MF 20% 50V



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C411	1-104-665-11	ELECT	100MF 20% 25V (KV-27S10/29RS10/32S10)	IC403	8-759-088-00	IC MN1114XFF (KV-32S10)	
C412	1-124-916-11	ELECT	22MF 20% 25V	IC404	8-759-164-18	IC MN1118XFF (KV-32S10)	
C413	1-126-964-11	ELECT	10MF 20% 50V	<JACK>			
C414	1-124-499-11	ELECT	1MF 20% 50V	J401	1-750-515-11	TERMINAL BLOCK, S 3P (KV-27S15/29RS15/32S10/32S15)	
C415	1-124-499-11	ELECT	1MF 20% 50V		1-750-517-11	JACK BLOCK, PIN 3P (KV-27S10/29RS10)	
C416	1-126-964-11	ELECT	10MF 20% 50V	J402	1-750-517-11	JACK BLOCK, PIN 3P (KV-27S15/29RS15/32S15)	
C417	1-124-902-00	ELECT	0.47MF 20% 50V (KV-27S15/29RS15/32S15)	J404	1-750-516-11	JACK BLOCK, PIN 2P (KV-27S15/29RS15/32S15)	
C418	1-124-902-00	ELECT	0.47MF 20% 50V (KV-27S15/29RS15/32S15)	<COIL>			
C419	1-124-126-00	ELECT	47MF 20% 16V	L401	1-410-473-11	INDUCTOR 18UH (KV-27S15/29RS15/32S15)	
C420	1-163-031-11	CERAMIC CHIP	0.01MF 50V	L403	1-410-476-11	INDUCTOR 33UH (KV-27S15/29RS15/32S15)	
C421	1-124-916-11	ELECT	22MF 20% 25V (KV-27S15/29RS15/32S15)	L404	1-410-669-31	INDUCTOR 33UH (KV-27S15/29RS15/32S15)	
	1-126-959-91	ELECT	0.47MF 20% 50V (KV-32S10)	<TRANSISTOR>			
C433	1-104-663-11	ELECT	33MF 20% 25V (KV-27S15/29RS15/32S15)	Q401	8-729-422-27	TRANSISTOR 2SD601A-Q	
C434	1-163-117-00	CERAMIC CHIP	100PF 5% 50V (KV-27S15/29RS15/32S15)	Q405	8-729-216-22	TRANSISTOR 2SA1162-G	
C441	1-124-126-00	ELECT	47MF 20% 16V	Q406	8-729-216-22	TRANSISTOR 2SA1162-G	
C442	1-163-117-00	CERAMIC CHIP	100PF 5% 50V (KV-27S15/29RS15/32S15)	<RESISTOR>			
C462	1-126-933-11	ELECT	100MF 20% 16V (KV-27S15/29RS15/32S15)	JR400	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S10/29RS10)	
<FILTER BLOCK>				JR401	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S10/29RS10)	
CM401	1-467-554-11	FILTER BLOCK, COMB		JR402	1-216-295-00	METAL GLAZE 0 5% 1/10W	
<CONNECTOR>				JR408	1-216-295-00	METAL GLAZE 0 5% 1/10W	
CN141	*1-564-520-11	PLUG, CONNECTOR 5P (KV-32S15)		JR409	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S10/29RS10/32S10)	
CN143	1-750-395-11	SOCKET, CONNECTOR 32P		JR410	1-216-295-00	METAL GLAZE 0 5% 1/10W	
CN146	1-573-300-21	CONNECTOR, BOARD TO BOARD 18P (KV-27S15/29RS15/32S15)		JR411	1-216-295-00	METAL GLAZE 0 5% 1/10W	
CN147	1-750-395-11	SOCKET, CONNECTOR 32P		JR412	1-216-295-00	METAL GLAZE 0 5% 1/10W	
CN148	1-564-517-11	PLUG, CONNECTOR 2P (KV-32S15)		JR415	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S15/29RS15/32S10/32S15)	
<DIODE>				JR416	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D401	8-719-110-17	DIODE RD10ESB2 (KV-27S15/29RS15/32S10/32S15)		JR418	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D402	8-719-110-17	DIODE RD10ESB2		JR419	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S15/29RS15/32S15)	
D403	8-719-110-17	DIODE RD10ESB2 (KV-27S15/29RS15/32S15)		JR422	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D404	8-719-110-17	DIODE RD10ESB2 (KV-27S15/29RS15/32S15)		JR423	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S10/29RS10/32S10)	
D405	8-719-110-17	DIODE RD10ESB2 (KV-27S15/29RS15/32S15)		JR424	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S10/29RS10/32S10)	
D408	8-719-110-17	DIODE RD10ESB2 (KV-27S15/29RS15/32S10/32S15)		JR428	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D409	8-719-110-17	DIODE RD10ESB2 (KV-27S15/29RS15/32S10/32S15)		JR429	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D410	8-719-110-17	DIODE RD10ESB2		JR430	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D411	8-719-110-17	DIODE RD10ESB2		JR431	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D429	8-719-110-17	DIODE RD10ESB2 (KV-32S15)		JR434	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D430	8-719-110-17	DIODE RD10ESB2 (KV-32S15)		JR435	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-32S10)	
D431	8-719-110-17	DIODE RD10ESB2 (KV-32S15)		JR498	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-32S15)	
D436	8-719-110-17	DIODE RD10ESB2 (KV-27S15/29RS15/32S15)		JR499	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D437	8-719-110-17	DIODE RD10ESB2 (KV-27S15/29RS15/32S15)		JR901	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S15/29RS15/32S10/32S15)	
<IC>				JW454	1-247-429-11	CARBON 10K 5% 1/4W (KV-27S10/29RS10/32S10)	
IC401	8-759-634-69	IC M52470P (KV-27S10/29RS10/32S10)		JW456	1-247-429-11	CARBON 10K 5% 1/4W (KV-27S10/29RS10/32S10)	
IC402	8-752-067-28	IC CXA1545AS (KV-27S15/29RS15/32S15)					

Les composants identifiés par
 une trame et une marque Δ
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 Ne les remplacer que par une
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The components identified by
 shading and mark Δ are critical
 for safety
 Replace only with part number
 specified.



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R401	1-247-804-11	CARBON 75 5% 1/4W (KV-27S15/29RS15/32S10/32S15)		R451	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W (KV-27S15/29RS15/32S15)	
R402	1-216-113-00	METAL GLAZE 470K 5% 1/10W		R453	1-216-645-11	METAL CHIP 560 0.50% 1/10W (KV-27S15/29RS15/32S15)	
R403	1-216-113-00	METAL GLAZE 470K 5% 1/10W			1-216-653-11	METAL CHIP 1.2K 0.50% 1/10W (KV-27S10/29RS10/32S10)	
R404	1-247-804-11	CARBON 75 5% 1/4W		R454	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-27S10/29RS10/32S10)	
R405	1-216-113-00	METAL GLAZE 470K 5% 1/10W (KV-27S15/29RS15/32S15)			1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S15/29RS15/32S15)	
R406	1-216-113-00	METAL GLAZE 470K 5% 1/10W (KV-27S15/29RS15/32S15)		R456	1-216-041-00	METAL GLAZE 470 5% 1/10W (KV-27S15/29RS15/32S15)	
R407	1-247-804-11	CARBON 75 5% 1/4W (KV-27S15/29RS15/32S10/32S15)		R457	1-216-033-00	METAL GLAZE 220 5% 1/10W (KV-27S15/29RS15/32S15)	
R408	1-216-113-00	METAL GLAZE 470K 5% 1/10W (KV-27S15/29RS15/32S15)		R458	1-216-033-00	METAL GLAZE 220 5% 1/10W (KV-27S15/29RS15/32S15)	
R409	1-216-113-00	METAL GLAZE 470K 5% 1/10W (KV-27S15/29RS15/32S15)		R478	1-216-041-00	METAL GLAZE 470 5% 1/10W (KV-27S15/29RS15/32S15)	
R410	1-249-425-11	CARBON 4.7K 5% 1/4W (KV-27S15/29RS15/32S15)		R482	1-249-417-11	CARBON 1K 5% 1/4W (KV-27S15/29RS15/32S15)	
R411	1-249-425-11	CARBON 4.7K 5% 1/4W (KV-27S15/29RS15/32S15)		R483	1-249-417-11	CARBON 1K 5% 1/4W (KV-27S15/29RS15/32S15)	
R412	1-249-425-11	CARBON 4.7K 5% 1/4W		R490	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S15/29RS15/32S15)	
R413	1-249-425-11	CARBON 4.7K 5% 1/4W		R491	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S15/29RS15/32S15)	
R414	1-247-804-11	CARBON 75 5% 1/4W (KV-27S15/29RS15/32S15)		R492	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S15/29RS15/32S15)	
R415	1-249-425-11	CARBON 4.7K 5% 1/4W (KV-27S15/29RS15/32S10/32S15)		R1438	1-216-081-00	METAL GLAZE 22K 5% 1/10W (KV-27S15/29RS15/32S15)	
R416	1-216-647-11	METAL CHIP 680 0.50% 1/10W		*****			
R417	1-216-645-11	METAL CHIP 560 0.50% 1/10W		MISCELLANEOUS			
R418	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-27S10/29RS10/32S10)		*****			
R421	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		Δ 1-402-952-12	COIL, DEMAGNETIZATION (KV-32S10/32S15)		
R425	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		Δ 1-406-726-22	COIL, DEMAGNETIZATION (KV-27S10/27S15/29RS10/29RS15)		
R431	1-216-045-00	METAL GLAZE 680 5% 1/10W (KV-32S10)		1-504-531-11	SPEAKER (13.1X6.2CM)		
	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27S10/27S15/29RS10/29RS15/32S15)		1-573-657-11	PLUG, F-PIN		
R432	1-216-045-00	METAL GLAZE 680 5% 1/10W (KV-32S10)		Δ 1-751-059-11	CORD, POWER (WITH CONNECTOR) 10A/125V		
	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S10/27S15/29RS10/29RS15/32S15)		Δ 8-451-275-42	DEFLECTION YOKE Y28PFA(VTM) (KV-27S10/27S15/29RS10/29RS15)		
R434	1-216-045-00	METAL GLAZE 680 5% 1/10W (KV-32S10)		Δ 8-451-315-41	DEFLECTION YOKE Y34FXA(VTM) (KV-32S10/32S15)		
	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27S10/27S15/29RS10/29RS15/32S15)		Δ 8-733-723-05	PICTURE TUBE (A80JYV50X) (KV-32S10/32S15)		
R435	1-216-045-00	METAL GLAZE 680 5% 1/10W (KV-32S10)		Δ 8-733-848-05	PICTURE TUBE (A68KZJ50X) (KV-27S10/27S15/29RS10/29RS15)		
	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27S10/27S15/29RS10/29RS15/32S15)		*****			
R439	1-216-049-00	METAL GLAZE 1K 5% 1/10W		ACCESSORIES AND PACKING MATERIALS			
R440	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-32S10)		*****			
R441	1-216-049-00	METAL GLAZE 1K 5% 1/10W		3-758-286-21	MANUAL, INSTRUCTION (ENGLISH) (KV-27S10/29RS10/32S10)		
R442	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-27S10/29RS10/32S10)		3-758-286-31	MANUAL, INSTRUCTION (FRENCH) (KV-27S10(CND)/32S10(CND))		
R443	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-27S10/29RS10/32S10)		3-758-286-41	MANUAL, INSTRUCTION (SPANISH) (KV-29RS10/32S10(U))		
R444	1-216-095-00	METAL GLAZE 82K 5% 1/10W (KV-27S15/29RS10/29RS15/32S15)		3-758-289-21	MANUAL, INSTRUCTION (ENGLISH) (KV-27S15/29RS15/32S15)		
R445	1-216-073-00	METAL GLAZE 10K 5% 1/10W (KV-27S15/29RS15/32S15)		3-758-289-31	MANUAL, INSTRUCTION (FRENCH) (KV-27S15(CND)/32S15(CND))		
R446	1-216-073-00	METAL GLAZE 10K 5% 1/10W (KV-27S15/29RS15/32S15)		3-758-289-41	MANUAL, INSTRUCTION (SPANISH) (KV-27S15(U)/29RS15/32S15(U))		
R450	1-216-627-11	METAL CHIP 100 0.50% 1/10W (KV-27S10/29RS10/32S10)					
	1-216-643-11	METAL CHIP 470 0.50% 1/10W (KV-27S15/29RS15/32S15)					

REF. NO.	PART NO.	DESCRIPTION	REMARK
*4-035-022-01		INDIVIDUAL CARTON (KV-27S10/27S15/29RS10/29RS15)	
*4-039-653-01		CUSHION (UPPER) (ASSY) (KV-27S10/27S15/29RS10/29RS15)	
*4-039-654-01		CUSHION (LOWER) (ASSY) (KV-27S10/27S15/29RS10/29RS15)	
*4-040-144-01		CUSHION (LOWER) (ASSY) (KV-32S10/32S15)	
*4-040-146-01		INDIVIDUAL CARTON (KV-32S10/32S15)	
*4-041-255-01		BAG, PROTECTION (KV-27S10/27S15/29RS10/29RS15)	
*4-041-259-01		BAG, PROTECTION (KV-32S10/32S15)	
*4-044-388-01		CUSHION (UPPER) (ASSY) (KV-32S10/32S15)	
REMOTE COMMANDER			
1-466-966-11		REMOTE COMMANDER (RM-Y116) (KV-27S10/29RS10/32S10)	
9-907-826-01		COVER, BATTERY (FOR RM-Y116) (KV-27S10/29RS10/32S10)	
1-467-621-11		REMOTE COMMANDER (RM-Y121) (KV-27S15/29RS15/32S15)	
9-907-089-01		COVER, BATTERY (FOR RM-Y121) (KV-27S15/29RS15/32S15)	

KV-27S10/27S15/29RS10

RM-Y116 RM-Y121 RM-Y116

KV-29RS15/32S10/32S15

RM-Y121 RM-Y116 RM-Y121