

# SERVICE MANUAL

# AA-2W CHASSIS

<u>MODEL</u>	<u>DEST.</u>	<u>COMMANDER</u>	<u>CHASSIS NO.</u>
<b>KV-27FV15</b>	U.S.	RM-Y171	SCC-S32A-A
<b>KV-27FV15</b>	CND	RM-Y171	SCC-S33A-A
<b>KV-29FV10</b>	E	RM-Y168	SCC-S34D-A
<b>KV-29FV15</b>	E	RM-Y171	SCC-S34A-A
<b>KV-29FV15C</b>	E	RM-Y171	SCC-S34C-A
<b>KV-29FV15K</b>	KOREA	RM-Y149A	SCC-S31A-A



KV-29FV15



RM-Y171



TRINITRON® COLOR TV  
**SONY®**

## SPECIFICATIONS

	All Models Except KV-29FV10	KV-29FV10
Power requirements	120V, 60Hz (KV-27FV15 Only); Auto Volt	Auto Volt
Number of inputs/outputs:		
Video <sup>1)</sup>	3	3
S Video <sup>2)</sup>	2	2
Audio <sup>3)</sup>	3	3
Audio Out <sup>4)</sup>	1	1
Monitor Out	1	1
TV Out <sup>1) 3)</sup>	1	—
S-Link	2	—
RF Input	2	1
Speaker output (W)	15W x 2	15W x 2
Power Consumption (W):		
In use (max.)	165W	155W
In standby	2W	2W
Dimensions (W/H/D):		
(mm)	762 x 604 x 499 mm	762 x 604 x 499 mm
(in.)	30 x 23 <sup>3/4</sup> x 19 <sup>5/8</sup> in	30 x 23 <sup>3/4</sup> x 19 <sup>5/8</sup> in
Mass:		
(kg.)	50 kg	50 kg
(lbs.)	110 lbs	110 lbs

### Television system

American TV standard (KV-27FV15), NTSC

### Channel coverage

VHF:2-13 / UHF:14-69 / CATV:1-125

### Picture tube

FD Trinitron® tube

### Visible screen size

27-inch picture measured diagonally

### Actual screen size

29-inch picture measured diagonally

### Antenna

75 ohm external antenna terminal for VHF/UHF

### Supplied accessories

Remote control RM-Y168 (KV-29FV10)  
 Remote control RM-Y171 (All Models Except  
 KV-29FV10, KV-29FV15K)  
 Remote Control RM-Y149A (KV-29FV15K)  
 Battery size AA (R6) w/2

### Optional accessories

Connecting Cables:  
 RK-74A, RK-G69HG  
 VMC-10HG/30HG, VMC-720M,  
 VMC-810S/820S, YC-15V/30V,  
 TV Stand: SU-27A3  
 VHF/UHF Mixer: EAC-66

### Notes:

- <sup>1)</sup> 1 Vp-p 75 ohms unbalanced, sync negative  
<sup>2)</sup> Y: 1 Vp-p 75 ohms unbalanced, sync negative  
 C: 0.286 Vp-p (Burst signal), 75 ohms  
<sup>3)</sup> 500 mVrms (100% modulation), Impedance: 47 kilohms  
<sup>4)</sup> More than 408 mVrms at the maximum volume setting (variable)  
 More than 408 mVrms (fix); Impedance (Output): 2 kilohms

### ( ● ) ® SRS (SOUND RETRIEVAL SYSTEM)

The ( ● ) SRS (SOUND RETRIEVAL SYSTEM) is manufactured by Sony Corporation under license from SRS Labs, Inc. It is covered by U.S. Patent No. 4,748,669. Other U.S. and foreign patents pending.

The word 'SRS' and the SRS symbol ( ● ) are registered trademarks of SRS Labs, Inc.

BBE and BBE symbol are trademarks of BBE Sound, Inc. and are licensed by BBE Sound, Inc. under U.S. Patent No. 4,638,258 and 4,482,866.

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## WARNINGS AND CAUTIONS


### **CAUTION!**

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

### **WARNING!!**

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

### **SAFETY-RELATED COMPONENT WARNING!!**

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR 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 FOR 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 RESQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

### **ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!**

LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET PAR UNE MARQUE  SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES SONT 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 SUSPECTE.

## SAFETY CHECK-OUT

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 cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampere). 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 instructions.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63Trd are examples of passive VOMs that are 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)

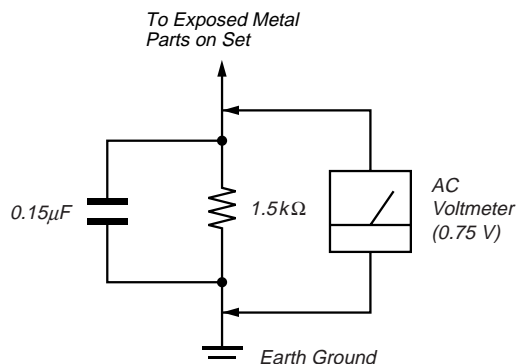


Fig. A. Using an AC voltmeter to check AC leakage.

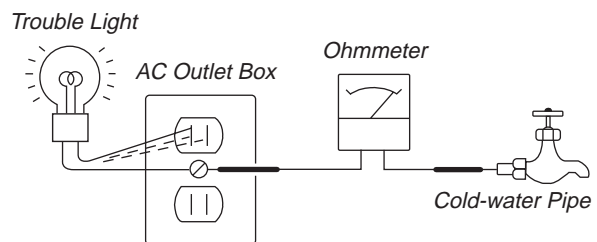


Fig. B. Checking for earth ground.



## SECTION 1 GENERAL

The instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers shown reflect those of the Operating Instruction Manual.

### Connecting and Installing the TV

#### Making Connections

Refer to the table below, it will direct you to the diagram suitable to the equipment you will be connecting.

If you will be connecting	See page
Cable or antenna only	3
Cable and antenna	3
Cable box	4
Cable box and cable to view scrambled channels	4
VCR and cable or antenna	5
VCR and cable box	5
Two VCRs for tape editing	6
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Camcorder to view tapes	9
CONTROL S	10
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### Connecting and Installing the TV (continued)

#### Cable Box Connections

Some pay cable TV systems use scrambled or encoded signals that require a cable box to view all channels.

##### Cable box

- 1 Connect the coaxial connector from your cable to the IN on your cable box.
- 2 Using a coaxial cable, connect OUT on your cable box to VHF/UHF on your TV.

##### Cable box and cable

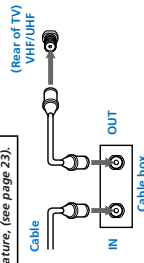
For this set up, you can switch between scrambled channels (through your cable box), and normal (CATV) channels by pressing ANT on your remote control.

- Notes**
- Your Sony remote control can be programmed to operate your cable box, (see page 31).
  - When using PIP, you cannot view the AUX input in the window picture.

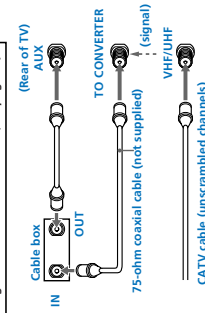
**Tip** Pressing ANT switches between these inputs.

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If you will be controlling all channel selection through your cable box, you should consider using the CHANNEL FIX feature, (see page 23).

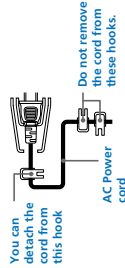


If you are connecting a cable box through the AUX input and would like to switch between the AUX and normal (CATV) input, you should consider using the CHANNEL FIX feature, (see page 23).



#### Note about the AC Power Cord

The AC power cord is attached to the rear of the TV with hooks. Use caution when removing the AC plug from its holder. Gently slide the cord in the upward direction, without removing the cord from the two lower hooks.



#### Cable and antenna

If your cable provider does not feature local channels, you may find this set up convenient.

- A** • VHF only  
or  
• VHF/UHF  
or  
• Cable
- B** • VHF only  
or  
• UHF only  
or  
• VHF/UHF
- C** • VHF  
and  
• UHF

#### Cable or Antenna Connections Connecting directly to cable or an antenna

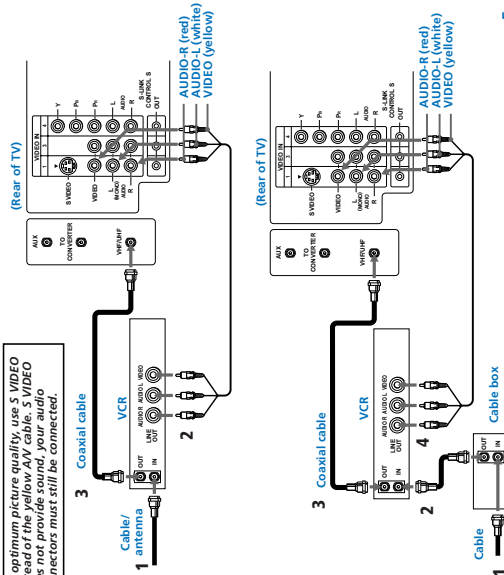
The connection you choose will depend on the cable found in your home. Newer homes will be equipped with standard coaxial cable (see **A**); older homes will probably have 300-ohm twin lead cable (see **B**); still other homes may contain both (see **C**).

#### Note

In order to receive channels with an antenna, you will need to turn your CABLE to OFF and perform the AUTO PROGRAM function, (see page 23).

3

For optimum picture quality, use S VIDEO instead of the yellow A/V cable. S VIDEO does not provide sound, your audio connector must still be connected.



#### VCR Connections Connecting an antenna/cable TV system with a VCR

- 1 Attach the coaxial connector from your cable or antenna to IN on your VCR.
- 2 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.
- 3 Using a coaxial connector, connect OUT on your VCR to VHF/UHF on your TV.

##### Tip

If you are connecting a monaural VCR, connect only the single white audio output to the left input on your TV.

#### Connecting a VCR and TV with a cable box

- 1 Connect the coaxial cable from the wall to IN on your cable box.
- 2 Using a coaxial connector, connect OUT on your cable box to IN on your VCR.
- 3 Connect a coaxial cable (not supplied) from the OUT jack on your VCR to VHF/UHF on your TV.
- 4 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.

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## Connecting and Installing the TV (continued)

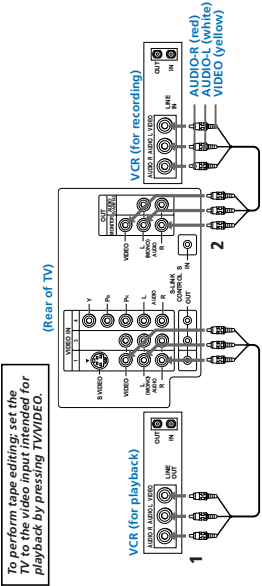
### Connecting two VCRs for tape editing

MONITOR OUT gives you the ability to use a second VCR to record a program being played by the primary VCR or to perform tape editing and dubbing.

- 1 Connect the VCR intended for playback using the connection instructions on page 5 of this manual.
- 2 Using A/V connectors, connect AUDIO and VIDEO IN on your VCR intended for recording to MONITOR AUDIO and VIDEO OUT on your TV.

#### Note

You cannot record signals from equipment connected to the Y, Pb, Pr input.



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## Connecting and Installing the TV (continued)

### DVD Player Connections

#### Connecting a DVD Player

- 1 Using audio connectors, connect AUDIO OUT on your DVD player to AUDIO IN on your TV.
- 2 Using an S VIDEO cable, connect S VIDEO OUT on your DVD player to S VIDEO IN on your TV.

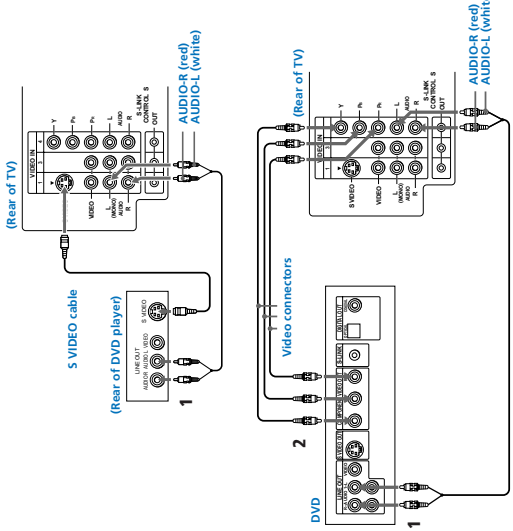
#### Connecting a DVD Player with component video output connectors

Except KV-27FV15  
This connection option offers the highest quality DVD picture.

- 1 Using AUDIO connectors, connect AUDIO R and L of the LINE OUT on your DVD player to AUDIO R and L on the VIDEO IN 4 panel at the rear of your TV.
- 2 Using three VIDEO connectors, connect Y, Pb, and Pr on the COMPONENT VIDEO OUT on your DVD player to Y, Pb, and Pr on the VIDEO IN 4 panel at the rear of your TV.

#### Note

Some DVD player terminals may be labeled Y, Cb, and Cr or Y, B-Y, and R-Y. If so, connect them by matching the colors.

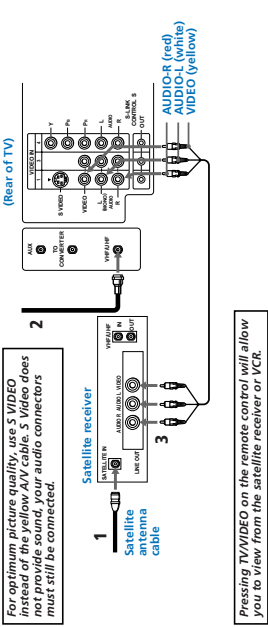


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### Satellite Receiver Connections

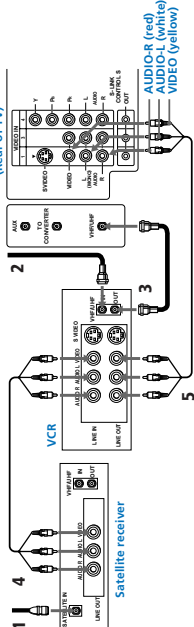
#### Connecting a satellite receiver

- 1 Connect the cable from your satellite antenna to SATELLITE IN on your receiver.
- 2 Attach the coaxial connector from your cable or antenna to VHF/UHF on your TV.
- 3 Using A/V connectors, connect AUDIO and VIDEO OUT on your receiver to AUDIO and VIDEO IN on your TV.



#### Connecting a satellite receiver and a VCR

- 1 Connect the cable from your satellite antenna to SATELLITE IN on your receiver.
- 2 Attach the coaxial connector from your cable or antenna to IN on your VCR.
- 3 Using a coaxial connector, connect OUT on your VCR to VHF/UHF on your TV.
- 4 Using A/V connectors, connect AUDIO and VIDEO OUT on your receiver to AUDIO and VIDEO IN on your VCR.
- 5 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.



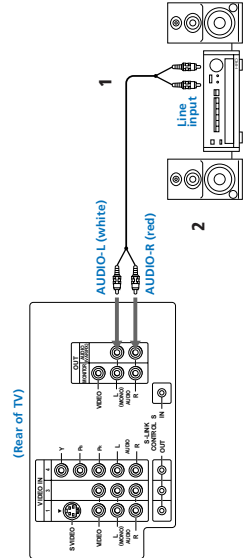
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### Additional Connections

#### Connecting an audio system

For an enhanced sound, connect your audio system to your TV.

- 1 Using AUDIO connectors, connect AUDIO OUT on your TV to one of the unused Line inputs (e.g. Tape-2, AUX1, etc.) on your stereo.
- 2 Set your stereo to the chosen Line input and use the AUDIO menu to set your audio output, (see page 20).



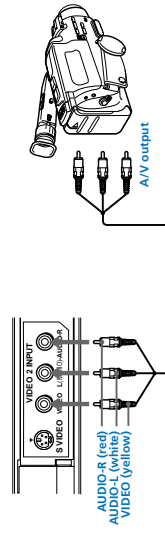
#### Connecting a camcorder

This connection is convenient for viewing a picture directly from your camcorder.

Using A/V connectors, connect AUDIO and VIDEO OUT on your camcorder to AUDIO and VIDEO IN on your TV.

#### Tip

If you are connecting a monaural camcorder, connect only the single white audio output to the left input on your TV.



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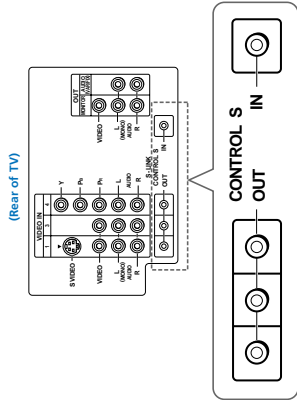
Connecting and Installing the TV (continued)

Using Special Sony Features  
Using the CONTROL S feature

KV-27FV15, 32FV15, 36FV15 only  
CONTROL S allows you to control your TV and other Sony equipment with one remote control.

Using the supplied CONTROL S cable, connect CONTROL S IN on your Sony equipment, (e.g. VCR) to CONTROL S OUT on your TV.

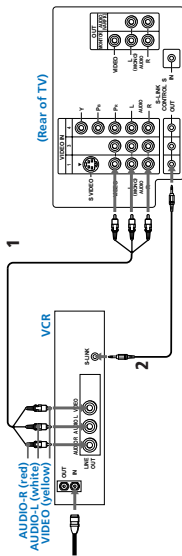
**Tip**  
You can also program your remote control to operate other equipment. (see page 29).



Connecting S-Link to a VCR  
KV-27FV15, 32FV15, 36FV15 only

S-Link automatically powers on the TV and switches to the correct video input when a tape is inserted in the VCR.

- 1 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.
- 2 Using an S-Link connector (mono mini plug), connect S-LINK on your VCR to S-LINK/CONTROL S-OUT in the same VIDEO IN column on your TV.



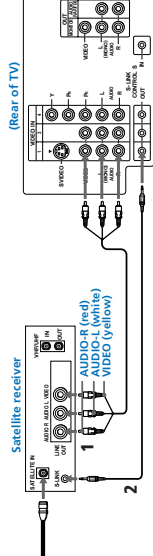
Connecting S-Link to a satellite receiver

KV-27FV15, 32FV15, 36FV15 only  
When you power on the satellite receiver, S-Link automatically powers on the TV and switches to the correct video input.

- 1 Using A/V connectors, connect AUDIO and VIDEO OUT on your satellite receiver to AUDIO and VIDEO IN on your TV.
- 2 Using an S-Link connector (mono mini plug), connect S-LINK on your satellite receiver to S-LINK/CONTROL S-OUT in the same VIDEO IN column on your TV.

Note

The S-Link feature will override the "SKIP" VIDEO LABEL input. (see page 22).



Basic Set Up

Inserting batteries

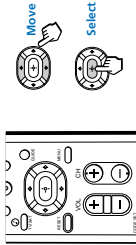
Insert two size AA (R6) batteries (supplied) by matching the + and - on the batteries to the diagram inside the battery compartment.



Notes

- Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.
- Handle the remote control with care. Avoid dropping it, getting it wet, or placing it in direct sunlight, near a heater, or where the humidity is high.
- Your remote control can be programmed to operate most video equipment. (see page 29).

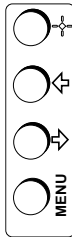
Using the remote control move & select buttons



The supplied remote control has "arrow" buttons (←, →, ↑, ↓) which allow for movement of the on-screen ► cursor. Pressing on the outer buttons will cause the cursor to move in the corresponding direction. Pressing the center-button (⏏) will select the item.

Front panel menu control

The front panel menu controls allow access to the on-screen menus without the use of a remote control. Pressing the MENU button will bring up the on-screen menus. The arrow buttons, (←, →) move the on-screen cursor in the menus and the (⏏) button selects the menu item.



Using Your New TV

Setting up the TV automatically  
After you have finished connecting your TV, you will want to run AUTO PROGRAM to set up your channels.

The AUTO PROGRAM feature does not apply for installations that use a cable box for all channel selection.

Tips

- Perform this function during the day with the antenna and/or cable properly connected. To ensure that all available channels will be broadcasting and receivable.
- If your cable or antenna is connected to AUX, press ANT and AUX appears next to the channel number.

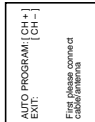
Using the buttons on the top of the TV:



- 1 Press POWER to turn on the TV. The initial setup screen appears.



- 2 Press CH + to run AUTO PROGRAM or press CH - to exit.



Tip

To reset your TV to factory settings, turn the TV on. Then, while pressing the RESET button on your remote control, press the POWER button on your TV. The TV will turn itself off, then back on.

Using Your New TV (continued)

Watching the TV

The following chart explains more advanced buttons on your remote control.

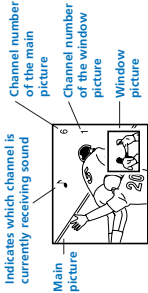
REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART.

Using the White Labeled Buttons for TV Operations	
	Press when you want to turn connected equipment on and off.
	Press when you want to control connected equipment with your remote control, (see pages 29-31 for instructions on programming your remote control).
	Use for direct channel selection. Press <b>0-9</b> to select a channel, the channel will change after 2 seconds, or you can press <b>ENTER</b> for immediate selection.
	Cycles through the VIDEO MODE settings: VIVID, SPORTS, MOVIE, STANDARD.
	Alternates back and forth between the last two channels selected with the <b>0-9</b> keys.
	Instantly turns off the sound. Press again or press <b>VOL +</b> to restore sound.
	Turns the TV off in approximately 30, 60, or 90 minutes. Cancel by pressing until SLEEP OFF appears.
	Press to return to factory settings while in the on-screen menus.

Using Your New TV (continued)

Using Picture-in-Picture - PIP

KV-27FV15, 32FV15, 36FV15 only  
These models are equipped with dual tuners. This means that PIP is "ready to use".



Notes

- You must press TV (FUNCTION) before you can control PIP with the yellow labeled buttons.
- The AUX input cannot be viewed in the window picture.

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Use the Yellow Labeled Buttons for PIP Operations	
	Displays the window picture. Press again to decrease the size. To cancel, press until the window picture turns off.
	Cycles through available video inputs: TV, VIDEO 1, VIDEO 2, VIDEO 3, VIDEO 4
	Alternates sound between the main picture and the window picture. A  will appear to indicate which picture is receiving sound.
	Changes the channel in the window picture.
	Moves the location of the window picture.
	Press to freeze the window picture. Press again to restore the picture.
	Switches the position of the main picture with the window picture.

Using the White Labeled Buttons for TV Operations

	Press once to display current time (if set) and channel number. Press again to activate current CAPTION VISION settings. To cancel, press <b>DISPLAY</b> until <b>DISPLAY OFF</b> appears.
	Press repeatedly to cycle through available video inputs: TV, VIDEO 1, VIDEO 2, VIDEO 3 and VIDEO 4
	Press to change the VHF/UHF input to the AUX input.
	Press when you are finished using a VCR and you want to switch to the TV input. Your VCR power will remain on.
	Cycles through the Multi-channel TV Sound (MTS) options: STEREO, SAP (Second Audio Program), MONO (see page 20).
	Powers off all Sony equipment at once. <i>This feature may not work with older Sony equipment.</i>
	Cycles through the available audio settings.

Using Your Menus

Learning menu selection

Use the **MENU** button to access a menu and use the arrow buttons ( or ) to alter settings. Use the following example, in which we activate the CABLE, to learn how to modify settings.

1 Press the **MENU** button.

The main menu appears.



3 Press or to move to the desired option and press .

4 Press or to move to the desired feature and press . Options for your selection will be highlighted.



2 Press or to highlight the desired menu (in this case SET UP ), and press to select it.



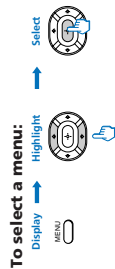
When you are finished making changes to the selected menu, choose **MENU** to return to the main menu.

**Tip**  
Pressing **MENU** on the remote control will allow you to exit from the menus at any time.

## Using Your Menus (continued)

### Quick start to the menus

The following is a guide to your menus:



### Note

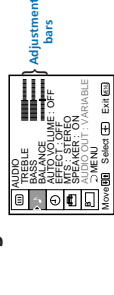
Menus shown are for KV-36FV15; your menus may not look exactly like those illustrated.

	<p>The VIDEO menu will allow you to make adjustments to your picture settings. It will also allow you to customize the picture MODE based on the type of program you are viewing.</p>
	<p>The AUDIO menu offers enhanced audio options such as listening to second audio programming (SAP), or customizing the EFFECT of the sound on your TV.</p>
	<p>The TIMER menu sets the clock on your TV and allows you to program your TV for scheduled viewing using the ON/OFF TIMER.</p>
	<p>The SET UP menu provides several options for setting up your channels, labeling your TV/VIDEO inputs, and selecting the LANGUAGE of your menus.</p>
	<p>The CHANNEL SET UP menu is a sub-menu which provides further options for setting up your TV.</p>
	<p>The Basic Menu provides quick access to frequently used settings.</p>

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## Using Your Menus (continued)

### Using the AUDIO menu



### To select the AUDIO menu:



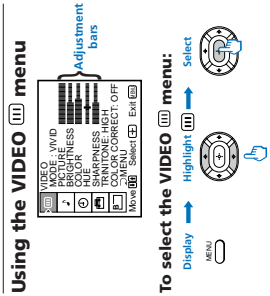
### Tips

- Press to cycle through your AUDIO options.
- Press MTS/SAP on your remote control to cycle through the MTS options.

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<b>TREBLE</b>	Adjust left or right to decrease or increase higher pitched sound.
<b>BASS</b>	Adjust left or right to decrease or increase low pitched sounds.
<b>BALANCE</b>	Adjust left or right to emphasize left and right speaker balance.
<b>AUTO VOLUME</b> <i>Subtitles volume</i>	(KV-27FV15, 32FV15, 36FV15 only) ON: Select to stabilize the volume. OFF: Select to turn AUTO VOLUME off.
<b>EFFECT</b> <i>Enhanced audio</i>	<b>SIMULATED:</b> Adds a surround-like effect to mono programs. <b>SRS:</b> Produces a dynamic three dimensional sound for stereo signals. OFF: Normal stereo or mono reception.
<b>MTS</b> <i>Multi-Channel sound</i>	<b>MONO:</b> Select to reduce noise in areas with poor reception. <b>SAP:</b> Select to listen to bilingual broadcast or other Second Audio Programs (SAP). <b>STEREO:</b> Select when viewing a broadcast in stereo.
<b>SPEAKER</b> <i>Or selection of audio output source</i>	<b>ON:</b> Select to listen to the sound from the TV speakers with or without a separate stereo system. <b>OFF:</b> Select to turn off the TV speakers and listen to the TV's sound only through external audio system speakers.
<b>AUDIO OUT</b> <i>Use to control the TV's volume through a stereo</i>	<b>AUDIO OUT</b> can only be set when <b>SPEAKER</b> is set to OFF. <b>VARIABLE:</b> Adjust the volume through your TV. <b>FIXED:</b> Adjust the TV volume through a connected stereo.

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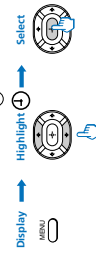
<b>MODE</b> <i>Customized picture viewing</i>	<b>VIVID:</b> Select for enhanced picture contrast and sharpness. <b>SPORTS:</b> Select for a bright picture. <b>MOVIE:</b> Select for a finely detailed picture. <b>STANDARD:</b> Select to receive a standard picture. Press the <b>PICTURE MODE</b> button to access one of the above settings directly.
<b>PICTURE</b> <i>Picture contrast</i>	Adjust left to decrease picture contrast and soften the color. Adjust right to increase picture contrast and create more vivid color.
<b>BRIGHTNESS</b> <i>Picture adjustment</i>	Adjust right to brighten the picture.
<b>COLOR</b> <i>Color saturation</i>	Adjust left to decrease color intensity or saturation. Adjust right to increase color intensity or saturation.
<b>HUE</b> <i>Color tones</i>	Adjust left to increase the red tones. Adjust right to decrease the red tones.
<b>SHARPNESS</b> <i>Picture detail</i>	Adjust left to soften the picture detail. Adjust right to sharpen the picture detail.
<b>TRINITONE</b> <i>White intensity adjustment</i>	<b>HIGH:</b> Gives the white colors a blue tint. <b>MEDIUM:</b> Gives the white colors a neutral tint. <b>NTSC STD:</b> Gives the white colors a red tint.
<b>COLOR CORRECT</b> <i>Color ratio adjustment</i>	<b>ON:</b> Emphasizes reds and blues. <b>OFF:</b> Emphasizes greens.

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### Using the TIMER menu



### To select the TIMER menu:



### Tip

Set DAYLIGHT SAVING before setting the clock.

<b>DAYLIGHT SAVING</b>	<b>YES:</b> Select to compensate for Daylight Saving Time. <b>NO:</b> Select at the end of Daylight Saving Time.
<b>CURRENT TIME SET</b> <i>Necessary for the ON/OFF TIMER</i>	With the <b>CURRENT TIME SET</b> menu open: 1 Press . 2 Press  or  until the current day is displayed. 3 Press  to select. 4 Press  or  until the current hour and AM/PM is displayed. Press  to select. Any loss of power will cause these settings to be cleared.
<b>ON/OFF TIMER</b> <i>Wake up or scheduled viewing</i>	<b>CURRENT TIME SET must be programmed before you can use the ON/OFF TIMER menu open:</b> 1 With the <b>ON/OFF TIMER</b> menu open: 2 Press . 3 Press  or  until the desired day or range of days is displayed. Press  to select. 4 Indicate the time that you want the TV to turn on (hour, then minutes) by pressing  or  and then . 5 Set the time duration (maximum of 6 hours) by pressing  or  and then . When you perform <b>AUTO PROGRAM</b> , all <b>ON/OFF TIMER</b> settings will be cleared.



SET UP  
CHANNEL SET UP  
PARENTAL CONTROL  
CDS/DVD/BD  
LANGUAGE: ENGLISH  
TITLE CORRECTION  
DEMO  
MENU

Move **06** Select **+** Exit **03**

<b>CAPTION VISION</b> <i>Classed Captioning and channel information</i>	CC1, 2, 3 or 4: Displays a printed version of the dialog or sound effects of a program, (the mode should be set to CC1 for most programs). TEXT1, 2, 3 or 4: Displays network/teletext information presented using either half or the whole screen. <b>XDS (Extended Data Service):</b> Displays network name, program name, program length, and time of the show if the broadcaster offers this service.
<b>LANGUAGE</b>	Select from available languages to display all menus in your language of choice.
<b>TILT CORRECTION</b>	Press $\blacklozenge$ or $\blacklozenge$ to correct any tilt of the picture between +5 and -5 and press $\odot$ .
<b>DEMO</b>	Select to run a demonstration of on-screen menus.

<b>CHANNEL SKIP/PAID</b>	<p>With the CHANNEL SKIP/PAID window open:</p> <ol style="list-style-type: none"><li>1. Select one of the channels.</li><li>2. Press <b>[CH]</b> to SKIP or <b>[PAID]</b> (only one option will be available).</li></ol>	<table><tr><td>CHANNEL SKIP/PAID</td><td>33</td></tr><tr><td colspan="2">▶ ADD</td></tr><tr><td colspan="2">▶ MENU</td></tr><tr><td colspan="2">Use [0-9] or [CH +/-] to select the channel</td></tr><tr><td>Move <b>[CH]</b></td><td>Select <b>[CH]</b> Exit <b>[CH]</b></td></tr></table>	CHANNEL SKIP/PAID	33	▶ ADD		▶ MENU		Use [0-9] or [CH +/-] to select the channel		Move <b>[CH]</b>	Select <b>[CH]</b> Exit <b>[CH]</b>
CHANNEL SKIP/PAID	33											
▶ ADD												
▶ MENU												
Use [0-9] or [CH +/-] to select the channel												
Move <b>[CH]</b>	Select <b>[CH]</b> Exit <b>[CH]</b>											
<b>CHANNEL CAPTION</b> <i>Label up to 12 channels with their Call letters</i>	<p>With the CHANNEL CAPTION menu open:</p> <ol style="list-style-type: none"><li>1. Press <b>[CH]</b> and then <b>[0-9]</b> or <b>[CH +/-]</b> to access the desired channel, and press <b>[CH]</b> again.</li><li>2. Press <b>[0-9]</b> or <b>[CH +/-]</b> to display the first letter or number of the caption and press <b>[CH]</b> to select it.</li><li>3. Press <b>[CH]</b> to activate.</li></ol>	<table><tr><td>CHANNEL CAPTION</td><td>33</td></tr><tr><td colspan="2">▶ CHANNEL CAPTION</td></tr><tr><td colspan="2">▶ MENU</td></tr><tr><td>Move <b>[CH]</b></td><td>Select <b>[CH]</b> Exit <b>[CH]</b></td></tr></table>	CHANNEL CAPTION	33	▶ CHANNEL CAPTION		▶ MENU		Move <b>[CH]</b>	Select <b>[CH]</b> Exit <b>[CH]</b>		
CHANNEL CAPTION	33											
▶ CHANNEL CAPTION												
▶ MENU												
Move <b>[CH]</b>	Select <b>[CH]</b> Exit <b>[CH]</b>											

<b>CHANNEL FIX</b> <i>Useful when you have a cable box or satellite receiver connected</i>	<p>You will need to run <b>AUTO PROGRAM</b> after changing your <b>CABLE</b> settings.</p> <p><b>2-6:</b> Select when you want to control all channel selection through a cable box. Select the appropriate channel number (usually 3 or 4) and use the cable box's remote control for selection.</p> <p><b>AUX 2-6:</b> Select when a cable box is connected to the <b>AUX1</b> input. (see page 4). Press the <b>AUX</b> button to alternate between.</p> <p><b>VIDEO:</b> Select from available video inputs when you have video equipment connected (e.g. satellite receiver) and you want your TV fixed to it.</p>
<b>AUTO PROGRAM</b>	<p>Instructs the TV to program all receivable channels.</p>

## The Parental Guideline Rating System

For detailed information on how to change your TV rating, see pages 27-28.

- The content ratings will increase depending on the level of the age-based rating. For example, a program with a TV-14 (Violence) rating may contain moderate violence, while a TV-14 V (Violence) rating may contain more intense violence.
- If you choose to block unrated TV programs, please be aware that the following programs may be blocked: emergency broadcasts, political programs, sports, news, public service announcements, religious programs and weather.

Overview of the Ratings	
<b>TV RATINGS</b> <i>Block programs by their rating, content or both</i>	<p><b>Age based options:</b></p> <ul style="list-style-type: none"> <li><b>TV-Y:</b> All children.</li> <li><b>TV-7:</b> Directed to older children.</li> <li><b>FV:</b> Fantasy Violence.</li> <li><b>D:</b> Suggestive Dialogue.</li> <li><b>L:</b> Strong Language.</li> <li><b>S:</b> Sexual situations.</li> <li><b>V:</b> Violence.</li> </ul> <p><b>Content based options:</b></p> <ul style="list-style-type: none"> <li><b>FV:</b> Fantasy Violence.</li> <li><b>D:</b> Suggestive Dialogue.</li> <li><b>L:</b> Strong Language.</li> <li><b>S:</b> Sexual situations.</li> <li><b>V:</b> Violence.</li> </ul> <p>(U.S. models only)</p> <p><b>G:</b> All children. <p><b>TV-PG:</b> Directed to older children. <p><b>PG-13:</b> General Audience. <p><b>R:</b> Parental Guidance suggested</p> <p><b>NC-17:</b> No one under 17 admitted.</p> <p><b>X:</b> No one under 17 admitted.</p> <p>(X: No models only)</p> <p><b>VIEW ALL:</b> Allows all unrated programming.  <b>BLOCK TV:</b> Blocks all unrated TV programs.  <b>BLOCK MOVIE:</b> Blocks all unrated movies.  <b>BLOCK ALL:</b> Blocks all unrated programming.</p> </p></p></p>
<b>MOVIE RATINGS</b>	<p><b>MOVIE RATINGS</b></p> <ul style="list-style-type: none"> <li>PG -</li> <li>PG-13 -</li> <li>R -</li> <li>NC-17 -</li> <li>X -</li> </ul> <p>Selecting Movie PG Selected Exit [OK]</p>
<b>UNRATED</b> <i>Block programs or movies that are broadcast without a rating</i>	<p><b>CUSTOM MENU</b></p> <p><b>TV RATINGS</b></p> <ul style="list-style-type: none"> <li>▶ TV-Y</li> <li>▶ TV-7</li> <li>▶ FV</li> <li>▶ D</li> <li>▶ L</li> <li>▶ S</li> <li>▶ V</li> </ul> <p>▶MENU Selected Exit [OK]</p> <p><b>SELECTING</b></p> <p>Movie PG Selected Exit [OK]</p>

## Using Your Menus (continued)

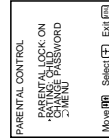
Overview of the Ratings		
<b>ENGLISH RATINGS</b> <i>For Canadian programs that are broadcast in English</i>	(Canadian models only) C: All Children 8 years and older. CB+: Children 8 years and older. G: General programming. PG: Parental Guidance. 14+: Viewers 14 and older. 18+: Adult programming.	<b>ENGLISH RATINGS</b> C: All Children 8 years and older. CB+: Children 8 years and older. G: General programming. PG: Parental Guidance. 14+: Viewers 14 and older. 18+: Adult programming.
<b>FRENCH RATINGS</b> <i>For Canadian programs that are broadcast in French</i>	(Canadian models only) G: General programming. 8 ans+: Not recommended for young children. 13 ans+: Not recommended for ages under 13. 18 ans+: Not recommended for ages under 18. 18 ans+: Programming restricted to adults.	<b>FRENCH RATINGS</b> G: General programming. 8 ans+: Not recommended for young children. 13 ans+: Not recommended for ages under 13. 18 ans+: Not recommended for ages under 18. 18 ans+: Programming restricted to adults.
<b>U.S.A. RATINGS</b> <i>For programs from the United States</i>	(Canadian models only) Please see TV RATINGS on page 25 for information on U.S.A. RATINGS.	

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## Using Your Menus (continued)

### Setting the TV's RATING

This section provides information on how to set the TV's RATING and how to change your password.



#### Note


Entering your password to view a blocked program will temporarily turn PARENTAL LOCK to OFF. To reactivate your PARENTAL CONTROL settings, turn the TV off then back on; the TV will restore your rating settings.

<b>PARENTAL LOCK</b> <i>Turns ratings on/off</i>	<b>ON:</b> Select to activate the RATING. <b>OFF:</b> Turns off current ratings.
<b>RATING</b>	If you are not familiar with the Parental Guideline rating system, you should use one of the following prescreened categories to help simplify the rating selection. <b>CHILD:</b> TV-YG (U.S. models only). TV-Y (Canadian models only). <b>YOUTH:</b> TV-PG (U.S. models only). TV-PG (Canadian models only). <b>YOUNG ADULT:</b> TV-14, PG-13 (U.S. models only). TV-14, 14+, 13 ans+ (Canadian models only). <b>CUSTOM:</b> If you prefer to set more restrictive ratings, highlight CUSTOM and press <b>CE</b> . See pages 25-26, for an overview of the rating systems available. <b>In the CUSTOM RATINGS menu:</b> 1 Select the desired rating category and press <b>CE</b> . 2 Press <b>▲</b> or <b>▼</b> to select the maximum rating or content and press <b>CE</b> . 3 Press <b>▲</b> or <b>▼</b> to block or unblock the rating or content and press <b>CE</b> . <i>Once you have blocked a rating or content, all higher ratings or contents will be automatically blocked.</i> <b>To view a blocked program:</b> Press <b>ENTER</b> on the remote control, then use the <b>0-9</b> buttons to enter your password. <b>To reset your password:</b> 1 Move the cursor to <b>CHANGE PASSWORD</b> press <b>CE</b> . 2 Use the <b>0-9</b> buttons to create a new password, enter again to confirm. <i>In the event that you forget your password, see page 33.</i>

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### Using the PARENTAL CONTROL menu

This section shows you how to access the PARENTAL CONTROL menu. After you follow the example below, the next section shows you how to adjust your TV's rating.

- 1 Press **MENU** and select the SET UP  menu.

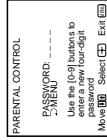


- 2 Point the cursor to PARENTAL CONTROL and press **CE**.

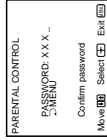


You will be asked to enter a 4-digit password for any future access into the PARENTAL CONTROL menu.

- 3 Press **CE** and use the **0-9** buttons to enter your 4-digit password.



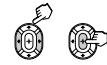
- 4 Confirm your password by entering it again.



Once your password is set correctly, you will be taken into the PARENTAL CONTROL menu.

In order to change the RATING you will need to set PARENTAL LOCK to ON.

- 5 Point the cursor at PARENTAL LOCK and press **CE**. Press **▲** or **▼** to ON and press **CE**.



See pages 25-26 for an overview of the Parental Guideline ratings.

#### Tip

Keep this instruction manual in a safe place. In the event that you forget your password, please see page 33.

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## Operating Video Equipment

### Programming the remote

You can use the supplied remote control to operate Sony or non-Sony video equipment.

- 1 Press **CODE SET**.
- 2 Press **VTR/DVDR (FUNCTION)**.
- 3 Use the **0-9** buttons to key in the manufacturer's code number from the following chart.
- 4 Press **ENTER**.

#### VCR code numbers

Manufacturer	Code
Sony	301, 302, 303
Admiral (M. Ward)	308, 309
Aiwa	338, 344
Audio Dynamic	314, 337
Broksonic	319, 317
Canon	309, 308
Citizen	302, 332
Criterion	315
Curtis Mathes	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	319, 317
Emerson	316, 334
Finlux	330, 335
Final	329, 304, 309
General Electric	322, 339, 340
Go Video	314, 336, 337
Goldstar	314, 336, 337

Teac	314, 336, 338, 337
Technics	309, 308
Toshiba	312, 311
Wards	327, 328, 335, 331, 332
Yamaha	314, 330, 336, 331
Zenith	314, 330, 336, 331

#### Operating a VCR Buttons on the remote control

To turn on or off	Press <b>VTR/DVDR (POWER)</b> .
To select a channel directly	Press the <b>0-9</b> buttons.
To change channels	Press <b>CH +/-</b> .
To record	Press <b>▲</b> and <b>●</b> simultaneously.
To play	Press <b>▶</b> .
To stop	Press <b>■</b> .
To fast forward	Press <b>▶▶</b> .
To rewind the tape	Press <b>◀◀</b> .
To pause	Press <b>II</b> .
To resume normal playback, press again or press <b>▶</b> .	To resume normal playback, press <b>▶▶</b> or <b>◀◀</b> during playback.
To scan	To resume normal playback, release the button.
To change input mode	Press <b>TV/VTR</b> .

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Operating Video Equipment (continued)



- In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied remote control. In this case, please use the equipment's own remote control.
- When you remove the batteries, the code number may revert to the factory setting.
- The code numbers for Sony VCRs are assigned at the factory as follows:

Laserdisc code numbers		
Manufacturer	Code	
Sony	701	
Panasonic	704, 710	
Pioneer	702	
RCA	752	
Toshiba	754	

Buttons on the remote control		
Operating a Laserdisc		
To turn on or off	Press VTR/DVDD (POWER).	
To play	Press ►.	
To stop	Press ■.	
To pause	Press II.	
To resume normal playback, press again or press ►.		
To scan	Press ►► or ◀◀ during playback, then resume normal playback, press ►.	
To search the chapter forward or backward	Press CH +/-.	

**Tip** If you will not be programming a satellite receiver or cable box into the SAT/CABLE function of your remote, you can use it to program other video equipment (e.g. DVD, MDP, or second VCR).

Troubleshooting

Consult the table below; it suggests solutions to specific problems.

Problem	What it could be	What you can do
You want to restore the TV's factory settings		<ul style="list-style-type: none"><li>First, turn the TV on. Then while pressing the RESET button on the remote control, press the POWER button on the TV. The TV will turn itself off and then back on. When the TV turns on again, all settings will be reset, and the initial setup screen will appear.</li><li>Call your local Sony service center.</li></ul>
A red light keeps flashing on the TV for more than a few seconds		<ul style="list-style-type: none"><li>Your TV may need service.</li></ul>
TV makes a noise when turned on		<ul style="list-style-type: none"><li>This is a normal function of your TV.</li></ul>
Screen is not lit and there is no sound		<ul style="list-style-type: none"><li>Power cord may not be plugged in.</li><li>Remote control batteries may not be inserted correctly.</li><li>TV/VIDEO setting may be incorrect.</li><li>Current program may exceed PARENTAL CONTROL settings.</li></ul>
Poor or no picture (screen lit), good sound		<ul style="list-style-type: none"><li>VIDEO menu settings may not be adjusted correctly.</li><li>Antenna/cable connections may be faulty.</li><li>VIDEO LABEL inputs may be set to WEB. (This label darkens the screen for ideal WebTV viewing)</li></ul>
Good picture, no sound		<ul style="list-style-type: none"><li>Sound may be set to MUTEING.</li><li>Your TV may be set to SAP.</li><li>SPEAKER may not be set correctly.</li></ul>
No color		<ul style="list-style-type: none"><li>Color settings may not be adjusted correctly.</li></ul>
Only snow and noise appear on the screen		<ul style="list-style-type: none"><li>CABLE may not be set correctly in the CHANNEL SET UP menu.</li><li>Antenna/cable connections may not be correct.</li><li>TV may be set to AUX mode.</li></ul>

Operating a Cable Box or Satellite Receiver



- Programming the remote control**
- You can program the supplied remote control to operate a cable box or satellite receiver.
- 1** Press CODE SET.
- 2** Press SAT/CABLE (FUNCTION).
- 3** Use the 0-9 buttons to key in the manufacturer's code number from the following chart.
- 4** Press ENTER.

**For more details on operating the cable box or satellite receiver**

Refer to the operating instructions that were supplied with the equipment.

Cable box code numbers

Manufacturer	Code
Hamlin/Regal	222, 223, 224, 225, 226
Jerrold/G. I.	201, 202, 203, 204, 205, 206, 207, 208, 218
Oak	227, 228, 229
Panasonic	219, 220, 221
Pioneer	214, 215
Scientific Atlanta	209, 210, 211
Tocom	216, 217
Zenith	212, 213

Satellite receiver code numbers

Manufacturer	Code
Sony	801 (preset code for remote control)
General Electric	802
Hitachi	805
Hughes	804
Panasonic	803
RCA/PROSCAN	802, 808
Toshiba	806, 807

Specifications

Supplied accessories

Remote control RM-Y168 (KV-32FS10, 36PFS10 only), RM-Y171 (KV-27FV15, 32FV15, 36FV15 only)(1)  
Batteries size AA (R6) (2)

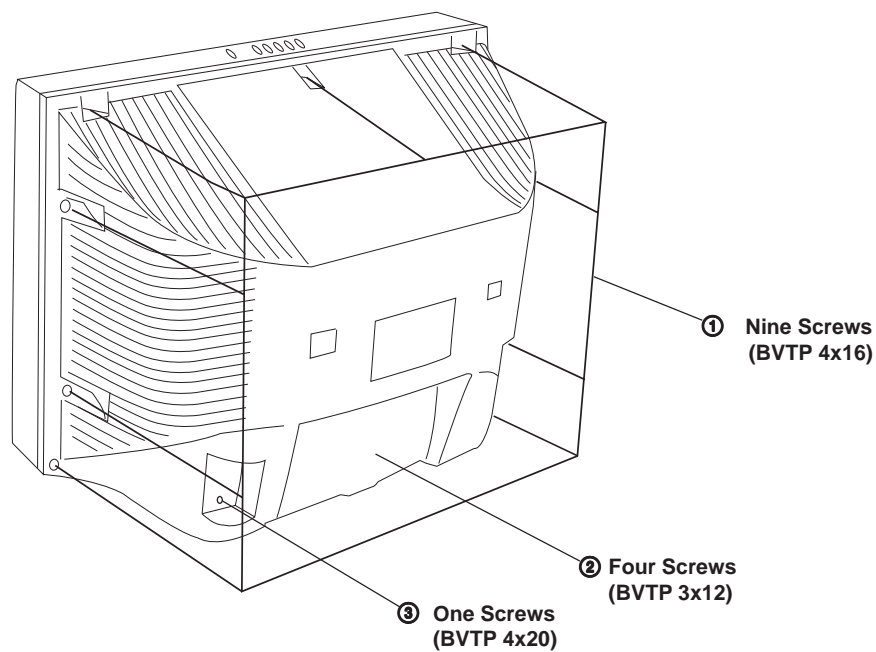
Optional accessories

Connecting cables  
RK-74A, RK-G69HG, VMC-10HG,  
VMC-720M, VMC-810S/820S, YC-15V/  
30V  
TV Stand SU-27FD2, SU-32FD2, SU-36FD2  
UV mixer EAC-66

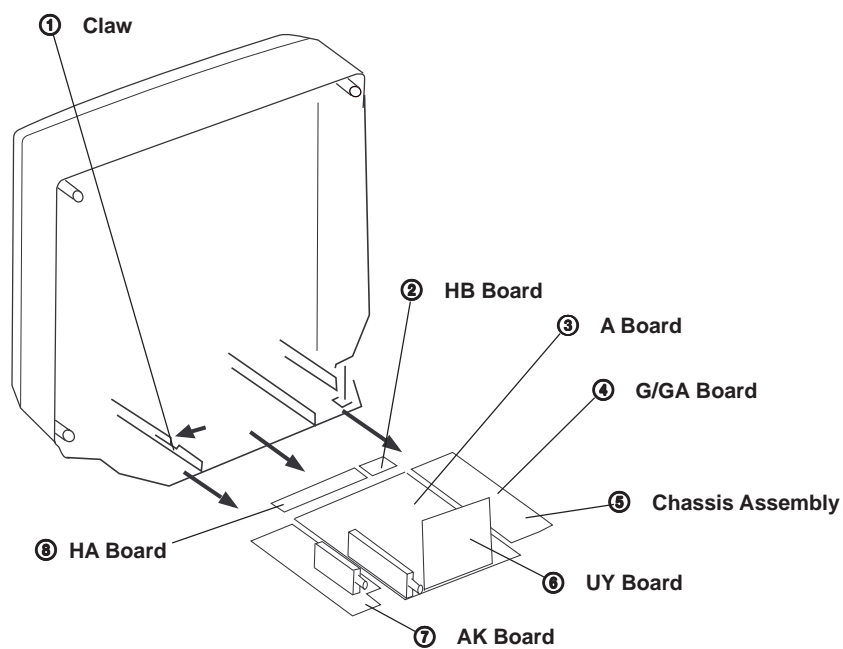


## SECTION 2 DISASSEMBLY

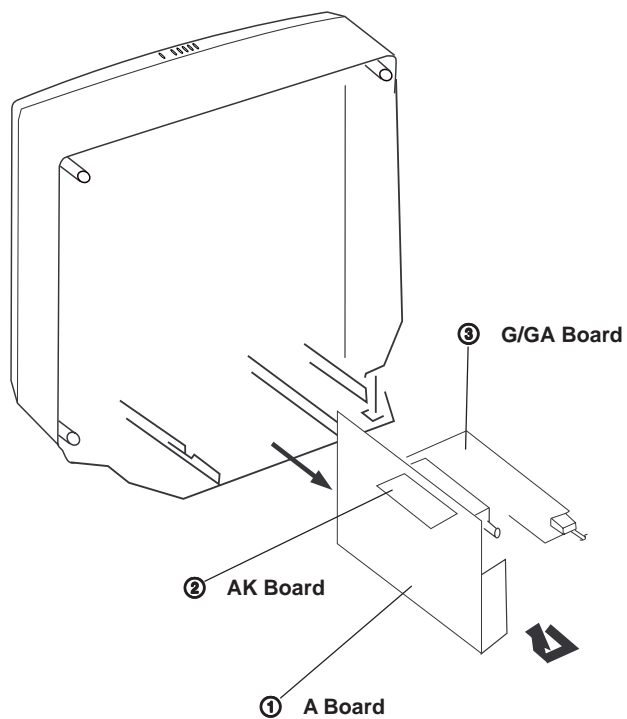
### 2-1. REAR COVER REMOVAL



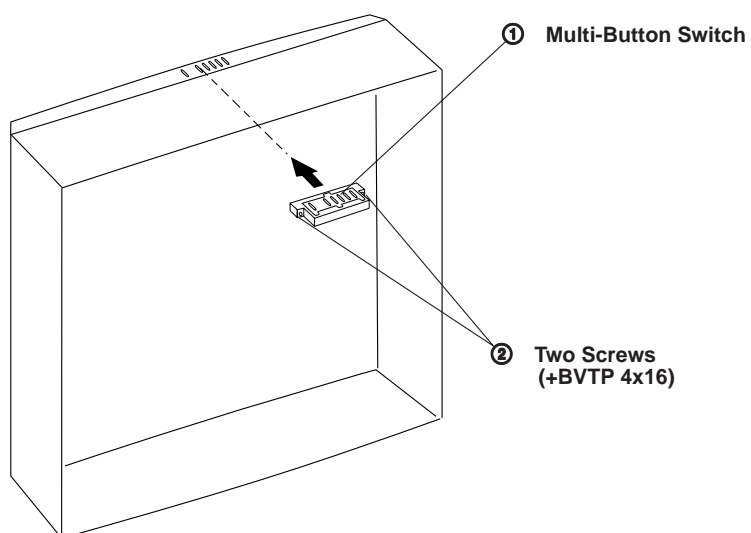
### 2-2. CHASSIS ASSEMBLY REMOVAL



## 2-3. SERVICE POSITION



## 2-4. MULTI-BUTTON SWITCH REMOVAL

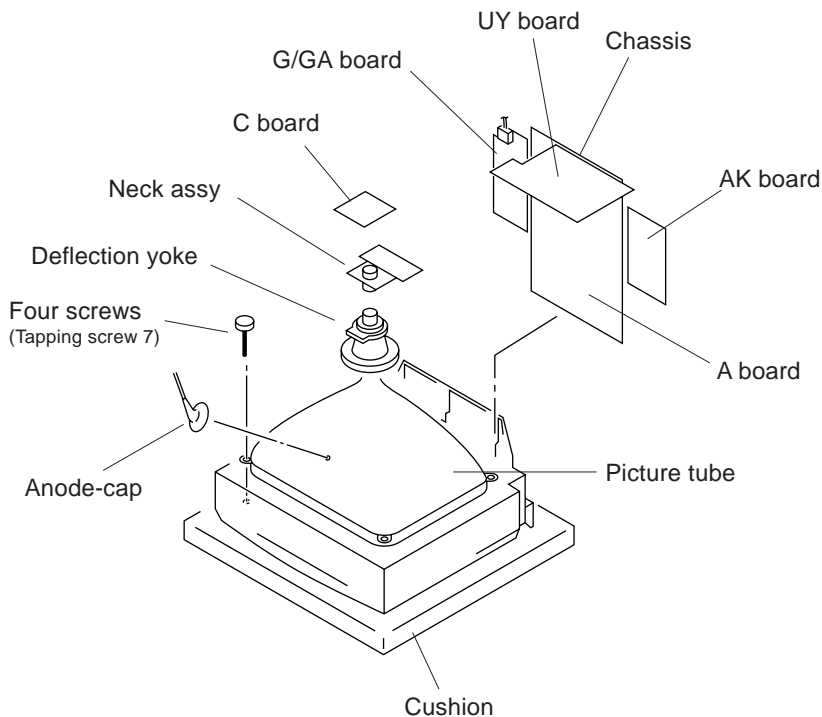
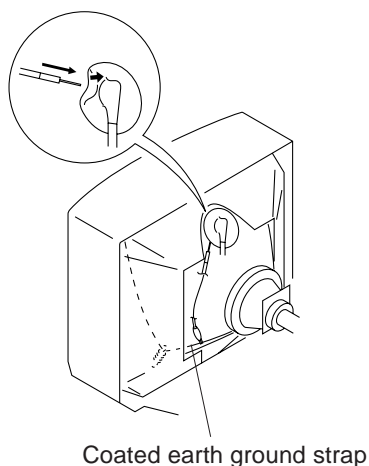


## 2-5. PICTURE TUBE REMOVAL

### WARNING -- Before removing anode-cap:

High voltage remains in the CRT even after the power is disconnected.

To avoid electrical shock, discharge CRT before attempting to remove the anode-cap. Short between anode and coated earth ground strap of CRT.

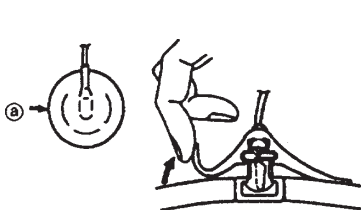


## ANODE-CAP REMOVAL

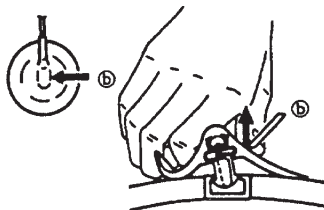
**WARNING:** High voltage remains in the CRT even after the power is disconnected. To avoid electrical shock, discharge CRT before attempting to remove the anode-cap. Short between anode and coated earth ground strap of CRT.

**NOTE:** After removing the anode, short circuit the anode of the picture tube and the anode cap to either the metal chassis, CRT shield, or carbon painted on the CRT.

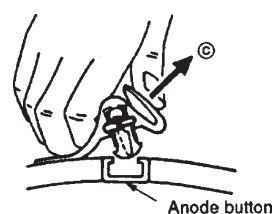
## REMOVAL PROCEDURES



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



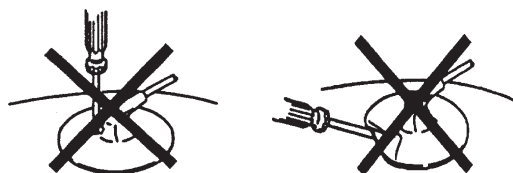
② Use your thumb to pull the rubber cap firmly in the direction indicated by arrow (b).



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

## HOW TO HANDLE AN ANODE-CAP

- ① Do not use sharp objects which may cause damage to the surface of the anode-cap.
- ② Do not squeeze the rubber covering too hard to avoid damaging the anode-cap. A material fitting called a shatter-hook terminal is built into the rubber.
- ③ Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.



## SECTION 3 SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

These adjustments should be performed with rated power supply voltage unless otherwise noted.

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

PICTURE control ..... normal

BRIGHTNESS control ..... normal

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G2)/White Balance

**Note:** Test Equipment Required:

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter
5. Oscilloscope
6. CRT Analyzer

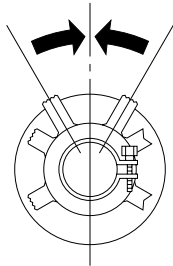
### 3-1. BEAM LANDING

#### Preparation:

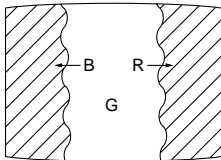
- Input a white pattern signal.
- Face the picture tube in an East or West direction to reduce the influence of geomagnetism.

NOTE: Do not use the hand degausser because it magnetizes the CRT .

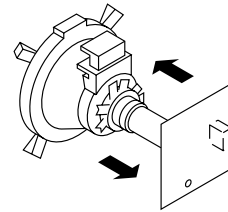
1. Input white pattern from pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown below:



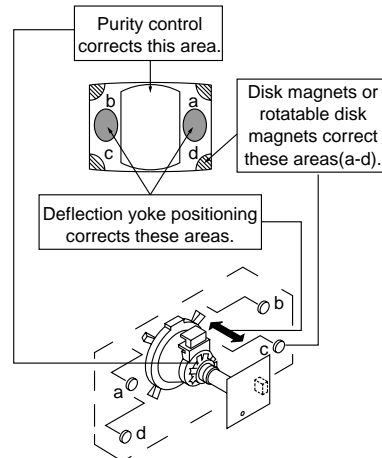
3. Input green pattern from pattern generator.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are even on both sides.



5. Move the deflection yoke forward, and adjust so that the entire screen becomes green.



6. Switch over the raster signal to red and blue and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
8. When landing at the corner is not right, adjust by using the disk magnets.



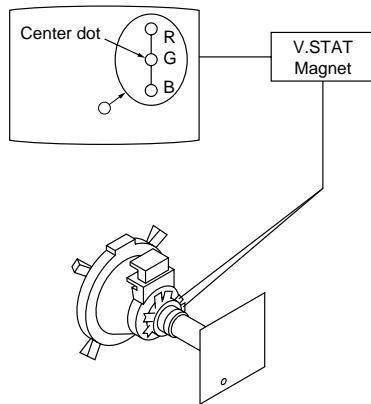
### 3-2. CONVERGENCE

#### Preparation:

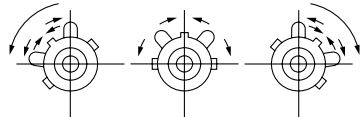
- Before starting, perform FOCUS, V. LIN and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Input dot pattern.

#### (1) Vertical and Horizontal Static Convergence

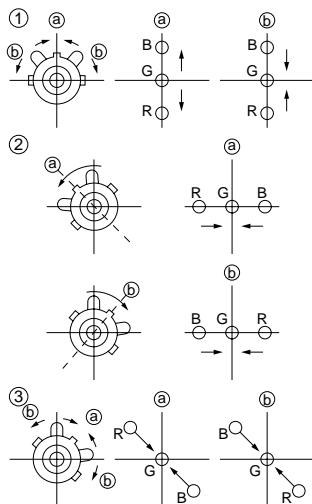
1. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)



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



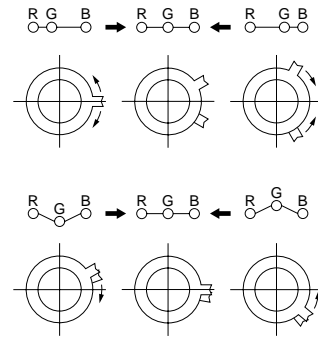
2. When the V. STAT magnet is moved in the direction of arrow (a) and (b), red, green, and blue dots move as shown below:



#### Operation of BMC (Hexapole) Magnet

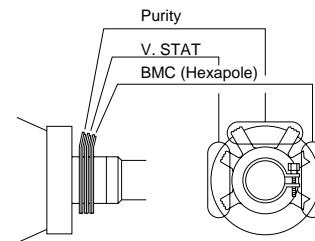
The respective dot positions resulting from moving each magnet interact, so perform adjustment while tracking.

Use the VSTAT tabs to adjust the red, green, and blue dots so they line up at the center of the screen (move the dots in a horizontal direction.)



#### Y Separation Axis Correction Magnet Adjustment

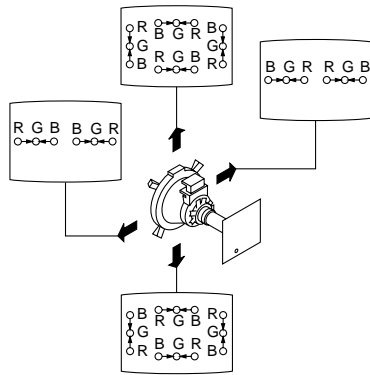
1. Input cross-hatch pattern, adjust PICTURE to minimum and BRIGHTNESS to normal.
2. Adjust the deflection yoke upright so it touches the CRT.
3. Adjust so that the Y separation axis correction magnet on the neck assembly is symmetrical from top to bottom (open state).



4. Return the deflection yoke to its original position.

## (2) Dynamic Convergence Adjustment

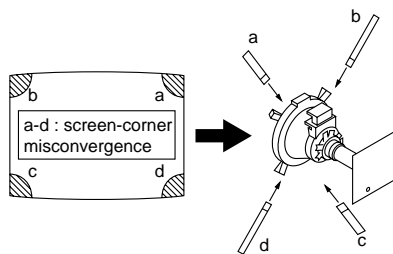
- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.
- Slightly loosen deflection yoke screw.
  - Remove deflection yoke spacers.
  - Move the deflection yoke for best convergence as shown below:



- Tighten the deflection yoke screw.
- Install the deflection yoke spacers.

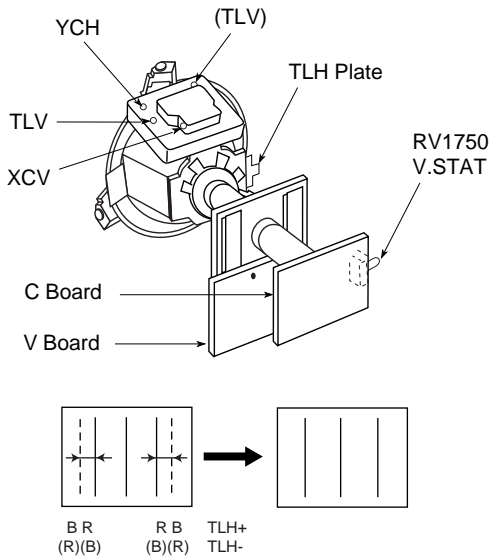
## (3) Screen-corner Convergence

Affix a permalloy assembly corresponding to the misconverged areas:



## (4) TLH Plate Adjustment

- Input crosshatch pattern.
- Adjust PICTURE QUALITY to standard, PICTURE and BRIGHTNESS to 50%, and OTHER to standard.
- Adjust the Horizontal Convergence of red and blue dots by tilting the TLH plate on the deflection yoke.

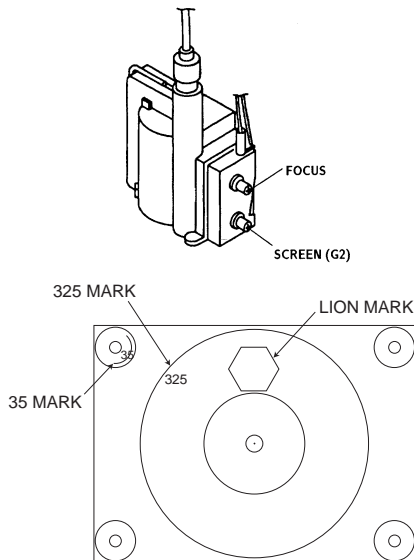


- Adjust XCV core to balance X axis.
- Adjust YCH VR to balance Y axis.
- Adjust vertical red and blue convergence with V.TILT (TLV VR.)

Perform adjustments while tracking items 1 and 2.

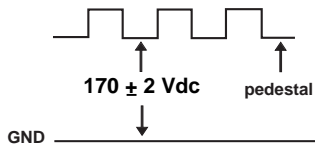
### 3-3. FOCUS

1. Input Monoscope signal.
2. Set user controls to normal.
3. Set Video mode to STANDARD.
4. Set the PICTURE to maximum.
5. Adjust FOCUS control for best picture at 325 MARK.



### 3-4. SCREEN (G2)

1. Input signal from the pattern generator.
2. Set the user controls to NORMAL.
3. Attach the G2-Jig to the C Board.
4. Adjust RCUT, GCUT, BCUT, and SBRT in service mode with an oscilloscope so that voltages on the red, green, and blue cathodes are  $170 \pm 2$  V DC.
5. Observe the screen and adjust SCREEN (G2) VR to obtain the fairly visible background of dot signal.
6. Push the TEST +JUMP (+ Channel) to cut off the signal, then the screen is bright or dark. Brightness of raster must be increased when adjusting.
7. Adjust screen VR until the screen is just cut off, or scarcely lights up. A signal cannot be seen when the brightness of the raster is high.
8. Push the JUMP again to release the cut off.



### 3-5. WHITE BALANCE ADJUSTMENTS

NO.	Disp.	Item	All Models
24	RDRV	Red Drive	31
25	GDRV	Green Drive	31
26	BDRV	Blue Drive	31
27	RCUT	Red Cut-off	7
28	GCUT	Green Cut-off	7
29	BCUT	Blue Cut-off	7
38	SBRT	Sub Bright	7

1. Input an entire white signal.
2. Set to Service adjustment Mode.
3. Set DCOL to "0"
4. Set the PICTURE and BRIGHT to minimum.
5. Adjust with SBRT if necessary.
6. Select GCUT and BCUT with **[1]** and **[4]**.
7. Adjust with **[3]** and **[6]** for the best white balance.
8. Set the PICTURE and BRIGHT to maximum.
9. Select GDRV and BDRV with **[1]** and **[4]**.
10. Adjust with **[3]** and **[6]** for the best white balance.
11. Reset DCOL to "1".
12. Write into the memory by pressing **[MUTING]** then **[ENTER]\*\***.

## SECTION 4

### SAFETY RELATED ADJUSTMENTS

#### ☒ R530, R531 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

Always perform the following adjustments when replacing the following components marked with a ☒ mark on the schematic diagram:

**A BOARD:** IC355, IC501, D302, D519, D520, D521, C531, C532, Q301, R356, R359, R361, R387, R529, R530, R531, R532, R533, R550, T503

**G BOARD (KV-27V15):** IC643, R661  
**GA BOARD (KV-27V15 Excluded):** IC6003, R6088

#### Step 1 Preparation before Confirmation

Turn the POWER switch ON.

Input a white signal and set the PICTURE and BRIGHT controls to maximum.

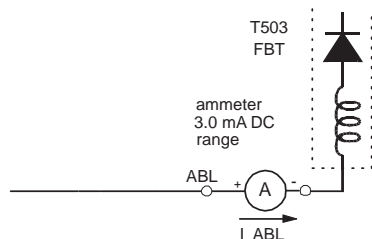
Confirm that, when the set is operating normally, the voltage at check terminal TP85 is more than 21.0 V DC.

At AC input:  $120.0 \pm 2.0$  VAC

#### Step 2

Input a white signal and verify that I ABL is within the specified range:  $1730 \pm 100 \mu\text{A}$ ,  
 $+B = 135.0 \pm 1.5$  VDC .

At AC input:  $120.0 \pm 2.0$  VAC



#### Step 3

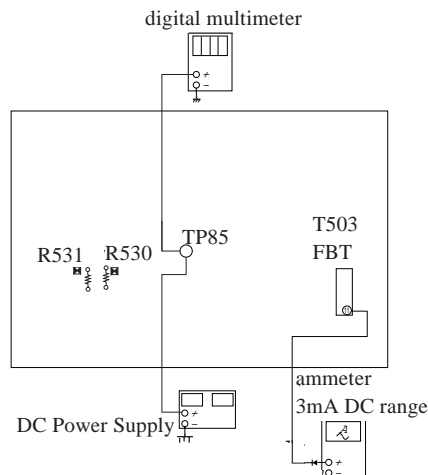
Record the voltage between TP85 and ground.

#### Step 4

Using an external DC power supply, apply voltage between TP85 and ground.

Increase the voltage gradually and confirm that the holdown works (raster disappears) at lower than the voltage recorded in Step 3.

Lower than  $26.95 \pm (-0.05)$  V DC.  
 At AC input:  $120.0 \pm 2.0$  VAC



#### A BOARD - CONDUCTOR SIDE

#### Step 5

Confirm that a voltage appears between TP85 and ground, of more than 21.0 V DC.

At AC input:  $120.0 \pm 2.0$  VAC

#### B+ VOLTAGE CONFIRMATION AND ADJUSTMENT

Always perform the following adjustments when replacing the following components marked with ☒ on the schematic diagram:

**G BOARD (KV-27FV15):** IC643, R661  
**GA BOARD (KV-27FV15 Excluded):** IC6003, R6088

- 1) Using Variac, apply AC input voltage:  $130.0 \pm 2.0$  VAC
- 2) Input a monoscope signal.
- 3) Set the PICTURE control and the BRIGHT control to initial reset value.
- 4a) (KV-27FV15 Only) Confirm the voltage of G Board CN641 between pin ① to ground on "G" PWB is less than  $136.5 \pm 1.0$  V DC.
- 4b) (KV-27FV15 Excluded) Confirm the voltage of GA Board CN6007, between pin ① to ground on "GA" PWB is less than  $136.5 \pm 1.0$  V DC.
- 5a) (KV-27FV15 Only) If step 4a is not satisfied, replace R661 and repeat the above steps.
- 5b) (KV-27FV15 Excluded) If step 4b is not satisfied, replace R6088 and repeat the above steps.



## SECTION 5

### CIRCUIT ADJUSTMENTS

#### ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use Remote Commander (RM-Y171) to perform the following circuit adjustments:

NOTE : Test Equipment Required:

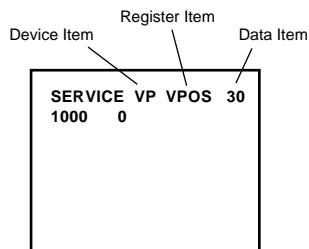
1. Pattern Generator
2. Frequency Counter
3. Digital Multimeter
4. Audio OSC

#### Method of Setting the Service Adjustment Mode

##### SERVICE MODE PROCEDURE

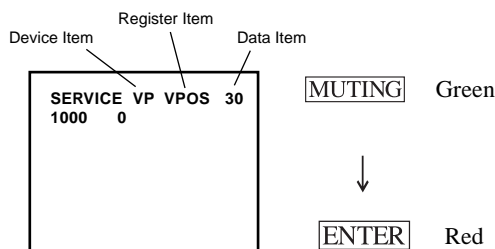
1. Standby mode. (Power off)
2. **DISPLAY** → **5** → **VOL (+)** → **POWER** on the Remote Commander.  
(Press each button within a second.)

##### SERVICE ADJUSTMENT MODE IN

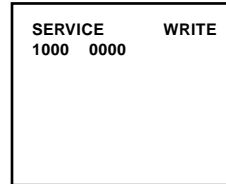


3. The CRT displays the item being adjusted.
4. Press **2** or **5** on the Remote Commander to select the device item.
5. Press **1** or **4** on the Remote Commander to select the item.
6. Press **3** or **6** on the Remote Commander to change the data.
7. If you want to recover the latest values press **0** then **ENTER** to read the memory.
8. Press **MUTING** then **ENTER** to write into memory\*\*.

##### SERVICE ADJUSTMENT MODE MEMORY



9. Press **8** then **ENTER** on the Remote Commander to reset.



Carry out step 9) when adjusting IDs 0 to 4 and when replacing and adjusting IC102.

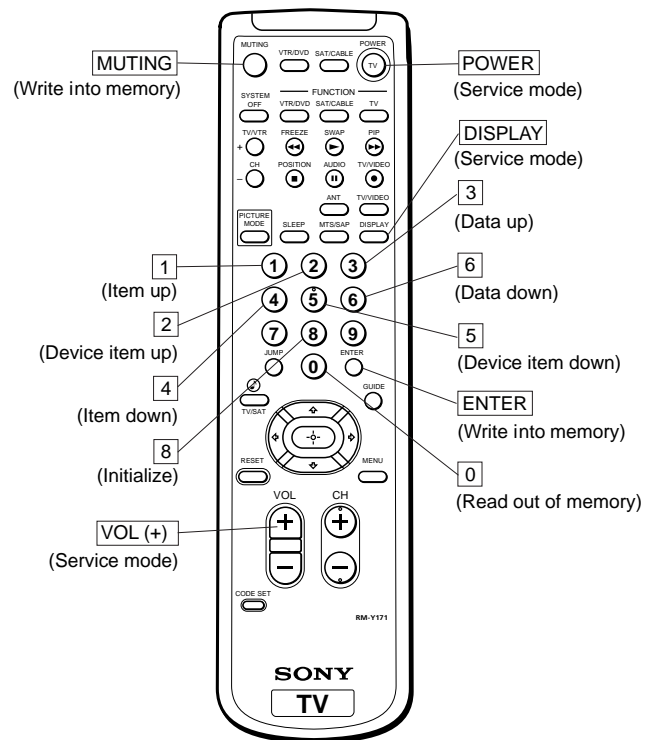
Factory original setting

10. Turn set off and on to exit.

#### Memory Write Confirmation Method

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

#### Adjust Buttons and Indicator



RM-Y171

**\*\*WARNING:** Do NOT turn off the power or AC immediately after pressing **MUTING** then **ENTER**. Wait at least 10 seconds.

## (4) Service Data

No.	Register Name	Description	Data Range	Adj/Fix	Initial Data	Average Data**	Comments
						All Models	
VP CXA2131S							
1	HPOS	Horizontal Position Adjust	0-63	Fix	7	7	
2	HSIZ	Horizontal Amp Adjust	0-63	Fix	10	10	
3	VBOW	VRT Line Bowing Adjust	0-15	Fix	6	6	
4	VANG	VRT Line Bow Slant Adjust	0-15	Fix	12	5	
5	TRAP	Horizontal Trapezoid Adjust	0-15	Fix	9	6	
6	PAMP	Horizontal Pin Distort Adjust	0-63	Fix	36	25	
7	UCPN	Upper Pin	0-63	Fix	25	25	
8	LCPN	Lower Pin	0-63	Fix	36	26	
9	VSIZ	Vertical Amplitude Adjust	0-63	Fix	0	0	
10	VPOS	Vertical Position Adjust	0-63	Fix	31	31	
11	VLIN	Vertical Linearity Adjust	0-15	Fix	7	7	
12	VSCO	S-Correction	0-15	Fix	7	7	
13	VZOM	16:9 CRT Z Mode On/Off	0,1	Fix	0	0	
14	EHT	VRT High Volt Correction	0-15	Fix	0	7	
15	ASP	Aspect Ratio Control	0-63	Fix	47	47	
16	SCRL	16:9 CRT Z Mode Tran Scroll	0-63	Fix	31	31	
17	HBSW	HBLK SW	0,1	Fix	1	1	
18	LBLK	Left Screen H Blk Control	0-15	Fix	15	15	
19	RBLK	Right Screen H Blk Control	0-15	Fix	0	0	
20	HDW	H Drive Pulse Width	0,1	Fix	0	1	
21	EWDC	EW/DC Adjust	0,1	Fix	0	0	
22	LVLN	Screen Bottom VRT Lin Adjust	0-15	Fix	0	0	
23	UVLN	Screen Top VRT Lin Adjust	0-15	Fix	0	0	
24	RDRV	R Output Drive Control	0-63	Adj	31	31	
25	GDRV	G Output Drive Control	0-63	Adj	31	31	
26	BDRV	B Output Drive Control	0-63	Adj	31	31	
27	RCUT	R Output Cutoff Control	0-15	Adj	7	7	
28	GCUT	G Output Cutoff Control	0-15	Adj	7	7	
29	BCUT	B Output Cutoff Control	0-15	Adj	7	7	
30	RDR4	Video 4 R Output Drive Control	0-63	Adj	31	31	
31	GDR4	Video 4 G Output Drive Control	0-63	Adj	31	31	
32	BDR4	Video 4 B Output Drive Control	0-63	Adj	31	31	
33	RCU4	Video 4 R Output Cutoff Control	0-15	Adj	7	7	
34	GCU4	Video 4 G Output Cutoff Control	0-15	Adj	7	7	
35	BCU4	Video 4 B Output Cutoff Control	0-15	Adj	7	7	
36	SHUE	Sub Hue	0-31	Adj	15	15	
37	SCOL	Sub Color	0-31	Adj	15	15	
38	SBRT	Sub Brightness	0-31	Fix	0	7	
39	RON	R Output On/Off	0,1	Fix	1	1	
40	GON	G Output On/Off	0,1	Fix	1	1	
41	BON	B Output On/Off	0,1	Fix	1	1	
42	AXPL	Axis Pal	0,1	Fix	0	0	
43	CBPF	Chroma BPF On/Off	0,1	Fix	1	1	
44	COFF	Color On/Off	0,1	Fix	0	0	
45	KOFF	Set Color Killer	0,1	Fix	0	0	
46	SSHP	Sub Sharpness	0-15	Fix	3	7	
47	SHPF	Sharpness Circuit F0	0,1	Fix	1	1	
48	PREL	Pre/Over-Shoot Switching	0,1	Fix	1	1	
49	Y-DC	DC Trans Ratio Switching	0,1	Fix	1	1	
50	ABLM	ABL Mode Switching	0,1	Fix	1	1	
51	YDEL	Y Delay Time Control	0-15	Fix	7	7	
52	NCOL	No Color ID	0,1	Fix	1	1	
53	FSC	FSC Out On/Off	0,1	Fix	1	1	
54	K-ID	Killer ID	0,1	Fix	0	1	
55	HOSC	H VCO Oscillation Frequency	0-15	Fix	7	7	
56	VSS	V Sync Slice Level	0,1	Fix	0	0	
57	HSS	H Sync Slice Level	0,1	Fix	0	0	
58	HMSK	H Mask	0,1	Fix	1	1	
59	VTMS	Select Signal VTIM Pin	0-3	Fix	0	0	

**Service Data (cont.)**

No.	Register Name	Description	Data Range	Adj/Fix	Initial Data	Average Data**	Comments
						All Models	
VP CXA2131S <i>continued</i>							
60	AFC	AFC Loop Gain	0-3	Fix	0	0	
61	FIFR	Field Frequency	0-3	Fix	3	3	
62	REFP	REFP	0,1	Fix	0	0	
63	VBSW	VBW	0-3	Fix	0	0	
64	BMOF	Blk Off	0,1	Fix	0	0	
65	AGN2	Aging 2	0,1	Fix	0	0	
AP B43868							
66	BBLP	BBE Low Pass	0-15	Fix	0	0	
67	BBHP	BBE High Pass	0-15	Fix	0	0	
68	SVOL	Sub Volume	0-15	Fix	0	0	
69	SBAL	Sub Balance	0-15	Fix	7	7	
70	SBAS	Sub Bass	0-15	Fix	7	7	
71	STRE	Sub Treble	0-15	Fix	7	7	
AP TDA7467							
72	SPCA	SRS/Space Attenuation	0-63	Fix	0	0	
73	CENA	SRS/Center Attenuation	0-63	Fix	0	0	
74	INPA	Input Attenuation	0-127	Fix	3	0	
3D UPD64081							
75	HHDS	HH Off	0-3	Fix	0	1	
76	COUT	Gain 1/BPF On	0-3	Fix	0	3	
77	YAPS	V Comp/Y Eaking On	0-3	Fix	0	3	
78	NSDS	Adaptive	0-3	Fix	1	0	
79	MSS	Adaptive	0-3	Fix	3	0	
80	DYC	Hi Impedence	0-3	Fix	1	2	
81	EXAD	Ext Ad Selected	0,1	Fix	0	1	
82	PECS	Standard	0-3	Fix	0	0	
83	EXCS	Use CSI Just In Case	0-3	Fix	1	1	
84	CPP	VTB = 1.25VPP	0-3	Fix	2	0	
85	HDP	H Phase +/- 0 $\mu$ sec	0-7	Fix	4	3	
86	CDL	Y/C Delay +/- 0 $\mu$ sec	0-7	Fix	1	4	
87	DYCO	Y Moving Coring	0-15	Fix	1	2	
88	DYGA	Y Moving Gain	0-15	Fix	12	10	
89	DCCO	C Moving Coring	0-15	Fix	2	2	
90	DCGA	C Moving Gain	0-15	Fix	12	9	
91	YNRK	Effect Small	0,1	Fix	0	1	
92	YNRI	Effect Small	0,1	Fix	0	0	
93	YNRL	Noise Limit	0-3	Fix	2	1	
94	CNRK	Effect Small	0,1	Fix	1	1	
95	CNRI	Effect Small	0,1	Fix	0	0	
96	CNRL	CNR Limit	0-3	Fix	1	1	
97	ID10	ID 1 Through	0,1	Fix	1	0	
98	ID1W	4:03	0,1	Fix	0	0	
99	ID1N	Normal	0,1	Fix	0	0	
100	CLK	Low Fix	0,1	Fix	1	1	
101	ST1S	Monitor Out	0-3	Fix	2	0	
102	ST0S	Monitor Out	0-3	Fix	1	1	
103	WSC	Coring	0-3	Fix	0	1	
104	VTRH	H Non Standard DET	0-3	Fix	1	1	
105	VTRR	H Non Standard DET	0-3	Fix	0	1	
106	LDSR	Frame	0-3	Fix	1	2	
107	PWRE	PWRE	0,1	Fix	0	0	
108	PDRE	PDRE	0-7	Fix	5	4	
109	PBRE	PBRE	0-15	Fix	6	8	
110	VAPG	V Apacon Gain	0-7	Fix	2	3	
111	VAPI	V Apacon	0-31	Fix	8	10	
112	TEST	Test	0,1	Fix	1	0	
113	YPFT	Y Peaking	0-3	Fix	2	3	

## Service Data (cont.)

No.	Register Name	Description	Data Range	Adj/Fix	Initial Data	Average Data**	Comments
						All Models	
3D UPD64081 <i>continued</i>							
114	YPFG	Y Peaking Gain	0-15	Fix	10	10	
115	V1PS	Line Comb Dot H	0-3	Fix	0	2	
116	VEGS	Line Comb Dot V	0-3	Fix	3	2	
117	CC3N	C Width	0,1	Fix	1	0	
118	C0HS	C Delay On	0,1	Fix	0	0	
119	CLPH	Y-Ad Clamp Test	0,1	Fix	1	0	
120	SEL2	DC Sensitivity Small	0,1	Fix	0	0	
121	SEL1	DY Sensitivity Small	0,1	Fix	1	0	
122	YHCO	Coring Small	0-3	Fix	1	1	
123	YPCO	Coring On	0,1	Fix	0	0	
124	ED20	Standard	0,1	Fix	0	1	
125	OVST	Standard	0,1	Fix	0	0	
126	CSHD	Standard	0,1	Fix	1	0	
127	KCTT	Standard	0-3	Fix	0	0	
128	SHT1	Standard	0,1	Fix	1	0	
129	SHT0	Standard	0,1	Fix	0	0	
130	VCT	Standard	0,1	Fix	0	0	
131	OTT	Standard	0,1	Fix	1	0	
132	CGAT	Standard	0,1	Fix	0	0	
133	CGGT	Standard	0,1	Fix	0	0	
134	CGFT	Standard	0,1	Fix	0	0	
135	CGT	Standard	0,1	Fix	0	0	
136	HPLL	H PLL Fast	0,1	Fix	0	1	
137	BPLL	Burst PLL Fast	0,1	Fix	0	0	
138	FSCF	Burst Gain Large	0,1	Fix	0	0	
139	PLLF	PLL Loop Gain Large	0,1	Fix	0	1	
140	KILR	Killer Level	0-15	Fix	0	3	
141	HSSL	H Slice Level	0-15	Fix	9	12	
142	VSSL	V Slice Level	0-15	Fix	3	8	
143	BGPS	Start Burst Gate	0-15	Fix	12	4	
144	BGPW	Width of Burst Gate	0-15	Fix	8	10	
145	ADCL	ADC Clock	0-3	Fix	1	3	
146	ADPD	ADC Power Down On	0,1	Fix	0	1	
147	ADLT	Standard	0,1	Fix	0	0	
148	NRZO	Check On	0,1	Fix	A	0	
149	FSCO	Level Check On	0,1	Fix	0	0	
150	VTVH	Normal	0-3	Fix	2	0	
151	TST2	Standard	0,1	Fix	1	0	
152	HMEM	Use	0,1	Fix	1	1	
153	HINV	Polarity of Reset	0,1	Fix	1	1	
154	HTMG	Field Memory Address	0,1	Fix	0	0	
155	HCP	HH Carrier Phase	0-15	Fix	0	7	
156	TST3	Test	0,1	Fix	0	0	
157	HHMG	HH Moving Gain	0,1	Fix	1	1	
158	HHFG	HH	0-3	Fix	2	0	
159	HHTG	Max HH	0-15	Fix	7	5	
PI TA1226N							
160	SHPR	Picture Improvement Sharpness	0-127	Fix	89	59	
161	BLAD	Picture Improvement Black Area Detect	0-3	Fix	0	0	
162	SRTS	Picture Improvement SRT Start Pos	0-3	Fix	3	3	
163	YNR	Picture Improvement YNR	0,1	Fix	1	1	
164	GIRE	Picture Improvement Gamma Start Point	0-3	Fix	3	3	
165	DAC1	Picture Improvement DAC1	0,1	Fix	0	0	
166	DAC2	Picture Improvement DAC2	0,1	Fix	0	0	
167	GCUR	Picture Improvement Gamma Curve	0,1	Fix	0	0	
168	BLKC	Picture Improvement Black Compensation	0,1	Fix	1	1	
169	TEST	Picture Improvement Test	0-3	Fix	3	3	
170	RS	Picture Improvement RS	0-7	Fix	0	0	
171	RTC	Picture Improvement RTC	0-7	Fix	4	4	

## Service Data (cont.)

No.	Register Name	Description	Data Range	Adj/Fix	Initial Data	Average Data** All Models	Comments
<b>DC CXA2060</b>							
172	DCSF	Dynamic Convergence DC Shift	0-63	Fix	40	40	
173	UYBW	Dynamic Convergence Upper YBOW	0-63	Fix	31	31	
174	LYBW	Dynamic Convergence Lower YBOW	0-63	Fix	31	31	
175	HAMP	Dynamic Convergence H. Amp	0-63	Fix	15	15	
176	UCBW	Dynamic Convergence U. CBOW	0-63	Fix	21	21	
177	LCBW	Dynamic Convergence L. CBOW	0-63	Fix	14	14	
178	UMBH	Dynamic Convergence U. MBH	0-15	Fix	15	15	
179	LMBH	Dynamic Convergence L. MBH	0-15	Fix	15	15	
180	PWM	Dynamic Convergence PWM	0-63	Fix	63	63	
181	HTLT	Dynamic Convergence H. Tilt	0-63	Fix	1	1	
182	UTLT	Dynamic Convergence U. Tilt	0-63	Fix	1	1	
183	LTLT	Dynamic Convergence L. Tilt	0-63	Fix	1	1	
184	HDTY	Dynamic Convergence H. Duty	0-3	Fix	3	3	
185	TOFF	Dynamic Convergence Tilt Off	0,1	Fix	1	1	
186	DAC0	Dynamic Convergence DAC0	0-255	Fix	192	192	
187	DAC1	Dynamic Convergence DAC1	0-255	Fix	7	7	
<b>SP SDA9288</b>							
188	PYSD	P in P (Siemens) YS Delay	0-15	Fix	2	2	
189	PIPH	P in P (Siemens) H-Position	0-127	Fix	78	78	
190	PIPV	P in P (Siemens) V-Position	0-63	Fix	18	18	
191	PYDL	P in P (Siemens) Y-Delay	0-7	Fix	0	0	
192	PIFX	P in P Inset Fixed	0-3	Fix	2	2	
193	PPFX	P in P Parent Fixed	0-3	Fix	2	2	
194	PCLI	P in P CLISW	0,1	Fix	1	1	
195	PAMS	P in P AMSEC	0,1	Fix	0	0	
196	PHDL	P in P (Siemens) H-Pulse Delay (Inset)	0-15	Fix	15	15	
197	PMVD	P in P (Siemens) V-Pulse Delay (Main)	0-31	Fix	11	11	
198	PIVD	P in P (Siemens) V-Pulse Delay (Inset)	0-31	Fix	18	18	
199	PCON	P in P (Siemens) Contrast Level (Inset)	0-15	Fix	3	7	
200	FRMY	P in P (Siemens) Frame Y	0-15	Fix	10	10	
201	CHRI	P in P (Siemens) Chroma Input Polarity	0,1	Fix	0	0	
202	CHRO	P in P (Siemens) Chroma Output Polarity	0,1	Fix	0	0	
203	MAT0	P in P (Siemens) MAT0	0,1	Fix	1	1	
204	MAT1	P in P (Siemens) MAT1	0,1	Fix	1	1	
205	MAT2	P in P (Siemens) MAT2	0,1	Fix	0	0	
206	IPEB	P in P (Siemens) Pedastel R-Y	0-15	Fix	0	0	
207	IPEB	P in P (Siemens) Pedastel B-Y	0-15	Fix	0	0	
208	PCPS	P in P (Siemens) CLP & HSIDEL	0,1	Fix	0	0	
209	PCPF	P in P (Siemens) CLP Cycles	0,1	Fix	0	0	
210	PSEL	P in P (Siemens) SELDOWN	0,1	Fix	1	1	
211	PPLL	P in P (Siemens) PLL Filter	0-3	Fix	0	0	
212	PVNR	P in P (Siemens) VSP Pulse Noise Red.	0,1	Fix	0	0	
<b>IPPX IC CXA2019</b>							
213	IDPX		0,1	Fix	0	0	
214	ICOL	Color	0-63	Fix	39	38	
215	ISHP	Sharpness	0-15	Fix	10	10	
216	ISCO	Sub Chroma Decoder Sub Cont	0-15	Fix	7	7	
217	ISCL	Sub Chroma Decoder Sub Color	0-15	Fix	8	12	
218	ISHU	Sub Chroma Decoder Sub Hue	0-15	Fix	7	7	
219	ITOT	Sub Chroma Decoder Tot On	0,1	Fix	0	0	
220	ITRP	Sub Chroma Decoder Trap On	0,1	Fix	1	1	
221	IAFC	AFC	0-3	Fix	1	1	
222	ITRA	Sub Chroma Decoder CTRAPADJ	0-15	Fix	7	7	
223	ICD2	Sub Chroma Decoder CD Mode2	0,1	Fix	1	1	
224	ISF0	SHP-F0	0,1	Fix	1	1	
225	IYDR	Sub Chroma Decoder Y Drive	0-31	Fix	24	24	
226	IVPE	Sub Chroma Decoder V Ped	0-15	Fix	0	0	
227	IUPE	Sub Chroma Decoder U Ped	0-15	Fix	0	0	
228	IRVP	Sub Chroma Decoder RV Ped	0-15	Fix	7	4	
229	IRUP	Sub Chroma Decoder RU Ped	0-15	Fix	7	4	

**Service Data (cont.)**

No.	Register Name	Description	Data Range	Adj/Fix	Initial Data	Average Data**	Comments
						All Models	
IC CXA2019 <i>continued</i>							
230	IDCT	Sub Chroma Decoder DC Tran	0-7	Fix	4	4	
231	IRYD	Sub Chroma Decoder RY Drive	0-31	Fix	19	19	
232	IPRE	Sub Chroma Decoder Pre Over	0-3	Fix	1	1	
233	IRUD	Sub Chroma Decoder RU Drive	0-31	Fix	8	8	
234	IRVD	Sub Chroma Decoder RV Drive	0-31	Fix	8	8	
235	IDLY	Sub Chroma Decoder Delay	0-3	Fix	0	0	
236	ISCR	Sub Chroma Decoder SCP BGR	0-3	Fix	1	1	
237	ISCF	Sub Chroma Decoder SCP BGF	0-3	Fix	1	1	
DA CXA1315							
238	RTCO	D/A Converter N-S Correction	0-63	Fix	32	32	
239	2COL	Color	0-255	Fix	120	120	
240	2SHU	Sub Hue	0-31	Fix	15	15	
D1 CXD2085							
241	XJGL	XJGLK	0,1	Fix	0	0	
242	LNJ1	LNJ1	0,1	Fix	0	0	
CC CXP85856A							
243	CRIL	CCD CRI Pulse Compare Data Low	0-15	Fix	2	2	
244	CFLD	CCD Caption Fixed-Field Count	0-15	Fix	5	5	
245	CCDI	CCD No CCD Interrupt	0-7	Fix	3	3	
246	CRIP	CCD CRI & Parity Error	0-7	Fix	4	4	
247	CRIT	CCD CRI Time Constant	0-3	Fix	3	0	
248	CSB1	CCD Sync Slice Bias 1	0-3	Fix	3	3	
249	CSB2	CCD Sync Slice Bias 2	0-7	Fix	4	4	
250	CREP	CCD CRI Signal End Position	0-255	Fix	142	142	
251	CDSO	CCD Data Start Delay	0-31	Fix	8	8	
252	CCDS	CCD Caption Data Threshold	0-31	Fix	9	9	
253	CHMK	CCD P8-HMASK	0-63	Fix	42	42	
254	CHSY	CCD P8-HSYC	0-255	Fix	136	136	
OP CXP85856A							
255	DISP	OSD Position	0-63	Adj	4	1	
ID MAP							
256	ID 0	NVM ID 0	0-255	Fix by model	89	refer to NVM ID Chart	See ID map
257	ID 1	NVM ID 1	0-255	Fix by model	55		See ID map
258	ID 2	NVM ID 2	0-255	Fix by model	175		See ID map
259	ID 3	NVM ID 3	0-255	Fix by model	96		See ID map
260	ID 4	NVM ID 4	0-255	Fix by model	203		See ID map
261	ID 5	NVM ID 5	0-255	Fix by model	181		See ID map
262	ID 6	NVM ID 6	0-255	Fix by model	6		See ID map
263	ID 7	NVM ID 7	0-255	Fix by model	9		See ID map

**(5) Feature ID Map**

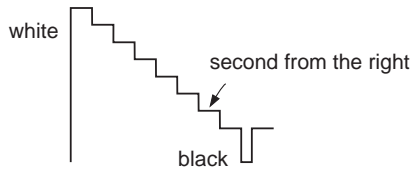
	ID 0	ID 1	ID 2	ID 3	ID 4	ID 5	ID 6	ID 7
KV-27FV15	89	55	175	96	203	181	6	0
KV-27FV15 CND	89	55	175	112	203	181	6	0
KV-29FV10	25	55	175	64	251	181	6	0
KV-29FV15, 15C	25	55	175	64	251	181	6	0
KV-29FV15K	137	55	175	64	219	181	6	0

SERVICE IDO 25

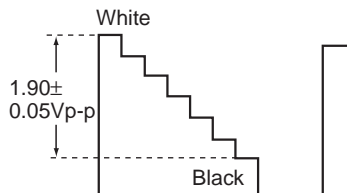
Note: Items 1-263 show adjustment order

**SUB BRIGHT ADJUSTMENT (SBRT)**

1. Set to Service adjustment Mode.
2. Input a gray scale pattern signal.
3. Set the PICTURE to minimum, and BRIGHT to normal.
4. Select SBRT with [1] and [4].
5. Adjust SUB BRIGHT level with [3] and [6] so that the stripe second from the right is faintly visible.
6. Write into the memory by pressing [MUTING] then [ENTER].

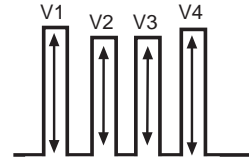
**SUB CONTRAST ADJUSTMENT (SCON)**

1. Input a 75% color-bar signal.
2. Set to VIDEO mode = STANDARD, COLOR = minimum, PICTURE = 100%.  
GON = 0 (OFF), BON = 0 (OFF).
3. Set to Service adjustment Mode and Connect an oscilloscope pin ① of CN351 on A Board.
4. Select SCON with [1] and [4].
5. Adjust with [3] and [6] for the  $1.90 \pm 0.05V_{p-p}$  of level.
6. Write into the memory by [MUTING] then [ENTER].

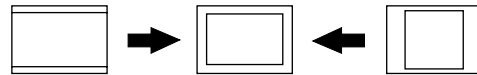
**SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)**

1. Input a color bar signal.
2. Set to Service Adjustment Mode and set to  
VIDEO mode = STANDARD  
PICTURE = 100%  
COLOR = 50%  
HUE = 50%.
3. Connect an oscilloscope to CN351 Pin ③ of A Board.
4. Select SHUE and SCOL with [1] and [4].
5. Adjust with [3] and [6] for the  $V1 = V4$  (SCOL) and  $V2 = V3$  (SHUE).

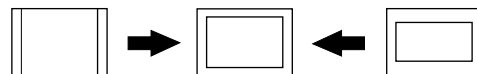
6. Write SHUE data 1 step down and SCOL data 2 steps up.
7. Write into the memory by pressing [MUTING] then [ENTER].

**H. SIZE ADJUSTMENT (HSIZ)**

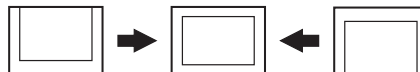
1. Input a monoscope signal.
2. Set to Service Adjustment Mode.
3. Select HSIZ with [1] and [4].
4. Adjust with [3] and [6] for the best Horizontal size.
5. Write into the memory by pressing [MUTING] then [ENTER].

**H. SIZE****V. SIZE ADJUSTMENT (VSIZ)**

1. Input a monoscope 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****V. POSITION ADJUSTMENT (VPOS)**

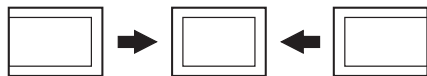
1. Input a monoscope signal.
2. Set to Service Adjustment Mode.
3. Select VPOS with [1] and [4].
4. Adjust with [3] and [6] for the best vertical center.
5. Write into the memory by pressing [MUTING] then [ENTER].

**V. POSITION**

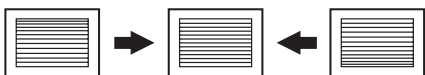
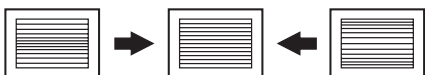
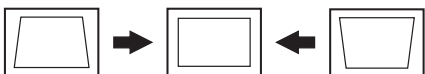
**H. POSITION ADJUSTMENT (HPOS)**

Perform this adjustment after H. FREQUENCY ADJ. (HFRE).

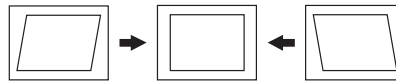
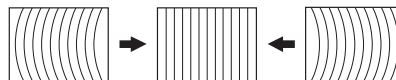
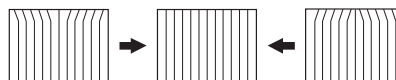
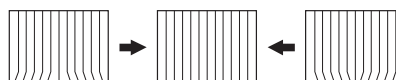
1. Input a monoscope signal.
2. Set the Service adjustment Mode.
3. Select HPOS with [1] and [4].
4. Adjust with [3] and [6] for the best horizontal center.
5. Write into the memory by pressing [MUTING] then [ENTER].

**H. POSITION****V LINEARITY (VLIN), V CORRECTION (VSCO), PIN AMP (PAMP) AND TRAPEZIUM (TRAP) ADJUSTMENTS**

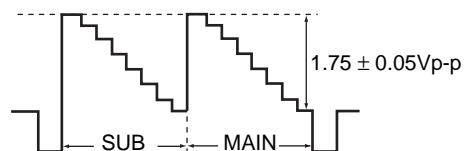
1. Input a cross-hatch signal.
2. Set to Service adjustment Mode.
3. Select VLIN, VSCO, PAMP, and TRAP with [1] and [4].
4. Adjust with [3] and [6] for the best picture.
5. Write the memory by Pressing [MUTING] then [ENTER].

**V LINEARITY(VLIN)****VS CORRECTION (VSCO)****PIN AMP (PAMP)****TRAPEZIUM (TRAP)****V ANGLE (VANG), V BOW (VBOW), UPPER PIN (UCPN) AND LOW PIN (LCPN) ADJUSTMENTS**

1. Input a cross hatch signal.
2. Set to Service Adjustment Mode.
3. Select VVANG, VBOW, UCPN, and LCPN with [1] and [4].
4. Adjust with [3] and [6] for the best picture.
5. Write the memory by Pressing [MUTING] then [ENTER].

**V ANGLE (VANG)****V BOW (VBOW)****UPPER PIN (UCPN)****LOW PIN (LCPN)****P&P SUB CONTRAST ADJUSTMENT (MSCO, ISCO)**

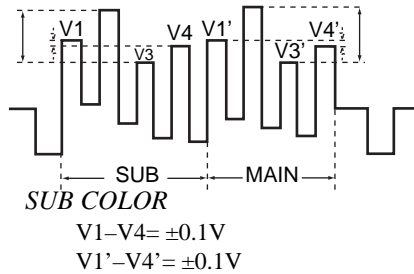
1. Input a 75% color-bar signal.
2. Set: VIDEO mode = STANDARD  
PICTURE = 100%  
COLOR = minimum  
GON = 0 (OFF), BON = 0 (OFF),  
TRINITONE = medium.
3. Set P&P mode.
4. Connect an oscilloscope to CN1103 pin ④ of A board and GND.
5. Set to Service Mode and select MSCO (main window) and ISCO (sub window) with [1] and [4].
6. Adjust with [3] and [6] for the  $1.75 \pm 0.05V_{p-p}$  of level.
7. Write into the memory by pressing [MUTING] then [ENTER].

**P&P SUB COLOR, SUB HUE ADJUSTMENT (MCOL, MSHU, ICOL, ISHU)**

1. Input a 75% Color-bar signal.
2. Set: VIDEO mode = STANDARD  
PICTURE = 100%  
COLOR = 50%  
HUE = 50%,  
TRITONE = medium.
3. Set P&P mode.
4. Connect an oscilloscope to CN1103 pin ⑤ of A board and GND.
5. Set to Service Mode and select MCOL, MSHU (main window) and ICOL, ISHU (sub window) with [1] and [4].



- Adjust with [3] and [6].
- After adjust write MSHU and ISHU data 1 step down.
- Write into the memory by pressing [MUTING] then [ENTER].



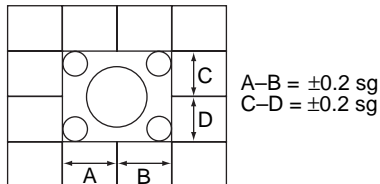
#### SUB HUE

$V3-V2 = \pm 0.1V \rightarrow 1 \text{ STEP DOWN}$   
 $V3'-V2' = \pm 0.1V \rightarrow 1 \text{ STEP DOWN}$

### P&P ACQUISITION ADJUSTMENT (MAHP, MAVP)

- Input a Monoscope signal.
- Set PICTURE = 100%.
- Set P&P mode and set CHANNEL INDEX mode.
- Set to Service Mode and select MAHP and MAVP with [1] and [4].
- Adjust with [3] and [6] for the best center (main window).
- Write the memory by pressing [MUTING] then [ENTER].

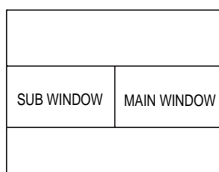
NEED TO ADJUST AFTER  
GEOMETRIC ADJUST



### P&P WHITE BALANCE ADJUSTMENT (IUPE, IVPE)

- Input a 40 IRE white signal.
- Set to VIDEO mode = STANDARD.
- Set to P&P mode.
- Set to Service Mode and select IUPE IVPE (sub window) with [1] and [4].
- Adjust with [3] and [6] for white balance.
- Write into the memory by pressing [MUTING] then [ENTER].

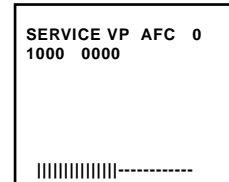
NEED TO ADJUST AFTER  
MAIN PICTURE (NOT P&P)  
W/B ADJUST



\*9300 degrees K +8 MPCD

### OSD POSITION ADJUSTMENT (DISP)

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



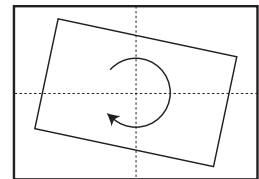
### ROTATION COIL ADJUSTMENT

- Input a monoscope signal.
- Push Menu button on the Remote (RM-Y171).
- Select "Set Up" Mode.
- Select "Tilt Correction". Confirm that number (0) color changes to red.
- Push ↑ (+) on the Remote (RM-Y171). Confirm that number increases up to +5 and picture rotates clockwise.
- Push ↓ (-) on the Remote (RM-Y171). Confirm that number decreases up to -5 and picture rotates counterclockwise.
- Push ↑ (+) on the Remote (RM-Y171). Return to 0.

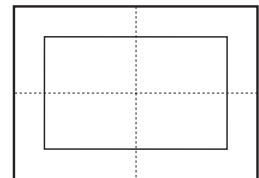
#### SET-UP

- ☐ Channel Set-up
- ☐ Favorite Channel
- ☐ Video Label
- ☐ Language: English
- ☐ Tilt Correction : 0
- ☐ Menu

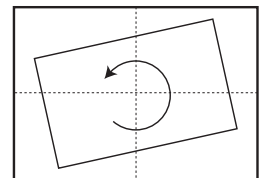
+5



0



-5

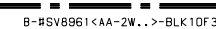


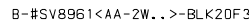
**\*\*CAUTION\*\***

Geom. adjustment  
condition must be 0.

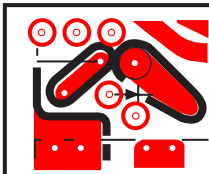
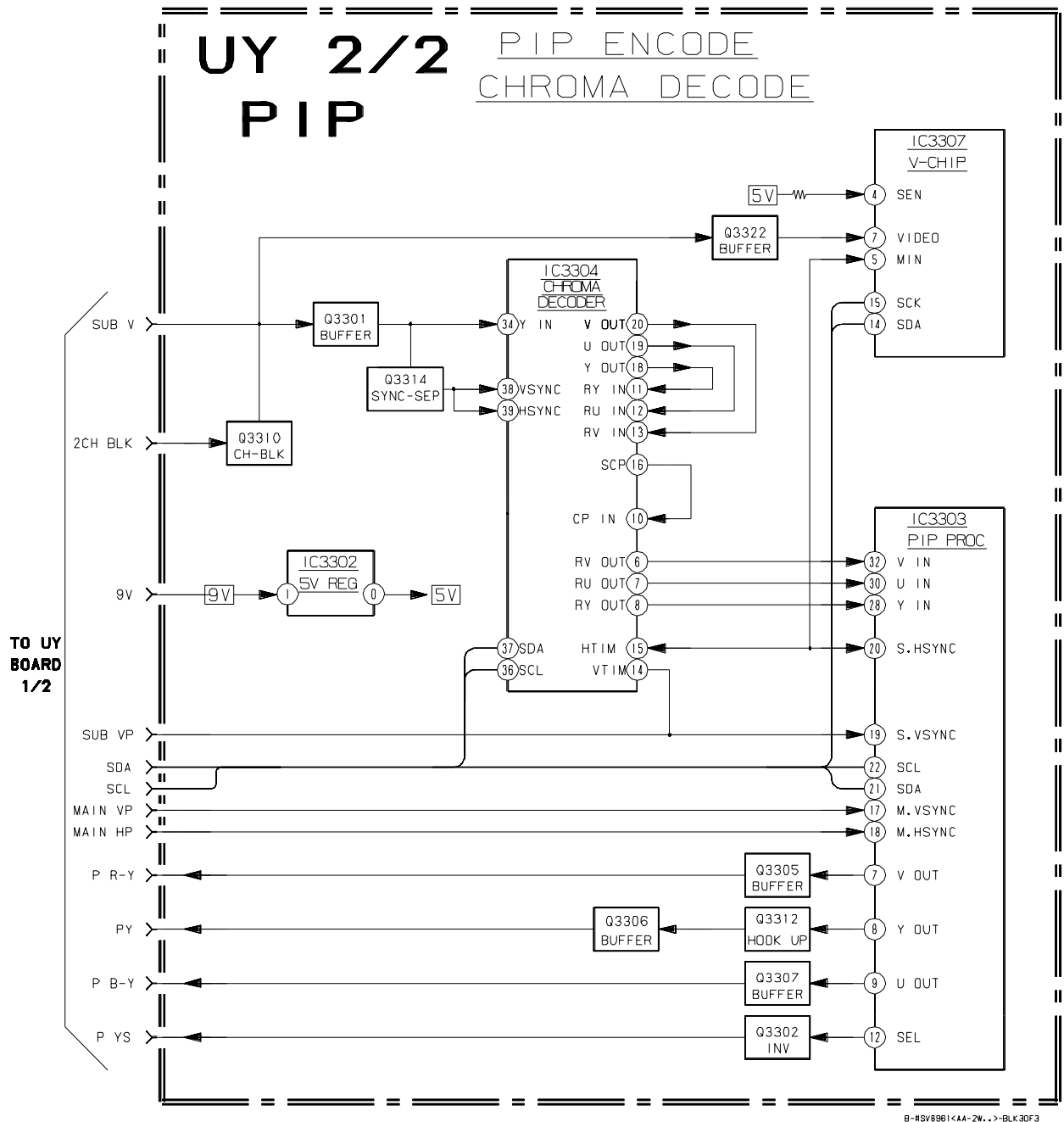
**NOTES:**

[illegible]



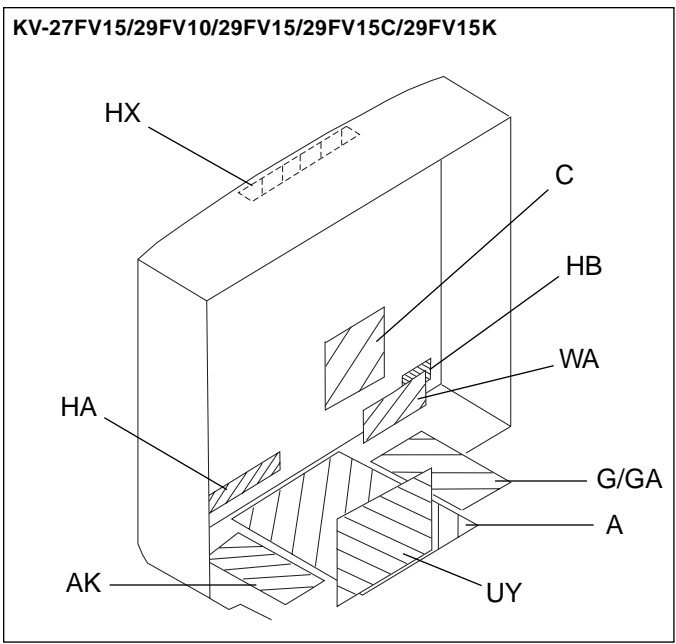


6-3 BLOCK DIAGRAM (3/3) (UY PIP BOARD - KV-29FV10 EXCLUDED)



**NOTE:**  
Portions of this circuit marked as shown are high voltage areas. Use care to prevent electric shocks during inspection or repair.

6-4. CIRCUIT BOARDS LOCATION



6-5. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$  :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms.  
K =1000 , M =1000k
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm  
Rating electrical power :  $\frac{1}{4}\text{W}$

- $\frac{1}{4}\text{W}$  in resistance,  $\frac{1}{10}\text{W}$  and  $\frac{1}{8}\text{W}$  in chip resistance.
- : nonflammable resistor.
- : fusible resistor.
- $\Delta$  : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.  
Should replacement be required, replace only with the value originally used.
- When replacing components identified by , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved. (Refer to R530 and R531 adjustment on Page 20.)
- When replacing the part in below table, be sure to perform the related adjustment.
- Readings are taken with a color-bar signal input.
- Readings are taken with a 10M digital multimeter .
- Voltages are DC with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.

Part replaced(  )	Adjustment(  )
IC355, IC501, D302, D519, D520, D521, C531, C532, Q301, R356, R359, R361, R387, R529, R530, R531, R532, R533, R550, T503 .....A BOARD IC643, R661 .....G BOARD (KV-27V15) IC6003, R6088 .....GA BOARD (KV-27V15 Excluded)	R530, R531

- All voltages are in V.
- S : Measurement impossibility.
- : B+line.
- : B-line.  
(Actual measured value may be different).
- : signal path. (RF)
- Circled numbers are waveform references.

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

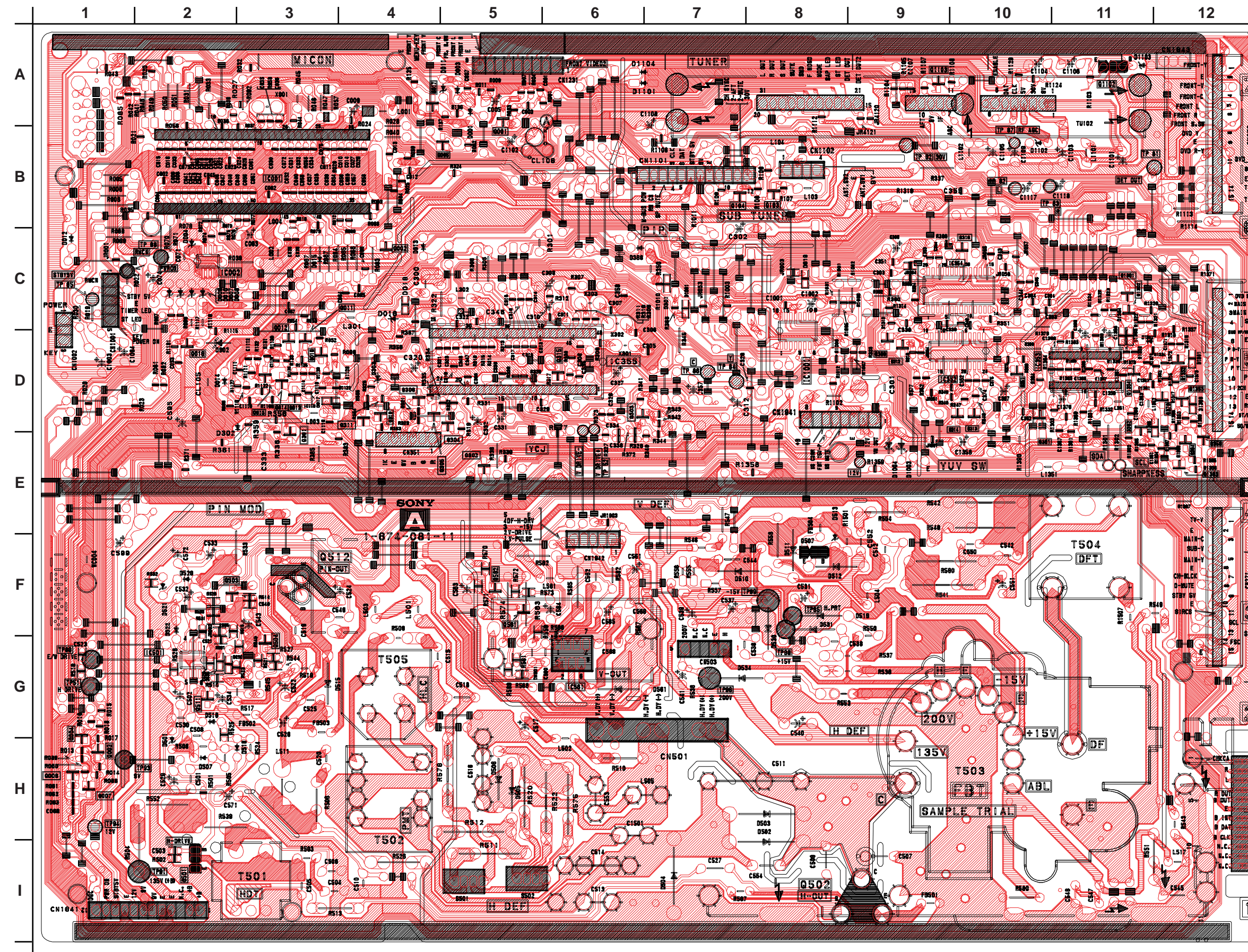
The symbol display is on the component side.  
The components identified by shading and mark are critical for safety. Replace only with part number specified.  
The symbol indicates a fast operating fuse.  
Replace only with fuse of same rating as marked.

Les composants identifiés par un trame 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 etre remplacee par une fusible de meme yaleur, comme maque.



**A**

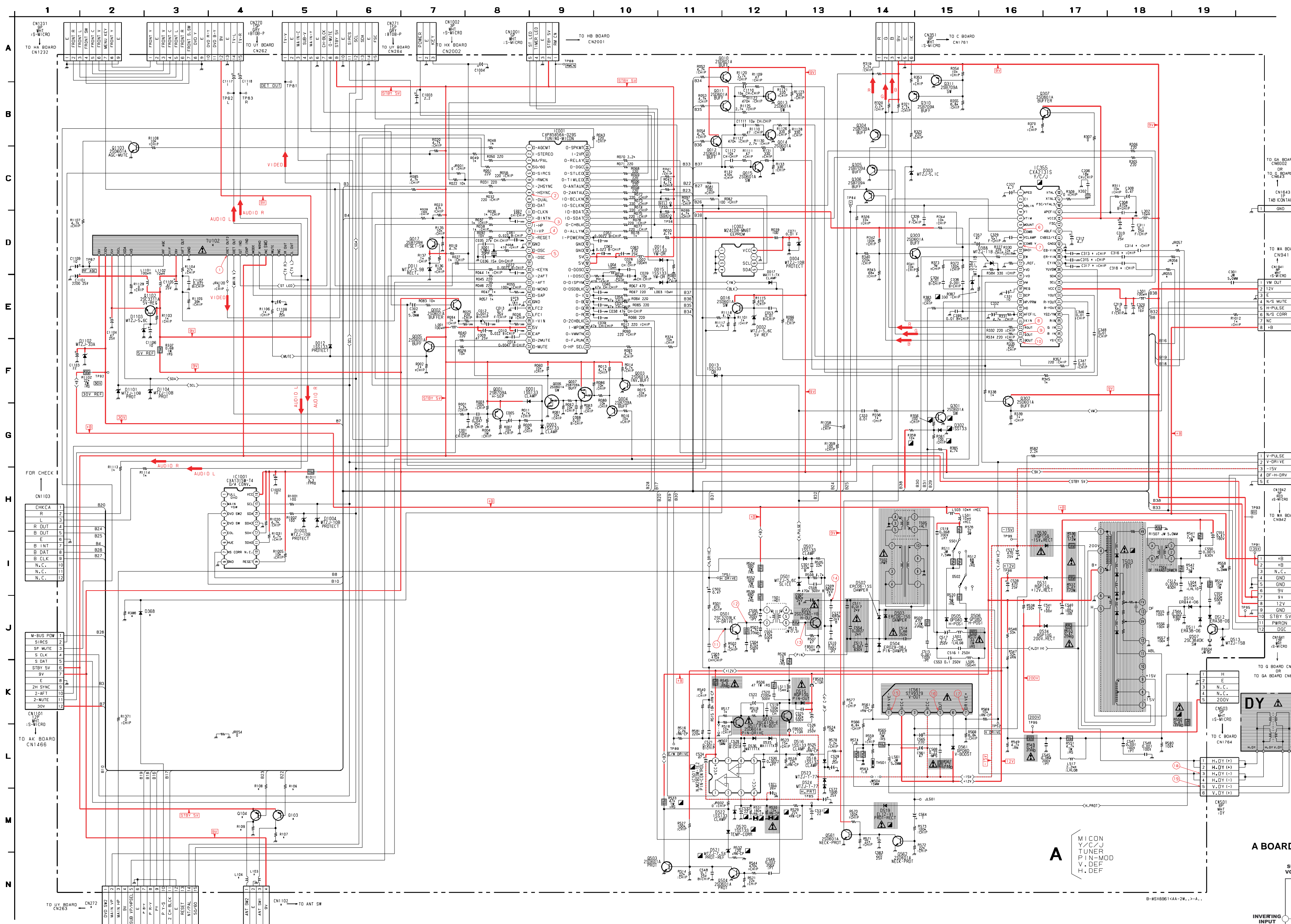
[ MICON, Y/C/J, TUNER, PIN-MOD, V-DEF, H-DEF ]

**A BOARD  
LOCATOR LIST**

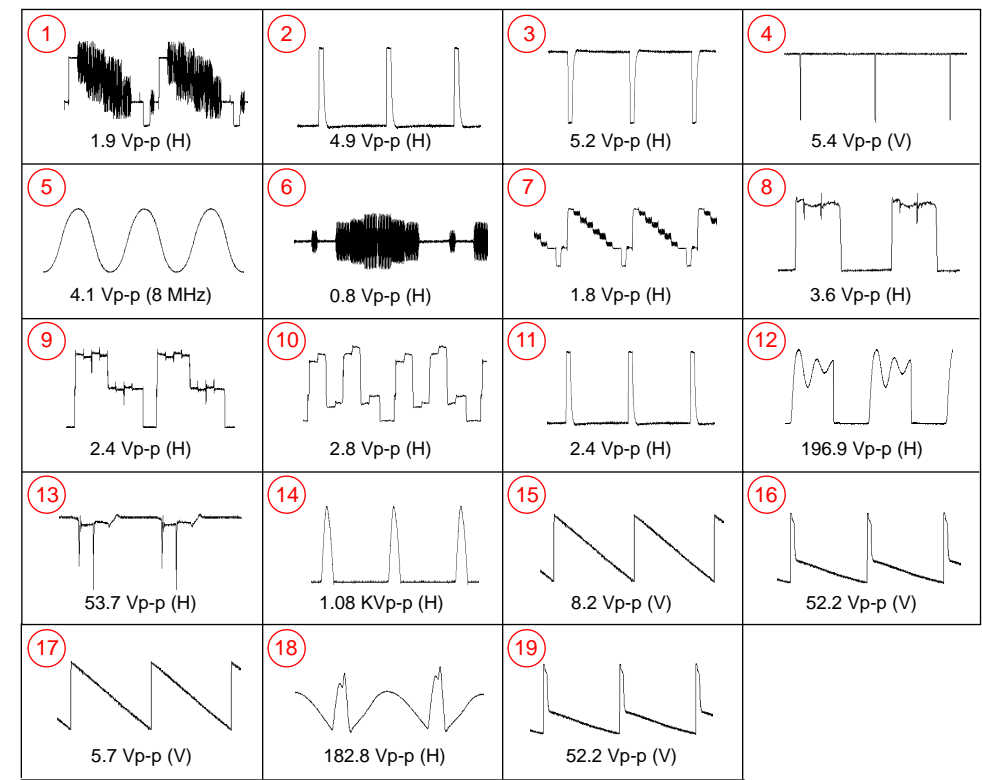
DIODE	
D001	A-5
D002	D-2
D003	A-5
D004	C-2
D011	A-5
D012	C-1
D013	C-5
D014	D-3
D015	C-3
D017	D-3
D302	E-3
D303	D-4
D368	C-7
D384	F-6
D388	C-6
D501	H-2
D502	I-8
D503	I-8
D504	I-7
D505	I-6
D506	H-5
D507	H-2
D510	F-8
D511	F-9
D512	F-9
D513	F-9
D515	G-4
D516	H-2
D518	H-3
D519	G-9
D520	F-2
D521	F-2
D522	G-2
D530	G-8
D531	G-9
D534	G-8
D535	G-3
D536	G-3
D561	H-7
D1003	E-10
D1004	E-10
D1101	A-7
D1102	B-11
D1103	A-12
D1104	A-7
IC	
IC001	B-2
IC002	C-2
IC355	D-5
IC501	G-2
IC561	G-6
IC1001	D-8
TRANSISTOR	
Q001	A-5
Q002	C-4
Q003	H-1
Q004	H-1
Q005	B-5
Q006	H-1
Q007	I-1
Q010	D-3
Q011	D-3
Q012	D-3
Q013	D-3
Q014	D-3
Q015	D-3
Q016	D-2
Q017	A-5
Q103	B-8
Q104	B-8
Q301	E-3
Q302	E-5
Q303	E-7
Q304	E-5
Q305	E-5
Q306	E-5
Q307	C-6
Q310	E-4
Q311	E-4
Q315	D-6
Q501	I-2
Q502	J-9
Q503	G-3
Q504	G-3
Q507	F-9
Q511	H-2
Q512	F-3
Q561	G-6
Q562	F-5
Q1102	A-12
Q1103	A-10



# A BOARD SCHEMATIC DIAGRAM



# A BOARD WAVEFORMS



# A BOARD IC VOLTAGE LIST

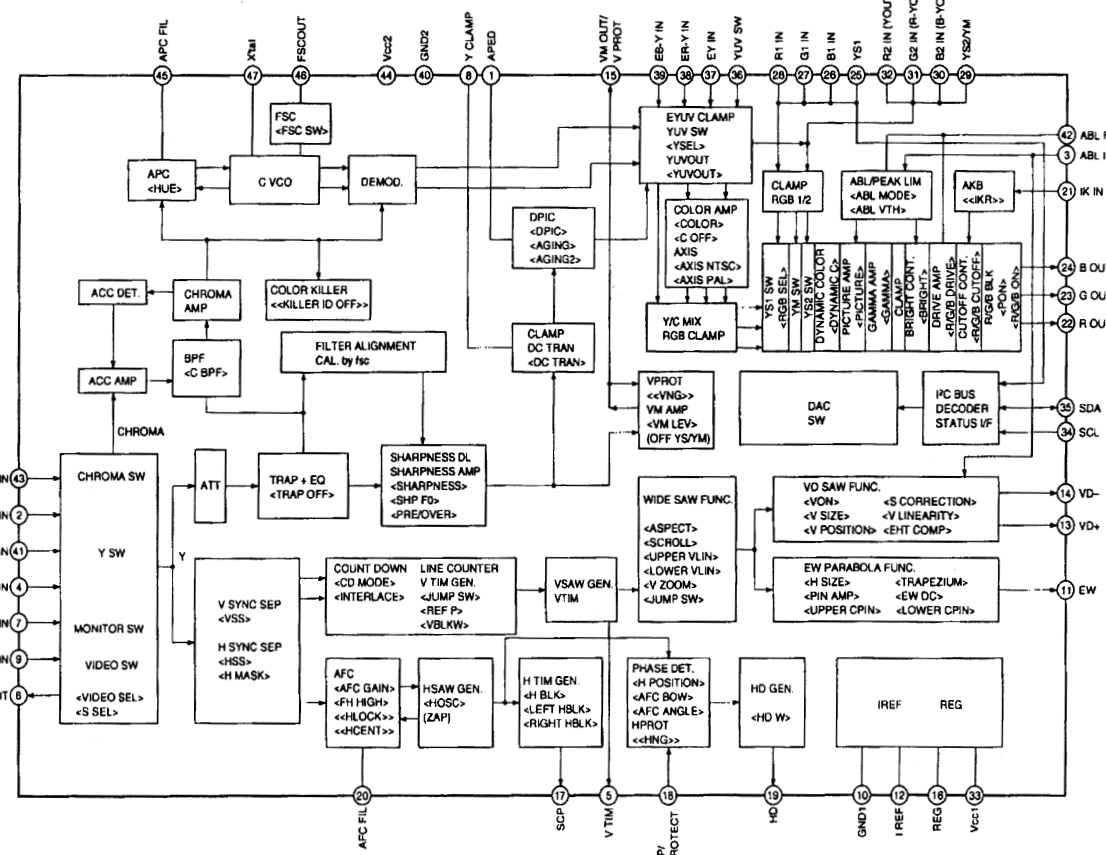
IC001				IC002				IC001			
pin	volt	42	0	8	5.3	pin	volt	pin	volt	pin	volt
1	0	43	0	9	5.4	2	7.0	1	0	1	-0.1
2	5.0	44	2.7	10	GND	3	8.1	2	7.0	2	7.0
3	0	45	2.8	11	0	4	-13.1	3	8.1	3	-0.1
4	0	46	4.9	12	2.4	5	2.3	4	-13.1	4	-13.1
5	NC	47	4.9	13	3.5	6	3.1	5	2.3	5	2.3
6	4.9	48	GND	14	3.5	7	-12.5	6	3.1	6	-12.5
7	0.1	49	GND	15	6.1	7	-12.9	7	-12.9	7	-12.9
8	0	50	5	16	7.6	8	13.2	8	13.2	8	13.2
9	NC	51	0	17	NC	9	NC	9	NC	9	NC
10	NC	52	0	18	3.5	10	NC	10	NC	10	NC
11	NC	53	4.5	19	2.8	11	1.4	11	1.4	11	1.4
12	5	54	4.5	20	2.6	12	13.2	12	13.2	12	13.2
13	4	55	4.5	21	1.8	13	-11.0	13	-11.0	13	-11.0
14	4.9	56	4.5	22	1.4	14	-13.1	14	-13.1	14	-13.1
15	4.9	57	5	23	1.2	15	0	15	0	15	0
16	GND	58	0	24	1.2	16	13.5	16	13.5	16	13.5
17	2.4	59	3.6	25	NC	17	1.4	17	1.4	17	1.4
18	0	60	3.7	26	NC	18	NC	18	NC	18	NC
19	5.0	61	0	27	NC	19	NC	19	NC	19	NC
20	5.0	62	4.7	28	NC	20	1	20	1	20	1
21	2.3	63	NC	29	0	21	NC	21	NC	21	NC
22	2.1	64	0	30	4.7	22	0.3	22	0.3	22	0.3
23	0	IC002				31	4.7	4	NC	23	0
24	0	pin	volt	32	4.7	5	NC	24	0	24	0
25	GND	1	GND	33	9.3	6	NC	25	GND	25	GND
26	0	3	GND	34	4.6	7	4.7	26	0	26	0
27	0	3	GND	35	4.5	8	NC	27	0	27	0
28	0.5	4	GND	36	0.1	9	9.4	28	0.5	28	0.5
29	5	5	4.6	37	0	10	NC	29	5	29	5
30	0	6	4.5	38	5.6	11	9.4	30	0	30	0
31	0	7	GND	39	5.6	12	9.4	31	0	31	0
32	0	8	5	40	GND	13	GND	32	0	32	0
33	0	IC355				41	NC	14	4.5	33	NC
34	NC	pin	volt	42	5.3	15	4.6	34	NC	34	NC
35	NC	1	3.5	43	NC	16	9.4	35	NC	35	NC
36	0	2	NC	44	5.5			36	0	36	0
37	0	3	1.4	45	5.5			37	0	37	0
38	0	4	NC	46	5.0			38	0	38	0
39	5	5	5.2	47	2.0			39	5	39	5
40	0	6	NC	48	NC			40	0	40	0

All voltages are in V

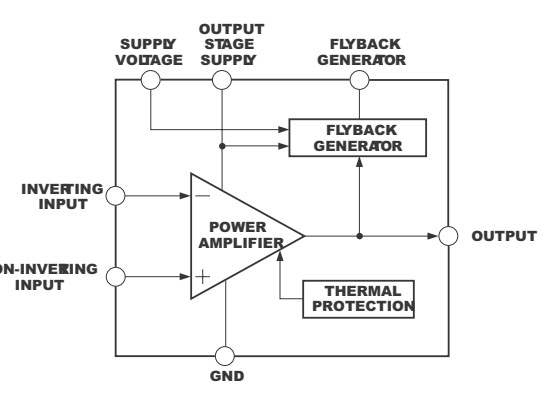
# A BOARD (\*) MARK LIST

REF. NO.	LOCATION	KV27FV15	KV29FV15C	KV29FV10	KV29FV15K
C313	D-17	#	#	0.01	#
C314	D-18	0.1	#	#	0.1
C315	D-17	#	#	0.01	#
C316	D-18	0.1	#	#	0.1
C317	D-17	#	#	0.01	#
C318	D-18	0.1	#	#	0.1
CN272	N-3	15P	15P	#	15P
CN1102	N-4	3P	3P	#	3P
D368	J-2	1SS133T-77	1SS133T-77	#	1SS133T-77
JR055	D-19	1-216-295-91	1-216-295-91	#	1-216-295-91
JR056	D-19	1-216-295-91	1-216-295-91	#	1-216-295-91
JR057	D-19	1-216-295-91	1-216-295-91	#	1-216-295-91
L103	N-4	JW	JW	#	JW
L104	N-4	JW	JW	#	JW
Q103	M-5	2SA1162-G	2SA1162-G	#	2SA1162-G
Q104	M-4	2SD601A-Q	2SD601A-Q	#	2SD601A-Q
R106	L-5	22K	22K	#	22K
R107	M-5	22K	22K	#	22K
R108	L-4	22K	22K	#	22K
R109	M-4	22K	22K	#	22K
R386	J-2	1K	1K	#	1K
TU102	D-3	8-598-431-00	8-598-431-00	8-598-431-00	8-598-475-00

# A BOARD: IC 355 CXA2131S



# A BOARD: IC 561 STV3979

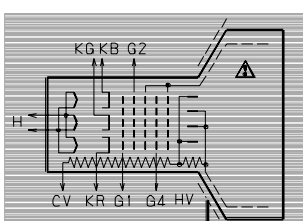






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### C BOARD SCHEMATIC DIAGRAM

## G BOARD IC VOLTAGE LIST

IC6000		IC643	
pin	volt	pin	volt
REF	2.5	1	134.2
ANODE	GND	2	NC
CATHODE	5.0	3	2.4
		4	8.8
		5	GND
IC601		IC650	
pin	volt	pin	volt
B-1	-1.0	IN	13.6
B-2	150.5	OUT	11.9
C-1	151.5	GND	GND
C-2	298.0		
E-1	GND	IC655	
E-2	151.7	pin	volt
		IN	12.1
		OUT	4.9
		GND	GND
IC625		All voltages are in V	
pin	volt		
IN	7.0		
OUT	4.0		
GND	GND		
IC642			
pin	volt		
IN	12.0		
OUT	9.5		
GND	0.4		

## G BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q622	0.5	1.7	GND
Q623	0.7	0	GND
Q624	12.8	0	11.8
Q644	0	12.0	GND
Q645	11.8	GND	8.8
Q646	6.3	7.0	7.0
Q647	0	11.7	GND
Q648	0.7	0.1	GND
Q649	12.0	0	12.3
Q650	0	2.3	GND
Q651	135.2	0	135.5
Q652	3.6	0	3.6
Q653	0	3.6	GND

## G BOARD TRANSISTOR VOLTAGE LIST

	D	G	S
Q621	147.7	1.7	0

All voltages are in V

**C** [ RGB DRIVE, CRT DRIVE ]

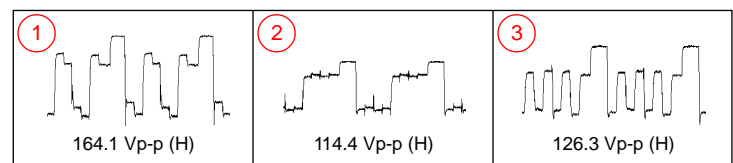
C BOARD TRAN

	B	C	E
Q1790	4.7	GND	4.4

## C BOARD IC VOLTAGE LIST

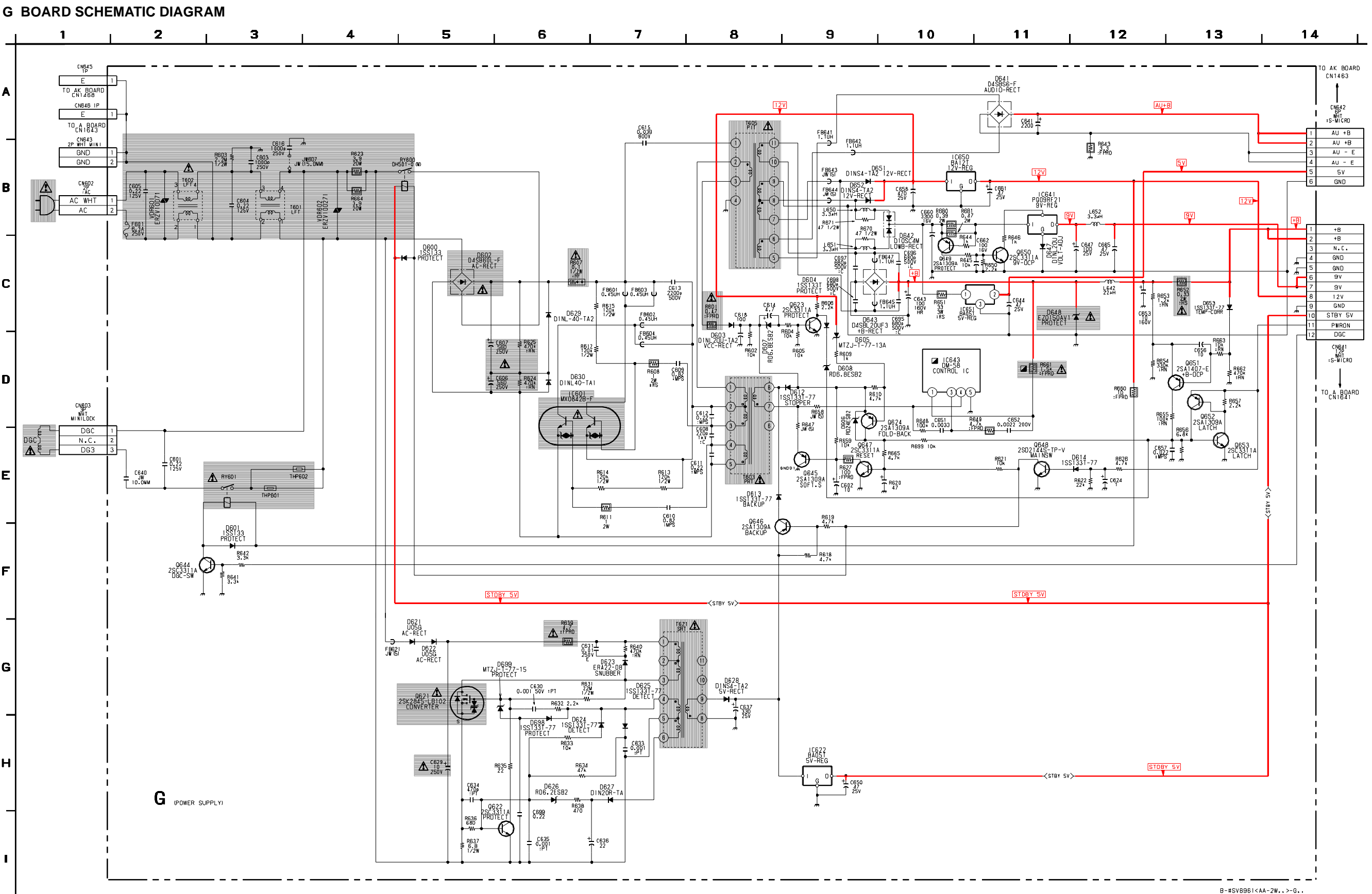
IC1701	
pin	volt
1	1.8
2	1.9
3	2.1
4	gnd
5	4.7
6	205.8
7	139.6
8	149.8
9	152.2

## C BOARD WAVEFORMS

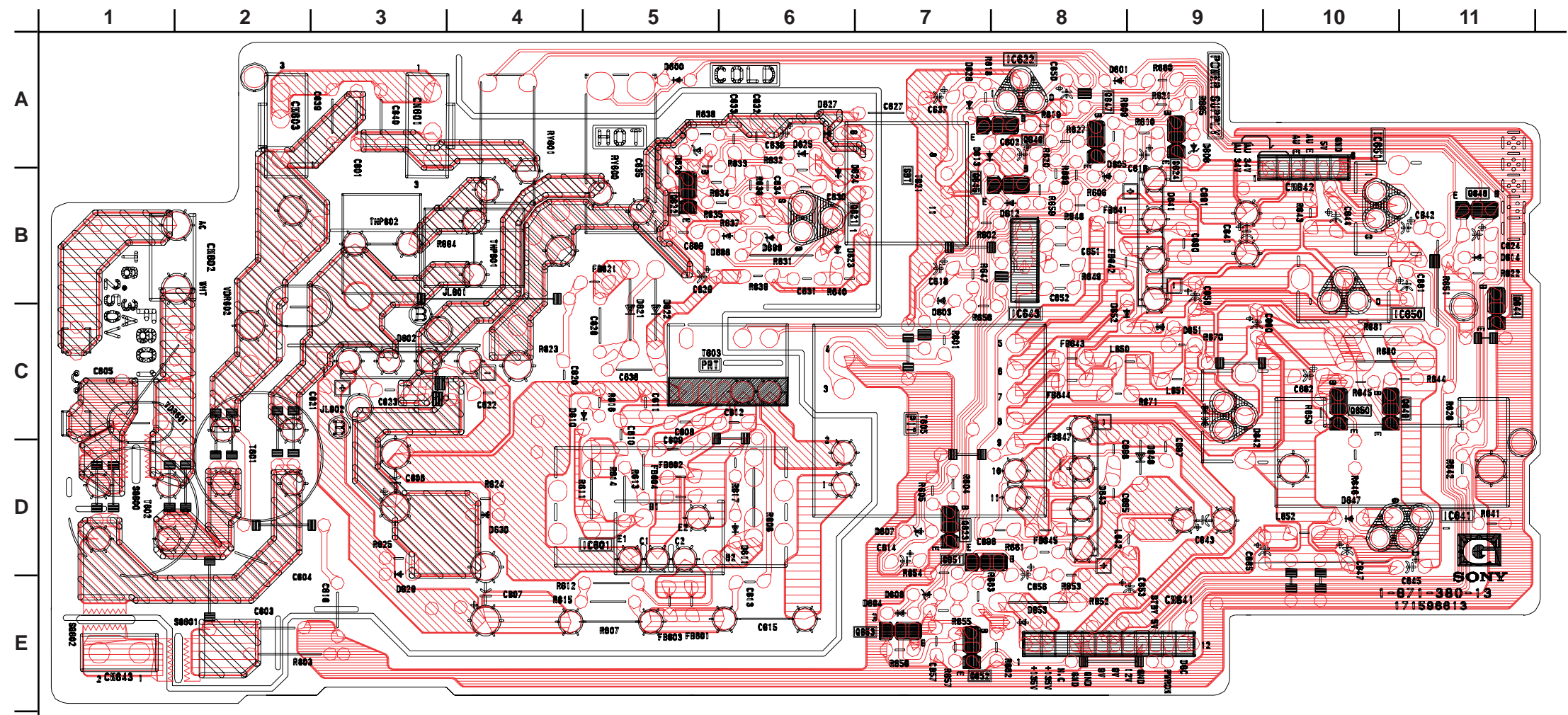


## G BOARD LOCATOR LIST

DIODE		IC	
D600	A-5	IC601	D-5
D601	A-8	IC622	A-8
D602	A-10	IC641	D-10
D603	B-7	IC043	B-8
D604	E-7	IC650	B-10
D605	A-8	IC651	B-10
D606	A-9	TRANSISTOR	
D607	A-9	Q621	B-6
D608	E-7	Q622	B-5
D612	A-8	Q623	D-7
D613	A-7	Q624	A-9
D614	B-11	Q644	B-11
D621	B-5	Q645	B-8
D622	B-6	Q646	A-8
D623	A-6	Q647	C-8
D624	A-6	Q648	B-11
D625	A-6	Q649	C-8
D626	A-5	Q650	C-10
D627	A-6	Q651	D-7
D628	A-7	Q652	E-7
D629	A-7	Q653	E-7
D630	D-9		
D641	B-9		
D642	C-9		
D643	D-8		
D644	D-10		
D645	D-9		
D651	C-9		
D652	B-8		
D653	D-8		
D654	D-8		
D659	B-6		



**G** [ AC-RECT, DC-DC CONV., LOW B REG ]





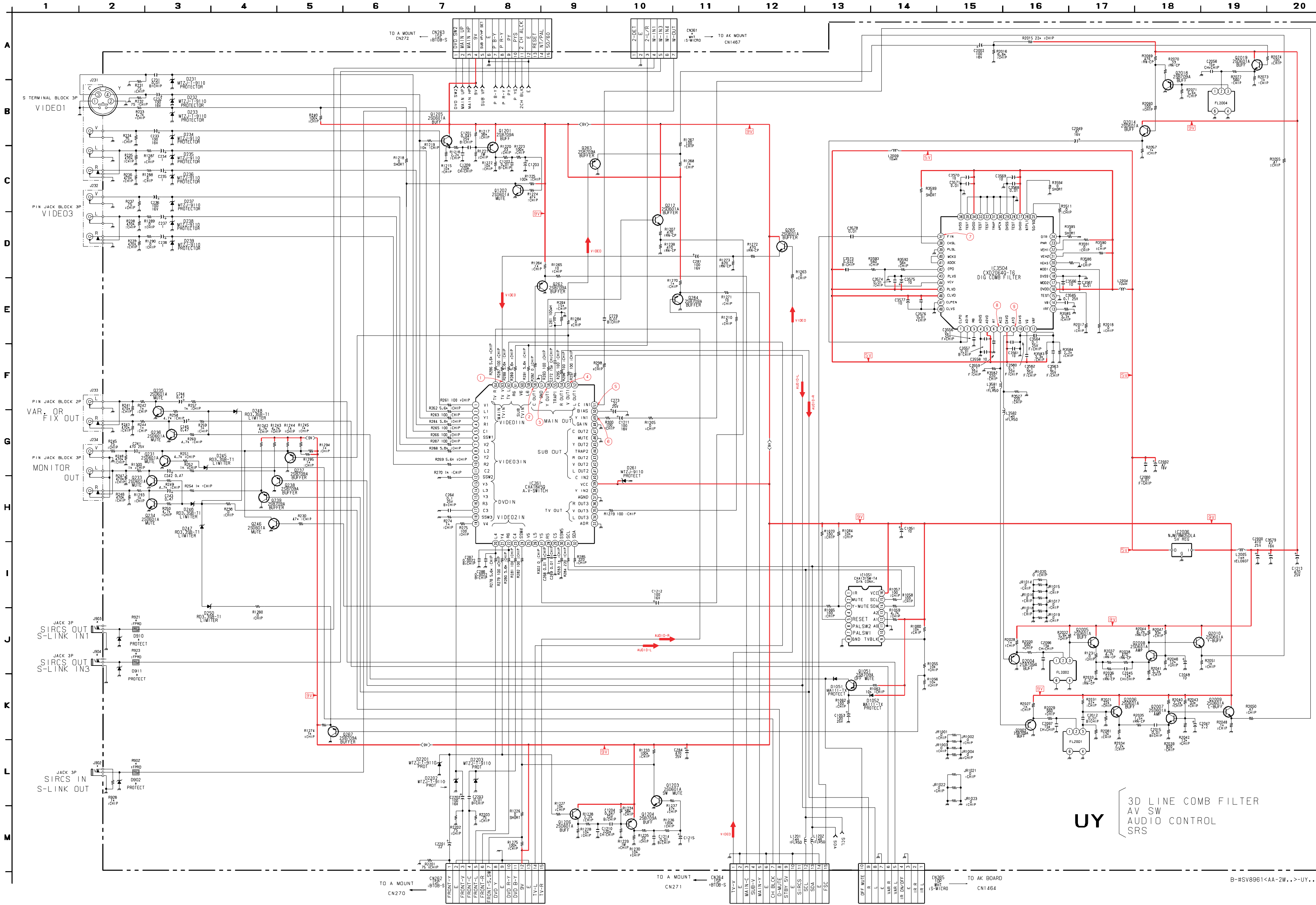






KV-27FV15/29FV10/29FV15/29FV15C/29FV15K

UY BOARD SCHEMATIC DIAGRAM (1/2)



UY (MAIN) BOARD IC VOLTAGE LIST

IC261				IC3504			
pin	volt			pin	volt		
1	4.6	31	4.6	1	1.6	30	GND
2	4.6	32	4.5	2	1.6	31	GND
3	4.6	33	GND	3	0.5	32	GND
4	4.6	34	NC	4	0	33	GND
5	4.6	35	4.4	5	5.0	34	5.0
6	4.6	36	NC	6	2.6	35	GND
7	4.6	37	NC	7	1.1	36	0
8	4.6	38	NC	8	5.0	37	2.3
9	NC	39	9.1	9	1.1	38	5.0
10	4.6	40	NC	10	0	39	GND
11	NC	41	NC	11	2.7	40	2.0
12	0	42	4.6	12	2.0	41	2.0
13	4.6	43	NC	13	2.0	42	2.0
14	NC	44	NC	14	1.0	43	GND
15	NC	45	NC	15	GND	44	2.3
16	NC	46	GND	16	5.0	45	5.0
17	4.6	47	NC	17	0.3	46	5.0
18	0	48	GND	18	0	47	0
19	4.6	49	4.6	19	0.3	48	0
20	4.6	50	4.7	20	0		
21	4.6	51	4.6	21	5.0		
22	4.6	52	4.7	22	5.0		
23	4.6	53	4.6				
24	4.4	54	4.7				
25	NC	55	4.6				
26	NC	56	4.6				
27	4.6	57	GND				
28	4.6	58	4.6				

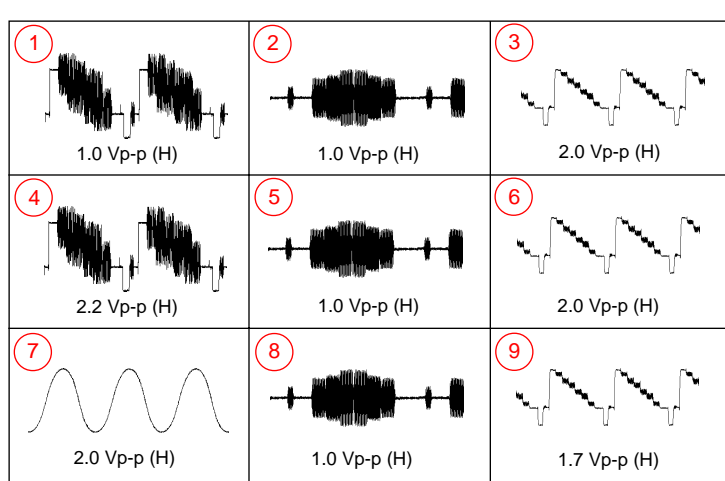
All voltages are in V

UY (MAIN) BOARD TRANSISTOR VOLTAGE LIST

		C	E
Q212	4.6	9.1	3.9
Q231	0	0.2	GND
Q233	-0.1	0	GND
Q234	-0.1	0	GND
Q235	-0.1	0	GND
Q236	-0.1	0	GND
Q237	4.6	GND	0.3
Q238	4.7	GND	5.3
Q239	4.7	GND	5.3
Q246	0.3	0.2	GND
Q262	4.6	GND	5.2
Q263	4.6	GND	5.2
Q264	4.4	GND	5.0
Q265	4.5	9.1	3.8
Q266	4.6	GND	5.2
Q267	0.2	GND	0.9
Q1051	9.1	-1.4	9.0
Q1201	8.6	0	9.1
Q1202	0	4.4	GND
Q1203	0	4.4	GND
Q1204	8.6	0	9.1
Q1205	4.6	9.1	4.0
Q1206	4.6	9.1	4.0
Q2003	1.1	GND	1.8
Q2004	1.1	GND	1.8
Q2005	4.5	9.1	3.8
Q2006	4.5	9.1	3.9
Q2007	2.3	4.4	1.7
Q2008	2.3	4.6	1.6
Q2009	4.4	9.1	3.7
Q2010	4.6	9.1	3.9
Q2014	5.1	9.1	4.4
Q2018	4.1	GND	4.8
Q2019	5.2	9.1	4.5

All voltages are in V

UY (MAIN) BOARD WAVEFORMS



UY MAIN BOARD (\*) MARK LIST

REF. NO.	LOCATION	KV27FV15	KV29FV15C	KV29FV10	KV29FV15K
CN261	A-10	7P	7P	#	7P
D902	L-2	MTZJ-T-9110	MTZJ-T-9110	#	MTZJ-T-9110
D910	J-2	MTZJ-T-9110	MTZJ-T-9110	#	MTZJ-T-9110
D911	J-2	MTZJ-T-9110	MTZJ-T-9110	#	MTZJ-T-9110
J902	L-2	3P	3P	#	3P
J903	J-2	3P	3P	#	3P
J904	J-2	3P	3P	#	3P
R902	L-2	100	100	#	100
R921	J-2	100	100	#	100
R922	J-2	100	100	#	100

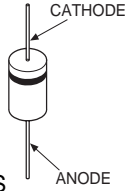




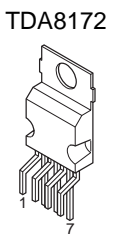
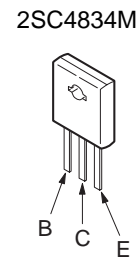
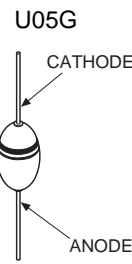
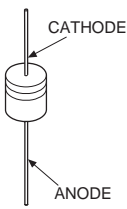


## 6-6. SEMICONDUCTORS

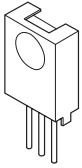
D1NL20U  
D2L20U  
EL1Z  
EGP20G  
EGP30G  
ERA22-08  
ERC06-15S  
ERD29-08J  
EZ0150AV1  
GP08D  
MTZJ-33A  
1SS83



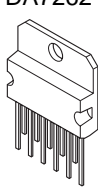
D1NS4  
MTZJ-XXA  
MTZJ-XXB  
MTZJ-XXC  
RDXXESB1  
RDXXESB2  
RDXXESB3  
1SS119-25  
1SS133T-77  
(XX = VALUE)



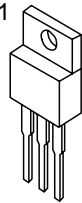
SBX1981



TDA2009A  
TDA7262



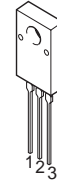
NJM78M05FA  
PQ09RF21  
TA7805S  
BA05T



IC LINK  
2A/90V



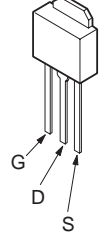
D10SC4M



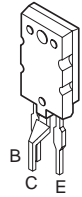
2SC3209LK



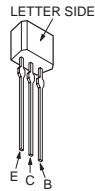
2SK2845-LB102



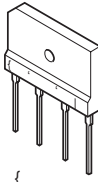
TSC5148  
(LE SONY)



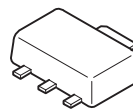
2SA1175-HFE  
2SA933AS-QRT  
2SC2785-HFE



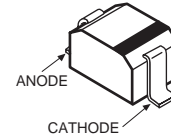
D10SBS4F  
D6SB60L  
D4SB60L



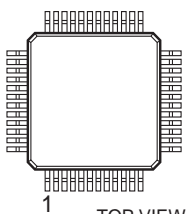
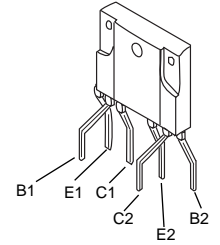
S-80748AL



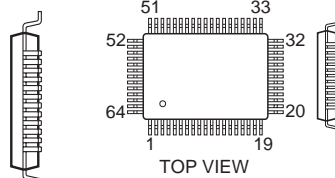
MA111  
RD3.3SB  
1SS355



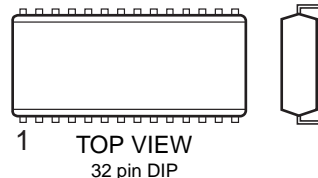
MX0842B-F



TOP VIEW  
40 pin  
CXA2019Q

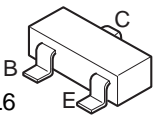


TOP VIEW  
64 pin  
CXA1845Q - 64 pin  
LC27016 - 80 pin  
SAB9076AH  
μPD6488GF-33A

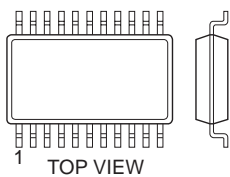


TOP VIEW  
32 pin DIP  
BH3868FS-E2  
V53C16258SHK - 40 pin DIP

2SA1037K-T146-R  
2SA1162-G  
2SA1330-06  
2SB709A  
2SC1623-L5L6  
2SD601A-Q



8 pin SOP  
NJM2903D  
NJM2903M  
NJM2904D  
ST24C02FM6TR  
μPC4558G2  
X24C04SB

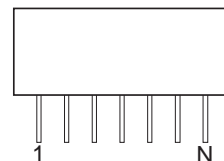


TOP VIEW  
20 pin SOP  
NJM2150M

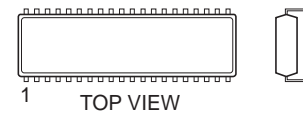
16 pin SOP  
BU4053BCF-T2  
CXA1315M  
MC14052BF  
MC14538B  
NJM2145M-TE2  
CXD2064Q-T6

24 pin SOP  
CXA2039M-T6  
28 pin SOP  
MN47V76ST1  
MN47V77ST1  
36 pin SOP  
μPC1862GS-E2

DM-58



MARKING SIDE VIEW  
Epin 1 ' N  
EMt (one side, both sides)



14 pin DIP  
NJM2902M  
16 pin DIP  
MM1093N  
20 pin DIP  
TA1226N  
22 pin DIP  
CXA2021S  
28 pin DIP  
TDA7467  
30 pin DIP  
CXD2073S  
40 pin DIP  
SDA9288XE  
42 pin DIP  
MM1311AD  
MM1313AD  
48 pin DIP  
CXA2131S  
64 pin DIP  
CXP85856A-029S

## SECTION 7

### EXPLODED VIEW

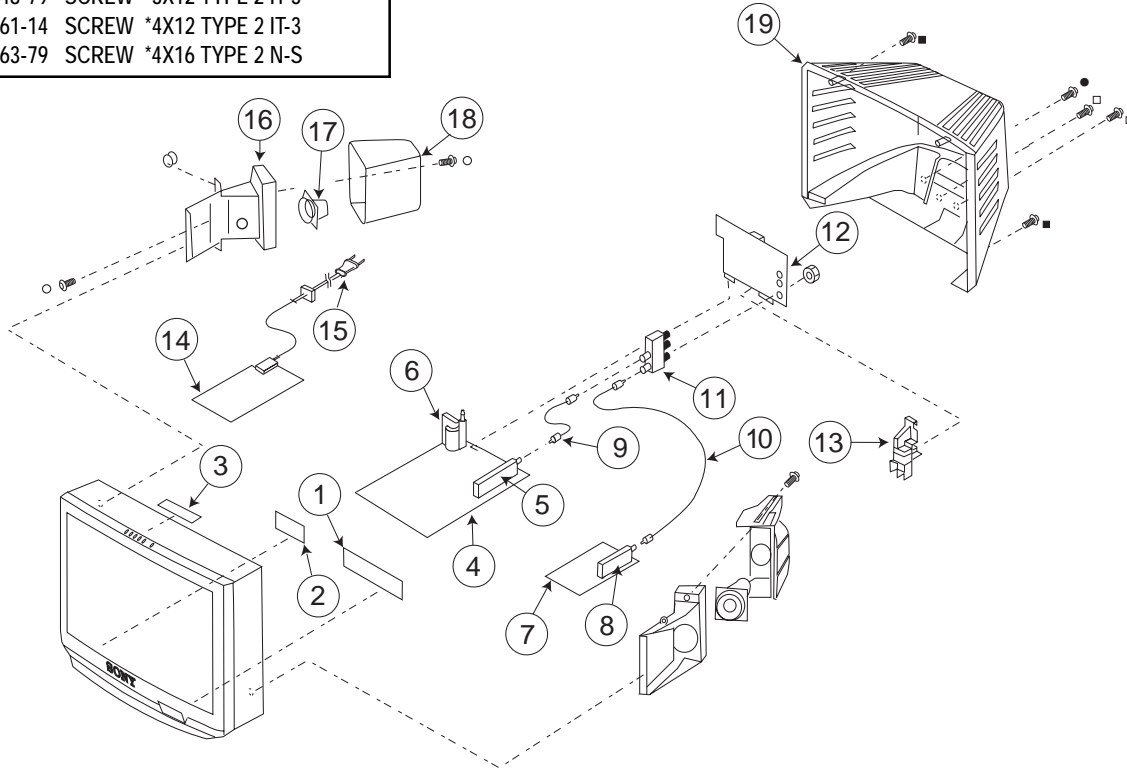
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The component parts of an assembly are indicated by the reference numbers in the remarks column.
- Items marked with an asterisk " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

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

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

#### 7-1. CHASSIS

- 7-682-566-04 SCREW (M4X20), TAPPING, (+-)(BV)
- 7-685-648-79 SCREW \*3X12 TYPE 2 IT-3
- 7-685-661-14 SCREW \*4X12 TYPE 2 IT-3
- 7-685-663-79 SCREW \*4X16 TYPE 2 N-S

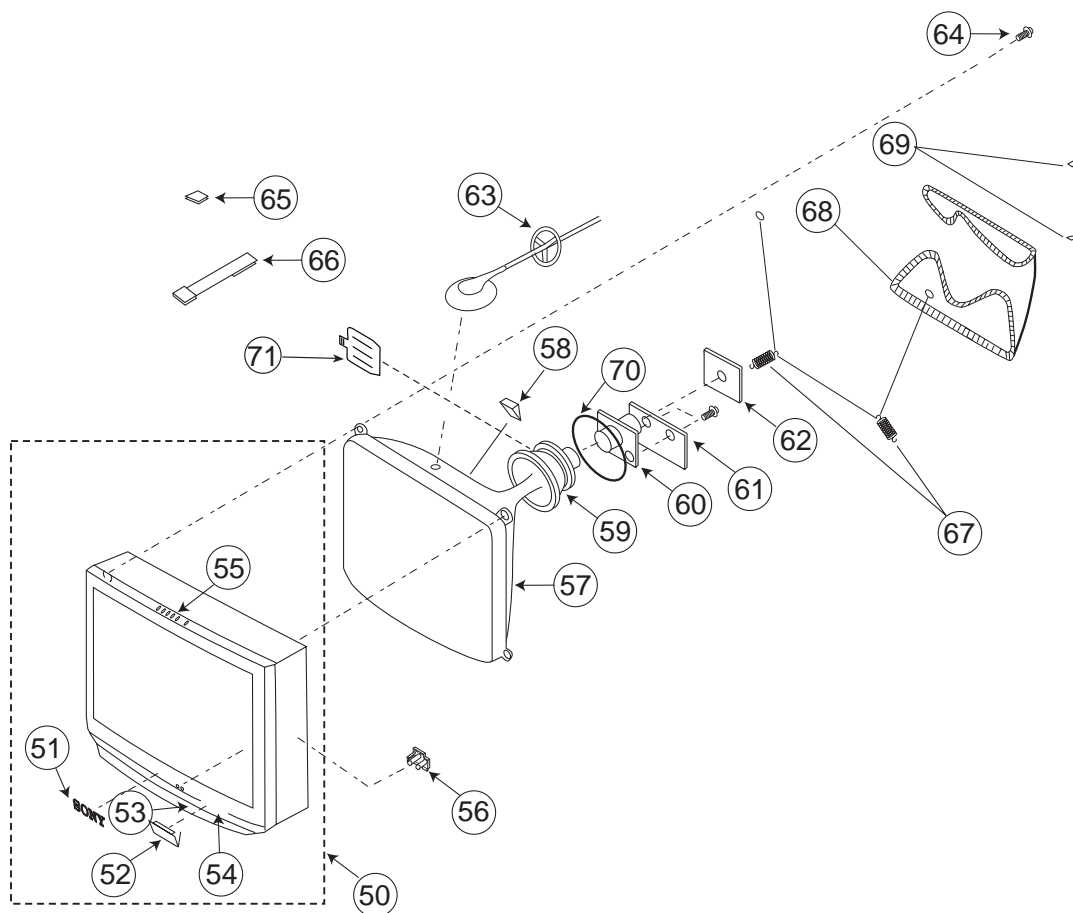


REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	* A-1372-634-A	HA BOARD, COMPLETE		12	* A-1394-939-A	UY BOARD, COMPLETE	(KV-27FV15 ONLY)
2	* A-1372-635-A	HB BOARD, COMPLETE		12	* A-1394-940-A	UY BOARD, COMPLETE	(KV-29FV15/29FV15C/29FV15K ONLY)
3	* A-1372-636-A	HX BOARD, COMPLETE		12	* A-1394-945-A	UY BOARD, COMPLETE	(KV-29FV10 ONLY)
4	* A-1298-866-A	A BOARD, COMPLETE		13	* 3-696-606-02	HINGE, VI	
		(KV-27FV15/29FV15/29FV15C ONLY)		14	* A-1316-445-A	G BOARD, COMPLETE	(KV-27FV15 ONLY)
4	* A-1298-934-A	A BOARD, COMPLETE	(KV-29FV10 ONLY)	14	* A-1316-465-A	GA BOARD, COMPLETE	(KV-29FV10/29FV15/29FV15C/29FV15K ONLY)
4	* A-1298-943-A	A BOARD, COMPLETE	(KV-29FV15K ONLY)	15	△ 1-790-317-21	CORD, POWER (WITH CONNECTOR)	(KV-27FV15/29FV15/29FV10 ONLY)
5	△ 8-598-431-00	TUNER, FSS BTF-WA411	(KV-29FV15K EXCLUDED)	15	△ 1-775-468-11	CORD, POWER (WITH CONNECTOR)	(KV-29FV15K ONLY)
5	△ 8-598-475-00	TUNER, FSS BTF-WL411	(KV-29FV15K ONLY)	15	△ 1-769-796-71	CORD, POWER (WITH CONNECTOR)	(KV-29FV15C ONLY)
6	△ 1-453-310-11	FBT ASSY, NX4521//X4J4		16	* 4-068-988-01	BAFFLE, SPEAKER	
7	* A-1298-957-A	AK BOARD, COMPLETE	(KV-27FV15/29FV15/29FV15C/29FV15K)	17	* 1-529-336-11	SPEAKER (1-WAY)	(KV-27FV15, 29FV15K ONLY)
7	* A-1298-956-A	AK BOARD, COMPLETE	(KV-29FV10 ONLY)		1-529-358-11	SPEAKER (2-WAY)	(KV-29FV10/29FV15/29FV15C ONLY)
8	△ 8-598-430-00	TUNER, BTF-FA401	(KV-29FV10 EXCLUDED)	18	* 4-068-987-01	BOX, SPEAKER	
9	* 1-557-056-31	CABLE, P-P	(KV-27FV15/29FV15/29FV15C/29FV15K ONLY)	19	4-068-990-01	COVER, REAR	
10	* 1-556-945-21	CABLE, P-P	(KV-27FV15/29FV15/29FV15C/29FV15K ONLY)				
11	8-598-414-10	ANTENNA CHANGER AS-2F	(KV-27FV15/29FV15/29FV15C/29FV15K ONLY)				

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

Les composants identifiés par un trape et une marque Δ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

## 7-2. PICTURE TUBE



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
50	X-4036-676-1	BEZNET ASSY	51-54	64	4-041-268-01	SCREW (7), TAPPING	
51	3-704-179-31	EMBLEM (NO. 9) SONY		65	1-452-032-00	MAGNET, DISC	
52	4-068-985-01	DOOR		66	4-062-047-01	PIECE A (110), CONV CORRECT	
53	3-703-574-00	RETAINER, DOOR		67	4-036-329-01	SPRING (B) TENSION	
54	4-068-984-01	MULTI-BUTTON (BOTTOM)		68	Δ 1-419-156-11	COIL, DEMAGNETIZATION	(KV-27FV15 ONLY)
55	4-068-982-01	MULTI-BUTTON (TOP)		69	Δ 1-419-157-11	COIL, DEMAGNETIZATION	(KV-29FV15/29FV15C/29FV10/29FV15K ONLY)
56	* 4-068-986-01	GUIDE, LED		70	1-452-896-11	COIL, NA ROTATION	
57	Δ 8-735-041-05	CRT 29RSN (KV-29FV15C EXCLUDED)		71	2-163-920-01	PLATE, TLH CORRECTION	
57	Δ 8-735-052-05	CRT 29RSN (KV-29FV15C ONLY)					
58	4-053-005-01	SPACER, DY					
59	Δ 8-451-494-31	DY Y29RSA-S					
60	Δ 8-453-011-11	NA299-M					
61	* A-1375-188-A	WA BOARD, MOUNTED					
62	* A-1331-939-A	C BOARD, COMPLETE					
63	3-704-372-31	HOLDER, HV CABLE					

**NOTES:**

[illegible]



## SECTION 8

### ELECTRICAL PARTS LIST

**Note:**

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

**Note:**

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

- The components identified by **A** 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.

Items marked " " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

**RESISTORS**

- F: nonflammable

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

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<div style="border: 1px solid black; padding: 5px; display: inline-block; font-size: 2em; font-weight: bold; margin-bottom: 10px;">A</div> <p>* A-1298-886-A A BOARD, COMPLETE (KV-27FV15, 29FV15, 29FV15C ONLY)</p> <p>* A-1298-934-A A BOARD, COMPLETE (KV-29FV10 ONLY)</p> <p>* A-1298-943-A A BOARD, COMPLETE (KV-29FV15K ONLY)</p> <p>4-382-854-1 SCREW (M3X10), P, SW (+)</p> <p><b>CAPACITOR</b></p>				C310	1-104-664-11	ELECT 47μF 20% 25V	
C001	1-163-259-91	CERAMIC CHIP 220pF 5% 50V		C311	1-163-038-91	CERAMIC CHIP 0.1μF 25V	
C003	1-163-809-11	CERAMIC CHIP 0.047μF 10% 25V		C312	1-126-963-11	ELECT 4.7μF 20% 50V	
C005	1-126-960-11	ELECT 1μF 20% 50V		C313	1-163-031-11	CERAMIC CHIP 0.1μF 50V (KV-29FV10 ONLY)	
C009	1-104-664-11	ELECT 47μF 20% 25V		C314	1-163-038-91	CERAMIC CHIP 0.1μF 25V (KV-29FV10 EXCLUDED)	
C010	1-163-037-11	CERAMIC CHIP 0.022μF 10% 50V		C315	1-163-031-11	CERAMIC CHIP 0.1μF 50V (KV-29FV10 ONLY)	
C012	1-163-010-11	CERAMIC CHIP 0.0012μF 10% 50V		C316	1-163-038-91	CERAMIC CHIP 0.1μF 25V (KV-29FV10 EXCLUDED)	
C013	1-163-038-91	CERAMIC CHIP 0.1μF 25V		C317	1-163-031-11	CERAMIC CHIP 0.1μF 50V (KV-29FV10 ONLY)	
C014	1-163-017-00	CERAMIC CHIP 0.0047μF 10% 50V		C318	1-163-038-91	CERAMIC CHIP 0.1μF 25V (KV-29FV10 EXCLUDED)	
C023	1-163-259-91	CERAMIC CHIP 220pF 5% 50V		C319	1-163-038-91	CERAMIC CHIP 0.1μF 25V	
C028	1-163-227-11	CERAMIC CHIP 10pF 0.5pF 50V		C320	1-126-935-11	ELECT 470μF 20% 16V	
C029	1-163-227-11	CERAMIC CHIP 10pF 0.5pF 50V		C326	1-165-319-11	CERAMIC CHIP 0.1μF 50V	
C035	1-163-237-11	CERAMIC CHIP 27pF 5% 50V		C327	1-126-963-11	ELECT 4.7μF 20% 50V	
C036	1-163-231-11	CERAMIC CHIP 15pF 5% 50V		C329	1-165-319-11	CERAMIC CHIP 0.1μF 50V	
C037	1-163-243-11	CERAMIC CHIP 47pF 5% 50V		C331	1-126-964-11	ELECT 10μF 20% 50V	
C038	1-163-243-11	CERAMIC CHIP 47pF 5% 50V		C332	1-126-960-11	ELECT 1μF 20% 50V	
C039	1-163-243-11	CERAMIC CHIP 47pF 5% 50V		C333	1-102-129-00	CERAMIC 0.01μF 10% 50V	
C040	1-163-243-11	CERAMIC CHIP 47pF 5% 50V		C334	1-163-021-91	CERAMIC CHIP 0.01μF 10% 50V	
C051	1-164-161-11	CERAMIC CHIP 0.0022μF 10% 50V		C336	1-163-009-11	CERAMIC CHIP 0.001μF 10% 50V	
C053	1-163-021-91	CERAMIC CHIP 0.01μF 10% 50V		C346	1-163-031-11	CERAMIC CHIP 0.01μF 50V	
C056	1-163-243-11	CERAMIC CHIP 47pF 5% 50V		C347	1-163-031-11	CERAMIC CHIP 0.01μF 50V	
C061	1-163-037-11	CERAMIC CHIP 0.022μF 10% 50V		C348	1-163-031-11	CERAMIC CHIP 0.01μF 50V	
C062	1-163-037-11	CERAMIC CHIP 0.022μF 10% 50V		C357	1-126-967-11	ELECT 47μF 20% 50V	
C063	1-126-941-11	ELECT 470μF 20% 25V		C396	1-163-021-91	CERAMIC CHIP 0.01μF 10% 50V	
C068	1-163-021-91	CERAMIC CHIP 0.01μF 10% 50V		C501	1-102-110-00	CERAMIC 220pF 10% 50V	
C071	1-164-096-11	CERAMIC 0.01μF 50V		C502	1-126-959-11	ELECT 0.47μF 20% 50V	
C072	1-164-161-11	CERAMIC CHIP 0.0022μF 10% 50V		C503	1-163-133-00	CERAMIC CHIP 470pF 5% 50V	
C075	1-107-823-11	CERAMIC CHIP 0.47μF 10% 16V		C504	1-102-228-00	CERAMIC 470pF 10% 500V	
C306	1-163-233-11	CERAMIC CHIP 18pF 5% 50V		C505	1-102-228-00	CERAMIC 470pF 10% 500V	
C308	1-163-005-11	CERAMIC CHIP 470pF 10% 50V		C506	1-106-383-00	MYLAR 0.047μF 10% 200V	
C309	1-126-959-11	ELECT 0.47μF 20% 50V		C507 <b>A</b>	1-162-116-00	CERAMIC 680pF 10% 2KV	
				C508	1-102-228-00	CERAMIC 470pF 10% 500V	
				C509	1-162-116-00	CERAMIC 680pF 10% 2KV	
				C510	1-137-150-11	MYLAR 0.01μF 10% 100V	



Note:

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

Note:

Les composants identifiés par un triangle et une marque  $\triangle$  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		
C511 $\triangle$	1-113-582-11	FILM	0.017 $\mu$ F	3%	2KV	C1105	1-104-664-11	ELECT	47 $\mu$ F	20%	25V
C512	1-129-709-91	FILM	0.0039 $\mu$ F	5%	630V	C1106	1-126-964-11	ELECT	10 $\mu$ F	20%	50V
C513 $\triangle$	1-129-722-00	FILM	0.047 $\mu$ F	5%	630V	C1107	1-163-037-11	CERAMIC CHIP	0.022 $\mu$ F	10%	50V
C514 $\triangle$	1-109-844-11	FILM	0.68 $\mu$ F	5%	250V	C1108	1-128-551-11	ELECT	22 $\mu$ F	20%	25V
C515	1-106-343-00	MYLAR	0.001 $\mu$ F	10%	100V	C1109	1-126-964-11	ELECT	10 $\mu$ F	20%	50V
C516	1-115-522-11	FILM	1 $\mu$ F	5%	250V	C1110	1-163-227-11	CERAMIC CHIP	10pF	0.5pF	50V
C517	1-107-649-11	ELECT	2.2 $\mu$ F	20%	250V	C1111	1-163-227-11	CERAMIC CHIP	10pF	0.5pF	50V
C518	1-106-387-00	MYLAR	0.068 $\mu$ F	10%	200V	C1112	1-163-227-11	CERAMIC CHIP	10pF	0.5pF	50V
C519	1-107-612-11	CERAMIC	100pF	5%	500V	C1117	1-126-960-11	ELECT	1 $\mu$ F	20%	50V
C520	1-164-646-11	CERAMIC	2200pF	10%	500V	C1118	1-126-960-11	ELECT	1 $\mu$ F	20%	50V
C521	1-163-010-11	CERAMIC CHIP	0.0012 $\mu$ F	10%	50V	<b>CONNECTOR</b>					
C522	1-126-960-11	ELECT	1 $\mu$ F	20%	50V	CN270	*1-691-616-21	CONNECTOR, BOARD TO BOARD	15P		
C525	1-102-244-00	CERAMIC	220pF	10%	500V	CN271	*1-691-616-21	CONNECTOR, BOARD TO BOARD	15P		
C526	1-107-662-11	ELECT	22 $\mu$ F	20%	250V	CN272	*1-691-616-21	CONNECTOR, BOARD TO BOARD	15P		
C527	1-162-116-00	CERAMIC	680pF	10%	2KV				(KV-29FV10 EXCLUDED)		
C528	1-164-161-11	CERAMIC CHIP	0.0022 $\mu$ F	10%	50V	CN351	*1-564-509-11	PLUG, CONNECTOR	6P		
C529	1-128-551-11	ELECT	22 $\mu$ F	20%	25V	CN501	*1-580-798-11	CONNECTOR PIN (DY)	6P		
C530	1-137-366-11	FILM	0.0022 $\mu$ F	5%	50V	CN503	*1-564-508-11	PLUG, CONNECTOR	5P		
C531	1-126-965-11	ELECT	22 $\mu$ F	20%	50V	CN1001	*1-564-508-11	PLUG, CONNECTOR	5P		
C532	1-126-965-11	ELECT	22 $\mu$ F	20%	50V	CN1002	*1-564-506-11	PLUG, CONNECTOR	3P		
C534	1-126-967-11	ELECT	47 $\mu$ F	20%	50V	CN1101	*1-564-515-11	PLUG, CONNECTOR	12P		
C537	1-126-941-11	ELECT	470 $\mu$ F	20%	25V	CN1102	*1-564-507-11	PLUG, CONNECTOR	4P		
C539	1-126-941-11	ELECT	470 $\mu$ F	20%	25V				(KV-29FV10 EXCLUDED)		
C540	1-104-710-11	ELECT	22 $\mu$ F	0	160V	CN1231	*1-564-512-11	PLUG, CONNECTOR	9P		
C541	1-128-560-11	ELECT	22 $\mu$ F	20%	100V	CN1641	*1-564-515-11	PLUG, CONNECTOR	12P		
C544	1-129-718-00	FILM	0.022 $\mu$ F	5%	630V	CN1643	1-695-915-11	TAB (CONTACT)			
C545	1-106-387-00	MYLAR	0.068 $\mu$ F	10%	200V	CN1941	*1-564-511-11	PLUG, CONNECTOR	8P		
C546	1-106-343-00	MYLAR	0.001 $\mu$ F	10%	100V	CN1942	*1-564-508-11	PLUG, CONNECTOR	5P		
C547	1-106-343-00	MYLAR	0.001 $\mu$ F	10%	100V	<b>DIODE</b>					
C548	1-164-004-11	CERAMIC CHIP	0.1 $\mu$ F	10%	25V	D001	8-719-991-33	DIODE 1SS133T-77			
C549	1-106-375-12	MYLAR	0.022 $\mu$ F	99%	200V	D002	8-719-109-89	DIODE RD5.6ESB2			
C550	1-136-553-11	FILM	0.0015 $\mu$ F	5%	630V	D003	8-719-991-33	DIODE 1SS133T-77			
C551	1-109-954-11	ELECT	0.47 $\mu$ F	20%	160V	D004	8-719-110-17	DIODE RD10ESB2			
C552	1-102-244-00	CERAMIC	220pF	10%	500V	D011	8-719-109-72	DIODE RD3.9ESB2			
C553	1-107-846-11	FILM	0.1 $\mu$ F	5%	250V	D012	8-719-991-33	DIODE 1SS133T-77			
C554 $\triangle$	1-136-065-00	FILM	0.0027 $\mu$ F	3%	2KV	D013	8-719-991-33	DIODE 1SS133T-77			
C561	1-126-967-11	ELECT	47 $\mu$ F	20%	50V	D014	8-719-991-33	DIODE 1SS133T-77			
C563	1-104-666-11	ELECT	220 $\mu$ F	20%	25V	D015	8-719-991-33	DIODE 1SS133T-77			
C564	1-126-960-11	ELECT	1 $\mu$ F	20%	50V	D017	8-719-404-50	DIODE MA111-TX			
C565	1-126-969-11	ELECT	220 $\mu$ F	20%	50V	D302	8-719-991-33	DIODE 1SS133T-77			
C568	1-136-169-00	FILM	0.22 $\mu$ F	5%	50V	D303	8-719-921-44	DIODE MTZJ-5.1C			
C571	1-126-942-61	ELECT	1000 $\mu$ F	20%	25V	D368	8-719-991-33	DIODE 1SS133T-77 (KV-29FV10 EXCLUDED)			
C572	1-126-942-61	ELECT	1000 $\mu$ F	20%	25V	D384	8-719-921-80	DIODE MTZJ-11B			
C1002	1-126-964-11	ELECT	10 $\mu$ F	20%	50V	D388	8-719-921-80	DIODE MTZJ-11B			
C1003	1-126-961-11	ELECT	2.2 $\mu$ F	20%	50V	D501	8-719-109-89	DIODE RD5.6ESB2			
C1004	1-126-960-11	ELECT	1 $\mu$ F	20%	50V	D502	8-719-945-80	DIODE ERC06-15S			
C1101	1-126-943-11	ELECT	2200 $\mu$ F	20%	25V	D503 $\triangle$	8-719-945-80	DIODE ERC06-15S			
C1103	1-126-965-11	ELECT	22 $\mu$ F	20%	50V	D504	8-719-900-26	DIODE ERD29-08J			
C1104	1-104-664-11	ELECT	47 $\mu$ F	20%	25V						

Note:

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Note:

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
D505	8-719-908-03	DIODE GP08D		<u>COIL</u>			
D506	8-719-908-03	DIODE GP08D		L001	1-414-857-11	INDUCTOR 100μH	
D507	8-719-991-33	DIODE 1SS133T-77		L002	1-414-857-11	INDUCTOR 100μH	
D510	8-719-300-33	DIODE RU-3AM		L003	1-414-856-11	INDUCTOR 10μH	
D511	8-719-970-87	DIODE ERA38-06		L004	1-414-856-11	INDUCTOR 10μH	
D512	8-719-970-87	DIODE ERA38-06		L301	1-414-857-11	INDUCTOR 100μH	
D513	8-719-110-41	DIODE RD15ESB2		L302	1-414-856-11	INDUCTOR 10μH	
D515 $\triangle$	8-719-302-43	DIODE EL1Z		L501	1-406-677-11	INDUCTOR 10mH	
D516	8-719-991-33	DIODE 1SS133T-77		L502	1-412-552-11	INDUCTOR 2.2mH	
D518	8-719-991-33	DIODE 1SS133T-77		L503	1-406-677-11	INDUCTOR 10mH	
D519 $\triangle$	8-719-302-43	DIODE EL1Z		L504	1-406-677-11	INDUCTOR 10mH	
D520	8-719-991-33	DIODE 1SS133T-77		L505	1-406-978-11	INDUCTOR 150μH	
D521	8-719-921-63	DIODE MTZJ-7.5B		L511	1-411-189-11	INDUCTOR 15mH	
D522	8-719-991-33	DIODE 1SS133T-77		L517	1-412-552-11	INDUCTOR 2.2mH	
D523	8-719-983-13	DIODE MTZJ-T-77-3.6B		L1101	1-414-857-11	INDUCTOR 100μH	
D524	8-719-923-46	DIODE MTZJ-T-77-6.8B		L1102	1-414-856-11	INDUCTOR 10μH	
D530 $\triangle$	8-719-979-85	DIODE EGP20G		<u>TRANSISTOR</u>			
D531	8-719-979-85	DIODE EGP20G		Q001	8-729-216-22	TRANSISTOR 2SA1162-G	
D534	8-719-302-43	DIODE EL1Z		Q002	8-729-422-27	TRANSISTOR 2SD601A-Q	
D535	8-719-404-50	DIODE MA111-TX		Q003	8-729-422-27	TRANSISTOR 2SD601A-Q	
D536	8-719-404-50	DIODE MA111-TX		Q004	8-729-216-22	TRANSISTOR 2SA1162-G	
D561	8-719-908-03	DIODE GP08D		Q005	8-729-422-27	TRANSISTOR 2SD601A-Q	
D1003	8-719-110-17	DIODE RD10ESB2		Q006	8-729-422-27	TRANSISTOR 2SD601A-Q	
D1004	8-719-110-17	DIODE RD10ESB2		Q007	8-729-216-22	TRANSISTOR 2SA1162-G	
D1101	8-719-110-17	DIODE RD10ESB2		Q010	8-729-422-27	TRANSISTOR 2SD601A-Q	
D1102	8-719-982-24	DIODE MTZJ-33A		Q011	8-729-422-27	TRANSISTOR 2SD601A-Q	
D1103	8-719-109-89	DIODE RD5.6ESB2		Q012	8-729-422-27	TRANSISTOR 2SD601A-Q	
D1104	8-719-110-17	DIODE RD10ESB2		Q013	8-729-422-27	TRANSISTOR 2SD601A-Q	
<u>FERRITE BEAD</u>				Q014	8-729-422-27	TRANSISTOR 2SD601A-Q	
FB501	1-410-397-21	FERRITE 1.1μH		Q015	8-729-422-27	TRANSISTOR 2SD601A-Q	
FB502	1-410-397-21	FERRITE 1.1μH		Q016	8-729-422-27	TRANSISTOR 2SD601A-Q	
FB503	1-410-397-21	FERRITE 1.1μH		Q017	8-729-216-22	TRANSISTOR 2SA1162-G	
<u>IC</u>				Q103	8-729-216-22	TRANSISTOR 2SA1162-G (KV-29FV10 EXCLUDED)	
IC001	8-752-906-87	IC CXP85856A-029S		Q104	8-729-216-22	TRANSISTOR 2SA1162-G (KV-29FV10 EXCLUDED)	
IC002	8-759-527-76	IC M24C08-MN6T		Q301	8-729-422-27	TRANSISTOR 2SD601A-Q	
IC355	8-752-088-86	IC CXA2131S		Q302	8-729-422-27	TRANSISTOR 2SD601A-Q	
IC501	8-759-700-07	IC NJM2903M		Q303	8-729-422-27	TRANSISTOR 2SD601A-Q	
IC561 $\triangle$	8-759-192-71	IC STV9379		Q304	8-729-216-22	TRANSISTOR 2SA1162-G	
IC1001	8-752-058-68	IC CXA1315M		Q305	8-729-216-22	TRANSISTOR 2SA1162-G	
<u>CHIP CONDUCTOR</u>				Q306	8-729-216-22	TRANSISTOR 2SA1162-G	
JR001	1-216-295-91	SHORT		Q307	8-729-422-27	TRANSISTOR 2SD601A-Q	
JR002	1-216-295-91	SHORT		Q310	8-729-216-22	TRANSISTOR 2SA1162-G	
JR054	1-216-295-91	SHORT		Q311	8-729-216-22	TRANSISTOR 2SA1162-G	
JR055	1-216-295-91	SHORT (KV-29FV10 EXCLUDED)		Q501	8-729-140-50	TRANSISTOR 2SC3209LK	
JR056	1-216-295-91	SHORT (KV-29FV10 EXCLUDED)		Q502 $\triangle$	8-729-045-26	TRANSISTOR 2SD2580-CA	
JR057	1-216-295-91	SHORT (KV-29FV10 EXCLUDED)		Q503	8-729-422-27	TRANSISTOR 2SD601A-Q	
JR4120	1-216-295-91	SHORT		Q504	8-729-422-27	TRANSISTOR 2SD601A-Q	



Note:

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Note:

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REF. NO.	PART NO.	DESCRIPTION	REMARK				REF. NO.	PART NO.	DESCRIPTION	REMARK			
Q507	8-729-043-95	TRANSISTOR 2SC3840(3)					R049	1-249-417-11	CARBON	1K	5%	1/4W	
Q511 $\triangle$	8-729-422-27	TRANSISTOR 2SD601A-Q					R050	1-247-815-91	CARBON	220	5%	1/4W	
Q512 $\triangle$	8-729-809-29	TRANSISTOR 2SC4159-E					R051	1-247-815-91	CARBON	220	5%	1/4W	
Q561	8-729-422-27	TRANSISTOR 2SD601A-Q					R052	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	
Q562	8-729-422-27	TRANSISTOR 2SD601A-Q					R053	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	
Q1102	8-729-119-78	TRANSISTOR 2SC2785-HFE					R054	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	
Q1103	8-729-422-27	TRANSISTOR 2SD601A-Q					R055	1-216-097-91	RES, CHIP	100K	5%	1/10W	
RESISTOR						R056	1-216-033-00	RES, CHIP	220	5%	1/10W		
R001	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	R057	1-249-417-11	CARBON	1K	5%	1/4W		
R002	1-216-049-91	RES, CHIP	1K	5%	1/10W	R058	1-216-041-00	RES, CHIP	470	5%	1/10W		
R003	1-216-097-91	RES, CHIP	100K	5%	1/10W	R060	1-216-073-00	RES, CHIP	10K	5%	1/10W		
R004	1-216-121-91	RES, CHIP	1M	5%	1/10W	R061	1-216-073-00	RES, CHIP	10K	5%	1/10W		
R006	1-247-815-91	CARBON	220	5%	1/4W	R062	1-216-073-00	RES, CHIP	10K	5%	1/10W		
R007	1-216-073-00	RES, CHIP	10K	5%	1/10W	R063	1-216-073-00	RES, CHIP	10K	5%	1/10W		
R008	1-247-815-91	CARBON	220	5%	1/4W	R064	1-247-815-91	CARBON	220	5%	1/4W		
R009	1-216-073-00	RES, CHIP	10K	5%	1/10W	R065	1-247-815-91	CARBON	220	5%	1/4W		
R010	1-216-041-00	RES, CHIP	470	5%	1/10W	R066	1-247-815-91	CARBON	220	5%	1/4W		
R011	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	R067	1-249-413-11	CARBON	470	5%	1/4W		
R012	1-216-033-00	RES, CHIP	220	5%	1/10W	R068	1-247-815-91	CARBON	220	5%	1/4W		
R013	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	R069	1-247-815-91	CARBON	220	5%	1/4W		
R014	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	R070	1-249-421-11	CARBON	2.2K	5%	1/4W		
R015	1-216-073-00	RES, CHIP	10K	5%	1/10W	R071	1-247-815-91	CARBON	220	5%	1/4W		
R016	1-216-073-00	RES, CHIP	10K	5%	1/10W	R072	1-216-033-00	RES, CHIP	220	5%	1/10W		
R019	1-249-425-11	CARBON	4.7K	5%	1/4W	R073	1-216-033-00	RES, CHIP	220	5%	1/10W		
R020	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	R074	1-216-033-00	RES, CHIP	220	5%	1/10W		
R022	1-249-429-11	CARBON	10K	5%	1/4W	R075	1-216-033-00	RES, CHIP	220	5%	1/10W		
R023	1-216-089-91	RES, CHIP	47K	5%	1/10W	R076	1-216-033-00	RES, CHIP	220	5%	1/10W		
R025	1-216-033-00	RES, CHIP	220	5%	1/10W	R077	1-216-033-00	RES, CHIP	220	5%	1/10W		
R026	1-216-121-91	RES, CHIP	1M	5%	1/10W	R078	1-249-417-11	CARBON	1K	5%	1/4W		
R027	1-216-049-91	RES, CHIP	1K	5%	1/10W	R079	1-216-033-00	RES, CHIP	220	5%	1/10W		
R028	1-249-429-11	CARBON	10K	5%	1/4W	R080	1-216-065-91	RES, CHIP	4.7K	5%	1/10W		
R029	1-216-025-91	RES, CHIP	100	5%	1/10W	R081	1-216-025-91	RES, CHIP	100	5%	1/10W		
R030	1-249-425-11	CARBON	4.7K	5%	1/4W	R082	1-216-025-91	RES, CHIP	100	5%	1/10W		
R031	1-247-815-91	CARBON	220	5%	1/4W	R083	1-249-429-11	CARBON	10K	5%	1/4W		
R032	1-216-033-00	RES, CHIP	220	5%	1/10W	R084	1-216-049-91	RES, CHIP	1K	5%	1/10W		
R036	1-216-049-91	RES, CHIP	1K	5%	1/10W	R085	1-216-065-91	RES, CHIP	4.7K	5%	1/10W		
R037	1-216-049-91	RES, CHIP	1K	5%	1/10W	R086	1-216-073-00	RES, CHIP	10K	5%	1/10W		
R038	1-216-049-91	RES, CHIP	1K	5%	1/10W	R087	1-247-815-91	CARBON	220	5%	1/4W		
R039	1-247-807-31	CARBON	100	5%	1/4W	R089	1-216-073-00	RES, CHIP	10K	5%	1/10W		
R040	1-247-815-91	CARBON	220	5%	1/4W	R090	1-216-033-00	RES, CHIP	220	5%	1/10W		
R041	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	R092	1-249-429-11	CARBON	10K	5%	1/4W		
R042	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	R093	1-216-065-91	RES, CHIP	4.7K	5%	1/10W		
R043	1-216-033-00	RES, CHIP	220	5%	1/10W	R096	1-216-033-00	RES, CHIP	220	5%	1/10W		
R044	1-216-049-91	RES, CHIP	1K	5%	1/10W	R097	1-216-065-91	RES, CHIP	4.7K	5%	1/10W		
R045	1-247-815-91	CARBON	220	5%	1/4W	R099	1-216-065-91	RES, CHIP	4.7K	5%	1/10W		
R046	1-247-815-91	CARBON	220	5%	1/4W	R106	1-216-081-00	RES, CHIP	22K	5%	1/10W (KV-29FV10 EXCLUDED)		
R047	1-249-417-11	CARBON	1K	5%	1/4W	R107	1-216-081-00	RES, CHIP	22K	5%	1/10W (KV-29FV10 EXCLUDED)		
R048	1-249-417-11	CARBON	1K	5%	1/4W	R108	1-216-081-00	RES, CHIP	22K	5%	1/10W (KV-29FV10 EXCLUDED)		

## Note:


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


## Note:

The components identified by  $\boxtimes$  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.

A

REF. NO.	PART NO.	DESCRIPTION	REMARK			REF. NO.	PART NO.	DESCRIPTION	REMARK		
R109	1-216-081-00	RES, CHIP	22K	5%	1/10W	R387	1-216-037-00	RES, CHIP	330	5%	1/10W
			(KV-29FV10 EXCLUDED)			R501	1-216-041-00	RES, CHIP	470	5%	1/10W
R131	1-216-037-00	RES, CHIP	330	5%	1/10W	R502	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R132	1-216-113-00	RES, CHIP	470K	5%	1/10W	R503	1-249-425-11	CARBON	4.7K	5%	1/4W F
R133	1-216-037-00	RES, CHIP	330	5%	1/10W	R504	1-216-455-21	METAL OXIDE	560	5%	2W F
R135	1-216-073-00	RES, CHIP	10K	5%	1/10W						
						R505	1-247-863-91	CARBON	22K	5%	1/4W
R136	1-216-073-00	RES, CHIP	10K	5%	1/10W	R506	1-215-861-00	METAL OXIDE	47	5%	1W F
R137	1-216-049-91	RES, CHIP	1K	5%	1/10W	R507	1-249-401-11	CARBON	47	5%	1/4W
R305	1-247-815-91	CARBON	220	5%	1/4W	R508	1-249-425-11	CARBON	4.7K	5%	1/4W
R306	1-247-815-91	CARBON	220	5%	1/4W	R509	1-260-324-11	CARBON	470	5%	1/2W
R307	1-216-295-91	SHORT									
						R510 $\triangle$	1-215-860-11	METAL OXIDE	33	5%	1W F
R309	1-216-295-91	SHORT				R512	1-215-910-00	METAL OXIDE	68	5%	3W F
R311	1-216-073-00	RES, CHIP	10K	5%	1/10W	R514	1-216-081-00	RES, CHIP	22K	5%	1/10W
R319	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	R515	1-208-812-11	RES, CHIP	18K	0.5%	1/10W
R320	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	R516	1-208-790-11	RES, CHIP	2.2K	0.5%	1/10W
R321	1-216-057-00	RES, CHIP	2.2K	5%	1/10W						
						R517	1-249-417-11	CARBON	1K	5%	1/4W
R324	1-216-073-00	RES, CHIP	10K	5%	1/10W	R518	1-216-073-00	RES, CHIP	10K	5%	1/10W
R325	1-216-033-00	RES, CHIP	220	5%	1/10W	R519	1-249-413-11	CARBON	470	5%	1/4W
R326	1-216-085-00	RES, CHIP	33K	5%	1/10W	R520	1-215-907-11	METAL OXIDE	22	5%	3W F
R327	1-216-033-00	RES, CHIP	220	5%	1/10W	R521	1-216-081-00	RES, CHIP	22K	5%	1/10W
R330	1-216-073-00	RES, CHIP	10K	5%	1/10W						
						R523	1-208-810-11	RES, CHIP	15K	0.5%	1/10W
R331	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	R524	1-249-429-11	CARBON	10K	5%	1/4W
R332	1-216-033-00	RES, CHIP	220	5%	1/10W	R525	1-208-804-11	RES, CHIP	8.2K	0.5%	1/10W
R334	1-216-033-00	RES, CHIP	220	5%	1/10W	R526	1-215-880-00	METAL OXIDE	10	5%	2W F
R335	1-216-033-00	RES, CHIP	220	5%	1/10W	R527	1-216-097-91	RES, CHIP	100K	5%	1/10W
R336	1-216-049-91	RES, CHIP	1K	5%	1/10W						
						R528	1-208-814-91	RES, CHIP	22K	0.5%	1/10W
R337	1-216-347-11	METAL OXIDE	0.68	5%	1W F	R529	1-208-814-91	RES, CHIP	22K	0.5%	1/10W
R338	1-249-417-11	CARBON	1K	5%	1/4W	$\boxtimes$ R530 $\triangle$	1-208-808-11	RES, CHIP	12K	0.5%	1/10W
R339	1-216-049-91	RES, CHIP	1K	5%	1/10W	$\boxtimes$ R531	1-208-836-11	RES, CHIP	180K	0.5%	1/10W
R340	1-216-105-91	RES, CHIP	220K	5%	1/10W	R532	1-208-760-11	RES, CHIP	120	0.5%	1/10W
R341	1-216-073-00	RES, CHIP	10K	5%	1/10W						
						R533	1-215-902-11	METAL OXIDE	47K	5%	1W F
R342	1-216-097-91	RES, CHIP	100K	5%	1/10W	R536 $\triangle$	1-260-288-11	CARBON	0.47	5%	1/2W
R343	1-216-093-91	RES, CHIP	68K	5%	1/10W	R537 $\triangle$	1-260-288-11	CARBON	0.47	5%	1/2W
R344	1-216-073-00	RES, CHIP	10K	5%	1/10W	R538	1-247-887-00	CARBON	220K	5%	1/4W
R345	1-249-417-11	CARBON	1K	5%	1/4W	R539	1-215-891-11	METAL OXIDE	680	5%	2W F
R353	1-216-295-91	SHORT									
						R540	1-216-295-91	SHORT			
R354	1-216-073-00	RES, CHIP	10K	5%	1/10W	R541	1-215-894-11	METAL OXIDE	2.2K	5%	2W F
R355	1-216-069-00	RES, CHIP	6.8K	5%	1/10W	R542	1-215-920-11	METAL OXIDE	3.3K	5%	3W F
R356	1-216-025-91	RES, CHIP	100	5%	1/10W	R543 $\triangle$	1-249-377-11	CARBON	0.47	5%	1/4W F
R357	1-216-033-00	RES, CHIP	220	5%	1/10W	R544	1-216-113-00	RES, CHIP	470K	5%	1/10W
R359	1-216-073-00	RES, CHIP	10K	5%	1/10W						
						R545 $\triangle$	1-249-387-11	CARBON	3.3	5%	1/4W F
R361	1-216-025-91	RES, CHIP	100	5%	1/10W	R546	1-215-457-00	METAL	33K	1%	1/4W
R370	1-216-049-91	RES, CHIP	1K	5%	1/10W	R547	1-215-457-00	METAL	33K	1%	1/4W
R372	1-216-097-91	RES, CHIP	100K	5%	1/10W	R549	1-215-437-00	METAL	4.7K	1%	1/4W
R373	1-216-121-91	RES, CHIP	1M	5%	1/10W	R550 $\triangle$	1-249-377-11	CARBON	0.47	5%	1/4W F
R383	1-216-025-91	RES, CHIP	100	5%	1/10W						
						R551	1-215-873-00	METAL OXIDE	4.7K	5%	1W F
R384	1-216-037-00	RES, CHIP	330	5%	1/10W	R552	1-216-455-21	METAL OXIDE	560	5%	2W F
R385	1-249-425-11	CARBON	4.7K	5%	1/4W	R553 $\triangle$	1-249-377-11	CARBON	0.47	5%	1/4W F
R386	1-216-049-91	RES, CHIP	1K	5%	1/10W	R554	1-215-876-00	METAL OXIDE	15K	5%	1W F
			(KV-29FV10 EXCLUDED)			R555	1-249-441-11	CARBON	100K	5%	1/4W

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**AK**

- \* A-1298-956-A AK BOARD, COMPLETE (KV-29FV10 ONLY)
- \* A-1298-957-A AK BOARD, COMPLETE  
(KV-27FV15, 29FV15, 29FV15C, 29FV15K ONLY)

4-382-854-11 SCREW (M3X10), P, SW (+)

## CAPACITOR

C101	1-126-960-11	ELECT	1μF	20%	50V (KV-29FV10 EXCLUDED)
C102	1-164-161-11	CERAMIC CHIP	0.0022μF	10%	50V (KV-29FV10 EXCLUDED)
C104	1-126-964-11	ELECT	10μF	20%	50V (KV-29FV10 EXCLUDED)
C106	1-104-664-11	ELECT	47μF	20%	25V (KV-29FV10 EXCLUDED)
C108	1-126-942-61	ELECT	1000μF	20%	25V (KV-29FV10 EXCLUDED)

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
D107	8-719-991-33	DIODE 1SS133T-77 (KV-29FV10 EXCLUDED)		R103	1-216-689-11	RES, CHIP 39K 5% 1/10W (KV-29FV10 EXCLUDED)	
D108	8-719-110-17	DIODE RD10ESB2 (KV-29FV10 EXCLUDED)		R104	1-216-049-91	RES, CHIP 1K 5% 1/10W (KV-29FV10 EXCLUDED)	
D109	8-719-110-17	DIODE RD10ESB2 (KV-29FV10 EXCLUDED)		R112	1-216-057-00	RES, CHIP 2.2K 5% 1/10W (KV-29FV10 EXCLUDED)	
D1461	8-719-991-33	DIODE 1SS133T-77		R113	1-216-097-91	RES, CHIP 100K 5% 1/10W (KV-29FV10 EXCLUDED)	
D1463	8-719-991-33	DIODE 1SS133T-77		R114	1-216-121-91	RES, CHIP 1M 5% 1/10W (KV-29FV10 EXCLUDED)	
D1466	8-719-991-33	DIODE 1SS133T-77		R115	1-216-073-00	RES, CHIP 10K 5% 1/10W (KV-29FV10 EXCLUDED)	
D1467	8-719-924-13	DIODE MTZJ-T-77-22B		R116	1-216-073-00	RES, CHIP 10K 5% 1/10W (KV-29FV10 EXCLUDED)	
D1468	8-719-924-13	DIODE MTZJ-T-77-22B		R117	1-216-065-91	RES, CHIP 4.7K 0.5% 1/10W (KV-29FV10 EXCLUDED)	
<u>IC</u>				R118	1-208-774-11	RES, CHIP 470 0.5% 1/10W (KV-29FV10 EXCLUDED)	
IC1401	8-759-578-88	IC BH3868FS-E2		R119	1-208-776-11	RES, CHIP 560 0.5% 1/10W (KV-29FV10 EXCLUDED)	
IC1402	8-759-100-96	IC UPC4558G2		R440	1-216-049-91	RES, CHIP 1K 5% 1/10W	
IC1403	8-759-537-26	IC TDA7467D013TR		R441	1-216-100-00	RES, CHIP 130K 5% 1/10W	
IC1461 $\triangle$	8-759-168-24	IC TA8216AH		R442	1-216-088-00	RES, CHIP 43K 5% 1/10W	
IC1901	8-752-058-68	IC CXA1315M (KV-29FV10 EXCLUDED)		R443	1-216-053-00	RES, CHIP 1.5K 5% 1/10W	
IC1902	8-759-470-63	IC NJM2145M-TE2 (KV-29FV10 EXCLUDED)		R444	1-216-089-91	RES, CHIP 47K 5% 1/10W	
<u>CHIP CONDUCTOR</u>				R445	1-216-085-00	RES, CHIP 33K 5% 1/10W	
JR1901	1-216-295-91	SHORT		R446	1-216-063-91	RES, CHIP 3.9K 5% 1/10W	
JR1901	1-216-295-91	SHORT		R1403	1-216-121-91	RES, CHIP 1M 5% 1/10W	
<u>COIL</u>				R1404	1-216-295-91	SHORT	
L102	1-414-856-11	INDUCTOR 10 $\mu$ H (KV-29FV10 EXCLUDED)		R1406	1-216-121-91	RES, CHIP 1M 5% 1/10W	
L105	1-414-857-11	INDUCTOR 100 $\mu$ H (KV-29FV10 EXCLUDED)		R1407	1-216-073-00	RES, CHIP 10K 5% 1/10W	
L1401	1-414-857-11	INDUCTOR 100 $\mu$ H		R1408	1-216-295-91	SHORT	
<u>IC LINK</u>				R1409	1-216-295-91	SHORT	
PS1461 $\triangle$	1-532-984-11	LINK, IC 2A/90V		R1410	1-216-081-00	RES, CHIP 22K 5% 1/10W	
<u>TRANSISTOR</u>				R1411	1-216-073-00	RES, CHIP 10K 5% 1/10W	
Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE (KV-29FV10 EXCLUDED)		R1412	1-216-089-91	RES, CHIP 47K 5% 1/10W	
Q105	8-729-216-22	TRANSISTOR 2SA1162-G (KV-29FV10 EXCLUDED)		R1413	1-216-089-91	RES, CHIP 47K 5% 1/10W	
Q106	8-729-422-27	TRANSISTOR 2SD601A-Q (KV-29FV10 EXCLUDED)		R1415	1-216-025-91	RES, CHIP 100 5% 1/10W	
Q1461	8-729-422-27	TRANSISTOR 2SD601A-Q		R1416	1-216-081-00	RES, CHIP 22K 5% 1/10W	
Q1462	8-729-422-27	TRANSISTOR 2SD601A-Q		R1417	1-216-081-00	RES, CHIP 22K 5% 1/10W	
Q1463	8-729-900-53	TRANSISTOR DTC114EK		R1418	1-216-089-91	RES, CHIP 47K 5% 1/10W	
Q1464	8-729-900-53	TRANSISTOR DTC114EK		R1421	1-216-025-91	RES, CHIP 100 5% 1/10W	
Q1902	8-729-216-22	TRANSISTOR 2SA1162-G (KV-29FV10 EXCLUDED)		R1422	1-216-033-00	RES, CHIP 220 5% 1/10W	
Q1903	8-729-216-22	TRANSISTOR 2SA1162-G (KV-29FV10 EXCLUDED)		R1423	1-216-033-00	RES, CHIP 220 5% 1/10W	
Q1918	8-729-216-22	TRANSISTOR 2SA1162-G (KV-29FV10 EXCLUDED)		R1424	1-216-081-00	RES, CHIP 22K 5% 1/10W	
<u>RESISTOR</u>				R1425	1-216-081-00	RES, CHIP 22K 5% 1/10W	
R101	1-216-065-91	RES, CHIP 4.7K 5% 1/10W (KV-29FV10 EXCLUDED)		R1427	1-216-065-91	RES, CHIP 4.7K 5% 1/10W	
R102	1-216-083-00	RES, CHIP 27K 5% 1/10W (KV-29FV10 EXCLUDED)		R1458	1-216-033-00	RES, CHIP 220 5% 1/10W	
				R1459	1-216-033-00	RES, CHIP 220 5% 1/10W	
				R1461	1-216-057-00	RES, CHIP 2.2K 5% 1/10W	
				R1462	1-216-073-00	RES, CHIP 10K 5% 1/10W	
				R1464	1-216-057-00	RES, CHIP 2.2K 5% 1/10W	







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REF. NO.	PART NO.	DESCRIPTION	REMARK			REF. NO.	PART NO.	DESCRIPTION	REMARK			
R1764	1-247-807-31	CARBON	100	5%	1/4W	C637	1-126-940-11	ELECT	330μF	20%	25V	
R1773	1-260-099-11	CARBON	1K	5%	1/2W	C641	1-128-550-11	ELECT	2200μF	20%	50V	
R1774	1-247-807-31	CARBON	100	5%	1/4W	C643	1-107-995-11	ELECT	100μF	0	160V	
R1783	1-260-099-11	CARBON	1K	5%	1/2W	C644	1-104-664-11	ELECT	47μF	20%	25V	
R1784	1-247-807-31	CARBON	100	5%	1/4W	C647	1-104-665-11	ELECT	100μF	20%	25V	
R1788	1-216-349-00	METAL OXIDE	1	5%	1W	F	C650	1-104-664-11	ELECT	47μF	20%	25V
R1789	1-249-437-11	CARBON	47K	5%	1/4W	C651	1-130-477-00	MYLAR	0.0033μF	5%	50V	
R1792	1-247-815-91	CARBON	220	5%	1/4W	C652	1-106-351-00	MYLAR	0.0022μF	20%	200V	
R1793	1-247-866-11	CARBON	30K	5%	1/4W	C653	1-107-636-11	ELECT	10μF	20%	160V	
R1794	1-260-132-11	CARBON	560K	5%	1/2W	C656	1-126-964-11	ELECT	10μF	20%	50V	
R1795	1-260-087-11	CARBON	100	5%	1/2W	C657	1-137-372-11	FILM	0.022μF	5%	50V	
R1796 △	1-216-369-11	METAL OXIDE	2.2	5%	2W	F	C658	1-126-941-11	ELECT	470μF	20%	25V
R1797	1-260-123-11	CARBON	100K	5%	1/2W	C660	1-126-936-11	ELECT	3300μF	20%	16V	
<u>VARIABLE RESISTOR</u>						C661	1-104-664-11	ELECT	47μF	20%	25V	
RV1761	1-241-714-11	RES, ADJ, METAL FILM 110M				C662	1-126-933-11	ELECT	100μF	20%	16V	
<div><div>G</div><div></div></div>						C665	1-104-664-11	ELECT	47μF	20%	25V	
* A-1316-445-A G BOARD, COMPLETE (KV-27FV15 ONLY)						C695	1-164-625-11	CERAMIC	680pF	10%	500V	
1-533-223-11 HOLDER, FUSE						C696	1-164-625-11	CERAMIC	680pF	10%	500V	
4-382-854-11 SCREW (M3X10), P, SW (+)						C697	1-164-625-11	CERAMIC	680pF	10%	500V	
<u>CAPACITOR</u>						C698	1-164-625-11	CERAMIC	680pF	10%	500V	
C601	1-136-346-21	FILM	0.22μF	20%	125V	C699	1-136-169-00	FILM	0.22μF	5%	50V	
C602	1-126-964-11	ELECT	10μF	20%	50V	<u>CONNECTOR</u>						
C603 △	1-127-790-51	CERAMIC	1000pF	20%	250V	CN602	*1-580-844-11	PIN, CONNECTOR (POWER)				
C604 △	1-136-346-21	FILM	0.22μF	20%	125V	CN603	*1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P				
C605 △	1-136-346-21	FILM	0.22μF	20%	125V	CN641	*1-564-515-11	PLUG, CONNECTOR 12P				
C606 △	1-117-894-11	ELECT	560μF	20%	250V	CN642	*1-564-509-11	PLUG, CONNECTOR 6P				
C607 △	1-117-894-11	ELECT	560μF	20%	250V	CN643	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P				
C608	1-107-824-11	CERAMIC	220pF	5%	1KV	CN645	1-695-915-11	TAB (CONTACT)				
C609	1-136-176-00	FILM	0.82μF	5%	50V	CN646	1-695-915-11	TAB (CONTACT)				
C610	1-136-176-00	FILM	0.82μF	5%	50V	<u>DIODE</u>						
C611	1-136-169-00	FILM	0.22μF	5%	50V	D600	8-719-991-33	DIODE 1SS133T-77				
C612	1-136-169-00	FILM	0.22μF	5%	50V	D601	8-719-991-33	DIODE 1SS133T-77				
C613	1-164-646-11	CERAMIC	2200pF	10%	500V	D602 △	8-719-510-53	DIODE D4SB60L				
C614	1-126-963-11	ELECT	4.7μF	20%	50V	D603	8-719-063-70	DIODE D1NL20U				
C615	1-117-976-11	FILM	0.039μF	5%	800V	D604	8-719-991-33	DIODE 1SS133T-77				
C616 △	1-127-790-51	CERAMIC	1000pF	20%	250V	D605	8-719-923-83	DIODE MTZJ-T-77-13A				
C618	1-126-968-11	ELECT	100μF	20%	50V	D606	8-719-110-60	DIODE RD24ESB				
C624	1-126-960-11	ELECT	1μF	20%	50V	D607	8-719-109-97	DIODE RD6.8ESB2				
C629 △	1-107-652-11	ELECT	10μF	20%	250V	D608	8-719-109-97	DIODE RD6.8ESB2				
C630	1-130-471-00	MYLAR	0.001μF	5%	50V	D612	8-719-991-33	DIODE 1SS133T-77				
C631	1-137-605-11	FILM	0.01μF	10%	250V	D613	8-719-991-33	DIODE 1SS133T-77				
C633	1-130-471-00	MYLAR	0.001μF	5%	50V	D614	8-719-991-33	DIODE 1SS133T-77				
C634	1-130-467-00	MYLAR	470pF	5%	50V	D621	8-719-911-55	DIODE U05G				
C635	1-130-471-00	MYLAR	0.001μF	5%	50V	D622	8-719-911-55	DIODE U05G				
C636	1-126-965-11	ELECT	22μF	20%	50V	D623	8-719-948-45	DIODE ERA22-08				
						D624	8-719-991-33	DIODE 1SS133T-77				
						D625	8-719-991-33	DIODE 1SS133T-77				
						D626	8-719-109-93	DIODE RD6.2ESB2				

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
D627	8-719-510-48	DIODE D1N20R		Q646	8-729-119-76	TRANSISTOR 2SA1175-HFE	
D628	8-719-510-02	DIODE D1NS4		Q647	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D629	8-719-052-90	DIODE D1NL40-TA2		Q648	8-729-922-39	TRANSISTOR 2SD2144S-V	
D630	8-719-052-90	DIODE D1NL40-TA2		Q649	8-729-119-76	TRANSISTOR 2SA1175-HFE	
D641	8-719-060-89	DIODE D4SBS6-F		Q650	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D642	8-719-510-12	DIODE D10SC4M		Q651	8-729-802-71	TRANSISTOR 2SA1407-E	
D643	8-719-062-40	DIODE D4SBL20UF3		Q652	8-729-119-76	TRANSISTOR 2SA1175-HFE	
D647	8-719-063-70	DIODE D1NL20U		Q653	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D648 $\triangle$	8-719-057-52	DIODE EZ0150AV1		<b>RESISTOR</b>			
D651	8-719-510-02	DIODE D1NS4		R601 $\triangle$	1-249-377-11	CARBON 0.47 5% 1/4W	F
D652	8-719-510-02	DIODE D1NS4		R602	1-249-429-11	CARBON 10K 5% 1/4W	
D653	8-719-991-33	DIODE 1SS133T-77		R603 $\triangle$	1-219-776-11	CARBON 2.2M 10% 1/2W	
D698	8-719-991-33	DIODE 1SS133T-77		R604	1-249-429-11	CARBON 10K 5% 1/4W	
D699	8-719-923-86	DIODE MTZJ-T-77-15		R605	1-249-429-11	CARBON 10K 5% 1/4W	
<b>FUSE</b>				R606	1-249-421-11	CARBON 2.2K 5% 1/4W	
F601 $\triangle$	1-532-506-51	FUSE 6.3A/250V		R607 $\triangle$	1-202-933-61	FUSIBLE 0.1 10% 1/2W	F
<b>FERRITE BEAD</b>				R608	1-216-369-00	METAL OXIDE 1 5% 2W	F
FB601	1-410-396-41	FERRITE 0.45 $\mu$ H		R609	1-249-417-11	CARBON 1K 5% 1/4W	
FB602	1-410-396-41	FERRITE 0.45 $\mu$ H		R610	1-249-425-11	CARBON 4.7K 5% 1/4W	
FB603	1-410-396-41	FERRITE 0.45 $\mu$ H		R611	1-216-369-00	METAL OXIDE 1 5% 2W	F
FB604	1-410-396-41	FERRITE 0.45 $\mu$ H		R612	1-260-124-11	CARBON 120K 5% 1/2W	
FB641	1-410-397-21	FERRITE 1.1 $\mu$ H		R613	1-260-124-11	CARBON 120K 5% 1/2W	
FB642	1-410-397-21	FERRITE 1.1 $\mu$ H		R614	1-260-124-11	CARBON 120K 5% 1/2W	
FB645	1-410-397-21	FERRITE 1.1 $\mu$ H		R615	1-260-124-11	CARBON 120K 5% 1/2W	
FB647	1-410-397-21	FERRITE 1.1 $\mu$ H		R618	1-249-425-11	CARBON 4.7K 5% 1/4W	
<b>IC</b>				R619	1-249-425-11	CARBON 4.7K 5% 1/4W	
IC601 $\triangle$	8-729-045-41	TRANSISTOR MX0842B-F		R620	1-126-967-11	ELECT 47 $\mu$ F 20% 50V	
IC622	8-759-450-47	IC BA05T		R621	1-249-429-11	CARBON 10K 5% 1/4W	
IC641	8-759-198-03	IC PQ09RF21		R622	1-247-863-91	CARBON 22K 5% 1/4W	
IC643	8-749-012-13	IC DM-58		R623 $\triangle$	1-240-257-11	CMT, MELF 3.9 5% 20W	
IC650	8-759-394-35	IC BA12T		R624 $\triangle$	1-215-485-00	METAL 470K 1% 1/4W	
IC651	8-759-450-47	IC BA05T		R625 $\triangle$	1-215-485-00	METAL 470K 1% 1/4W	
<b>COIL</b>				R626	1-249-425-11	CARBON 4.7K 5% 1/4W	
L642	1-412-529-11	INDUCTOR 22 $\mu$ H		R627	1-249-405-11	CARBON 100 5% 1/4W	F
L650	1-412-519-11	INDUCTOR 3.3 $\mu$ H		R631	1-240-205-91	CARBON 22M 5% 1/2W	
L651	1-412-519-11	INDUCTOR 3.3 $\mu$ H		R632	1-249-421-11	CARBON 2.2K 5% 1/4W	
L652	1-412-519-11	INDUCTOR 3.3 $\mu$ H		R633	1-249-429-11	CARBON 10K 5% 1/4W	
<b>TRANSISTOR</b>				R634	1-249-437-11	CARBON 47K 5% 1/4W	
Q621 $\triangle$	8-729-044-30	TRANSISTOR 2SK2845-LB102		R635	1-247-791-91	CARBON 22 5% 1/4W	
Q622	8-729-119-78	TRANSISTOR 2SC2785-HFE		R636	1-249-415-11	CARBON 680 5% 1/4W	
Q623	8-729-119-78	TRANSISTOR 2SC2785-HFE		R637	1-260-302-51	CARBON 6.8 5% 1/2W	
Q624	8-729-119-76	TRANSISTOR 2SA1175-HFE		R638	1-249-413-11	CARBON 470 5% 1/4W	
Q644	8-729-119-78	TRANSISTOR 2SC2785-HFE		R639 $\triangle$	1-249-389-11	CARBON 4.7 5% 1/4W	F
Q645	8-729-119-76	TRANSISTOR 2SA1175-HFE		R640	1-215-485-00	METAL 470K 1% 1/4W	
				R641	1-247-843-11	CARBON 3.3K 5% 1/4W	
				R642	1-247-843-11	CARBON 3.3K 5% 1/4W	
				R643	1-249-387-11	CARBON 3.3 5% 1/4W	F
				R644	1-249-417-11	CARBON 1K 5% 1/4W	

**Note:**

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

**Note:**

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REF. NO.	PART NO.	DESCRIPTION	REMARK			
R645	1-249-429-11	CARBON	10K	5%	1/4W	
R646	1-249-417-11	CARBON	1K	5%	1/4W	
R648	1-249-441-11	CARBON	100K	5%	1/4W	
R649	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R650	1-249-421-11	CARBON	2.2K	5%	1/4W	
R651	1-215-908-00	METAL OXIDE	33	5%	3W	F
R652 $\triangle$	1-216-363-00	METAL OXIDE	0.33	5%	2W	F
R653	1-215-423-00	METAL	1.2K	1%	1/4W	
R654	1-215-481-00	METAL	330K	1%	1/4W	
R655	1-215-469-00	METAL	100K	1%	1/4W	
R656	1-249-427-11	CARBON	6.8K	5%	1/4W	
R657	1-249-421-11	CARBON	2.2K	5%	1/4W	
R659	1-249-429-11	CARBON	10K	5%	1/4W	
R660	1-249-393-11	CARBON	10	5%	1/4W	F
R661 $\triangle$	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R662	1-215-485-00	METAL	470K	1%	1/4W	
R663	1-215-445-00	METAL	10K	1%	1/4W	
R664 $\triangle$	1-240-257-11	CMT, MELF	3.9	5%	20W	
R665	1-249-425-11	CARBON	4.7K	5%	1/4W	
R670	1-260-312-11	CARBON	47	5%	1/2W	
R671	1-260-312-11	CARBON	47	5%	1/2W	
R680	1-216-364-11	METAL OXIDE	0.39	5%	2W	F
R681	1-216-365-00	METAL OXIDE	0.47	5%	2W	F
R699	1-249-429-11	CARBON	10K	5%	1/4W	

**RELAY**

RY600 $\triangle$	1-755-266-11	RELAY, AC POWER
RY601 $\triangle$	1-755-146-11	RELAY, AC POWER

**TRANSFORMER**

T601 $\triangle$	1-426-717-11	TRANSFORMER, LINE FILTER (LFT)
T602 $\triangle$	1-426-717-11	TRANSFORMER, LINE FILTER (LFT)
T603 $\triangle$	1-429-992-21	TRANSFORMER, CONVERTER (PRT)
T605 $\triangle$	1-433-408-11	TRANSFORMER, CONVERTER (PIT)
T621 $\triangle$	1-431-852-11	TRANSFORMER, CONVERTER (SRT)

**THERMISTOR**

THP601 $\triangle$	1-809-827-11	THERMISTOR, POSITIVE
THP602 $\triangle$	1-809-827-11	THERMISTOR, POSITIVE

**VARISTOR**

VDR601 $\triangle$	1-801-074-41	VARISTOR ERZV10D271
VDR602 $\triangle$	1-801-074-41	VARISTOR ERZV10D271

REF. NO.	PART NO.	DESCRIPTION	REMARK
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\* A-1316-465-A GA BOARD, COMPLETE  
(KV-27FV15 EXCLUDED)

1-533-223-11 HOLDER, FUSE  
\* 4-374-846-01 COVER, CAPACITOR, CAP TYPE  
4-382-854-11 SCREW (M3X10), P, SW (+)

**CAPACITOR**

C6001	1-126-933-11	ELECT	100 $\mu$ F	20%	16V
C6002 $\triangle$	1-136-346-21	FILM	0.22 $\mu$ F	20%	300V
C6003	1-136-346-21	FILM	0.22 $\mu$ F	20%	300V
C6005 $\triangle$	1-119-898-11	CERAMIC	470pF	10%	250V
C6007 $\triangle$	1-119-806-51	CERAMIC	470pF	10%	250V
C6008	1-126-960-11	ELECT	1 $\mu$ F	20%	50V
C6009	1-126-961-11	ELECT	2.2 $\mu$ F	20%	50V
C6016	1-104-330-91	CERAMIC	470pF	10%	1KV
C6017 $\triangle$	1-130-029-00	FILM	0.0082 $\mu$ F	5%	50V
C6018	1-102-050-00	CERAMIC	0.01 $\mu$ F	20%	500V
C6019 $\triangle$	1-113-611-11	ELECT (BLOCK)	820 $\mu$ F	20%	250V
C6020 $\triangle$	1-113-611-11	ELECT (BLOCK)	820 $\mu$ F	20%	250V
C6021	1-126-964-11	ELECT	10 $\mu$ F	20%	50V
C6022 $\triangle$	1-126-963-11	ELECT	4.7 $\mu$ F	20%	50V
C6024	1-126-964-11	ELECT	10 $\mu$ F	20%	50V
C6025	1-115-389-11	FILM	0.018 $\mu$ F	3%	800V
C6026	1-126-964-11	ELECT	10 $\mu$ F	20%	50V
C6027	1-130-471-00	MYLAR	0.001 $\mu$ F	5%	50V
C6028	1-130-471-00	MYLAR	0.001 $\mu$ F	5%	50V
C6029 $\triangle$	1-136-165-00	FILM	0.1 $\mu$ F	5%	50V
C6030	1-115-389-11	FILM	0.018 $\mu$ F	3%	800V
C6031	1-104-330-91	CERAMIC	470pF	10%	1KV
C6032	1-126-960-11	ELECT	1 $\mu$ F	20%	50V
C6035	1-127-794-51	CERAMIC	2200pF	20%	250V
C6036	1-127-794-51	CERAMIC	2200pF	20%	250V
C6037 $\triangle$	1-107-679-91	ELECT	10 $\mu$ F	20%	450V
C6038	1-137-370-11	FILM	0.01 $\mu$ F	5%	50V
C6039	1-164-625-11	CERAMIC	680pF	10%	500V
C6040	1-130-467-00	MYLAR	470pF	5%	50V
C6042	1-130-467-00	MYLAR	470pF	5%	50V
C6043	1-130-471-00	MYLAR	0.001 $\mu$ F	5%	50V
C6044	1-126-936-11	ELECT	3300 $\mu$ F	20%	16V
C6045	1-126-942-61	ELECT	1000 $\mu$ F	20%	25V
C6046	1-128-566-11	ELECT	470 $\mu$ F	20%	100V
C6047	1-128-566-11	ELECT	470 $\mu$ F	20%	100V
C6048	1-164-625-11	CERAMIC	680pF	10%	500V
C6049	1-128-550-11	ELECT	2200 $\mu$ F	20%	50V
C6050	1-104-664-11	ELECT	47 $\mu$ F	20%	25V
C6051	1-104-664-11	ELECT	47 $\mu$ F	20%	25V
C6052	1-126-971-11	ELECT	470 $\mu$ F	20%	50V

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C6053	1-136-165-00	FILM	0.1 $\mu$ F 5% 50V	D6021	8-719-110-41	DIODE RD15ESB2	
C6054	1-137-605-11	FILM	0.01 $\mu$ F 10% 250V	D6022	8-719-510-12	DIODE D10SC4M	
C6056	1-130-471-00	MYLAR	0.001 $\mu$ F 5% 50V	D6023 $\triangle$	8-719-022-97	DIODE D2S4MTA1	
C6057	1-107-636-11	ELECT	10 $\mu$ F 20% 160V	D6024 $\triangle$	8-719-022-97	DIODE D2S4MTA1	
C6058	1-126-960-11	ELECT	1 $\mu$ F 20% 50V	D6025 $\triangle$	8-719-060-89	DIODE D4SBS6-F	
C6059	1-104-664-11	ELECT	47 $\mu$ F 20% 25V	D6028	8-719-110-49	DIODE RD18ESB2	
C6060	1-104-664-11	ELECT	47 $\mu$ F 20% 25V	D6029	8-719-991-33	DIODE 1SS133T-77	
C6062	1-126-964-11	ELECT	10 $\mu$ F 20% 50V	D6030 $\triangle$	8-719-110-60	DIODE RD24ESB	
C6063	1-126-940-11	ELECT	330 $\mu$ F 20% 25V	D6031	8-719-991-33	DIODE 1SS133T-77	
C6064	1-104-664-11	ELECT	47 $\mu$ F 20% 25V	D6032	8-719-510-48	DIODE D1N20R	
C6066	1-126-965-11	ELECT	22 $\mu$ F 20% 50V	D6034	8-719-948-45	DIODE ERA22-08	
C6067	1-102-121-00	CERAMIC	0.0022 $\mu$ F 10% 50V	D6035	8-719-063-70	DIODE D1NL20U	
C6068	1-102-106-00	CERAMIC	100pF 10% 50V	D6036	8-719-032-12	DIODE D1NS6	
C6069	1-102-106-00	CERAMIC	100pF 10% 50V	D6037	8-719-991-33	DIODE 1SS133T-77	
C6070	1-102-074-00	CERAMIC	0.001 $\mu$ F 10% 50V	D6038	8-719-991-33	DIODE 1SS133T-77	
C6071	1-102-106-00	CERAMIC	100pF 10% 50V	D6040	8-719-063-70	DIODE D1NL20U	
C6072	1-102-106-00	CERAMIC	100pF 10% 50V	D6041	8-719-991-33	DIODE 1SS133T-77	
C6073	1-102-129-00	CERAMIC	0.01 $\mu$ F 10% 50V	D6042	8-719-110-17	DIODE RD10ESB 2	
C6074	1-102-106-00	CERAMIC	100pF 10% 50V	D6043	8-719-991-33	DIODE 1SS133T-77	
C6075	1-107-824-11	CERAMIC	220pF 5% 1KV	D6044	8-719-991-33	DIODE 1SS133T-77	
C6078	1-126-964-11	ELECT	10 $\mu$ F 20% 50V	D6045	8-719-052-90	DIODE D1NL40-TA2	
<b>CONNECTOR</b>				D6046	8-719-052-90	DIODE D1NL40-TA2	
CN6001	*1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P		D6047	8-719-110-31	DIODE RD12ESB2	
CN6002	1-695-915-11	TAB (CONTACT)		D6048	8-719-110-31	DIODE RD12ESB2	
CN6003	*1-580-843-11	PIN, CONNECTOR (POWER)		D6049	8-719-991-33	DIODE 1SS133T-77	
CN6006	*1-564-509-11	PLUG, CONNECTOR 6P		D6050 $\triangle$	8-719-979-58	DIODE EGP10D	
CN6007	*1-564-515-11	PLUG, CONNECTOR 12P		D6051	8-719-063-70	DIODE D1NL20U	
CN6009	1-695-915-11	TAB (CONTACT)		D6052	8-719-110-31	DIODE RD12ESB2	
<b>DIODE</b>				<b>FUSE</b>			
D6000	8-719-991-33	DIODE 1SS133T-77		F6001 $\triangle$	1-532-506-51	FUSE 6.3A/250V	
D6001	8-719-991-33	DIODE 1SS133T-77		<b>FERRITE BEAD</b>			
D6002	8-719-991-33	DIODE 1SS133T-77		FB6001	1-412-911-11	FERRITE	0 $\mu$ H
D6003	8-719-991-33	DIODE 1SS133T-77		FB6002	1-412-911-11	FERRITE	0 $\mu$ H
D6004	8-719-991-33	DIODE 1SS133T-77		FB6003	1-412-911-11	FERRITE	0 $\mu$ H
D6005	8-719-991-33	DIODE 1SS133T-77		FB6004	1-412-911-11	FERRITE	0 $\mu$ H
D6006	8-719-991-33	DIODE 1SS133T-77		FB6005	1-412-911-11	FERRITE	0 $\mu$ H
D6008 $\triangle$	8-719-510-53	DIODE D4SB60L		FB6006	1-412-911-11	FERRITE	0 $\mu$ H
D6009	8-719-991-33	DIODE 1SS133T-77		FB6007	1-412-911-11	FERRITE	0 $\mu$ H
D6010	8-719-991-33	DIODE 1SS133T-77		<b>IC</b>			
D6011	8-719-991-33	DIODE 1SS1033T-77		IC6000	8-759-198-31	IC UPC1093J-1	
D6012	8-719-991-33	DIODE 1SS133T-77		IC6001 $\triangle$	8-759-133-90	IC UPC339C	
D6013 $\triangle$	8-719-510-02	DIODE D1NS4		IC6002 $\triangle$	8-749-013-78	IC MCR5102	
D6014 $\triangle$	8-719-921-88	DIODE MTZJ-13B		IC6003	8-749-012-13	IC DM-58	
D6015	8-719-979-64	DIODE UF4005PKG23		IC6004	8-759-394-35	IC BA12T	
D6016	8-719-924-13	DIODE MTZJ-T-77-22B		IC6005	8-759-198-03	IC PQ09RF21	
D6017	8-719-911-55	DIODE U05G		IC6007	8-759-450-47	IC BA05T	
D6018	8-719-924-13	DIODE MTZJ-T-77-22B					
D6019	8-719-911-55	DIODE U05G					
D6020 $\triangle$	8-719-062-40	DIODE D4SBL20UF3					



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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<u>COIL</u>							
L6000	1-412-519-11	INDUCTOR 3.3 $\mu$ H		R6022	1-215-469-00	METAL 100K 1%	1/4W
L6001	1-412-519-11	INDUCTOR 3.3 $\mu$ H		R6023	1-215-465-00	METAL 68K 1%	1/4W
L6002	1-412-527-11	INDUCTOR 15 $\mu$ H		R6024	1-215-457-00	METAL 33K 1%	1/4W
L6003	1-412-527-11	INDUCTOR 15 $\mu$ H		R6025	1-215-473-00	METAL 150K 1%	1/4W
L6004	1-412-529-11	INDUCTOR 22 $\mu$ H		R6026	1-215-466-00	METAL 75K 1%	1/4W
<u>PHOTO COUPLER</u>							
PH6001 $\triangle$	8-749-924-35	PHOTO COUPLER ON3171-R		R6027	1-215-489-00	METAL 680K 1%	1/4W
PH6002 $\triangle$	8-749-924-35	PHOTO COUPLER ON3171-R		R6028	1-215-489-00	METAL 680K 1%	1/4W
<u>TRANSISTOR</u>				R6029	1-215-489-00	METAL 680K 1%	1/4W
Q6000	8-729-119-78	TRANSISTOR 2SC2785-HFE		R6030	1-215-458-00	METAL 36K 1%	1/4W
Q6001	8-729-119-78	TRANSISTOR 2SC2785-HFE		R6031	1-215-489-00	METAL 680K 1%	1/4W
Q6002	8-729-119-76	TRANSISTOR 2SA1175-HFE		R6032	1-215-489-00	METAL 680K 1%	1/4W
Q6003	8-729-119-76	TRANSISTOR 2SA1175-HFE		R6033	1-215-489-00	METAL 680K 1%	1/4W
Q6004	8-729-119-78	TRANSISTOR 2SC2785-HFE		R6034	1-215-463-00	METAL 56K 1%	1/4W
Q6005	8-729-119-78	TRANSISTOR 2SC2785-HFE		R6035	1-249-429-11	CARBON 10K 5%	1/4W
Q6006 $\triangle$	8-729-046-40	TRANSISTOR 2SK2663		R6036	1-215-481-00	METAL 330K 1%	1/4W
Q6007	8-729-922-39	TRANSISTOR 2SD2144S-V		R6037	1-249-439-11	CARBON 68K 5%	1/4W
Q6008	8-729-119-76	TRANSISTOR 2SA1175-HFE		R6038	1-215-481-00	METAL 330K 1%	1/4W
Q6009	8-729-048-82	TRANSISTOR 2SA821STPQ		R6039 $\triangle$	1-240-876-11	CEMENTED 1 5%	15W
Q6010	8-729-119-78	TRANSISTOR 2SC2785-HFE		R6040 $\triangle$	1-240-876-11	CEMENTED 1 5%	15W
Q6011 $\triangle$	8-729-140-93	TRANSISTOR 2SB733-34		R6041	1-219-512-11	CARBON 2.2M 5%	1/2W
Q6012	8-729-119-76	TRANSISTOR 2SA1175-HFE		R6042	1-247-863-91	CARBON 22K 5%	1/4W
<u>RESISTOR</u>				R6044 $\triangle$	1-215-430-00	METAL 2.4K 1%	1/4W
R6000	1-215-445-00	METAL 10K 1%	1/4W	R6045	1-215-448-00	METAL 13K 1%	1/4W
R6001	1-215-445-00	METAL 10K 1%	1/4W	R6046	1-247-863-91	CARBON 22K 5%	1/4W
R6002	1-202-727-00	SOLID 4.7M 20%	1/2W	R6047	1-215-481-00	METAL 330K 1%	1/4W
R6003	1-249-425-11	CARBON 4.7K 5%	1/4W	R6048 $\triangle$	1-260-131-11	CARBON 470K 5%	1/2W
R6004	1-247-843-11	CARBON 3.3K 5%	1/4W	R6049 $\triangle$	1-260-131-11	CARBON 470K 5%	1/2W
R6005	1-215-469-00	METAL 100K 1%	1/4W	R6050	1-249-425-11	CARBON 4.7K 5%	1/4W
R6006	1-215-471-00	METAL 120K 1%	1/4W	R6051 $\triangle$	1-202-933-61	FUSIBLE 0.1 10%	1/2W F
R6007	1-247-843-11	CARBON 3.3K 5%	1/4W	R6052	1-249-429-11	CARBON 10K 5%	1/4W
R6008	1-215-469-00	METAL 100K 1%	1/4W	R6053	1-249-425-11	CARBON 4.7K 5%	1/4W
R6009	1-215-483-00	METAL 390K 1%	1/4W	R6054	1-249-437-11	CARBON 47K 5%	1/4W
R6010	1-249-393-11	CARBON 10 5%	1/4W F	R6055	1-249-429-11	CARBON 10K 5%	1/4W
R6011	1-215-466-00	METAL 75K 1%	1/4W	R6056	1-215-421-00	METAL 1K 1%	1/4W
R6012	1-215-489-00	METAL 680K 1%	1/4W	R6057	1-249-429-11	CARBON 10K 5%	1/4W
R6013	1-215-489-00	METAL 680K 1%	1/4W	R6058 $\triangle$	1-216-381-11	METAL OXIDE 0.22 5%	3W F
R6014	1-215-489-00	METAL 680K 1%	1/4W	R6059	1-215-864-00	METAL OXIDE 150 5%	1W F
R6015	1-215-485-00	METAL 470K 1%	1/4W	R6060 $\triangle$	1-216-381-11	METAL OXIDE 0.22 5%	3W F
R6016	1-215-471-00	METAL 120K 1%	1/4W	R6062	1-219-512-11	CARBON 2.2M 5%	1/2W
R6017	1-215-489-00	METAL 680K 1%	1/4W	R6063	1-215-421-00	METAL 1K 1%	1/4W
R6018	1-215-489-00	METAL 680K 1%	1/4W	R6064 $\triangle$	1-247-815-91	CARBON 220 5%	1/4W
R6019	1-215-489-00	METAL 680K 1%	1/4W	R6065	1-247-815-91	CARBON 220 5%	1/4W
R6020 $\triangle$	1-218-265-11	METAL 8.2M 5%	1W	R6066	1-249-389-11	CARBON 4.7 5%	1/4W F
R6021	1-215-466-00	METAL 75K 1%	1/4W	R6067	1-249-421-11	CARBON 2.2K 5%	1/4W
				R6068	1-249-417-11	CARBON 1K 5%	1/4W
				R6069	1-249-437-11	CARBON 47K 5%	1/4W
				R6071	1-249-425-11	CARBON 4.7K 5%	1/4W
				R6072	1-247-815-91	CARBON 220 5%	1/4W
				R6073	1-260-298-51	CARBON 3.3 5%	1/2W
				R6074	1-249-415-11	CARBON 680 5%	1/4W

**Note:**

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

GA	HA	HB
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REF. NO.	PART NO.	DESCRIPTION	REMARK			
R6075	1-260-312-11	CARBON	47	5%	1/2W	
R6076	1-260-312-11	CARBON	47	5%	1/2W	
R6077	1-247-791-91	CARBON	22	5%	1/4W	
R6078 $\triangle$	1-249-389-11	CARBON	4.7	5%	1/4W	F
R6079	1-247-815-91	CARBON	220	5%	1/4W	
R6080	1-249-421-11	CARBON	2.2K	5%	1/4W	
R6081 $\triangle$	1-249-387-11	CARBON	3.3	5%	1/4W	F
R6082	1-215-461-00	METAL	47K	1%	1/4W	
R6083	1-249-441-11	CARBON	100K	5%	1/4W	
R6084	1-249-413-11	CARBON	470	5%	1/4W	
R6085	1-215-462-00	METAL	51K	1%	1/4W	
R6086	1-215-479-00	METAL	270K	1%	1/4W	
R6087	1-240-205-91	CARBON	22M	5%	1/2W	
R6088 $\triangle$	1-249-417-11	CARBON	1K	5%	1/4W	F
R6089	1-215-493-00	METAL	1M	1%	1/4W	
R6091	1-215-469-00	METAL	100K	1%	1/4W	
R6092	1-215-481-00	METAL	330K	1%	1/4W	
R6093	1-249-427-11	CARBON	6.8K	5%	1/4W	
R6094	1-215-423-00	METAL	1.2K	1%	1/4W	
R6095 $\triangle$	1-216-363-00	METAL OXIDE	0.33	5%	2W	F
R6096	1-249-421-11	CARBON	2.2K	5%	1/4W	
R6097	1-215-485-00	METAL	470K	1%	1/4W	
R6098	1-215-445-00	METAL	10K	1%	1/4W	
R6099	1-215-469-00	METAL	100K	1%	1/4W	
R6100	1-249-429-11	CARBON	10K	5%	1/4W	
R6101	1-249-417-11	CARBON	1K	5%	1/4W	
R6102	1-247-895-91	CARBON	470K	5%	1/4W	
R6103	1-205-998-11	CEMENTED	1	5%	10W	
R6104	1-249-429-11	CARBON	10K	5%	1/4W	
R6105	1-249-429-11	CARBON	10K	5%	1/4W	
R6106	1-202-962-11	CEMENTED	3.3	5%	10W	
R6107	1-202-962-11	CEMENTED	3.3	5%	10W	
R6109	1-249-437-11	CARBON	47K	5%	1/4W	
R6111	1-215-857-11	METAL OXIDE	10	5%	1W	F
R6112	1-215-857-11	METAL OXIDE	10	5%	1W	F

**RELAY**

RY6000 $\triangle$	1-755-146-11	RELAY, AC POWER
RY6001 $\triangle$	1-755-330-11	RELAY, AC POWER
RY6002 $\triangle$	1-755-330-11	RELAY, AC POWER

**TRANSFORMER**

T6000 $\triangle$	1-433-900-11	TRANSFORMER, LINE FILTER
T6001 $\triangle$	1-433-900-11	TRANSFORMER, LINE FILTER
T6002 $\triangle$	1-433-846-11	TRANSFORMER, CONVERTER (PIT)
T6003 $\triangle$	1-433-844-11	TRANSFORMER, CONVERTER

**THERMISTOR**

TH6000 $\triangle$	1-803-540-11	THERMISTOR
TH6001 $\triangle$	1-803-629-11	THERMISTOR, POSITIVE
TH6002	1-803-586-11	THERMISTOR

REF. NO.	PART NO.	DESCRIPTION	REMARK			
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**VARISTOR**

VD6000 $\triangle$	1-803-587-11	VARISTOR ENE471D-14A
VD6002 $\triangle$	1-803-614-11	VARISTOR ENE471D-20A

HA
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\* A-1372-634-A HA BOARD, COMPLETE

**CAPACITOR**

C1234	1-126-960-11	ELECT	1 $\mu$ F	20%	50V
C1235	1-126-960-11	ELECT	1 $\mu$ F	20%	50V
C1239	1-216-295-91	SHORT			

**CONNECTOR**

CN1232	*1-564-512-11	PLUG, CONNECTOR 9P
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**DIODE**

D1233	8-719-110-17	DIODE RD10ESB2
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**JACK**

J1231	1-770-361-11	TERMINAL BLOCK, S
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**RESISTOR**

R201	1-216-049-91	RES, CHIP	1K	5%	1/10W
R202	1-216-055-00	RES, CHIP	1.8K	5%	1/10W
R203	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R1233	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R1235	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R1236	1-216-113-00	RES, CHIP	470K	5%	1/10W
R1237	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R1238	1-216-113-00	RES, CHIP	470K	5%	1/10W

**SWITCH**

S2007	1-572-198-11	SWITCH, KEYBOARD
S2008	1-572-198-11	SWITCH, KEYBOARD
S2009	1-572-198-11	SWITCH, KEYBOARD
S2010	1-572-198-11	SWITCH, KEYBOARD

HB
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\* A-1372-635-A HB BOARD, COMPLETE

**CAPACITOR**

C2001	1-104-665-11	ELECT	100 $\mu$ F	20%	25V
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**CONNECTOR**

CN2001	*1-564-520-11	PLUG, CONNECTOR 5P
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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<u>DIODE</u>							
D2002	8-719-057-09	DIODE LNJ801LPDJA		C236	1-126-933-11	ELECT 100μF 20%	16V
D2003	8-719-057-09	DIODE LNJ801LPDJA		C237	1-126-960-11	ELECT 1μF 20%	50V
<u>IC</u>				C238	1-126-960-11	ELECT 1μF 20%	50V
IC2001	8-742-088-10	HYB IC SBX1780-51		C241	1-126-941-11	ELECT 470μF 20%	25V
<u>RESISTOR</u>				C242	1-126-959-11	ELECT 0.47μF 20%	50V
R2001	1-216-049-91	RES, CHIP 1K	1/10W	C243	1-126-959-11	ELECT 0.47μF 20%	50V
R2002	1-216-049-91	RES, CHIP 1K	1/10W	C244	1-126-959-11	ELECT 0.47μF 20%	50V
R2003	1-216-017-91	RES, CHIP 47	1/10W	C245	1-126-959-11	ELECT 0.47μF 20%	50V
<u>CONNECTOR</u>				C264	1-164-004-11	CERAMIC CHIP 0.1μF 10%	25V
CN2002	*1-564-518-11	PLUG, CONNECTOR 3P		C268	1-163-021-91	CERAMIC CHIP 0.01μF 10%	50V
<u>RESISTOR</u>				C269	1-163-021-91	CERAMIC CHIP 0.01μF 10%	50V
R2010	1-216-047-91	RES, CHIP 820	5% 1/10W	C272	1-163-231-11	CERAMIC CHIP 15pF 5%	50V
R2011	1-216-049-91	RES, CHIP 1K	5% 1/10W	C273	1-128-551-11	ELECT 22μF 20%	25V
R2012	1-216-055-00	RES, CHIP 1.8K	5% 1/10W	C279	1-163-021-91	CERAMIC CHIP 0.01μF 10%	50V
R2013	1-216-065-91	RES, CHIP 4.7K	5% 1/10W	C281	1-126-933-11	ELECT 100μF 20%	16V
R2014	1-216-025-91	RES, CHIP 100	5% 1/10W	C284	1-126-941-11	ELECT 470μF 20%	25V
<u>SWITCH</u>				C286	1-164-161-11	CERAMIC CHIP 0.0022μF 10%	50V
S2001	1-572-198-11	SWITCH, KEYBOARD		C287	1-164-161-11	CERAMIC CHIP 0.0022μF 10%	50V
S2002	1-572-198-11	SWITCH, KEYBOARD		C1051	1-126-964-11	ELECT 10μF 20%	50V
S2003	1-572-198-11	SWITCH, KEYBOARD		C1053	1-104-665-11	ELECT 100μF 20%	25V
S2004	1-572-198-11	SWITCH, KEYBOARD		C1201	1-163-809-11	CERAMIC CHIP 0.047μF 10%	25V
S2005	1-572-198-11	SWITCH, KEYBOARD		C1202	1-163-021-91	CERAMIC CHIP 0.01μF 10%	50V
S2006	1-572-198-11	SWITCH, KEYBOARD		C1203	1-126-960-11	ELECT 1μF 20%	50V
<u>CAPACITOR</u>				C1204	1-163-809-11	CERAMIC CHIP 0.047μF 10%	25V
C231	1-163-021-91	CERAMIC CHIP 0.01μF 10%	50V	C1209	1-163-259-91	CERAMIC CHIP 220pF 5%	50V
C232	1-126-933-11	ELECT 100μF 20%	16V	C1210	1-163-259-91	CERAMIC CHIP 220pF 5%	50V
C233	1-126-933-11	ELECT 100μF 20%	16V	C1211	1-126-933-11	ELECT 100μF 20%	16V
C234	1-126-960-11	ELECT 1μF 20%	50V	C1212	1-126-933-11	ELECT 100μF 20%	16V
C235	1-126-960-11	ELECT 1μF 20%	50V	C1213	1-126-941-11	ELECT 470μF 20%	25V
				C1214	1-163-021-91	CERAMIC CHIP 0.01μF 10%	50V
				C1215	1-126-960-11	ELECT 1μF 20%	50V
				C2000	1-126-941-11	ELECT 470μF 20%	25V
				C2002	1-126-933-11	ELECT 100μF 20%	16V
				C2007	1-104-665-11	ELECT 100μF 20%	10V
				C2008	1-163-038-91	CERAMIC CHIP 0.1μF	25V
				C2012	1-163-021-91	CERAMIC CHIP 0.01μF 10%	50V
				C2015	1-163-021-91	CERAMIC CHIP 0.01μF 10%	50V
				C2045	1-163-229-11	CERAMIC CHIP 12pF 5%	50V
				C2047	1-126-961-11	ELECT 2.2μF 20%	50V
				C2048	1-126-964-11	ELECT 10μF 20%	50V
				C2049	1-104-664-11	ELECT 47μF 20%	16V
				C2056	1-163-231-11	CERAMIC CHIP 15pF 5%	50V
				C2060	1-163-031-11	CERAMIC CHIP 0.01μF	50V
				C2062	1-104-664-11	ELECT 47μF 20%	16V
				C2096	1-163-231-11	CERAMIC CHIP 15pF 5%	50V
				C2097	1-163-231-11	CERAMIC CHIP 15pF 5%	50V
				C2201	1-126-965-11	ELECT 22μF 20%	50V
				C2202	1-126-933-11	ELECT 100μF 20%	16V
				C2203	1-163-021-91	CERAMIC CHIP 0.01μF 10%	50V



— MAIN SCHEMATIC (FOR UY PIP COMPONENTS SEE PAGE 88) —

\* A-1394-939-A UY BOARD, COMPLETE (KV-27FV15 ONLY)  
 \* A-1394-945-A UY BOARD, COMPLETE (KV-29FV10 ONLY)  
 \* A-1394-940-A UY BOARD, COMPLETE  
 (KV-29FV15, 29FV15C, 29FV15K ONLY)





REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C3556	1-163-038-91	CERAMIC CHIP 0.1μF	25V	D902	8-719-032-47	DIODE MTZJ-T-9110	
C3557	1-163-021-91	CERAMIC CHIP 0.01μF	10% 50V			(KV-29FV10 EXCLUDED)	
C3558	1-126-964-11	ELECT 10μF	20% 50V	D910	8-719-032-47	DIODE MTZJ-T-9110	
C3559	1-163-038-91	CERAMIC CHIP 0.1μF	25V			(KV-29FV10 EXCLUDED)	
C3560	1-163-038-91	CERAMIC CHIP 0.1μF	25V	D911	8-719-032-47	DIODE MTZJ-T-9110	
						(KV-29FV10 EXCLUDED)	
C3561	1-126-964-11	ELECT 10μF	20% 50V	D1051	8-719-404-50	DIODE MA111-TX	
C3562	1-163-038-91	CERAMIC CHIP 0.1μF	25V	D1052	8-719-404-50	DIODE MA111-TX	
C3563	1-163-038-91	CERAMIC CHIP 0.1μF	25V				
C3564	1-163-038-91	CERAMIC CHIP 0.1μF	25V	D2201	8-719-032-47	DIODE MTZJ-T-9110	
C3565	1-163-038-91	CERAMIC CHIP 0.1μF	25V	D2202	8-719-032-47	DIODE MTZJ-T-9110	
				D2203	8-719-032-47	DIODE MTZJ-T-9110	
C3566	1-126-964-11	ELECT 10μF	20% 50V				
C3567	1-163-021-91	CERAMIC CHIP 0.01μF	10% 50V			<b><u>FILTER</u></b>	
C3568	1-163-021-91	CERAMIC CHIP 0.01μF	10% 50V	FL2001	1-239-847-11	FILTER, LOW PASS	
C3569	1-126-964-11	ELECT 10μF	20% 50V	FL2002	1-239-847-11	FILTER, LOW PASS	
C3570	1-126-964-11	ELECT 10μF	20% 50V	FL2004	1-239-847-11	FILTER, LOW PASS	
C3571	1-163-021-91	CERAMIC CHIP 0.01μF	10% 50V			<b><u>IC</u></b>	
C3573	1-163-037-11	CERAMIC CHIP 0.022μF	10% 50V	IC261	8-752-066-69	IC CXA1845Q	
C3574	1-163-021-91	CERAMIC CHIP 0.01μF	10% 50V	IC1051	8-752-058-68	IC CXA1315M	
C3575	1-126-964-11	ELECT 10μF	20% 50V	IC2006	8-759-358-38	IC NJM78M05DLA (TE1)	
C3576	1-163-021-91	CERAMIC CHIP 0.01μF	10% 50V	IC3504	8-752-390-37	IC CXD2064Q-T6	
C3577	1-126-964-11	ELECT 10μF	20% 50V			<b><u>JACK</u></b>	
C3578	1-163-021-91	CERAMIC CHIP 0.01μF	10% 50V	J231	1-750-515-11	TERMINAL BLOCK, S3P	
C3579	1-104-664-11	ELECT 47μF	20% 16V	J232	1-750-517-11	JACK BLOCK, PIN 3P	
				J233	1-750-516-11	JACK BLOCK, PIN 2P	
				J234	1-750-517-11	JACK BLOCK, PIN 3P	
				J902	1-764-143-11	JACK 3P (KV-29FV10 EXCLUDED)	
				J903	1-764-143-11	JACK 3P (KV-29FV10 EXCLUDED)	
				J904	1-764-143-11	JACK 3P (KV-29FV10 EXCLUDED)	
						<b><u>CHIP CONDUCTOR</u></b>	
				JR1001	1-216-295-91	SHORT	
				JR1002	1-216-295-91	SHORT	
				JR1003	1-216-295-91	SHORT	
				JR1004	1-216-295-91	SHORT	
				JR1014	1-216-295-91	SHORT	
				JR1015	1-216-295-91	SHORT	
				JR1016	1-216-295-91	SHORT	
				JR1017	1-216-295-91	SHORT	
				JR1018	1-216-295-91	SHORT	
				JR1019	1-216-295-91	SHORT	
				JR1020	1-216-295-91	SHORT	
				JR1021	1-216-295-91	SHORT	
				JR1022	1-216-295-91	SHORT	
				JR1023	1-216-295-91	SHORT	



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<u>COIL</u>				R233	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
L261	1-414-857-11	INDUCTOR	100μH	R234	1-216-022-00	RES, CHIP	75 5% 1/10W
L1201	1-408-397-00	INDUCTOR	1μH	R235	1-216-113-00	RES, CHIP	470K 5% 1/10W
L1202	1-408-397-00	INDUCTOR	1μH	R236	1-216-113-00	RES, CHIP	470K 5% 1/10W
L2004	1-414-856-11	INDUCTOR	10μH	R237	1-216-022-00	RES, CHIP	75 5% 1/10W
L2005	1-410-494-11	INDUCTOR	1mH	R238	1-216-113-00	RES, CHIP	470K 5% 1/10W
L2009	1-414-856-11	INDUCTOR	10μH	R239	1-216-113-00	RES, CHIP	470K 5% 1/10W
L3581	1-408-397-00	INDUCTOR	1μH	R240	1-216-097-91	RES, CHIP	100K 5% 1/10W
L3582	1-408-397-00	INDUCTOR	1μH	R241	1-216-113-00	RES, CHIP	470K 5% 1/10W
<u>TRANSISTOR</u>				R242	1-216-049-91	RES, CHIP	1K 5% 1/10W
Q212	8-729-422-27	TRANSISTOR	2SD601A-Q	R243	1-216-113-00	RES, CHIP	470K 5% 1/10W
Q231	8-729-422-27	TRANSISTOR	2SD601A-Q	R244	1-216-049-91	RES, CHIP	1K 5% 1/10W
Q233	8-729-422-27	TRANSISTOR	2SD601A-Q	R245	1-216-022-00	RES, CHIP	75 5% 1/10W
Q234	8-729-422-27	TRANSISTOR	2SD601A-Q	R246	1-216-113-00	RES, CHIP	470K 5% 1/10W
Q235	8-729-422-27	TRANSISTOR	2SD601A-Q	R247	1-216-113-00	RES, CHIP	470K 5% 1/10W
Q236	8-729-422-27	TRANSISTOR	2SD601A-Q	R248	1-216-113-00	RES, CHIP	470K 5% 1/10W
Q237	8-729-216-22	TRANSISTOR	2SA1162-G	R249	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
Q238	8-729-216-22	TRANSISTOR	2SA1162-G	R250	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
Q239	8-729-216-22	TRANSISTOR	2SA1162-G	R251	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
Q246	8-729-422-27	TRANSISTOR	2SD601A-Q	R252	1-216-049-91	RES, CHIP	1K 5% 1/10W
Q262	8-729-216-22	TRANSISTOR	2SA1162-G	R254	1-216-049-91	RES, CHIP	1K 5% 1/10W
Q263	8-729-216-22	TRANSISTOR	2SA1162-G	R256	1-216-295-91	SHORT	
Q264	8-729-216-22	TRANSISTOR	2SA1162-G	R257	1-216-049-91	RES, CHIP	1K 5% 1/10W
Q265	8-729-422-27	TRANSISTOR	2SD601A-Q	R258	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
Q267	8-729-216-22	TRANSISTOR	2SA1162-G	R259	1-216-049-91	RES, CHIP	1K 5% 1/10W
Q1051	8-729-216-22	TRANSISTOR	2SA1162-G	R260	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
Q1201	8-729-216-22	TRANSISTOR	2SA1162-G	R261	1-216-025-91	RES, CHIP	100 5% 1/10W
Q1202	8-729-422-27	TRANSISTOR	2SD601A-Q	R262	1-216-067-00	RES, CHIP	5.6K 5% 1/10W
Q1203	8-729-422-27	TRANSISTOR	2SD601A-Q	R263	1-216-025-91	RES, CHIP	100 5% 1/10W
Q1204	8-729-216-22	TRANSISTOR	2SA1162-G	R264	1-216-067-00	RES, CHIP	5.6K 5% 1/10W
Q1205	8-729-422-27	TRANSISTOR	2SD601A-Q	R265	1-216-025-91	RES, CHIP	100 5% 1/10W
Q1206	8-729-422-27	TRANSISTOR	2SD601A-Q	R266	1-216-025-91	RES, CHIP	100 5% 1/10W
Q2003	8-729-216-22	TRANSISTOR	2SA1162-G	R267	1-216-025-91	RES, CHIP	100 5% 1/10W
Q2004	8-729-216-22	TRANSISTOR	2SA1162-G	R268	1-216-067-00	RES, CHIP	5.6K 5% 1/10W
Q2005	8-729-422-27	TRANSISTOR	2SD601A-Q	R269	1-216-067-00	RES, CHIP	5.6K 5% 1/10W
Q2006	8-729-422-27	TRANSISTOR	2SD601A-Q	R270	1-216-049-91	RES, CHIP	1K 5% 1/10W
Q2007	8-729-422-27	TRANSISTOR	2SD601A-Q	R274	1-216-049-91	RES, CHIP	1K 5% 1/10W
Q2008	8-729-422-27	TRANSISTOR	2SD601A-Q	R275	1-216-025-91	RES, CHIP	100 5% 1/10W
Q2009	8-729-422-27	TRANSISTOR	2SD601A-Q	R278	1-216-067-00	RES, CHIP	5.6K 5% 1/10W
Q2010	8-729-422-27	TRANSISTOR	2SD601A-Q	R279	1-216-025-91	RES, CHIP	100 5% 1/10W
Q2014	8-729-422-27	TRANSISTOR	2SD601A-Q	R280	1-216-067-00	RES, CHIP	5.6K 5% 1/10W
Q2018	8-729-216-22	TRANSISTOR	2SA1162-G	R281	1-216-025-91	RES, CHIP	100 5% 1/10W
Q2019	8-729-422-27	TRANSISTOR	2SD601A-Q	R282	1-216-025-91	RES, CHIP	100 5% 1/10W
<u>RESISTOR</u>				R283	1-216-049-91	RES, CHIP	1K 5% 1/10W
R230	1-216-089-91	RES, CHIP	47K 5% 1/10W	R284	1-216-033-00	RES, CHIP	220 5% 1/10W
R231	1-216-022-00	RES, CHIP	75 5% 1/10W	R285	1-216-033-00	RES, CHIP	220 5% 1/10W
R232	1-216-022-00	RES, CHIP	75 5% 1/10W	R286	1-216-067-00	RES, CHIP	5.6K 5% 1/10W
				R287	1-216-025-91	RES, CHIP	100 5% 1/10W
				R288	1-216-067-00	RES, CHIP	5.6K 5% 1/10W
				R289	1-216-067-00	RES, CHIP	5.6K 5% 1/10W



REF. NO.	PART NO.	DESCRIPTION	REMARK			REF. NO.	PART NO.	DESCRIPTION	REMARK			
R291	1-216-067-00	RES, CHIP	5.6K	5%	1/10W	R1235	1-216-013-00	RES, CHIP	33	5%	1/10W	
R292	1-216-295-91	SHORT				R1236	1-216-097-91	RES, CHIP	100K	5%	1/10W	
R293	1-216-025-91	RES, CHIP	100	5%	1/10W	R1237	1-216-089-91	RES, CHIP	47K	5%	1/10W	
R294	1-216-077-00	RES, CHIP	15K	5%	1/10W	R1238	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	
R295	1-216-025-91	RES, CHIP	100	5%	1/10W	R1239	1-208-774-11	RES, CHIP	470	0.5%	1/10W	
R296	1-216-025-91	RES, CHIP	100	5%	1/10W	R1242	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	
R297	1-216-025-91	RES, CHIP	100	5%	1/10W	R1243	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	
R298	1-216-295-91	SHORT				R1244	1-216-049-91	RES, CHIP	1K	5%	1/10W	
R300	1-216-025-91	RES, CHIP	100	5%	1/10W	R1245	1-216-049-91	RES, CHIP	1K	5%	1/10W	
R302	1-216-295-91	SHORT				R1260	1-216-295-91	SHORT				
R902	1-249-405-11	CARBON	100	5%	1/4W	F	R1263	1-216-295-91	SHORT			
			(KV-29FV10 EXCLUDED)				R1264	1-216-049-91	RES, CHIP	1K	5%	1/10W
R921	1-249-405-11	CARBON	100	5%	1/4W	F	R1265	1-216-001-00	RES, CHIP	10	5%	1/10W
			(KV-29FV10 EXCLUDED)				R1267	1-216-025-91	RES, CHIP	100	5%	1/10W
R923	1-249-405-11	CARBON	100	5%	1/4W	F	R1268	1-216-049-91	RES, CHIP	1K	5%	1/10W
			(KV-29FV10 EXCLUDED)				R1270	1-216-049-91	RES, CHIP	1K	5%	1/10W
R926	1-216-049-91	RES, CHIP	1K	5%	1/10W		R1271	1-216-001-00	RES, CHIP	10	5%	1/10W
R1055	1-216-073-00	RES, CHIP	10K	5%	1/10W		R1272	1-208-774-11	RES, CHIP	470	0.5%	1/10W
R1056	1-216-073-00	RES, CHIP	10K	5%	1/10W		R1273	1-208-777-11	RES, CHIP	620	0.5%	1/10W
R1057	1-216-025-91	RES, CHIP	100	5%	1/10W		R1274	1-216-049-91	RES, CHIP	1K	5%	1/10W
R1058	1-216-025-91	RES, CHIP	100	5%	1/10W							
R1059	1-216-065-91	RES, CHIP	4.7K	5%	1/10W		R1275	1-216-097-91	RES, CHIP	100K	5%	1/10W
R1060	1-216-073-00	RES, CHIP	10K	5%	1/10W		R1279	1-216-025-91	RES, CHIP	100	5%	1/10W
							R1284	1-216-295-91	SHORT			
R1062	1-216-025-91	RES, CHIP	100	5%	1/10W		R1287	1-216-295-91	SHORT			
R1063	1-216-073-00	RES, CHIP	10K	5%	1/10W		R1288	1-216-295-91	SHORT			
R1064	1-216-073-00	RES, CHIP	10K	5%	1/10W							
R1065	1-216-025-91	RES, CHIP	100	5%	1/10W		R1289	1-216-295-91	SHORT			
R1070	1-216-025-91	RES, CHIP	100	5%	1/10W		R1290	1-216-295-91	SHORT			
							R1293	1-216-049-91	RES, CHIP	1K	5%	1/10W
R1205	1-216-295-91	SHORT					R1294	1-216-049-91	RES, CHIP	1K	5%	1/10W
R1207	1-208-774-11	RES, CHIP	470	0.5%	1/10W		R1295	1-216-049-91	RES, CHIP	1K	5%	1/10W
R1210	1-216-295-91	SHORT										
R1215	1-216-073-00	RES, CHIP	10K	5%	1/10W		R1300	1-216-049-91	RES, CHIP	1K	5%	1/10W
R1216	1-216-057-00	RES, CHIP	2.2K	5%	1/10W		R2015	1-216-081-00	RES, CHIP	22K	5%	1/10W
							R2016	1-216-069-00	RES, CHIP	6.8K	5%	1/10W
R1217	1-216-091-00	RES, CHIP	56K	5%	1/10W		R2017	1-216-295-91	SHORT			
R1218	1-216-295-91	SHORT					R2018	1-216-295-91	SHORT			
R1219	1-216-073-00	RES, CHIP	10K	5%	1/10W							
R1220	1-216-013-00	RES, CHIP	33	5%	1/10W		R2021	1-216-081-00	RES, CHIP	22K	5%	1/10W
R1221	1-216-121-91	RES, CHIP	1M	5%	1/10W		R2027	1-216-049-91	RES, CHIP	1K	5%	1/10W
							R2028	1-216-049-91	RES, CHIP	1K	5%	1/10W
R1222	1-216-073-00	RES, CHIP	10K	5%	1/10W		R2029	1-216-043-91	RES, CHIP	560	5%	1/10W
R1223	1-216-097-91	RES, CHIP	100K	5%	1/10W		R2030	1-216-043-91	RES, CHIP	560	5%	1/10W
R1224	1-216-089-91	RES, CHIP	47K	5%	1/10W							
R1225	1-216-097-91	RES, CHIP	100K	5%	1/10W		R2031	1-216-081-00	RES, CHIP	22K	5%	1/10W
R1226	1-216-295-91	SHORT					R2032	1-216-067-00	RES, CHIP	5.6K	5%	1/10W
							R2033	1-208-790-11	RES, CHIP	2.2K	0.5%	1/10W
R1227	1-216-073-00	RES, CHIP	10K	5%	1/10W		R2034	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R1228	1-216-073-00	RES, CHIP	10K	5%	1/10W		R2035	1-216-655-11	RES, CHIP	1.5K	0.5%	1/10W
R1229	1-216-121-91	RES, CHIP	1M	5%	1/10W							
R1230	1-216-073-00	RES, CHIP	10K	5%	1/10W		R2036	1-208-775-11	RES, CHIP	510	0.5%	1/10W
R1231	1-216-295-91	SHORT					R2037	1-208-798-11	RES, CHIP	4.7K	0.5%	1/10W
							R2038	1-208-762-11	RES, CHIP	150	0.5%	1/10W
R1233	1-216-097-91	RES, CHIP	100K	5%	1/10W		R2039	1-216-047-91	RES, CHIP	820	5%	1/10W
R1234	1-216-091-00	RES, CHIP	56K	5%	1/10W		R2040	1-216-057-00	RES, CHIP	2.2K	5%	1/10W



REF. NO.	PART NO.	DESCRIPTION	REMARK			REF. NO.	PART NO.	DESCRIPTION	REMARK		
R2041	1-216-061-00	RES, CHIP	3.3K	5%	1/10W	C3320	1-126-960-11	ELECT	1μF	20%	50V
R2042	1-216-075-00	RES, CHIP	12K	5%	1/10W	C3321	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
R2043	1-216-085-00	RES, CHIP	33K	5%	1/10W	C3322	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
R2044	1-208-804-11	RES, CHIP	8.2K	0.5%	1/10W	C3323	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R2046	1-216-075-00	RES, CHIP	12K	5%	1/10W	C3324	1-126-926-11	ELECT	1000μF	20%	10V
R2047	1-216-085-00	RES, CHIP	33K	5%	1/10W	C3325	1-126-926-11	ELECT	1000μF	20%	10V
R2048	1-216-049-91	RES, CHIP	1K	5%	1/10W	C3328	1-126-925-11	ELECT	470μF	20%	10V
R2050	1-216-017-91	RES, CHIP	47	5%	1/10W	C3329	1-104-664-11	ELECT	47μF	20%	16V
R2051	1-216-049-91	RES, CHIP	1K	5%	1/10W	C3330	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R2055	1-216-017-91	RES, CHIP	47	5%	1/10W	C3331	1-104-664-11	ELECT	47μF	20%	16V
R2057	1-216-049-91	RES, CHIP	1K	5%	1/10W	C3332	1-104-664-11	ELECT	47μF	20%	25V
R2060	1-216-025-91	RES, CHIP	100	5%	1/10W	C3334	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R2069	1-208-774-11	RES, CHIP	470	0.5%	1/10W	C3340	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R2070	1-216-615-91	METAL CHIP	33	0.5%	1/10W	C3342	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V
R2071	1-216-067-00	RES, CHIP	5.6K	5%	1/10W	C3346	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
R2072	1-216-043-91	RES, CHIP	560	5%	1/10W	C3347	1-126-960-11	ELECT	1μF	20%	50V
R2073	1-216-049-91	RES, CHIP	1K	5%	1/10W	C3348	1-104-664-11	ELECT	47μF	20%	16V
R2074	1-216-025-91	RES, CHIP	100	5%	1/10W	C3349	1-163-249-11	CERAMIC CHIP	82pF	5%	50V
R2081	1-216-075-00	RES, CHIP	12K	5%	1/10W	C3350	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
R2201	1-216-022-00	RES, CHIP	75	5%	1/10W	C3352	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R2202	1-216-022-00	RES, CHIP	75	5%	1/10W	C3353	1-126-960-11	ELECT	1μF	20%	50V
R2203	1-216-022-00	RES, CHIP	75	5%	1/10	C3354	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R3511	1-216-295-91	SHORT				C3355	1-126-967-11	ELECT	47μF	20%	50V
R3527	1-216-033-00	RES, CHIP	220	5%	1/10W	C3356	1-163-038-91	CERAMIC CHIP	0.1μF		25V
R3582	1-216-033-00	RES, CHIP	220	5%	1/10W	C3357	1-163-038-91	CERAMIC CHIP	0.1μF		25V
R3583	1-216-061-00	RES, CHIP	3.3K	5%	1/10W	C3358	1-163-038-91	CERAMIC CHIP	0.1μF		25V
R3584	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	C3359	1-163-038-91	CERAMIC CHIP	0.1μF		25V
R3585	1-216-061-00	RES, CHIP	3.3K	5%	1/10W	C3360	1-163-038-91	CERAMIC CHIP	0.1μF		25V
R3586	1-216-295-91	SHORT				C3361	1-163-038-91	CERAMIC CHIP	0.1μF		25V
R3590	1-216-295-91	SHORT				C3362	1-126-967-11	ELECT	47μF	20%	50V
R3591	1-216-295-91	SHORT				C3363	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R3592	1-216-091-00	RES, CHIP	56K	5%	1/10W	C3364	1-163-229-11	CERAMIC CHIP	12pF	5%	50V
R3593	1-216-043-91	RES, CHIP	560	5%	1/10W	C3365	1-163-133-00	CERAMIC CHIP	470pF	5%	50V
R3594	1-216-295-91	SHORT				C3366	1-126-959-11	ELECT	0.47μF	20%	50V
R3595	1-216-295-91	SHORT				C3367	1-126-963-11	ELECT	4.7μF	20%	50V
R3599	1-216-295-91	SHORT				C3368	1-164-005-11	CERAMIC CHIP	0.47μF		25V
						C3369	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
						C3370	1-126-960-11	ELECT	1μF	20%	50V
						C3371	1-163-017-00	CERAMIC CHIP	0.0047μF	10%	50V
						C3372	1-164-005-11	CERAMIC CHIP	0.47μF		25V
						C3377	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V (KV-27FV15 ONLY)
						C3378	1-163-006-11	CERAMIC CHIP	560pF	10%	50V (KV-27FV15 ONLY)
						C3380	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V (KV-27FV15 ONLY)
						C3381	1-163-019-00	CERAMIC CHIP	0.0068μF	10%	50V (KV-27FV15 ONLY)
						C3382	1-164-344-11	CERAMIC CHIP	0.068μF	10%	25V (KV-27FV15 ONLY)

PIP SCHEMATIC (KV-29FV10 EXCLUDED)  
(FOR UY BOARD MAIN COMPONENTS SEE PAGE 84)

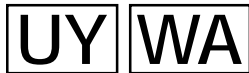
\* A-1394-939-A UY BOARD, COMPLETE (KV-27FV15 ONLY)  
\* A-1394-940-A UY BOARD, COMPLETE  
(KV-29FV15, 29FV15C, 29FV15K ONLY))  
A-1394-945-A UY BOARD, COMPLETE (KV-29FV10 ONLY)

#### CAPACITOR

C3301	1-104-664-11	ELECT	47μF	20%	25V
C3302	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C3319	1-163-031-11	CERAMIC CHIP	0.01μF		50V



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C3383	1-126-956-91	ELECT	0.1μF 20% 50V (KV-27FV15 ONLY)	R3322	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
C3385	1-126-941-11	ELECT	470μF 20% 25V	R3323	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
<b>FERRITE BEAD</b>				R3324	1-216-065-91	RES, CHIP	4.7K 5% 1/10W
FB3301	1-414-234-22	INDUCTOR CHIP	0μH	R3325	1-216-025-91	RES, CHIP	100 5% 1/10W (KV-27FV15 ONLY)
FB3302	1-414-234-22	INDUCTOR CHIP	0μH	R3329	1-216-069-00	RES, CHIP	6.8K 5% 1/10W
<b>IC</b>				R3332	1-216-033-00	RES, CHIP	220 5% 1/10W
IC3302	8-759-358-38	IC NJM78M05DLA (TE1)		R3337	1-216-033-00	RES, CHIP	220 5% 1/10W
IC3303	8-759-533-89	IC SDA9288XE-GEG-B121		R3338	1-216-033-00	RES, CHIP	220 5% 1/10W
IC3304	8-752-086-80	IC CXA2019AQ-T4		R3339	1-216-049-91	RES, CHIP	1K 5% 1/10W
IC3307	8-759-575-50	IC Z8613012SSC	(KV-27FV15 ONLY)	R3340	1-216-041-00	RES, CHIP	470 5% 1/10W
<b>COIL</b>				R3341	1-216-057-00	RES, CHIP	2.2K 5% 1/10W
L3301	1-414-856-11	INDUCTOR	10μH	R3342	1-216-057-00	RES, CHIP	2.2K 5% 1/10W
L3302	1-410-473-11	INDUCTOR	18μH	R3343	1-216-049-91	RES, CHIP	1K 5% 1/10W
L3303	1-410-473-11	INDUCTOR	18μH	R3346	1-216-049-91	RES, CHIP	1K 5% 1/10W
L3305	1-408-619-31	INDUCTOR	220μH	R3350	1-216-295-91	SHORT	
L3306	1-414-857-11	INDUCTOR	100μH	R3351	1-216-295-91	SHORT	
L3307	1-414-856-11	INDUCTOR	10μH	R3352	1-216-049-91	RES, CHIP	1K 5% 1/10W
<b>TRANSISTOR</b>				R3355	1-216-295-91	SHORT	
Q3301	8-729-422-27	TRANSISTOR	2SD601A-Q	R3357	1-216-295-91	SHORT	
Q3302	8-729-216-22	TRANSISTOR	2SA1162-G	R3358	1-216-047-91	RES, CHIP	820 5% 1/10W
Q3305	8-729-216-22	TRANSISTOR	2SA1162-G	R3359	1-216-047-91	RES, CHIP	820 5% 1/10W
Q3306	8-729-216-22	TRANSISTOR	2SA1162-G	R3360	1-216-053-00	RES, CHIP	1.5K 5% 1/10W
Q3307	8-729-216-22	TRANSISTOR	2SA1162-G	R3361	1-216-045-00	RES, CHIP	680 5% 1/10W
Q3310	8-729-422-27	TRANSISTOR	2SD601A-Q	R3362	1-208-774-11	RES, CHIP	470 0.50% 1/10W
Q3312	8-729-216-22	TRANSISTOR	2SA1162-G	R3363	1-208-773-11	RES, CHIP	430 0.50% 1/10W
Q3314	8-729-216-22	TRANSISTOR	2SA1162-G	R3364	1-208-777-11	RES, CHIP	620 0.50% 1/10W
Q3322	8-729-422-27	TRANSISTOR	2SD601A-Q (KV-27FV15 ONLY)	R3370	1-216-295-91	SHORT	
<b>RESISTOR</b>				R3375	1-216-041-00	RES, CHIP	470 5% 1/10W
R3301	1-216-295-91	SHORT		R3376	1-216-071-00	RES, CHIP	8.2K 5% 1/10W
R3303	1-216-295-91	SHORT		R3377	1-216-073-00	RES, CHIP	10K 5% 1/10W
R3304	1-216-295-91	SHORT		R3378	1-216-053-00	RES, CHIP	1.5K 5% 1/10W
R3305	1-216-043-91	RES, CHIP	560 5% 1/10W	R3379	1-216-077-00	RES, CHIP	15K 5% 1/10W
R3306	1-216-295-91	SHORT		R3380	1-216-295-91	SHORT	
R3308	1-216-295-91	SHORT	(KV-27FV15 ONLY)	R3381	1-216-295-91	SHORT	
R3309	1-216-041-00	RES, CHIP	470 5% 1/10W	R3382	1-216-057-00	RES, CHIP	2.2K 5% 1/10W
R3312	1-216-037-00	RES, CHIP	330 5% 1/10W	R3383	1-216-025-91	RES, CHIP	100 5% 1/10W
R3313	1-216-295-91	SHORT		R3384	1-216-033-00	RES, CHIP	220 5% 1/10W
R3314	1-216-049-91	RES, CHIP	1K 5% 1/10W	R3385	1-216-109-00	RES, CHIP	330K 5% 1/10W
R3315	1-216-295-91	SHORT		R3387	1-216-295-91	SHORT	
R3316	1-216-295-91	SHORT		R3388	1-216-295-91	SHORT	
R3317	1-216-295-91	SHORT		R3392	1-216-295-91	SHORT	(KV-27FV15 ONLY)
R3320	1-216-295-91	SHORT		R3393	1-216-025-91	RES, CHIP	100 5% 1/10W (KV-27FV15 ONLY)
				R3394	1-216-041-00	RES, CHIP	470 5% 1/10W (KV-27FV15 ONLY)
				R3395	1-216-061-00	RES, CHIP	3.3K 5% 1/10W
				R3398	1-216-069-00	RES, CHIP	6.8K 5% 1/10W (KV-27FV15 ONLY)



REF. NO.	PART NO.	DESCRIPTION	REMARK			REF. NO.	PART NO.	DESCRIPTION	REMARK		
R3399	1-216-025-91	RES, CHIP	100	5%	1/10W (KV-27FV15 ONLY)	C1941	1-126-941-11	ELECT	470μF	20%	25V
R3401	1-216-025-91	RES, CHIP	100	5%	1/10W (KV-27FV15 ONLY)	C1946	1-136-165-00	FILM	0.1μF	5%	50V
R3402	1-216-025-91	RES, CHIP	100	5%	1/10W (KV-27FV15 ONLY)	C1947	1-136-165-00	FILM	0.1μF	5%	50V
R3404	1-216-073-00	RES, CHIP	10K	5%	1/10W (KV-27FV15 ONLY)	C1948	1-164-161-11	CERAMIC CHIP	0.0022μF	10%	50V
						C1949	1-126-934-11	ELECT	220μF	20%	16V
<u>CRYSTAL</u>						C1961	1-129-765-00	FILM	0.047μF	5%	200V
X3302	1-760-095-21	VIBRATOR, CRYSTAL				C1962	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
X3303	1-577-611-11	OSCILLATOR, CERAMIC				C1965	1-129-763-00	FILM	0.033μF	5%	200V
X3304	1-567-505-11	OSCILLATOR, CRYSTAL				C1966	1-137-378-11	FILM	0.22μF	5%	50V
						C1968	1-137-378-11	FILM	0.22μF	5%	50V
<u>WA</u>						C1972	1-104-664-11	ELECT	47μF	20%	25V
						C1974	1-104-664-11	ELECT	47μF	20%	25V
* A-1375-188-A	WA BOARD, COMPLETE					<u>CONNECTOR</u>					
4-382-854-11	SCREW (M3X10), P, SW (+)					CN941	* 1-564-511-11	PLUG, CONNECTOR	8P		
						CN942	* 1-564-508-11	PLUG, CONNECTOR	5P		
						CN961	* 1-770-723-11	CONNECTOR, BOARD TO BOARD	8P		
						CN981	* 1-564-506-11	PLUG, CONNECTOR	3P		
<u>CAPACITOR</u>						<u>DIODE</u>					
C941	1-126-942-61	ELECT	1000μF	20%	25V	D941	8-719-991-33	DIODE 1SS133T-77			
C944	1-126-964-11	ELECT	10μF	20%	50V	D943	8-719-991-33	DIODE 1SS133T-77			
C946	1-104-665-11	ELECT	100μF	20%	25V	D944	8-719-991-33	DIODE 1SS133T-77			
C947	1-104-664-11	ELECT	47μF	20%	25V	D945	8-719-109-89	DIODE RD5.6ESB2			
C949	1-161-830-00	CERAMIC	0.0047μF		500V	D946	8-719-110-88	DIODE RD39ESB2			
C950	1-126-941-11	ELECT	470μF	20%	25V	D947	8-719-110-88	DIODE RD39ESB2			
C951	1-107-645-11	ELECT	22μF	20%	160V	D962	8-719-991-33	DIODE 1SS133T-77			
C952	1-104-999-11	MYLAR	0.1μF	10%	200V	D963	8-719-404-50	DIODE MA111-TX			
C953	1-106-383-00	MYLAR	0.047μF	10%	200V	D964	8-719-210-21	DIODE 11EQS04			
C954	1-130-471-00	FILM	0.001μF	5%	50V	D966	8-719-302-43	DIODE EL1Z			
C955	1-107-667-11	ELECT	2.2μF	20%	160V	D1961	8-719-991-33	DIODE 1SS133T-77			
C956	1-130-471-00	FILM	0.001μF	5%	50V	D1962	8-719-991-33	DIODE 1SS133T-77			
C957	1-106-383-00	MYLAR	0.047μF	10%	200V	<u>IC</u>					
C958	1-126-941-11	ELECT	470μF	20%	25V	IC961	8-759-803-42	IC LA6500-FA			
C960	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	IC962	8-759-729-03	IC NJM2903D			
C961	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	IC963	8-759-729-03	IC NJM2903D			
C962	1-126-964-11	ELECT	10μF	20%	50V	IC964	8-759-700-42	IC NJM2904D			
C963	1-126-964-11	ELECT	10μF	20%	50V	IC965	8-759-701-59	IC NJM78M09FA			
C964	1-110-501-11	CERAMIC CHIP	0.33μF	10%	16V	<u>COIL</u>					
C965	1-104-664-11	ELECT	47μF	20%	25V	L941	1-408-612-31	INDUCTOR	56μH		
C966	1-126-960-11	ELECT	1μF	20%	50V	L961	1-459-111-00	INDUCTOR	10mH		
C967	1-126-964-11	ELECT	10μF	20%	50V	L964	1-406-989-21	INDUCTOR	10mH		
C968	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	<u>TRANSISTOR</u>					
C970	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	Q943	8-729-422-27	TRANSISTOR 2SD601A-Q			
C971	1-104-664-11	ELECT	47μF	20%	25V	Q944	8-729-422-27	TRANSISTOR 2SD601A-Q			
C972	1-163-251-11	CERAMIC CHIP	100pF	5%	50V	Q945	8-729-422-27	TRANSISTOR 2SD601A-Q			
C973	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	Q946	8-729-045-05	TRANSISTOR 2SA2005			
C974	1-137-370-11	FILM	0.01μF	5%	50V						
C976	1-130-967-00	FILM	0.0027μF	5%	50V						
C977	1-104-760-11	CERAMIC CHIP	0.047μF	10%	50V						

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

**Note:** Les composants identifiés par un trame et une marque  $\triangle$  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
Q947	8-729-045-04	TRANSISTOR 2SC5511		R981	1-216-081-00	RES, CHIP 22K	5% 1/10W
Q948	8-729-422-27	TRANSISTOR 2SD601A-Q		R982	1-216-055-00	RES, CHIP 1.8K	5% 1/10W
Q961	8-729-422-27	TRANSISTOR 2SD601A-Q		R983	1-214-657-11	METAL 1	1% 1/4W
Q962	8-729-119-76	TRANSISTOR 2SA1175-HFE		R984	1-249-383-11	CARBON 1.5	5% 1/4W F
Q963	8-729-119-76	TRANSISTOR 2S1175-HFE		R985	1-215-421-00	METAL 1K	1% 1/4W
Q965	8-729-931-45	TRANSISTOR IRF614		R986	1-216-057-00	RES, CHIP 2.2K	5% 1/10W
Q966	8-729-216-22	TRANSISTOR 2SA1162-G		R988	1-215-429-00	METAL 2.2K	1% 1/4W
Q967	8-729-140-97	TRANSISTOR 2SB734-34		R990	1-216-025-91	RES, CHIP 100	0.5% 1/10W
Q968	8-729-422-27	TRANSISTOR 2SD601A-Q		R991	1-208-800-11	RES, CHIP 5.6K	0.5% 1/10W
Q969	8-729-422-27	TRANSISTOR 2SD601A-Q		R1941	1-260-312-11	CARBON 47	5% 1/2W
Q1961	8-729-140-97	TRANSISTOR 2SB734-34		R1942	1-249-387-11	CARBON 3.3	5% 1/4W F
Q1963	8-729-216-22	TRANSISTOR 2SA1162-G		R1943	1-249-414-11	CARBON 560	5% 1/4W F
Q1964	8-729-216-22	TRANSISTOR 2SA1162-G		R1944	1-249-432-11	CARBON 18K	5% 1/4W
Q1966	8-729-422-27	TRANSISTOR 2SD601A-Q		R1945	1-215-914-11	METAL OXIDE 330	5% 3W F
Q1967	8-729-216-22	TRANSISTOR 2SA1162-G		R1946	1-249-417-11	CARBON 1K	5% 1/4W F
<b>RESISTOR</b>				R1947	1-249-432-11	CARBON 18K	5% 1/4W
R946	1-215-886-11	METAL OXIDE 100	5% 2W F	R1948	1-249-414-11	CARBON 560	5% 1/4W
R948	1-216-051-00	RES, CHIP 1.2K	5% 1/10W	R1949	1-249-387-11	CARBON 3.3	5% 1/4W F
R949	1-216-057-00	RES, CHIP 2.2K	5% 1/10W	R1950	1-249-401-11	CARBON 47	5% 1/4W F
R950	1-216-049-91	RES, CHIP 1K	5% 1/10W	R1951	1-216-097-91	RES, CHIP 100K	5% 1/10W
R951	1-216-049-91	RES, CHIP 1K	5% 1/10W	R1952	1-216-097-91	RES, CHIP 100K	5% 1/10W
R952	1-216-041-00	RES, CHIP 470	5% 1/10W	R1953	1-216-085-00	RES, CHIP 33K	5% 1/10W
R953	1-216-021-00	RES, CHIP 68	5% 1/10W	R1955	1-208-808-11	RES, CHIP 12K	0.5% 1/10W
R954	1-216-033-00	RES, CHIP 220	5% 1/10W	R1956	1-216-057-00	RES, CHIP 2.2K	5% 1/10W
R955	1-216-047-91	RES, CHIP 820	5% 1/10W	R1957	1-216-295-91	SHORT	
R956	1-216-025-91	RES, CHIP 100	5% 1/10W	R1958	1-216-061-00	RES, CHIP 3.3K	5% 1/10W
R957	1-216-073-00	RES, CHIP 10K	5% 1/10W	R1959	1-216-073-00	RES, CHIP 10K	5% 1/10W
R958	1-216-025-91	RES, CHIP 100	5% 1/10W	R1960	1-216-037-00	RES, CHIP 330	5% 1/10W
R959	1-216-021-00	RES, CHIP 68	5% 1/10W	R1961	1-208-822-11	RES, CHIP 47K	0.5% 1/10W
R960	1-216-065-91	RES, CHIP 4.7K	5% 1/10W	R1962	1-208-806-11	RES, CHIP 10K	0.5% 1/10W
R963	1-216-065-91	RES, CHIP 4.7K	5% 1/10W	R1963 $\triangle$	1-216-033-00	RES, CHIP 220	5% 1/10W
R964	1-216-073-00	RES, CHIP 10K	5% 1/10W	R1964	1-216-057-00	RES, CHIP 2.2K	5% 1/10W
R965	1-216-073-00	RES, CHIP 10K	5% 1/10W	R1967	1-215-489-00	METAL 680K	1% 1/4W
R966	1-216-073-00	RES, CHIP 10K	5% 1/10W	R1969	1-216-073-00	RES, CHIP 10K	5% 1/10W
R967	1-216-073-00	RES, CHIP 10K	5% 1/10W	R1970	1-216-065-91	RES, CHIP 4.7K	5% 1/10W
R968	1-216-067-00	RES, CHIP 5.6K	5% 1/10W	R1971	1-216-121-91	RES, CHIP 1M	5% 1/10W
R969	1-216-025-91	RES, CHIP 100	5% 1/10W	R1972	1-216-073-00	RES, CHIP 10K	5% 1/10W
R970	1-208-818-11	RES, CHIP 33K	0.5% 1/10W	R1973	1-216-035-00	RES, CHIP 270	5% 1/10W
R971	1-216-049-91	RES, CHIP 1K	5% 1/10W	R1975	1-216-069-00	RES, CHIP 6.8K	5% 1/10W
R972	1-216-065-91	RES, CHIP 4.7K	5% 1/10W	R1976	1-216-057-00	RES, CHIP 2.2K	5% 1/10W
R973	1-216-057-00	RES, CHIP 2.2K	5% 1/10W	R1978	1-216-025-91	RES, CHIP 100	5% 1/10W
R974	1-208-808-11	RES, CHIP 12K	0.5% 1/10W	R1980	1-216-041-00	RES, CHIP 470	5% 1/10W
R975	1-216-073-00	RES, CHIP 10K	5% 1/10W	R1981	1-216-081-00	RES, CHIP 22K	5% 1/10W
R976	1-216-057-00	RES, CHIP 2.2K	5% 1/10W	R1982	1-216-081-00	RES, CHIP 22K	5% 1/10W
R977	1-249-401-11	CARBON 47	5% 1/4W F	R1983	1-216-073-00	RES, CHIP 10K	5% 1/10W
R978	1-216-073-00	RES, CHIP 10K	5% 1/10W	R1984	1-216-089-91	RES, CHIP 47K	5% 1/10W
R979	1-216-033-00	RES, CHIP 220	5% 1/10W	R1987	1-216-081-00	RES, CHIP 22K	5% 1/10W
R980	1-216-073-00	RES, CHIP 10K	5% 1/10W	R1989	1-216-081-00	RES, CHIP 22K	5% 1/10W
				R1990	1-216-089-91	RES, CHIP 47K	5% 1/10W



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R1991	1-216-081-00	RES, CHIP	22K 5% 1/10W				
R1992	1-216-057-00	RES, CHIP	2.2K 5% 1/10W				
R2962	1-215-885-00	METAL OXIDE	68 5% 2W F				
R2963	1-215-885-00	METAL OXIDE	68 5% 2W F				
R2965	1-216-065-91	RES, CHIP	4.7K 5% 1/10W				
R2968	1-216-065-91	RES, CHIP	4.7K 5% 1/10W				
R2969	1-216-065-91	RES, CHIP	4.7K 5% 1/10W				
R2971	1-216-085-00	RES, CHIP	33K 5% 1/10W				
R2972	1-216-113-00	RES, CHIP	470K 5% 1/10W				
R2973	1-216-025-91	RES, CHIP	100 5% 1/10W				
R2975	1-216-061-00	RES, CHIP	3.3K 5% 1/10W				
R2976	1-216-025-91	RES, CHIP	100 5% 1/10W				
R2979	1-216-097-91	RES, CHIP	100K 5% 1/10W				
R2980	1-216-097-91	RES, CHIP	100K 5% 1/10W				
<b><u>VARIABLE RESISTOR</u></b>							
RV941	1-238-019-11	RES, ADJ, CARBON	47K				
<b><u>ACCESSORIES AND PACKING MATERIALS</u></b>							
1-418-387-11	REMOTE COMMANDER (RM-Y168)		(KV-29FV10 ONLY)				
1-418-496-11	REMOTE COMMANDER (RM-171)		(KV-27FV15/29FV15/29FV15C/29FV15K ONLY)				
4-978-977-01	COVER, BATTERY						
3-866-305-21	MANUAL, INSTRUCTION (ENGLISH)						
3-866-305-31	MANUAL, INSTRUCTION (FRENCH)						
3-866-931-61	MANUAL, INSTRUCTION (KOREAN)						
3-866-306-41	MANUAL, INSTRUCTION (SPANISH)						
* 4-041-255-01	BAG, PROTECTION						
* 4-068-617-01	CUSHION ASSY, UPPER						
* 4-068-620-01	CUSHION ASSY, LOWER						
*	4-069-249-01	CARTON, INDIVIDUAL (KV-27FV15/29FV15K ONLY)					
*	4-070-378-01	CARTON, INDIVIDUAL					
		(KV-29FV15/29FV15C/29FV10 ONLY)					
		(KV-27FV15/29FV15/29FV15C/29FV15K ONLY)					







<i>MODEL</i>	<i>DEST</i>	<i>COMMANDER</i>	<i>CHASSIS NO.</i>
<b>KV-27FV15</b>	US	RM-Y171	SCC-S32A-A
<b>KV-27FV15</b>	CND	RM-Y171	SCC-S33A-A
<b>KV-29FV10</b>	E	RM-Y168	SCC-S34D-A
<b>KV-29FV15</b>	E	RM-Y171	SCC-S34A-A
<b>KV-29FV15C</b>	E	RM-Y171	SCC-S34C-A
<b>KV-29FV15K</b>	KOREA	RM-Y149A	SCC-S31A-A

## CORRECTION-1

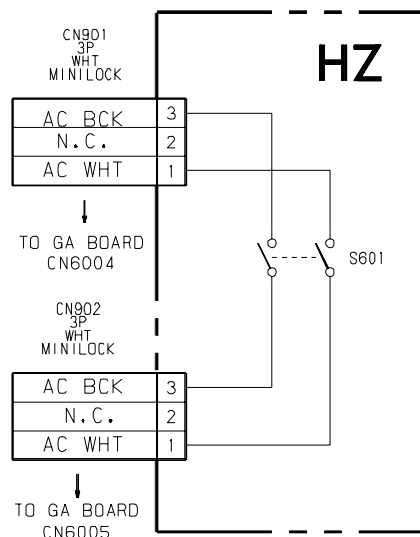
SUBJECT: HZ BOARD AND EXPLODED VIEW UPDATES

Correct the service manual as shown.  
File this Correction with the service manual.

: Modified Items










**Section 6-5 (Page 65): HZ Schematic Diagram added to KV-29FV15K only**

 A-1372-667-A HZ BOARD, COMPLETE (KV-29FV15K ONLY)













TRINITRON® COLOR TV  
**SONY®**

## Section 7-1: Chassis Exploded View (Page 66)

Incorrect			Correct		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
4	A-1298-866-A	A BOARD, COMPLETE (KV-27FV15/29FV15/29FV15C ONLY)	4	A-1298-886-A 	A BOARD, COMPLETE (KV-27FV15/29FV15/29FV15C ONLY)
14	A-1316-465-A	GA BOARD, COMPLETE (KV-29FV10/29FV15/29FV15C /29FV15K ONLY)	14	A-1316-465-A	GA BOARD, COMPLETE (KV-29FV10/29FV15/29FV15 ONLY)
14			14	A-1316-466-A 	GA BOARD, COMPLETE (KV-29FV15K ONLY)
15 	1-790-317-21	CORD, POWER (WITH CONNECTOR) (KV-27FV15/29FV15/29FV10 ONLY)	15 	1-790-317-21	CORD, POWER (WITH CONNECTOR) (KV-27FV15 ONLY)
			15 	1-790-315-21 	CORD, POWER (WITH CONNECTOR) (KV-29FV15/29FV10 ONLY)
Needs to be added ----->				1-766-374-11	PLUG, F-PIN (KV-29FV10 ONLY)
Needs to be added ----->				A-1372-667-A	HZ BOARD, COMPLETE (KV-29FV15K ONLY)
Needs to be added ----->				4-068-995-01	BUTTON, MAIN POWER (KV-29FV15K ONLY)

## Section 7-2: Picture Tube Exploded View (Page 67)

Incorrect			Correct		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
50	X-4036-676-1	BEZNET ASSY 51-54	50	X-4036-676-2 	BEZNET ASSY 51-54 (except KV-29FV15K)
			50	X-4036-677-1 	BEZNET ASSY 51-54 (KV-29FV15K only)
52	4-068-985-01	DOOR	52	4-068-985-13 	DOOR
55	4-068-982-01	MULTI-BUTTON (TOP)	55	4-068-982-02 	MULTI-BUTTON (TOP)
68 	1-419-156-11	COIL DEMAGNETIZATION (KV-27FV15 ONLY)	68 	1-419-156-21 	COIL DEMAGNETIZATION (KV-27FV15 ONLY)
68 	1-419-157-11	COIL DEMAGNETIZATION (KV-29FV15/29FV15C/29FV10/29FV15K)	68 	1-419-157-21 	COIL DEMAGNETIZATION (KV-29FV15/29FV15C/29FV10/29FV15K)