

SERVICE MANUAL

AA-2U CHASSIS

<i>MODEL NAME</i>	<i>REMOTE COMMANDER</i>	<i>DESTINATION</i>	<i>CHASSIS NO.</i>
<i>KV-32FV27</i>	<i>RM-Y182</i>	<i>US</i>	<i>SCC-S44KA</i>
<i>KV-32FV27</i>	<i>RM-Y182</i>	<i>CND</i>	<i>SCC-S45GA</i>

Sony KV-32FV27 / 36FS13 /36FS17 / 36FV27/ 38FS17

www.electronicrepair.net



KV-36FV27




RM-Y182

TRINITRON® COLOR TELEVISION

SONY®

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SPECIFICATIONS

	KV-36FS13 KV-36FS17 KV-38FS17	KV-36FV27	KV-32FV27
Power requirements	120V, 60Hz	120V, 60Hz	120V, 60Hz
Number of Inputs/Outputs			
Video ¹⁾	3	3	3
S Video ²⁾	1	2	2
Y, P_B, P_R ³⁾	1	1	1
Audio ⁴⁾	4	4	4
Audio Out ⁵⁾	1	1	1
Monitor Out	-	1	1
Control-S (IN/OUT)	-	1	1
Speaker output (W)	10W x 2	15W x 2	15W x 2
Power Consumption (W)			
In use (Max)	200W	210W	210W
In Standby	2W	2W	2W
Dimensions(W/H/D)			
mm	910 x 791 x 650	975 x 747 x 633	882 x 687 x 592
in	35 ⁷ / ₈ x 31 ¹ / ₈ x 25 ⁵ / ₈	38 ³ / ₈ x 29 ³ / ₄ x 24 ⁷ / ₈	34 ³ / ₄ x 27 x 23 ¹ / ₄
Mass			
kg	100 kg	107 kg	80 kg
lbs	220 lbs.	236 lbs.	176 lbs.

Television system

American TV standard, NTSC

Channel coverage

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

Picture tube

Flat Trinitron[®] tube

Visible screen size

32 inch picture measured diagonally (KV 32FV27 ONLY)

36 inch picture measured diagonally (All EXCEPT KV-32FV27)

Actual screen size

34-inch measured diagonally (KV 32FV27 ONLY)

38-inch measured diagonally (All EXCEPT KV-32FV27)

Antenna

75 ohm external terminal for VHF/UHF

Supplied Accessories

RM-Y180 (KV-36FS13 ONLY)

RM-Y181 (KV-36FS17 / 38FS17 ONLY)

RM-Y182 (KV-32FV27 / 36FV27 ONLY)

Battery size AA (R6) (2)

Wireless Stereo Headphones MDR-1F0230//K Set (KV-32FV27/ 36FV27 ONLY)

Battery size AA (R6) for Headphones (KV-32FV27/ 36FV27 ONLY)

Optional Assessories

AV Cable: VMC-810/820/830 HG

Audio Cable: RKC-515HG

Component Video Cable: VMC-10/30 HG

TV Stand: SU-36FD4 (ALL EXCEPT KV-32FV27)

TV Stand: SU 32FD4 (KV-32FV27 ONLY)

Design and specifications are subject to change without notice.

1) 1 Vp-p 75 ohms unbalanced, sync negative

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

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

3) Y: 1.0 Vp-p, 75 ohms, sync negative; PB: 0.7 Vp-p, 75 ohms

PR: Vp-p, 75 ohms

4) 500 mVrms (100% modulation), Impedance: 47 kilohms

5) More than 408 mVrms at the maximum volume setting (variable)

More than 408 mVrms (fix); Impedance (output): 2 kilohms

(●) SRS (SOUND RETRIEVAL SYSTEM) (KV-32FV27/ 36FV27 ONLY)

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

WARNINGS AND CAUTIONS


CAUTION

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

WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis. The chassis of this receiver is directly connected to the ac power line.

SAFETY-RELATED COMPONENT WARNING!!


Components identified by shading and  mark on the schematic diagrams, exploded views, and in the parts list are critical 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!!

Après avoir déconnecté le cap de l'anode, court-circuiter l'anode du tube cathodique et celui de l'anode du cap au châssis métallique de l'appareil, ou la couche de carbone peinte sur le tube cathodique ou au blindage du tube cathodique.

Afin d'éviter tout risque d'électrocution provenant d'un châssis sous tension, un transformateur d'isolement doit être utilisé lors de tout dépannage. Le châssis de ce récepteur est directement raccordé à l'alimentation du secteur.

ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

Les composants identifiés par une trame et par d'une importance marquée  sur les schémas de principe, les vues explosées et les listes de pièces sont d'une importance critique pour la sécurité du fonctionnement. Ne les remplacer que par des composants Sony dont le numéro de pièce est indiqué dans le présent manuel ou dans des suppléments publiés par Sony. Les réglages de circuit dont l'importance est critique pour la sécurité du fonctionnement sont identifiés dans le présent manuel. Suivre ces procédures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement 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 touching 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.

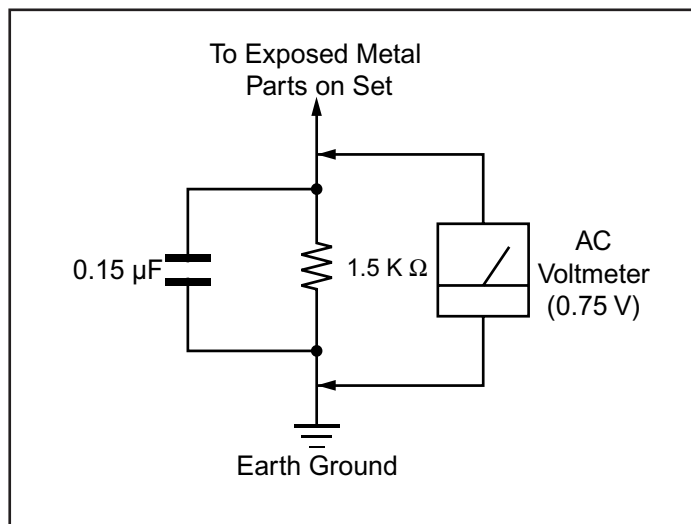


Figure A. Using an AC voltmeter to check AC leakage.

Leakage Test

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

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these 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 2 VAC range are suitable (see Figure A).

How to Find a Good Earth Ground

A cold-water pipe is a 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- to 100-watt trouble-light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

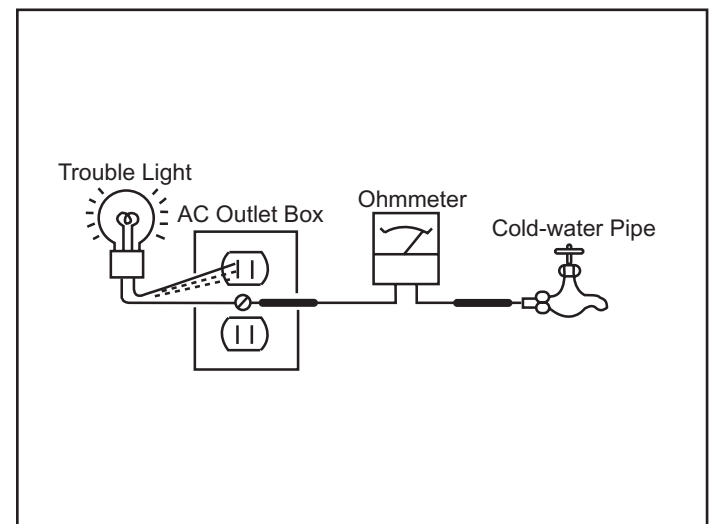


Figure B. Checking for earth ground.

SELF-DIAGNOSTIC FUNCTION



The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER LED will automatically begin to flash. The number of times the LED flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER LED flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the Remote Commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

Diagnostic Test Indicators

When an error occurs, the STANDBY/TIMER LED will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the LED will identify the first of the problem areas.

Results for all of the following diagnostic items are displayed on screen. No error has occurred if the screen displays a "0".

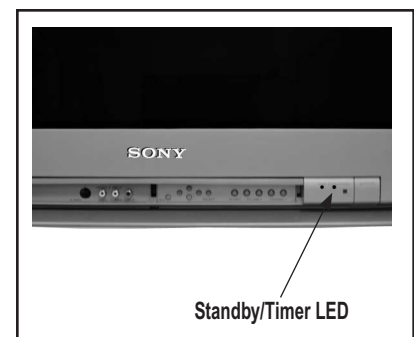
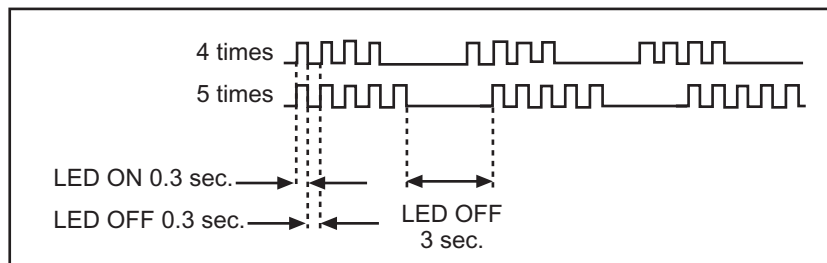
Diagnostic Item	No. of times STANDBY/ TIMER lamp flashes	Display Result	Probable Cause Location	Detected Symptoms
Power does not turn on	Does not light	N/A	<ul style="list-style-type: none"> Power cord is not plugged in. Fuse is burned out (F601). (G Board) 	<ul style="list-style-type: none"> Power does not come on. No Power is supplied to the TV. AC Power supply is faulty.
+B overcurrent (OCP)*	N/A	N/A	<ul style="list-style-type: none"> H.OUT (Q502) is shorted.(A Board) IC1701 is shorted. (C Board) 	<ul style="list-style-type: none"> Power does not come on. Load on power line is shorted
+B overvoltage (OVP)*	N/A	N/A	<ul style="list-style-type: none"> IC643 or T603 is open. (G Board) 	<ul style="list-style-type: none"> Power does not come on.
V-STOP	4 times	4:0 or 4:1	<ul style="list-style-type: none"> +13V is not supplied. (A Board) IC561 is faulty. (A Board) 	<ul style="list-style-type: none"> Has entered standby state after horizontal raster. Vertical deflection pulse is stopped. Power line is shorted or power supply is stopped.
IK (AKB)	5 times	5:0 or 5:1	<ul style="list-style-type: none"> Video OUT (IC561) is faulty. (A Board) IC355 is faulty. (A Board) Screen (G2) is improperly adjusted.** 	<ul style="list-style-type: none"> No raster is generated. CRT Cathode current detection reference Pulse output is small.

* If a +B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously.

The symptom that is diagnosed first by the microcontroller is displayed on the screen.

** Refer to Screen (G2) Adjustments in Section 2-4. of this manual.

Display of Standby/Timer LED Flash Count



Diagnostic Item	Flash Count*
V-STOP	4 times
IK (AKB)	5 times

*One flash count is not used for self-diagnostic.

Stopping the Standby/Timer LED Flash

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER LAMP from flashing.

Self-Diagnostic Screen Display

For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes out” that cannot be confirmed, it is possible to bring up past occurrences of failure on the screen for confirmation.

To Bring Up Screen Test

In standby mode, press buttons on the Remote Commander sequentially, in rapid succession, as shown below:



Note that this differs from entering the Service Mode (Sound volume 4).

Self-diagnostic Screen Display

SELF DIAGNOSIS	
2: +B OCP	N/A
3: +B OVP	N/A
4: VSTOP	0
5: AKB	1
101:WDT	24

Numeral “0” means that no fault was detected.
Numerical “1” means a fault was detected one time only.

Handling of Self-Diagnostic Screen Display

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to “0”.

Unless the result display is cleared to “0”, the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

Clearing the Result Display

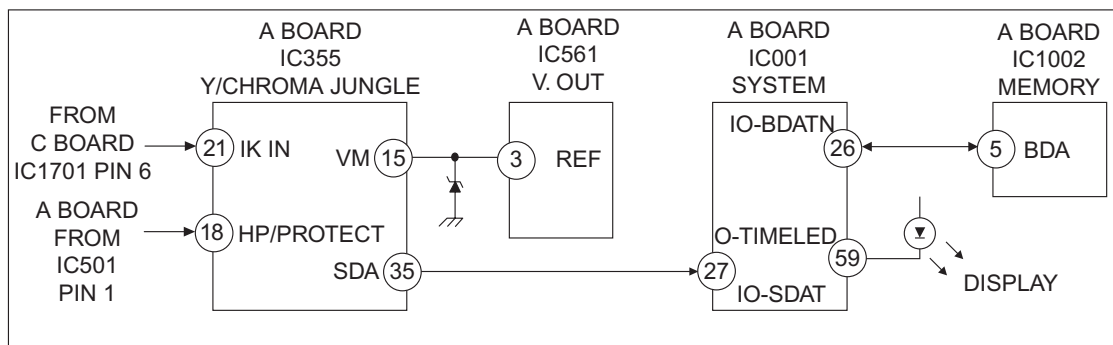
To clear the result display to “0”, press buttons on the Remote Commander sequentially when the diagnostic screen is displayed, as shown below:



Quitting the Self-Diagnostic Screen

To quit the entire self-diagnostic screen, turn off the power switch on the Remote Commander or the main unit.

Self-Diagnostic Circuit



+B overcurrent (OCP) Occurs when an overcurrent on the +B (135V) line is detected by pin 18 of IC355 (A Board). If the voltage of pin 18 of IC355 (A Board) is less than 1V when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.

+B overvoltage (OVP) Occurs when the feedback circuit from +B opens IC643 or T603 or any other associated feedback components.

V-STOP Occurs when an absence of the vertical deflection pulse is detected by pin 15 of IC355 (A Board). Power supply will shut down when waveform interval exceeds 2 seconds.

IK (AKB) If the RGB levels* do not balance within 2 seconds after the power is turned on, this error will be detected by IC355 (A Board). TV will stay on, but there will be no picture.

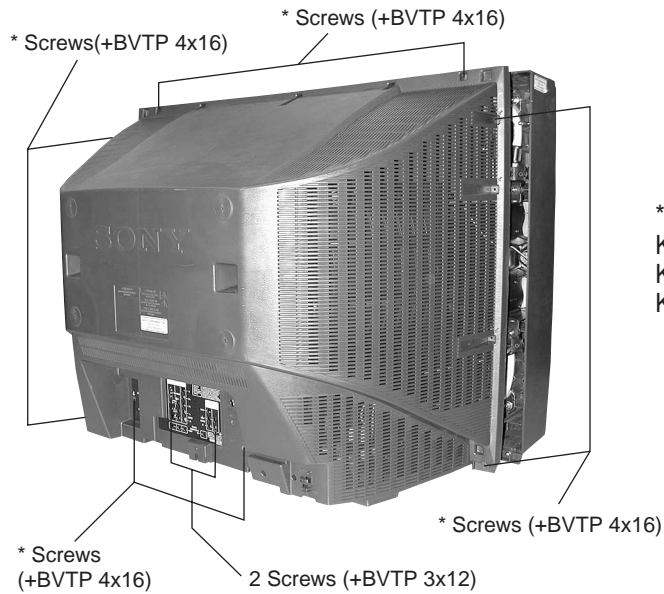
NOTE:

Watch Dog Timer Indicates how many times the Watch Dog Timer functions have been activated. Whenever micro is reset by the Watch Dog Timer, this number is incremented. Maximum number is 255.

* Refers to the RGB levels of the AKB detection Ref pulse that detects 1K.

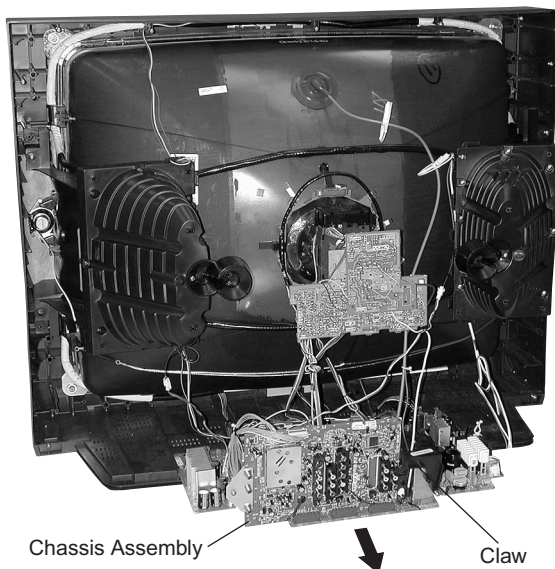
SECTION 1: DISASSEMBLY

1-1. REAR COVER REMOVAL

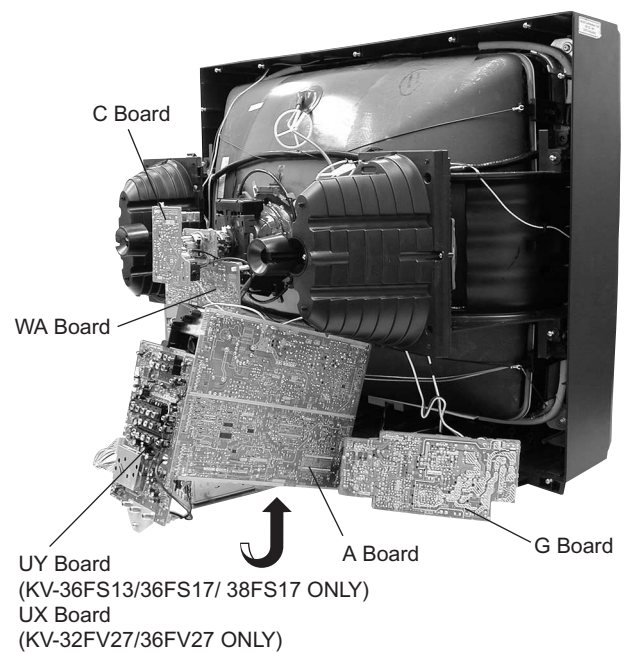


* (+BVTP 4 x 16) Screw Legend:
 KV-32FV27 = 14 Screws Total
 KV-36FV27 = 16 Screws Total
 KV-36FS13/ 36FS17 / 38FS17= 15 Screws Total

1-2. CHASSIS ASSEMBLY REMOVAL



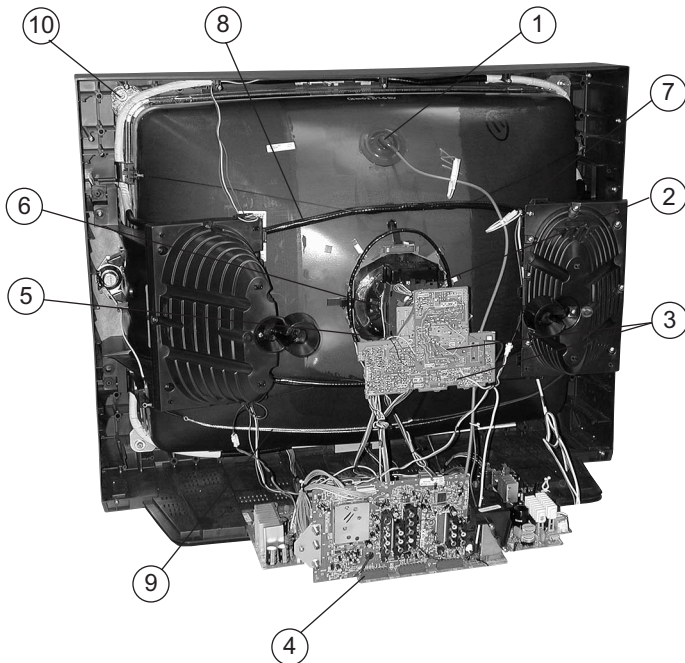
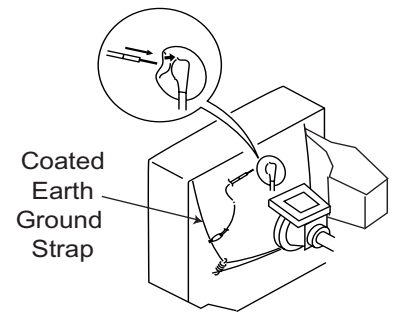
1-3. SERVICE POSITION



1-4. PICTURE TUBE REMOVAL

WARNING: BEFORE REMOVING THE ANODE CAP

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



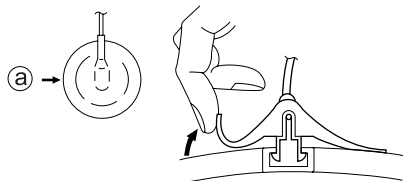
1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the deflection yoke, neck assembly, degaussing coils and CRT grounding strap.
3. Remove the C and WA Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the neck assembly fixing screw and remove.
6. Loosen the deflection yoke fixing screw and remove.
7. Place the set with the CRT face down on a cushion and remove the degaussing coil holders.
8. Remove the degaussing coils.
9. Remove the CRT grounding strap and spring tension devices.
10. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT [Take care not to handle the CRT by the neck].

ANODE CAP REMOVAL PROCEDURE

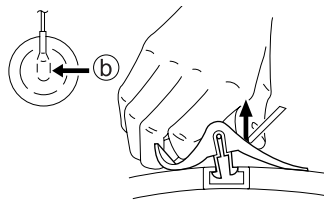
WARNING: High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge the CRT **before** attempting to remove the anode cap. Short between anode and coated earth ground strap of CRT.

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

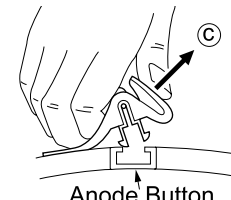
REMOVAL PROCEDURES



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



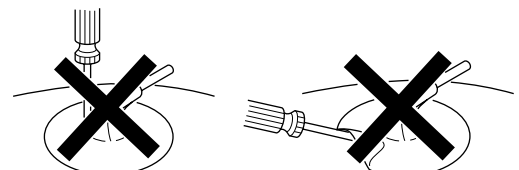
- ② Use your thumb to pull the rubber cap firmly in the direction indicated by arrow (b).



- 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. To avoid damaging the anode cap, do not squeeze the rubber covering too hard. 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 2: 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

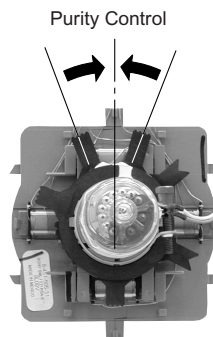
2-1. BEAM LANDING

Preparation:

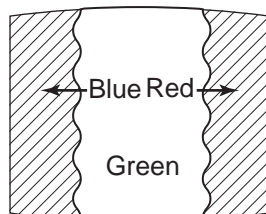
- Input a white pattern signal.
- Face the picture tube in an East or West direction to reduce the influence of geomagnetism.

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

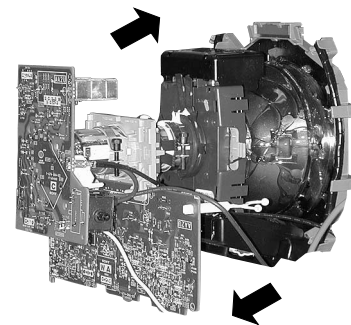
1. Input white pattern from pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown below:



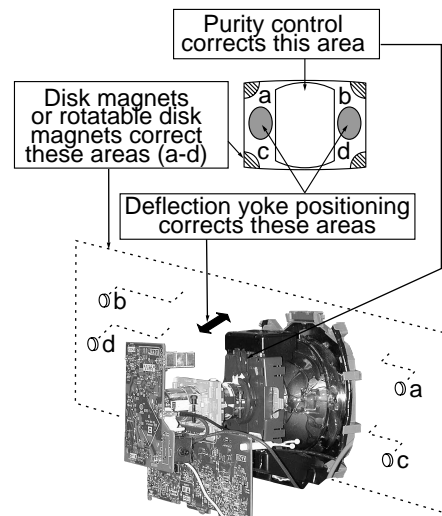
3. Input green pattern from pattern generator.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are even on both sides.



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



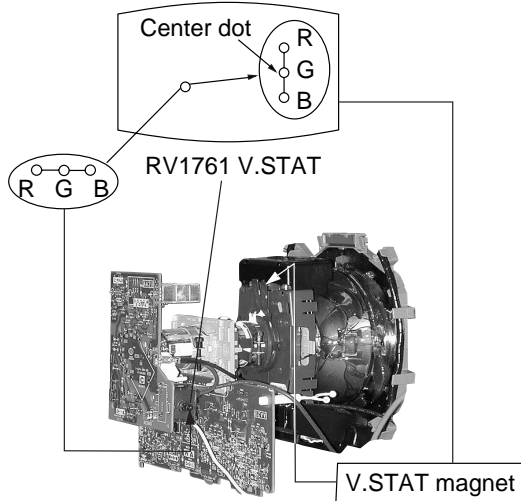
6. Switch over the raster signal to red and blue and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
8. When landing at the corner is not right, adjust by using the disk magnets.



2-2. CONVERGENCE

Preparation:

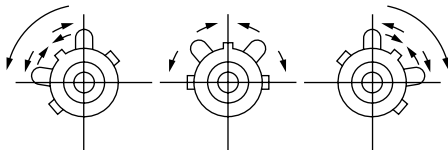
- Perform FOCUS, V. LIN and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Input dot pattern.



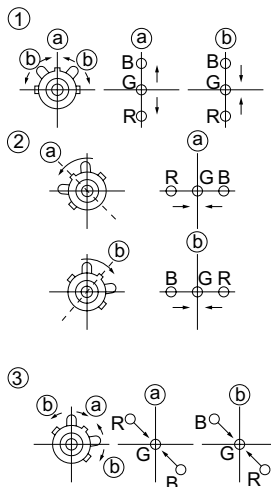
VERTICAL AND HORIZONTAL STATIC CONVERGENCE

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.



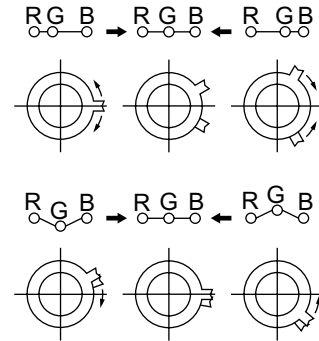
2. When the V. STAT magnet is moved in the direction of arrow a and b, red, green, and blue dots move as shown below:



OPERATION OF BMC (HEXAPOLE) MAGNET

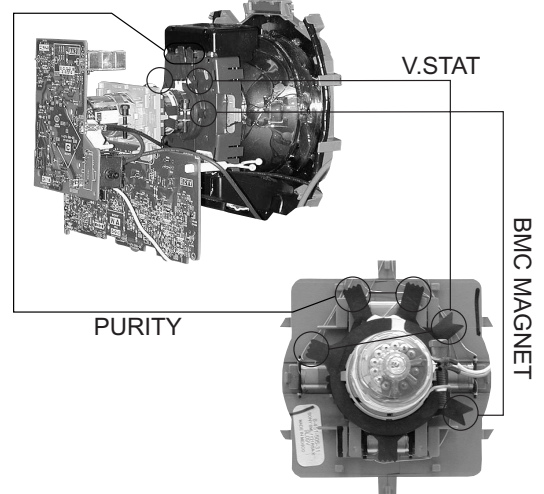
The respective dot positions resulting from moving each magnet interact, so perform adjustment while tracking.

1. Use the V. STAT 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).

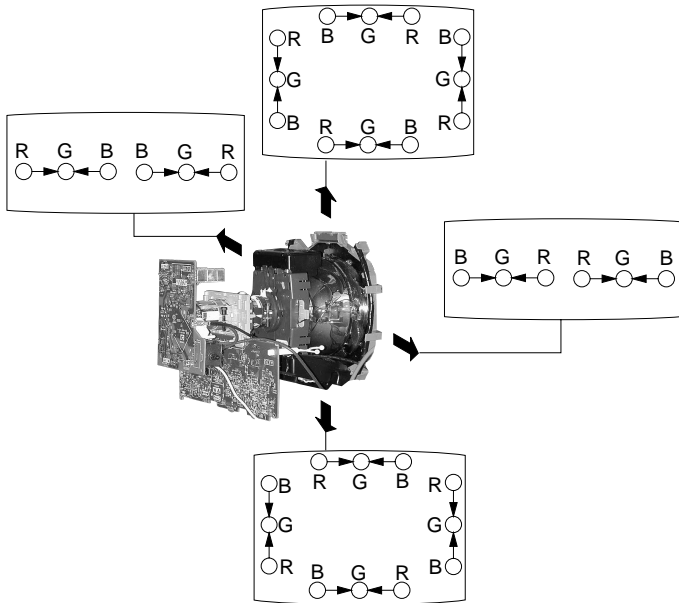


4. Return the deflection yoke to its original position.

DYNAMIC CONVERGENCE ADJUSTMENT

Before starting, perform Vertical and Horizontal Static Convergence Adjustment.

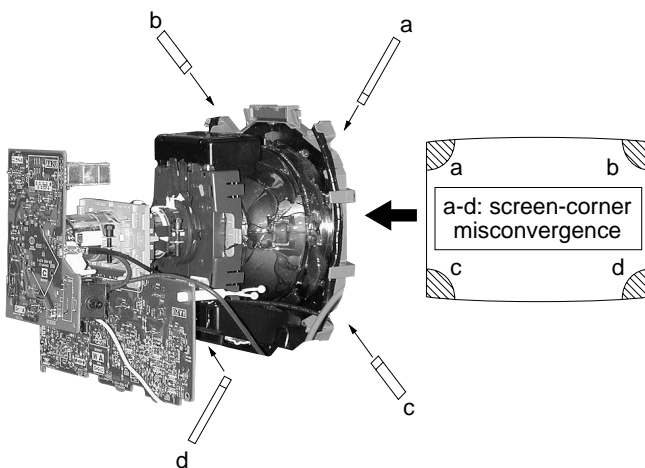
1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below:



4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

SCREEN-CORNER CONVERGENCE

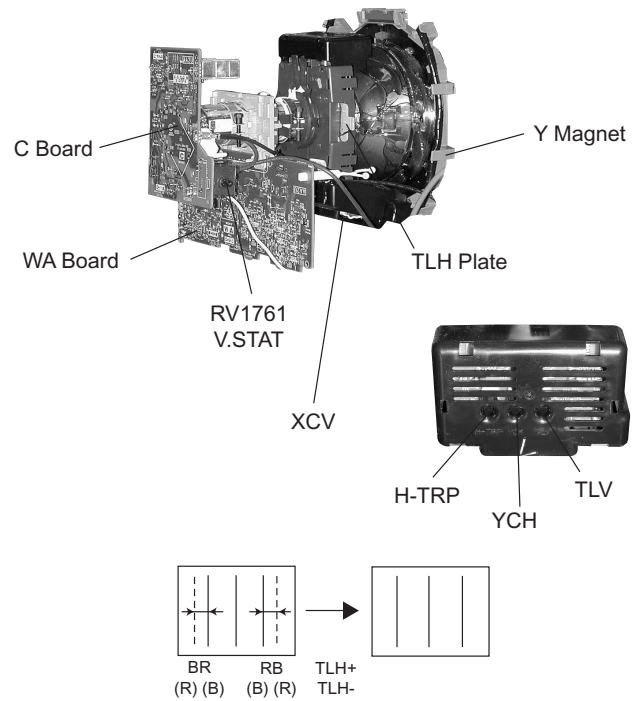
1. Affix a permalloy assembly corresponding to the misconverged areas:



TLH PLATE ADJUSTMENT

Preparation:

- 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.



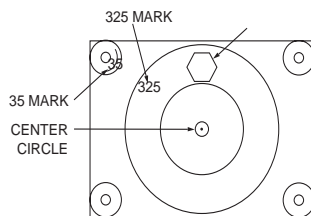
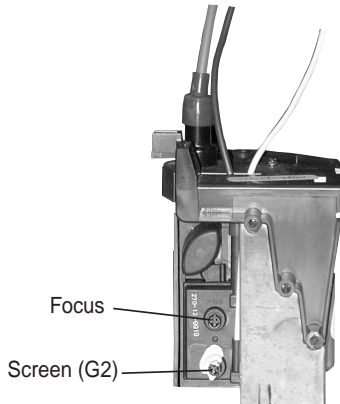
1. Adjust XCV core to balance X axis.
2. Adjust YCH VR to balance Y axis.
3. Adjust vertical red and blue convergence with V.TILT (TLV VR).

Perform adjustments while tracking items 1 and 2.

4. Adjust Y MAGNET to correct V.BOW Geometry Distortion.
 5. Adjust H-TRP to correct H.Trapezoid Geometry Distortion.
- After adjusting items 4 and 5, confirm overall geometry again.**

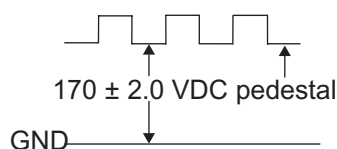
2-3. FOCUS

1. Input monoscope signal.
2. Set user controls to normal.
3. Set video mode to STANDARD.
4. Set the PICTURE to maximum.
5. Adjust at 325 Mark for best center/corner focus balance.
6. Receive an entire white signal. Make sure Magenta Ring is at an acceptable level.



2-4. SCREEN (G2)

1. Input dot pattern 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 ± 2.0 VDC.
5. Observe the screen and adjust SCREEN (G2) VR to obtain the faintly visible background of dot signal.
6. Push the TEST + JUMP (+ Channel) to cut off the signal. The screen should be bright or dark. Brightness of raster must be increased when adjusting.
7. Adjust screen VR until the screen is slightly 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.



2-5. WHITE BALANCE ADJUSTMENTS

NO.	Disp.	Item	All Models
24	RDRV	Red Drive	*
25	GDRV	Green Drive	31
26	BDRV	Blue Drive	31
27	RCUT	Red Cut-off	14:Fix
28	GCUT	Green Cut-off	7
29	BCUT	Blue Cut-off	7
36	SBRT	Sub Bright	7


1. Set program palette to STANDARD and push RESET.
2. Input an entire white signal.
3. Set to Service Adjustment Mode.
4. Set the PICTURE and BRIGHT to minimum.
5. Adjust with SBRT if necessary.
6. Set RCUT to "14".
7. Select GCUT and BCUT with **1** and **4**.
8. Adjust with **3** and **6** for the best white balance.
9. Set the PICTURE and BRIGHT to maximum.
10. Select GDRV and BDRV with **1** and **4**.
11. Adjust with **3** and **6** for the best white balance.
12. Write into the memory by pressing **MUTING** then **ENTER**.
13. Repeat steps 1-12 for GDR4, BDR4, GCU4 and BCU4 using Video 4 input.



*Use values from Sub Contrast Adjustments

NOTE: White Balance should be adjusted after Sub Contrast because RDRV is also used in Sub Contrast Adjustment (See Page 22).

SECTION 3: SAFETY RELATED ADJUSTMENTS

3-1. 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:

Part Replaced ()	Adjustment ()
R387, R550, R529, R530, R531, R532, R533, D519, D520, D521, IC501, C531, C532, T503, IC351, Q301, R356, R359, R361, D302.....A Board IC643, R661.....G Board	HV HOLD-DOWN R530,R531


PREPARATION BEFORE CONFIRMATION

- Using a Variac, apply AC input voltage: 120+2.0/-0.0 VAC.
- Turn the POWER switch ON.
- Input a white signal and set the PICTURE and BRIGHT controls to maximum.
- Confirm that the voltage of more than 23.0 VDC appears between TP85 and ground on the A Board.

HOLD-DOWN OPERATION CONFIRMATION

- Connect the current meter between Pin 11 of the FBT (T503) and the PWB land where Pin 11 would normally attach (See Figure 1).
- Input a dot signal and set PICTURE and BRIGHTNESS to minimum: IABL = 2175 + 100/ -325 μ A.
- Confirm the voltage of A Board TP91 is 135 \pm 1.5 VDC.
- Connect the digital voltmeter and the DC power supply to TP85 and ground (See Figure 1).
- Increase the DC power voltage gradually until the picture blanks out.
- Turn DC power source off immediately.
- Read the digital voltmeter indication (standard = 27.24 +0.0 / -0.1 VDC) (KV-32FV27 ONLY), (standard = 27.24 \pm 0.1 VDC) (ALL EXCEPT KV-32FV27).
- Input a white signal and set PICTURE and BRIGHTNESS to maximum: IABL = 2175 + 100/ -325 μ A.
- Repeat steps 4 to 7.

HOLD-DOWN READJUSTMENT

If the setting indicated in Step 2 of Hold-Down Operation Confirmation cannot be met, readjustment should be performed by altering the resistance value of R530, R531 component marked with .

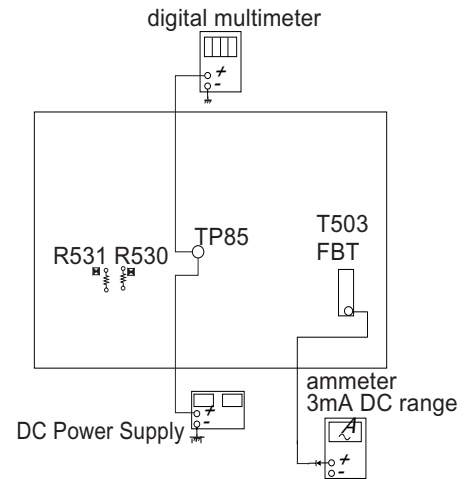



Figure 1

3-2. B+ VOLTAGE CONFIRMATION AND ADJUSTMENT

Always perform the following adjustments when replacing the following components, which are marked with  on the schematic diagram on the G Board:

G BOARD: IC643, R661

- Using a Variac, apply AC input voltage: 130 + 2.0/-0.0 VAC
- Input a monoscope signal.
- Set the PICTURE control and the BRIGHT control to initial reset value.
- Confirm the voltage of G Board CN641 between pin to ground is less than 136.5 VDC.
- If step 4 is not satisfied, replace the R661 on G Board and repeat the above steps.

SECTION 4: CIRCUIT ADJUSTMENTS

ELECTRICAL ADJUSTMENTS BY REMOTE COMMANDER

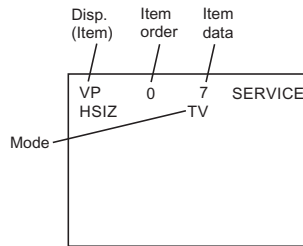
Use the Remote Commander (RM-Y180, RM-Y181, RM-Y182) to perform the circuit adjustments in this section.

Test Equipment Required: 1. Pattern generator 2. Frequency counter 3. Digital multimeter 4. Audio oscillator

4-1. SETTING THE SERVICE ADJUSTMENT MODE

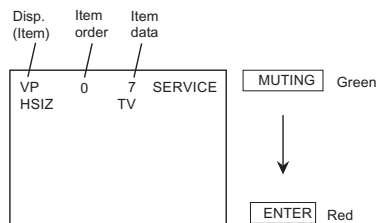
- Standby mode (Power off).
- Press **[Display]** → **[Channel 5]** → **[Sound Volume +]** → **[Power]**

SERVICE ADJUSTMENT MODE ON

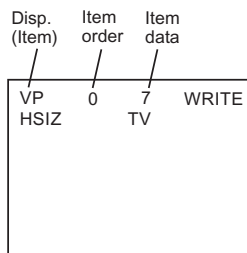


- The CRT displays the item being adjusted.
- Press **[1]** or **[2]** on the Remote Commander to select the item.
- Press **[3]** or **[6]** on the Remote Commander to change the data.
- Press **[MUTING]** then **[ENTER]** to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



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



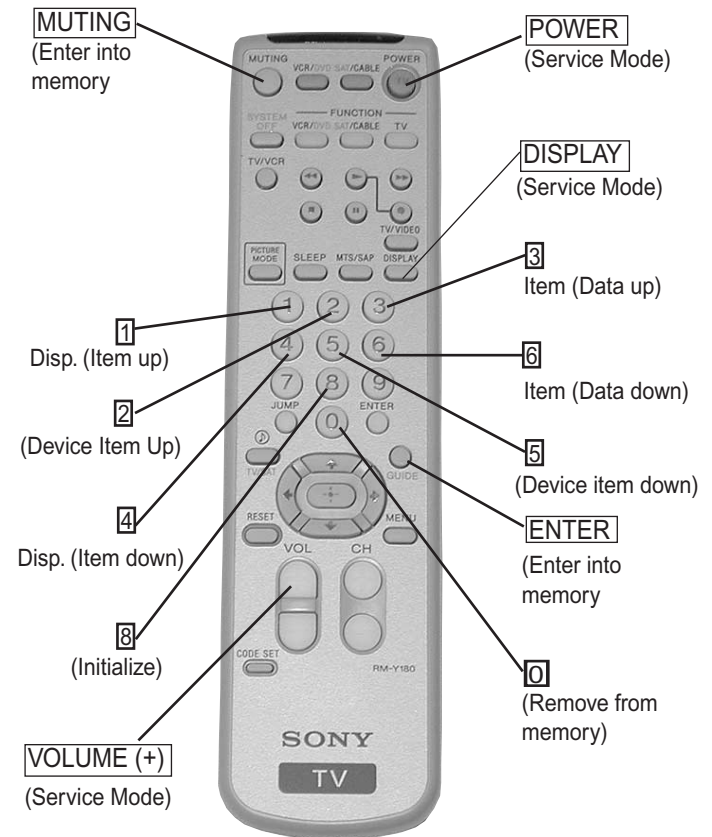
Carry out step 7 when adjusting IDs 0 to 7 and when replacing and adjusting IC002.

- DO NOT turn off set until SERVICE appears.

4-2. MEMORY WRITE CONFIRMATION METHOD

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

4-3. REMOTE ADJUSTMENT BUTTONS AND INDICATORS



RM-Y182

4-4. ADJUSTMENT ITEMS (1 OF 6)

KV-32FV27 / 36FS13 / 36FS17 / 36FV27 / 38FS17

Register Name	Description	Data Range	Adj/Fix	Initial Data	32"		36"/38"		Comments
					FV	FS	FV	FS	
0	HPOS	H-Position	Adj	7	7	7			0: 2ms delay, 63: 2ms advance
1	HSIZ	H-Size	Adj	10	10	10			EW DC bias, 0: -0.5V, 31: 0V, 63: +0.5V
2	VBOW	AFC Bow	Adj	6	6	6			0: top/bottom delay 900ns, 7: center, 15: top/bottom advance 900ns
3	VANG	AFC Angle	Adj	5	5	5			0: top delay/bottom advance 650ns, 7: center, 15: top advance/bottom delay 650ns
4	TRAP	Trapezium Adjustment	Adj	6	6	6			0: 1.5ms advance, 15: 1.5ms delay
5	PAMP	Pin Compensation	Adj	32	32	32			0: 0.15Vpp, 31: 0.7Vpp, 63: 1.3Vpp
6	UCPN	Upper Corner Pin	Adj	36	36	36			0: -0.4V, 63: +0.4V
7	LCPN	Lower Corner Pin	Adj	36	36	36			0: -0.4V, 63: +0.4V
8	VSIZ	V-Size	Adj	0	0	0			0: -15%, 31: 0%, 63: +15%
9	VPOS	V-Position	Adj	31	31	31			0: -0.1V, 31: 0V, 63: +0.1V
10	VLIN	V-Linearity	Adj	7	7	7			0: 85% top enlarged, 7: 100% top normal, 15: 115% top compressed
11	VSCO	S-Correction	Adj	7	7	7			0: 0V added to VD, 15: 100mVpp added to VD
12	VZOM	16:9 CRT Zoom Mode On/Off	FIX	0		0			0: Zoom Off, 1: Zoom On (top/bottom cut by 25% when ASPECT=31, RGB blanked in this interval)
13	EHT	Vertical Size High Voltage Correction	FIX	4		4			0: Picture adjusted 0%, 15: Picture Adjusted -5%
14	ASP	Aspect Ration Control 4:3 Mode	FIX	47		47			0: 75%(16x9 CRT Full), 31: 100%(4x3 CRT Full), 63: 110%
15	ASP1	Aspect Ration Control 16:9 Mode	FIX	47		47			0: 75%(16x9 CRT Full), 31: 100%(4x3 CRT Full), 63: 110%
16	SCRL	16:9 Vertical Scroll During Zoom	FIX	31		31			0: Scrolled toward top 32H, 63: Scrolled toward bottom 32H
17	HBSW	H Blanking Switch	FIX	1		1			0: OFF, 1: ON
18	LBLK	Left Blanking	FIX	15		15			0: +1.2ms, 7: Center, 15: -1.2ms
19	RBLK	Right Blanking	FIX	0		0			0: +1.2ms, 7: Center, 15: -1.2ms
20	HDW	H Drive Pulse Width	FIX	1		1			0: Normal Mode (25ms), 1: Narrow Pulse Width
21	EWDC	EW/DC Display 4x3 on 16x9 CRT	FIX	0		0			0: OFF, 1: ON
22	LVLN	Picture Bottom Lin Adjust	Adj	0		0			0: 100%, 15: 85% Picture top compressed
23	UVLN	Picture Top Lin Adjust	Adj	0		0			0: 100%, 15: 85% Picture bottom compressed
24	RDRV	Red Drive	Adj	31	31	48	54		0: 1.5Vpp, 63: 3.0Vpp Red Signal Output
25	GDRV	Green Drive	Adj	31		31			0: 1.5Vpp, 63: 3.0Vpp Green Signal Output
26	BDRV	Blue Drive	Adj	31		31			0: 1.5Vpp, 63: 3.0Vpp Blue Signal Output
27	RCUT	Red Cutoff	FIX	7		14			0: 3.5mA IK, 7: 13mA IK, 15: 22.7mA IK
28	GCUT	Green Cutoff	Adj	7		7			0: 3.5mA IK, 7: 13mA IK, 15: 22.7mA IK
29	BCUT	Blue Cutoff	Adj	7		7			0: 3.5mA IK, 7: 13mA IK, 15: 22.7mA IK
30	RDR4	Video 4 Red Drive	Adj	31	31	54			0: 1.5Vpp, 63: 3.0Vpp Red Signal Output
31	GDR4	Video 4 Green Drive	Adj	31		31			0: 1.5Vpp, 63: 3.0Vpp Green Signal Output
32	BDR4	Video 4 Blue Drive	Adj	31		31			0: 1.5Vpp, 63: 3.0Vpp Blue Signal Output
33	RCU4	Video 4 Red Cutoff	FIX	7		14			0: 3.5mA IK, 7: 13mA IK, 15: 22.7mA IK
34	GCU4	Video 4 Green Cutoff	Adj	7		7			0: 3.5mA IK, 7: 13mA IK, 15: 22.7mA IK
35	BCU4	Video 4 Blue Cutoff	Adj	7		7			0: 3.5mA IK, 7: 13mA IK, 15: 22.7mA IK
36	SBRT	Sub Brightness	Adj	15	adjust to IRE cutoff		adjust to IRE cutoff		Sub Brightness
37	RON	Red Off	FIX	1		1			0:OFF, 1:ON
38	GON	Green Off	FIX	1		1			0:OFF, 1:ON
39	BON	Blue Off	FIX	1		1			0:OFF, 1:ON
40	AXPL	Axis PAL	FIX	0		0			0: Normal Axis, 1: Forced PAL Axis
41	CBPF	Chroma BPF On/Off	FIX	1		1			0: BPF OFF, 1: BPF ON
42	COFF	Color On/Off	FIX	0		0			0: Chroma OFF, 1: Chroma ON
43	TSPP	Sub Sharpness for TV Input	Fix by model	6	6	5	6		0=-12dB, 7=+3.5dB, 15=+9dB
44	TSPF	Sharpness fo for TV Input	FIX	1		1			0=2.5MHZ, 1=3.0MHZ
45	VSPS	Sub Sharpness for Video Input	Fix by model	7	7	5	7		0=-12dB, 7=+3.5dB, 15=+9dB
46	VSPF	Sharpness fo for Video Input	FIX	1		1			0=2.5MHZ, 1=3.0MHZ
47	YSSP	Sub Sharpness for YUV Input	Fix by model	7	7	6	7		0=-12dB, 7=+3.5dB, 15=+9dB

VP
CXA2131AS

ADJUSTMENT ITEMS (2 OF 6)

KV-32FV27 / 36FS13 / 36FS17 / 36FV27 / 38FS17

Register Name	Description	Data Range	Adj/Fix	Initial Data	32"			36"/38"			Comments
					FV	FS	FV	FV	FS	FV	
48	YSPF	Sharpness fo for YUV Input	0,1	FIX	1						0=2.5MHZ, 1=3.0MHz
49	AXNT	Axis NTSC	0,1	FIX	0						0: Japan Axis, 1: US Axis
50	PREL	Pre/Overshoot Ratio	0,1	FIX	1						0: 1:1, 1: 2:1
51	DCT	DC Transmission Ratio	0,1	FIX	1						0:100%, 1:85%
52	ABLM	ABL Mode	0,1	FIX	1						0:Picture ABL, 1:Picture/Brightness ABL
53	FSC	FSC Output On/Off	0,1	FIX	1						0: FSC output OFF, 1: FSC output ON
54	HOSC	H VCO Frequency Adjustment	0-15	FIX	12						0: Low, 15: High (40 Hz Steps)
55	VSS	Vsync Slice Level	0,1	FIX	0						0: 1/3 from sync tip, 1: 1/4 from sync tip
56	HSS	Hsync Slice Level	0,1	FIX	0						0: 1/3 from sync tip, 1: 1/4 from sync tip
57	HMSK	Macrovision Countermeasure	0,1	FIX	1						0: Off, 1: ON
58	VTMS	Select Signal VTIM Pin	0-3	FIX	0						0: V retrace timing, 1: Hsync signal, 2: Vsync signal, 3: don't use
59	AFB	AFB	0-3	FIX	0						0: High Gain, 1: Medium Gain, 2: don't use, 3: Extremely low gain
60	REFP	REFP	0,1	FIX	0						0: R=20H/G=21H/B=22H, 1: R=23H/G=24H/B=25H
61	VBSW	VBLK Width Control	0-3	FIX	0						0: 9H from B, 1: 10H from B, 2: 11H from B, 3:12H from B
62	BKOF	ABL Signal Detection Level	0,1	FIX	0						(When JUMP SW=1)
63	AGN2	Aging Mode 2 - Black Output Mode	0,1	FIX	0						0: VTH=3V, 1: VTH=1V
0	SREF	Surround Effect	0-15	FIX	7						0: Black Output Mode OFF, 1: Black Output Mode ON
1	BBLP	BBE Low Pass	0-15	FIX	5						0: Min, 15: Max (8-15 LOOP=1)
2	BBHP	BBE High Pass	0-15	FIX	3						0: 0.5dB, 15: 10dB
3	SVOL	Sub Volume	0-15	FIX	7						0: 0.5dB, 15: 10dB
4	SBAL	Sub Balance	0-15	FIX	7						0: -0 volume steps, 15:-15 volume steps
5	SBAS	Sub Bass	0-15	Fix by model	5	5	8		5		0: +Right, 15:+Left
6	STRE	Sub Treble	0-15	Fix by model	3	5	8		5		0: -7 steps, 15: +8 steps
0	SPCA	SRS Space Attenuation	0-63	FIX	0						0: 0dB, 63: -31db (1dB steps)
1	CPNA	SRS Center Attenuation	0-63	FIX	0						0: 0dB, 63: -31db (1dB steps)
2	INPA	Input Attenuation	0-127	FIX	3						0: 0dB, 127: -31.5dB (0.5dB steps)
0	COUT	Chroma Signal Gain / BPF	0-3	FIX	3						Input/Output gain=1 / BPF ON
1	YAPS	Y V-Compensation/Peaking	0-3	FIX	3						Correctin enabled for digital/analog inputs
2	NSDS	Standard/Non-Standard Processing	0-3	FIX	0						Standard adaptive processing
3	MSS	Inter-frame/Inter-line Mode	0-3	FIX	0						Adaptive Processing
4	EXAD	External ADC Insert	0,1	FIX	0						Internal Y-ADC
5	PECS	Pedestal Error Correction	0-3	FIX	0						Standard
6	EXCS	C sync Input	0-3	FIX	1						Use CSI
7	CPP	Y ADC Amplitude/Clamp Method	0-3	FIX	0						Y-ADC & C-ADC Vtb=1.25V
8	HDP	H Phase Fine Adjustment	0-7	FIX	3						Phase +/- 0msec
9	CDL	C Output Delay Fine Adjustment	0-7	FIX	5						Y/C Delay +/- 0msec
10	DYCO	Y Moving Coring Level	0-15	FIX	2						0: Close to moving pictures, 15: Close to still pictures
11	DYGA	Y Moving Coring Gain	0-15	FIX	10						0: Close to still Pictures, 15: Close to moving Pictures
12	DCCO	C Moving Coring Level	0-15	FIX	2						0: Close to moving pictures, 15: Close to still pictures
13	DCGA	C Moving Coring Gain	0-15	FIX	9						0: Close to still Pictures, 15: Close to moving Pictures
14	YNRK	YNR Non-linear Filter Gain	0,1	FIX	1						x7/8 large noise reduction and large after image
15	YNRI	YNR Non-linear Filter Convergence	0,1	FIX	0						6LSB small noise reduction and small after image
16	YNRL	YNR Non-linear Filter Limit Level	0-3	FIX	1						0: YNR Off, 3: 3LSB large noise reduction
17	CNRK	CNR Non-linear Filter Gain	0,1	FIX	1						x7/8 large noise reduction and large after image
18	CNRI	CNR Non-linear Filter Convergence	0,1	FIX	0						6LSB small noise reduction and small after image
19	CNRL	CNR Non-linear Filter Limit Level	0-3	FIX	1						0: CNR OFF, 3: 3LSB large noise reduction
20	ID1O	ID-1 Superimpose Signal	0,1	FIX	0						Through, no superimposition
21	ID1W	Specifies bit A1 of Word 0	0,1	FIX	0						0: 4x3, 1: 16x9
22	ID1N	Specifies bit A2 of Word 0	0,1	FIX	0						0: normal, 1: letterbox
23	CLK	CLK Pin Output	0,1	FIX	1						0: Output 8fsc, 1: Output OFF

ADJUSTMENT ITEMS (3 OF 6)

KV-32FV27 / 36FS13 / 36FS17 / 36FV27 / 38FS17

Register Name	Description	Data Range	Adj/Fix	Initial Data	32"/36"/38"			Comments	
					FV	FS	FV		
24	ST0S	Select ST0 Pin Output Signal	0-3	FIX	1			External Y-ADC clamp pulse	
25	WSC	Noise Detection Coring	0-3	FIX	1			1LSB coring for noise detection circuit	
26	VTRH	H-sync Non-Standard Detection Hysteresis	0-3	FIX	1			Low hysteresis (2 clock pulses)	
27	VTRR	H-sync Non-Standard Detection Sensitivity	0-3	FIX	1			Medium sensitivity (+/- 8 clock pulses)	
28	LDSR	Frame Sync Non-Std Detection Sensativity	0-3	FIX	2			Low sensitivity (1.5 clock pulses)	
29	PWRE	Internal ADC Input Range	0,1	FIX	0			Same input range on Y-ADC and C-ADC	
30	VAPG	Vertical Aperture Compensation Gain	0-7	FIX	4			0: Correction OFF, 7: Max Correction	
31	VAPI	Vertical Aperture Comp Convergence	0-31	FIX	12			0: Correction OFF, 31: Max Correction	
32	TEST	Test Bit	0,1	FIX	0			Normal Mode	
33	YPFT	Y Peaking Filter Center Frequency	0-3	FIX	3			4.22 MHz	
34	YPFG	Y Peaking Filter Gain	0-15	FIX	7			0: -1 gain, 15: 0.875 gain	
35	V1PS	Horizontal Dot Suppression Level	0-3	FIX	2			Medium suppression	
36	VEGS	Vertical Dot Suppression Level	0-3	FIX	2			Medium suppression	
37	CC3N	Line Comb C Separation Filter	0,1	FIX	0			Narrow bandwidth	
38	C0HS	C Signal Delay Time at NR	0,1	FIX	0			1H Delay	
39	CLPH	Y-ADC Clamp Test Bit	0,1	FIX	0			Normal Mode	
40	SEL2	DC Detection High Freq Sensativity	0,1	FIX	0			Low sensitivity, Close to still pictures	
41	SEL1	DY detection Low Freq Sensativity	0,1	FIX	0			Low sensitivity, Close to still pictures	
42	YHCO	Y High Freq Coring	0-3	FIX	1			Small Amount of coring (+/- 1LSB)	
43	YHCG	Y High Freq Coring Gain	0,1	FIX	0			Gain = 1	
44	OVST	Non Standard Detection Test Bit	0,1	FIX	0			Normal Mode	
45	CSHD	H/V counter Test Bit	0,1	FIX	0			Normal Mode	
46	KCTT	H/V counter Test Bit	0-3	FIX	0			Normal Mode	
47	SHT	Non Standard Detection Test Bits	0,1	FIX	0			Normal Mode	
48	VCT	H/V counter Test Bit	0,1	FIX	0			Normal Mode	
49	OTT	H/V counter Test Bit	0,1	FIX	0			Normal Mode	
50	CL2D	Clock Generator Test Bit	0,1	FIX	1			Normal Mode	
51	CGGT	Clock Generator Test Bit	0,1	FIX	0			Normal Mode	
52	CLEB	Clock Generator Test Bit	0,1	FIX	0			Normal Mode	
53	CGT	Clock Generator Test Bit	0,1	FIX	0			Normal Mode	
54	HPLL	Horizontal PLL Filter	0,1	FIX	1			Quick convergence	
55	BPLL	Burst PLL Filter	0,1	FIX	1			Quick convergence	
56	FSCF	Burst Extraction Gain	0,1	FIX	0			High gain	
57	PLLF	PLL Loop Gain	0,1	FIX	1			High gain, quick convergence	
58	KILR	Killer Detection Reference	0-15	FIX	3			0: Detection off, 15: High detection sensitivity	
59	HSSL	Horizontal Sync Slice Level	0-15	FIX	12			0: 4LSB, 15: 19LSB	
60	VSSL	Vertical Sync Slice Level	0-15	FIX	8			0: HSSL + 0LSB, 15: HSSL + 15LSB	
61	BGPS	Burst Gate Start Position	0-15	FIX	5			0: Hsync center + 2ms, 15: Hsync center +5.75ms	
62	BGPW	Internal Burst Gate Pulse Width	0-15	FIX	10			0: 0.5ms, 15: 4.25ms	
63	ADCL	ADC Clock Delay	0-3	FIX	3			0: 0ns, 3: 20.5ns (typical)	
64	ADPD	ADC Power Down	0,1	FIX	1			Stop ADC when not in use	
65	NSDW	Non Standard Detection Test Bit	0,1	FIX	0			Normal Mode	
66	CNRF	CNR Section Test Bit	0,1	FIX	0			Normal Mode	
0	SHPR	Controls both DL APACON and SRT	0-127	Fix by Model	52	52	59	52	0: Minimum, 127: Maximum
1	BLAD	Black Area Detect	0-3	FIX	0				0: 10IRE, 1: 20IRE, 2: 30IRE, 3: 40IRE
2	SRTS	SRT Start Amplitude	0-3	FIX	3				0: 7IRE, 1: 10IRE, 2: 14IRE, 3: 28IRE
3	YNR	Controls YNR ON/OFF	0,1	FIX	1				YNR ON
4	GIRE	Gamma Correction Start Point	0-3	FIX	3				0: 70IRE, 1: 80IRE, 2: 90IRE, 3: OFF
5	DAC1	1 bit DAC Output	0,1	FIX	0				Open
6	DAC2	1 bit DAC Output	0,1	FIX	0				Open

3D COMB
uPD64082

PIC IMP
TA1226
N

ADJUSTMENT ITEMS (4 OF 6)

KV-32FV27 / 36FS13 / 36FS17 / 36FV27 / 38FS17

Register Name	Description	Data Range	Adj/Fix	Initial Data	36"38"			Comments
					32" FV	FS	FV	
7	GCUR	Controls Curve of Gamma Correction	0,1	FIX	0			0: -2.4dB, -1.6dB
8	BLKC	Black Compensation	0,1	FIX	1			OFF
9	TEST	Test Bit	0-3	FIX	3			Pin 20 Output: 0=RS, 1=SHR, 2=RTC, 3=TEST3
10	RS	Gain of DL APACON at 8MHz Peak	0-7	FIX	0			0: 0dB, 7: +6dB
11	RTC	Compensation Ratio of SRT and DL APACON	0-7	FIX	4			0: Min, 7: Max
12	VMLO	Gain for Menu VM=LOW	0-2	FIX	1			0=off, 1=-6dB, 2=-3dB, 3=0dB
0	PIPH	PIP H-position	0-127	FIX	34			0:Right, 127:Left
1	PIPV	PIP V-position	0-63	FIX	22			0:Up, 63:Down
2	POFV	Position Offset Vertical	0-15	FIX	4			Vertical PIP Offset from Center
3	POFH	Position Offset Horizontal	0-31	FIX	17			Horizontal PIP Offset from Center
4	VACQ	PIP V-Acquisition Window	0-15	FIX	8			0: -8 lines up, 8: Center, 15: +7 pixels down
5	HACQ	PIP H-Acquisition Window	0-15	FIX	8			0: -16 pixels right, 8: Center, 15: +14 pixels left
6	PVID	PIP Vsync Delay	0-31	FIX	0			Step size 3.56ms< 1 step < 6.4ms
7	VERB	Vertical Blanking	0,1	FIX	0			0: DAC Blanking during line blanking interval, 1: DAC Blanking during line AND field intervals
8	PSEL	SELDOWN Bit Control	0,1	FIX	1			0:Open out, 1:TTL out
9	SELD	Select PYS Delay	0-15	FIX	8			0: -8 clock cycles, 8: NO delay, 15: +7 clock cycles
10	4SLD	Select PYS Delay YUV Input	0-15	FIX	8			0: -8 clock cycles, 8: NO delay, 15: +7 clock cycles
11	PCOR	Position Correction	0,1	FIX	1			0: OFF, 1: ON (Position correction during varying parent frequency)
12	AGCR	AGC Gain Control Reset	0,1	FIX	1			0: Normal, 1: Reset (transition of 0->1 resets AGC)
13	AGCM	AGC Mode	0-3	FIX	0			0: Sync height & ADC Overflow, 1: sync height, 2: ADC overflow, 3: AGC Fixed
14	AGCV	ADC Value	0-15	FIX	11			0: Input voltage 0.5Vpp, 15: Input Voltage is 1.5Vpp
15	CLMD	Clamp Pulse Duration	0-3	FIX	0			0: 0.5ms, 1: 0.9ms, 2: 1.2ms, 3: 1.5ms
16	CLMS	Clamp Pulse Start	0-3	FIX	2			0: 1.0ms, 1: 1.5ms, 2: 2.0ms, 3: 2.5ms
17	LMOF	Luminance Offset	0-3	FIX	3			0: NO OFFSET, 1: +16LSB, 2: -8LSB, 3: -16LSB
18	PYDL	Y/C Delay	0-15	FIX	8			0: -8 pixels, 15: +7 pixels
19	FRMY	Frame Y Level	0-15	Fix by Model	6	4	5	Adjusts 4 MSB of Frame Y Signal
20	FRSL	Frame Type Select	0,1	FIX	1			0: Normal frame, 1: 3D frame
21	FRWH	Frame Width Horizontal	0-7	FIX	4			0: No frame, 7: 7 pixels
22	FRVW	Frame Width Vertical	0-3	FIX	1			0: No frame, 3: 3 lines
23	PBSV	PIP Block Selection (PIPBG vs PIPBLK)	0,1	FIX	0			Blocking Type: 0= PIPBG(gray), 1=PIPBLK(black)
0	CKIL	Color Killer Threshold	0-3	FIX	0			0: -30dB, 1: -18dB, 2: -24dB, 3: color always off
1	COLO	Color Killer Off	0,1	FIX	0			0: Color killer active, 1: Color always on
2	PSHU	PIP Sub Hue	0-15	FIX	7			PIP sub hue
3	4PSU	PIP Sub Hue YUV Input	0-15	FIX	7			PIP sub hue
4	4PLL	Chroma PLL Off	0,1	FIX	0			0: Chroma PLL active, 1: Chroma PLL free running
5	SCAD	Sub Carrier Freq Fine Adjustment	0-31	FIX	6			0: -150 PPM, 7: default, 31: +310 PPM
6	PCON	PIP Contrast	0-15	FIX	0			0: nominal, 15: +30% increase
7	4PCN	PIP Contrast YUV Input	0-15	FIX	0			0: nominal, 15: +30% increase
8	PBRT	PIP Brightness	0-15	FIX	2			0: nominal, 15: +20% increase
9	4PBR	PIP Brightness YUV Input	0-15	FIX	2			0: nominal, 15: +20% increase
10	IPER	V Pedestal	0-15	FIX	0			0: nominal, 15: +15LSB offset
11	4IPR	V Pedestal YUV Input	0-15	FIX	4			0: nominal, 15: +15LSB offset
12	IPEG	Y Pedestal	0-15	FIX	0			0: nominal, 15: +15LSB offset
13	4IPG	Y Pedestal YUV Input	0-15	FIX	0			0: nominal, 15: +15LSB offset
14	IPEB	U Pedestal	0-15	FIX	1			0: nominal, 15: +15LSB offset
15	4IPB	U Pedestal YUV Input	0-15	FIX	1			0: nominal, 15: +15LSB offset
16	BLKR	Invert V Pedestal	0,1	FIX	1			0: Offset add during blanking, 1: Offset add during active
17	BLKB	Invert U Pedestal	0,1	FIX	0			0: Offset add during blanking, 1: Offset add during active
18	PVGA	Peak Level V Output	0-255	FIX	84			0: 0.3Vpp, 192: 1.0Vpp, 255: 1.2Vpp
19	4PVG	Peak Level V Output YUV Input	0-255	FIX	69			0: 0.3Vpp, 192: 1.0Vpp, 255: 1.2Vpp

ADJUSTMENT ITEMS (5 OF 6)

KV-32FV27 / 36FS13 / 36FS17 / 36FV27 / 38FS17

Register Name	Description	Data Range	Adj/Fix	Initial Data	32"			36"/38"			Comments	
					FV	FS	FV	FV	FS	FV		
20	PUGA	Peak Level U Output	0-255	FIX	52	52			0: 0.3Vpp, 192: 1.0Vpp, 255: 1.2Vpp			
21	4PUG	Peak Level U Output YUV Input	0-255	FIX	36	36			0: 0.3Vpp, 192: 1.0Vpp, 255: 1.2Vpp			
22	PYGA	Peak Level Y Output	0-255	Fix by Model	104	25	35			0: 0.3Vpp, 192: 1.0Vpp, 255: 1.2Vpp		
23	4PYG	Peak Level Y Output YUV Input	0-255	Fix by Model	129	27	37			0: 0.3Vpp, 192: 1.0Vpp, 255: 1.2Vpp		
24	CHRO	UV Output Polarity	0,1	FIX	0	0			0: +U/+V output, 1: -U/-V output			
25	SATA	Color Saturation Adjustment	0-15	FIX	8	9			0: No color, 8: nominal saturation, 15: nominal x 1.875			
26	YPKG	Y Peaking Adjustment	0-7	FIX	7	7			0: No peaking, 7: Strongest Peaking			
27	4YPK	Y Peaking Adjustment YUV Input	0-7	FIX	7	7			0: No peaking, 7: Strongest Peaking			
28	YCOR	Y Coring Enable	0,1	FIX	1	1			0: OFF, 1: ON			
29	CLPL	Clamp Pulse Length	0-3	FIX	0	0			0=5ms, 1=3.75ms, 2=2.5ms, 3=1.25ms			
0	RTCO	Rotation Coil	0-63	FIX	31	31			Rotation coil adjustment for nominal value			
1	T2CO	Sub Color TV Input	0-7	Adj	120	120	111	106		TV Sub Color Adjustment (CXA2039 YUV Models AT DAC)		
2	V2CO	Sub Color Video Input	0-7	Adj	120	120	122	114		VIDEO1-3 Sub Color Adjustment (CXA2039 YUV Models at DAC)		
3	4COL	Sub Color YUV Input	0-7	Adj	120	120	117			YUV Sub Color Adjustment (CXA2039 YUV Models at DAC)		
4	T2HU	Sub Hue TV Input	0-7	Adj	15	15	16			TV Sub HUE Adjustment (CXA2039 YUV Models at DAC)		
5	V2HU	Sub Hue Video Input	0-7	Adj	15	15	18			VIDEO1-3 Sub HUE Adjustment (CXA2039 YUV Models at DAC)		
6	4SHU	Sub Hue YUV Input	0-7	Adj	15	15	16			YUV Sub HUE Adjustment (CXA2039 YUV Models at DAC)		
0	XJGL	Decoding Result Held For VCR Scanning	0,1	FIX	0	0			Hold data during VCR variable speed playback			
1	LNJ1	ID-1 Signal Location	0,1	FIX	0	0			Search for ID-1 data +/- one line in VBI			
0	DUM1	CCD Dummy Register							Used to display CC data in Service Mode			
1	VOSD	VChip OSD Test Register	0,1	FIX	0	0			Used to display VChip data in Service Mode			
0	DISP	OSD Position	0-63	Adj	15	15			OSD horizontal position			
1	RAMW	OSD RAM Window	0,1	FIX	0	0						
2	ICMP	OSD Non-Interface Threshold	0-15	FIX	4	4			0: 0 fields, 15: 15 fields			
3	IPOR	OSD Non-Interface Even/Odd Display	0-3	Fix	1	1			0=Even OSD display, 1= Odd OSD display, 2&3=N/A			
4	FAWD	Factory AutoWide Mode	0,1	Fix	0	0			0= No Autowide in RF mode, 1= Autowide in RF Mode			
5	TILT	Tilt Correction Spec	0,1	Fix	0	2			0= New Tilt Spec for AA2U (less VANG offset), 1= AA2W/AA2H Tilt Spec			
PROGRAM FOR EACH PALETTE MODE						VIVID	STD	MOVIE	SPORTS			
0	VPIC	Set Current Program Palette PICTURE Reset Level	0-63	FIX by Palette	50	63	50	38	63		0=MIN, 63=MAX	
1	VBRT	Set Current Program Palette BRIGHTNESS Reset Level	0-63	FIX by Palette	31	31	31	31		0=MIN, 63=MAX		
2	VCOL	Set Current Program Palette COLOR Reset Level	0-63	FIX by Palette	31	38	31	31		0=MIN, 63=MAX		
3	VSHP	Set Current Program Palette SHARPNESS Reset Level	0-63	FIX by Palette	31	31	31	31		0=MIN, 63=MAX		
4	VVM	Set Current Program Palette VM Reset Level	0-3	FIX by Palette	1	2	1	0		0=OFF, 1=LOW, 2=HIGH, 3=N/A		
5	VTRI	Set Current Program Palette Color Temp Reset Setting	0-3	FIX by Palette	1	0	1	2		0=COOL, 1=NEUTRAL, 2=WARM, 3=N/A		
6	VGMA	Set Current Program Palette YC/I GAMMA	0-3	FIX by Palette	2	3	2	2		0=GAMMA CORRECTION OFF, 3=+12 IRE CORRECTION @ 40 IRE INPUT		
7	VBLK	Set Current Program Palette Black Stretch	0,1	FIX by Palette	1	1	1	1		0=BLACK STRETCH OFF, 1=BLACK STRETCH ON		
8	VAPA	Set Current Program Palette APACON	0,1	FIX by Palette	1	0	1	1		0=APACON OFF, 1=APACON ON		
9	VSRT	Set Current Program Palette SRT	0,1	FIX by Palette	0	1	0	0		0=SRT OFF, 1=SRT ON		
10	VNRM	Set Current Program Palette NRMD	0,1	FIX by Palette	0	0	0	0		0=3D YCS, 1=2D YCS		

ADJUSTMENT ITEMS (6 OF 6)

KV-32FV27 / 36FS13 / 36FS17 / 36FV27 / 38FS17

Register Name	Description	Data Range	Adj/Fix	Initial Data	32"		36"/38"		Comments
					FV	FS	FV		
0 RDOF	Red Drive offset for WARM	0-63	FIX	0			0		Red Drive MOVIE=RDRV(RDR4)-RDOF
1 GDOF	Green Drive offset for WARM	0-63	FIX	4			4		Green Drive MOVIE=GDRV(GDR4)-GDOF
2 BDOF	Blue Drive offset for WARM	0-63	FIX	15			15		Blue Drive MOVIE=BDRV(BDR4)-BDOF
3 RCOF	Red Cutoff offset for WARM	0-31	FIX	0			0		Red Cutoff MOVIE=RCUT(RCU4)-RCOF
4 GCOF	Green Cutoff offset for WARM	0-31	FIX	2			2		GREEN Cutoff MOVIE=GCUT(GCU4)-GCOF
5 BCOF	Blue Cutoff offset for WARM	0-31	FIX	7			7		BLUE Cutoff MOVIE=BCUT(BCU4)-BCOF
6 DCOF	Dynamic Color setting for WARM	0,1	FIX	0			0		0=OFF, 1=ON
0 ID-0	ID-0 (Language/Color Systems)	0-255	Fix by model	89					See ID map
1 ID-1	ID-1 (Input/Output Configuration)	0-255	Fix by model	63					See ID map
2 ID-2	ID-2 (Audio)	0-255	Fix by model	239					See ID map
3 ID-3	ID-3 (OSD/Timer/V-chip/Ch Fix)	0-255	Fix by model	99					See ID map
4 ID-4	ID-4 (CC/Spot Killer/etc)	0-255	Fix by model	139					See ID map
5 ID-5	ID-5 (V-series Features/etc)	0-255	Fix by model	181					See ID map
6 ID-6	ID-6 (PIP/Ant Sw related)	0-255	Fix by model	6					See ID map
7 ID-7	ID-7 (Special Models/etc)	0-255	Fix by model	24					See ID map

VALUE = Not Used for AA-2U
VALUE = Fixed Item For AA-2U

4-5. FEATURE ID MAP

ID	7	24	SERVICE
ID7		TV	00011000
M306V5ME-1015P		NVM:G	
VERSION: 1.0__			

Note: Check to be sure NVM is good (NVM: G)

Model	Destination	ID-0	ID-1	ID-2	ID-3	ID-4	ID-5	ID-6	ID-7
KV-32FV27	US	89	63	239	99	139	177	6	24
KV-32FV27	CND	89	63	239	83	139	177	6	24
KV-36FS13	US	89	31	95	99	139	177	0	17
KV-36FS13	HAWAII	89	31	95	99	139	177	0	17
KV-36FS17	US	89	31	95	99	139	177	6	17
KV-36FS17	HAWAII	89	31	95	99	139	177	6	17
KV-36FV27	US	89	63	239	99	139	177	6	24
KV-36FV27	CND	89	63	239	83	139	177	6	24
KV-36FV27	HAWAII	89	63	239	99	139	177	6	24
KV-38FS17	E	25	31	95	195	155	177	6	81

4-6. PROGRAM PALETTE SETTINGS

		Vivid	Standard	Movie	Sports
Picture	(VPIC)	63	50	38	63
Brightness	(VBRT)	31	31	31	31
Color	(VCOL)	38	31	31	38
Sharpness	(VSHP)	31	31	31	31
VM ¹⁾	(VVM)	2	1	0	2
C Temp ¹⁾	(VTRI)	2	1	0	2
Gamma	(VGMA)	3	2	2	2
Blk Comp	(VBLK)	1	1	1	1
V Apa Comp	(VAPA)	0	1	1	1
SRT ON/OFF	(VSRT)	1	0	0	0
NRMD	(VNRM)	0	0	0	1

¹⁾ Setting of 3 is invalid for these registers

TO PROGRAM PROGRAM PALETTE RESET LEVELS

1. Switch to Program Palette to edit.
2. Enter Service Mode.
3. Set desired values for current Program Palette settings.
4. Write into memory by pressing **[MUTING]** then **[ENTER]**.
5. Repeat steps 1-4 for each palette.

Example

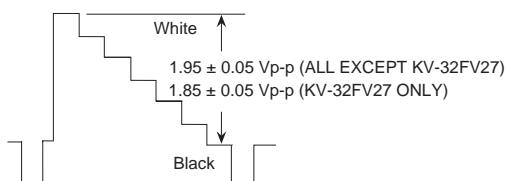
To Set RESET Level of Standard Mode to 60%

1. Switch to STANDARD Palette.
2. Enter Service Mode.
3. Change value of VPIC to 38 ($38/63 = 60\%$)
4. Write into memory by pressing **[MUTING]** then **[ENTER]**.
5. Enter Video Menu and press **[RESET]**.
6. Reset level of picture for STANDARD PALETTE ONLY is now 38 steps.

4-7. A BOARD ADJUSTMENTS

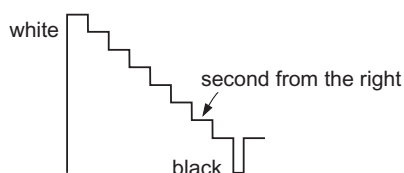
SUB CONTRAST ADJUSTMENT (RDRV, RDR4)

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 to pin ① of CN351 on the A Board.
4. Set RDRV with **[1]** and **[4]**.
5. Adjust with **[3]** and **[6]** for: 1.85 ± 0.05 Vp-p (KV-32FV27 ONLY), 1.95 ± 0.05 Vp-p (ALL EXCEPT KV-32FV27).
6. Write into memory by pressing **[MUTING]** then **[ENTER]**.
7. Repeat steps 1-6 for RDR4 using Video 4 input.



SUB BRIGHT ADJUSTMENT (SBRT)

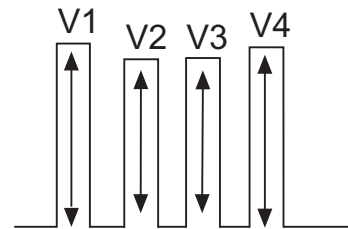
1. Set to Service Adjustment Mode.
2. Input a gray scale pattern signal.
3. Set the PICTURE to minimum, and BRIGHT to normal.
4. Select SBRT with **[1]** and **[4]**.
5. Adjust SUB BRIGHT level with **[3]** and **[5]** so that the stripe second from the right is faintly visible.
6. Write into the memory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



SUB HUE, SUB COLOR ADJUSTMENT (T2HU, T2CO, V2HU, V2CO, 4SHU, 4COL)

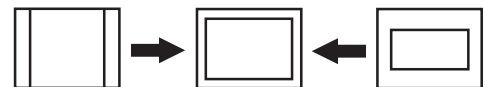
Note: T2HU and T2CO are for Tuner inputs.
V2HU and V2CO are for all other Video inputs.
4SHU and 4COL are for Video 4 input.

1. Input a 75% color-bar signal.
2. Set to Service Adjustment Mode and set: VIDEO mode = Standard, PICTURE = 100%, COLOR = 50%, HUE = 50%.
3. Connect an oscilloscope to Pin ③ of CN351 on the A Board.
4. Select T2HU and T2CO with **[1]** and **[4]**.
5. Adjust with **[3]** and **[6]** for a flat ± 50 mV.
6. Write into memory by **[MUTING]** then **[ENTER]**.
7. Repeat steps 1-6 for V2HU & V2CO and 4SHU & 4COL.



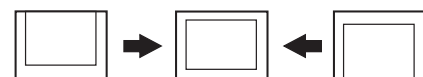
V. SIZE ADJUSTMENT (VSIZ)

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



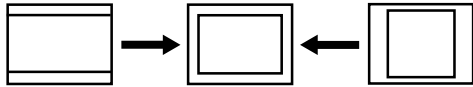
V. POSITION ADJUSTMENT (VPOS)

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



H. SIZE ADJUSTMENT (HSIZ)

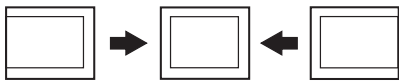
1. Input a monoscope signal.
2. Set to Service Adjustment Mode.
3. Select HSIZ with **1** and **4**.
4. Adjust with **3** and **6** for the best vertical size.
5. Write into the memory by pressing **MUTING** then **ENTER**.



H. POSITION ADJUSTMENT (HPOS)

HPOS Range is from 0~15.

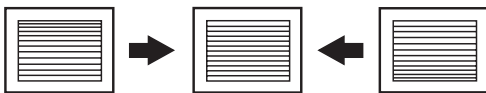
1. Input a monoscope signal.
2. Set the Service Adjustment Mode.
3. Select HPOS with **1** and **4**.
4. Adjust with **3** and **6** for the best horizontal center.
5. Write into the memory by pressing **MUTING** then **ENTER**.



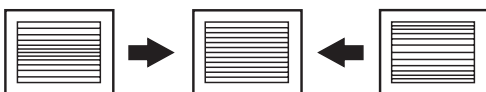
V LINEARITY (VLIN), V CORRECTION (VSCO), PIN AMP (PAMP) AND PIN PHASE (PPHA) ADJUSTMENTS

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

V LINEARITY(VLIN)



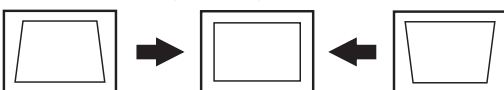
VS CORRECTION (VSCO)



PIN AMP (PAMP)



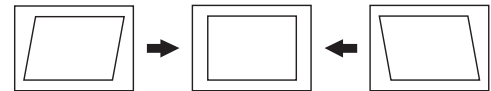
PIN PHASE (PPHA)



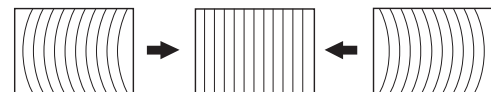
V ANGLE (VANG), V BOW (VBOW), UPPER PIN (UPIN) AND LOW PIN (LPIN) ADJUSTMENTS

1. Input a monoscope signal.
2. Set to Service Adjustment Mode.
3. Select VANG, VBOW, UPIN, and LPIN with **1** and **4**.
4. Adjust with **3** and **6** for the best picture.
5. Write the memory by pressing **MUTING** then **ENTER**.

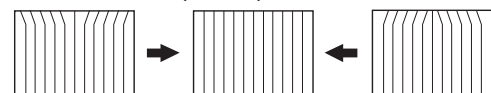
V ANGLE (VANG)



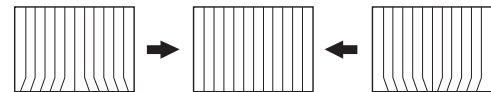
V BOW (VBOW)



UPPER PIN (UPIN)



LOW PIN (LPIN)



OSD POSITION ADJUSTMENT (DISP)

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

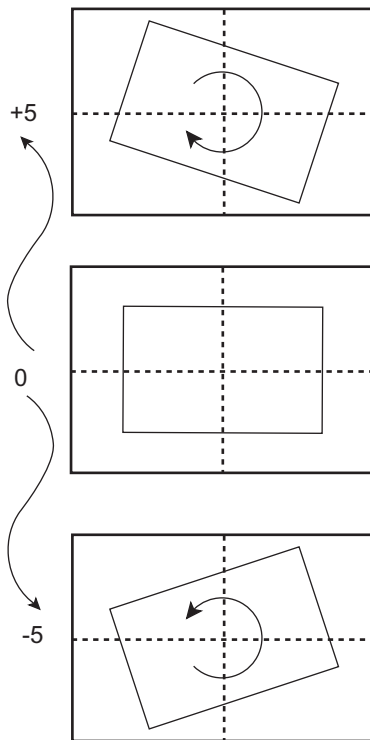
OP	0	16	Service
DISP		TV	

ROTATION COIL ADJUSTMENT

1. Input a monoscope signal.
2. Push the Menu button on the Remote.
3. Select the "Set-up" mode.
4. Select "Tilt Correction". Confirm that number (0) color changes to red.
5. Push **↑** (+) on the Remote. Confirm that the number increases up to +5 and the picture rotates clockwise.
6. Push **↓** (-) on the Remote. Confirm that the number decreases down to -5 and the picture rotates counter-clockwise.
7. Push **↑** (+) on the Remote. Return the value to 0.

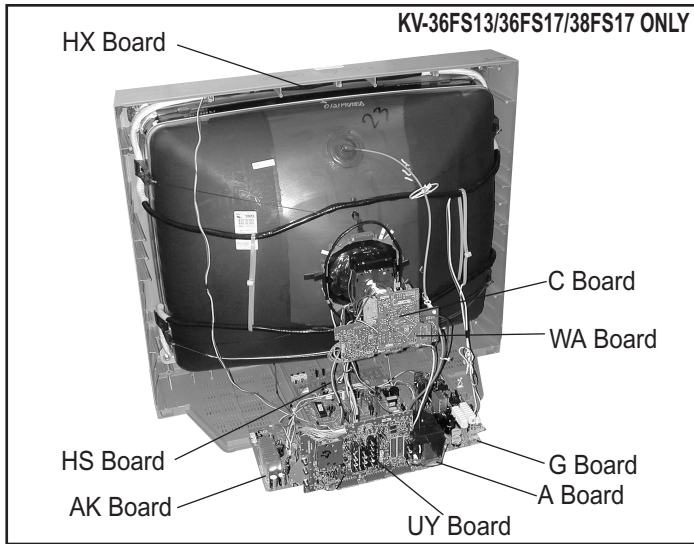
SET-UP

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



SECTION 5: DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



5-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS INFORMATION

All capacitors are in μF unless otherwise noted. pF : μF 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 : $\frac{1}{4}$ W

$\frac{1}{4}$ W in resistance, $\frac{1}{10}$ W and $\frac{1}{8}$ W in chip resistance.

 : nonflammable resistor.

 : fusible resistor.

Δ : internal component.

 : panel designation and adjustment for repair.

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

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.

All voltages are in V.


S : Measurement impossibility.



 : B+line.

 : B-line. (Actual measured value may be different).

 : signal path. (RF)

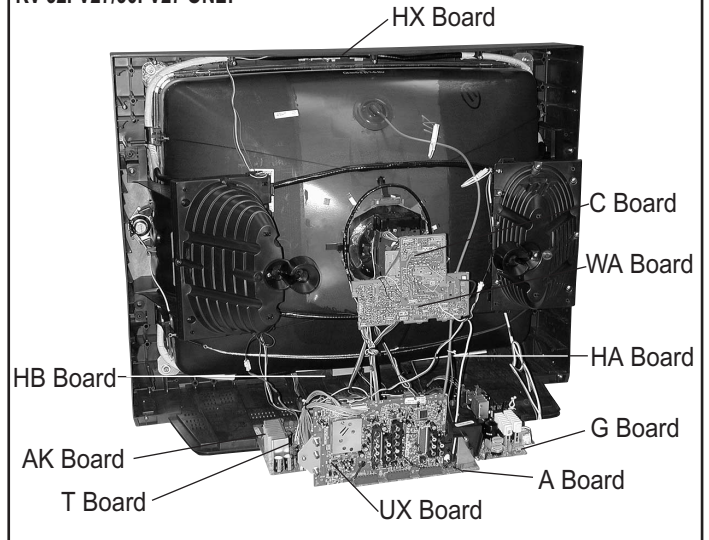
Circled numbers are waveform references.



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 necessary, replace only with the value originally used.

When replacing components identified by , make the necessary adjustments as indicated. If the results do not meet the specified value, change the component identified by  and repeat the adjustment until the specified value is achieved. (Refer to Safety Related Adjustments on Page 14.)


When replacing the parts listed in the table below, it is important to perform the related adjustments.

KV-32FV27/36FV27 ONLY




Part Replaced ()	Adjustment ()
R387, R550, R529, R530, R531, R532, R533, D519, D520, D521, IC501, C531, C532, T503, IC351, Q301, R356, R359, R361, D302.....A Board	HV HOLD-DOWN R530,R531
IC643, R661.....G Board	


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
: PS	STYROL		
: PP	POLYPROPYLENE		
: PT	MYLAR		
: MPS	METALIZED POLYESTER		
: MPP	METALIZED POLYPROPYLENE		
: ALB	BIPOLAR		
: ALT	HIGH TEMPERATURE		
: ALR	HIGH RIPPLE		

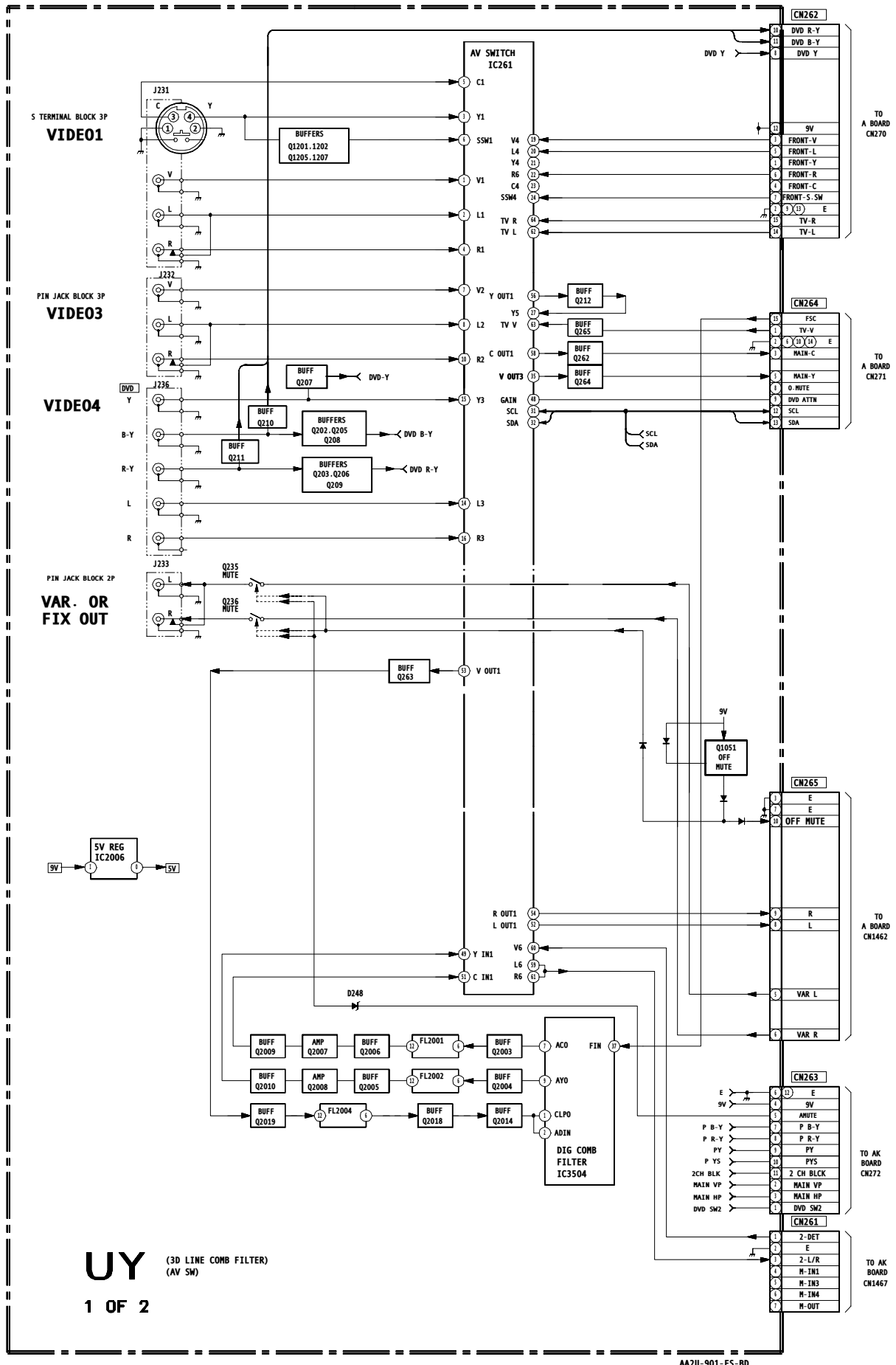
The components identified by shading and Δ symbol are critical for safety. Replace only with part number specified.

The symbol  indicates a fast operating fuse and is displayed on the component side of the board. Replace only with fuse of the same rating as marked.

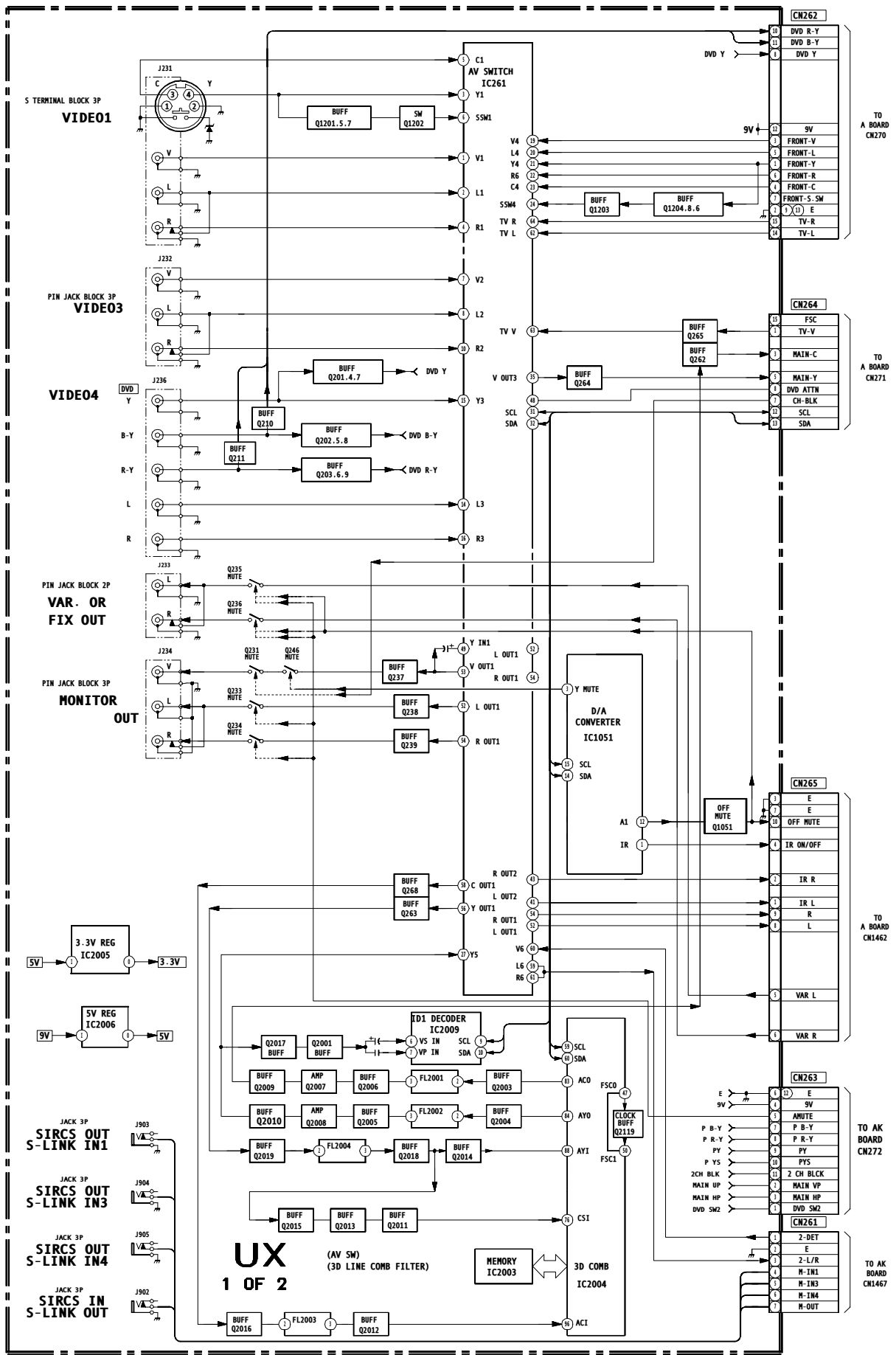
Les composants identifiés par un trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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

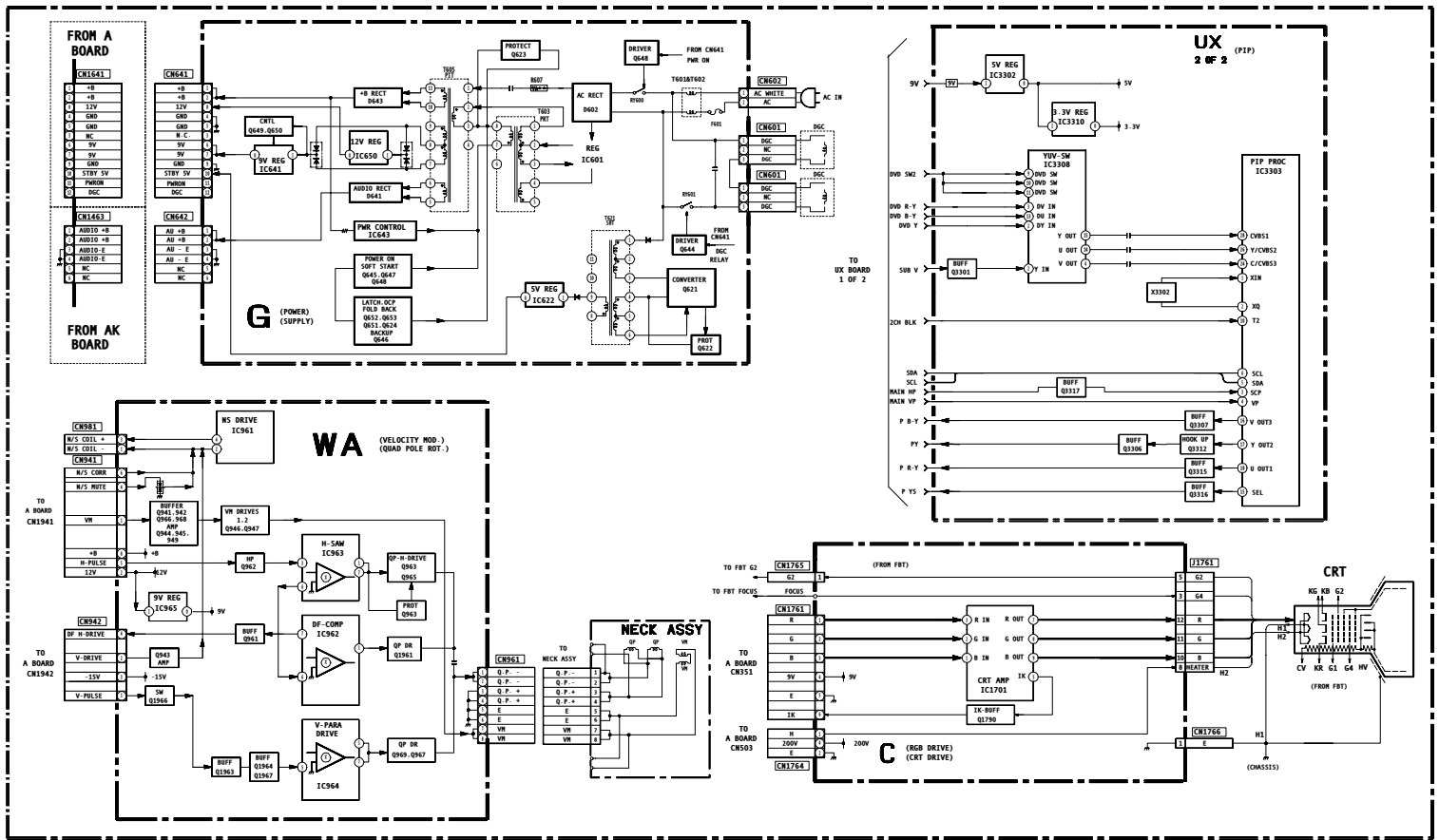
BLOCK DIAGRAM (1 OF 6) (KV-36FS13 / 36FS17/ 38FS17 ONLY)



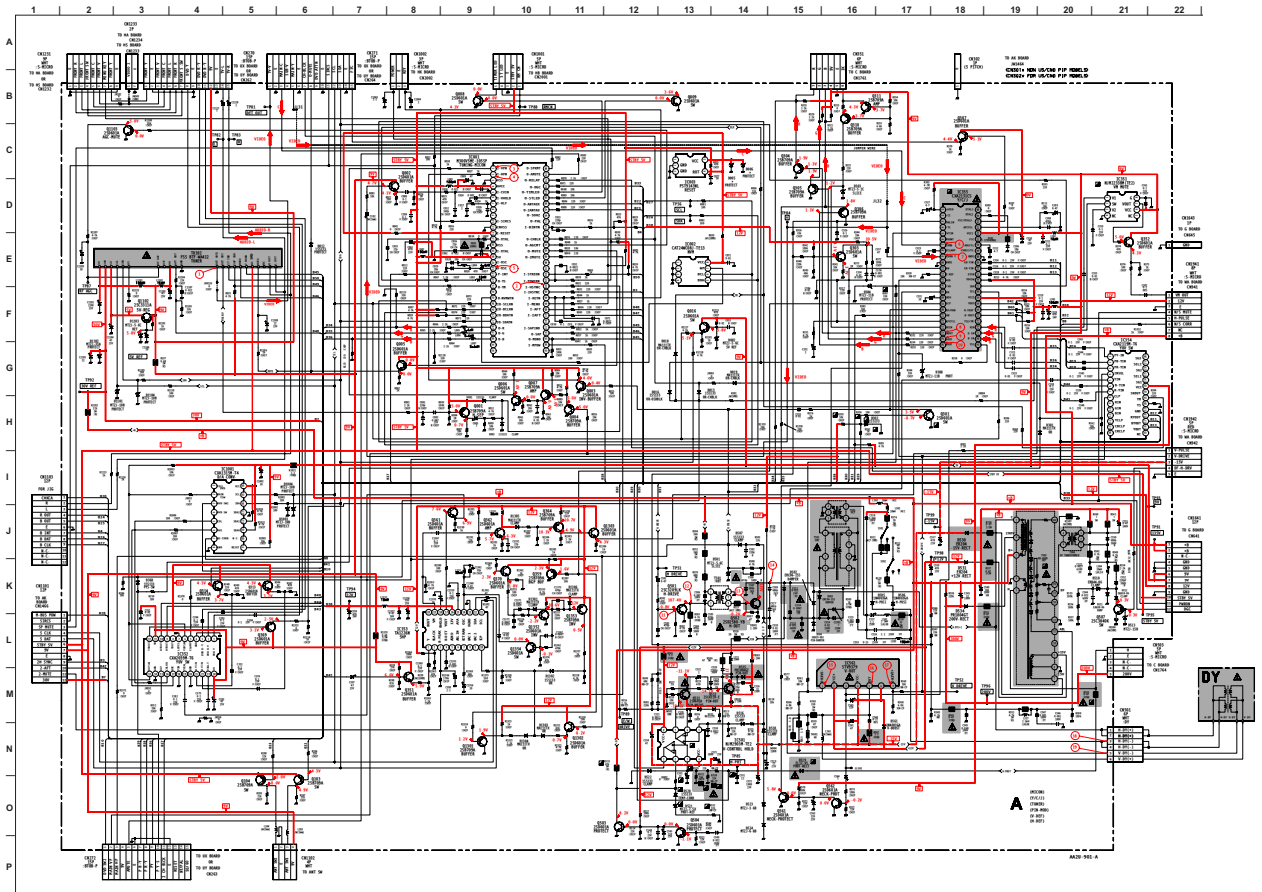
BLOCK DIAGRAM (4 OF 6) (KV-32FV27 / 36FV27 ONLY)



AA2U-901-FV-BD



A BOARD SCHEMATIC DIAGRAM

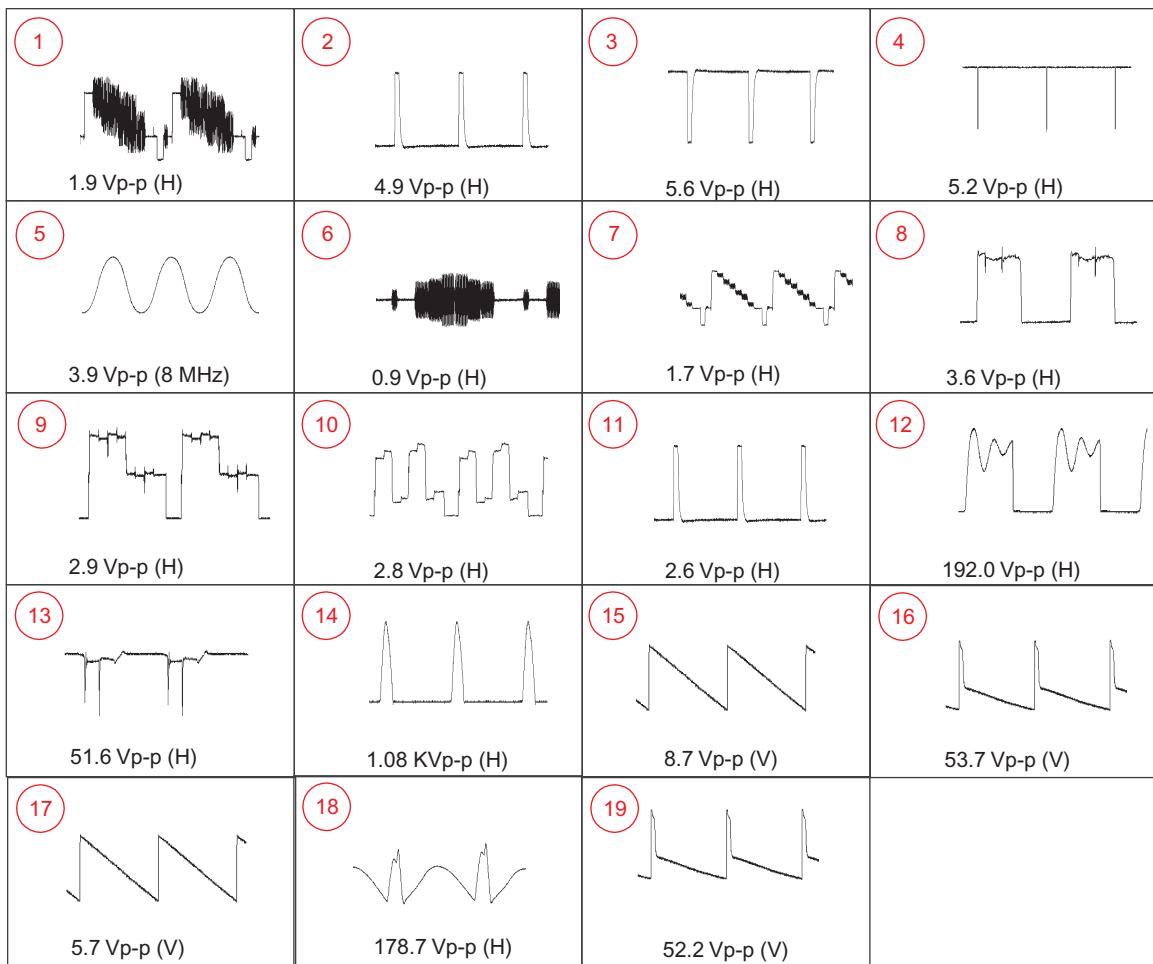


(*) A BOARD VARIANT MODEL LIST

REF. NO.	LOCATION	KV-32FV27	KV-36FS17/38FS17
C1501	I-3	250V	#
D005	B-11	#	MTZJ-T-77-5.6C
D006	B-11	P6KE6.8A	#
R541	G-17	6.8K 3W	2.2K 3W
R560	I-18	6.8K 3W	2.2K 3W

NOTE: # = Not Mounted

A BOARD WAVEFORMS



A BOARD IC VOLTAGE LIST

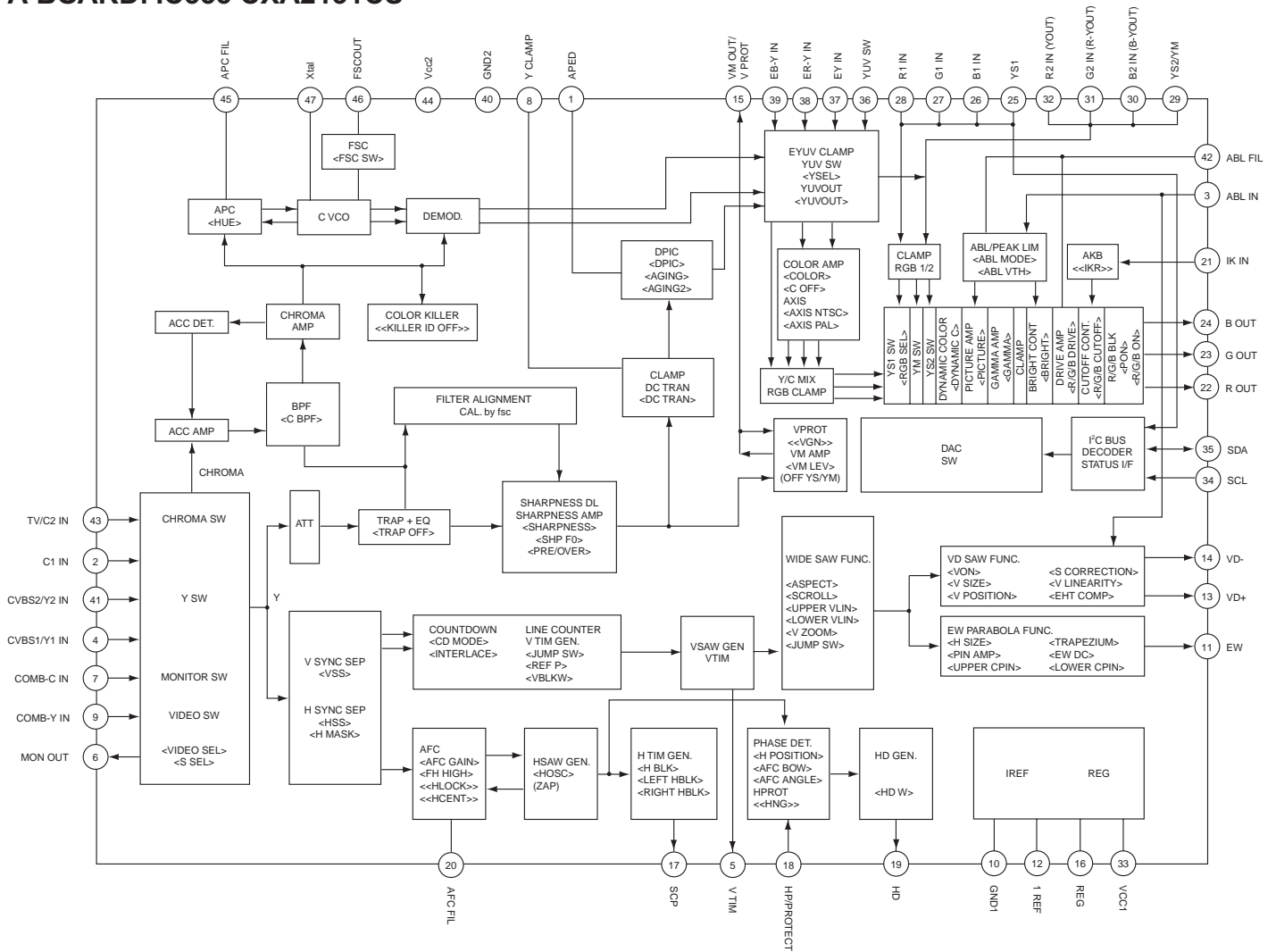
IC001		53	N/C	14	GND	20	0.0	44	9.3
pin	volt	54	5.0	15	2.4	21	0.0	45	5.5
1	1.9	55	N/C	16	4.4	22	N/C	46	5.1
2	4.0	56	N/C	17	4.7	23	9.0	47	1.9
3	GND	57	4.8	18	GND	24	N/C	48	N/C
4	5.0	58	0.0	19	6.0	25	N/C	IC501	
5	2.7	59	0.0	20	GND	26	N/C	pin	volt
6	0.2	60	0.0	21	5.8	27	N/C	1	-3.5
7	1.8	61	0.0	22	5.8	28	N/C	2	8.2
8	N/C	62	4.7	23	5.8	IC355		3	8.0
9	N/C	63	0.0	24	9.0	pin	volt	4	-13.8
10	4.8	64	0.0	IC353		1	3.5	5	2.3
11	GND	IC002		pin	volt	2	N/C	6	2.9
12	5.0	pin	volt	1	4.5	3	1.5	7	13.6
13	2.2	1	GND	2	3.7	4	N/C	8	14.0
14	GND	2	GND	3	4.9	5	5.0	IC561	
15	1.2	3	GND	4	4.5	6	N/C	pin	volt
16	4.8	4	GND	5	GND	7	4.5	1	1.4
17	2.7	5	4.7	6	N/C	8	4.8	2	14.0
18	2.7	6	4.7	7	4.5	9	5.3	3	-11.9
19	3.3	7	0.0	8	N/C	10	GND	4	-13.8
20	0.0	8	5.0	9	N/C	11	3.4	5	0.4
21	0.0	IC003		10	1.3	12	2.4	6	14.4
22	N/C	pin	volt	11	4.7	13	3.5	7	1.4
23	4.8	1	N/C	12	4.7	14	3.5	IC1001	
24	4.7	2	GND	13	GND	15	5.8	pin	volt
25	4.7	3	GND	14	11.4	16	7.6	1	N/C
26	4.7	4	5.0	15	5.6	17	1.2	2	0.1
27	4.7	5	5.0	16	11.7	18	3.5	3	0.3
28	0.0	IC351		17	7.6	19	1.9	4	N/C
29	0.0	pin	volt	18	1.3	20	2.5	5	4.4
30	0.0	1	5.8	19	3.6	21	2.0	6	4.7
31	N/C	2	0.3	20	N/C	22	1.3	7	4.7
32	N/C	3	5.3	IC354		23	1.2	8	GND
33	N/C	4	GND	pin	volt	24	1.2	9	9.3
34	0.0	5	N/C	1	4.0	25	0.0	10	N/C
35	0.0	6	9.4	2	4.0	26	4.7	11	9.3
36	0.0	7	5.0	3	4.0	27	4.7	12	9.3
37	5.4	8	GND	4	0.3	28	4.7	13	GND
38	N/C	IC352		5	4.0	29	N/C	14	4.7
39	4.0	pin	volt	6	4.0	30	4.3	15	4.7
40	2.9	1	5.8	7	4.0	31	4.3	16	9.3
41	4.9	2	5.8	8	2.2	32	3.7	All voltages are in V	
42	5.0	3	5.8	9	N/C	33	9.1		
43	0.0	4	GND	10	N/C	34	4.7		
44	0.0	5	2.2	11	N/C	35	4.7		
45	4.0	6	0.1	12	N/C	36	7.3		
46	4.0	7	GND	13	N/C	37	4.8		
47	N/C	8	N/C	14	N/C	38	5.5		
48	N/C	9	3.9	15	N/C	39	5.5		
49	0.0	10	3.9	16	3.9	40	GND		
50	0.0	11	9.0	17	3.9	41	N/C		
51	0.0	12	3.1	18	3.9	42	7.3		
52	0.0	13	0.1	19	GND	43	N/C		

TU102	
pin	volt
1	8.7
2	30.3
3	5.0
4	4.7
5	4.7
6	0.0
7	7.4
8	N/C
9	8.8
10	4.8
11	GND
12	5.9
13	5.5
14	5.0
15	6.1
16	0.0
17	0.0
18	5.0
19	0.0
20	N/C
21	4.5
22	4.5

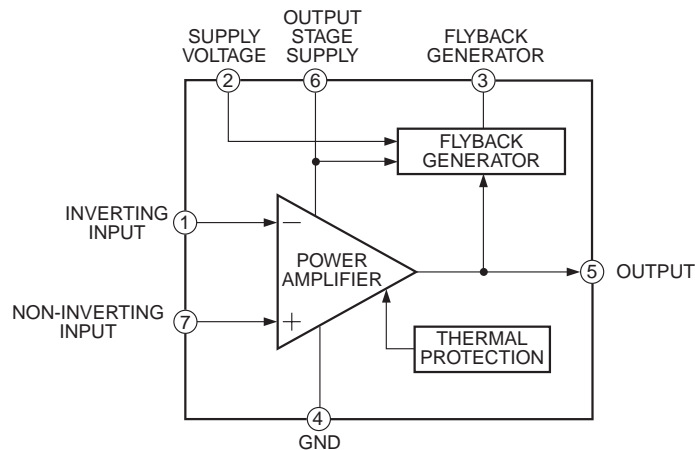
All voltages are in V

A BOARD IC BLOCK DIAGRAMS

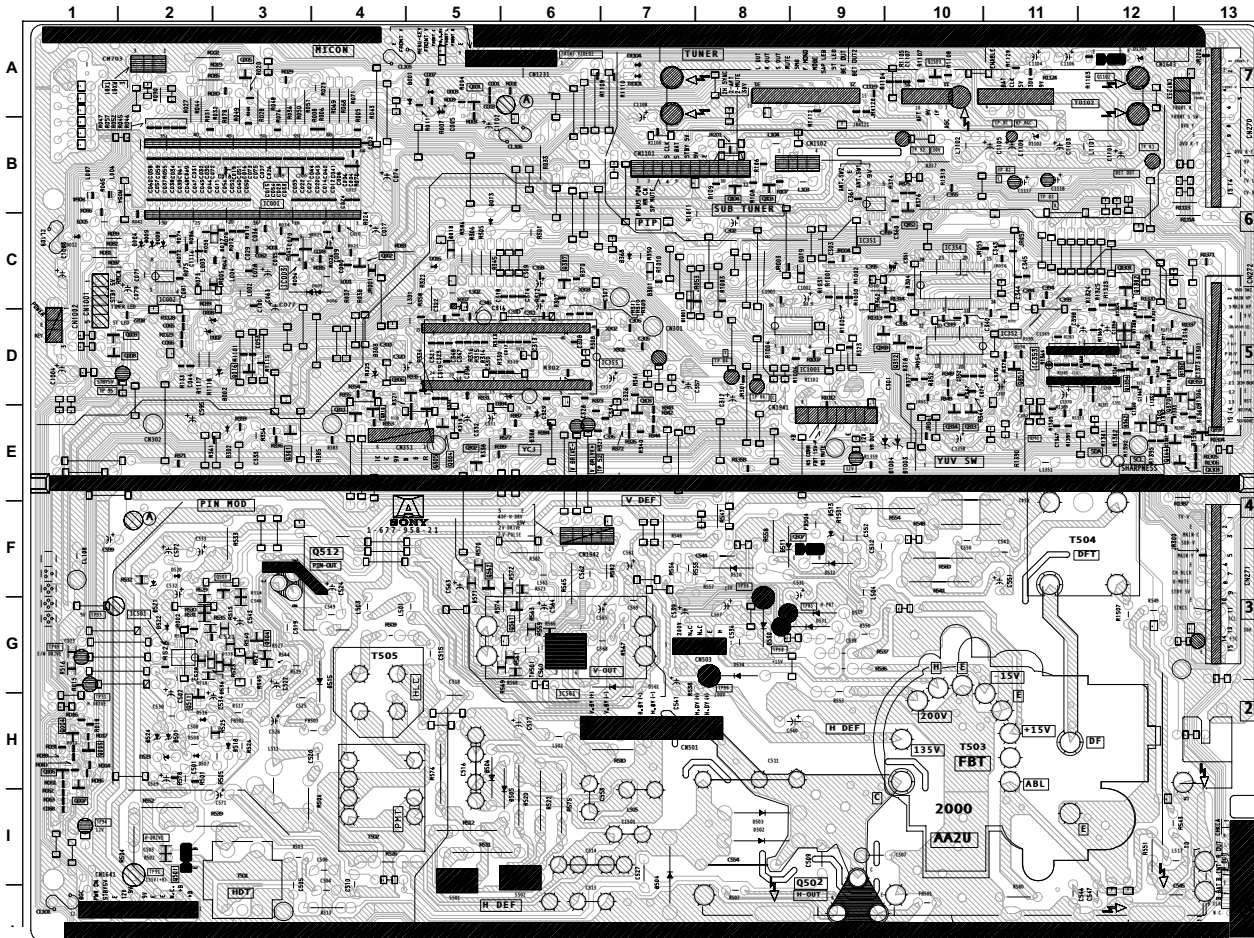
A BOARD: IC355 CXA2131CS



A BOARD: IC561 STV9379



A [MICON, Y/CU, TUNER, PIN-MOD, V. DEF, H. DEF]



A BOARD LOCATOR LIST

DIODE	IC352	D-10
D001	A-4	IC353
D002	D-2	IC354
D003	A-5	IC355
D005	C-3	IC501
D006	C-6	IC561
D012	C-1	IC1001
D013	B-5	TRANSISTOR
D016	C-4	Q001
D018	C-5	Q002
D019	C-8	Q003
D301	C-7	Q004
D302	E-2	Q005
D303	D-4	Q006
D388	C-6	Q007
D384	D-5	Q008
D388	D-5	Q009
D501	H-2	Q016
D502	H-8	Q103
D503	H-8	Q104
D504	I-7	Q301
D505	H-5	Q303
D506	H-5	Q304
D507	H-2	Q305
D510	F-7	Q306
D511	E-8	Q307
D512	F-8	Q310
D513	E-8	Q311
D515	G-3	Q313
D516	G-2	Q314
D518	H-3	Q351
D519	F-8	Q352
D520	F-2	Q359
D521	F-2	Q361
D522	F-2	Q362
D523	H-2	Q364
D524	H-2	Q369
D530	G-8	Q370
D531	F-8	Q501
D534	G-7	Q502
D535	G-2	Q503
D536	G-2	Q504
D561	G-7	Q507
D1003	E-9	Q511
D1004	E-9	Q512
D1101	A-6	Q561
D1102	B-10	Q562
D1103	A-11	Q1102
D1104	A-6	Q1103
D1301	D-12	Q1301
D1302	C-11	Q1302
D1303	C-11	Q1303
D1304	C-11	Q1352
D1305	D-11	Q1353
D1306	D-12	Q1354
IC	CRYSTAL	
IC001	B-2	X001
IC002	C-2	X302
IC003	C-3	
IC351	C-9	

(*) AK BOARD VARIANT MODEL LIST

REF. NO.	LOCATION	KV-36FS13	KV-36FS17/ 38FS17	KV-32FV27 / 36FV27
C101	D-4	#	1 μ F	1 μ F
C102	C-3	#	0.0022 μ F	0.0022 μ F
C104	D-5	#	10 μ F	10 μ F
C106	C-6	#	47 μ F 25V	47 μ F 25V
C108	D-6	#	1000 μ F 25V	1000 μ F 25V
C109	B-7	#	220PF	220PF
C110	B-7	#	0.047 μ F 25V	0.047 μ F 25V
C111	C-7	#	1 μ F	1 μ F
C113	C-5	#	220 μ F 25V	220 μ F 25V
C115	A-5	#	1 μ F	1 μ F
C440	E-8	#	#	22 μ F
C441	F-8	#	#	0.1 μ F 25V
C442	F-8	#	#	1 μ F
C443	F-8	#	#	0.1 μ F 25V
C444	F-8	#	#	1 μ F 16V
C445	F-8	#	#	0.1 μ F 25V
C446	F-8	#	#	1 μ F 16V
C447	F-10	#	#	0.47 μ F 16V
C448	E-9	#	#	0.0047 μ F
C449	E-10	#	#	0.47 μ F 16V
C453	F-7	#	#	0.0047 μ F
C454	F-7	#	#	470PF
C455	F-7	#	#	0.1 μ F 25V
C456	G-7	#	#	0.015 μ F
C457	G-7	#	#	0.0022 μ F
C1450	E-7	#	#	4.7 μ F
C1451	F-4	#	#	4.7 μ F
C1452	F-7	#	#	0.027 μ F 25V
C1906	B-11	#	#	0.01 μ F
C1907	B-10	#	#	10 μ F
C1908	B-12	#	#	0.001 μ F
C1909	B-12	#	#	0.001 μ F
C1910	D-10	#	#	0.001 μ F
C1911	D-10	#	#	0.001 μ F
C1912	D-10	#	#	0.001 μ F
CN1465	F-1	#	#	4P
CN1467	C-13	#	7P	7P
CN1468	B-13	#	1P	1P
D101	C-6	#	MTZJ-T-77-5.6C	MTZJ-T-77-5.6C
D103	C-8	#	1SS133T-77	1SS133T-77
D104	B-8	#	1SS133T-77	1SS133T-77
D108	D-7	#	MTZJ-T-77-10B	MTZJ-T-77-10B
D109	D-7	#	MTZJ-T-77-10B	MTZJ-T-77-10B
IC1403	E-8	#	#	TDA7467D013TR
IC1902	B-11	#	#	NJM2145M-TE2
JW1456	E-7	15MM	15MM	#
L102	C-5	#	10 μ H	10 μ H
L105	C-6	#	100 μ H	100 μ H
Q101	C-6	#	2SC3311A-QRSTA	2SC3311A-QRSTA
Q105	B-7	#	2SB709A-QRS-TX	2SB709A-QRS-TX
Q106	B-6	#	2SD601A-QRS-TX	2SD601A-QRS-TX
Q451	F-2	#	#	2SB734-T-34
Q1902	B-9	#	#	2SB709A-QRS-TX
R101	D-4	#	4.7K	4.7K
R102	C-3	#	33K	33K

NOTE: # = Not Mounted

(*) AK BOARD VARIANT MODEL LIST (CONT.)

REF. NO.	LOCATION	KV-36FS13	KV-36FS17/ 38FS17	KV-32FV27
R103	C-5	#	22K	22K
R104	C-6	#	1K	1K
R112	B-7	#	2.2K	2.2K
R113	B-7	#	100K	100K
R114	B-7	#	1M	1M
R115	C-7	#	10K	10K
R116	C-8	#	10K	10K
R117	C-8	#	4.7K	4.7K
R118	A-7	#	470	470
R119	A-7	#	560	560
R440	F-10	#	#	1K
R441	F-10	#	#	120K
R442	E-10	#	#	4.7K
R443	E-10	#	#	1.5K
R444	E-10	#	#	47K
R445	E-10	#	#	33K
R446	E-9	#	#	3.9K
R450	F-2	#	#	10K
R1408	F-3	#	#	0
R1486	G-10	470	470	#
R1487	G-10	470	470	#
R1420	F-4	0	0	#
R1458	F-7	#	#	220
R1459	F-7	#	#	220
R1474	G-9	680	680	100
R1475	G-10	680	680	100
R1906	B-9	#	#	10K
R1907	B-11	#	#	220
R2916	E-10	#	#	10K
TU101	D-5	#	FSS BTF-FA402	FSS BTF-FA402

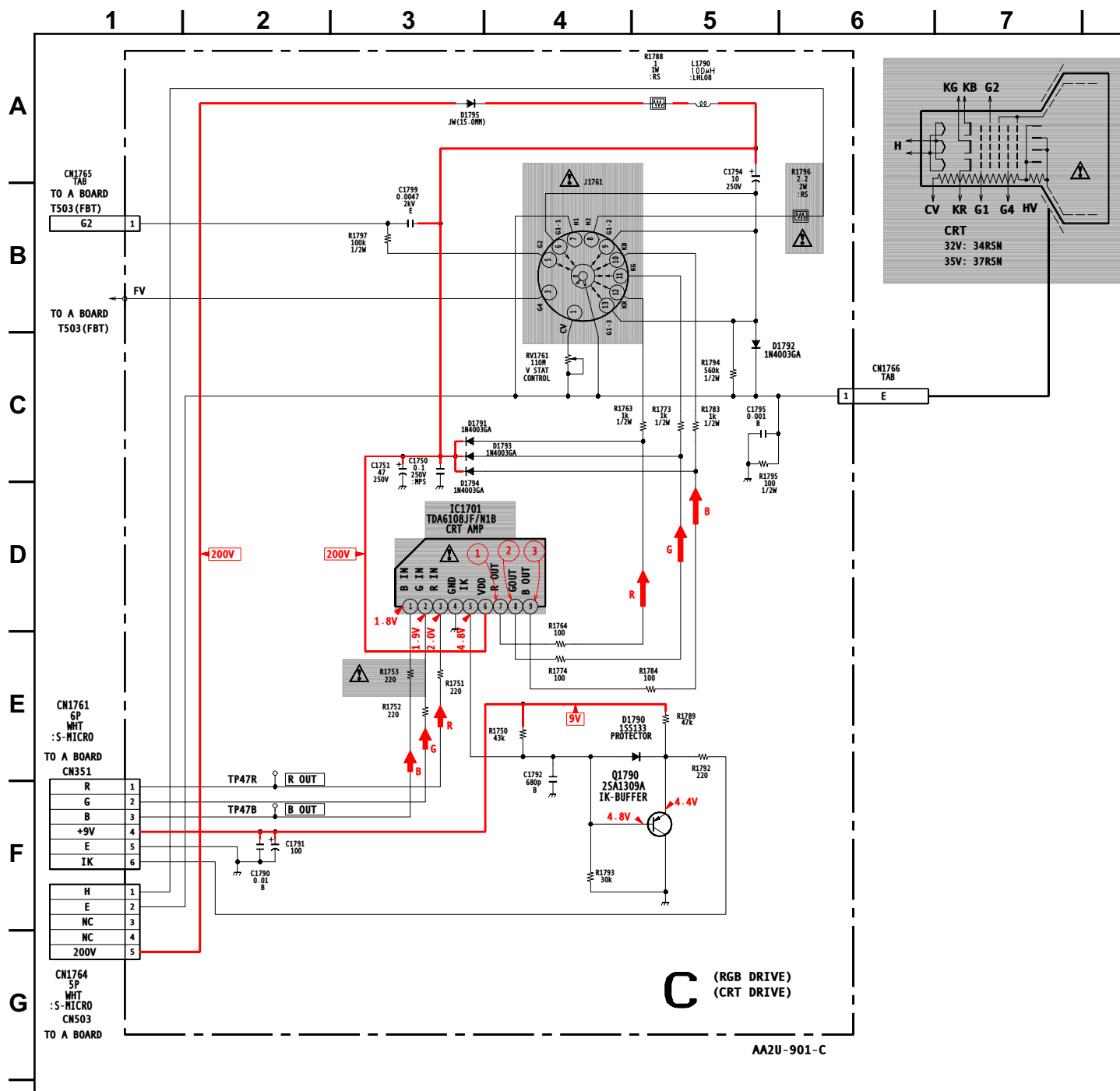
NOTE: # = Not Mounted

AK BOARD IC VOLTAGE LIST

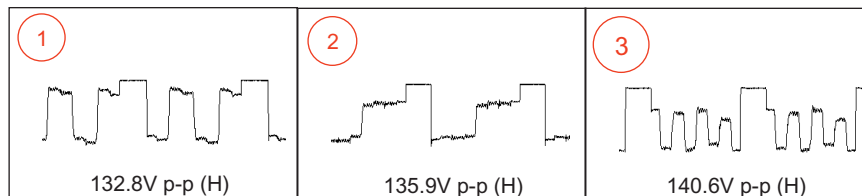
IC1401		16	9.1	IC1402		6	N/C	23	4.5	10	GND	13	0.0
pin	volt	17	4.7	pin	volt	7	4.7	24	4.5	11	4.2	14	0.4
1	GND	18	4.7	1	4.5	8	GND	25	4.5	12	15.7	15	0.4
2	0.7	19	1.9	2	4.5	9	4.5	26	4.5	IC1902		16	GND
3	1.2	20	1.0	3	4.5	10	4.5	27	4.5	pin	volt	All voltages are in V	
4	4.5	21	4.5	4	GND	11	4.5	28	3.9	1	5.0		
5	4.5	22	4.5	5	4.5	12	4.5	IC1461		2	3.9		
6	4.5	23	4.5	6	4.5	13	4.5	pin	volt	3	5.0		
7	4.5	24	4.5	7	4.5	14	4.5	1	1.5	4	NC		
8	4.5	25	4.5	8	9.1	15	4.5	2	4.5	5	GND		
9	4.5	26	4.5	IC1403		16	4.5	3	GND	6	0.0		
10	4.5	27	4.5	pin	volt	17	4.5	4	4.5	7	0.0		
11	0.0	28	4.5	1	3.9	18	4.5	5	1.5	8	0.0		
12	4.5	29	4.5	2	4.5	19	4.5	6	11.6	9	0.7		
13	1.0	30	4.5	3	4.5	20	4.5	7	16.0	10	0.7		
14	1.9	31	2.9	4	GND	21	9.1	8	5.1	11	0.7		
15	9.1	32	4.5	5	4.7	22	4.5	9	34.5	12	N/C		

TU101		16	3.1
pin	volt	17	0.0
1	9.3	18	4.0
2	30.2	All voltages are in V	
3	5.1		
4	4.7		
5	0.0		
6	5.0		
7	7.9		
8	0.0		
9	9.4		
10	7.9		
11	GND		
12	N/C		
13	N/C		
14	N/C		
15	N/C		

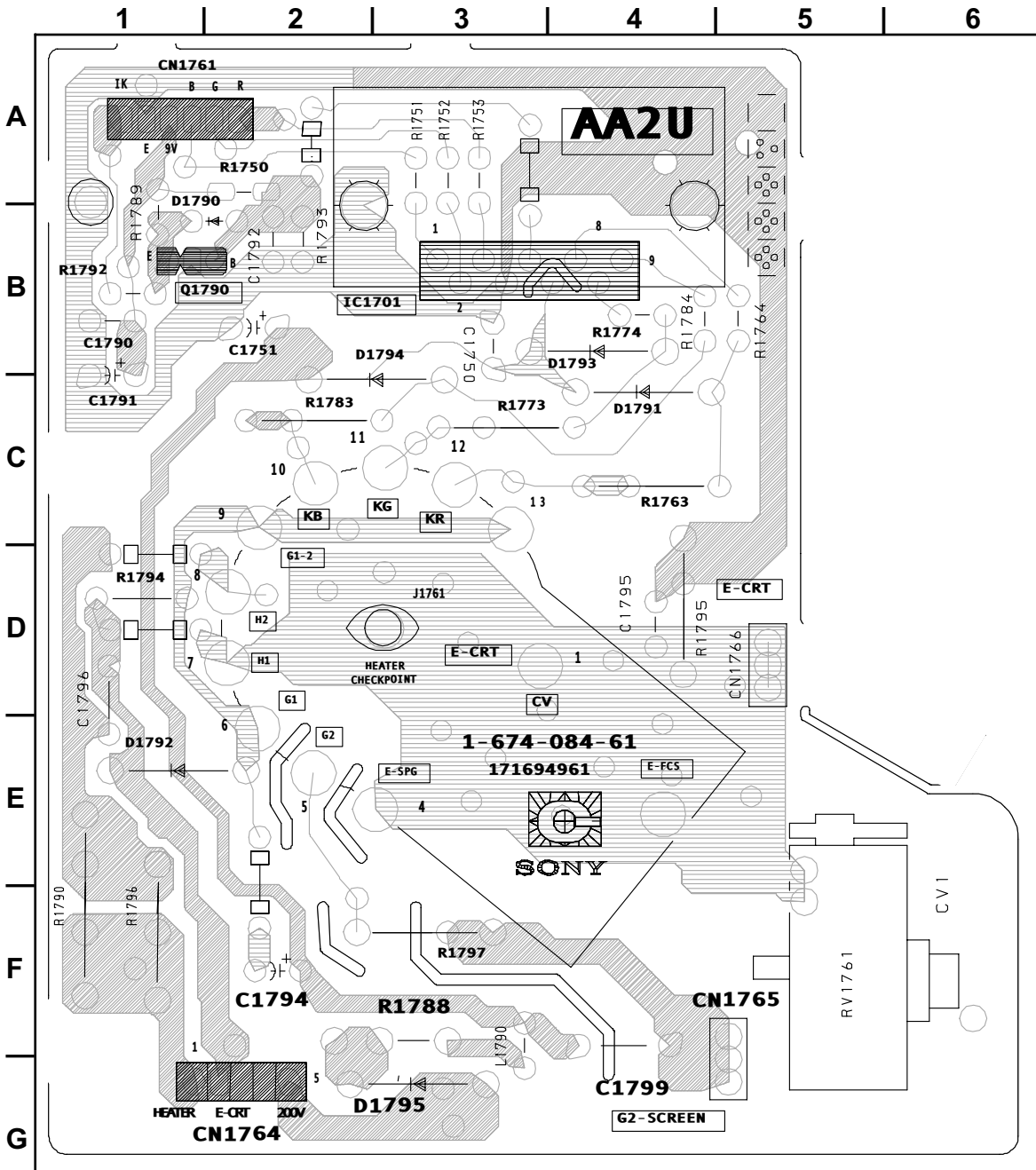
C BOARD SCHEMATIC DIAGRAM



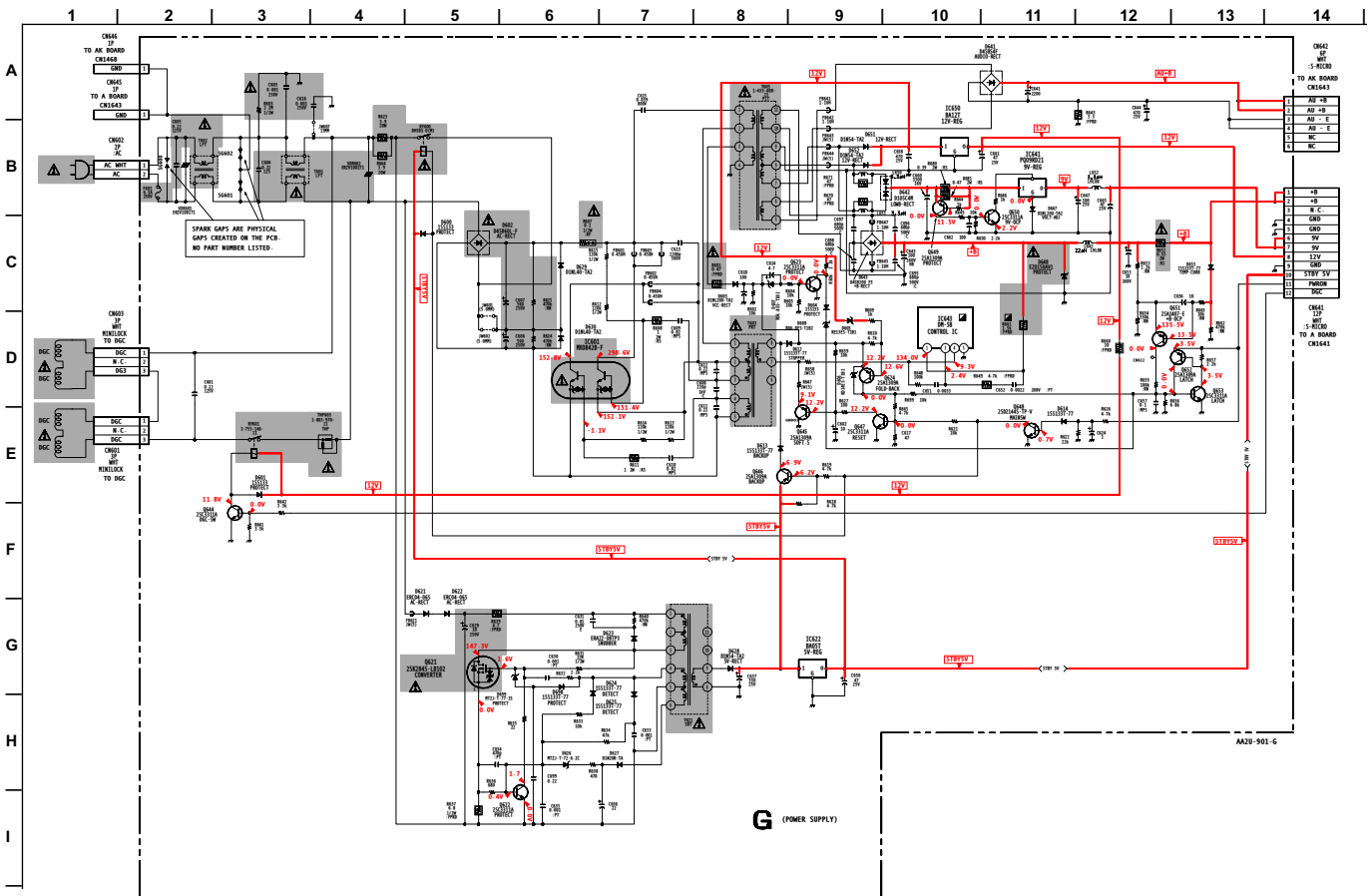
C BOARD WAVEFORMS



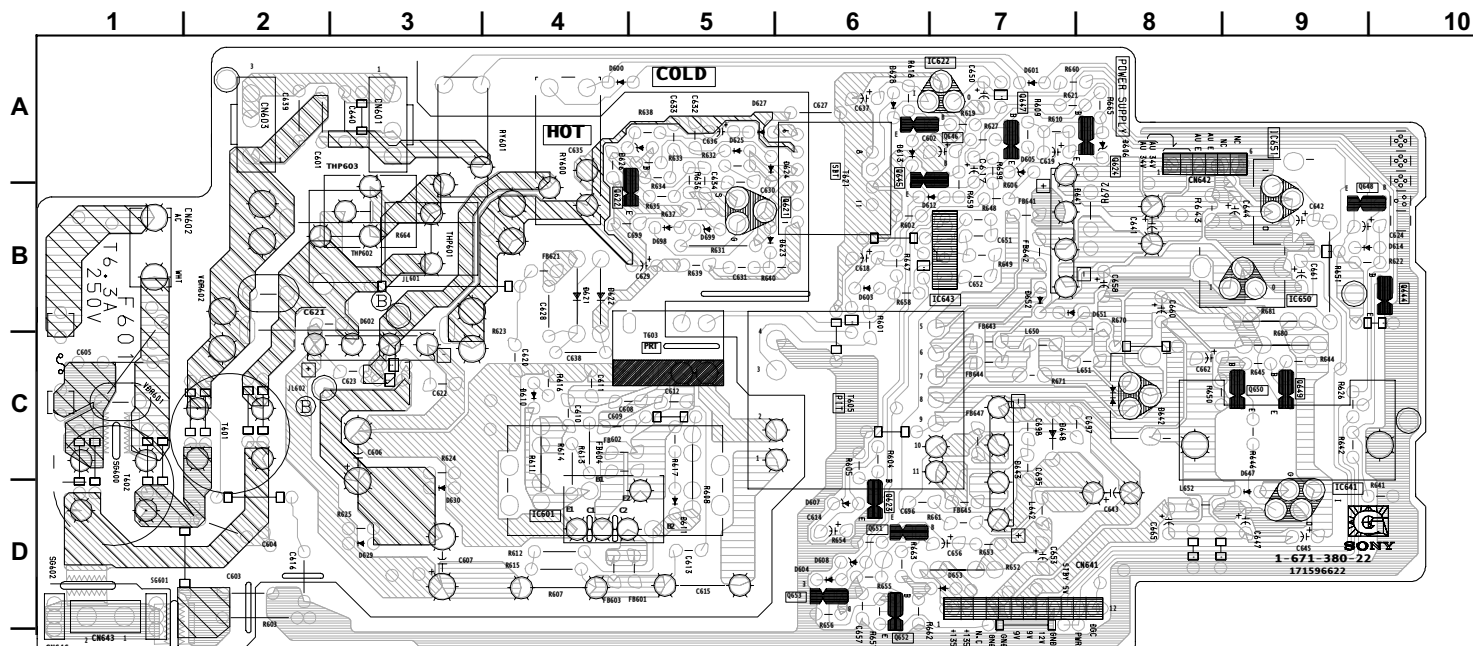
C [RGB DRIVE, CRT DRIVE]



G BOARD SCHEMATIC DIAGRAM



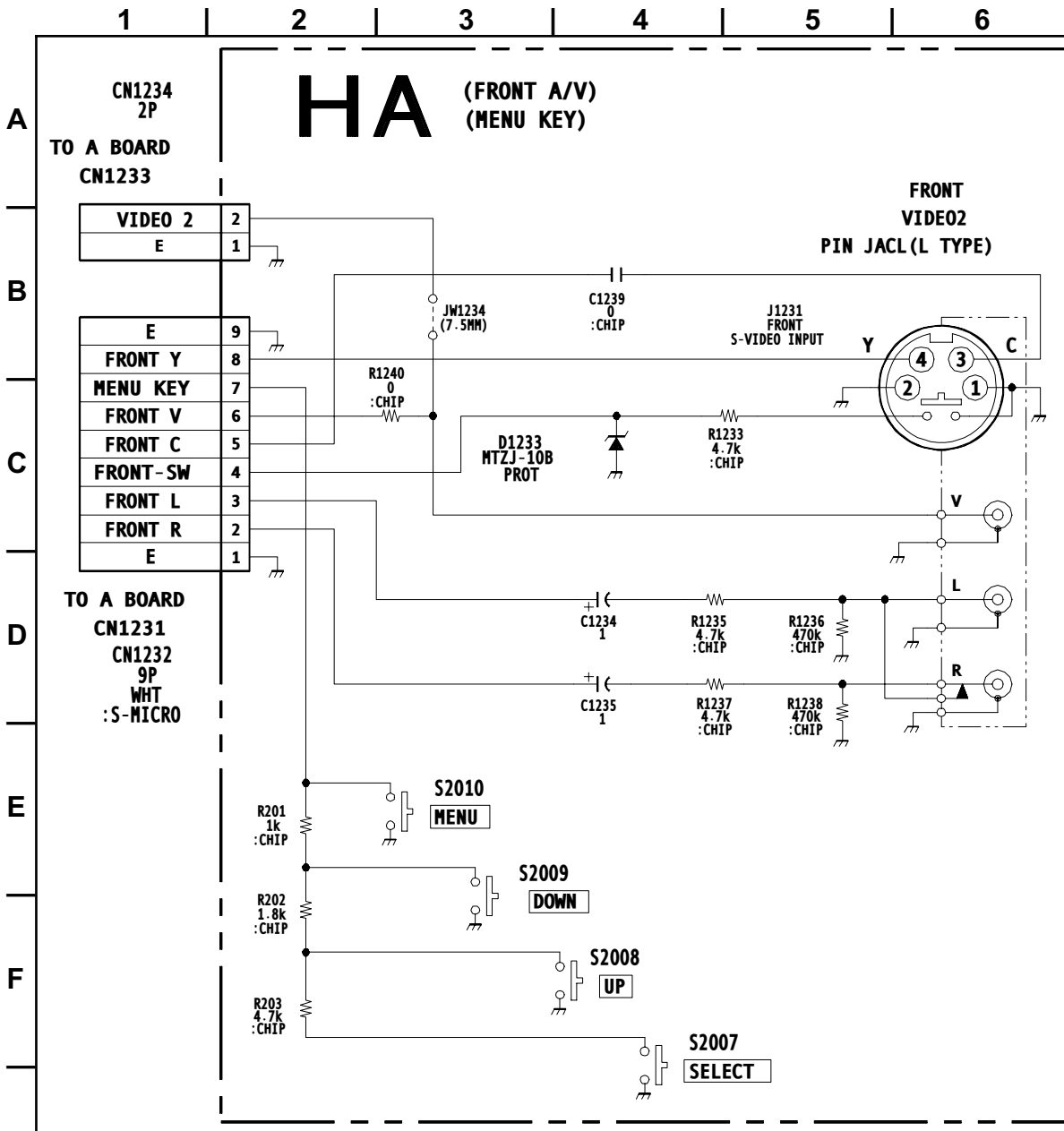
G [POWER SUPPLY]



G BOARD LOCATOR LIST

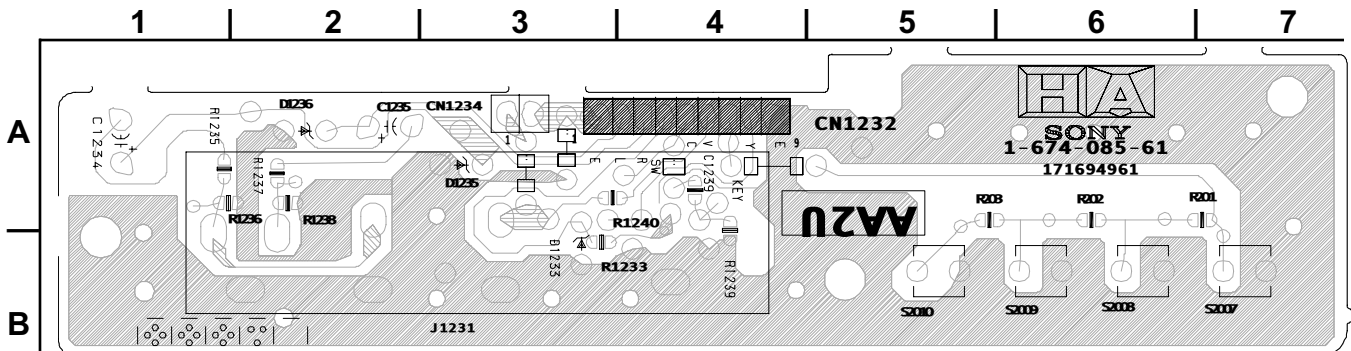
DIODE	D608	D-6	D626	A-4	D648	C-7	IC641	C-9	Q645	A-6	
D600	A-4	D612	B-6	D627	A-5	D651	B-8	IC643	B-6	Q646	A-7
D601	A-7	D613	A-6	D628	A-6	D652	B-7	IC650	B-9	Q647	A-7
D602	B-3	D614	B-9	D629	D-3	D653	D-6	TRANSISTOR	Q648	B-9	
D603	B-6	D621	B-4	D630	D-3	D698	B-5	Q621	B-6	Q649	C-9
D604	D-6	D622	B-4	D641	B-7	D699	B-5	Q622	A-4	Q650	C-9
D605	A-7	D623	B-5	D642	C-7	IC	Q623	B-6	Q651	D-6	
D606	A-7	D624	A-5	D643	C-7	IC601	D-4	Q624	A-8	Q652	D-6
D607	d-6	D625	A-5	D647	C-9	IC622	A-7	Q644	B-10	Q653	D-6

HA BOARD SCHEMATIC DIAGRAM (KV-32FV27/36FV27 ONLY)

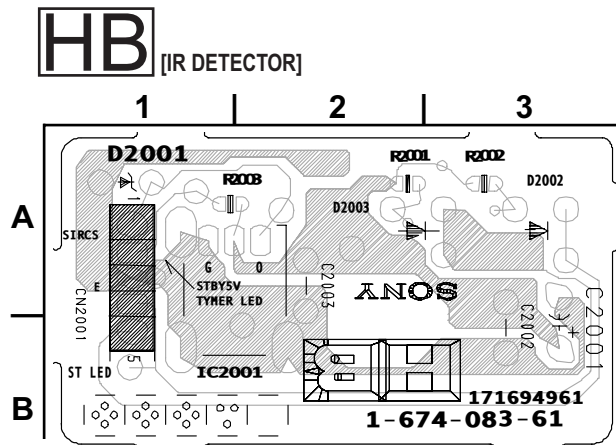
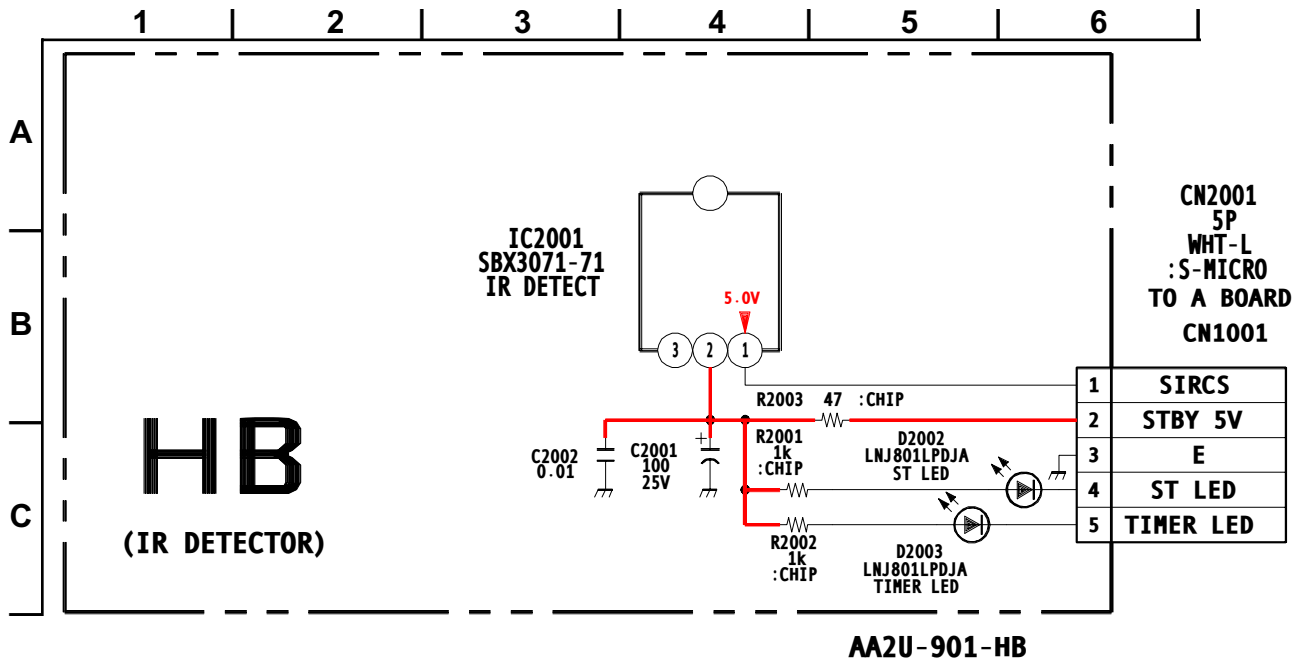


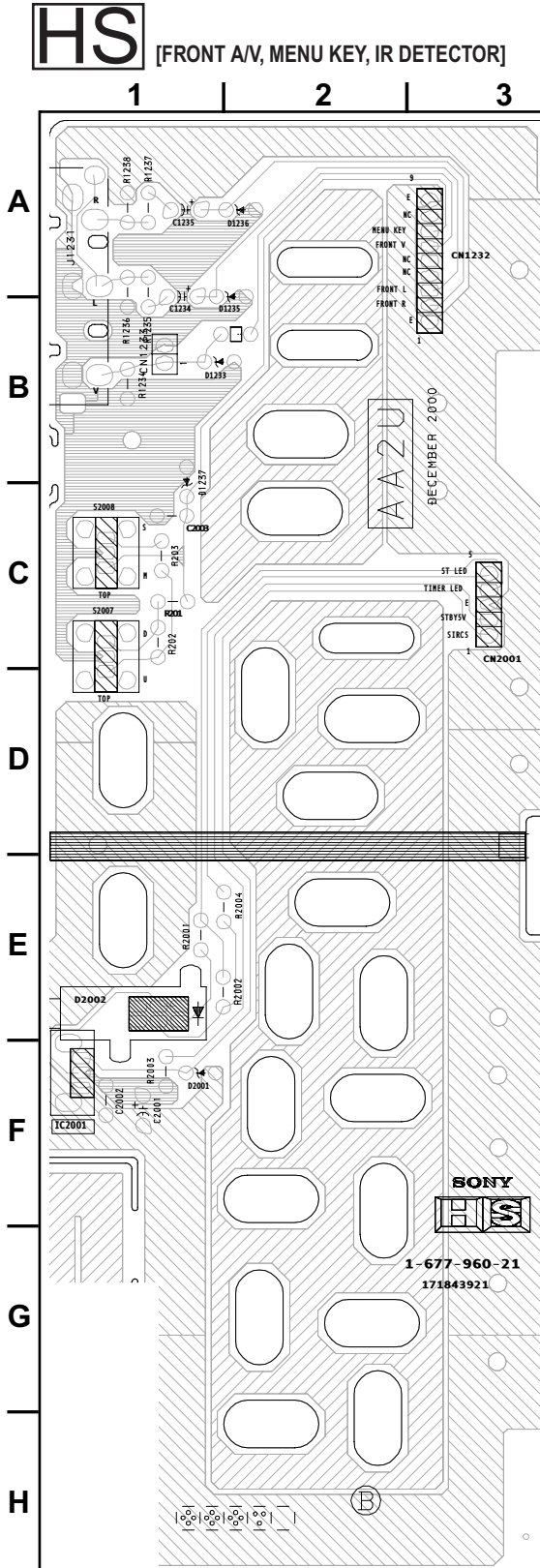
AA2U-901-HA

HA [FRONT/AV, MENU KEY]

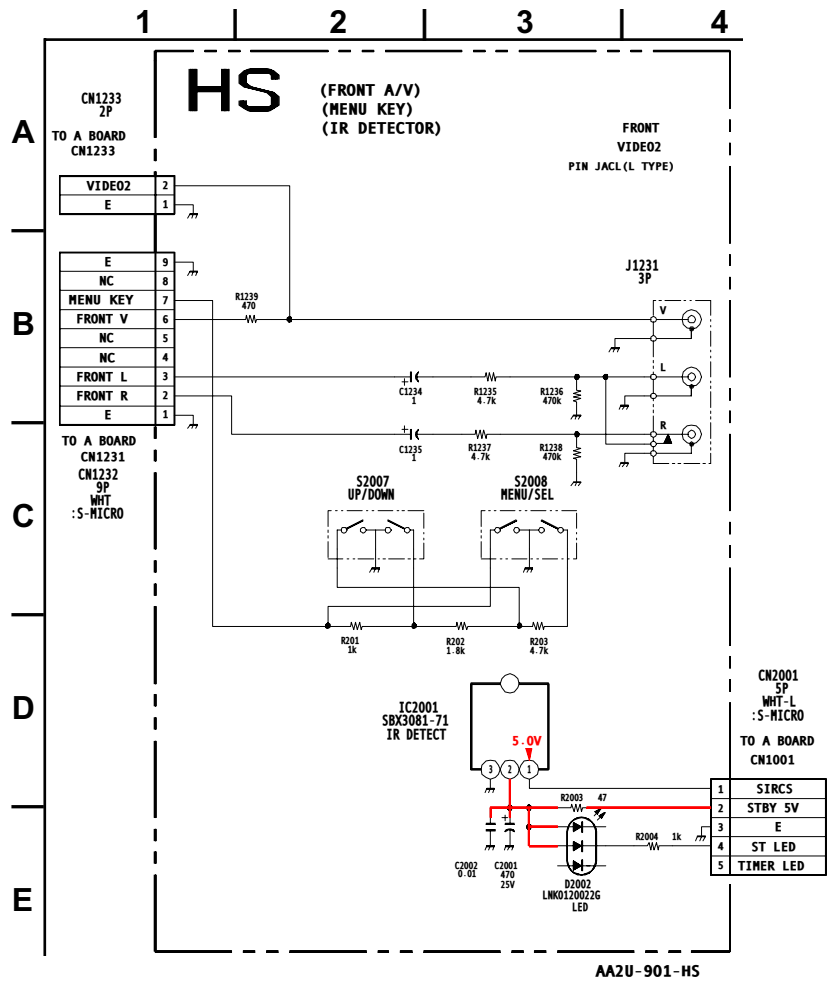


HB BOARD SCHEMATIC DIAGRAM (KV-32FV27/36FV27 ONLY)

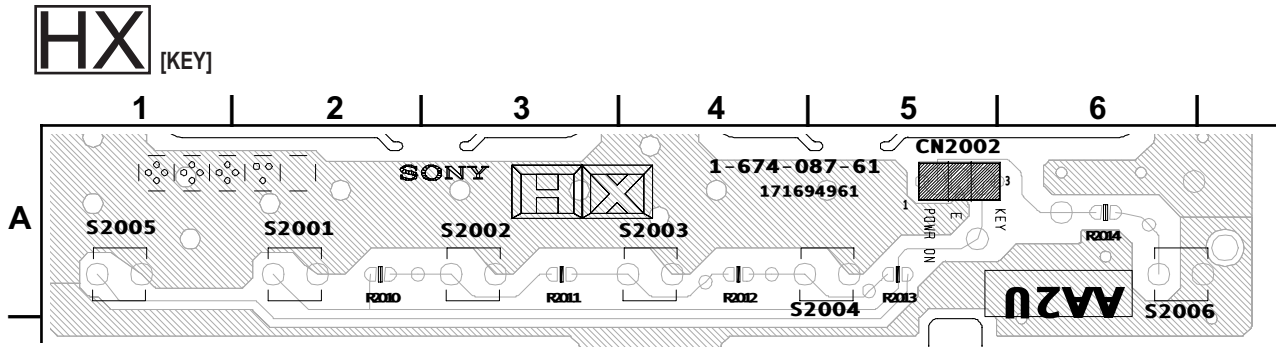
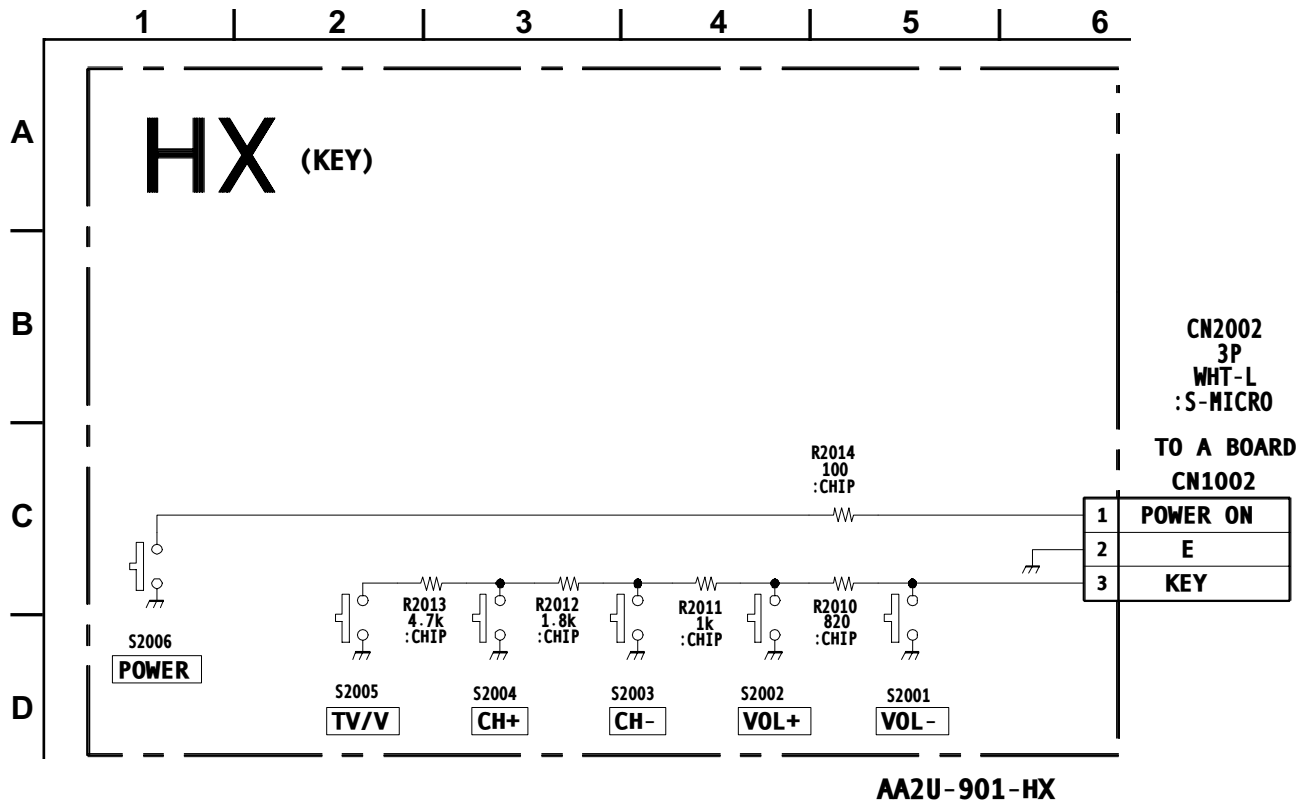




HS BOARD SCHEMATIC DIAGRAM
(KV-36FS13/36FS17/38FS17)



HX BOARD SCHEMATIC DIAGRAM

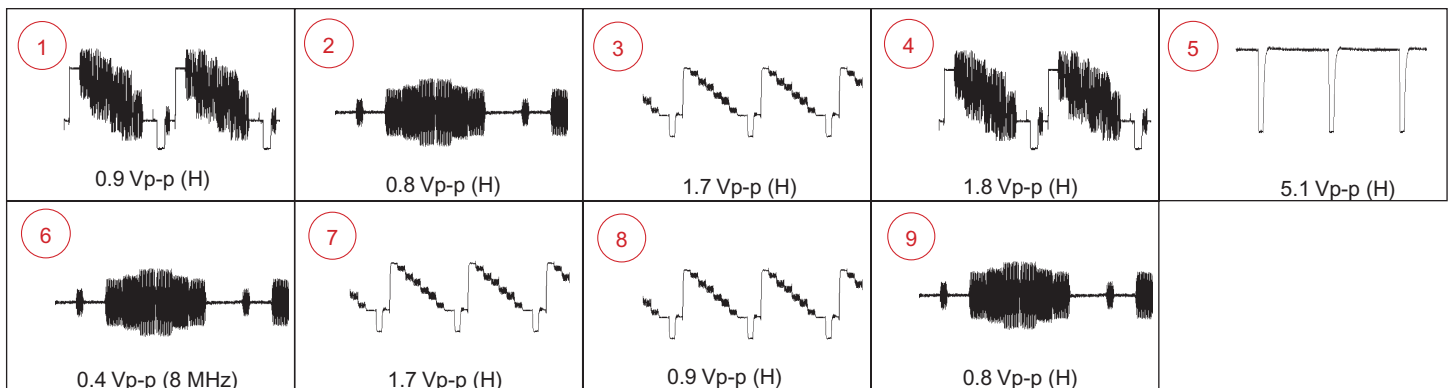


UX (MAIN) BOARD IC VOLTAGE LIST

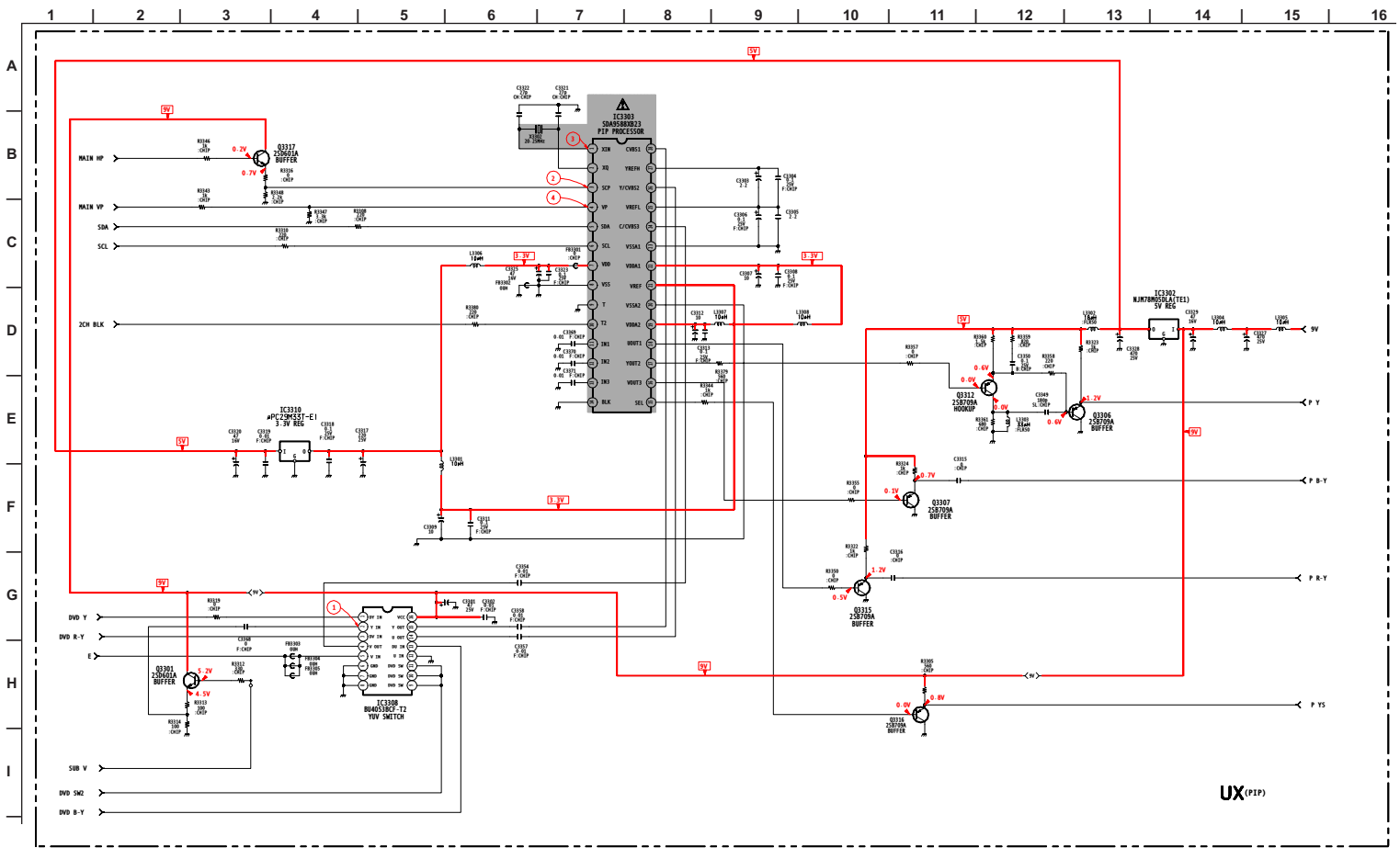
IC261		44	N/C	5	1.6	8	1.5	53	3.3	98	0.5
pin	volt	45	N/C	6	5.0	9	1.5	54	GND	99	1.7
1	4.5	46	GND	7	1.4	10	1.0	55	GND	100	3.3
2	4.5	47	N/C	8	1.6	11	2.8	56	N/C	IC2005	
3	4.5	48	4.5	9	1.7	12	2.5	57	4.0	pin	volt
4	4.5	49	4.5	10	1.0	13	1.3	58	GND	IN	5.0
5	4.5	50	4.5	11	N/C	14	1.4	59	4.7	OUT	3.3
6	4.5	51	N/C	12	N/C	15	1.8	60	4.7	GND	GND
7	4.5	52	4.6	13	2.9	16	1.6	61	N/C	IC2006	
8	4.5	53	4.4	14	0.5	17	1.6	62	N/C	pin	volt
9	N/C	54	4.6	15	N/C	18	1.7	63	N/C	IN	8.9
10	4.5	55	4.4	16	1.5	19	1.7	64	3.3	OUT	5.0
11	N/C	56	4.4	17	1.5	20	1.7	65	0.0	GND	GND
12	0.0	57	GND	18	1.5	21	1.0	66	0.0	IC2009	
13	N/C	58	4.4	19	1.5	22	1.6	67	N/C	pin	volt
14	4.5	59	4.5	20	5.0	23	1.5	68	N/C	1	4.8
15	4.5	60	4.5	21	GND	24	1.5	69	N/C	2	GND
16	4.5	61	4.5	22	1.7	25	1.5	70	N/C	3	4.8
17	4.5	62	4.5	23	1.5	26	1.7	71	N/C	4	1.4
18	0.0	63	4.5	24	1.6	27	1.7	72	N/C	5	4.8
19	4.5	64	4.5	25	1.6	28	1.7	73	N/C	6	1.8
20	4.5	IC1051		26	1.6	29	GND	74	N/C	7	1.6
21	4.5	pin	volt	27	2.5	30	1.5	75	N/C	8	GND
22	4.5	1	8.9	28	1.0	31	1.5	76	4.4	9	4.7
23	4.5	2	8.9	29	1.0	32	3.3	77	GND	10	4.7
24	4.5	3	0.4	30	N/C	33	N/C	78	GND	11	4.8
25	N/C	4	N/C	31	1.4	34	N/C	79	GND	12	2.5
26	N/C	5	N/C	32	1.5	35	N/C	80	GND	13	2.4
27	4.5	6	N/C	33	1.9	36	N/C	81	3.3	14	GND
28	4.5	7	N/C	34	1.6	37	N/C	82	1.0	15	0
29	4.5	8	GND	35	GND	38	N/C	83	1.7	16	4.8
30	0.0	9	N/C	36	1.7	39	N/C	84	1.7	All voltages are in V	
31	4.7	10	N/C	37	1.7	40	GND	85	1.0		
32	4.7	11	GND	38	1.7	41	0.0	86	GND		
33	GND	12	8.9	39	1.7	42	0.0	87	GND		
34	N/C	13	GND	40	GND	43	0.0	88	2.2		
35	4.2	14	4.7	IC2004		44	0.0	89	0.0		
36	N/C	15	4.7	pin	volt	45	3.3	90	1.0		
37	GND	16	8.9	1	GND	46	3.3	91	1.0		
38	N/C	IC2003		2	1.5	47	1.9	92	3.3		
39	8.9	pin	volt	3	1.5	48	GND	93	3.3		
40	N/C	1	5.0	4	1.5	49	GND	94	3.3		
41	4.6	2	1.7	5	1.5	50	1.5	95	3.3		
42	4.4	3	1.7	6	1.5	51	GND	96	0.0		
43	4.4	4	1.7	7	1.5	52	GND	97	GND		

All voltages are in V

UX (MAIN) BOARD WAVEFORMS



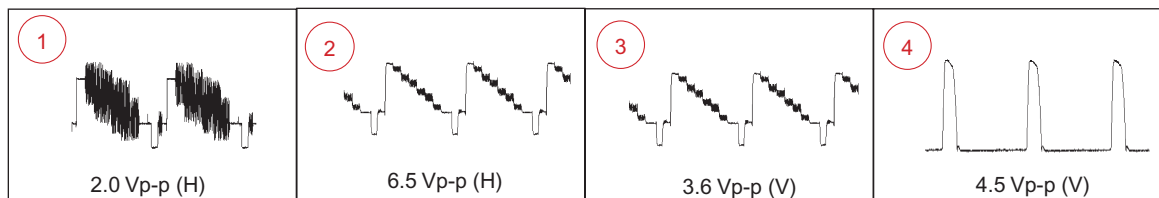
UX (PIP) BOARD SCHEMATIC DIAGRAM (KV-32FV27 / 36FV27 ONLY)



UX (PIP)

UX (PIP) BOARD IC VOLTAGE LIST

IC3302		4	4.5	14	GND	24	2.7	4	2.7	14	2.7
pin	volt	5	4.7	15	0.0	25	1.5	5	2.7	15	2.7
IN	8.7	6	4.7	16	0.1	26	2.7	6	GND	16	8.5
OUT	5.1	7	3.3	17	0.0	27	1.5	7	GND	IC3310	
GND	GND	8	GND	18	0.5	28	2.7	8	GND	pin	volt
IC3303		9	GND	19	3.3	IC3308		9	0.3	IN	5.0
pin	volt	10	3.3	20	GND	pin	volt	10	0.3	OUT	3.3
1	3.6	11	1.2	21	3.3	1	3.5	11	0.3	GND	GND
2	3.6	12	1.2	22	3.3	2	2.7	12	GND	All voltages are in V	
3	6.5	13	1.2	23	GND	3	3.2	13	3.2		

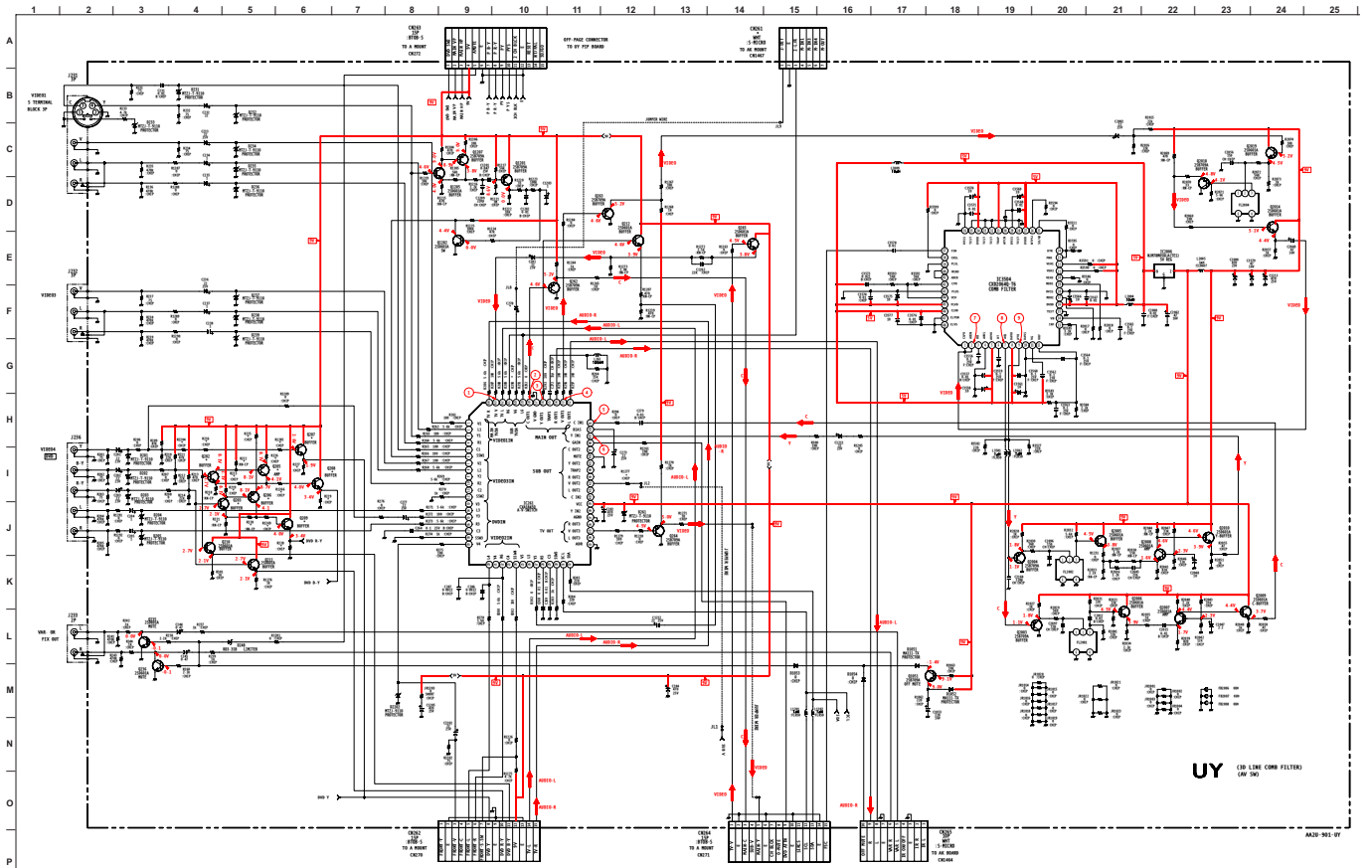
UX (PIP) BOARD WAVEFORMS**UX BOARD (CONDUCTOR) LOCATOR LIST**

DIODE		D2201	D-2	Q236	A-4	Q1206	D-1
D205	D-3	D2202	D-2	Q238	C-4	Q1208	C-2
D245	B-5	D2203	D-2	Q239	C-3	Q2008	I-6
D246	B-3	TRANSISTOR		Q246	B-4	Q2017	H-6
D248	A-3	Q201	D-4	Q262	B-7		
D261	A-5	Q210	C-4	Q263	B-6		
D911	E-2	Q211	C-4	Q265	B-6		
D1051	B-2	Q231	A-4	Q268	C-7		
D1052	A-2	Q233	B-4	Q1051	B-2		
D1053	B-2	Q234	A-3	Q1201	C-6		
D1054	B-2	Q235	A-4	Q1202	C-5		

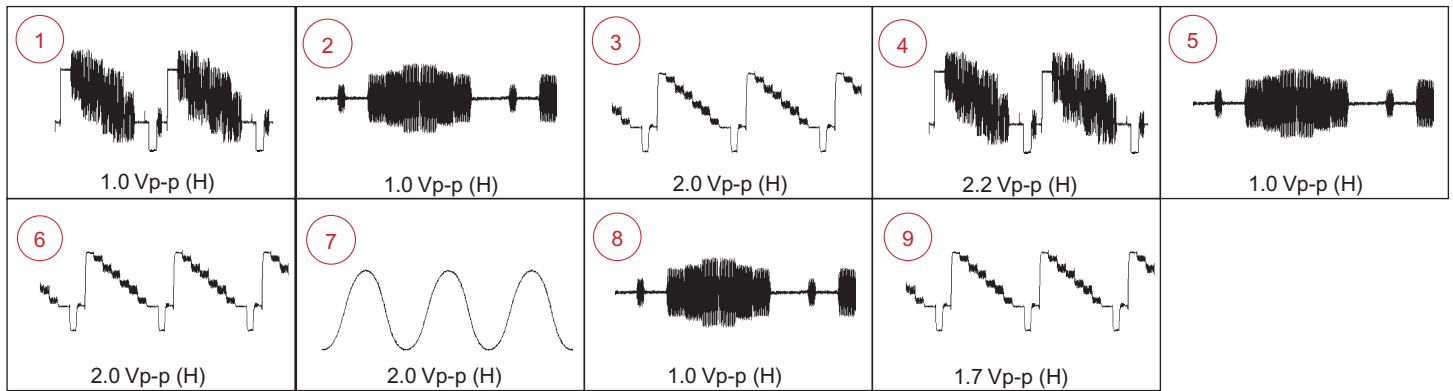
UX BOARD (COMPONENT) LOCATOR LIST

DIODE		IC		Q205	C-4	Q2009	C-6
D201	G-4	IC261	H-6	Q206	C-4	Q2010	B-6
D202	G-4	IC1051	J-3	Q207	C-5	Q2011	D-5
D203	G-3	IC2003	B-4	Q208	C-3	Q2012	C-5
D204	G-3	IC2004	C-4	Q209	C-3	Q2013	C-5
D231	E-5	IC2005	D-5	Q237	J-4	Q2014	C-5
D232	E-6	IC2006	E-6	Q264	I-6	Q2015	D-5
D233	E-5	IC2009	F-5	Q1203	H-2	Q2016	D-6
D234	E-6	IC3302	B-1	Q1204	G-2	Q2018	D-5
D235	F-5	IC3303	B-3	Q1205	G-6	Q2019	D-4
D236	E-5	IC3308	B-2	Q1207	H-6	Q2119	C-4
D237	G-5	IC3310	B-3	Q2001	G-7	Q3301	B-3
D238	G-5	TRANSISTOR		Q2003	C-5	Q3306	B-1
D239	G-5	Q201	D-4	Q2004	B-5	Q3307	B-1
D902	I-2	Q202	C-3	Q2005	B-6	Q3312	B-1
D910	E-2	Q203	C-3	Q2006	C-6	Q3315	B-2
D912	G-2	Q204	C-4	Q2007	C-6	Q3316	B-2
						Q3317	C-2

UY (MAIN) BOARD SCHEMATIC DIAGRAM (KV-38FS13 / 38FS17 / 38FV2 ONLY)



UY (MAIN) BOARD WAVEFORMS



(*) UY (MAIN) BOARD VARIANT MODEL LIST

REF. NO.	LOCATION	KV-36FS13	KV-36FS17/38FS17	REF. NO.	LOCATION	KV-36FS13	KV-36FS17/38FS17
C278	E-8	#	22 μ F	R222	G-4	#	1K
CN261	A-11	#	7P	R223	G-4	#	100
Q202	G-3	#	2SD601A-QRS-TX	R225	G-4	#	100
Q203	H-4	#	2SD601A-QRS-TX	R226	G-4	#	100
Q205	G-4	#	2SB709A-QRS-TX	R227	G-5	#	470
Q206	H-4	#	2SB709A-QRS-TX	R228	H-5	#	1K
Q207	G-5	#	2SD601A-QRS-TX	R229	H-5	#	1K
Q208	G-5	#	2SD601A-QRS-TX	R290	F-8	#	100
Q209	H-5	#	2SD601A-QRS-TX	R1266	G-4	#	470
R216	G-3	#	100	R1269	H-4	#	470
R218	G-3	#	470	R1277	G-9	#	100
R219	G-4	#	1K	R1285	G-4	#	470
R220	H-4	#	100	R2204	G-3	#	0
R221	H-4	#	470				

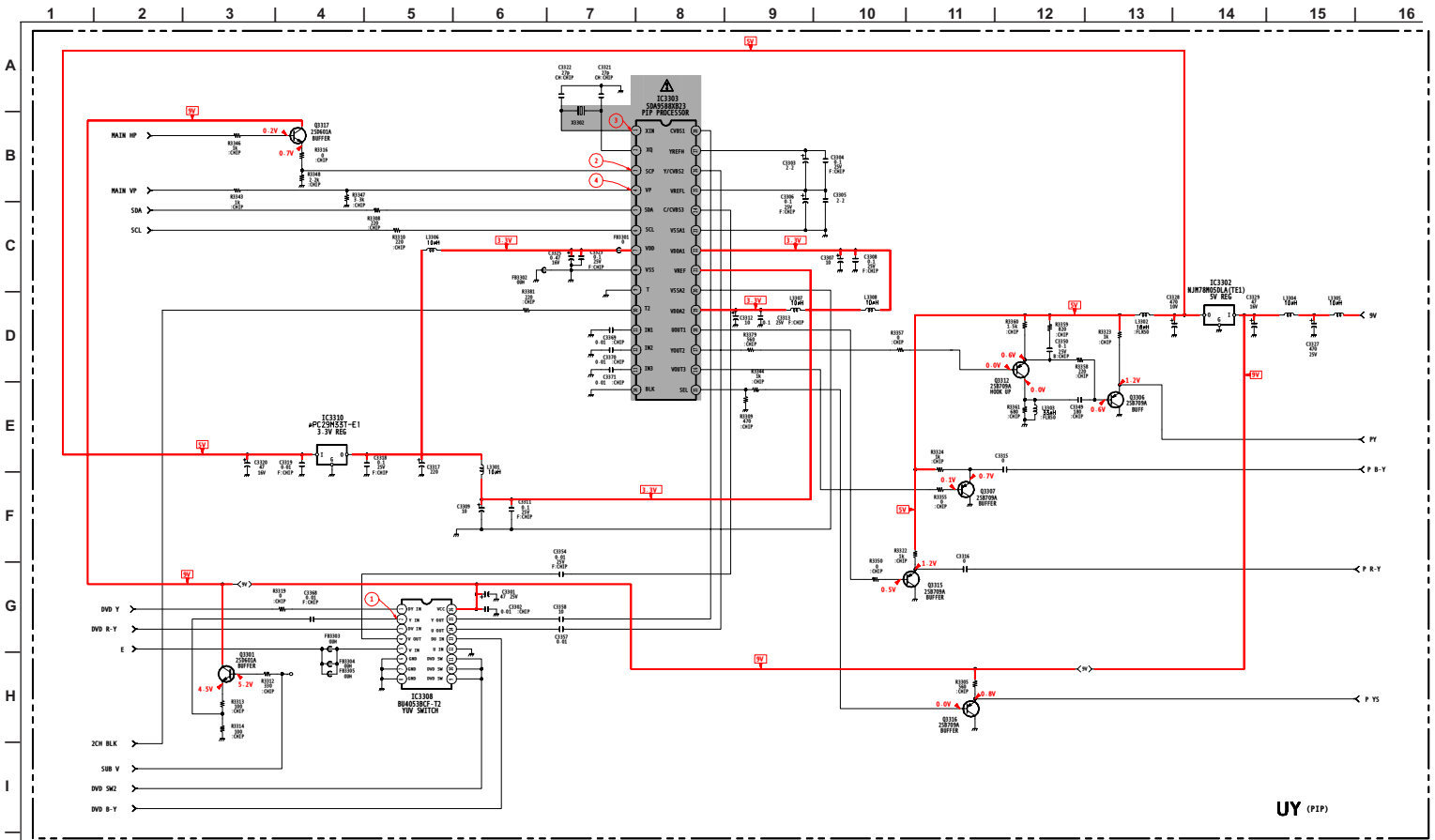
NOTE: # = Not Mounted

UY (MAIN) BOARD IC VOLTAGE LIST

IC261		21	N/C	43	N/C	IC2006		16	4.8	38	4.8
pin	volt	22	4.5	44	N/C	pin	volt	17	0.3	39	GND
1	4.5	23	N/C	45	N/C	IN	9.0	18	GND	40	2.2
2	4.5	24	7.9	46	GND	OUT	4.9	19	0.3	41	2.2
3	4.5	25	N/C	47	N/C	GND	GND	20	GND	42	3.3
4	4.5	26	N/C	48	4.5	IC3504		21	4.8	43	GND
5	4.5	27	4.5	49	4.5	pin	volt	22	4.8	44	3.3
6	4.5	28	4.5	50	4.5	1	1.4	23	GND	45	4.8
7	4.5	29	4.5	51	4.5	2	1.4	24	GND	46	4.8
8	4.5	30	0.0	52	4.6	3	0.5	25	GND	47	GND
9	N/C	31	4.7	53	4.4	4	GND	26	GND	48	GND
10	4.5	32	4.7	54	4.6	5	4.8	27	4.8		
11	N/C	33	GND	55	4.4	6	2.6	28	GND		
12	0.0	34	N/C	56	4.4	7	1.0	29	GND		
13	N/C	35	4.2	57	GND	8	4.8	30	GND		
14	4.5	36	N/C	58	4.4	9	1.0	31	4.8		
15	4.5	37	GND	59	4.5	10	GND	32	GND		
16	4.5	38	N/C	60	4.5	11	2.7	33	GND		
17	4.5	39	9.0	61	4.5	12	2.0	34	4.8		
18	0.0	40	N/C	62	4.5	13	2.0	35	GND		
19	4.5	41	N/C	63	4.5	14	1.0	36	GND		
20	4.5	42	4.4	64	4.5	15	GND	37	2.3		

All voltages are in V

UY (PIP) BOARD SCHEMATIC DIAGRAM (KV-36FS17 / 38FS17 ONLY)

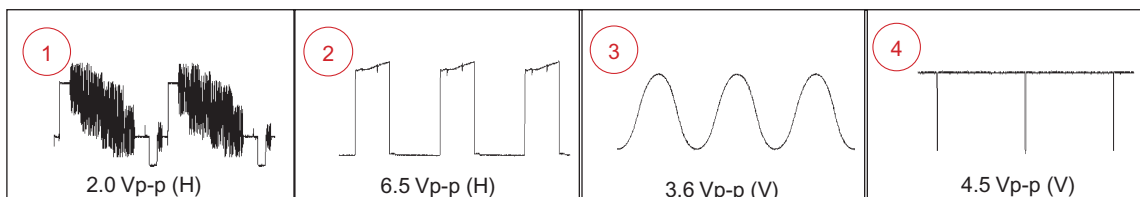


(*) UY (PIP) BOARD VARIANT MODEL LIST (KV-36FS17 / 38FS17 ONLY)

REF. NO.	LOCATION	KV-36FS13	KV-36FS17/38FS17	REF. NO.	LOCATION	KV-36FS13	KV-36FS17/38FS17
C3301	F-5	#	47 μ F 25V	L3301	D-5	#	10 μ H
C3302	F-5	#	.01 μ F	L3302	D-12	#	18 μ H
C3303	B-8	#	2.2 μ F	L3303	D-11	#	33 μ H
C3304	B-9	#	.1 μ F 25V	L3304	C-13	#	10 μ H
C3305	B-9	#	2.2 μ F	L3305	C-13	#	10 μ H
C3306	B-8	#	.1 μ F 25V	L3306	C-5	#	10 μ H
C3307	C-9	#	10 μ F	L3307	C-8	#	10 μ H
C3308	C-9	#	.1 μ F 25V	L3308	C-8	#	10 μ H
C3309	E-5	#	10 μ F	Q3301	G-3	#	2SD601A-QRS-TX
C3311	E-5	#	.1 μ F 25V	Q3306	D-12	#	2SB709A-QRS-TX
C3312	D-8	#	10 μ F	Q3307	E-10	#	2SB709A-QRS-TX
C3313	D-8	#	.1 μ F 25V	Q3312	D-10	#	2SB709A-QRS-TX
C3315	E-10	#	0	Q3315	F-9	#	2SB709A-QRS-TX
C3316	F-10	#	0	Q3316	H-10	#	2SB709A-QRS-TX
C3317	E-5	#	220 μ F 25V	Q3317	B-3	#	2SD601A-QRS-TX
C3318	E-4	#	.1 μ F 25V	R3305	G-10	#	560
C3319	E-3	#	.01 μ F	R3308	B-4	#	220
C3320	E-3	#	47 μ F 16V	R3309	D-8	#	470
C3321	A-6	#	27PF	R3310	C-4	#	220
C3322	A-6	#	27PF	R3312	G-3	#	330
C3323	C-6	#	.1 μ F 25V	R3313	G-2	#	100
C3325	C-6	#	47 μ F 16V	R3314	G-2	#	100
C3327	D-13	#	470 μ F 25V	R3316	B-3	#	0
C3328	C-12	#	470 μ F 10V	R3319	F-3	#	0
C3329	C-13	#	47 μ F 16V	R3322	F-9	#	1K
C3349	D-11	#	180PF	R3323	D-11	#	1K
C3350	D-11	#	.1 μ F 25V	R3324	E-10	#	1K
C3354	F-6	#	.01 μ F	R3343	B-3	#	1K
C3357	G-6	#	.01 μ F	R3344	D-8	#	1K
C3358	G-6	#	.01 μ F	R3346	B-3	#	1K
C3368	F-3	#	0	R3347	B-4	#	3.3K
C3369	D-6	#	.01 μ F	R3348	B-3	#	2.2K
C3370	D-6	#	.01 μ F	R3350	F-9	#	0
C3371	D-6	#	.01 μ F	R3355	E-9	#	0
FB3301	C-7	#	0	R3357	D-9	#	0
FB3302	C-6	#	0 μ H	R3358	D-11	#	220
FB3303	G-4	#	0 μ H	R3359	D-11	#	820
FB3304	G-4	#	0 μ H	R3360	D-11	#	1.5K
IC3302	C-13	#	NJM78M05DLA (TE1)	R3361	D-10	#	680
IC3303	A-7	#	SDA9588XB23	R3379	D-8	#	560
IC3308	F-5	#	BU4053BCF-T2	R3381	C-6	#	220
IC3310	E-4	#	UPC29M33T-E1	X3302	A-6	#	1-781-929-21

NOTE: # = Not Mounted

UY (PIP) BOARD WAVEFORMS (KV-36FS17 / 38FS17 ONLY)



UY (PIP) BOARD IC VOLTAGE LIST (KV-36FS17 / 38FS17 ONLY)

IC3302		4	4.5	14	GND	24	2.7	4	2.7	14	2.7
pin	volt	5	4.7	15	0.0	25	1.5	5	2.7	15	2.7
IN	8.7	6	4.7	16	0.1	26	2.7	6	GND	16	8.5
OUT	5.1	7	3.3	17	0.0	27	1.5	7	GND	IC3310	
GND	GND	8	GND	18	0.5	28	2.7	8	GND	pin	volt
IC3303		9	GND	19	3.3	IC3308		9	0.3	IN	5.0
pin	volt	10	3.3	20	GND	pin	volt	10	0.3	OUT	3.3
1	3.6	11	1.2	21	3.3	1	3.5	11	0.3	GND	GND
2	3.6	12	1.2	22	3.3	2	2.7	12	GND	All voltages are in V	
3	6.5	13	1.2	23	GND	3	3.2	13	3.2		

UY BOARD (COMPONENT) LOCATOR LIST

DIODE		IC		Q2005	B-6
D201	G-4	IC261	H-6	Q2006	C-6
D202	G-4	IC2006	E-6	Q2007	C-6
D203	G-3	IC3302	B-1	Q2009	C-6
D204	G-3	IC3303	B-3	Q2010	B-6
D231	E-5	IC3308	B-2	Q2014	C-5
D232	E-6	IC3310	B-3	Q2018	D-5
D233	E-5	IC3504	B-4	Q2019	D-4
D234	E-6	TRANSISTOR		Q3301	B-3
D235	F-5	Q264	I-6	Q3307	B-1
D236	E-5	Q1205	G-6	Q3312	B-1
D237	G-5	Q1207	H-6	Q3315	B-2
D238	G-5	Q2003	C-5	Q3316	B-2
D239	G-5	Q2004	B-5	Q3317	C-2

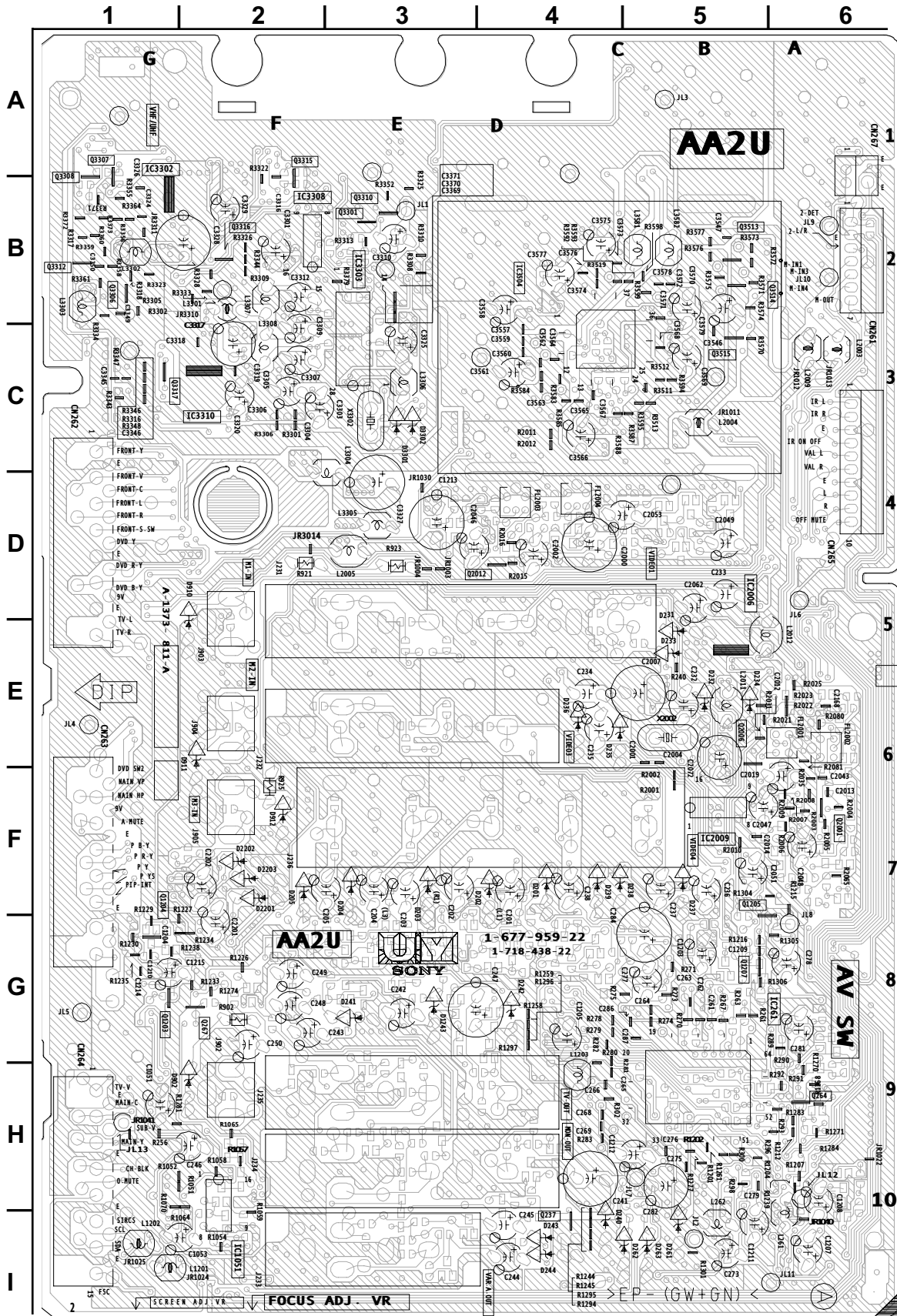
UY BOARD (CONDUCTOR) LOCATOR LIST

DIODE		TRANSISTOR		Q211	C-4	Q1202	C-5
D205	D-3	Q202	C-4	Q212	B-6	Q2008	I-6
D248	A-3	Q203	D-3	Q235	A-4	Q3306	B-1
D261	A-3	Q205	C-4	Q236	A-4		
D1051	B-2	Q206	C-3	Q262	B-7		
D1052	A-2	Q207	C-5	Q263	B-6		
D1053	B-2	Q208	D-3	Q265	B-6		
D1054	B-2	Q209	C-2	Q1051	B-2		
D2202	D-2	Q210	D-4	Q1201	C-6		



[3D LINE COMB FILTER, AV SW, PIP]

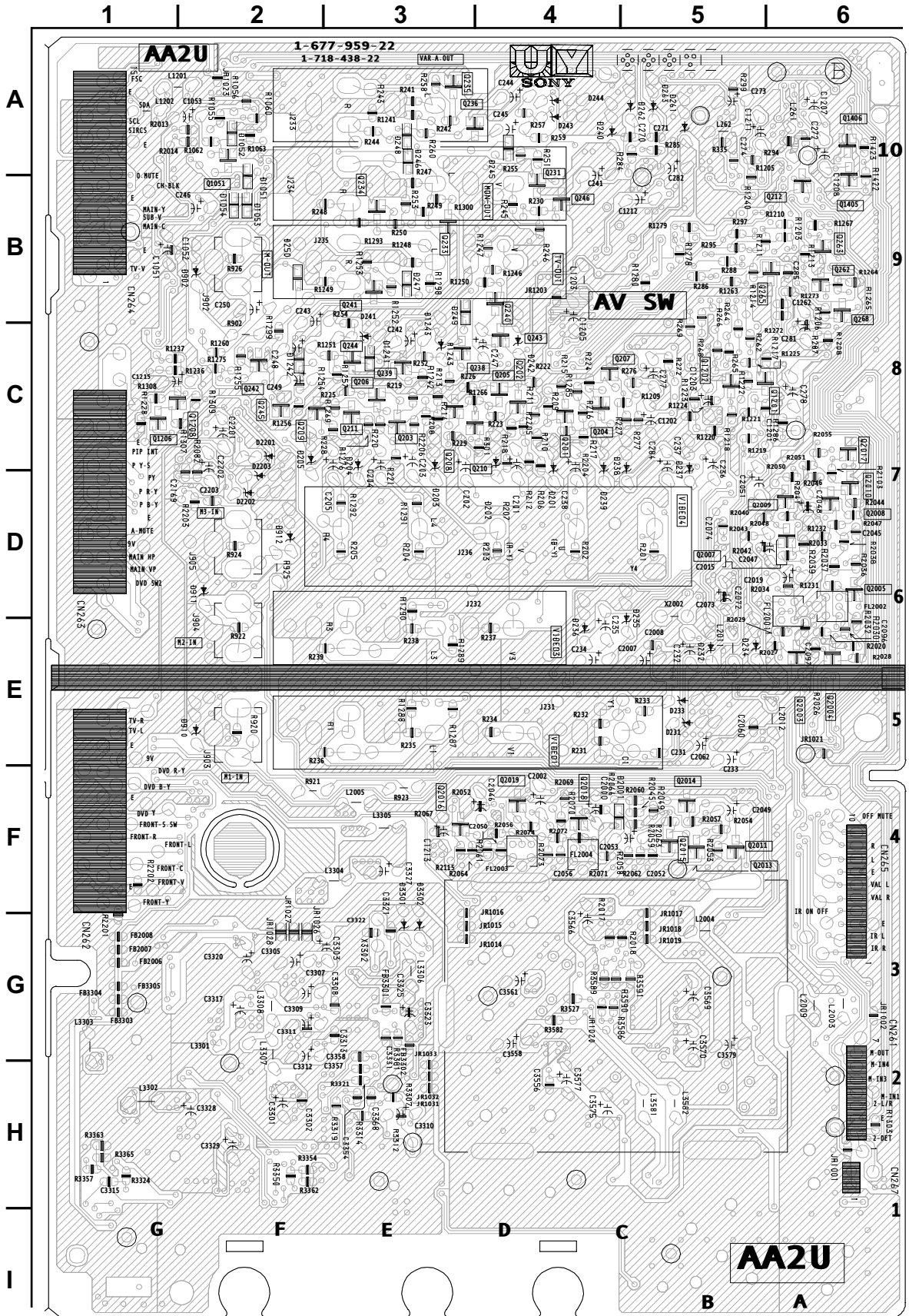
Component Side (KV-36FS13 / 36FS17 / 38FS17 ONLY)



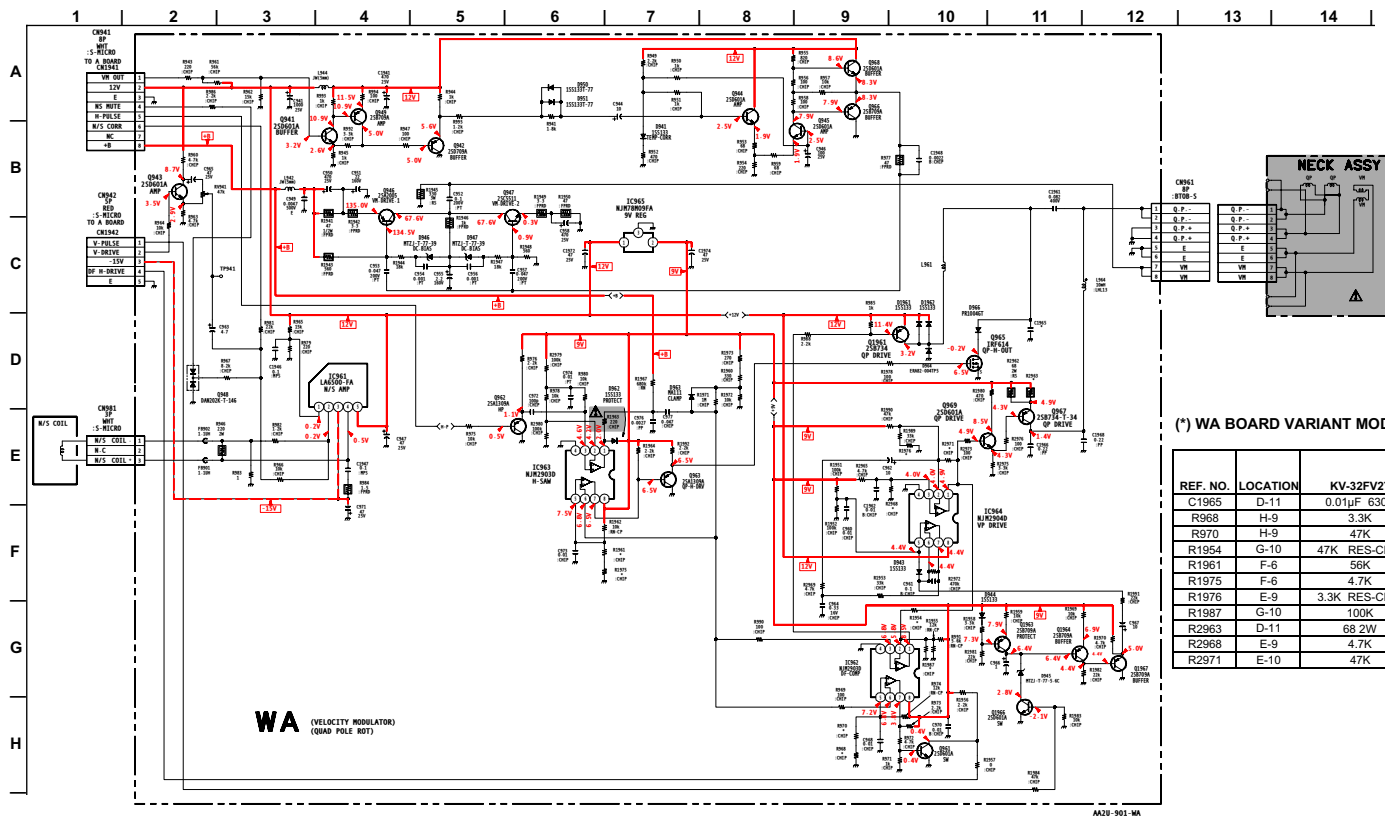


[3D LINE COMB FILTER, AV SW, PIP]

Conductor Side (KV-36FS13 / 36FS17 / 38FS17 ONLY)



WA BOARD SCHEMATIC DIAGRAM

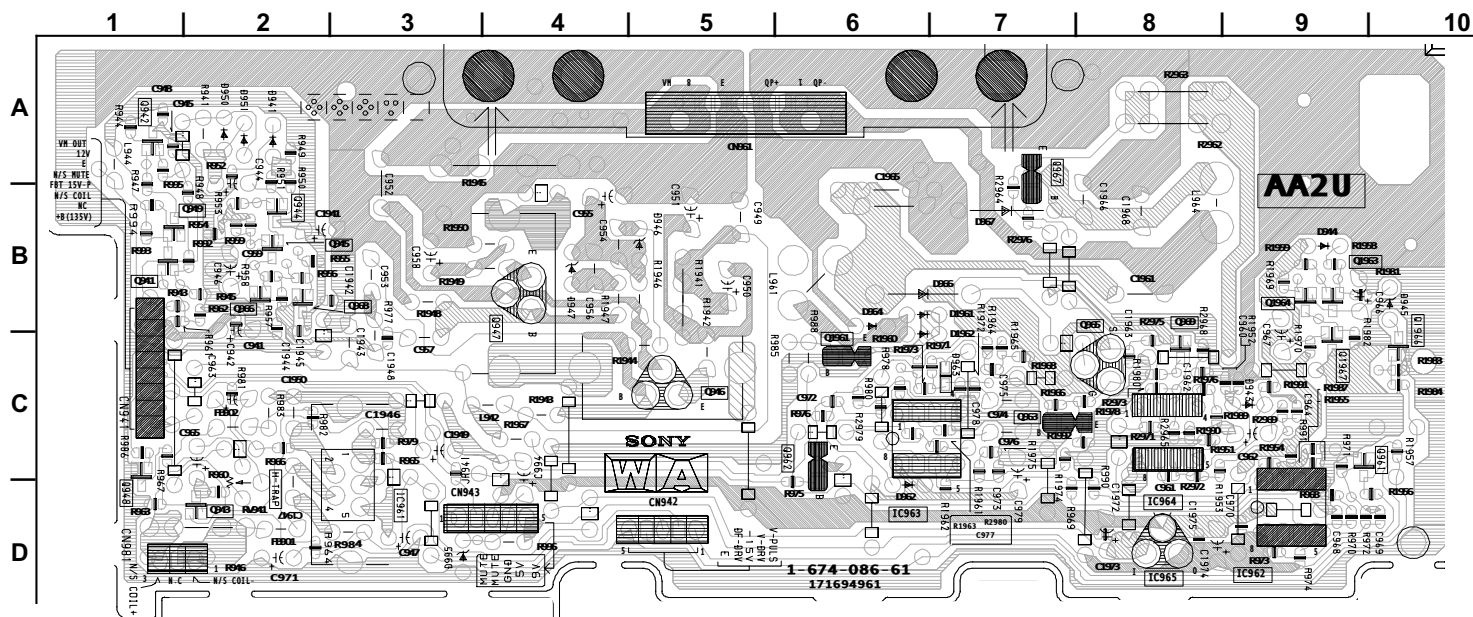


(*) WA BOARD VARIANT MODEL LIST

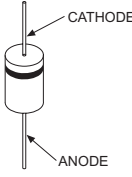
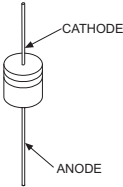
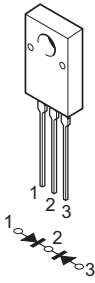
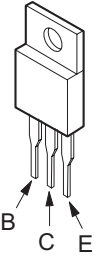
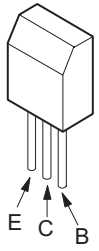
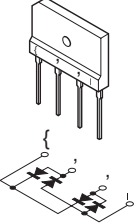
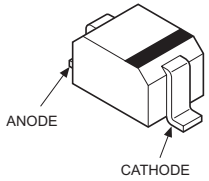
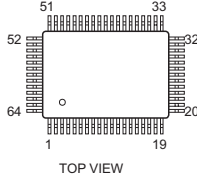
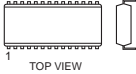
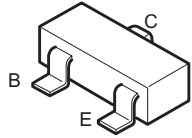
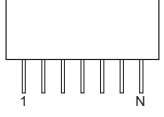

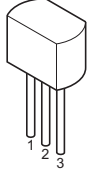
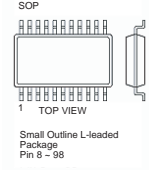
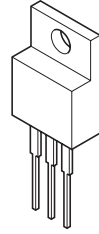
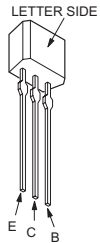
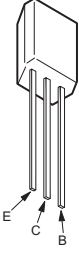

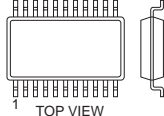
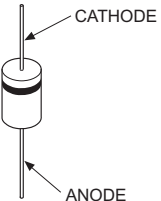
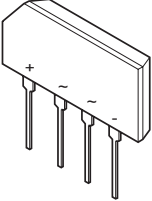
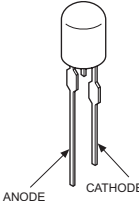
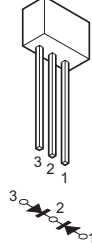
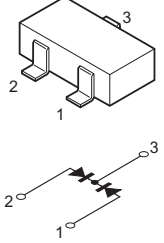
REF. NO.	LOCATION	KV-32FV27	KV-36FS13/ 36FS17/ 36FS17/ 36FV27
C1965	D-11	0.01uF 630V	0.022uF 630V
R968	H-9	3.3K	6.8K
R970	H-9	47K	39K
R1954	G-10	47K RES-CHIP	47K METAL CHIP
R1961	F-6	56K	39K
R1975	F-6	4.7K	6.8K
R1976	E-9	3.3K RES-CHIP	3.3K METAL CHIP
R1987	G-10	100K	33K
R2963	D-11	68 2W	#
R2968	E-9	4.7K	3.3K
R2971	E-10	47K	68K

NOTE: # = Not Mounted

WA [VELOCITY MODULATOR, QUAD POLE ROTATE]



5-4. SEMICONDUCTORS

<p>D1NL20U-TA2 PR1004GT EL1Z-V1 ERA22-08TP3 ERC06-15S ERD29-08J EZ0150AV1 ERB44-06TP1 MTZJ-77-22B 1N4003GA ER204 MTZJ-T-9110</p> 	<p>D1NS4-TA2 MTZJ-T-77-6.8B D120R-TA ERA38-06TP1 ERA82-004TP5 MTZJ-T-77-10B MTZJ-T-77-15 MTZJ-T-77-39 MTZJ-T-77-11B MTZJ-T-77-15B MTZJ-T-77-24B MTZJ-T-77-33A</p> 	<p>D10SC4M</p> 	<p>2SC4159-E</p> 	<p>2SC3209LK-TP 2SB734-T-34</p> 
<p>D4SB60L-F D1NL40-TA2</p> 	<p>MA111-TX RD.3SB-T1 P6KE6.8A</p> 	<p>CXA1845q-64PIN</p> 	<p>BH3868FS-E2</p> 	<p>2SB709A-QRS-TX 2SD601A-QRS-TX DTC114EKA-T146</p> 
<p>DM-58</p>  <p>MARKING SIDE VIEW</p> <p>pin 1 -N Mt (one side, both side)</p>	<p>TA1226N TDA7467-D013TR CSA213CS</p> 	<p>BA3308</p> 	<p>NJM4558M-TE2</p>  <p>Small Outline L-leaded Package Pin 8 - 98</p>	<p>NJM78M09FA</p> 
<p>2SA1309A-QRSTA 2SC3311A-QRSTA 2SD1858-Q-TV2</p> 	<p>2SC2668-YTP 2SD2144S-TP-V</p> 	<p>IRF614</p> 	<p>NJM2903D CXA1315M-T4 NJM2903M-TE2 NJM2145M-TE2 NJM2904D CSD2064Q-T6 BU4053BCF-T2 CXA2039M-T6</p> 	
<p>ERC06-15S MTZJ-T-77-5.1C MTZJ-T-77-5.6C MTZJ-T-77-7.5X</p> 	<p>24SBS6-F</p> 	<p>2DAL5815</p> 	<p>SVC203SPA-AL</p> 	<p>DAN202K</p> 

SECTION 6: EXPLODED VIEWS

Components not identified by a part number or 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 far right column of the parts list and within the dotted lines of the diagram.

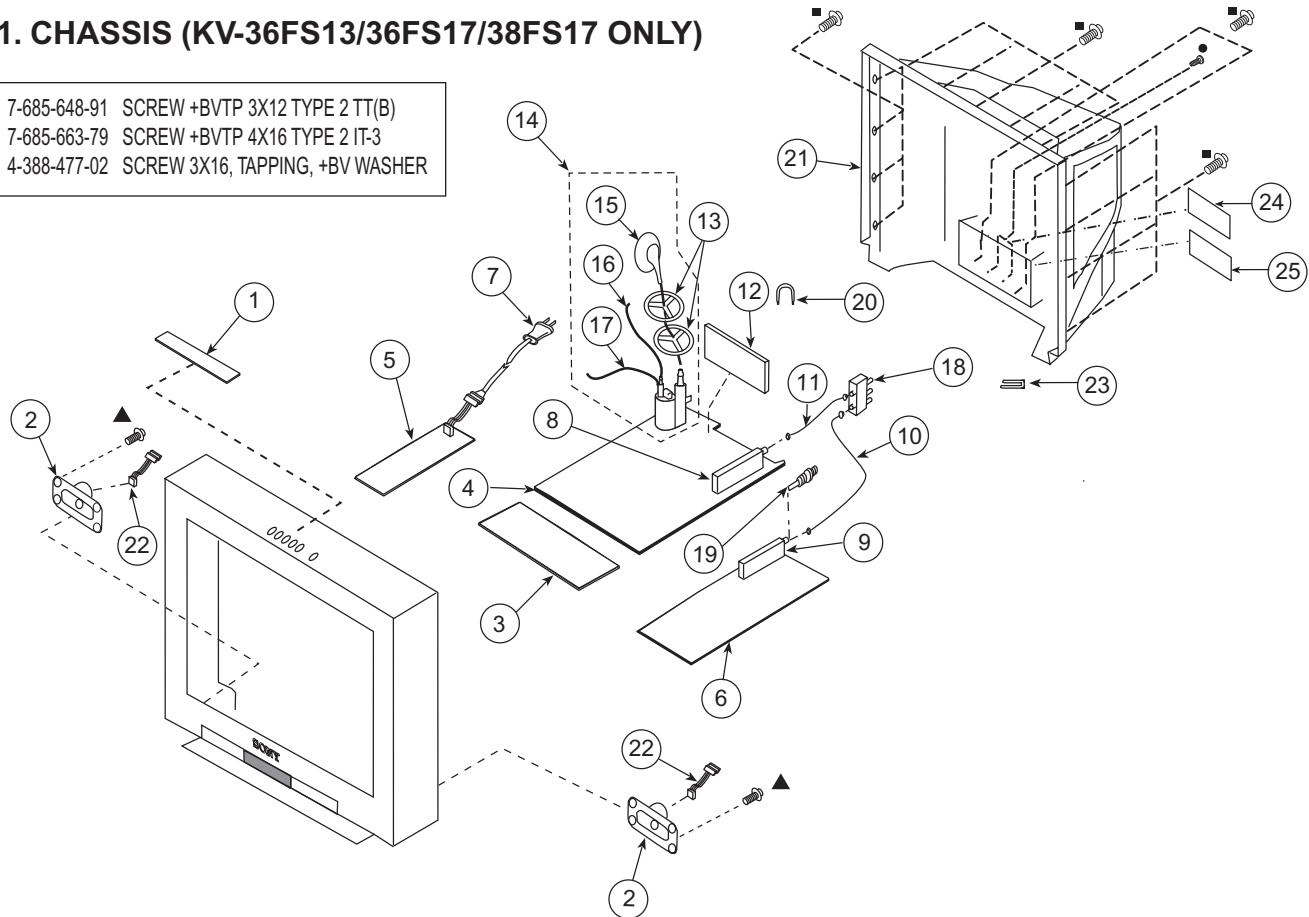
* Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.

NOTE: The components identified by shading and \triangle mark 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.

6-1. CHASSIS (KV-36FS13/36FS17/38FS17 ONLY)

- 7-685-648-91 SCREW +BVTP 3X12 TYPE 2 TT(B)
- 7-685-663-79 SCREW +BVTP 4X16 TYPE 2 IT-3
- ▲ 4-388-477-02 SCREW 3X16, TAPPING, +BV WASHER



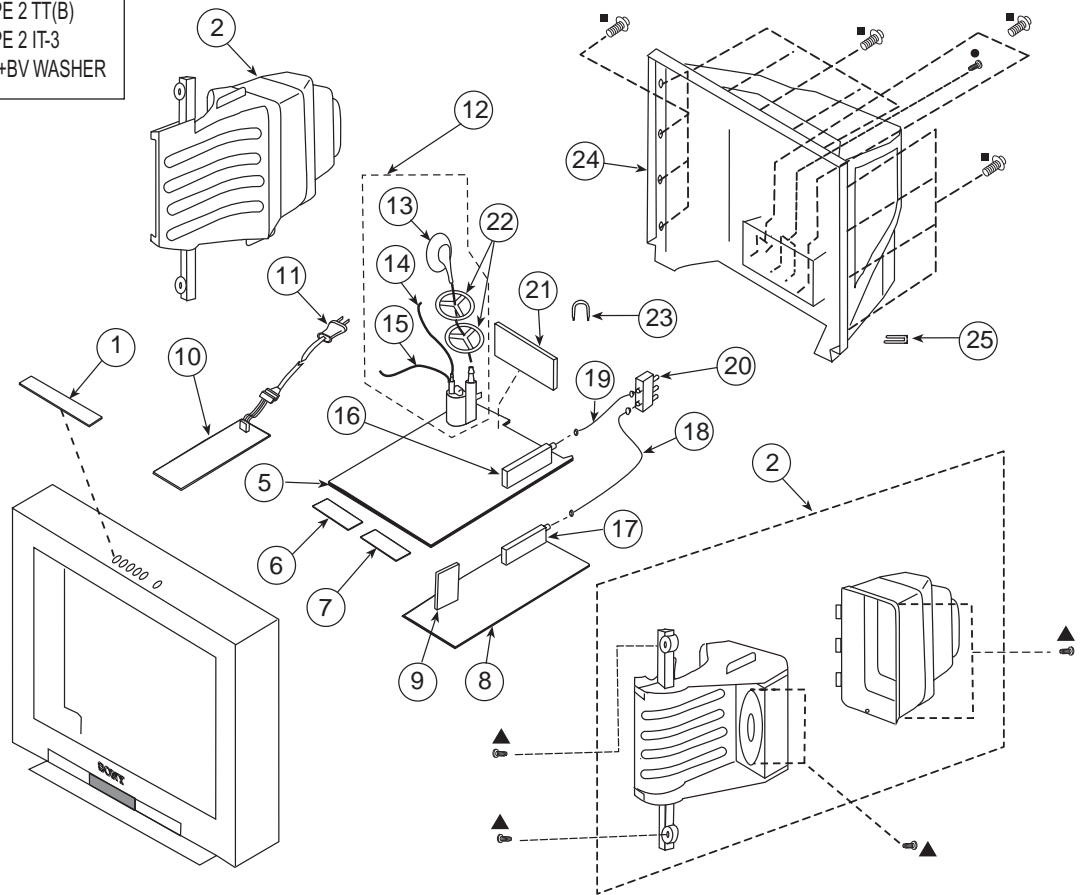
REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION	[Assembly Includes]
* 1	A-1372-636-A	HX MOUNTED PC BOARD	13	3-704-372-71	HOLDER, HV CABLE	
2	1-544-858-11	SPEAKER	\triangle 14	1-453-338-21	FBT ASSY NX-4600	[15-17]
* 3	A-1372-822-A	HS MOUNTED PC BOARD	\triangle 15	1-251-715-22	HV CAP ASSY	
* 4	A-1299-467-A	A COMPLETE PC BOARD The high-voltage leads associated with the FBT on this board are not included and must be ordered separately. [See items 15-17]	\triangle 16	1-900-805-19	FOCUS LEAD	
			\triangle 17	1-900-805-22	G2 LEAD	
* 5	A-1316-397-A	G COMPLETE PC BOARD	18	1-771-787-11	SWITCH, RF ANTENNA (KV-36FS17/38FS17 ONLY)	
* 6	A-1299-489-A	AK COMPLETE PC BOARD (KV-36FS13 ONLY)	19	1-766-374-11	PLUG, F-PIN (KV-36FS13 ONLY)	
* 6	A-1299-468-A	AK COMPLETE PC BOARD (KV-36FS17/38FS17 ONLY)	* 20	4-076-951-01	HINGE, PWB	
\triangle 7	1-790-316-41	CORD, AC POWER (WITH CONNECTOR)	21	4-076-073-03	COVER, REAR	
\triangle 8	8-598-542-20	TUNER FSS-BTF-WA412			The labels associated with the rear cover are not included and must be ordered separately. [See items 24-25.]	
\triangle 9	8-598-501-90	TUNER FSS-BTF-FA402 (KV-36FS17 ONLY)	22	1-900-805-21	CONNECTOR, SPEAKER	
10	1-556-945-21	CABLE, P-P (KV-36FS17/38FS17 ONLY)	23	4-080-328-01	HOOK, AC CORD	
* 11	1-557-056-31	CABLE, P-P (KV-36FS17/38FS17 ONLY)	24	4-070-353-01	LABEL, TUNER TERMINAL (Except KV-36FS13)	
* 12	A-1395-031-A	UY COMPLETE PC BOARD (KV-36FS13 ONLY)	24	4-070-354-01	LABEL, BLANK TERMINAL (KV-36FS13 ONLY)	
* 12	A-1395-027-A	UY COMPLETE PC BOARD (KV-36FS17/38FS17 ONLY)	25	4-076-655-11	LABEL, TERMINAL (KV-36FS13 ONLY)	
			25	4-076-655-01	LABEL, TERMINAL (KV-36FS17/38FS17 ONLY)	

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

NOTE: 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.

6-2 . CHASSIS (KV-32FV27/36FV27 ONLY)

- 7-685-648-91 SCREW +BVTP 3X12 TYPE 2 TT(B)
- 7-685-663-79 SCREW +BVTP 4X16 TYPE 2 IT-3
- ▲ 4-388-477-02 SCREW 3X16, TAPPING, +BV WASHER



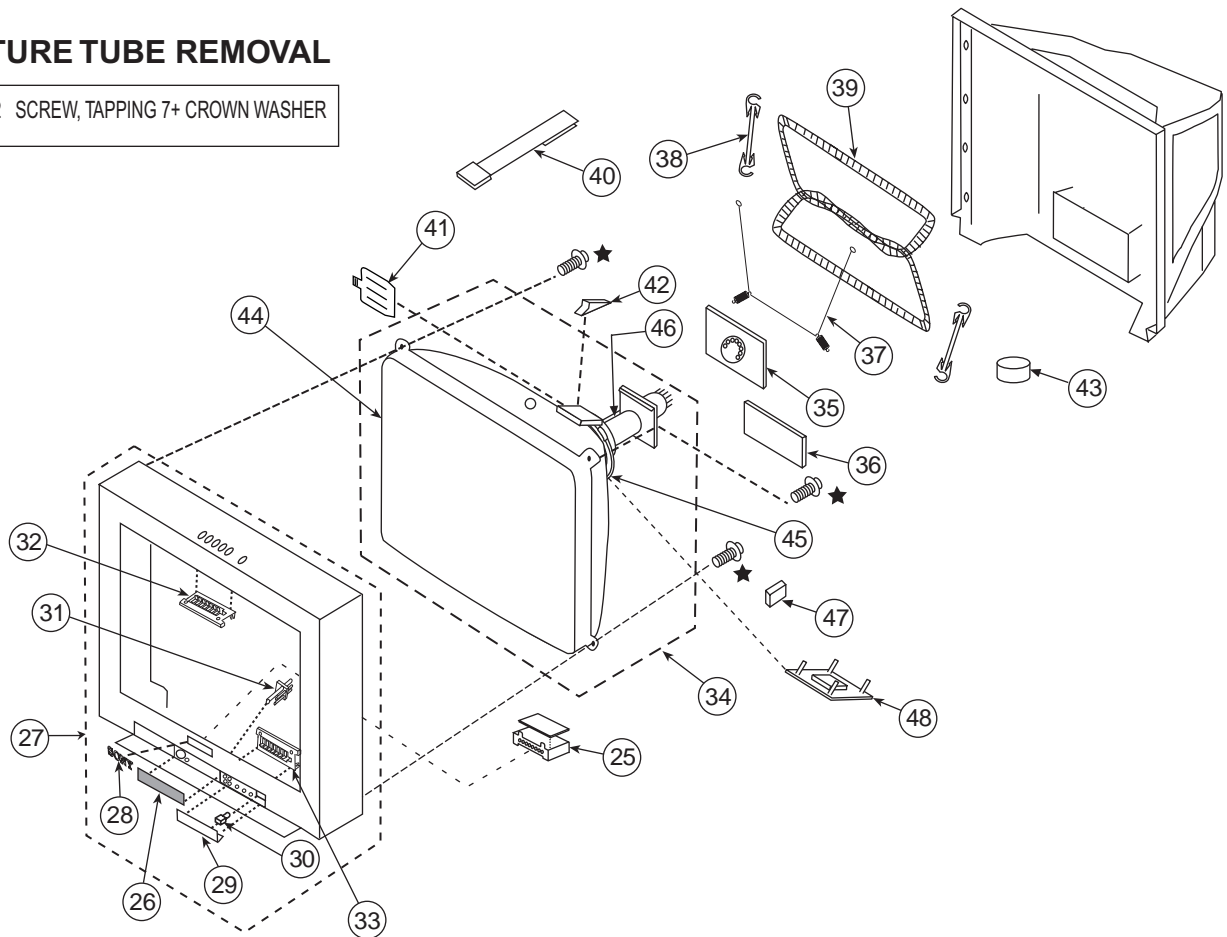
REF.NO.	PART NO.	DESCRIPTION	[Assembly Includes]	REF.NO.	PART NO.	DESCRIPTION	
*	1	A-1372-636-A	HX MOUNTED PC BOARD	*	18	1-556-945-21	CABLE, P-P
*	2	1-529-358-21	SPEAKER, BOX (5,10CM)	*	19	1-557-056-31	CABLE, P-P
*	5	A-1299-467-A	A COMPLETE PC BOARD (KV-36FV27 ONLY)		20	1-771-787-11	SWITCH, RF ANTENNA
	5	A-1299-476-A	A COMPLETE PC BOARD (KV-32FV27 ONLY)	*	21	A-1395-028-A	UX COMPLETE PC BOARD
		The high-voltage leads associated with the FBT on this board are not included and must be ordered separately. [See item 13-15]			22	3-704-372-71	HOLDER, HV CABLE
*	6	A-1372-634-A	HA MOUNTED PC BOARD	*	23	4-076-951-01	HINGE, PWB
*	7	A-1372-635-A	HB MOUNTED PC BOARD		24	4-068-998-04	COVER, REAR (KV-36FV27 ONLY)
*	8	A-1299-469-A	AK COMPLETE PC BOARD		24	4-068-000-25	COVER, REAR (KV-32FV27 ONLY)
*	9	A-1394-934-A	T COMPLETE PC BOARD			The labels associated with the rear cover are not included and must be ordered separately. [See item 26]	
*	10	A-1316-397-A	G COMPLETE PC BOARD		25	4-080-328-01	HOOK, AC CORD (KV-36FV27 ONLY)
▲	11	1-790-316-41	CORD, AC POWER (WITH CONNECTOR) (KV-36FV27 ONLY)		26	4-070-353-01	LABEL, TUNER TERMINAL
▲	11	1-790-316-11	CORD, AC POWER (WITH CONNECTOR) (KV-32FV27 ONLY)				
▲	12	1-453-338-21	FBT ASSY NX-4600				
▲	13	1-251-715-22	HV CAP ASSY				
▲	14	1-900-805-19	FOCUS LEAD				
▲	15	1-900-805-22	G2 LEAD				
▲	16	8-598-542-20	TUNER FSS-BTF-WA412				
▲	17	8-598-501-90	TUNER FSS-BTF-FA402				

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

NOTE: 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.

6-3. PICTURE TUBE REMOVAL

★ 4-046-765-12 SCREW, TAPPING 7+ CROWN WASHER



REF.NO.	PART NO.	DESCRIPTION	[Assembly Includes]	REF.NO.	PART NO.	DESCRIPTION	
*	25	4-068-992-01	CASE, IR SHIELD (Except KV-36FS13/36FS17)	*	35	A-1331-942-A	C (VAR) MOUNTED PC BOARD
	26	4-068-991-01	PANEL, IR (Except KV-36FS13/36FS17)	*	36	A-1375-221-A	WA COMPLETE PC BOARD
	27	X-4038-797-1	BEZNET ASSY (KV-32FV27 ONLY) [28-30]				(ALL EXCEPT KV-32FV27)
	27	X-4038-798-1	BEZNET ASSY (KV-36FV27 ONLY) [28-30]	*	36	A-1375-220-A	WA COMPLETE PC BOARD (KV-32FV27 ONLY)
	27	X-4038-799-1	BEZNET ASSY (KV-36FS13/36FS17 ONLY) [28-30]		37	4-036-329-01	SPRING (B), TENSION
	27	X-4037-665-2	BEZNET ASSY (KV-38FS17 ONLY) [28-30]		38	4-065-895-11	HOLDER, DGC
	28	3-704-179-31	EMBLEM (NO.9), SONY	⚠	39	1-416-828-41	COIL, DEGAUSSING (Except KV-32FV27)
	29	4-075-658-11	DOOR (KV-36FS13/36FS17/38FS17 ONLY)	⚠	39	1-416-827-21	COIL, DEGAUSSING (KV-32FV27 ONLY)
	29	X-4037-631-3	DOOR ASSEMBLY (KV-32FV27/36FV27 ONLY)		40	4-083-414-01	PIECE A(110), CONV CORRECT (KV-32FV27 ONLY)
	30	3-703-574-01	RETAINER, DOOR (KV-32FV27/36FV27 ONLY)		41	4-081-170-01	PLATE TLH CONVERGENCE (KV-32FV27 ONLY)
	30	4-047-464-01	CATCHER, PUSH (KV-36FS13/36FS17/38FS17)		42	4-053-005-01	SPACER, DY (KV-32FV27 ONLY)
	31	4-068-986-01	GUIDE, LED (KV-32FV27/36FV27 ONLY)		43	1-452-032-00	MAGNET, DISC (KV-32FV27 ONLY)
	31	4-075-657-01	GUIDE, LED (KV-36FS13/36FS17/38FS17 ONLY)	⚠	44	8-735-066-05	CRT 34RSN(SDP) (KV-32FV27 ONLY)
	32	4-068-982-22	MULTI-BUTTON (TOP)	⚠	44	8-735-081-05	CRT 38RSN (KV-36FS13H/36FS17H/ 36FV27H/ 38FS17 ONLY)
	33	4-068-984-01	MULTI-BUTTON (BOTTOM) (Except KV-36FS13/36FS17)	⚠	44	8-735-048-05	CRT 38RSN (KV-36FS13/36FS17/36FV27 ONLY)
⚠	34	8-735-048-61	ITC 38RSN-A1 (KV-36FS13/ 36FS17/36FV27/ 36FV27CND ONLY)	⚠	45	8-451-499-21	DY Y34RSA-X (KV-32FV27 ONLY)
⚠	34	8-735-081-61	ITC 38RSN-A1M (KV-36FS13H/36FS17H/36FV27H/38FS17 ONLY)	⚠	45	8-451-506-11	DY Y38RSA-X (ALL EXCEPT KV-32FV27)
				⚠	46	8-453-007-41	NECK ASSEMBLY NA324-M4 (KV-32FV27 ONLY)
					47	4-078-952-01	CUSHION, 20MM X 20MM (KV-32FV27 ONLY)
				*	47	4-064-378-01	CUSHION (20MM), CRT (KV-36FS13/36FS17/38FS17)
					48	1-452-896-11	COIL NA ROTATION (RT200) (KV-32FV27 ONLY)

NOTE: The components identified by shading and \triangle mark 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 spécifique.




REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
C361	1-163-038-11	CERAMIC CHIP	0.1 μ F		25V	C544	1-129-718-00	FILM	0.022 μ F	5%	630V
C374	1-163-038-11	CERAMIC CHIP	0.1 μ F		25V	C545	1-106-387-00	MYLAR	0.068 μ F	10%	200V
C375	1-163-038-11	CERAMIC CHIP	0.1 μ F		25V	C546	1-104-987-11	MYLAR	0.001 μ F	10%	100V
C382	1-163-038-11	CERAMIC CHIP	0.1 μ F		25V	C547	1-104-987-11	MYLAR	0.001 μ F	10%	100V
C384	1-163-038-11	CERAMIC CHIP	0.1 μ F		25V	C548	1-164-004-11	CERAMIC CHIP	0.1 μ F	10%	25V
C393	1-163-038-11	CERAMIC CHIP	0.1 μ F		25V	C549	1-106-375-12	MYLAR	0.022 μ F	20%	200V
C394	1-163-038-11	CERAMIC CHIP	0.1 μ F		25V	C550	1-102-002-00	CERAMIC	680pF	10%	500V
C395	1-104-664-11	ELECT	47 μ F	20%	25V	C551	1-109-954-11	ELECT	0.47 μ F	20%	160V
C396	1-163-021-91	CERAMIC CHIP	0.01 μ F	10%	50V	C552	1-102-244-00	CERAMIC	220pF	10%	500V
C397	1-104-664-11	ELECT	47 μ F	20%	25V	C553	1-117-661-11	FILM	0.15 μ F	5%	250V
C398	1-126-961-11	ELECT	2.2 μ F	20%	50V	\triangle C554	1-104-491-11	FILM	0.0047 μ F	3%	2KV
C501	1-102-110-00	CERAMIC	220pF	10%	50V	C561	1-126-967-11	ELECT	47 μ F	20%	50V
C502	1-126-959-11	ELECT	0.47 μ F	20%	50V	C563	1-104-666-11	ELECT	220 μ F	20%	25V
C503	1-163-133-00	CERAMIC CHIP	470pF	5%	50V	C564	1-126-960-11	ELECT	1 μ F	20%	50V
C504	1-102-228-00	CERAMIC	470pF	10%	500V	C565	1-126-969-11	ELECT	220 μ F	20%	50V
C505	1-102-228-00	CERAMIC	470pF	10%	500V	C568	1-136-169-00	FILM	0.22 μ F	5%	50V
C506	1-106-383-00	MYLAR	0.047 μ F	10%	200V	C571	1-126-942-61	ELECT	1000 μ F	20%	25V
\triangle C507	1-162-116-00	CERAMIC	680pF	10%	2KV	C572	1-126-942-61	ELECT	1000 μ F	20%	25V
C508	1-102-228-00	CERAMIC	470pF	10%	500V	C599	1-126-935-11	ELECT	470 μ F	20%	16V
C509	1-162-116-00	CERAMIC	680pF	10%	2KV	C1002	1-126-964-11	ELECT	10 μ F	20%	50V
C510	1-137-150-11	MYLAR	0.01 μ F	10%	100V	C1003	1-126-961-11	ELECT	2.2 μ F	20%	50V
\triangle C511	1-137-347-11	FILM	0.022 μ F	3%	2KV	C1004	1-126-960-11	ELECT	1 μ F	20%	50V
C512	1-129-928-00	FILM	0.0027 μ F	10%	630V	C1101	1-126-943-11	ELECT	2200 μ F	20%	25V
\triangle C513	1-130-118-91	FILM	0.051 μ F	5%	400V	C1103	1-126-965-11	ELECT	22 μ F	20%	50V
\triangle C514	1-115-521-11	FILM	0.82 μ F	5%	250V	C1104	1-104-664-11	ELECT	47 μ F	20%	25V
C515	1-104-987-11	MYLAR	0.001 μ F	10%	100V	C1105	1-104-664-11	ELECT	47 μ F	20%	25V
C516	1-115-356-11	FILM	1.2 μ F	5%	250V	C1106	1-126-964-11	ELECT	10 μ F	20%	50V
C517	1-107-649-11	ELECT	2.2 μ F	20%	250V	C1107	1-163-037-11	CERAMIC CHIP	0.022 μ F	10%	50V
C518	1-106-387-00	MYLAR	0.068 μ F	10%	200V	C1108	1-128-551-11	ELECT	22 μ F	20%	25V
C519	1-107-612-11	CERAMIC	100pF	5%	500V	C1109	1-126-964-11	ELECT	10 μ F	20%	50V
C520	1-164-646-11	CERAMIC	2200pF	10%	500V	C1117	1-126-960-11	ELECT	1 μ F	20%	50V
C521	1-163-010-11	CERAMIC CHIP	0.0012 μ F	10%	50V	C1118	1-126-960-11	ELECT	1 μ F	20%	50V
C522	1-126-960-11	ELECT	1 μ F	20%	50V	C1351	1-163-237-11	CERAMIC CHIP	27pF	5%	50V
C525	1-102-244-00	CERAMIC	220pF	10%	500V	C1355	1-163-009-11	CERAMIC CHIP	0.001 μ F	10%	50V
C526	1-107-662-11	ELECT	22 μ F	20%	250V	C1356	1-126-964-11	ELECT	10 μ F	20%	50V
C527	1-162-116-00	CERAMIC	680pF	10%	2KV	C1357	1-164-005-11	CERAMIC CHIP	0.47 μ F		16V
C528	1-164-161-11	CERAMIC CHIP	0.0022 μ F	10%	50V	C1358	1-126-940-11	ELECT	330 μ F	20%	25V
C529	1-128-551-11	ELECT	22 μ F	20%	25V	C1359	1-163-038-11	CERAMIC CHIP	0.1 μ F		25V
C530	1-137-366-11	MYLAR	0.0022 μ F	5%	50V	C1360	1-163-031-11	CERAMIC CHIP	0.01 μ F		50V
C531	1-126-965-11	ELECT	22 μ F	20%	50V	C1361	1-163-241-11	CERAMIC CHIP	39pF	5%	50V
C532	1-126-965-11	ELECT	22 μ F	20%	50V	C1362	1-163-017-00	CERAMIC CHIP	0.0047 μ F	10%	50V
C534	1-126-967-11	ELECT	47 μ F	20%	50V	C1363	1-163-031-11	CERAMIC CHIP	0.01 μ F		50V
C537	1-126-941-11	ELECT	470 μ F	20%	25V	C1367	1-163-038-11	CERAMIC CHIP	0.1 μ F		25V
C539	1-126-941-11	ELECT	470 μ F	20%	25V	C1369	1-163-038-11	CERAMIC CHIP	0.1 μ F		25V
C540	1-107-995-11	ELECT	100 μ F		160V	C1370	1-126-964-11	ELECT	10 μ F	20%	50V
C541	1-128-560-11	ELECT	22 μ F	20%	100V	C1371	1-163-017-00	CERAMIC CHIP	0.0047 μ F	10%	50V
C543	1-104-666-11	ELECT	220 μ F	20%	25V	C1372	1-163-017-00	CERAMIC CHIP	0.0047 μ F	10%	50V


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REF.NO.	PART NO.	DESCRIPTION	VALUES	REF.NO.	PART NO.	DESCRIPTION	VALUES	
	C1373	CERAMIC CHIP	470pF 5% 50V		D512	8-719-981-47	DIODE ERA38-06TP1	
⚠	C1501	FILM (KV-32FV27 ONLY)	0.1µF 5% 250V		D513	8-719-110-41	DIODE MTZJ-T-77-15B	
CONNECTOR					⚠	D515	8-719-075-41	DIODE PR1004GT
*	CN270	1-774-105-11	CONNECTOR, BOARD TO BOARD 15P		D516	8-719-991-33	DIODE 1SS133T-77	
*	CN271	1-774-105-11	CONNECTOR, BOARD TO BOARD 15P		D518	8-719-991-33	DIODE 1SS133T-77	
*	CN272	1-774-105-11	CONNECTOR, BOARD TO BOARD 15P	⚠	D519	8-719-302-43	DIODE EL1Z-V1	
*	CN302	1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P		D520	8-719-991-33	DIODE 1SS133T-77	
*	CN351	1-564-509-11	PLUG, CONNECTOR 6P		D521	8-719-921-63	DIODE MTZJ-T-77-7.5X	
*	CN501	1-580-798-11	CONNECTOR PIN (DY) 6P		D522	8-719-991-33	DIODE 1SS133T-77	
*	CN503	1-564-508-11	PLUG, CONNECTOR 5P		D523	8-719-109-69	DIODE MTZJ-T-77-3.6B	
*	CN1001	1-564-508-11	PLUG, CONNECTOR 5P	⚠	D524	8-719-109-97	DIODE MTZJ-T-77-6.8B	
*	CN1002	1-564-506-11	PLUG, CONNECTOR 3P		D530	8-719-081-01	DIODE ER204	
*	CN1102	1-564-507-11	PLUG, CONNECTOR 4P		D531	8-719-081-01	DIODE ER204	
*	CN1231	1-564-512-11	PLUG, CONNECTOR 9P		D534	8-719-075-41	DIODE PR1004GT	
	CN1233	1-564-505-11	PLUG, CONNECTOR 2P		D535	8-719-073-01	DIODE MA111-TX	
	CN1643	1-695-915-11	TAB (CONTACT)		D536	1-216-295-11	SHORT	
*	CN1941	1-564-511-11	PLUG, CONNECTOR 8P		D561	8-719-075-33	DIODE 1N4003GA	
*	CN1942	1-564-508-11	PLUG, CONNECTOR 5P		D1003	8-719-110-17	DIODE MTZJ-T-77-10B	
DIODE					D1004	8-719-110-17	DIODE MTZJ-T-77-10B	
	D001	8-719-991-33	DIODE 1SS133T-77		D1101	8-719-110-17	DIODE MTZJ-T-77-10B	
	D002	8-719-109-89	DIODE MTZJ-T-77-5.6C		D1102	8-719-982-24	DIODE MTZJ-T-77-33A	
	D003	8-719-991-33	DIODE 1SS133T-77		D1103	8-719-109-89	DIODE MTZJ-T-77-5.6C	
	D005	8-719-109-89	DIODE MTZJ-T-77-5.6C (ALL EXCEPT KV-32FV27)		D1104	8-719-110-17	DIODE MTZJ-T-77-10B	
	D006	8-719-081-27	DIODE P6KE6.8A (KV-32FV27 ONLY)		D1301	8-719-073-01	DIODE MA111-TX	
	D012	8-719-991-33	DIODE 1SS133T-77		D1302	8-719-991-33	DIODE 1SS133T-77	
	D013	8-719-991-33	DIODE 1SS133T-77		D1303	8-719-073-01	DIODE MA111-TX	
	D016	8-719-991-33	DIODE 1SS133T-77		D1304	8-719-073-01	DIODE MA111-TX	
	D018	8-719-073-01	DIODE MA111-TX		D1305	8-719-073-01	DIODE MA111-TX	
	D019	8-719-073-01	DIODE MA111-TX		D1306	8-719-073-01	DIODE MA111-TX	
	D301	8-719-073-01	DIODE MA111-TX	FERRITE BEAD				
	D302	8-719-991-33	DIODE 1SS133T-77	FB501	1-410-397-21	FERRITE	1.1µH	
	D303	8-719-921-44	DIODE MTZJ-T-77-5.1C	FB502	1-410-397-21	FERRITE	1.1µH	
	D368	8-719-991-33	DIODE 1SS133T-77	FB503	1-410-397-21	FERRITE	1.1µH	
	D384	8-719-921-80	DIODE MTZJ-T-77-11B	IC				
	D388	8-719-921-80	DIODE MTZJ-T-77-11B	IC001	8-759-835-08	IC M306V5ME-105SP		
	D501	8-719-109-89	DIODE MTZJ-T-77-5.6C	IC002	8-759-562-42	IC CAT24WC08J-TE13		
	D502	8-719-945-80	DIODE ERC06-15S	IC003	8-759-352-91	IC PST9143NL		
⚠	D503	8-719-945-80	DIODE ERC06-15S	IC351	8-759-710-86	IC NJM2233BM(Te2)		
	D504	8-719-900-26	DIODE ERD29-08J	IC352	8-752-080-75	IC CXA2039M-T6		
	D505	8-719-075-33	DIODE 1N4003GA	IC353	8-759-462-91	IC TA1226N		
	D506	8-719-075-33	DIODE 1N4003GA	IC354	8-752-082-49	IC CXA2119M-T6		
	D507	8-719-991-33	DIODE 1SS133T-77	⚠	IC355	8-752-098-79	IC CXA2131CS	
	D510	8-719-300-33	DIODE ERB44-06TP1		IC501	8-759-700-07	IC NJM2903M-TE2	
	D511	8-719-981-47	DIODE ERA38-06TP1	⚠	IC561	8-759-192-71	IC STV9379	
					IC1001	8-752-058-68	IC CXA1315M-T4	

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REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
CHIP CONDUCTOR						Q301	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
JR001	1-216-295-11	SHORT				Q303	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
JR002	1-216-295-11	SHORT				Q304	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX			
JR003	1-216-295-11	SHORT				Q305	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX			
JR004	1-216-049-11	RES-CHIP	1K	5%	1/10W	Q306	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX			
JR005	1-216-295-11	SHORT				Q307	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
JR051	1-216-295-11	SHORT				Q310	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX			
JR053	1-216-295-11	SHORT				Q311	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX			
JR054	1-216-295-11	SHORT				Q313	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
JR202	1-216-295-11	SHORT				Q314	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
JR4120	1-216-295-11	SHORT				Q351	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
COIL						Q352	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L001	1-414-857-11	INDUCTOR	100μH			Q359	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX			
L002	1-414-857-11	INDUCTOR	100μH			Q361	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L003	1-414-856-11	INDUCTOR	10μH			Q362	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L004	1-414-182-11	INDUCTOR	6.8μH			Q364	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX			
L005	1-410-506-11	INDUCTOR	5.6μH			Q369	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L006	1-410-506-11	INDUCTOR	5.6μH			Q370	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L007	1-410-506-11	INDUCTOR	5.6μH			Q501	8-729-140-50	TRANSISTOR 2SC3209LK-TP			
L301	1-414-857-11	INDUCTOR	100μH			 Q502	8-729-045-26	TRANSISTOR 2SD2580-YB			
L302	1-414-856-11	INDUCTOR	10μH			Q503	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L351	1-414-186-31	INDUCTOR	33μH			Q504	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L501	1-406-677-11	INDUCTOR	10MH			Q507	8-729-043-95	TRANSISTOR 2SC3840K			
L502	1-412-552-11	INDUCTOR	2.2MH			 Q511	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L503	1-406-677-11	INDUCTOR	10MH			 Q512	8-729-809-29	TRANSISTOR 2SC4159-E			
L504	1-419-754-11	INDUCTOR	10MH			Q561	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L505	1-406-978-11	INDUCTOR	150μH			Q562	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L511	1-411-189-11	INDUCTOR	15MH			Q1102	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
L517	1-412-552-11	INDUCTOR	2.2MH			Q1103	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L1101	1-414-857-11	INDUCTOR	100μH			Q1301	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX			
L1102	1-414-856-11	INDUCTOR	10μH			Q1302	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L1351	1-414-856-11	INDUCTOR	10μH			Q1303	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
L1352	1-412-754-21	INDUCTOR	39μH			Q1352	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
TRANSISTOR						Q1353	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX			
Q001	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				Q1354	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q002	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				RESISTOR					
Q003	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R001	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
Q004	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R002	1-249-417-11	CARBON	1K	5%	1/4W
Q005	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R003	1-216-097-11	RES-CHIP	100K	5%	1/10W
Q006	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R004	1-216-121-11	RES-CHIP	1M	5%	1/10W
Q007	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R005	1-216-033-00	RES-CHIP	220	5%	1/10W
Q008	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R006	1-216-033-00	RES-CHIP	220	5%	1/10W
Q009	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R007	1-216-073-00	RES-CHIP	10K	5%	1/10W
Q016	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R008	1-216-033-00	RES-CHIP	220	5%	1/10W
Q103	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R009	1-216-073-00	RES-CHIP	10K	5%	1/10W
Q104	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R010	1-216-041-00	RES-CHIP	470	5%	1/10W














REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
R011	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R067	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R012	1-216-033-00	RES-CHIP	220	5%	1/10W	R068	1-249-429-11	CARBON	10K	5%	1/4W
R013	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R069	1-249-429-11	CARBON	10K	5%	1/4W
R014	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R070	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R015	1-216-073-00	RES-CHIP	10K	5%	1/10W	R071	1-249-409-11	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	1-249-409-11	CARBON	220	5%	1/4W
R020	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R074	1-216-033-00	RES-CHIP	220	5%	1/10W
R021	1-216-073-00	RES-CHIP	10K	5%	1/10W	R075	1-249-409-11	CARBON	220	5%	1/4W
R022	1-216-073-00	RES-CHIP	10K	5%	1/10W	R076	1-216-033-00	RES-CHIP	220	5%	1/10W
R023	1-249-437-11	CARBON	47K	5%	1/4W	R078	1-249-417-11	CARBON	1K	5%	1/4W
R024	1-249-417-11	CARBON	1K	5%	1/4W	R079	1-216-033-00	RES-CHIP	220	5%	1/10W
R025	1-216-041-00	RES-CHIP	470	5%	1/10W	R081	1-247-807-31	CARBON	100	5%	1/4W
R026	1-216-121-11	RES-CHIP	1M	5%	1/10W	R082	1-247-807-31	CARBON	100	5%	1/4W
R027	1-249-417-11	CARBON	1K	5%	1/4W	R083	1-249-429-11	CARBON	10K	5%	1/4W
R028	1-249-429-11	CARBON	10K	5%	1/4W	R085	1-249-425-11	CARBON	4.7K	5%	1/4W
R029	1-216-025-11	RES-CHIP	100	5%	1/10W	R086	1-216-073-00	RES-CHIP	10K	5%	1/10W
R030	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R089	1-216-073-00	RES-CHIP	10K	5%	1/10W
R031	1-216-033-00	RES-CHIP	220	5%	1/10W	R090	1-249-409-11	CARBON	220	5%	1/4W
R032	1-249-409-11	CARBON	220	5%	1/4W	R096	1-216-033-00	RES-CHIP	220	5%	1/10W
R033	1-249-425-11	CARBON	4.7K	5%	1/4W	R097	1-249-425-11	CARBON	4.7K	5%	1/4W
R034	1-216-295-11	SHORT				R099	1-249-425-11	CARBON	4.7K	5%	1/4W
R035	1-216-041-00	RES-CHIP	470	5%	1/10W	R106	1-216-081-00	RES-CHIP	22K	5%	1/10W
R036	1-249-417-11	CARBON	1K	5%	1/4W	R107	1-216-081-00	RES-CHIP	22K	5%	1/10W
R037	1-249-417-11	CARBON	1K	5%	1/4W	R108	1-216-081-00	RES-CHIP	22K	5%	1/10W
R038	1-249-417-11	CARBON	1K	5%	1/4W	R109	1-216-081-00	RES-CHIP	22K	5%	1/10W
R040	1-216-033-00	RES-CHIP	220	5%	1/10W	R133	1-216-037-00	RES-CHIP	330	5%	1/10W
R041	1-216-295-11	SHORT				R302	1-208-291-11	RES-CHIP	4.7M	5%	1/10W
R043	1-249-409-11	CARBON	220	5%	1/4W	R304	1-216-033-00	RES-CHIP	220	5%	1/10W
R044	1-249-417-11	CARBON	1K	5%	1/4W	R305	1-249-409-11	CARBON	220	5%	1/4W
R045	1-216-033-00	RES-CHIP	220	5%	1/10W	R306	1-249-409-11	CARBON	220	5%	1/4W
R046	1-216-033-00	RES-CHIP	220	5%	1/10W	R307	1-216-295-11	SHORT			
R047	1-216-049-11	RES-CHIP	1K	5%	1/10W	R309	1-216-295-11	SHORT			
R048	1-249-417-11	CARBON	1K	5%	1/4W	R311	1-216-073-00	RES-CHIP	10K	5%	1/10W
R049	1-249-417-11	CARBON	1K	5%	1/4W	R313	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R052	1-216-049-11	RES-CHIP	1K	5%	1/10W	R314	1-216-073-00	RES-CHIP	10K	5%	1/10W
R053	1-216-025-11	RES-CHIP	100	5%	1/10W	R315	1-216-073-00	RES-CHIP	10K	5%	1/10W
R055	1-216-097-11	RES-CHIP	100K	5%	1/10W	R316	1-216-073-00	RES-CHIP	10K	5%	1/10W
R056	1-249-409-11	CARBON	220	5%	1/4W	R319	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R057	1-216-049-11	RES-CHIP	1K	5%	1/10W	R320	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R060	1-216-073-00	RES-CHIP	10K	5%	1/10W	R321	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R061	1-216-073-00	RES-CHIP	10K	5%	1/10W	R325	1-216-033-00	RES-CHIP	220	5%	1/10W
R062	1-216-073-00	RES-CHIP	10K	5%	1/10W	R326	1-216-085-00	RES-CHIP	33K	5%	1/10W
R063	1-216-073-00	RES-CHIP	10K	5%	1/10W	R327	1-216-033-00	RES-CHIP	220	5%	1/10W
R064	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R330	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R065	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R331	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R066	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R332	1-216-033-00	RES-CHIP	220	5%	1/10W
						R334	1-216-033-00	RES-CHIP	220	5%	1/10W

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

A component identified by this  symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.



REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
R335	1-216-033-00	RES-CHIP	220	5%	1/10W	R514	1-216-081-00	RES-CHIP	22K	5%	1/10W
R336	1-216-049-11	RES-CHIP	1K	5%	1/10W	R515	1-208-812-11	METAL CHIP	18K	0.50%	1/10W
R337	1-216-347-11	METAL OXIDE	0.68	5%	1W	R516	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
R340	1-216-105-91	RES-CHIP	220K	5%	1/10W	R517	1-249-417-11	CARBON	1K	5%	1/4W
R341	1-216-073-00	RES-CHIP	10K	5%	1/10W	R518	1-216-073-00	RES-CHIP	10K	5%	1/10W
R342	1-216-097-11	RES-CHIP	100K	5%	1/10W	R519	1-249-413-11	CARBON	470	5%	1/4W
R343	1-216-093-91	RES-CHIP	68K	5%	1/10W	R520	1-215-907-11	METAL OXIDE	22	5%	3W
R344	1-216-073-00	RES-CHIP	10K	5%	1/10W	R521	1-216-081-00	RES-CHIP	22K	5%	1/10W
R346	1-216-023-00	RES-CHIP	82	5%	1/10W	R523	1-208-808-11	METAL CHIP	12K	0.50%	1/10W
R347	1-216-041-00	RES-CHIP	470	5%	1/10W	R524	1-249-429-11	CARBON	10K	5%	1/4W
R348	1-216-033-00	RES-CHIP	220	5%	1/10W	R525	1-208-804-11	METAL CHIP	8.2K	0.50%	1/10W
R349	1-216-041-00	RES-CHIP	470	5%	1/10W	R526	1-215-905-11	METAL OXIDE	10	5%	3W
R350	1-247-807-31	CARBON	100	5%	1/4W	R527	1-216-097-11	RES-CHIP	100K	5%	1/10W
R352	1-216-073-00	RES-CHIP	10K	5%	1/10W	R528	1-208-814-91	METAL CHIP	22K	0.50%	1/10W
R353	1-216-295-11	SHORT				R529	1-208-814-91	METAL CHIP	22K	0.50%	1/10W
R354	1-216-073-00	RES-CHIP	10K	5%	1/10W	  R530	1-208-808-11	METAL CHIP	12K	0.50%	1/10W
R355	1-216-069-00	RES-CHIP	6.8K	5%	1/10W	  R531	1-216-091-00	RES-CHIP	56K	5%	1/10W
R356	1-216-025-11	RES-CHIP	100	5%	1/10W	R532	1-208-760-11	METAL CHIP	120	0.50%	1/10W
R358	1-216-295-11	SHORT				R533	1-215-902-11	METAL OXIDE	47K	5%	1W
R359	1-216-073-00	RES-CHIP	10K	5%	1/10W	 R536	1-260-288-11	CARBON	0.47	5%	1/2W
R360	1-249-409-11	CARBON	220	5%	1/4W	 R537	1-260-288-11	CARBON	0.47	5%	1/2W
R361	1-216-049-11	RES-CHIP	1K	5%	1/10W	R538	1-247-887-00	CARBON	220K	5%	1/4W
R362	1-216-073-00	RES-CHIP	10K	5%	1/10W	R539	1-215-891-11	METAL OXIDE	680	5%	2W
R370	1-216-049-11	RES-CHIP	1K	5%	1/10W	R540	1-208-826-11	METAL CHIP	68K	0.50%	1/10W
R372	1-216-097-11	RES-CHIP	100K	5%	1/10W	R541	1-215-922-11	METAL OXIDE	6.8K	5%	3W
R373	1-216-121-11	RES-CHIP	1M	5%	1/10W			(KV-32FV27 ONLY)			
R374	1-216-041-00	RES-CHIP	470	5%	1/10W	R541	1-215-919-11	METAL OXIDE	2.2K	5%	3W
R375	1-216-049-11	RES-CHIP	1K	5%	1/10W			(ALL EXCEPT KV-32FV27)			
R376	1-216-025-11	RES-CHIP	100	5%	1/10W	R542	1-215-921-11	METAL OXIDE	4.7K	5%	3W
R378	1-216-083-00	RES-CHIP	27K	5%	1/10W	 R543	1-249-377-11	CARBON	0.47	5%	1/4W
R383	1-216-025-11	RES-CHIP	100	5%	1/10W	R544	1-216-113-00	RES-CHIP	470K	5%	1/10W
R384	1-216-037-00	RES-CHIP	330	5%	1/10W	 R545	1-249-387-11	CARBON	3.3	5%	1/4W
R385	1-249-425-11	CARBON	4.7K	5%	1/4W	R546	1-215-453-00	METAL	22K	1%	1/4W
R386	1-249-429-11	CARBON	10K	5%	1/4W	R547	1-215-457-00	METAL	33K	1%	1/4W
R387	1-216-037-00	RES-CHIP	330	5%	1/10W	R548	1-215-921-11	METAL OXIDE	4.7K	5%	3W
R398	1-216-095-00	RES-CHIP	82K	5%	1/10W	R549	1-215-437-00	METAL	4.7K	1%	1/4W
R501	1-216-041-00	RES-CHIP	470	5%	1/10W	 R550	1-249-377-11	CARBON	0.47	5%	1/4W
R502	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R551	1-215-873-00	METAL OXIDE	4.7K	5%	1W
R503	1-249-425-11	CARBON	4.7K	5%	1/4W	R552	1-216-455-21	METAL OXIDE	560	5%	2W
R504	1-216-455-21	METAL OXIDE	560	5%	2W	 R553	1-260-288-11	CARBON	0.47	5%	1/2W
R505	1-249-433-11	CARBON	22K	5%	1/4W	R554	1-215-894-11	METAL OXIDE	2.2K	5%	2W
R506	1-215-861-00	METAL OXIDE	47	5%	1W	R555	1-249-441-11	CARBON	100K	5%	1/4W
R507	1-249-401-11	CARBON	47	5%	1/4W	R556	1-249-441-11	CARBON	100K	5%	1/4W
R508	1-249-425-11	CARBON	4.7K	5%	1/4W	R557	1-249-441-11	CARBON	100K	5%	1/4W
R509	1-260-328-11	CARBON	1K	5%	1/2W	R559	1-216-017-91	RES-CHIP	47	5%	1/10W
 R510	1-215-883-11	METAL OXIDE	33	5%	2W	R560	1-215-922-11	METAL OXIDE	6.8K	5%	3W
R512	1-215-910-00	METAL OXIDE	68	5%	3W			(KV-32FV27 ONLY)			

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REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
R560	1-215-919-11	METAL OXIDE (ALL EXCEPT KV-32FV27)	2.2K	5%	3W	R1129	1-216-295-11	SHORT			
R561	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	R1301	1-249-401-11	CARBON	47	5%	1/4W
R563	1-214-798-21	METAL	1.8	1%	1/2W	R1302	1-249-401-11	CARBON	47	5%	1/4W
R565	1-215-889-00	METAL OXIDE	330	5%	2W	R1303	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R566	1-208-802-11	METAL CHIP	6.8K	0.50%	1/10W	R1304	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
\triangle R567	1-249-385-11	CARBON	2.2	5%	1/4W	R1305	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R568	1-208-802-11	METAL CHIP	6.8K	0.50%	1/10W	R1306	1-216-049-11	RES-CHIP	1K	5%	1/10W
R569	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	R1313	1-216-295-11	SHORT			
R570	1-216-097-11	RES-CHIP	100K	5%	1/10W	R1314	1-216-049-11	RES-CHIP	1K	5%	1/10W
R571	1-216-081-00	RES-CHIP	22K	5%	1/10W	R1315	1-216-025-11	RES-CHIP	100	5%	1/10W
R572	1-216-081-00	RES-CHIP	22K	5%	1/10W	R1316	1-216-091-00	RES-CHIP	56K	5%	1/10W
R573	1-216-097-11	RES-CHIP	100K	5%	1/10W	R1317	1-216-105-91	RES-CHIP	220K	5%	1/10W
R574	1-214-798-21	METAL	1.8	1%	1/2W	R1318	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R576	1-215-905-11	METAL OXIDE	10	5%	3W	R1319	1-260-290-71	CARBON	0.68	5%	1/2W
R577	1-216-049-11	RES-CHIP	1K	5%	1/10W	R1320	1-216-073-00	RES-CHIP	10K	5%	1/10W
R578	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R1321	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R580	1-249-441-11	CARBON	100K	5%	1/4W	R1322	1-216-047-91	RES-CHIP	820	5%	1/10W
R581	1-247-887-00	CARBON	220K	5%	1/4W	R1323	1-216-049-11	RES-CHIP	1K	5%	1/10W
R582	1-249-421-11	CARBON	2.2K	5%	1/4W	R1324	1-216-295-11	SHORT			
R1001	1-247-807-31	CARBON	100	5%	1/4W	R1325	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1002	1-247-807-31	CARBON	100	5%	1/4W	R1330	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1003	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1333	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1005	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1337	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1006	1-216-025-11	RES-CHIP	100	5%	1/10W	R1358	1-216-025-11	RES-CHIP	100	5%	1/10W
R1007	1-216-025-11	RES-CHIP	100	5%	1/10W	R1359	1-216-025-11	RES-CHIP	100	5%	1/10W
R1011	1-249-387-11	CARBON	3.3	5%	1/4W	R1360	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1012	1-216-049-11	RES-CHIP	1K	5%	1/10W	R1361	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1030	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R1362	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1031	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R1363	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1101	1-216-049-11	RES-CHIP	1K	5%	1/10W	R1364	1-216-097-11	RES-CHIP	100K	5%	1/10W
R1102	1-215-900-11	METAL OXIDE	22K	5%	2W	R1365	1-216-089-11	RES-CHIP	47K	5%	1/10W
R1103	1-216-049-11	RES-CHIP	1K	5%	1/10W	R1366	1-216-107-00	RES-CHIP	270K	5%	1/10W
R1104	1-216-081-00	RES-CHIP	22K	5%	1/10W	R1369	1-216-093-91	RES-CHIP	68K	5%	1/10W
R1105	1-216-085-00	RES-CHIP	33K	5%	1/10W	R1370	1-216-295-11	SHORT			
R1106	1-216-049-11	RES-CHIP	1K	5%	1/10W	R1371	1-216-295-11	SHORT			
R1107	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R1373	1-216-025-11	RES-CHIP	100	5%	1/10W
R1108	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1374	1-216-089-11	RES-CHIP	47K	5%	1/10W
R1109	1-216-025-11	RES-CHIP	100	5%	1/10W	R1385	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1110	1-216-025-11	RES-CHIP	100	5%	1/10W	R1387	1-249-429-11	CARBON	10K	5%	1/4W
R1113	1-249-417-11	CARBON	1K	5%	1/4W	R1389	1-216-025-11	RES-CHIP	100	5%	1/10W
R1114	1-249-417-11	CARBON	1K	5%	1/4W	R1390	1-249-417-11	CARBON	1K	5%	1/4W
R1115	1-216-041-00	RES-CHIP	470	5%	1/10W	R1391	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1117	1-249-425-11	CARBON	4.7K	5%	1/4W	R1392	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1118	1-249-425-11	CARBON	4.7K	5%	1/4W	R1395	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1123	1-216-037-00	RES-CHIP	330	5%	1/10W	R1397	1-216-025-11	RES-CHIP	100	5%	1/10W
R1128	1-216-037-00	RES-CHIP	330	5%	1/10W	R1398	1-216-033-00	RES-CHIP	220	5%	1/10W



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REF.NO.	PART NO.	DESCRIPTION	VALUES	REF.NO.	PART NO.	DESCRIPTION	VALUES
SWITCH				C115	1-126-960-11	ELECT (ALL EXCEPT KV-36FS13)	1 μ F 20% 50V
S501	1-572-707-11	SWITCH LEVER		C175	1-126-941-11	ELECT	470 μ F 20% 25V
S502	1-572-707-11	SWITCH LEVER		C440	1-126-965-11	ELECT (KV-32FV27/36FV27 ONLY)	22 μ F 20% 50V
TRANSFORMER				C441	1-163-038-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.1 μ F 25V
T501	1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE		C442	1-126-960-11	ELECT (KV-32FV27/36FV27 ONLY)	1 μ F 20% 50V
\triangle T502	1-426-981-11	TRANSFORMER, FERRITE (PMT)		C443	1-163-038-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.1 μ F 25V
\triangle T503	1-453-338-21	FBT ASSY, NX-4600		C444	1-164-346-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	1 μ F 16V
\triangle T504	1-424-584-11	TRANSFORMER, DYNAMIC FOCUS		C445	1-163-038-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.1 μ F 25V
\triangle T505	1-435-098-11	TRANSFORMER, HORIZONTAL LINEAR		C446	1-164-346-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	1 μ F 16V
THERMISTOR				C447	1-107-823-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.47 μ F 10% 16V
TH501	1-800-193-00	THERMISTOR		C448	1-163-017-00	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.0047 μ F 10% 50V
TUNER				C449	1-107-823-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.47 μ F 10% 16V
\triangle TU102	8-598-542-20	TUNER, FSS BTF-WA412		C453	1-163-017-00	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.0047 μ F 10% 50V
CRYSTAL				C454	1-163-133-00	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	470pF 5% 50V
\triangle X001	1-767-686-21	VIBRATOR, CRYSTAL		C455	1-163-038-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.1 μ F 25V
\triangle X302	1-567-505-11	OSCILLATOR, CRYSTAL		C456	1-163-023-00	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.015 μ F 10% 50V
AK				C457	1-164-161-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.0022 μ F 10% 50V
*	A-1299-469-A	AK COMPLETE PC BOARD (KV-32FV27 / 36FV27 ONLY)		C1401	1-126-963-11	ELECT	4.7 μ F 20% 50V
*	A-1299-489-A	AK COMPLETE PC BOARD (KV-36FS13 ONLY)		C1402	1-126-968-11	ELECT	100 μ F 20% 50V
*	A-1299-468-A	AK COMPLETE PC BOARD (KV-36FS17/38FS17 ONLY)		C1403	1-126-963-11	ELECT	4.7 μ F 20% 50V
	4-382-854-11	SCREW (M3X10), P, SW (+)		C1404	1-126-960-11	ELECT	1 μ F 20% 50V
CAPACITOR				C1405	1-126-960-11	ELECT	1 μ F 20% 50V
C101	1-126-960-11	ELECT (ALL EXCEPT KV-36FS13)	1 μ F 20% 50V	C1406	1-164-004-11	CERAMIC CHIP	0.1 μ F 10% 25V
C102	1-164-161-11	CERAMIC CHIP (ALL EXCEPT KV-36FS13)	0.0022 μ F 10% 50V	C1407	1-163-989-11	CERAMIC CHIP	0.033 μ F 10% 25V
C104	1-126-964-11	ELECT (ALL EXCEPT KV-36FS13)	10 μ F 20% 50V	C1408	1-163-989-11	CERAMIC CHIP	0.033 μ F 10% 25V
C106	1-104-664-11	ELECT (ALL EXCEPT KV-36FS13)	47 μ F 20% 25V	C1409	1-164-182-11	CERAMIC CHIP	0.0033 μ F 10% 50V
C108	1-126-942-61	ELECT (ALL EXCEPT KV-36FS13)	1000 μ F 20% 25V	C1410	1-163-017-00	CERAMIC CHIP	0.0047 μ F 10% 50V
C109	1-163-259-91	CERAMIC CHIP (ALL EXCEPT KV-36FS13)	220pF 5% 50V	C1411	1-164-182-11	CERAMIC CHIP	0.0033 μ F 10% 50V
C110	1-163-809-11	CERAMIC CHIP (ALL EXCEPT KV-36FS13)	0.047 μ F 10% 25V	C1412	1-163-037-11	CERAMIC CHIP	0.022 μ F 10% 50V
C111	1-126-960-11	ELECT (ALL EXCEPT KV-36FS13)	1 μ F 20% 50V	C1413	1-163-009-11	CERAMIC CHIP	0.001 μ F 10% 50V
C113	1-104-666-11	ELECT (ALL EXCEPT KV-36FS13)	220 μ F 20% 25V	C1414	1-163-009-11	CERAMIC CHIP	0.001 μ F 10% 50V
				C1415	1-126-959-11	ELECT	0.47 μ F 20% 50V
				C1416	1-126-963-11	ELECT	4.7 μ F 20% 50V
				C1417	1-126-959-11	ELECT	0.47 μ F 20% 50V
				C1420	1-163-037-11	CERAMIC CHIP	0.022 μ F 10% 50V



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REF.NO.	PART NO.	DESCRIPTION	VALUES	REF.NO.	PART NO.	DESCRIPTION	VALUES
C1421	1-126-963-11	ELECT	4.7 μ F 20% 50V			DIODE	
C1422	1-164-004-11	CERAMIC CHIP	0.1 μ F 10% 25V	D101	8-719-109-89	DIODE MTZJ-T-77-5.6C (ALL EXCEPT KV-36FS13)	
C1428	1-126-963-11	ELECT	4.7 μ F 20% 50V	D103	8-719-991-33	DIODE 1SS133T-77 (ALL EXCEPT KV-36FS13)	
C1429	1-126-963-11	ELECT	4.7 μ F 20% 50V	D104	8-719-991-33	DIODE 1SS133T-77 (ALL EXCEPT KV-36FS13)	
C1450	1-126-963-11	ELECT (KV-32FV27/36FV27 ONLY)	4.7 μ F 20% 50V	D108	8-719-110-17	DIODE MTZJ-T-77-10B (ALL EXCEPT KV-36FS13)	
C1451	1-126-963-11	ELECT (KV-32FV27/36FV27 ONLY)	4.7 μ F 20% 50V	D109	8-719-110-17	DIODE MTZJ-T-77-10B (ALL EXCEPT KV-36FS13)	
C1452	1-163-986-00	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.027 μ F 10% 25V	D1461	8-719-991-33	DIODE 1SS133T-77	
C1461	1-126-960-11	ELECT	1 μ F 20% 50V	D1463	8-719-991-33	DIODE 1SS133T-77	
C1462	1-126-960-11	ELECT	1 μ F 20% 50V	D1466	8-719-991-33	DIODE 1SS133T-77	
C1464	1-163-038-11	CERAMIC CHIP	0.1 μ F 25V	D1467	8-719-924-13	DIODE MTZJ-T-77-22B	
C1465	1-126-960-11	ELECT	1 μ F 20% 50V	D1468	8-719-924-13	DIODE MTZJ-T-77-22B	
C1467	1-104-666-11	ELECT	220 μ F 20% 25V	D1469	8-719-991-33	DIODE 1SS133T-77	
C1468	1-126-960-11	ELECT	1 μ F 20% 50V			IC	
C1470	1-126-960-11	ELECT	1 μ F 20% 50V	IC1401	8-759-578-88	IC BH3868FS-E2	
C1471	1-136-165-00	FILM	0.1 μ F 5% 50V	IC1402	8-759-100-96	IC NJM4558M-TE2	
C1472	1-137-194-81	FILM	0.47 μ F 5% 50V	IC1403	8-759-537-26	IC TDA7467D013TR (KV-32FV27/36FV27 ONLY)	
C1473	1-128-550-11	ELECT	2200 μ F 20% 50V	\triangle IC1461	8-759-246-70	IC TA8216H	
C1474	1-136-165-00	FILM	0.1 μ F 5% 50V	IC1902	8-759-470-63	IC NJM2145M-TE2 (KV-32FV27/36FV27 ONLY)	
C1475	1-128-550-11	ELECT	2200 μ F 20% 50V			CHIP CONDUCTOR	
C1476	1-128-550-11	ELECT	2200 μ F 20% 50V	JR1901	1-216-295-11	SHORT (KV-32FV27/36FV27 ONLY)	
C1477	1-126-971-11	ELECT	470 μ F 20% 50V	JR1902	1-216-295-11	SHORT (KV-32FV27/36FV27 ONLY)	
C1478	1-126-971-11	ELECT	470 μ F 20% 50V			COIL	
C1906	1-102-129-00	CERAMIC (KV-32FV27/36FV27 ONLY)	0.01 μ F 10% 50V	L102	1-414-856-11	INDUCTOR 10 μ H (ALL EXCEPT KV-36FS13)	
C1907	1-126-964-11	ELECT (KV-32FV27/36FV27 ONLY)	10 μ F 20% 50V	L105	1-414-857-11	INDUCTOR 100 μ H (ALL EXCEPT KV-36FS13)	
C1908	1-163-009-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.001 μ F 10% 50V	L1401	1-414-857-11	INDUCTOR 100 μ H	
C1909	1-163-009-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.001 μ F 10% 50V			IC LINK	
C1910	1-163-009-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.001 μ F 10% 50V	\triangle PS1461	1-532-984-11	LINK, IC 2A/90V	
C1911	1-163-009-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.001 μ F 10% 50V			TRANSISTOR	
C1912	1-163-009-11	CERAMIC CHIP (KV-32FV27/36FV27 ONLY)	0.001 μ F 10% 50V	Q101	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA (ALL EXCEPT KV-36FS13)	
		CONNECTOR		Q105	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX (ALL EXCEPT KV-36FS13)	
*	CN1462	1-564-507-11	PLUG, CONNECTOR 4P	Q106	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX (ALL EXCEPT KV-36FS13)	
*	CN1463	1-564-509-11	PLUG, CONNECTOR 6P	Q451	8-729-140-97	TRANSISTOR 2SB734-T-34 (KV-32FV27/36FV27 ONLY)	
*	CN1464	1-764-333-11	PLUG, CONNECTOR 10P				
*	CN1465	1-564-507-11	PLUG, CONNECTOR 4P (KV-32FV27/36FV27 ONLY)				
*	CN1466	1-564-515-11	PLUG, CONNECTOR 12P				
*	CN1467	1-564-510-11	PLUG, CONNECTOR 7P (ALL EXCEPT KV-36FS13)				
	CN1468	1-695-915-11	TAB (CONTACT) (ALL EXCEPT KV-36FS13)				



REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
Q1461	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX (ALL EXCEPT KV-36FS13)				R1406	1-216-121-11	RES-CHIP	1M	5%	1/10W
Q1462	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX (ALL EXCEPT KV-36FS13)				R1407	1-216-073-00	RES-CHIP	10K	5%	1/10W
Q1463	8-729-900-53	TRANSISTOR DTC114EKA-T146				R1408	1-216-295-11	SHORT (KV-32FV27/36FV27 ONLY)			
Q1464	8-729-900-53	TRANSISTOR DTC114EKA-T146				R1409	1-216-295-11	SHORT			
Q1902	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX (KV-32FV27/36FV27 ONLY)				R1410	1-216-081-00	RES-CHIP	22K	5%	1/10W
RESISTOR						R1411	1-216-073-00	RES-CHIP	10K	5%	1/10W
R101	1-216-065-91	RES-CHIP (ALL EXCEPT KV-36FS13)	4.7K	5%	1/10W	R1412	1-216-089-11	RES-CHIP	47K	5%	1/10W
R102	1-216-085-91	RES-CHIP (ALL EXCEPT KV-36FS13)	33K	5%	1/10W	R1413	1-216-089-11	RES-CHIP	47K	5%	1/10W
R103	1-216-081-00	RES-CHIP (ALL EXCEPT KV-36FS13)	22K	5%	1/10W	R1415	1-216-025-11	RES-CHIP	100	5%	1/10W
R104	1-216-049-11	RES-CHIP (ALL EXCEPT KV-36FS13)	1K	5%	1/10W	R1416	1-216-081-00	RES-CHIP	22K	5%	1/10W
R112	1-216-057-00	RES-CHIP (ALL EXCEPT KV-36FS13)	2.2K	5%	1/10W	R1417	1-216-081-00	RES-CHIP	22K	5%	1/10W
R113	1-216-097-11	RES-CHIP (ALL EXCEPT KV-36FS13)	100K	5%	1/10W	R1418	1-216-089-11	RES-CHIP	47K	5%	1/10W
R114	1-216-121-11	RES-CHIP (ALL EXCEPT KV-36FS13)	1M	5%	1/10W	R1420	1-216-295-11	SHORT (KV-36FS13/36FS17/38FS17 ONLY)			
R115	1-216-073-00	RES-CHIP (ALL EXCEPT KV-36FS13)	10K	5%	1/10W	R1421	1-216-025-11	RES-CHIP	100	5%	1/10W
R116	1-216-073-00	RES-CHIP (ALL EXCEPT KV-36FS13)	10K	5%	1/10W	R1422	1-216-033-00	RES-CHIP	220	5%	1/10W
R117	1-216-065-91	RES-CHIP (ALL EXCEPT KV-36FS13)	4.7K	5%	1/10W	R1423	1-216-033-00	RES-CHIP	220	5%	1/10W
R118	1-208-774-11	METAL CHIP (ALL EXCEPT KV-36FS13)	470	0.50%	1/10W	R1424	1-216-073-00	RES-CHIP	10K	5%	1/10W
R119	1-208-776-11	METAL CHIP (ALL EXCEPT KV-36FS13)	560	0.50%	1/10W	R1425	1-216-073-00	RES-CHIP	10K	5%	1/10W
R440	1-216-049-11	RES-CHIP (KV-32FV27/36FV27 ONLY)	1K	5%	1/10W	R1427	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R441	1-216-099-00	RES-CHIP (KV-32FV27/36FV27 ONLY)	120K	5%	1/10W	R1458	1-216-033-00	RES-CHIP (KV-32FV27/36FV27 ONLY)	220	5%	1/10W
R442	1-216-065-91	RES-CHIP (KV-32FV27/36FV27 ONLY)	4.7K	5%	1/10W	R1459	1-216-033-00	RES-CHIP (KV-32FV27/36FV27 ONLY)	220	5%	1/10W
R443	1-216-053-00	RES-CHIP (KV-32FV27/36FV27 ONLY)	1.5K	5%	1/10W	R1461	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R444	1-216-089-11	RES-CHIP (KV-32FV27/36FV27 ONLY)	47K	5%	1/10W	R1462	1-216-073-00	RES-CHIP	10K	5%	1/10W
R445	1-216-085-00	RES-CHIP (KV-32FV27/36FV27 ONLY)	33K	5%	1/10W	R1464	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R446	1-216-063-91	RES-CHIP (KV-32FV27/36FV27 ONLY)	3.9K	5%	1/10W	R1465	1-216-089-11	RES-CHIP	47K	5%	1/10W
R450	1-216-073-00	RES-CHIP (KV-32FV27/36FV27 ONLY)	10K	5%	1/10W	R1466	1-216-089-11	RES-CHIP	47K	5%	1/10W
R1403	1-216-121-11	RES-CHIP	1M	5%	1/10W	R1467	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1404	1-216-295-11	SHORT				R1469	1-249-389-11	CARBON	4.7	5%	1/4W
						R1470	1-249-389-11	CARBON	4.7	5%	1/4W
						R1471	1-216-049-11	RES-CHIP	1K	5%	1/10W
						R1472	1-216-077-91	RES-CHIP	15K	5%	1/10W
						R1473	1-216-049-11	RES-CHIP	1K	5%	1/10W
						R1474	1-216-025-11	RES-CHIP (KV-32FV27/36FV27 ONLY)	100	5%	1/10W
						R1474	1-216-049-11	RES-CHIP (KV-36FS13/36FS17/38FS17 ONLY)	1K	5%	1/10W
						R1475	1-216-025-11	RES-CHIP (KV-32FV27/36FV27 ONLY)	100	5%	1/10W
						R1475	1-216-049-11	RES-CHIP (KV-36FS13/36FS17/38FS17 ONLY)	1K	5%	1/10W
						R1480	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
						R1481	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
						R1482	1-216-295-11	SHORT			
						R1483	1-216-295-11	SHORT			

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REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
R1486	1-216-041-00	RES-CHIP (KV-36FS13/36FS17/38FS17 ONLY)	470	5%	1/10W	COIL					
R1487	1-216-041-00	RES-CHIP (KV-36FS13/36FS17/38FS17 ONLY)	470	5%	1/10W	L1790	1-412-537-31	INDUCTOR	100 μ H		
R1906	1-216-073-00	RES-CHIP (KV-32FV27/36FV27 ONLY)	10K	5%	1/10W	TRANSISTOR					
R1907	1-216-033-00	RES-CHIP (KV-32FV27/36FV27 ONLY)	220	5%	1/10W	Q1790	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA			
R2916	1-216-295-11	SHORT (KV-32FV27/36FV27 ONLY)				RESISTOR					
TUNER						R1750	1-247-870-11	CARBON	43K	5%	1/4W
\triangle TU101	8-598-501-90	TUNER, FSS BTF-FA402 (KV-36FS17/38FS17 ONLY)				R1751	1-249-409-11	CARBON	220	5%	1/4W
C						\triangle R1752	1-249-409-11	CARBON	220	5%	1/4W
* A-1331-942-A C (VAR) MOUNTED PC BOARD						R1753	1-249-409-11	CARBON	220	5%	1/4W
4-382-854-11 SCREW (M3X10), P, SW (+)						R1763	1-260-328-11	CARBON	1K	5%	1/2W
CAPACITOR						R1764	1-247-807-31	CARBON	100	5%	1/4W
C1750	1-137-528-11	MYLAR	0.1 μ F	10%	250V	R1773	1-260-328-11	CARBON	1K	5%	1/2W
C1751	1-107-655-11	ELECT	47 μ F	20%	250V	R1774	1-247-807-31	CARBON	100	5%	1/4W
C1790	1-102-129-00	CERAMIC	0.01 μ F	10%	50V	R1783	1-260-328-11	CARBON	1K	5%	1/2W
C1791	1-126-968-11	ELECT	100 μ F	20%	50V	R1784	1-247-807-31	CARBON	100	5%	1/4W
C1792	1-102-116-00	CERAMIC	680pF	10%	50V	R1788	1-216-349-00	METAL OXIDE	1	5%	1W
C1794	1-107-652-11	ELECT	10 μ F	20%	250V	R1789	1-249-437-11	CARBON	47K	5%	1/4W
C1795	1-102-074-00	CERAMIC	0.001 μ F	10%	50V	R1792	1-249-409-11	CARBON	220	5%	1/4W
C1799	1-162-114-00	CERAMIC	0.0047 μ F		2KV	R1793	1-247-866-11	CARBON	30K	5%	1/4W
CONNECTOR						R1794	1-260-132-11	CARBON	560K	5%	1/2W
* CN1761	1-564-509-11	PLUG, CONNECTOR	6P			R1795	1-260-087-11	CARBON	100	5%	1/2W
* CN1764	1-564-508-11	PLUG, CONNECTOR	5P			\triangle R1796	1-216-373-11	METAL OXIDE	2.2	5%	2W
CN1765	1-785-879-11	CONNECTOR, ONE TOUCH				R1797	1-260-123-11	CARBON	100K	5%	1/2W
CN1766	1-695-915-11	TAB (CONTACT)				VARIABLE RESISTOR					
DIODE						RV1761	1-241-714-11	RES, ADJ, METAL FILM	110M		
D1790	8-719-991-33	DIODE 1SS133T-77				G					
D1791	8-719-075-33	DIODE 1N4003GA				* A-1316-397-A G COMPLETE PC BOARD					
D1792	8-719-075-33	DIODE 1N4003GA				1-533-223-11 HOLDER, FUSE					
D1793	8-719-075-33	DIODE 1N4003GA				4-382-854-11 SCREW (M3X10), P, SW (+)					
D1794	8-719-075-33	DIODE 1N4003GA				CAPACITOR					
IC						C601	1-136-346-21	MYLAR	0.22 μ F	20%	125V
\triangle IC1701	8-759-562-43	IC TDA6108JF/N1B				C602	1-126-964-11	ELECT	10 μ F	20%	50V
JACK						\triangle C603	1-113-903-11	CERAMIC	0.001 μ F	20%	250V
\triangle J1761	1-251-797-11	SOCKET, CRT				\triangle C604	1-136-346-21	MYLAR	0.22 μ F	20%	125V
						\triangle C605	1-136-346-21	MYLAR	0.22 μ F	20%	125V
						\triangle C606	1-117-894-11	ELECT	560 μ F	20%	250V
						\triangle C607	1-117-894-11	ELECT	560 μ F	20%	250V
						C608	1-107-824-11	CERAMIC	220pF	5%	1KV
						C609	1-136-176-00	FILM	0.82 μ F	5%	50V
						C610	1-136-176-00	FILM	0.82 μ F	5%	50V
						C611	1-136-169-00	FILM	0.22 μ F	5%	50V

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REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES
C612	1-136-169-00	FILM	0.22 μ F	5%	50V	DIODE			
C613	1-164-646-11	CERAMIC	2200pF	10%	500V	D600	8-719-991-33	DIODE 1SS133T-77	
C614	1-126-963-11	ELECT	4.7 μ F	20%	50V	D601	8-719-991-33	DIODE 1SS133T-77	
C615	1-117-976-11	FILM	0.039 μ F	5%	800V	\triangle D602	8-719-510-53	DIODE D4SB60L-F	
\triangle C616	1-113-903-11	CERAMIC	0.001 μ F	20%	250V	D603	8-719-063-70	DIODE D1NL20U-TA2	
C617	1-126-967-11	ELECT	47 μ F	20%	50V	D604	8-719-991-33	DIODE 1SS133T-77	
C618	1-126-968-11	ELECT	100 μ F	20%	50V	D605	8-719-923-83	DIODE MTZJ-T-77-13A	
C624	1-126-960-11	ELECT	1 μ F	20%	50V	D606	8-719-110-60	DIODE MTZJ-T-77-24B	
\triangle C629	1-107-652-11	ELECT	10 μ F	20%	250V	D607	8-719-109-97	DIODE MTZJ-T-77-6.8B	
C630	1-130-471-00	MYLAR	0.001 μ F	5%	50V	D608	8-719-109-97	DIODE MTZJ-T-77-6.8B	
C631	1-137-605-11	MYLAR	0.01 μ F	10%	250V	D612	8-719-991-33	DIODE 1SS133T-77	
C633	1-130-471-00	MYLAR	0.001 μ F	5%	50V	D613	8-719-991-33	DIODE 1SS133T-77	
C634	1-130-467-00	MYLAR	470pF	5%	50V	D614	8-719-991-33	DIODE 1SS133T-77	
C635	1-130-471-00	MYLAR	0.001 μ F	5%	50V	D621	8-719-911-55	DIODE ERC04-06S	
C636	1-126-965-11	ELECT	22 μ F	20%	50V	D622	8-719-911-55	DIODE ERC04-06S	
C637	1-126-940-11	ELECT	330 μ F	20%	25V	D623	8-719-948-45	DIODE ERA22-08TP3	
C641	1-128-550-11	ELECT	2200 μ F	20%	50V	D624	8-719-991-33	DIODE 1SS133T-77	
C643	1-107-995-11	ELECT	100 μ F	160V		D625	8-719-991-33	DIODE 1SS133T-77	
C644	1-126-941-11	ELECT	470 μ F	20%	25V	D626	8-719-109-93	DIODE MTZJ-T-77-6.2C	
C647	1-104-665-11	ELECT	100 μ F	20%	25V	D627	8-719-510-48	DIODE D1N20R-TA	
C650	1-104-664-11	ELECT	47 μ F	20%	25V	D628	8-719-510-02	DIODE D1NS4-TA2	
C651	1-130-477-00	MYLAR	0.0033 μ F	5%	50V	D629	8-719-052-90	DIODE D1NL40-TA2	
C652	1-106-351-00	MYLAR	0.0022 μ F	20%	200V	D630	8-719-052-90	DIODE D1NL40-TA2	
C653	1-107-636-11	ELECT	10 μ F	20%	160V	D641	8-719-060-89	DIODE D4SBS6-F	
C656	1-126-964-11	ELECT	10 μ F	20%	50V	D642	8-719-510-12	DIODE D10SC4M	
C657	1-136-165-00	FILM	0.1 μ F	5%	50V	D643	8-719-062-40	DIODE D4SBL20 μ F3	
C658	1-126-941-11	ELECT	470 μ F	20%	25V	D647	8-719-063-70	DIODE D1NL20U-TA2	
C660	1-126-936-11	ELECT	3300 μ F	20%	16V	\triangle D648	8-719-057-52	DIODE EZ0150AV1	
C661	1-104-664-11	ELECT	47 μ F	20%	25V	D651	8-719-510-02	DIODE D1NS4-TA2	
C662	1-126-933-11	ELECT	100 μ F	20%	16V	D652	8-719-510-02	DIODE D1NS4-TA2	
C665	1-104-664-11	ELECT	47 μ F	20%	25V	D653	8-719-991-33	DIODE 1SS133T-77	
C695	1-164-625-11	CERAMIC	680pF	10%	500V	D698	8-719-991-33	DIODE 1SS133T-77	
C696	1-164-625-11	CERAMIC	680pF	10%	500V	D699	8-719-923-86	DIODE MTZJ-T-77-15	
C697	1-164-625-11	CERAMIC	680pF	10%	500V	FUSE			
C698	1-164-625-11	CERAMIC	680pF	10%	500V	\triangle F601	1-532-506-51	FUSE 6.3A/250V	
C699	1-136-169-00	FILM	0.22 μ F	5%	50V	FERRITE BEAD			
CONNECTOR						FB601	1-410-396-41	FERRITE	0.45 μ H
*	CN601	1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P			FB602	1-410-396-41	FERRITE	0.45 μ H
*	CN602	1-580-844-11	PIN, CONNECTOR (POWER)			FB603	1-410-396-41	FERRITE	0.45 μ H
*	CN603	1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P			FB604	1-410-396-41	FERRITE	0.45 μ H
*	CN641	1-564-515-11	PLUG, CONNECTOR 12P			FB641	1-410-397-21	FERRITE	1.1 μ H
*	CN642	1-564-509-11	PLUG, CONNECTOR 6P			FB642	1-410-397-21	FERRITE	1.1 μ H
	CN645	1-695-915-11	TAB (CONTACT)			FB645	1-410-397-21	FERRITE	1.1 μ H
	CN646	1-695-915-11	TAB (CONTACT)			FB647	1-410-397-21	FERRITE	1.1 μ H

NOTE: The components identified by shading and \triangle mark 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 spécifique.



REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
IC											
\triangle IC601	8-729-045-41	TRANSISTOR MX0842B-F				\triangle R623	1-240-257-11	CMT-MELF	3.9	5%	20W
IC622	8-759-450-47	IC BA05T				\triangle R624	1-215-485-00	METAL	470K	1%	1/4W
IC641	8-759-653-07	IC PQ09RD21				\triangle R625	1-215-485-00	METAL	470K	1%	1/4W
IC643	8-749-012-13	IC DM-58				R626	1-249-425-11	CARBON	4.7K	5%	1/4W
IC650	8-759-394-35	IC BA12T				R627	1-249-405-11	CARBON	100	5%	1/4W
COIL						R631	1-240-205-91	CARBON	22M	5%	1/2W
L642	1-412-529-11	INDUCTOR	22 μ H			R632	1-249-421-11	CARBON	2.2K	5%	1/4W
L650	1-412-519-11	INDUCTOR	3.3 μ H			R633	1-249-429-11	CARBON	10K	5%	1/4W
L651	1-412-519-11	INDUCTOR	3.3 μ H			R634	1-249-437-11	CARBON	47K	5%	1/4W
L652	1-412-519-11	INDUCTOR	3.3 μ H			R635	1-247-791-91	CARBON	22	5%	1/4W
TRANSISTOR						R636	1-249-415-11	CARBON	680	5%	1/4W
\triangle Q621	8-729-044-30	TRANSISTOR 2SK2845-LB102				R637	1-260-302-51	CARBON	6.8	5%	1/2W
Q622	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA				R638	1-249-413-11	CARBON	470	5%	1/4W
Q623	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA				\triangle R639	1-249-389-11	CARBON	4.7	5%	1/4W
Q624	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA				R640	1-215-485-00	METAL	470K	1%	1/4W
Q644	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA				R641	1-247-843-11	CARBON	3.3K	5%	1/4W
Q645	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA				R642	1-247-843-11	CARBON	3.3K	5%	1/4W
Q646	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA				R643	1-260-298-51	CARBON	3.3	5%	1/2W
Q647	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA				R644	1-249-417-11	CARBON	1K	5%	1/4W
Q648	8-729-922-39	TRANSISTOR 2SD2144S-TP-V				R645	1-249-429-11	CARBON	10K	5%	1/4W
Q649	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA				R646	1-249-417-11	CARBON	1K	5%	1/4W
Q650	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA				R648	1-249-441-11	CARBON	100K	5%	1/4W
Q651	8-729-802-71	TRANSISTOR 2SA1407-E				R649	1-249-425-11	CARBON	4.7K	5%	1/4W
Q652	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA				R650	1-249-421-11	CARBON	2.2K	5%	1/4W
Q653	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA				\triangle R652	1-216-363-00	METAL OXIDE	0.33	5%	2W
RESISTOR						R653	1-215-423-00	METAL	1.2K	1%	1/4W
\triangle R601	1-249-377-11	CARBON	0.47	5%	1/4W	R654	1-215-481-00	METAL	330K	1%	1/4W
R602	1-249-429-11	CARBON	10K	5%	1/4W	R655	1-215-469-00	METAL	100K	1%	1/4W
\triangle R603	1-219-776-11	CARBON	2.2M	10%	1/2W	R656	1-249-427-11	CARBON	6.8K	5%	1/4W
R604	1-249-429-11	CARBON	10K	5%	1/4W	R657	1-249-421-11	CARBON	2.2K	5%	1/4W
R605	1-249-429-11	CARBON	10K	5%	1/4W	R659	1-249-429-11	CARBON	10K	5%	1/4W
R606	1-249-421-11	CARBON	2.2K	5%	1/4W	R660	1-249-393-11	CARBON	10	5%	1/4W
\triangle R607	1-202-933-61	FUSIBLE	0.1	10%	1/2W	\triangle R661	1-249-419-11	CARBON	1.5K	5%	1/4W
R608	1-216-369-00	METAL OXIDE	1	5%	2W	R662	1-215-485-00	METAL	470K	1%	1/4W
R609	1-249-417-11	CARBON	1K	5%	1/4W	R663	1-215-445-00	METAL	10K	1%	1/4W
R610	1-249-425-11	CARBON	4.7K	5%	1/4W	\triangle R664	1-240-257-11	CMT-MELF	3.9	5%	20W
R611	1-216-369-00	METAL OXIDE	1	5%	2W	R665	1-249-425-11	CARBON	4.7K	5%	1/4W
R612	1-260-124-11	CARBON	120K	5%	1/2W	R670	1-260-312-11	CARBON	47	5%	1/2W
R613	1-260-124-11	CARBON	120K	5%	1/2W	R671	1-260-312-11	CARBON	47	5%	1/2W
R614	1-260-124-11	CARBON	120K	5%	1/2W	R680	1-216-364-11	METAL OXIDE	0.39	5%	2W
R615	1-260-124-11	CARBON	120K	5%	1/2W	R681	1-216-365-00	METAL OXIDE	0.47	5%	2W
R618	1-249-425-11	CARBON	4.7K	5%	1/4W	R699	1-249-429-11	CARBON	10K	5%	1/4W
R619	1-249-425-11	CARBON	4.7K	5%	1/4W	RELAY					
R621	1-249-429-11	CARBON	10K	5%	1/4W	\triangle RY600	1-755-266-11	RELAY, AC POWER			
R622	1-249-433-11	CARBON	22K	5%	1/4W	\triangle RY601	1-755-198-11	RELAY			


NOTE: The components identified by shading and \triangle mark 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 spécifique.

G **HA** **HB** **HS**

REF.NO.	PART NO.	DESCRIPTION	VALUES	REF.NO.	PART NO.	DESCRIPTION	VALUES
TRANSFORMER							
\triangle T601	1-426-717-11	TRANSFORMER, LINE FILTER (LFT)		S2009	1-572-198-11	SWITCH KEYBOARD	
\triangle T602	1-426-717-11	TRANSFORMER, LINE FILTER (LFT)		S2010	1-572-198-11	SWITCH KEYBOARD	
\triangle T603	1-429-992-11	TRANSFORMER, CONVERTER (PRT)		<div style="border: 1px solid black; padding: 5px; display: inline-block; font-size: 2em; font-weight: bold;">HB</div>			
\triangle T605	1-433-408-11	TRANSFORMER, CONVERTER (PIT)					
\triangle T621	1-431-852-11	TRANSFORMER, CONVERTER (SRT)					
THERMISTOR							
\triangle THP603	1-803-629-11	THERMISTOR, POSITIVE					
VARISTOR							
VDR601	1-801-074-41	VARISTOR ERZV10D271					
\triangle VDR602	1-801-074-41	VARISTOR ERZV10D271					
CAPACITOR							
C1234	1-126-960-11	ELECT	1 μ F 20% 50V				
C1235	1-126-960-11	ELECT	1 μ F 20% 50V				
C1239	1-216-295-91	SHORT					
CONNECTOR							
* CN1232	1-564-512-11	PLUG, CONNECTOR 9P					
CN1234	1-564-505-11	PLUG, CONNECTOR 2P					
DIODE							
D1233	8-719-110-17	DIODE MTZJ-T77-10B					
JACK							
J1231	1-770-361-11	TERMINAL BLOCK, S					
RESISTOR							
R201	1-216-049-11	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				
R1240	1-216-295-91	SHORT					
SWITCH							
S2007	1-572-198-11	SWITCH KEYBOARD					
S2008	1-572-198-11	SWITCH KEYBOARD					
				<div style="border: 1px solid black; padding: 5px; display: inline-block; font-size: 2em; font-weight: bold;">HS</div>			
				<p>* A-1372-822-A HS MOUNTED PC BOARD (KV-36FS13/36FS17/38FS17 ONLY)</p>			
				CAPACITOR			
				C1234	1-126-960-11	ELECT	1 μ F 20% 50V
				C1235	1-126-960-11	ELECT	1 μ F 20% 50V
				C2001	1-126-935-11	ELECT	470 μ F 20% 16V
				C2002	1-164-096-11	CERAMIC	0.01 μ F 50V
				CONNECTOR			
				* CN1232	1-564-512-11	PLUG, CONNECTOR 9P	
				CN1233	1-564-505-11	PLUG, CONNECTOR 2P	
				* CN2001	1-564-508-11	PLUG, CONNECTOR 5P	
				DIODE			
				D2002	8-719-070-80	DIODE LNK0120022G	
				IC			
				IC2001	8-742-212-20	HYB IC SBX3081-71	



REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
<u>TRANSISTOR</u>											
Q401	8-729-266-83	TRANSISTOR 2SC2668-YTP				R435	1-216-001-00	RES-CHIP	10	5%	1/10W
Q402	8-729-266-83	TRANSISTOR 2SC2668-YTP				R436	1-216-001-00	RES-CHIP	10	5%	1/10W
Q403	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA				R437	1-216-001-00	RES-CHIP	10	5%	1/10W
Q404	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R438	1-216-001-00	RES-CHIP	10	5%	1/10W
Q405	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R439	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
						R460	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
Q406	8-729-931-14	TRANSISTOR 2SD1858-Q-TV2									
Q407	8-729-931-14	TRANSISTOR 2SD1858-Q-TV2									
Q408	8-729-931-14	TRANSISTOR 2SD1858-Q-TV2									
Q409	8-729-931-14	TRANSISTOR 2SD1858-Q-TV2									
Q410	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX									
Q411	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX									
<u>RESISTOR</u>											
R401	1-216-089-11	RES-CHIP	47K	5%	1/10W	C201	1-128-551-11	ELECT	22μF	20%	25V
R402	1-216-089-11	RES-CHIP	47K	5%	1/10W	C202	1-128-551-11	ELECT	22μF	20%	25V
R403	1-216-089-11	RES-CHIP	47K	5%	1/10W	C203	1-128-551-11	ELECT	22μF	20%	25V
R404	1-216-053-00	RES-CHIP	1.5K	5%	1/10W	C204	1-126-960-11	ELECT	1μF	20%	50V
R405	1-216-025-11	RES-CHIP	100	5%	1/10W	C205	1-126-960-11	ELECT	1μF	20%	50V
R406	1-216-053-00	RES-CHIP	1.5K	5%	1/10W	C231	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
R407	1-216-133-00	RES-CHIP	3.3M	5%	1/10W	C232	1-126-933-11	ELECT	100μF	20%	16V
R408	1-216-089-11	RES-CHIP	47K	5%	1/10W	C233	1-126-933-11	ELECT	100μF	20%	16V
R409	1-216-053-00	RES-CHIP	1.5K	5%	1/10W	C234	1-126-960-11	ELECT	1μF	20%	50V
R410	1-216-053-00	RES-CHIP	1.5K	5%	1/10W	C235	1-126-960-11	ELECT	1μF	20%	50V
R411	1-216-025-11	RES-CHIP	100	5%	1/10W	C236	1-126-933-11	ELECT	100μF	20%	16V
R412	1-208-803-11	METAL CHIP	7.5K	0.50%	1/10W	C237	1-126-960-11	ELECT	1μF	20%	50V
R413	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	C238	1-126-960-11	ELECT	1μF	20%	50V
R414	1-216-073-00	RES-CHIP	10K	5%	1/10W	C241	1-126-941-11	ELECT	470μF	20%	25V
R415	1-249-411-11	CARBON	330	5%	1/4W	C242	1-126-959-11	ELECT	0.47μF	20%	50V
R416	1-216-081-00	RES-CHIP	22K	5%	1/10W	C243	1-126-959-11	ELECT	0.47μF	20%	50V
R417	1-216-081-00	RES-CHIP	22K	5%	1/10W	C244	1-126-959-11	ELECT	0.47μF	20%	50V
R418	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	C245	1-126-959-11	ELECT	0.47μF	20%	50V
R419	1-216-073-00	RES-CHIP	10K	5%	1/10W	C264	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
R420	1-216-111-00	RES-CHIP	390K	5%	1/10W	C268	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
R421	1-216-025-11	RES-CHIP	100	5%	1/10W	C269	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
R422	1-216-025-11	RES-CHIP	100	5%	1/10W	C272	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
R423	1-216-111-00	RES-CHIP	390K	5%	1/10W	C273	1-128-551-11	ELECT	22μF	20%	25V
R424	1-216-053-00	RES-CHIP	1.5K	5%	1/10W	C277	1-128-551-11	ELECT	22μF	20%	25V
R425	1-216-061-00	RES-CHIP	3.3K	5%	1/10W	C278	1-128-551-11	ELECT	22μF	20%	25V
R426	1-208-821-11	METAL CHIP	43K	0.50%	1/10W	C281	1-126-933-11	ELECT	100μF	20%	16V
R427	1-216-061-00	RES-CHIP	3.3K	5%	1/10W	C284	1-126-941-11	ELECT	470μF	20%	25V
R428	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	C286	1-164-161-11	CERAMIC CHIP	0.0022μF	10%	50V
R429	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	C287	1-164-161-11	CERAMIC CHIP	0.0022μF	10%	50V
R430	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W	C1051	1-126-964-11	ELECT	10μF	20%	50V
R431	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W	C1053	1-126-934-11	ELECT	220μF	20%	16V
R432	1-208-821-11	METAL CHIP	43K	0.50%	1/10W	C1201	1-163-809-11	CERAMIC CHIP	0.047μF	10%	25V
R433	1-216-059-00	RES-CHIP	2.7K	5%	1/10W	C1202	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
R434	1-216-059-00	RES-CHIP	2.7K	5%	1/10W	C1203	1-126-960-11	ELECT	1μF	20%	50V
						C1204	1-163-809-11	CERAMIC CHIP	0.047μF	10%	25V

* **A-1395-028-A UX COMPLETE PC BOARD (KV-32FV27/36FV27 ONLY)**

CAPACITOR



REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
C1205	1-126-933-11	ELECT	100μF	20%	16V	C2037	1-104-664-11	ELECT	47μF	20%	16V
C1207	1-126-963-11	ELECT	4.7μF	20%	50V	C2038	1-165-319-11	CERAMIC CHIP	0.1μF		50V
C1208	1-126-963-11	ELECT	4.7μF	20%	50V	C2039	1-165-319-11	CERAMIC CHIP	0.1μF		50V
C1209	1-163-259-91	CERAMIC CHIP	220pF	5%	50V	C2040	1-165-319-11	CERAMIC CHIP	0.1μF		50V
C1210	1-163-259-91	CERAMIC CHIP	220pF	5%	50V	C2041	1-126-940-11	ELECT	330μF	20%	25V
C1211	1-126-933-11	ELECT	100μF	20%	16V	C2042	1-165-319-11	CERAMIC CHIP	0.1μF		50V
C1212	1-126-933-11	ELECT	100μF	20%	16V	C2044	1-104-664-11	ELECT	47μF	20%	16V
C1214	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	C2045	1-163-233-11	CERAMIC CHIP	18pF	5%	50V
C1215	1-126-960-11	ELECT	1μF	20%	50V	C2046	1-126-964-11	ELECT	10μF	20%	50V
C1997	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C2047	1-164-505-11	CERAMIC CHIP	2.2μF		16V
C1998	1-104-664-11	ELECT	47μF	20%	16V	C2048	1-126-964-11	ELECT	10μF	20%	50V
C1999	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C2049	1-126-960-11	ELECT	1μF	20%	50V
C2000	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C2050	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C2001	1-163-235-11	CERAMIC CHIP	22pF	5%	50V	C2051	1-126-964-11	ELECT	10μF	20%	50V
C2002	1-126-933-11	ELECT	100μF	20%	16V	C2052	1-163-133-00	CERAMIC CHIP	470pF	5%	50V
C2003	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C2053	1-126-960-11	ELECT	1μF	20%	50V
C2004	1-163-235-11	CERAMIC CHIP	22pF	5%	50V	C2054	1-104-664-11	ELECT	47μF	20%	16V
C2005	1-163-131-00	CERAMIC CHIP	390pF	5%	50V	C2055	1-165-319-11	CERAMIC CHIP	0.1μF		50V
C2006	1-163-038-11	CERAMIC CHIP	0.1μF		25V	C2056	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C2007	1-126-926-11	ELECT	1000μF	20%	10V	C2057	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2008	1-163-038-11	CERAMIC CHIP	0.1μF		25V	C2060	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2009	1-163-102-00	CERAMIC CHIP	24pF	5%	50V	C2061	1-126-941-11	ELECT	470μF	20%	25V
C2011	1-126-967-11	ELECT	47μF	20%	50V	C2062	1-104-664-11	ELECT	47μF	20%	16V
C2013	1-163-038-11	CERAMIC CHIP	0.1μF		25V	C2063	1-165-319-11	CERAMIC CHIP	0.1μF		50V
C2014	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V	C2064	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2015	1-216-295-11	SHORT				C2065	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2016	1-165-319-11	CERAMIC CHIP	0.1μF		50V	C2066	1-104-664-11	ELECT	47μF	20%	16V
C2017	1-163-102-00	CERAMIC CHIP	24pF	5%	50V	C2067	1-104-664-11	ELECT	47μF	20%	16V
C2018	1-165-319-11	CERAMIC CHIP	0.1μF		50V	C2068	1-104-664-11	ELECT	47μF	20%	16V
C2019	1-126-960-11	ELECT	1μF	20%	50V	C2069	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2020	1-165-319-11	CERAMIC CHIP	0.1μF		50V	C2070	1-104-664-11	ELECT	47μF	20%	16V
C2021	1-163-038-11	CERAMIC CHIP	0.1μF		25V	C2071	1-165-319-11	CERAMIC CHIP	0.1μF		50V
C2022	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C2072	1-126-933-11	ELECT	100μF	20%	16V
C2023	1-126-967-11	ELECT	47μF	20%	50V	C2073	1-163-275-11	CERAMIC CHIP	0.001μF	5%	50V
C2024	1-216-295-11	SHORT				C2074	1-163-275-11	CERAMIC CHIP	0.001μF	5%	50V
C2025	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C2090	1-126-964-11	ELECT	10μF	20%	50V
C2026	1-126-967-11	ELECT	47μF	20%	50V	C2095	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C2027	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C2096	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C2028	1-126-941-11	ELECT	470μF	20%	25V	C2097	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C2029	1-165-319-11	CERAMIC CHIP	0.1μF		50V	C2129	1-165-319-11	CERAMIC CHIP	0.1μF		50V
C2030	1-165-319-11	CERAMIC CHIP	0.1μF		50V	C2137	1-165-319-11	CERAMIC CHIP	0.1μF		50V
C2031	1-165-319-11	CERAMIC CHIP	0.1μF		50V	C2201	1-126-965-11	ELECT	22μF	20%	50V
C2032	1-165-319-11	CERAMIC CHIP	0.1μF		50V	C2202	1-126-933-11	ELECT	100μF	20%	16V
C2033	1-165-319-11	CERAMIC CHIP	0.1μF		50V	C2203	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2034	1-165-319-11	CERAMIC CHIP	0.1μF		50V	C3301	1-104-664-11	ELECT	47μF	20%	25V
C2035	1-165-319-11	CERAMIC CHIP	0.1μF		50V	C3302	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2036	1-165-319-11	CERAMIC CHIP	0.1μF		50V	C3303	1-126-961-11	ELECT	2.2μF	20%	50V



REF.NO.	PART NO.	DESCRIPTION	VALUES	REF.NO.	PART NO.	DESCRIPTION	VALUES
<u>JACK</u>				<u>TRANSISTOR</u>			
J231	1-750-515-11	TERMINAL BLOCK, S 3P		Q201	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
J232	1-750-517-11	JACK BLOCK, PIN 3P		Q202	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
J233	1-750-516-11	JACK BLOCK, PIN 2P		Q203	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
J234	1-750-517-11	JACK BLOCK, PIN 3P		Q204	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
J236	1-774-358-11	JACK BLOCK, PIN		Q205	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
J902	1-764-143-11	JACK		Q206	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
J903	1-764-143-11	JACK		Q207	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
J904	1-764-143-11	JACK		Q208	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
J905	1-764-143-11	JACK		Q209	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
<u>CHIP CONDUCTOR</u>				Q210	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
JR1001	1-216-295-11	SHORT		Q211	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
JR1002	1-216-295-11	SHORT		Q231	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
JR1003	1-216-295-11	SHORT		Q233	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
JR1004	1-216-295-11	SHORT		Q234	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
JR1021	1-216-295-11	SHORT		Q235	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
JR1022	1-216-295-11	SHORT		Q236	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
JR1023	1-216-295-11	SHORT		Q237	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
JR2009	1-216-295-11	SHORT		Q238	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
JR2010	1-216-295-11	SHORT		Q239	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
JR2011	1-216-295-11	SHORT		Q246	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
JR2012	1-216-295-11	SHORT		Q262	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
JR2013	1-216-295-11	SHORT		Q263	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
JR2014	1-216-295-11	SHORT		Q264	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
JR3014	1-216-295-11	SHORT		Q265	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
<u>COIL</u>				Q268	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
L261	1-414-857-11	INDUCTOR	100μH	Q1051	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
L1201	1-408-591-11	INDUCTOR	1μH	Q1201	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
L1202	1-408-591-11	INDUCTOR	1μH	Q1202	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
L1203	1-408-591-11	INDUCTOR	1μH	Q1203	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
L2001	1-412-056-11	INDUCTOR	4.7μH	Q1204	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
L2002	1-412-058-11	INDUCTOR	10μH	Q1205	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
L2004	1-412-058-11	INDUCTOR	10μH	Q1206	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
L2005	1-410-494-11	INDUCTOR	1MH	Q1207	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
L2006	1-412-058-11	INDUCTOR	10μH	Q1208	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
L2011	1-410-116-11	INDUCTOR	560μH	Q2001	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
L2012	1-410-116-11	INDUCTOR	560μH	Q2003	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
L3301	1-414-856-11	INDUCTOR	10μH	Q2004	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
L3302	1-410-473-11	INDUCTOR	18μH	Q2005	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
L3303	1-410-476-11	INDUCTOR	33μH	Q2006	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
L3304	1-414-856-11	INDUCTOR	10μH	Q2007	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
L3305	1-414-856-11	INDUCTOR	10μH	Q2008	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
L3306	1-414-856-11	INDUCTOR	10μH	Q2009	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
L3307	1-414-856-11	INDUCTOR	10μH	Q2010	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
L3308	1-414-856-11	INDUCTOR	10μH	Q2011	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
				Q2012	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
				Q2013	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	



REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
R286	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R1227	1-216-073-00	RES-CHIP	10K	5%	1/10W
R287	1-216-025-11	RES-CHIP	100	5%	1/10W	R1228	1-208-774-11	METAL CHIP	470	0.50%	1/10W
R288	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R1229	1-216-121-11	RES-CHIP	1M	5%	1/10W
R289	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R1230	1-216-073-00	RES-CHIP	10K	5%	1/10W
R290	1-216-025-11	RES-CHIP	100	5%	1/10W	R1233	1-216-097-11	RES-CHIP	100K	5%	1/10W
R291	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R1234	1-216-091-00	RES-CHIP	56K	5%	1/10W
R293	1-216-025-11	RES-CHIP	100	5%	1/10W	R1235	1-216-013-00	RES-CHIP	33	5%	1/10W
R294	1-216-077-91	RES-CHIP	15K	5%	1/10W	R1236	1-216-097-11	RES-CHIP	100K	5%	1/10W
R295	1-216-025-11	RES-CHIP	100	5%	1/10W	R1237	1-216-089-11	RES-CHIP	47K	5%	1/10W
R296	1-216-025-11	RES-CHIP	100	5%	1/10W	R1238	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R297	1-216-025-11	RES-CHIP	100	5%	1/10W	R1240	1-216-295-11	SHORT			
R300	1-216-025-11	RES-CHIP	100	5%	1/10W	R1242	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R301	1-216-049-11	RES-CHIP	1K	5%	1/10W	R1243	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R302	1-216-295-11	SHORT				R1244	1-216-049-11	RES-CHIP	1K	5%	1/10W
R902	1-249-405-11	CARBON	100	5%	1/4W	R1245	1-216-049-11	RES-CHIP	1K	5%	1/10W
R921	1-249-405-11	CARBON	100	5%	1/4W	R1261	1-216-025-11	RES-CHIP	100	5%	1/10W
R923	1-249-405-11	CARBON	100	5%	1/4W	R1263	1-216-295-11	SHORT			
R925	1-249-405-11	CARBON	100	5%	1/4W	R1264	1-216-049-11	RES-CHIP	1K	5%	1/10W
R926	1-216-049-11	RES-CHIP	1K	5%	1/10W	R1265	1-216-001-00	RES-CHIP	10	5%	1/10W
R1051	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1266	1-216-041-00	RES-CHIP	470	5%	1/10W
R1052	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1267	1-216-025-11	RES-CHIP	100	5%	1/10W
R1054	1-216-025-11	RES-CHIP	100	5%	1/10W	R1268	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1057	1-216-025-11	RES-CHIP	100	5%	1/10W	R1269	1-216-041-00	RES-CHIP	470	5%	1/10W
R1058	1-216-025-11	RES-CHIP	100	5%	1/10W	R1270	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1059	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R1271	1-216-001-00	RES-CHIP	10	5%	1/10W
R1062	1-216-033-00	RES-CHIP	220	5%	1/10W	R1272	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R1063	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1273	1-208-788-11	METAL CHIP	1.8K	0.50%	1/10W
R1064	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1276	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1065	1-216-025-11	RES-CHIP	100	5%	1/10W	R1277	1-216-025-11	RES-CHIP	100	5%	1/10W
R1201	1-216-025-11	RES-CHIP	100	5%	1/10W	R1279	1-216-025-11	RES-CHIP	100	5%	1/10W
R1202	1-216-025-11	RES-CHIP	100	5%	1/10W	R1281	1-216-295-11	SHORT			
R1204	1-216-295-11	SHORT				R1285	1-216-041-00	RES-CHIP	470	5%	1/10W
R1206	1-216-295-11	SHORT				R1287	1-216-295-11	SHORT			
R1208	1-216-049-11	RES-CHIP	1K	5%	1/10W	R1288	1-216-295-11	SHORT			
R1209	1-216-295-11	SHORT				R1289	1-216-295-11	SHORT			
R1210	1-216-295-11	SHORT				R1290	1-216-295-11	SHORT			
R1212	1-216-295-11	SHORT				R1291	1-216-295-11	SHORT			
R1213	1-216-295-11	SHORT				R1292	1-216-295-11	SHORT			
R1215	1-208-774-11	METAL CHIP	470	0.50%	1/10W	R1293	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1216	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R1294	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1217	1-216-091-00	RES-CHIP	56K	5%	1/10W	R1295	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1219	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1300	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1220	1-216-013-00	RES-CHIP	33	5%	1/10W	R1304	1-216-041-00	RES-CHIP	470	5%	1/10W
R1221	1-216-121-11	RES-CHIP	1M	5%	1/10W	R1305	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R1222	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1306	1-216-025-11	RES-CHIP	100	5%	1/10W
R1223	1-216-097-11	RES-CHIP	100K	5%	1/10W	R1307	1-216-041-00	RES-CHIP	470	5%	1/10W
R1224	1-216-089-11	RES-CHIP	47K	5%	1/10W	R1308	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R1225	1-216-097-11	RES-CHIP	100K	5%	1/10W	R1309	1-216-025-11	RES-CHIP	100	5%	1/10W



REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
R2001	1-216-073-00	RES-CHIP	10K	5%	1/10W	R2057	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2002	1-216-073-00	RES-CHIP	10K	5%	1/10W	R2058	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R2003	1-216-085-00	RES-CHIP	33K	5%	1/10W	R2059	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2004	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2060	1-216-025-11	RES-CHIP	100	5%	1/10W
R2005	1-216-295-11	SHORT				R2061	1-216-043-91	RES-CHIP	560	5%	1/10W
R2006	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R2062	1-216-105-91	RES-CHIP	220K	5%	1/10W
R2007	1-216-041-00	RES-CHIP	470	5%	1/10W	R2063	1-216-089-11	RES-CHIP	47K	5%	1/10W
R2008	1-216-025-11	RES-CHIP	100	5%	1/10W	R2064	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2009	1-216-025-11	RES-CHIP	100	5%	1/10W	R2065	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2010	1-216-001-00	RES-CHIP	10	5%	1/10W	R2066	1-216-033-00	RES-CHIP	220	5%	1/10W
R2011	1-216-041-00	RES-CHIP	470	5%	1/10W	R2067	1-216-048-00	RES-CHIP	910	5%	1/10W
R2015	1-216-081-00	RES-CHIP	22K	5%	1/10W	R2068	1-216-295-11	SHORT			
R2016	1-216-081-00	RES-CHIP	22K	5%	1/10W	R2069	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R2017	1-216-295-11	SHORT				R2070	1-216-646-11	METAL CHIP	620	0.50%	1/10W
R2018	1-216-295-11	SHORT				R2071	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R2019	1-216-295-11	SHORT				R2072	1-216-043-91	RES-CHIP	560	5%	1/10W
R2022	1-216-049-11	RES-CHIP	1K	5%	1/10W	R2073	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2023	1-216-049-11	RES-CHIP	1K	5%	1/10W	R2074	1-216-025-11	RES-CHIP	100	5%	1/10W
R2024	1-216-097-11	RES-CHIP	100K	5%	1/10W	R2076	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2027	1-216-049-11	RES-CHIP	1K	5%	1/10W	R2077	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2028	1-216-049-11	RES-CHIP	1K	5%	1/10W	R2078	1-216-041-00	RES-CHIP	470	5%	1/10W
R2029	1-216-043-91	RES-CHIP	560	5%	1/10W	R2079	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2030	1-216-043-91	RES-CHIP	560	5%	1/10W	R2092	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R2031	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R2093	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R2032	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R2103	1-216-017-91	RES-CHIP	47	5%	1/10W
R2033	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2104	1-216-295-11	SHORT			
R2034	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2105	1-216-295-11	SHORT			
R2035	1-208-776-11	METAL CHIP	560	0.50%	1/10W	R2106	1-216-295-11	SHORT			
R2036	1-208-775-11	METAL CHIP	510	0.50%	1/10W	R2107	1-216-295-11	SHORT			
R2037	1-216-051-00	RES-CHIP	1.2K	5%	1/10W	R2113	1-216-017-91	RES-CHIP	47	5%	1/10W
R2038	1-216-033-00	RES-CHIP	220	5%	1/10W	R2115	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2039	1-216-047-91	RES-CHIP	820	5%	1/10W	R2153	1-216-295-11	SHORT			
R2040	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2201	1-216-022-00	RES-CHIP	75	5%	1/10W
R2041	1-216-047-91	RES-CHIP	820	5%	1/10W	R2202	1-216-022-00	RES-CHIP	75	5%	1/10W
R2042	1-216-075-00	RES-CHIP	12K	5%	1/10W	R2203	1-216-022-00	RES-CHIP	75	5%	1/10W
R2043	1-216-085-00	RES-CHIP	33K	5%	1/10W	R2204	1-216-295-11	SHORT			
R2044	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R3305	1-216-043-91	RES-CHIP	560	5%	1/10W
R2046	1-216-075-00	RES-CHIP	12K	5%	1/10W	R3308	1-216-033-00	RES-CHIP	220	5%	1/10W
R2047	1-216-085-00	RES-CHIP	33K	5%	1/10W	R3310	1-216-033-00	RES-CHIP	220	5%	1/10W
R2048	1-216-049-11	RES-CHIP	1K	5%	1/10W	R3312	1-216-037-00	RES-CHIP	330	5%	1/10W
R2049	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R3313	1-216-025-11	RES-CHIP	100	5%	1/10W
R2050	1-216-017-91	RES-CHIP	47	5%	1/10W	R3314	1-216-025-11	RES-CHIP	100	5%	1/10W
R2051	1-216-049-11	RES-CHIP	1K	5%	1/10W	R3316	1-216-295-11	SHORT			
R2052	1-216-049-11	RES-CHIP	1K	5%	1/10W	R3319	1-216-295-11	SHORT			
R2053	1-216-041-00	RES-CHIP	470	5%	1/10W	R3322	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2054	1-216-041-00	RES-CHIP	470	5%	1/10W	R3323	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2055	1-216-017-91	RES-CHIP	47	5%	1/10W	R3324	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2056	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R3343	1-216-049-11	RES-CHIP	1K	5%	1/10W



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REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
R3344	1-216-049-11	RES-CHIP	1K	5%	1/10W	C278	1-128-551-11	ELECT (KV-36FS17/38FS17 ONLY)	22 μ F	20%	25V
R3346	1-216-049-11	RES-CHIP	1K	5%	1/10W	C279	1-163-021-91	CERAMIC CHIP	0.01 μ F	10%	50V
R3347	1-216-061-00	RES-CHIP	3.3K	5%	1/10W	C281	1-128-551-11	ELECT	22 μ F	20%	25V
R3348	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	C282	1-126-941-11	ELECT	470 μ F	20%	25V
R3350	1-216-295-11	SHORT				C284	1-126-941-11	ELECT	470 μ F	20%	25V
R3355	1-216-295-11	SHORT				C286	1-164-161-11	CERAMIC CHIP	0.0022 μ F	10%	50V
R3357	1-216-295-11	SHORT				C287	1-164-161-11	CERAMIC CHIP	0.0022 μ F	10%	50V
R3358	1-216-033-00	RES-CHIP	220	5%	1/10W	C1053	1-126-934-11	ELECT	220 μ F	20%	16V
R3359	1-216-047-91	RES-CHIP	820	5%	1/10W	C1201	1-163-809-11	CERAMIC CHIP	0.047 μ F	10%	25V
R3360	1-216-053-00	RES-CHIP	1.5K	5%	1/10W	C1202	1-163-021-91	CERAMIC CHIP	0.01 μ F	10%	50V
R3361	1-216-045-00	RES-CHIP	680	5%	1/10W	C1203	1-126-960-11	ELECT	1 μ F	20%	50V
R3379	1-216-043-91	RES-CHIP	560	5%	1/10W	C1205	1-126-941-11	ELECT	470 μ F	20%	25V
R3380	1-216-033-00	RES-CHIP	220	5%	1/10W	C1209	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
CRYSTAL						C1211	1-128-551-11	ELECT	22 μ F	20%	25V
\triangle X2001	1-767-606-11	VIBRATOR, CRYSTAL				C1212	1-128-551-11	ELECT	22 μ F	20%	25V
\triangle X2002	1-767-367-21	VIBRATOR, CERAMIC				C1213	1-126-941-11	ELECT	470 μ F	20%	25V
\triangle X3302	1-781-929-21	VIBRATOR, CRYSTAL				C1262	1-216-081-00	RES-CHIP	22K	5%	1/10W
UY						C2000	1-126-941-11	ELECT	470 μ F	20%	25V
*	A-1395-031-A	UY COMPLETE PC BOARD (KV-36FS13 ONLY)				C2002	1-128-551-11	ELECT	22 μ F	20%	25V
*	A-1395-027-A	UY COMPLETE PC BOARD (KV-36FS17/38FS17 ONLY)				C2012	1-163-021-91	CERAMIC CHIP	0.01 μ F	10%	50V
CAPACITOR						C2015	1-163-021-91	CERAMIC CHIP	0.01 μ F	10%	50V
C201	1-128-551-11	ELECT	22 μ F	20%	25V	C2045	1-163-237-11	CERAMIC CHIP	27pF	5%	50V
C202	1-128-551-11	ELECT	22 μ F	20%	25V	C2047	1-126-961-11	ELECT	2.2 μ F	20%	50V
C203	1-128-551-11	ELECT	22 μ F	20%	25V	C2048	1-126-964-11	ELECT	10 μ F	20%	50V
C204	1-126-960-11	ELECT	1 μ F	20%	50V	C2049	1-104-664-11	ELECT	47 μ F	20%	16V
C205	1-126-960-11	ELECT	1 μ F	20%	50V	C2056	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C231	1-163-021-91	CERAMIC CHIP	0.01 μ F	10%	50V	C2060	1-163-031-11	CERAMIC CHIP	0.01 μ F	50V	
C232	1-126-965-11	ELECT	22 μ F	20%	50V	C2062	1-104-664-11	ELECT	47 μ F	20%	16V
C233	1-128-551-11	ELECT	22 μ F	20%	25V	C2096	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C234	1-126-960-11	ELECT	1 μ F	20%	50V	C2097	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C235	1-126-960-11	ELECT	1 μ F	20%	50V	C2168	1-163-253-11	CERAMIC CHIP	120pF	5%	50V
C236	1-128-551-11	ELECT	22 μ F	20%	25V	C2202	1-128-551-11	ELECT	22 μ F	20%	25V
C237	1-126-960-11	ELECT	1 μ F	20%	50V	C3301	1-104-664-11	ELECT	47 μ F	20%	25V
C238	1-126-960-11	ELECT	1 μ F	20%	50V	(KV-36FS17/38FS17 ONLY)					
C244	1-126-959-11	ELECT	0.47 μ F	20%	50V	C3302	1-163-031-11	CERAMIC CHIP	0.01 μ F	50V	
C245	1-126-959-11	ELECT	0.47 μ F	20%	50V	(KV-36FS17/38FS17 ONLY)					
C264	1-164-004-11	CERAMIC CHIP	0.1 μ F	10%	25V	C3303	1-126-961-11	ELECT	2.2 μ F	20%	50V
C268	1-163-021-91	CERAMIC CHIP	0.01 μ F	10%	50V	(KV-36FS17/38FS17 ONLY)					
C269	1-163-021-91	CERAMIC CHIP	0.01 μ F	10%	50V	C3304	1-163-038-11	CERAMIC CHIP	0.1 μ F	25V	
C272	1-163-231-11	CERAMIC CHIP	15pF	5%	50V	(KV-36FS17/38FS17 ONLY)					
C273	1-128-551-11	ELECT	22 μ F	20%	25V	C3305	1-126-961-11	ELECT	2.2 μ F	20%	50V
C277	1-128-551-11	ELECT	22 μ F	20%	25V	(KV-36FS17/38FS17 ONLY)					
						C3306	1-163-038-11	CERAMIC CHIP	0.1 μ F	25V	
						(KV-36FS17/38FS17 ONLY)					
						C3307	1-126-964-11	ELECT	10 μ F	20%	50V
						(KV-36FS17/38FS17 ONLY)					



REF.NO.	PART NO.	DESCRIPTION	VALUES		REF.NO.	PART NO.	DESCRIPTION	VALUES	
C3308	1-163-038-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.1μF	25V	C3371	1-163-031-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.01μF	50V
C3309	1-126-964-11	ELECT (KV-36FS17/38FS17 ONLY)	10μF	20% 50V	C3556	1-163-038-11	CERAMIC CHIP	0.1μF	25V
C3311	1-163-038-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.1μF	25V	C3557	1-163-021-91	CERAMIC CHIP	0.01μF	10% 50V
C3312	1-126-964-11	ELECT (KV-36FS17/38FS17 ONLY)	10μF	20% 50V	C3558	1-126-964-11	ELECT	10μF	20% 50V
C3313	1-163-038-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.1μF	25V	C3559	1-163-038-11	CERAMIC CHIP	0.1μF	25V
C3315	1-216-295-11	SHORT (KV-36FS17/38FS17 ONLY)			C3560	1-163-038-11	CERAMIC CHIP	0.1μF	25V
C3316	1-216-295-11	SHORT (KV-36FS17/38FS17 ONLY)			C3561	1-126-964-11	ELECT	10μF	20% 50V
C3317	1-104-666-11	ELECT (KV-36FS17/38FS17 ONLY)	220μF	20% 25V	C3562	1-163-038-11	CERAMIC CHIP	0.1μF	25V
C3318	1-164-004-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.1μF	10% 25V	C3563	1-163-038-11	CERAMIC CHIP	0.1μF	25V
C3319	1-163-031-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.01μF	50V	C3564	1-163-038-11	CERAMIC CHIP	0.1μF	25V
C3320	1-104-664-11	ELECT (KV-36FS17/38FS17 ONLY)	47μF	20% 16V	C3565	1-163-038-11	CERAMIC CHIP	0.1μF	25V
C3321	1-163-237-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	27pF	5% 50V	C3566	1-126-964-11	ELECT	10μF	20% 50V
C3322	1-163-237-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	27pF	5% 50V	C3567	1-163-021-91	CERAMIC CHIP	0.01μF	10% 50V
C3323	1-163-038-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.1μF	25V	C3568	1-163-021-91	CERAMIC CHIP	0.01μF	10% 50V
C3325	1-104-664-11	ELECT (KV-36FS17/38FS17 ONLY)	47μF	20% 16V	C3569	1-126-964-11	ELECT	10μF	20% 50V
C3327	1-126-941-11	ELECT (KV-36FS17/38FS17 ONLY)	470μF	20% 25V	C3570	1-126-964-11	ELECT	10μF	20% 50V
C3328	1-126-935-11	ELECT (KV-36FS17/38FS17 ONLY)	470μF	20% 10V	C3571	1-163-021-91	CERAMIC CHIP	0.01μF	10% 50V
C3329	1-104-664-11	ELECT (KV-36FS17/38FS17 ONLY)	47μF	20% 16V	C3573	1-163-037-11	CERAMIC CHIP	0.022μF	10% 50V
C3349	1-163-123-00	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	180pF	5% 50V	C3574	1-163-021-91	CERAMIC CHIP	0.01μF	10% 50V
C3350	1-164-004-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.1μF	10% 25V	C3575	1-126-964-11	ELECT	10μF	20% 50V
C3354	1-163-031-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.01μF	50V	C3576	1-163-021-91	CERAMIC CHIP	0.01μF	10% 50V
C3357	1-163-031-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.01μF	50V	C3577	1-126-964-11	ELECT	10μF	20% 50V
C3358	1-163-031-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.01μF	50V	C3578	1-163-021-91	CERAMIC CHIP	0.01μF	10% 50V
C3368	1-216-295-11	SHORT (KV-36FS17/38FS17 ONLY)			C3579	1-104-664-11	ELECT	47μF	20% 16V
C3369	1-163-031-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.01μF	50V	CONNECTOR				
C3370	1-163-031-11	CERAMIC CHIP (KV-36FS17/38FS17 ONLY)	0.01μF	50V	* CN261	1-564-510-11	PLUG, CONNECTOR 7P (KV-36FS17/38FS17 ONLY)		
					* CN265	1-764-333-11	PLUG, CONNECTOR 10P		
					DIODE				
					D201	8-719-032-47	DIODE MTZJ-T-9110		
					D202	8-719-032-47	DIODE MTZJ-T-9110		
					D203	8-719-032-47	DIODE MTZJ-T-9110		
					D204	8-719-032-47	DIODE MTZJ-T-9110		
					D205	8-719-032-47	DIODE MTZJ-T-9110		
					D231	8-719-032-47	DIODE MTZJ-T-9110		
					D232	8-719-032-47	DIODE MTZJ-T-9110		
					D233	8-719-032-47	DIODE MTZJ-T-9110		
					D234	8-719-032-47	DIODE MTZJ-T-9110		
					D235	8-719-032-47	DIODE MTZJ-T-9110		
					D236	8-719-032-47	DIODE MTZJ-T-9110		
					D237	8-719-032-47	DIODE MTZJ-T-9110		
					D238	8-719-032-47	DIODE MTZJ-T-9110		
					D239	8-719-032-47	DIODE MTZJ-T-9110		
					D248	8-719-157-94	DIODE RD3.3SB-T1		
					D261	8-719-032-47	DIODE MTZJ-T-9110		
					D1051	8-719-073-01	DIODE MA111-TX		



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REF.NO.	PART NO.	DESCRIPTION	VALUES	REF.NO.	PART NO.	DESCRIPTION	VALUES
D1052	8-719-073-01	DIODE MA111-TX		JR1019	1-216-295-11	SHORT	
D1053	1-216-295-11	SHORT		JR1020	1-216-295-11	SHORT	
D1054	1-216-295-11	SHORT		JR1021	1-216-295-11	SHORT	
D2202	8-719-032-47	DIODE MTZJ-T-9110		JR1022	1-216-295-11	SHORT	
<u>FERRITE</u>				JR1023	1-216-295-11	SHORT	
FB2006	1-414-230-22	FERRITE	0 μ H	JR1203	1-216-295-11	SHORT	
FB2007	1-414-230-22	FERRITE	0 μ H	<u>COIL</u>			
FB2008	1-414-230-22	FERRITE	0 μ H	L261	1-414-857-11	INDUCTOR	100 μ H
FB3301	1-216-295-11	SHORT		L1201	1-408-591-11	INDUCTOR	1 μ H
		(KV-36FS17/38FS17 ONLY)		L1202	1-408-591-11	INDUCTOR	1 μ H
FB3302	1-414-230-22	FERRITE	0 μ H	L2004	1-414-856-11	INDUCTOR	10 μ H
		(KV-36FS17/38FS17 ONLY)		L2005	1-410-494-11	INDUCTOR	1MH
FB3303	1-414-230-22	FERRITE	0 μ H	L2009	1-414-856-11	INDUCTOR	10 μ H
		(KV-36FS17/38FS17 ONLY)		L3301	1-414-856-11	INDUCTOR	10 μ H
FB3304	1-414-230-22	FERRITE	0 μ H			(KV-36FS17/38FS17 ONLY)	
		(KV-36FS17/38FS17 ONLY)		L3302	1-410-473-11	INDUCTOR	18 μ H
FB3305	1-414-230-22	FERRITE	0 μ H			(KV-36FS17/38FS17 ONLY)	
<u>FILTER</u>				L3303	1-410-476-11	INDUCTOR	33 μ H
FL2001	1-239-847-11	FILTER, LOW PASS				(KV-36FS17/38FS17 ONLY)	
FL2002	1-239-847-11	FILTER, LOW PASS		L3304	1-414-856-11	INDUCTOR	10 μ H
FL2004	1-239-847-11	FILTER, LOW PASS				(KV-36FS17/38FS17 ONLY)	
<u>IC</u>				L3305	1-414-856-11	INDUCTOR	10 μ H
IC261	8-752-066-69	IC CXA1845Q				(KV-36FS17/38FS17 ONLY)	
IC2006	8-759-358-38	IC NJM78M05DLA(Te1)		L3306	1-414-856-11	INDUCTOR	10 μ H
IC3302	8-759-358-38	IC NJM78M05DLA(Te1)				(KV-36FS17/38FS17 ONLY)	
\triangle IC3303	8-759-830-24	IC SDA9588XB23		L3307	1-414-856-11	INDUCTOR	10 μ H
		(KV-36FS17/38FS17 ONLY)				(KV-36FS17/38FS17 ONLY)	
IC3308	8-759-932-69	IC BU4053BCF-T2		L3308	1-414-856-11	INDUCTOR	10 μ H
		(KV-36FS17/38FS17 ONLY)				(KV-36FS17/38FS17 ONLY)	
IC3310	8-759-559-82	IC UPC29M33T-E1		L3581	1-408-591-11	INDUCTOR	1 μ H
		(KV-36FS17/38FS17 ONLY)		L3582	1-408-591-11	INDUCTOR	1 μ H
IC3504	8-752-390-37	IC CXD2064Q-T6		<u>TRANSISTOR</u>			
<u>JACK</u>				Q202	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
J231	1-750-515-11	TERMINAL BLOCK, S 3P				(KV-36FS17/38FS17 ONLY)	
J232	1-750-517-11	JACK BLOCK, PIN 3P		Q203	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
J233	1-750-516-11	JACK BLOCK, PIN 2P				(KV-36FS17/38FS17 ONLY)	
J236	1-774-358-11	JACK BLOCK, PIN		Q205	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
						(KV-36FS17/38FS17 ONLY)	
<u>CHIP CONDUCTOR</u>				Q206	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
JR1001	1-216-295-11	SHORT				(KV-36FS17/38FS17 ONLY)	
JR1002	1-216-295-11	SHORT		Q207	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
JR1003	1-216-295-11	SHORT				(KV-36FS17/38FS17 ONLY)	
JR1004	1-216-295-11	SHORT		Q208	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
JR1014	1-216-295-11	SHORT				(KV-36FS17/38FS17 ONLY)	
JR1015	1-216-295-11	SHORT		Q209	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
JR1016	1-216-295-11	SHORT				(KV-36FS17/38FS17 ONLY)	
JR1017	1-216-295-11	SHORT		Q210	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
JR1018	1-216-295-11	SHORT		Q211	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
				Q212	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
				Q212	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
				Q235	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
				Q236	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	



REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
Q262	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R216	1-216-025-11	RES-CHIP	100	5%	1/10W
Q263	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX						(KV-36FS17/38FS17 ONLY)			
Q264	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R218	1-208-774-11	METAL CHIP	470	0.50%	1/10W
								(KV-36FS17/38FS17 ONLY)			
Q265	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R219	1-216-049-11	RES-CHIP	1K	5%	1/10W
Q1051	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX						(KV-36FS17/38FS17 ONLY)			
Q1201	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R220	1-216-025-11	RES-CHIP	100	5%	1/10W
Q1202	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX						(KV-36FS17/38FS17 ONLY)			
Q1205	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R221	1-208-774-11	METAL CHIP	470	0.50%	1/10W
								(KV-36FS17/38FS17 ONLY)			
Q1207	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R222	1-216-049-11	RES-CHIP	1K	5%	1/10W
Q2003	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX						(KV-36FS17/38FS17 ONLY)			
Q2004	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R223	1-208-758-11	METAL CHIP	100	0.50%	1/10W
Q2005	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX						(KV-36FS17/38FS17 ONLY)			
Q2006	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R225	1-216-025-11	RES-CHIP	100	5%	1/10W
								(KV-36FS17/38FS17 ONLY)			
Q2007	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R226	1-216-025-11	RES-CHIP	100	5%	1/10W
Q2008	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX						(KV-36FS17/38FS17 ONLY)			
Q2009	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R227	1-216-041-00	RES-CHIP	470	5%	1/10W
Q2010	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX						(KV-36FS17/38FS17 ONLY)			
Q2014	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R228	1-216-049-11	RES-CHIP	1K	5%	1/10W
								(KV-36FS17/38FS17 ONLY)			
Q2018	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R229	1-216-049-11	RES-CHIP	1K	5%	1/10W
Q2019	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX						(KV-36FS17/38FS17 ONLY)			
Q3301	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R231	1-216-022-00	RES-CHIP	75	5%	1/10W
						R232	1-216-022-00	RES-CHIP	75	5%	1/10W
Q3306	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R233	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
								(KV-36FS17/38FS17 ONLY)			
Q3307	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R234	1-216-022-00	RES-CHIP	75	5%	1/10W
						R235	1-216-113-00	RES-CHIP	470K	5%	1/10W
Q3312	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R236	1-216-113-00	RES-CHIP	470K	5%	1/10W
						R237	1-216-022-00	RES-CHIP	75	5%	1/10W
Q3315	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R238	1-216-113-00	RES-CHIP	470K	5%	1/10W
								(KV-36FS17/38FS17 ONLY)			
Q3316	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R239	1-216-113-00	RES-CHIP	470K	5%	1/10W
						R241	1-216-113-00	RES-CHIP	470K	5%	1/10W
Q3317	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R242	1-216-049-11	RES-CHIP	1K	5%	1/10W
						R243	1-216-113-00	RES-CHIP	470K	5%	1/10W
						R244	1-216-049-11	RES-CHIP	1K	5%	1/10W
						R257	1-216-049-11	RES-CHIP	1K	5%	1/10W
						R258	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
						R259	1-216-049-11	RES-CHIP	1K	5%	1/10W
						R260	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
						R261	1-216-025-11	RES-CHIP	100	5%	1/10W
						R262	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
						R263	1-216-025-11	RES-CHIP	100	5%	1/10W
						R264	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
						R265	1-216-025-11	RES-CHIP	100	5%	1/10W
						R266	1-216-025-11	RES-CHIP	100	5%	1/10W
						R267	1-216-025-11	RES-CHIP	100	5%	1/10W
						R268	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
						R269	1-216-067-00	RES-CHIP	5.6K	5%	1/10W

RESISTOR

R201	1-216-022-00	RES-CHIP	75	5%	1/10W
R202	1-216-022-00	RES-CHIP	75	5%	1/10W
R203	1-216-022-00	RES-CHIP	75	5%	1/10W
R204	1-216-113-00	RES-CHIP	470K	5%	1/10W
R205	1-216-113-00	RES-CHIP	470K	5%	1/10W
R206	1-216-295-11	SHORT			
R207	1-216-295-11	SHORT			
R208	1-216-295-11	SHORT			
R209	1-216-089-11	RES-CHIP	47K	5%	1/10W
R210	1-216-081-00	RES-CHIP	22K	5%	1/10W
R211	1-216-089-11	RES-CHIP	47K	5%	1/10W
R212	1-216-081-00	RES-CHIP	22K	5%	1/10W
R213	1-216-089-11	RES-CHIP	47K	5%	1/10W
R214	1-216-081-00	RES-CHIP	22K	5%	1/10W



REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
R270	1-216-049-11	RES-CHIP	1K	5%	1/10W	R1239	1-208-774-11	METAL CHIP	470	0.50%	1/10W
R271	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R1261	1-216-025-11	RES-CHIP	100	5%	1/10W
R272	1-216-025-11	RES-CHIP	100	5%	1/10W	R1263	1-216-295-11	SHORT			
R273	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R1264	1-216-049-11	RES-CHIP	1K	5%	1/10W
R274	1-216-049-11	RES-CHIP	1K	5%	1/10W	R1265	1-216-001-00	RES-CHIP	10	5%	1/10W
R275	1-216-025-11	RES-CHIP	100	5%	1/10W	R1266	1-216-041-00	RES-CHIP (KV-36FS17/38FS17 ONLY)	470	5%	1/10W
R276	1-216-295-11	SHORT									
R278	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R1267	1-216-025-11	RES-CHIP	100	5%	1/10W
R280	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R1268	1-216-049-11	RES-CHIP	1K	5%	1/10W
R282	1-216-025-11	RES-CHIP	100	5%	1/10W	R1269	1-216-041-00	RES-CHIP (KV-36FS17/38FS17 ONLY)	470	5%	1/10W
R283	1-216-049-11	RES-CHIP	1K	5%	1/10W						
R284	1-216-033-00	RES-CHIP	220	5%	1/10W	R1270	1-216-049-11	RES-CHIP	1K	5%	1/10W
R285	1-216-033-00	RES-CHIP	220	5%	1/10W	R1271	1-216-001-00	RES-CHIP	10	5%	1/10W
R286	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R1272	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R287	1-216-025-11	RES-CHIP	100	5%	1/10W	R1273	1-208-788-11	METAL CHIP	1.8K	0.50%	1/10W
R288	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R1275	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R289	1-216-067-00	RES-CHIP	5.6K	5%	1/10W						
R290	1-216-025-11	RES-CHIP (KV-36FS17/38FS17 ONLY)	100	5%	1/10W	R1276	1-216-049-11	RES-CHIP	1K	5%	1/10W
						R1277	1-216-025-11	RES-CHIP (KV-36FS17/38FS17 ONLY)	100	5%	1/10W
R291	1-216-067-00	RES-CHIP	5.6K	5%	1/10W	R1279	1-216-025-11	RES-CHIP	100	5%	1/10W
R292	1-216-295-11	SHORT				R1281	1-216-295-11	SHORT			
R293	1-216-025-11	RES-CHIP	100	5%	1/10W	R1284	1-216-295-11	SHORT			
R294	1-216-077-91	RES-CHIP	15K	5%	1/10W						
R295	1-216-025-11	RES-CHIP	100	5%	1/10W	R1285	1-216-041-00	RES-CHIP (KV-36FS17/38FS17 ONLY)	470	5%	1/10W
R296	1-216-025-11	RES-CHIP	100	5%	1/10W	R1287	1-216-295-11	SHORT			
R297	1-216-025-11	RES-CHIP	100	5%	1/10W	R1288	1-216-295-11	SHORT			
R298	1-216-295-11	SHORT				R1289	1-216-295-11	SHORT			
R300	1-216-025-11	RES-CHIP	100	5%	1/10W	R1290	1-216-295-11	SHORT			
R301	1-216-049-11	RES-CHIP	1K	5%	1/10W						
R302	1-216-295-11	SHORT				R1291	1-216-295-11	SHORT			
R1062	1-216-033-00	RES-CHIP	220	5%	1/10W	R1292	1-216-295-11	SHORT			
R1063	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1304	1-216-041-00	RES-CHIP	470	5%	1/10W
R1205	1-216-295-11	SHORT				R1305	1-208-776-11	METAL CHIP	560	0.50%	1/10W
R1207	1-208-774-11	METAL CHIP	470	0.50%	1/10W	R1306	1-216-025-11	RES-CHIP	100	5%	1/10W
R1209	1-216-295-11	SHORT									
R1210	1-216-295-11	SHORT				R2015	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1215	1-208-774-11	METAL CHIP	470	0.50%	1/10W	R2016	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1216	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R2017	1-216-295-11	SHORT			
R1217	1-216-091-00	RES-CHIP	56K	5%	1/10W	R2018	1-216-295-11	SHORT			
R1219	1-216-073-00	RES-CHIP	10K	5%	1/10W	R2021	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1220	1-216-013-00	RES-CHIP	33	5%	1/10W						
R1221	1-216-121-11	RES-CHIP	1M	5%	1/10W	R2027	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1222	1-216-073-00	RES-CHIP	10K	5%	1/10W	R2028	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1223	1-216-097-11	RES-CHIP	100K	5%	1/10W	R2029	1-216-043-91	RES-CHIP	560	5%	1/10W
R1224	1-216-089-11	RES-CHIP	47K	5%	1/10W	R2030	1-216-043-91	RES-CHIP	560	5%	1/10W
R1225	1-216-097-11	RES-CHIP	100K	5%	1/10W	R2031	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1226	1-216-295-11	SHORT									
R1231	1-216-295-11	SHORT				R2032	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
						R2033	1-208-790-11	METAL CHIP	2.2K	0.50%	1/10W
						R2034	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
						R2035	1-216-049-11	RES-CHIP	1K	5%	1/10W
						R2036	1-216-051-00	RES-CHIP	1.2K	5%	1/10W



REF.NO.	PART NO.	DESCRIPTION	VALUES			REF.NO.	PART NO.	DESCRIPTION	VALUES		
Q946	8-729-045-05	TRANSISTOR 2SA2005				R970	1-208-822-11	METAL CHIP (KV-32FV27 ONLY)	47K	0.50%	1/10W
Q947	8-729-045-04	TRANSISTOR 2SC5511				R970	1-208-820-11	METAL CHIP (ALL EXCEPT KV-32FV27 ONLY)	39K	0.50%	1/10W
Q948	8-719-914-43	DIODE DAN202K-T-146				R971	1-216-049-11	RES-CHIP	1K	5%	1/10W
Q949	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R972	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
Q961	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R973	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
Q962	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA				R974	1-208-808-11	METAL CHIP	12K	0.50%	1/10W
Q963	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA				R975	1-216-073-00	RES-CHIP	10K	5%	1/10W
Q965	8-729-931-45	TRANSISTOR IRF614				R976	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
Q966	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R977	1-249-401-11	CARBON	47	5%	1/4W
Q967	8-729-140-97	TRANSISTOR 2SB734-T-34				R978	1-216-073-00	RES-CHIP	10K	5%	1/10W
Q968	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R979	1-216-033-00	RES-CHIP	220	5%	1/10W
Q969	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R980	1-216-073-00	RES-CHIP	10K	5%	1/10W
Q1961	8-729-140-97	TRANSISTOR 2SB734-T-34				R981	1-216-081-00	RES-CHIP	22K	5%	1/10W
Q1963	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R982	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
Q1964	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R983	1-249-381-11	CARBON	1	5%	1/4W
Q1966	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX				R984	1-249-383-11	CARBON	1.5	5%	1/4W
Q1967	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX				R985	1-215-421-00	METAL	1K	1%	1/4W
RESISTOR						R986	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R941	1-249-420-11	CARBON	1.8K	5%	1/4W	R988	1-215-429-00	METAL	2.2K	1%	1/4W
R943	1-216-033-00	RES-CHIP	220	5%	1/10W	R990	1-216-025-11	RES-CHIP	100	5%	1/10W
R944	1-216-049-11	RES-CHIP	1K	5%	1/10W	R991	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W
R945	1-216-049-11	RES-CHIP	1K	5%	1/10W	R992	1-208-794-11	METAL CHIP	3.3K	0.50%	1/10W
R946	1-215-888-00	METAL OXIDE	220	5%	2W	R993	1-216-049-11	RES-CHIP	1K	5%	1/10W
R947	1-216-025-11	RES-CHIP	100	5%	1/10W	R994	1-216-025-11	RES-CHIP	100	5%	1/10W
R949	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R995	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R950	1-216-049-11	RES-CHIP	1K	5%	1/10W	R1941	1-260-312-11	CARBON	47	5%	1/2W
R951	1-216-049-11	RES-CHIP	1K	5%	1/10W	R1942	1-249-387-11	CARBON	3.3	5%	1/4W
R952	1-216-041-00	RES-CHIP	470	5%	1/10W	R1943	1-249-414-11	CARBON	560	5%	1/4W
R953	1-216-021-00	RES-CHIP	68	5%	1/10W	R1944	1-249-432-11	CARBON	18K	5%	1/4W
R954	1-216-033-00	RES-CHIP	220	5%	1/10W	R1945	1-215-914-11	METAL OXIDE	330	5%	3W
R955	1-216-047-91	RES-CHIP	820	5%	1/10W	R1946	1-249-417-11	CARBON	1K	5%	1/4W
R956	1-216-025-11	RES-CHIP	100	5%	1/10W	R1947	1-249-432-11	CARBON	18K	5%	1/4W
R957	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1948	1-249-414-11	CARBON	560	5%	1/4W
R958	1-216-025-11	RES-CHIP	100	5%	1/10W	R1949	1-249-387-11	CARBON	3.3	5%	1/4W
R959	1-216-021-00	RES-CHIP	68	5%	1/10W	R1950	1-249-401-11	CARBON	47	5%	1/4W
R960	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R1951	1-216-097-11	RES-CHIP	100K	5%	1/10W
R961	1-216-091-00	RES-CHIP	56K	5%	1/10W	R1952	1-216-097-11	RES-CHIP	100K	5%	1/10W
R962	1-216-077-91	RES-CHIP	15K	5%	1/10W	R1953	1-216-085-00	RES-CHIP	33K	5%	1/10W
R963	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R1954	1-216-089-11	RES-CHIP (KV-32FV27 ONLY)	47K	5%	1/10W
R964	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1954	1-208-822-11	METAL CHIP (ALL EXCEPT KV-32FV27)	47K	0.50%	1/10W
R965	1-216-077-91	RES-CHIP	15K	5%	1/10W	R1955	1-208-808-11	METAL CHIP	12K	0.50%	1/10W
R966	1-216-073-00	RES-CHIP	10K	5%	1/10W	R1956	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R967	1-216-071-00	RES-CHIP	8.2K	5%	1/10W	R1957	1-216-295-91	SHORT			
R968	1-216-061-00	RES-CHIP (KV-32FV27 ONLY)	3.3K	5%	1/10W	R1958	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R968	1-208-802-11	METAL CHIP (ALL EXCEPT KV-32FV27 ONLY)	6.8K	0.50%	1/10W						
R969	1-216-025-11	RES-CHIP	100	5%	1/10W						



REF.NO.	PART NO.	DESCRIPTION	VALUES	REF.NO.	PART NO.	DESCRIPTION	VALUES
R1959	1-216-073-00	RES-CHIP	10K 5% 1/10W	R2971	1-208-826-11	METAL CHIP (ALL EXCEPT KV-32FV27)	68K 0.50% 1/10W
R1960	1-216-037-00	RES-CHIP	330 5% 1/10W	R2972	1-216-113-00	RES-CHIP	470K 5% 1/10W
R1961	1-208-824-11	METAL CHIP (KV-32FV27 ONLY)	56K 0.50% 1/10W	R2973	1-216-025-11	RES-CHIP	100 5% 1/10W
R1961	1-208-820-11	METAL CHIP (ALL EXCEPT KV-32FV27)	39K 0.50% 1/10W	R2975	1-216-061-00	RES-CHIP	3.3K 5% 1/10W
R1962	1-208-806-11	METAL CHIP	10K 0.50% 1/10W	R2976	1-216-025-11	RES-CHIP	100 5% 1/10W
⚠ R1963	1-216-033-00	RES-CHIP	220 5% 1/10W	R2979	1-216-097-11	RES-CHIP	100K 5% 1/10W
R1964	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	R2980	1-216-097-11	RES-CHIP	100K 5% 1/10W
R1967	1-215-489-00	METAL	680K 1% 1/4W	VARIABLE RESISTOR			
R1969	1-216-073-00	RES-CHIP	10K 5% 1/10W	RV941	1-238-019-11	RES, ADJ, CARBON	47K
R1970	1-216-065-91	RES-CHIP	4.7K 5% 1/10W	ACCESSORIES AND PACKAGING			
R1971	1-216-121-11	RES-CHIP	1M 5% 1/10W	*	4-041-259-01	BAG, PROTECTION (KV-32FV27 ONLY)	
R1972	1-216-073-00	RES-CHIP	10K 5% 1/10W	*	4-066-646-02	BAG, PROTECTION (ALL EXCEPT KV-32FV27)	
R1973	1-216-035-00	RES-CHIP	270 5% 1/10W	*	4-082-303-01	CARTON, HSC (KV-36FV27 ONLY)	
R1975	1-208-798-11	METAL CHIP (KV-32FV27 ONLY)	4.7K 0.50% 1/10W	*	4-075-691-03	CARTON, INDIVIDUAL (KV-36FS13/36FS17/38FS17)	
R1975	1-216-069-00	RES-CHIP (ALL EXCEPT KV-32FV27)	6.8K 5% 1/10W	*	4-069-471-12	CARTON, INDIVIDUAL (KV-32FV27 ONLY)	
R1976	1-216-061-00	RES-CHIP (KV-32FV27 ONLY)	3.3K 5% 1/10W	*	4-068-786-12	CUSHION, UPPER (KV-32FV27 ONLY)	
R1976	1-208-794-11	METAL CHIP (ALL EXCEPT KV-32FV27)	3.3K 0.50% 1/10W	*	4-068-789-11	CUSHION, LOWER (KV-32FV27 ONLY)	
R1978	1-216-025-11	RES-CHIP	100 5% 1/10W	*	4-081-768-01	CUSHION, LOWER (KV-36FV27 ONLY)	
R1980	1-216-041-00	RES-CHIP	470 5% 1/10W	*	4-075-047-02	CUSHION, ASSY LOWER (KV-36FS13/36FS17/38FS17)	
R1981	1-216-081-00	RES-CHIP	22K 5% 1/10W		4-075-048-01	CUSHION, ASSY UPPER (KV-36FS13/36FS17/38FS17)	
R1982	1-216-081-00	RES-CHIP	22K 5% 1/10W		8-953-742-90	HEADPHONE MDR-IF0230//K SET (KV-32FV27/36FV27 ONLY)	
R1983	1-216-073-00	RES-CHIP	10K 5% 1/10W	*	4-396-077-01	JOINT (KV-36FV27 ONLY)	
R1984	1-216-089-11	RES-CHIP	47K 5% 1/10W		4-081-775-22	MANUAL, INSTRUCTION (English) (KV-32FV27/36FV27/36FV27H ONLY)	
R1987	1-216-097-11	RES-CHIP (KV-32FV27 ONLY)	100K 5% 1/10W		4-081-775-31	MANUAL, INSTRUCTION (French) (KV-32FV27CND/36FV27CND ONLY)	
R1987	1-208-818-11	METAL CHIP (ALL EXCEPT KV-32FV27)	33K 0.50% 1/10W		4-081-776-22	MANUAL, INSTRUCTION (English) (KV-36FS13/36FS13H/36FS17 ONLY)	
R1989	1-208-818-11	METAL CHIP	33K 0.50% 1/10W		4-081-776-31	MANUAL, INSTRUCTION (French) (KV-36FS13CND ONLY)	
R1990	1-216-089-11	RES-CHIP	47K 5% 1/10W		4-081-776-41	MANUAL, INSTRUCTION (Spanish) (KV-38FS17 ONLY)	
R1991	1-216-081-00	RES-CHIP	22K 5% 1/10W	REMOTE COMMANDER			
R1992	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	1-476-680-11	REMOTE COMMANDER (RM-Y180) (KV-36FS13 ONLY)		
R2962	1-215-885-00	METAL OXIDE	68 5% 2W	1-476-681-11	REMOTE COMMANDER (RM-Y181) (KV-36FS17/38FS17 ONLY)		
R2963	1-215-885-00	METAL OXIDE (KV-32FV27 ONLY)	68 5% 2W	1-476-668-11	REMOTE COMMANDER (RM-Y182) (KV-32FV27/36FV27 ONLY)		
R2965	1-216-065-91	RES-CHIP	4.7K 5% 1/10W	4-978-977-11	BATTERY COVER (FOR RM-Y180, RM-Y181, RM-Y182)		
R2968	1-216-065-91	RES-CHIP (KV-32FV27 ONLY)	4.7K 5% 1/10W				
R2968	1-208-794-11	METAL CHIP (ALL EXCEPT KV-32FV27)	3.3K 0.50% 1/10W				
R2969	1-216-065-91	RES-CHIP	4.7K 5% 1/10W				
R2971	1-216-089-11	RES-CHIP (KV-32FV27 ONLY)	47K 5% 1/10W				

Sony Corporation
Sony Technology Center
Technical Services

English

SONY[®]

4-081-776-21



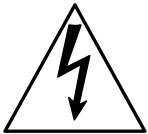
FD Trinitron
WEGATM

Operating Instructions

KV-36FS13 KV-36FS17

WARNING

To reduce the risk of fire or shock hazard, do not expose the TV to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

CAUTION

When using TV games, computers, and similar products with your TV, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern is left on the screen for long periods of time at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. Continuously watching the same program can cause the imprint of station logos onto the TV screen. These types of imprints are not covered by your warranty because they are the result of misuse.

Note on Caption Vision

This television receiver provides display of television closed captioning in accordance with §15.119 of the FCC rules.

Note on Cleaning the TV

Clean the TV with a soft dry cloth. Never use strong solvents such as thinner or benzine, which might damage the finish of the cabinet.

Note to CATV System Installer

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Use of this television receiver for other than private viewing of programs broadcast on UHF or VHF or transmitted by cable companies for the use of the general public may require authorization from the broadcaster/cable company and/or program owner.

NOTIFICATION

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

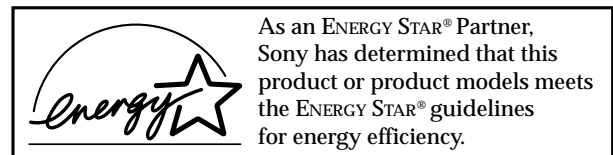
- Reorient or relocate the receiving antennas.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
- You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Safety

- Operate the TV only on 120 V AC.
- The plug is designed, for safety purposes, to fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- If any liquid or solid object should fall inside the cabinet, unplug the TV immediately and have it checked by qualified service personnel before operating it further.

Installing

- To prevent internal heat buildup, do not block the ventilation openings.
- Do not install the TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.
- The AC power cord is attached to the rear of the TV with hooks. Do not attempt to remove the cord from these hooks. Doing so could cause damage to the TV



ENERGY STAR® is a U.S. registered mark.

Owner's Record

The model and serial numbers are provided on the front of this instruction manual and at the rear of the TV. Refer to them whenever you call upon your Sony dealer regarding this product.

About this Manual

This manual is for models KV-36FS13 and KV-36FS17. The menu and illustrations shown are for model KV-36FS17 to show the maximum features available. Differences in operation will be indicated in the text, for example, "For KV-36FS13 only."

Important Safeguards

For your protection, please read these instructions completely, and keep this manual for future reference.

Carefully observe and comply with all warnings, cautions and instructions placed on the set or described in the operating instructions or service manual.

WARNING

To guard against injury, the following basic safety precautions should be observed in the installation, use and servicing of the set.

Use

Power Sources

This set should be operated only from the type of power source indicated on the serial/model plate. If you are not sure of the type of electrical power supplied to your home, consult your dealer or local power company. For those sets designed to operate from battery power, refer to the operating instructions.



Grounding or Polarization

This set is equipped with a polarized AC power cord plug (a plug having one blade wider than the other), or with a three-wire grounding type plug (a plug having a third pin for grounding). Follow the instructions below:

For the set with a polarized AC power cord plug

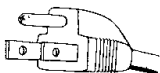
This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the polarized plug by forcing it in.



Alternate Warning

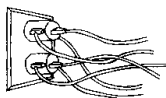
For the set with a three-wire grounding type AC plug

This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the grounding plug.

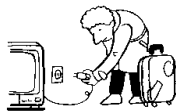


Overloading

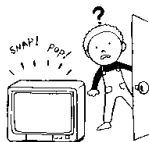
Do not overload wall outlets, extension cords or convenience receptacles beyond their capacity, since this can result in fire or electric shock.



Always turn the set off when it is not being used. When the set is left unattended and unused for long periods of time, unplug it from the wall outlet as a precaution against the possibility of an internal malfunction that could create a fire hazard.

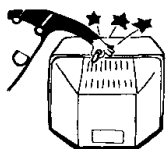


If a snapping or popping sound from a TV set is continuous or frequent while the TV is operating, unplug the TV and consult your dealer or service technician. It is normal for some TV sets to make occasional snapping or popping sounds, particularly when being turned on or off.



Object and Liquid Entry

Never push objects of any kind into the set through the cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the set.



Cleaning

Unplug the set from the wall outlet before cleaning or polishing it. Do not use liquid cleaners or aerosol cleaners. Use a cloth lightly dampened with water for cleaning the exterior of the set.



Installation

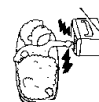
Attachments

Do not use attachments not recommended by the manufacturer, as they may cause hazards.



Water and Moisture

Do not use power-line operated sets near water — for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.



Accessories

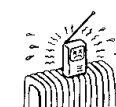
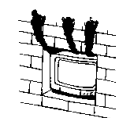
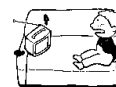
Do not place the set on an unstable cart, stand, table or shelf. The set may fall, causing serious injury to a child or an adult and serious damage to the set. Use only a cart or stand recommended by the manufacturer for the specific model of TV. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



Ventilation

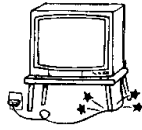
The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of the set, and to protect it from overheating, these slots and openings must never be blocked or covered.

- ❑ Never cover the slots and openings with a cloth or other materials.
- ❑ Never block the slots and openings by placing the set on a bed, sofa, rug or other similar surface.
- ❑ Never place the set in a confined space, such as a bookcase or built-in cabinet, unless proper ventilation is provided.
- ❑ Do not place the set near or over a radiator or heat register, or where it is exposed to direct sunlight.



Power-Cord Protection

Do not allow anything to rest on or roll over the power cord, and do not place the set where the power cord is subject to wear or abuse.



Antennas

Outdoor Antenna Grounding

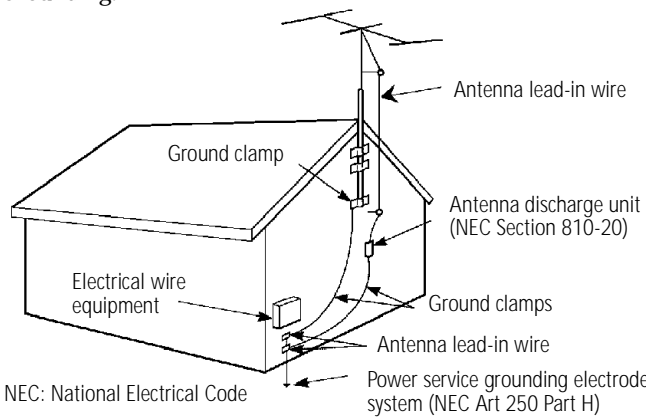
If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits.

WHEN INSTALLING AN OUTDOOR ANTENNA SYSTEM, EXTREME CARE SHOULD BE TAKEN TO KEEP FROM CONTACTING SUCH POWER LINES OR CIRCUITS AS CONTACT WITH THEM IS ALMOST INVARIABLY FATAL.

Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code (NEC) in USA and Section 54 of the Canadian Electrical Code in Canada provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Antenna Grounding According to the NEC

Refer to section 54-300 of Canadian Electrical Code for Antenna Grounding.



Lightning

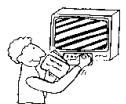
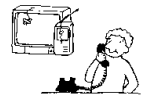
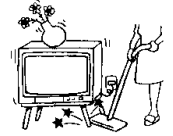
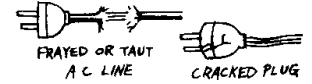
For added protection for this television receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power-line surges.

Service

Damage Requiring Service

Unplug the set from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power cord or plug is damaged or frayed.
- If liquid has been spilled into the set.
- If the set has been exposed to rain or water.
- If the set has been subject to excessive shock by being dropped, or the cabinet has been damaged.
- If the set does not operate normally when following the operating instructions. Adjust only those controls that are specified in the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the set to normal operation.
- When the set exhibits a distinct change in performance, it indicates a need for service.



Servicing

Do not attempt to service the set yourself since opening the cabinet may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.



Replacement Parts

When replacement parts are required, be sure the service technician certifies in writing that he has used replacement parts specified by the manufacturer that have the same characteristics as the original parts.

Unauthorized substitutions may result in fire, electric shock or other hazards.

Safety Check

Upon completion of any service or repairs to the set, ask the service technician to perform routine safety checks (as specified by the manufacturer) to determine that the set is in safe operating condition, and to so certify. When the set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the set.



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Introducing the FD Trinitron Wega

Overview

This chapter defines the contents of your Wega TV and provides an overview of how to set up and use basic features.

<i>Topic</i>	<i>Page</i>
Presenting the FD Trinitron Wega	2
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Presenting the FD Trinitron Wega

The FD Trinitron Wega (pronounced VAY-GAH) is characterized by outstanding contrast, uncompromising accuracy, and corner-to-corner detail.

You will recognize the superiority of Wega technology almost immediately. The first thing you will probably notice is minimal glare from the flat picture tube. This flat-screen technology improves picture detail without distortion, unlike conventional curved screens. The FD Trinitron delivers outstanding image detail not only at the screen center, but also at the corners — so you can enjoy a bright, clear picture from any location in a room.

Features

Some of the features that you will enjoy with your new TV include:

- ❑ **16:9 Enhancement:** Vertical Compression technology that maximizes picture resolution on “anamorphic” or “enhanced for widescreen” sources, including selected DVDs.
- ❑ **Velocity Modulation:** Vertical line enhancement that sharpens picture definition.
- ❑ **Parental Control:** V-Chip technology allows parents to block unsuitable programming for younger viewers.
- ❑ **Component Video Input:** Offers the best video quality for DVD player connections.
- ❑ **S-VIDEO Input:** Provides a high-quality image for connected equipment.

Also, on the KV-36FS17 model:

- ❑ **Dual Tuner Picture in Picture (PIP):** Allows you to watch two programs at once.
- ❑ **Favorite Channel Preview:** Preview up to eight favorite channels without leaving the current channel.

Package Contents

Along with your new Trinitron TV, the packing box contains a remote control and two AA batteries. These items are all you need to set it up and operate the TV in its basic configuration.

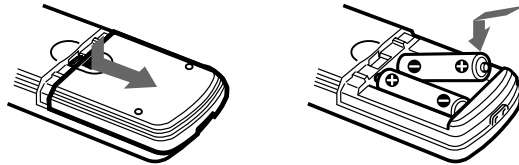
Most peripherals come with the necessary cables to connect them. If you want to set up special configurations, you may need to buy extra cables or connectors. It is best to ensure that you have all needed materials on hand before beginning a special-connection project.


Using the Remote Control

The remote control is the primary mechanism for controlling your TV. Handle the remote control with care. avoid dropping it, getting it wet, placing it in direct sunlight, near a heater, or where the humidity is high.

Inserting Batteries

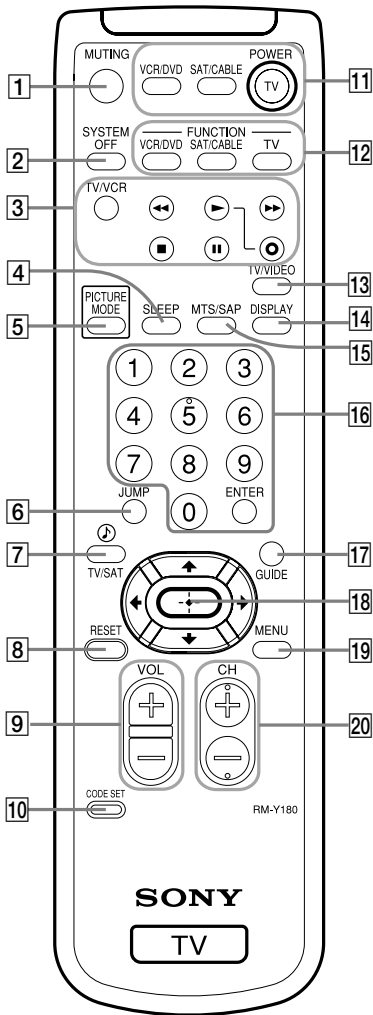
Insert two size AA (R6) batteries (supplied) by matching the + and - on the batteries to the diagram inside the battery compartment.



 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.










Button Descriptions

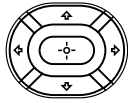
The POWER button on the remote control (no. 11 in the illustration below) activates both the remote control and the TV.

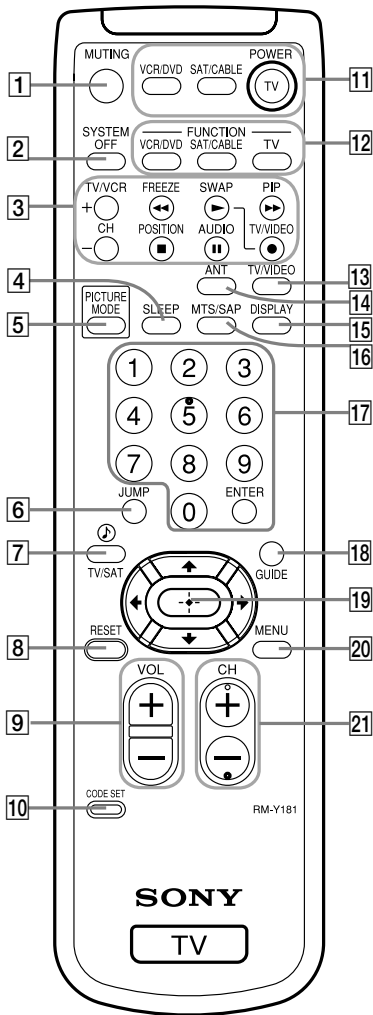


RM-Y180

Model	Remote
KV-36FS13	RM-Y180
KV-36FS17	RM-Y181
(See page 6)	


Button	Description
1 MUTING	Mutes the sound. Press again or press VOL + to restore the sound.
2 SYSTEM OFF	Powers off all Sony equipment at once. (This feature may not work with older Sony equipment.)
3 TV/VCR	Switch between TV and VCR mode. If you have a non-Sony VCR, you will need to program the remote control to recognize your VCR. For details, see "Programming the Remote Control" on page 50
	Rewind
	Fast-forward
	Play
	Stop
	Pause (Press again to resume playback or recording)
4 SLEEP	To record, press  and  simultaneously.
5 PICTURE MODE	Press repeatedly until the TV displays the time in minutes (15, 30, 45, 60, or 90) that you want the TV to remain on before shutting off automatically. Cancel by pressing until SLEEP OFF appears.
6 JUMP	Cycles through the available video picture modes: Vivid, Standard, Movie, Sports. Also available in the Video menu. For details, see "Selecting Video Options" on page 36.
7 TV/SAT	Press to jump back and forth between two channels. The TV alternates between the current channel and the last channel that was selected.
	Switches between the TV and SAT (satellite) inputs when in SAT FUNCTION mode.
	Provides quick access for changing available audio settings. For details, see "Selecting Audio Options" on page 38.
8 RESET	Press when in a menu to reset the settings to the factory defaults.
9 VOL +/-	Adjusts the volume.
10 CODE SET	Used for programming the remote control to operate non-Sony video equipment. For details, see "Programming the Remote Control" on page 50.
11 POWER buttons (GREEN)	Turn on and off the TV and other audio/video equipment.

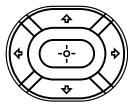
<i>Button</i>	<i>Description</i>
12 FUNCTION buttons (WHITE)	Select the equipment (TV, VCR/DVD, SAT/CABLE) that you want to operate. The indicator lights up momentarily when pressed to show which device the remote control is operating.
13 TV/VIDEO	Cycles through the video equipment connected to your TV's video inputs.
14 DISPLAY	Press once to display the current time and channel label (if set) and channel number. Press again to turn Display off. For details on setting the time, see "To set the Current Time" on page 45.
15 MTS/SAP	Cycles through the Multi-channel TV Sound (MTS) options: Stereo, Auto-SAP (Second Audio Program), and Mono. For details, see "Using the Audio Menu" on page 38.
16 0 - 9 and ENTER	Press 0 - 9 to select a channel, the channel changes after 2 seconds. Press ENTER to select immediately.
17 GUIDE	Displays the program guide of your satellite antenna.
18 	Arrows and Select. Pressing down on the center button selects the item.
19 MENU	Press to display the TV menu. Press again to exit from the menus.
20 CH +/-	Scan through channels.



RM-Y181

The POWER button on the remote control (no. 11 in the illustration below) activates both the remote control and the TV.

Button	Description
1 MUTING	Mutes the sound. Press again or press VOL + to restore the sound.
2 SYSTEM OFF	Powers off all Sony equipment at once. (This feature may not work with older Sony equipment.)
3 TV/VCR CONTROLS and PIP CONTROLS	
AUDIO	Alternates sound between the main picture and the window picture.
CH +/-	Changes the channel in the window picture.
FREEZE	Freezes the window picture. Press again to restore the picture.
PIP	Turns on/off PIP. For details, see "Using Picture in Picture (PIP)" on page 31.
POSITION	Moves the location of the window picture.
SWAP	Switches the position of the main picture with the window picture.
TV/VCR	Changes the VHF/UHF output of the VCR.
TV/VIDEO	In the window picture, cycles through the video equipment connected to your TV's video inputs: TV, VIDEO 1, VIDEO 2, VIDEO 3, VIDEO 4.
4 SLEEP	Press repeatedly until the TV displays the time in minutes (15, 30, 45, 60, or 90) that you want the TV to remain on before shutting off automatically. Cancel by pressing until SLEEP OFF appears.
5 PICTURE MODE	Cycles through the available video picture modes: Vivid, Standard, Movie, Sports. Also available in the Video menu. For details, see "Selecting Video Options" on page 36.
6 JUMP	Press to jump back and forth between two channels. The TV alternates between the current channel and the last channel that was selected.
7 TV/SAT	Switches between the TV and SAT (satellite) inputs when in SAT FUNCTION mode.
	Provides quick access for changing available audio settings. For details, see "Selecting Audio Options" on page 38.
8 RESET	Press when in a menu to reset the settings to the factory defaults.
9 VOL +/-	Adjusts the volume.
10 CODE SET	Used for programming the remote control to operate non-Sony video equipment. For details, see "Programming the Remote Control" on page 50.

<i>Button</i>	<i>Description</i>
11 POWER buttons (GREEN)	Turn on and off the TV and other audio/video equipment.
12 FUNCTION buttons (WHITE)	Select the equipment (TV, VCR/DVD, SAT/CABLE) that you want to operate. The indicator lights up momentarily when pressed to show which device the remote control is operating.
13 TV/VIDEO	Cycles through the video equipment connected to your TV's video inputs.
14 ANT	Changes the VHF/UHF input to the AUX input.
15 DISPLAY	Press once to display the current time and channel label (if set) and channel number. Press again to turn Display off. For details on setting the time, see "To set the Current Time" on page 45.
16 MTS/SAP	Cycles through the Multi-channel TV Sound (MTS) options: Stereo, Auto-SAP (Second Audio Program), and Mono. For details, see "Using the Audio Menu" on page 38.
17 0 - 9 and ENTER	Press 0 - 9 to select a channel, the channel changes after 2 seconds. Press ENTER to select immediately.
18 GUIDE	Displays the program guide of your satellite antenna.
19 	Arrows and Select. Pressing down on the center button selects the item.
20 MENU	Press to display the TV menu. Press again to exit from the menus.
21 CH+/-	Changes the channel in the main picture.

Installing the TV

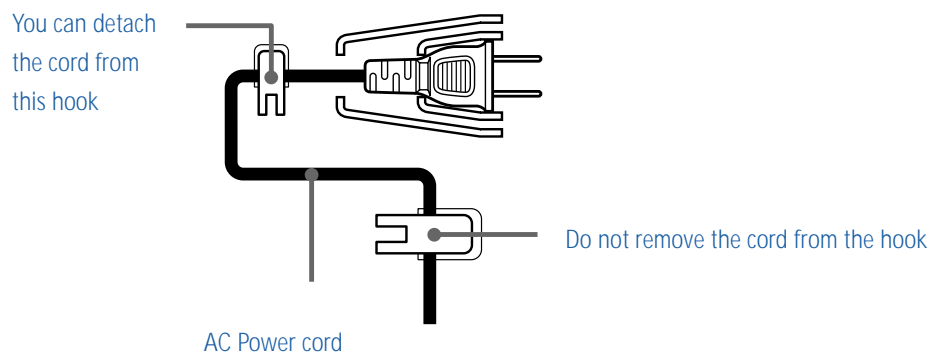
Overview

This chapter includes illustrated instructions for setting up your TV.

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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.



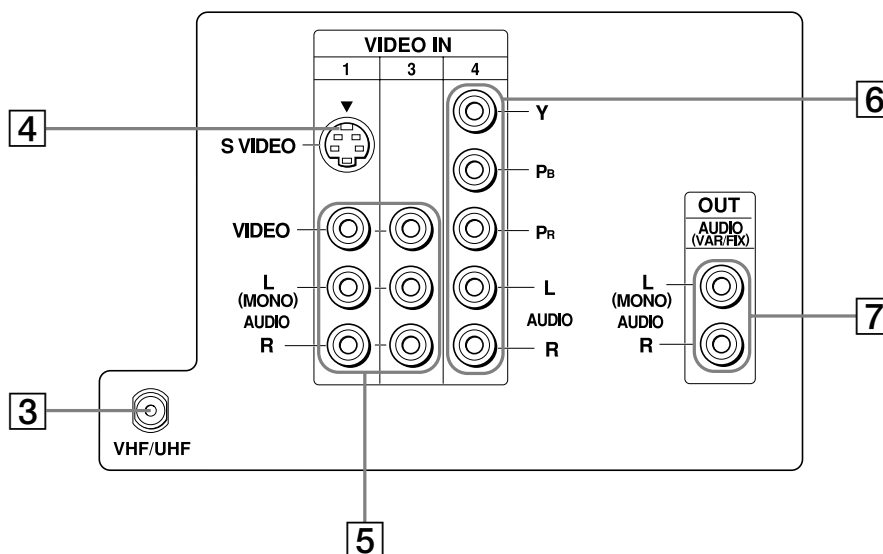
TV Controls and Connectors

Front Panel Menu Controls

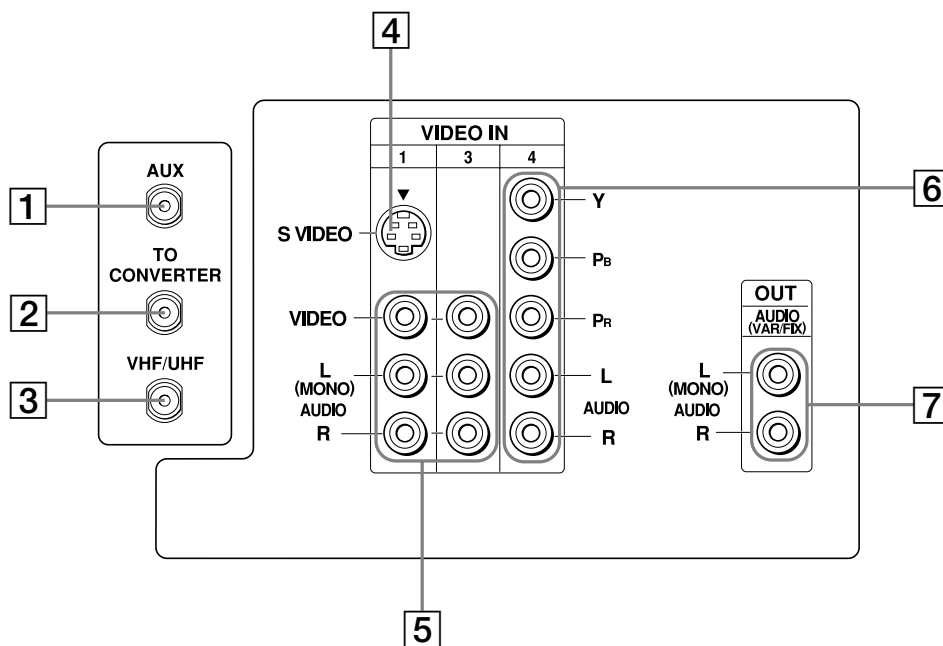
The front panel menu controls allow access to the on-screen menus without the use of a remote control. Pressing the MENU button brings up the on-screen menus. The arrow buttons (↑↓) move the on-screen cursor in the menus and the (←→) button selects the menu item.

TV Rear Panel

Model KV-36FS13



Model KV-36FS17



Back Panel Descriptions

<i>Connection</i>	<i>Description</i>
1 AUX (KV-36FS17)	Allows you to view local and cable channels if your cable provider does not feature local channels. You can switch between local and cable channels easily by pressing ANT on the remote control. Devices connected to the AUX input cannot be viewed in PIP.
2 TO CONVERTER (KV-36FS17)	This is a VHF/UHF out jack that lets you set up your TV to switch between scrambled channels (through a cable box) and normal cable channels (CATV). Use this jack instead of a splitter to get better picture quality when needing to switch between scrambled and unscrambled cable channels.
3 VHF/UHF	Connects to your VHF/UHF antenna or cable.
4 S VIDEO	Connects to the S VIDEO OUT jack of your VCR or other S VIDEO-equipped video component. Provides better picture quality than the VHF/UHF jacks or the Video IN jack.
5 AUDIO (L/R)/ VIDEO	Connects to the audio and video OUT jacks on your VCR or other video component. A third video input (VIDEO 2) is located on the front panel of the TV. The Audio and Video IN jacks provide better picture quality than the VHF/UHF jack.
6 Y, PB, PR, L, R	Connects to your DVD player's or Digital Set-top box's component video (Y, PB, PR) and audio (L/R) jacks.
7 AUDIO OUT (VAR/FIX) L (MONO)/R	Connects to the left and right audio inputs of your audio or video component. You can use these outputs to listen to your TV's audio through your stereo system.

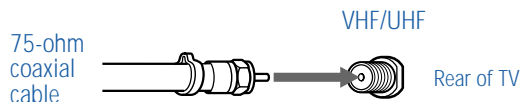
Basic Connections (Connecting a Cable or Antenna)

Connecting Directly to Cable or an Antenna

The connection you choose depends on the cable found in your home.

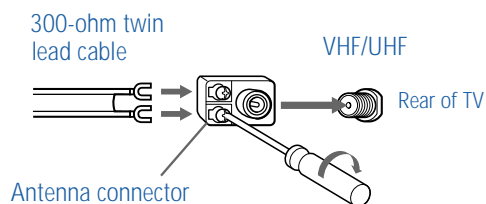
Newer homes usually have standard coaxial cable:

VHF Only or VHF/UHF or Cable



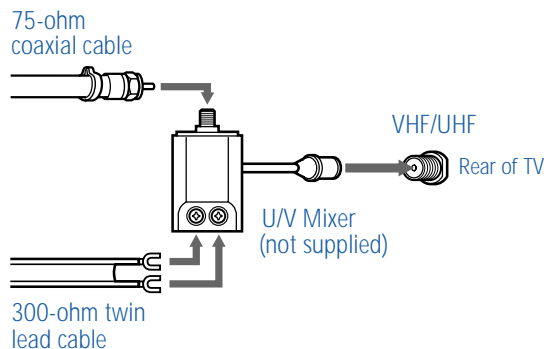
Older homes may have 300-ohm, twin-lead cable:

VHF Only or UHF Only or VHF/UHF



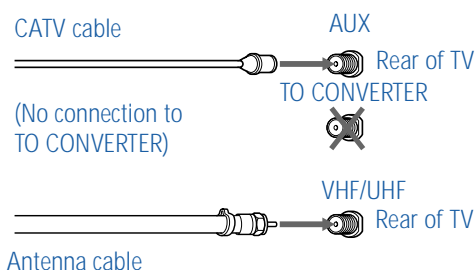
Other homes may have both:

VHF and UHF



Cable and Antenna (KV-36FS17 only)

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



To receive channels using an antenna, instead of using the CATV cable

- 1 Select antenna mode by pressing the ANT button on the remote control. (This is a toggle: pressing the button once selects antenna mode; pressing the button again selects cable mode.)
- 2 Turn the Cable to OFF (see page 42).
- 3 Perform the Auto Program function (see page 42).

Basic Cable Box Connections

Cable Box and Cable

This is the preferred basic cable TV hookup to use if your cable TV company scrambles some channels, but not all of them (pay channels vs. regular cable channels), and you need to use a cable box.

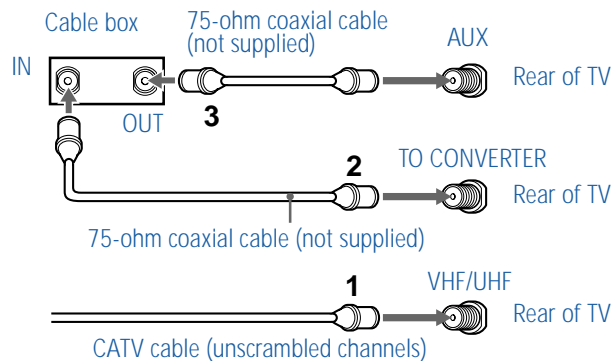
With this setup you can:

- ❑ Use the TV remote control to change channels on your cable box when the signal is scrambled.
- ❑ Use the TV remote control to change channels using your TV when the signal is not scrambled. (Your TV's tuner provides a better signal than the cable box.)
- ❑ Use the PIP feature normally with the CATV input.
- ❑ Use the PIP feature partially with the cable box. (When you switch the TV input to AUX — to use the cable box — the scrambled picture will display only in the main window. If you turn on the PIP, you will be able to see any of the regular channels in the PIP window, but you cannot SWAP the pictures between the main and PIP windows.)

(Continued on the next page)

(Continued from the previous page)

- 1 Connect the Cable TV cable to the TV's VHF/UHF jack.
- 2 Using a coaxial cable, connect the TV's TO CONVERTER jack to the cable box's IN jack. The TV's internal converter allows you to switch between unscrambled signals coming straight into the TV and scrambled signals coming in through the cable box, eliminating the need for an external splitter.
- 3 Using a coaxial cable, connect the cable box's OUT jack to the TV's AUX jack.



To switch between channels from cable box and channels from regular cable

- Press the ANT button on the TV remote control. (This is a toggle: pressing the button once selects the cable box; pressing the button again selects regular cable.)

To use the cable box

- Have your TV tuner set to channel 3 or 4 (as appropriate) and then use the cable box to switch channels.

To use the TV remote control to switch channels on the cable box

- Program the remote control as necessary. (See “Programming the Remote Control” on page 50.) Then use the remote control to switch cable box channels.

To prevent the accidental switching of TV channels

- When using the cable box, you need your TV to stay on a required channel (usually channel 3 or 4). You can use the TV's Channel Fix feature to lock in a specific channel. The Channel Fix feature is under the Channel menu. For details, see “Using the Channel Menu” on page 40.

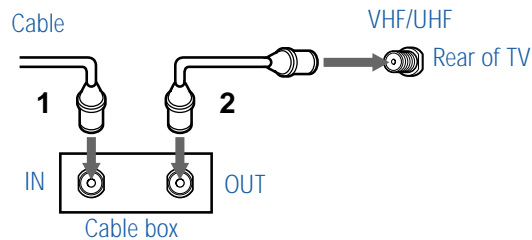
Cable Box only

Use this hookup if:

- ❑ You subscribe to a cable TV system that scrambles or encodes all signals, requiring a cable box to view all channels, and
- ❑ You do not intend to hook up any other audio or video equipment to your TV.

When all channels are routed through your cable box, only one unscrambled signal is sent to the TV, so you cannot use the PIP feature. If some of your channels are scrambled, but others are not, consider using the hookup “Cable Box and Cable” on page 13 instead.


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

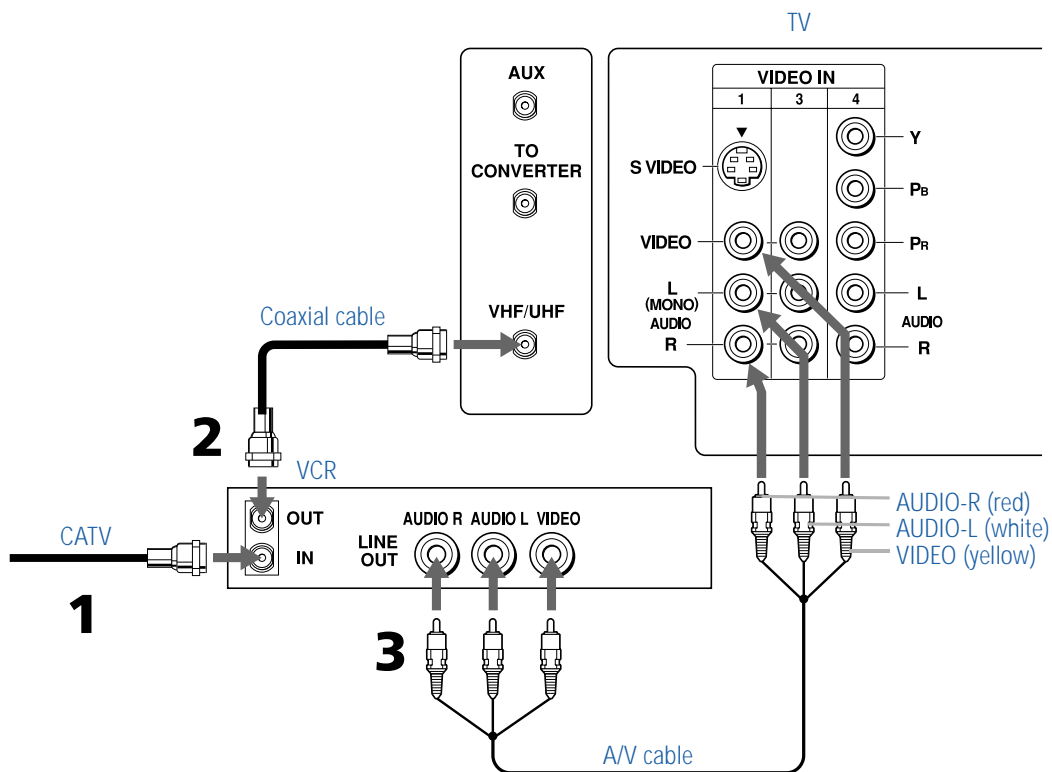


Connecting a VCR and Cable

Use this hookup if you subscribe to a cable TV (CATV) system that does not require a cable box.

- 1 Connect the CATV cable to the VCR's IN jack.
- 2 Using a coaxial cable, connect the VCR's OUT jack to the TV's VHF/UHF jack.
- 3 Using an A/V cable, connect the VCR's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.

 If the VCR you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will need audio cables for sound.



Connecting a VCR and Cable Box (KV-36FS17 only)

Use this hookup if:


- Your cable TV company scrambles some channels, but not all of them (pay channels vs. regular cable channels) and you therefore need to use a cable box, and
- You want to use the PIP feature.

With this setup you can:

- Use the TV remote control to change cable box channels when the signal is scrambled.
- Use the TV remote control to change TV channels when the signal is not scrambled. (Your TV's tuner provides a better signal than the cable box.)
- Use the PIP feature.
- Record both regular CATV and scrambled channels.

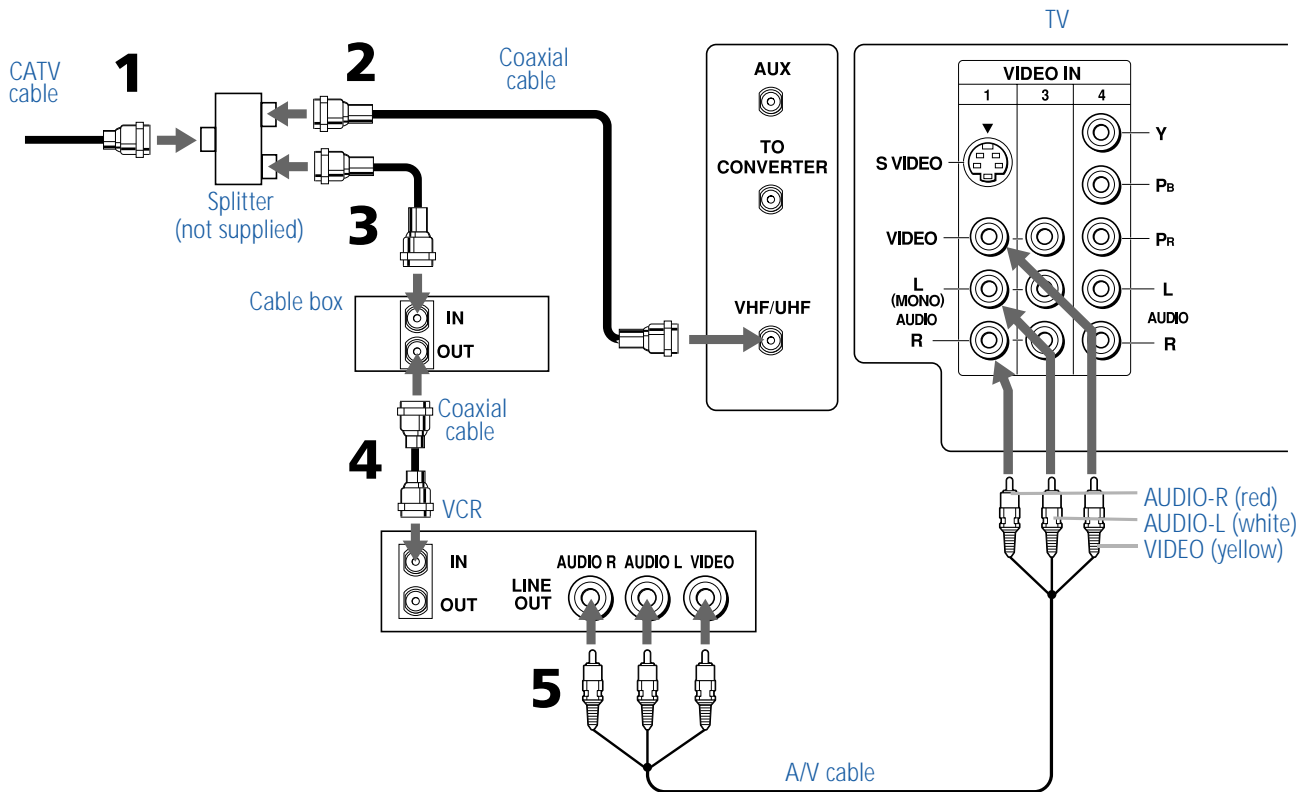
To connect a cable box and a VCR, you will need:

- A small, inexpensive device known as a splitter.
 - Three coaxial cables.
 - Either a combination audio/video cable, or an S VIDEO cable and audio cables.
- 1** Connect the CATV cable to the single (input) jack of the splitter.
 - 2** Use a coaxial cable to connect one of the two output jacks of the splitter to the TV's VHF/UHF jack.
 - 3** Use a coaxial cable to connect the other output jack of the splitter to the input jack of the cable box.
 - 4** Use a coaxial cable to connect the output jack of the cable box to the input jack of the VCR.
 - 5** Use the video line (yellow) of a combination audio/video (A/V) cable to connect the video output jack of the VCR to the video input jack of the TV.

 If the VCR has an S VIDEO jack, you can use an S VIDEO cable to improve picture quality, replace the yellow video cable of the combination A/V cable with the S VIDEO cable. (Do not connect both types of cable at the same time.) You will still need audio cables for sound.

Connect the left (white) and right (red) audio output channels of the VCR to the respective input channels on the TV.

(Continued on the next page)



To view cable box channels

- ❑ Turn on the VCR and set it to the channel the cable box uses (channel 3 or 4). Set the TV to VIDEO 1. Use the cable box to switch channels.

To use the TV remote control to switch channels on the cable box


- ❑ Program the remote control as necessary. (See “Programming the Remote Control” on page 50.) Then use the remote control to switch cable box channels.

To use the TV remote control to switch channels on the VCR

- ❑ Program the remote control as necessary. (By default, the remote control is set for a Sony VCR; to change to another brand see “Programming the Remote Control” on page 50.) Then use the VCR buttons on the remote control to switch VCR channels.

To use PIP with the Cable Box

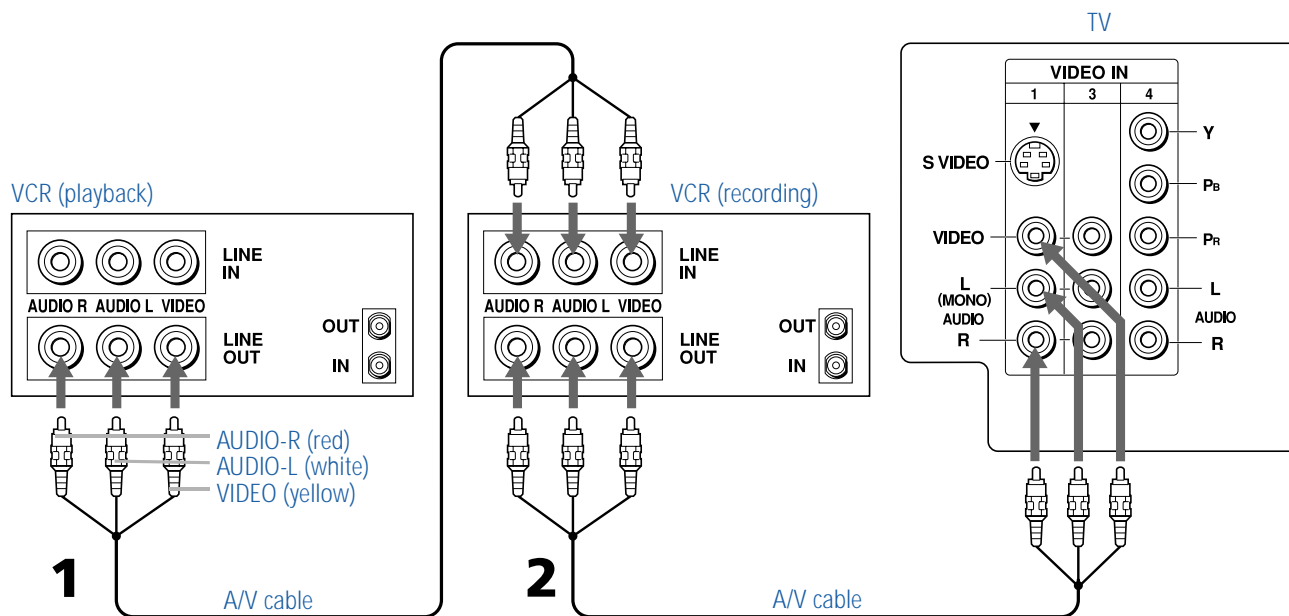
- ❑ Turn on the cable box and VCR. Use the remote control's TV/VIDEO (yellow) button to set the PIP output to VIDEO 1. Change the PIP channel via the cable box. (The cable box's tuner is used as the PIP video source; if you do not turn on the cable box, the PIP will not work.)

 This system is needed because the cable box unscrambles only one channel at a time (unlike regular cable, which makes all channels available concurrently).

Connecting Two VCRs for Tape Editing

If you connect two VCR's together, so you can record from one to the other, you may want to monitor the recording process. You can connect the recording VCR into your TV and then view what is being recorded. The procedure below shows you how to do this.

- 1 Using an A/V cable, connect the playback VCR's Audio and Video OUT jacks to the recording VCR's Audio and Video IN jacks.
- 2 Using an A/V cable, connect the recording VCR's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.




To change the video input of the VCR.

- See your VCR's user's guide for instructions.


To view what is being recorded

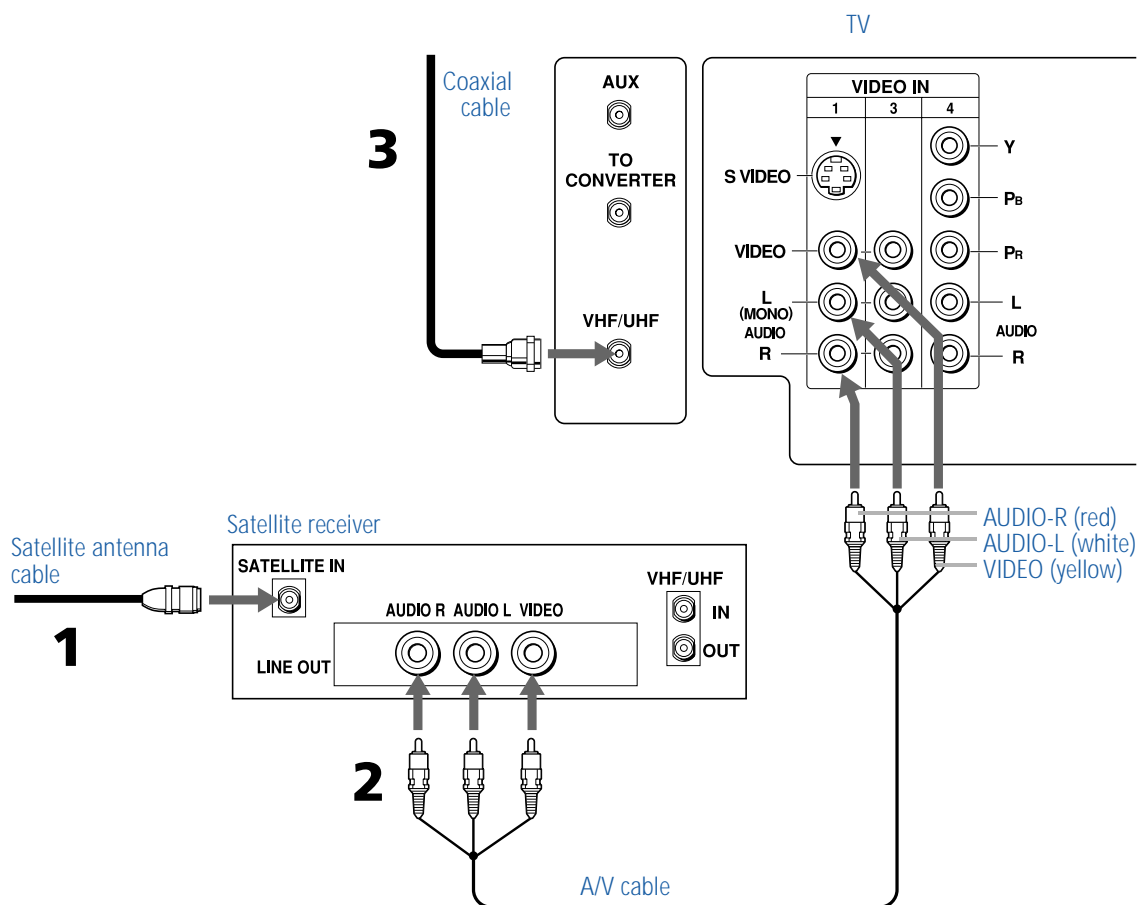
- Use the remote control to set the TV to the video input to which the recording VCR is connected. (VIDEO 1 in the illustration above.)

 If the VCRs you are connecting have S VIDEO jacks, you can use S VIDEO cables to improve picture quality, replace the yellow video cable of the combination A/V cable with the S VIDEO cable. (Do not connect both types of cable at the same time.) You will still need audio cables for sound.

Connecting a Satellite Receiver

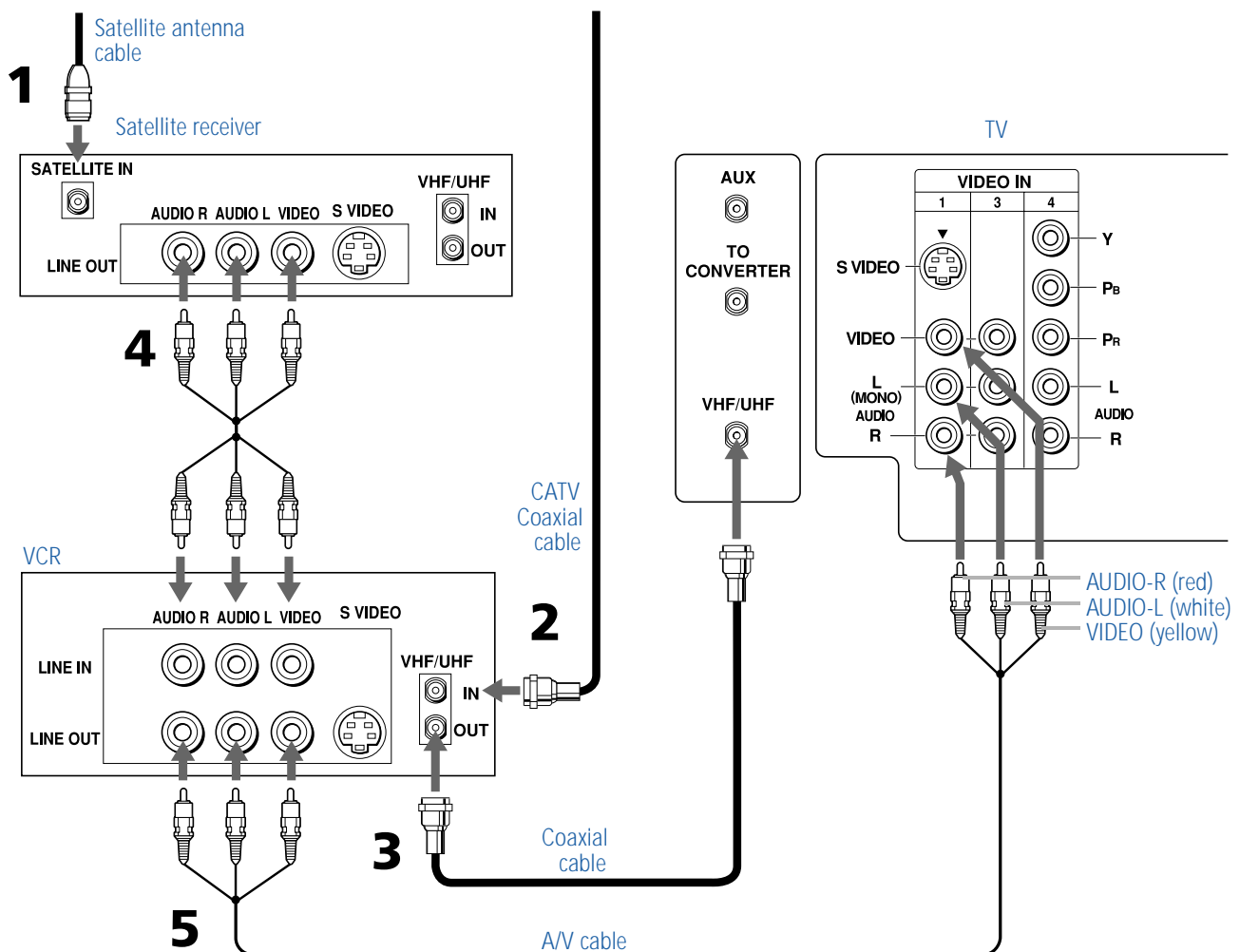
- 1 Connect the satellite antenna cable to the satellite receiver's SATELLITE IN jack.
- 2 Using an A/V cable, connect the satellite receiver's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.
- 3 Connect a coaxial cable from your cable or antenna to the TV's VHF/UHF jack.


 If the satellite receiver has an S VIDEO jack, you can use an S VIDEO cable to improve picture quality, replace the yellow video cable of the combination A/V cable with the S VIDEO cable. (Do not connect both types of cable at the same time.) You will still need audio cables for sound.



Connecting a Satellite Receiver with a VCR

- 1 Connect the satellite antenna cable to the satellite receiver's SATELLITE IN jack.
- 2 Connect the CATV cable to the VCR's VHF/UHF IN jack.
- 3 Using a coaxial cable, connect the VCR's OUT jack to the TV's VHF/UHF jack.
- 4 Using an A/V cable, connect the satellite receiver's Audio and Video OUT jacks to the VCR's Audio and Video IN jacks.
- 5 Using an A/V cable, connect the VCR's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.



 If the satellite receiver and VCR have S VIDEO jacks, you can use an S VIDEO cable to improve picture quality, replace the yellow video cable of each combination A/V cable with the S VIDEO cable. (Do not connect both types of cable at the same time.) You will still need audio cables for sound.

To change VCR video input

- ❑ See your VCR's user's guide for instructions.

To watch satellite TV, or the VCR

- ❑ Use the TV/VIDEO on the remote control to select VIDEO 1. (The TV must be turned on.)

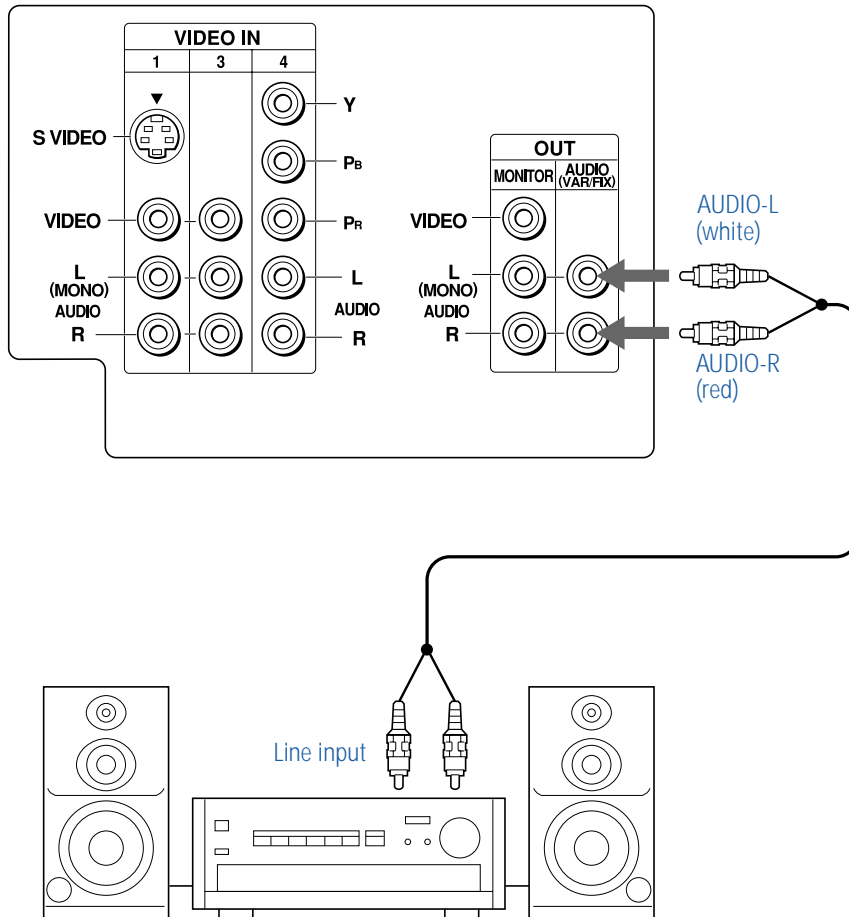
To watch cable TV

- ❑ Use the TV/VIDEO on the remote control to select VHF/UHF. (The TV must be turned on.)

Connecting an Audio Receiver

For improved sound quality, you may want to send the TV's audio signals to your stereo system. The procedure below tells you how.


- 1 Using audio cables, connect the TV's Audio OUT jacks to the audio receiver's Audio LINE IN jacks.



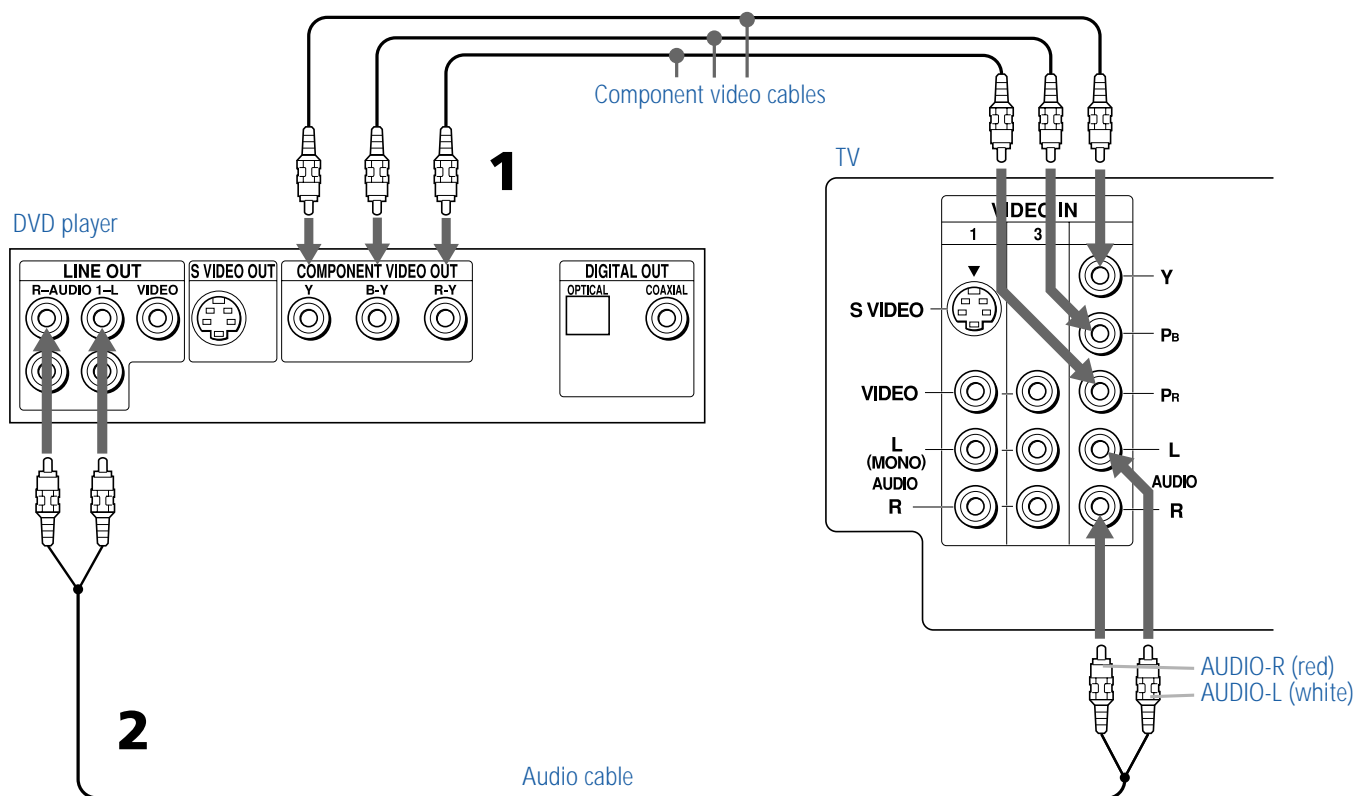
Connecting a DVD Player with Component Video Connectors


This is the preferred hookup to use if your DVD player has component video (Y, P_B, P_R) jacks.

- 1 Using three separate component video cables, connect the DVD player's Y, P_B and P_R jacks to the Y, P_B and P_R jacks on the TV. Use the VIDEO 4 connections.

 The Y, P_B and P_R jacks on your DVD player are sometimes labeled Y, C_B and C_R, or Y, B-Y and R-Y. If so, connect the cables to like colors.


- 2 Using an audio cable, connect the DVD player's Audio OUT jacks to the TV's Audio IN jacks. Be sure to use the same column (VIDEO 4) of inputs that you used for the video connection.



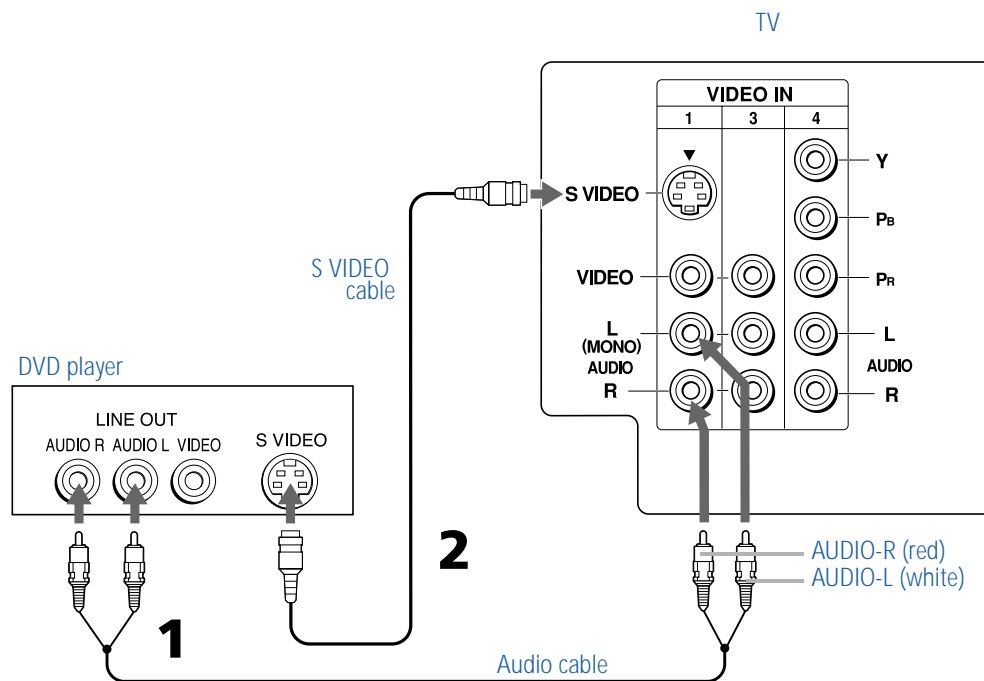
 You cannot record the signal from any equipment connected into the Y, P_B, P_R jacks.

Connecting a DVD Player with A/V Connectors

Use this hookup if your DVD player does not have component video (Y, Pb, Pr) jacks.

 An S VIDEO connection will give a good quality video signal, but if your DVD player has component video, that connection (described on the previous page) will give an even better video signal.

- 1 Using audio cables, connect the DVD player's Audio OUT jacks to the TV's Audio IN jacks.
- 2 Using an S VIDEO cable, connect the DVD player's S VIDEO jack to the TV's S VIDEO jack.



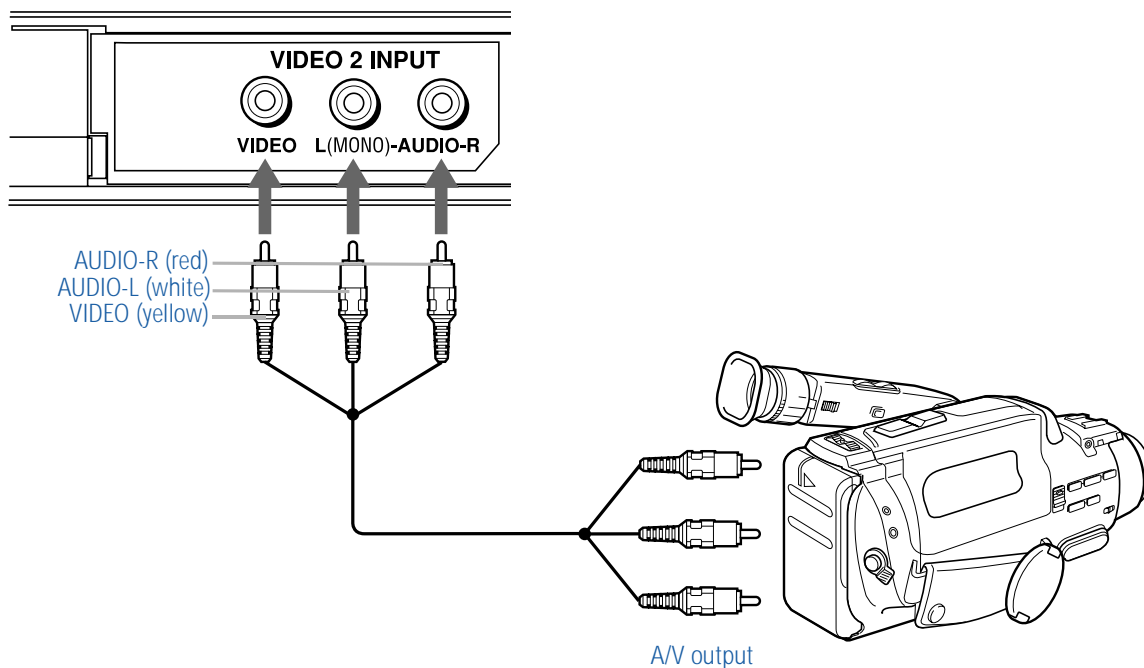
To switch between your TV and DVD

- Use the TV/VIDEO button on the remote control to switch from one input device to another.


Connecting a Camcorder

For easy connection of a camcorder, the TV has front Audio and Video inputs (shown below). If you prefer, however, you can connect the camcorder to the TV's rear Audio and Video IN jacks.

- 1 Using A/V cables, connect the camcorder's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.



If you have a mono camcorder, connect its audio output to the TV's AUDIO L jack.


 If the camcorder has an S VIDEO jack, you can use an S VIDEO cable to improve picture quality, replace the yellow video cable of the combination A/V cable with the S VIDEO cable. (Do not connect both types of cable at the same time.) You will still need audio cables for sound.

To view the camera's output

- Use the TV's remote control to set the appropriate input on the TV (VIDEO 2, in the illustration).

Setting Up the TV Automatically

After you finish connecting your TV, you need to run Auto Setup to set up your channels. The Auto Setup screen appears when you turn your TV on for the first time after installing it. If you do not want to set up the channels at this time, you can do it later by using the Auto Program feature in the Channel menu (see page 40).

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

Using Auto Setup

- 1 Press **POWER** to turn on the TV.
- 2 Press the **TV** function button on the remote control.
- 3 Press **CH+** on the front of your TV to run the Auto Setup or press **CH-** to exit. If you use the channel buttons on your remote control, be sure to use the main set of buttons.

To reset the TV to factory settings

- 1 Turn the TV on.
- 2 Hold down the **RESET** button on the remote control.
- 3 Press and release the **POWER** button on the TV. (The TV will turn itself off, then back on.)
- 4 Release the **RESET** button.

Using the Features

Overview

This chapter describes how to use special features of your TV.

<i>Topic</i>	<i>Page</i>
Using Favorite Channels	30
Using Picture in Picture (PIP) (KV-36FS17 only)	31

Using Favorite Channels

The Favorite Channel feature lets you select programs from a list of favorite channels that you specify.

To display a list of your favorite channels

- 1 If you have not already done so, create a list of favorite channels. (See the Favorite Channels section of “Selecting Channel Options” on page 40.)
- 2 If any menus are open, close them.
- 3 Press $\left[\text{Fav} \right]$. (The Favorite Channels options appear.)

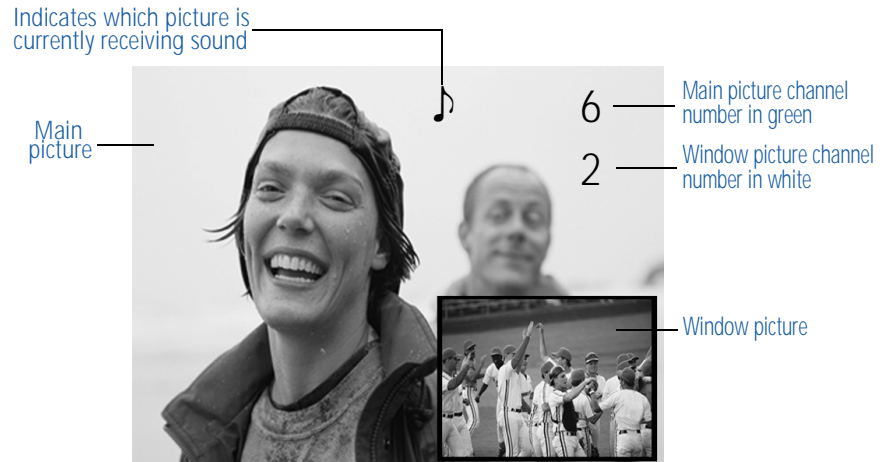


- 4 Press \uparrow or \downarrow to highlight the channel you want to watch. (If you have a KV-36FS17 model, the PIP window will open, showing a preview of the highlighted Favorite Channel.)
- 5 When you find the channel you want, press $\left[\text{Fav} \right]$ to select it.


Using Picture in Picture (PIP) (KV-36FS17 only)

Picture in Picture (PIP) allows you to watch two channels simultaneously — one in the main window and another in a secondary (PIP) window.

Displaying Picture in Picture



To use PIP:

- 1 Make sure your TV is tuned to a channel that you know is airing programming.
- 2 Press the  button (or the button labeled PIP). The window picture appears.
- 3 Use the yellow-labeled buttons on your remote control (see diagram) to control the PIP features (which are listed on the next page).

To check your PIP:

- 1 Tune your TV to a channel that you know is airing programming.
- 2 Press SWAP and select that same channel as the main window. You should now have the same program playing in both your main window and your picture window.
- 3 Use the PIP (yellow) CH+/- buttons to change the channel in the picture window.

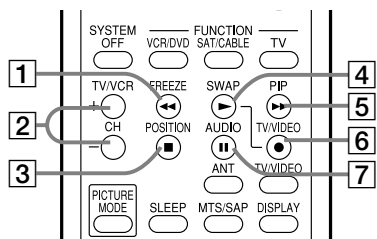
 You must press TV (FUNCTION) before you can control PIP with the yellow-labeled buttons.

The AUX input cannot be viewed in the PIP window.

(Continued on the next page)

- 4 Now use the main CH+/- buttons of your remote control to change the channel in the main window. If this does not work, check “Troubleshooting” on page 54 for potential solutions.

PIP Functions



RM-Y181 remote control

<i>Yellow-labeled PIP Button</i>	<i>Description</i>
1 FREEZE	Freezes the window picture. Press again to restore the picture. The main window continues to play as usual.
2 CH +/-	Changes the channel in the window picture. To change the channel in the main window, use the main CH+/- buttons at the bottom of the remote control.
3 POSITION	Moves the location of the window picture among the four corners of the screen.
4 SWAP	Switches the main picture with the window picture. Press again to change them back.
5 PIP	Turns the PIP feature on and off. Press repeatedly to change the window size (1/9, 1/16, OFF).
6 TV/VIDEO	Cycles through available video equipment you have connected to the TV.
7 AUDIO	Alternates sound between the main picture and the window picture. The sound symbol (🎵) appears for 3 seconds, indicating whether you are hearing sound from the main picture or the window picture.

To change channels/programs in the PIP window

- ❑ Use the yellow PIP CH+/- button to scroll through the TV channels.
- ❑ Use the yellow TV/VIDEO button to cycle through your other video equipment connected to the TV, such as your VCR, DVD player or Satellite Receiver.

Setups that affect your ability to use PIP

- ❑ Any video equipment you have connected to the AUX input cannot be viewed in the PIP window.
- ❑ If you are viewing all channels through a cable box, the PIP feature will not work. The cable box only unscrambles one signal at a time, so the window picture will be the same as the main picture.
- ❑ You can use PIP to see pictures from different sources on your TV. For example, you can have a regular (CATV) channel and the output from a VCR or DVD player or satellite receiver on screen at the same time using PIP. To do this:
 - 1 Connect the CATV cable to the UHF/VHF input on the back of the TV.
 - 2 Connect the peripheral (VCR or DVD player or satellite receiver) to any of the VIDEO IN inputs on the the back of the TV.
 - 3 Tune to one image in the main picture.
 - 4 Tune to a second image in the PIP window.

You can then SWAP the images on the TV screen.



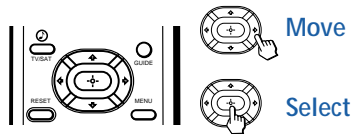
Be sure to label your video sources to make them easier to find in the Display easier. See “Video Label” on page 47 for labeling instructions.



You cannot use a signal from the AUX connection with PIP.

Using the Menus

Overview



Arrow buttons

To end a menu session:

Press MENU again








To end one menu session and move to another:

Press \uparrow to return to the menu icons.

Opening and choosing a menu:

- 1 Press MENU to display the Menu screen.
- 2 Use the arrow buttons to move to the desired menu icon. Press \uparrow to select it.
- 3 Use the arrow buttons to scroll up and down through the features.
- 4 See the specific menu page for instructions on moving through the menu.





The Menu gives you access to the following features:

<i>Menu Icon</i>	<i>Description</i>	<i>Page</i>
	Allows you to make adjustments to your picture settings. It also allows you to customize the Picture Mode based on the type of program you are viewing.	36
	Offers enhanced audio options such as listening to second audio programming (SAP) or customizing the Effect of the sound on your TV.	38
	Allows you to set up a Favorite Channel list, run the Auto Program function, and more.	40
	Lets you control the viewing of programs based on their ratings.	42
	Lets you set the clock on your TV and allows you to program your TV for scheduled viewing using the Timers.	45
	Provides several options for setting up your channels, labeling your video inputs, and selecting the language of the on-screen menus.	46
	Provides quick access to frequently used settings.	48



Using the Video Menu

To select the Video Menu


- 1 Press MENU.
- 2 Use the arrow buttons to move to the Video icon  and press .
- 3 Use the arrow buttons to scroll up and down through the options.
- 4 Press  to select a feature. That feature's adjustment appears.
- 5 Use the arrow buttons to make the desired adjustments.
- 6 Press  to select/set.
- 7 Press MENU to exit the menu screen.




To restore the factory default settings for Picture, Brightness, Color, Hue, Sharpness, Color Temp and VM.

- Press RESET on the remote control when in the Video menu.

Selecting Video Options

 To change from one Video Mode to another, use the PICTURE MODE button on the remote control.

The Video Menu includes the following options.





Option	Description
Mode	Vivid
Customized picture viewing	Standard
	Movie
	Sports
	 You can alter the Video Menu settings (Picture, Brightness, Color, etc.) for each Mode.
Picture	Adjust to increase picture contrast and deepen the color, or decrease picture contrast and soften the color.
Brightness	Adjust to brighten or darken the picture.
Color	Adjust to increase or decrease color intensity.
Hue	Adjust to increase or decrease the green tones.
Sharpness	Adjust to sharpen or soften the picture.

<i>Option</i>	<i>Description</i>
Color Temp	Choose from three color temperatures:
<i>White</i>	Cool Select to give the white colors a blue tint.
<i>intensity</i>	Neutral Select to give the white colors a neutral tint.
<i>adjustment</i>	Warm Select to give the white colors a red tint (NTSC-Standard).
VM	Sharpens picture definition to give every object a sharp, clean edge. Select from High, Low, OFF.
<i>Velocity</i>	
<i>Modulation</i>	



Using the Audio Menu

To select the Audio Menu



- 1 Press MENU.
- 2 Use the arrow buttons to move to the Audio icon  and press .
- 3 Use the arrow buttons to scroll up and down through the options.
- 4 Press  to select an option. That option's settings appear.
- 5 Use the arrow buttons to scroll through the settings.
- 6 Press  to select the desired setting.
- 7 Press MENU to exit the menu screen.



To restore the factory default settings for Treble, Bass, and Balance

- Press RESET on the remote control when in the Audio menu.

Selecting Audio Options

 As a shortcut to using the menus, use the  button on the remote control to cycle through available audio settings.

The Audio Menu includes the following options:





Option	Description	
Treble	Adjust to decrease or increase higher-pitched sounds.	
Bass	Adjust to decrease or increase lower-pitched sounds.	
Balance	Adjust to emphasize left or right speaker balance.	
MTS <i>Enjoy stereo, bilingual and mono programs</i>	Stereo	Select for stereo reception when viewing a program broadcast in stereo.
	Auto-SAP	Select to automatically switch the TV to second audio programs when a signal is received. (If no SAP signal is present, the TV remains in Stereo mode.)
	Mono	Select for mono reception. (Use to reduce noise during weak stereo broadcasts.)
Speaker	ON	Select to turn on the TV speakers.
	OFF	Select to turn off the TV speakers and listen to the TV's sound only through your external audio system speakers.

<i>Option</i>	<i>Description</i>
Audio Out	This option can be set only when the Speaker option is set to OFF.
<i>Easy control of volume adjustments</i>	Variable The TV's speakers are turned off, but the volume output from your audio system can still be controlled by the TV's remote control.
	Fixed The TV's speakers are turned off and the volume output of the TV is fixed. Use your audio receiver's remote control to adjust the volume through your audio system.



Using the Channel Menu




To select the Channel Menu


- 1 Press MENU.
- 2 Use the arrow buttons to move to the Channel icon  and press .
- 3 Use the arrow buttons to scroll up and down through the options.
- 4 Press  to select a feature. That feature's options appear.
- 5 Use the arrow buttons to scroll through the options.
- 6 Press  to select the desired option.
- 7 Press MENU to exit the menu screen.





Selecting Channel Options

The Channel Menu includes the following options:

Option	Description
Favorite Channel	<ol style="list-style-type: none"> 1 Press . 2 Use the arrow buttons to scroll through the channels until you find the channel you want to add to your favorites. 3 Press .
Cable	<p>ON Select if you are receiving cable channels with a CATV cable.</p> <p>OFF Select if you are using an antenna.</p> <p> You should run Auto Program after changing the cable setting.</p>
Channel Fix <i>Useful when you have a cable box or satellite receiver connected</i>	<p>2-6 "Fix" your TV's channel setting to 3 or 4 and use the cable box or Satellite receiver to change channels. Select one of these settings if you have connected the device to the VHF/UHF jack.</p> <p>AUX 2-6 Same as 2-6, except you select one of these settings if you have connected the device to the AUX jack (see page 11).</p> <p>VIDEO 1 Use this setting if you have connected the device to the Audio and Video IN jacks.</p>
Auto Program	Automatically programs the TV for all receivable channels.

 Channels that you set to be skipped can be accessed only with the 0-9 buttons.




<i>Option</i>	<i>Description</i>
Channel Skip/Add	<p>Removes and adds viewable channels.</p> <ol style="list-style-type: none">1 Use the arrow buttons to scroll through the channels until you find the channel you want to skip/add.2 Press  to select it.3 Press the arrow buttons to toggle between “Add” or “Skip.”4 Press  to select.
Channel Label	Label up to 40 channels with their station call letters.




Using the Parent Menu

The Parent menu allows you to set up the TV to block programs according to their content and rating levels.


To select the Parent Menu


- 1 Press MENU.
- 2 Use the arrow buttons to move to the Parent icon  and press .
- 3 Use the 0-9 buttons on the remote control to enter your four-digit password.
- 4 Confirm your password by entering it again. (The Parent menu options appear.)
- 5 Use the arrow buttons to scroll through the settings.
- 6 Press  to select the desired setting.
- 7 Press MENU to exit the menu screen.



 You need your password for any future access into the Parent menu. If you lose your password, see "Lost password" on page 55.

Using the Parent Menu


 If you are not familiar with the Parental Guideline rating system, you should select Child, Youth, or Young Adult to help simplify the rating selection. To set more restrictive ratings, select Custom.


 For descriptions of Child, Youth, and Young Adult ratings, see page 43.


The Parent menu includes the following options.

Option	Description
Parental Lock	OFF Parental lock is off. No programs are blocked from viewing.
<i>Turn ratings on/off and select a rating system</i>	Child Maximum ratings permitted are: <input type="checkbox"/> US: TV-Y, TV-G, G <input type="checkbox"/> Canada: C, G
	Youth Maximum ratings permitted are: <input type="checkbox"/> US: TV-PG, PG <input type="checkbox"/> Canada: 8 ans+
	Young Adult Maximum ratings permitted are: <input type="checkbox"/> US: TV-14, PG-13 <input type="checkbox"/> Canada: 14+, 13 ans+
	Custom Select to set ratings manually. <input type="checkbox"/> US: See page 43 for details. <input type="checkbox"/> Canada: See page 44 for details.
Change Password	For changing your password.

US Models: Selecting Custom Rating Options

 The content ratings will increase depending on the level of the age-based rating. For example, a program with a TV-PG V (Violence) rating may contain moderate violence, while a TV-14 V (Violence) rating may contain more intense violence.

 To ensure maximum blocking capability, the age-based ratings should be blocked.

 If you block unrated TV programs, be aware that the following types of programs may be blocked: emergency broadcasts, political programs, sports, news, public service announcements, religious programs and weather.

Viewing Blocked Programs

For US models, the Custom Rating Menu includes the following options. (For Canadian models, see page 44.)

<i>Option</i>	<i>Description</i>
Movie Rating	G All children and General Audience.
	PG Parental Guidance suggested.
	PG-13 Parental Guidance for children under 13.
	R Restricted viewing, parental guidance is suggested for children under 17.
	NC-17 and X No one 17 or under allowed.
TV Rating <i>Block programs by their rating, content or both</i>	Age-Based Options
	TV-Y All children.
	TV-Y7 Directed to older children.
	TV-G General Audience.
	TV-PG Parental Guidance suggested.
	TV-14 Parents Strongly cautioned.
	TV-MA Mature Audience only.
	Content-Based Options
	FV Fantasy Violence.
	D Suggestive Dialogue.
	L Strong Language.
S Sexual situations.	
V Violence.	
Unrated <i>Block programs or movies that are broadcast without a rating</i>	Block Blocks all programs and movies that are broadcast without a rating.
	Allow Allows programs and movies that are broadcast without a rating.

You can view blocked programs by entering the password. Press the ENTER button when tuned to a blocked program, then enter the password. This temporarily switches off the Parental Lock. To reactivate the Parental Lock settings, turn off the TV. When the TV is turned on again, your Parental Controls settings are reactivated.

Canadian Models: Selecting Custom Rating Options

For Canadian models, the Custom Rating Menu includes the following options. (For US models, see page 43.)

<i>Option</i>	<i>Description</i>	
English Rating	C	All children.
	C8	Children 8 years and older.
	G	General programming.
	PG	Parental Guidance.
	14+	Viewers 14 and older.
	18+	Adult programming.
French Rating	G	General programming.
	8 ans+	Not recommended for young children.
	13 ans+	Not recommended for ages under 13.
	16 ans+	Not recommended for ages under 16.
	18 ans+	Programming restricted to adults.
USA Rating	See "US Models" on page 43 for details.	

Viewing Blocked Programs

You can view blocked programs by entering the password. Press the ENTER button when tuned to a blocked program, then enter the password. This temporarily switches off the Parental Lock. To reactivate the Parental Lock settings, turn off the TV. When the TV is turned on again, your Parental Controls settings are reactivated.





Using the Timer Menu

To select the Timer Menu

- 1 Press MENU.
- 2 Use the arrow buttons to move to the Timer icon  and press .



To set the Current Time

- 1 Use the arrow buttons to select “Current Time”, then press .
- 2 If it is currently Daylight Savings Time, be sure to set the mode to “ON” first. (Daylight Savings Time starts in the Spring, and ends in the Fall.)
- 3 Use the arrow buttons to enter the correct time, then press .
- 4 Press MENU to exit the menu screen.



To set the Timer

Before setting the timer, be sure to set your TV's clock to the current time (and, if appropriate, to Daylight Savings Mode).

- 1 Use the arrow buttons to move to “Timer 1” or “Timer 2”, then press .
- 2 Use the arrow buttons to enter your date, time and channel preferences, then press  to select each one.
- 3 Press MENU to exit the menu screen.

To reset the Clock or Timers

- Press RESET on the remote control, when in the Timer menu, to reset to the factory defaults.

Selecting Timer Options





The Timer Menu includes the following options:

Option	Description	Description
Timer 1	Program	Select to set the Timer by day, time, duration, and channel.
Timer 2	OFF	Select to turn off the Timer. (Your previous settings will be saved.)
Current Time	Set the current time.	
Daylight Savings	ON	Select in the spring to turn on this mode during Daylight Saving Time.
	OFF	Select in the fall to turn off this mode at the end of Daylight Saving Time.



Using the Setup Menu

To select the Setup Menu




- 1 Press MENU.
- 2 Use the arrow buttons to move to the Setup icon  and press .
- 3 Use the arrow buttons to scroll through the features.
- 4 Press  to select a feature. (That feature's options appear.)
- 5 Use the arrow buttons to scroll through the options.
- 6 Press  to select the desired option.
- 7 Press MENU to exit the menu screen.




Selecting Setup Options

The Setup Menu includes the following options:

<i>Option</i>	<i>Description</i>
Caption Vision	Allows you to select from three closed-caption modes (for programs that are broadcast with closed caption).
CC1, CC2, CC3, CC4	Displays a printed version of the dialog or sound effects of a program. (Should be set to CC1 for most programs.)
TEXT1, TEXT2, TEXT3, TEXT4	Displays network/station information presented using either half or the whole screen (if available). For closed captioning, set to CC1.
XDS (Extended Data Service)	Displays a network name, program name, program length, and time of the show (if the broadcaster offers this service).
OFF	Turns off Caption Vision.





<i>Option</i>	<i>Description</i>
Video Label	Allows you to label the audio/video components you connected to the TV, so you can identify them when using the TV/VIDEO button. When in the Setup menu's Video Label feature, use the arrow buttons to highlight an input to label, then press  to select it. Use the arrow buttons to scroll through the labels. Press  to select the component you connected to each of the input jacks on the back of your TV. Select "Skip" if you do not have a component connected to a particular set of input jacks.
VIDEO 1/2/3	Choose VHS, 8mm, Beta, LD, Game, SAT, DVD, Web, Receiver, DTV, Skip
VIDEO 4	Choose DVD, DTV, Skip
	 If you select "Skip", your TV skips this connection when you press the TV/VIDEO button.
Tilt Correction	Allows you to correct any tilt of the picture.
Language	Select to display all on-screen menus in your language of choice.
16:9 Enhanced	Provides enhanced picture resolution for widescreen (anamorphic) sources, such as selected DVD titles (only available when the TV is in VIDEO mode). Press TV/VIDEO and select from one of the following options:
	ON To activate.
	OFF To turn off 16:9.
Demo	Runs a demonstration of on-screen menus.

 To use this feature with widescreen DVDs, set your DVD player to 16:9 aspect ratio.





Using the Basic Menu

To select the Basic Menu

- 1 Press MENU.
- 2 Use the arrow buttons to move to the Basic icon  and press .
- 3 Use the arrow buttons to scroll through the features.
- 4 Press  to select a feature. (That feature's options appear.)
- 5 Use the arrow buttons to scroll through the options.
- 6 Press  to select the desired option.
- 7 Press MENU to exit the menu screen.



Selecting Basic Options

 As a shortcut to using the menus, use the  button on the remote control to cycle through available audio settings.

The Basic Menu includes the following options:

<i>Option</i>	<i>Description</i>
Picture	Adjust the picture contrast.
Caption Vision	Displays your current advanced-menu setting: (CC1-4, TEXT 1-4, or XDS) and OFF.
Advanced Menu	Select to return to the advanced menus.

Other Information

Overview


This chapter includes the following topics:

<i>Topic</i>	<i>Page</i>
Programming the Remote Control	50
Operating Other Components with Your TV Remote Control	52
Troubleshooting	54
Specifications	56
Index	59

Programming the Remote Control

The remote control is preset to operate Sony-brand video equipment.


If you have video equipment other than Sony brand that you want to control with the TV's remote control, use the following procedure to program the remote control.

 The equipment must have infrared (IR) remote capability in order to be used with the remote control.



- ❑ If more than one code number is listed, try entering them one by one until you come to the correct code for your component.
- ❑ If you enter a new code number, the code number you previously entered at that setting is erased.
- ❑ In some cases, you may not be able to operate your component with the supplied remote control. In such cases, use the component's own remote control unit.
- ❑ Whenever you remove the batteries to replace them, the code numbers may revert to the factory setting and must be reset.

- 1** Check the list of "Manufacturer's Codes" on page 51, and find the three-digit code number for the manufacturer of your component. (If more than one code number is listed, use the number listed first.

 You must do step 4 within 10 seconds of step 3, or you must redo steps 2 and 3.

- 2** Press CODE SET.
- 3** Press the function button for the type of component you want to control with the TV's remote control (VCR/DVD or SAT/CABLE).
- 4** Enter the three-digit manufacturer's code number.
- 5** Press ENTER.
- 6** To check if the code number works, aim the TV's remote control at the component and press the green POWER button that corresponds with that component. If it responds, you are done. If not, try using another code listed for that manufacturer.

Manufacturer's Codes

VCRs

<i>Manufacturer</i>	<i>Code</i>
Sony	301
Admiral (M. Ward)	327
Aiwa	338, 344
Audio	314, 337
Dynamic	
Broksonic	319, 317
Canon	309, 308
Citizen	332
Craig	302, 332
Criterion	315
Curtis Mathes	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318, 341
Fisher	330, 335
Funai	338
General Electric	329, 304, 309
Go Video	322, 339, 340
Goldstar	332
Hitachi	306, 304, 305, 338
Instant Replay	309, 308
JC Penney	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337, 345, 346, 347
Kenwood	314, 336, 332, 337
LXI (Sears)	332, 305, 330, 335, 338
Magnavox	308, 309, 310
Marantz	314, 336, 337
Marta	332
Memorex	309, 335
Minolta	305, 304
Mitsubishi/ MGA	323, 324, 325, 326
Multitech	325, 338, 321
NEC	314, 336, 337

<i>Manufacturer</i>	<i>Code</i>
Olympic	309, 308
Optimus	327
Panasonic	308, 309, 306, 307
Pentax	305, 304
Philco	308, 309
Philips	308, 309, 310
Pioneer	308
Quasar	308, 309, 306
RCA/ PROSCAN	304, 305, 308, 309, 311, 312, 313, 310, 329
Realistic	309, 330, 328, 335, 324, 338
Sansui	314
Samsung	322, 313, 321
Sanyo	330, 335
Scott	312, 313, 321, 335, 323, 324, 325, 326
Sharp	327, 328
Shintom	315
Signature 2000 (M. Ward)	338, 327
SV2000	338
Sylvania	308, 309, 338, 310
Symphonic	338
Tashiro	332
Tatung	314, 336, 337
Teac	314, 336, 338, 337
Technics	309, 308
Toshiba	312, 311
Wards	327, 328, 335, 331, 332
Yamaha	314, 330, 336, 337
Zenith	331

Laserdisc Players

<i>Manufacturer</i>	<i>Code</i>
Sony	701
Panasonic	704, 710
Pioneer	702

DVD Players

<i>Manufacturer</i>	<i>Code</i>
Sony	751
Hitachi	758
JVC	756
Magnavox	757
Mitsubishi	761
Oritron	759
Panasonic	753
Philips	757
Pioneer	752
RCA	755
Samsung	758
Toshiba	754
Zenith	760

Cable Boxes

<i>Manufacturer</i>	<i>Code</i>
Sony	230
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 Receivers

<i>Manufacturer</i>	<i>Code</i>
Sony	801
Dish Network	810
Echostar	810
General Electric	802
Hitachi	805
Hughes	804
Mitsubishi	809
Panasonic	803
RCA/ PROSCAN	802, 808
Toshiba	806, 807

Operating Other Components with Your TV Remote Control

Operating a VCR

<i>To Do This ...</i>	<i>Press</i>
Turn on/off	VCR/DVD (green POWER button)
Select VCR	VCR/DVD (FUNCTION button)
Change channels	CH +/-
Record	▶ and ● simultaneously.
Play	▶
Stop	■
Fast forward	▶▶
Rewind the tape	◀◀
Pause	(press again to resume normal playback)
Search the picture forward or backward	▶▶ or ◀◀ during playback (release to resume normal playback)
Change input mode	TV/VCR


Operating a DVD Player

<i>To Do This ...</i>	<i>Press</i>
Turn on/off	VCR/DVD (green POWER button)
Select DVD	VCR/DVD (FUNCTION button)
Play	▶
Stop	■
Pause	(press again to resume normal playback)
Step through different tracks of an audio disc	▶▶ to step forward, or ◀◀ to step backward
Step through different chapters of a video disc	CH+ to step forward, or CH- to step backward
Select tracks directly	0-9 buttons
Display the menu (Setup)	MENU






Operating a Cable Box

<i>To Do This ...</i>	<i>Press</i>
Turn on/off	SAT/CABLE (green POWER button)
Select Cable Box	SAT/CABLE (FUNCTION button)
Select a channel	0-9 buttons, ENTER
Change channels	CH +/-
Back to previous channel	JUMP

Operating a Satellite Receiver

<i>To Do This ...</i>	<i>Press</i>
Turn on/off	SAT/CABLE (green POWER button)
Select Satellite Receiver	SAT/CABLE (FUNCTION button)
Select a channel	0-9 buttons, ENTER
Change channels	CH +/-
Back to previous channel	JUMP
Change input mode	TV/SAT
Display channel number	DISPLAY
Display DBS guide	GUIDE
Display DBS menu	MENU
Move highlight (cursor)	arrows
Select item	 button

Operating an MDP (Laserdisc Player)

<i>To Do This ...</i>	<i>Press</i>
Turn on/off	VCR/DVD (green POWER button)
Select MDP	VCR/DVD (FUNCTION button)
Play	
Stop	
Pause	 (press again to resume normal playback)
Search the picture forward or backward	 or  during playback (release to resume normal playback)
Search a chapter forward or backward	CH +/-

Troubleshooting

<i>Problem</i>	<i>Possible Remedies</i>
Reset TV to factory settings	<ul style="list-style-type: none">❑ Turn on the TV. While holding down the RESET button on the remote control, press the POWER button on the TV. (The TV will turn itself off, then back on again.) Release the RESET button.
No picture (screen not lit), no sound	<ul style="list-style-type: none">❑ If your TV does not turn on, and a red light keeps flashing, your TV may need service. Call your local Sony Service Center.❑ Make sure the power cord is plugged in.❑ Push the power button on the front of the TV.❑ Check to see if the TV/VIDEO setting is correct: when watching TV, set to TV. When watching connected equipment, set to VIDEO 1, 2, 3, or 4, as appropriate.❑ Try another channel, it could be station trouble.
Remote control does not operate	<ul style="list-style-type: none">❑ Batteries could be weak. Replace the batteries.❑ Press TV (FUNCTION) when operating your TV.❑ Make sure the TV's power cord is connected securely to the wall outlet.❑ Locate the TV at least 3-4 feet away from fluorescent lights.❑ Check the orientation of the batteries.
Dark, poor or no picture (screen lit), good sound	<ul style="list-style-type: none">❑ Adjust the Picture setting in the Video menu (see page 36).❑ Adjust the Brightness setting in the Video menu (see page 36).❑ Check antenna/cable connections.
Good picture, no sound	<ul style="list-style-type: none">❑ Press MUTING so that "MUTING" disappears from the screen (see page 4).❑ Make sure Speaker is set to ON in the Audio menu (see page 38).
Cannot receive upper channels (UHF) when using an antenna	<ul style="list-style-type: none">❑ Change Cable to OFF (see page 40).❑ Use Auto Program in the Channel menu to add receivable channels that are not presently in the TV's memory (see page 40).
No color	<ul style="list-style-type: none">❑ Adjust the Color settings in the Video menu (see page 36).
Only snow and noise appear on the screen	<ul style="list-style-type: none">❑ Check the antenna/cable connections.❑ Try another channel; it could be station trouble.❑ Press ANT to change the input mode (see page 7).
Dotted lines or stripes	<ul style="list-style-type: none">❑ Adjust the antenna.❑ Move the TV away from noise sources such as cars, neon signs, or hair-dryers.
TV is fixed to one channel	<ul style="list-style-type: none">❑ Use Auto Program in the Channel menu to add receivable channels that are not presently in the TV's memory (see page 40).❑ Check your Channel Fix settings (see page 40).
Double images or ghosts	<ul style="list-style-type: none">❑ Using a highly directional outdoor antenna or a cable may solve the problem.
Cannot operate menu	<ul style="list-style-type: none">❑ If the item you want to choose appears in gray, you cannot select it.
Cannot receive any channels when using cable TV	<ul style="list-style-type: none">❑ Use Auto Program in the Channel menu to add receivable channels that are not presently in the TV's memory (see page 40).❑ Check your cable settings.❑ Make sure Cable is set to ON in the Channel menu (see page 40).
Cannot gain enough volume when using a cable box	<ul style="list-style-type: none">❑ Increase the volume of the cable box using the cable box's remote control. Then press TV (FUNCTION) and adjust the TV's volume.

<i>Problem</i>	<i>Possible Remedies</i>
Cannot receive channels	<input type="checkbox"/> Use Auto Program in the Channel menu to add receivable TV channels that are not presently in TV memory (see page 40).
Unable to select a channel	<input type="checkbox"/> Use Auto Program in the Channel menu to add receivable TV channels that are not presently in TV memory (see page 40).
Lost password	<input type="checkbox"/> In the password screen (see page 42), enter the following master password: 4357. The master password clears your previous password; it cannot be used to temporarily unblock channels.
Cannot change channels with the remote control	<input type="checkbox"/> If you are using the TV to change channels, be sure the TV FUNCTION button is selected. <input type="checkbox"/> If you are using another device to change channels, be sure you have not inadvertently switched your TV from the channel 3 or 4 setting. Use the Channel Fix feature to “fix” the channel based on the hookup you used (see page 40). <input type="checkbox"/> If you are using another device to change channels, be sure to press the green “FUNCTION” button for that device. For example, if you are using your VCR to change channels, be sure to press the VCR/DVD FUNCTION button.
Cannot cycle through the other video equipment connected to the TV	<input type="checkbox"/> Be sure the Video Label feature has not been set to “Skip” (see page 47).
There is a black box on the screen	<input type="checkbox"/> You have selected a text option in the Setup menu and no text is available. (See page 46 to reset Setup selections.) To turn off this feature, select OFF in the Caption Vision option. If you were trying to select closed captioning, select CC1 instead of TEXT 1-4.
The remote control will not work in PIP mode	<input type="checkbox"/> Press the TV FUNCTION button. You may have inadvertently pressed the VCR/DVD FUNCTION button, which changes the PIP buttons to VCR mode.
There is no window picture, or it is just static	<input type="checkbox"/> Be sure your window picture is set to a video source/channel that has a program airing. <input type="checkbox"/> You may be tuned to a video input with nothing connected to it. Try cycling through your video inputs using the PIP TV/VIDEO button. <input type="checkbox"/> PIP is not set to receive a signal from the AUX input. If you connected a VCR, DVD player or Satellite Receiver to the AUX input on the TV, it will not show in the small window picture.
I get the same program in the window picture as in the main picture	<input type="checkbox"/> Both may be set to the same channel. Try changing channels in either the main picture or the window picture. <input type="checkbox"/> You may be using a cable box for all your channels. If you must have a cable box to unscramble all channels, then you are limited to only one picture (because that is all that the cable box allows - one channel at a time). But if you need the cable box only part time (to unscramble premium channels), then you can use PIP when you are not using the cable box (when you use the CATV cable without going through the box).
I cannot get anything but TV in my window picture	<input type="checkbox"/> Be sure the video label has not been set to skip your video inputs. (See the Setup menu on page 47.)

If, after reading these operating instructions, you have additional questions related to the use of your Sony television, please call our Direct Response Center at 1-800-222-SONY (7669) (U.S. residents only) or (416) 499-SONY (7669) (Canadian residents only).

Specifications

All Models (General)

Picture Tube	FD Trinitron® tube	
Antenna	75 ohm external terminal for VHF/UHF	
Television System	NTSC, American TV Standard	
Channel Coverage		
VHF	2-13	
UHF	14-69	
CATV	1-125	
Power Requirements	120V, 60 Hz	
Number of Inputs/Outputs		
Video (IN)	3	1 Vp-p, 75 ohms unbalanced, sync negative
S Video (IN)	1	Y: 1 Vp-p, 75 ohms unbalanced, sync negative C: 0.286 Vp-p (Burst signal), 75 ohms
Audio (IN)	4	500 mVrms (100% modulation) Impedance: 47 kilohm
Variable/Fixed Audio (OUT)	1	More than 408 mVrms at the maximum volume setting (Variable) More than 408 mVrms (Fixed) Impedance (output): 2 kilohms
Component Video Input	1 (Y, P _B , P _R)	Y: 1.0 Vp-p, 75 ohms unbalanced, sync negative; P _B : 0.7 Vp-p, 75 ohms P _R : 0.7 Vp-p, 75 ohms

KV-36FS13, 36FS17

Supplied Accessories		
Supplied Accessories		
Remote Control		
KV-36FS13	RM-Y180	
KV-36FS17	RM-Y181	
AA (R6) Batteries	2 supplied for remote control	
Optional Accessories		
AV Cable	VMC-810/820/830 HG	
Audio Cable	RKC-515HG	
Component Video Cable	VMC-10/30 HG	
TV Stand	SU-36FD4	
Visible Screen Size	36 in (911 mm) picture measured diagonally	
Actual CRT Size	38 in (965.2 mm) picture measured diagonally	
Speaker Output	10 W x 2	
Dimensions (W x H x D)	910 x 791 x 650 mm (35 7/8 x 31 1/8 x 25 5/8 in)	
Mass	100 kg (220 lbs)	
Power Consumption		
In Use	200 W	
In Standby	2 W	

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SONY[®]

4-081-775-21



FD Trinitron
WEGA[™]

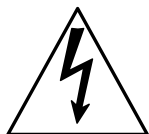
Operating Instructions

KV-32FV27 KV-36FV27

© 2001 by Sony Corporation

WARNING

To reduce the risk of fire or shock hazard, do not expose the TV to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

CAUTION

When using TV games, computers, and similar products with your TV, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern is left on the screen for long periods of time at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. Continuously watching the same program can cause the imprint of station logos onto the TV screen. These types of imprints are not covered by your warranty because they are the result of misuse.

Note on Caption Vision

This television receiver provides display of television closed captioning in accordance with §15.119 of the FCC rules.

Note on Cleaning the TV

Clean the TV with a soft dry cloth. Never use strong solvents such as thinner or benzine, which might damage the finish of the cabinet.

Note to CATV System Installer

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Use of this television receiver for other than private viewing of programs broadcast on UHF or VHF or transmitted by cable companies for the use of the general public may require authorization from the broadcaster/cable company and/or program owner.

NOTIFICATION

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

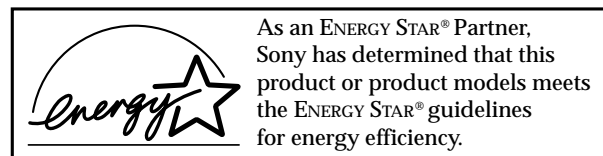
- Reorient or relocate the receiving antennas.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
- You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Safety

- Operate the TV only on 120 V AC.
- The plug is designed, for safety purposes, to fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- If any liquid or solid object should fall inside the cabinet, unplug the TV immediately and have it checked by qualified service personnel before operating it further.

Installing

- To prevent internal heat buildup, do not block the ventilation openings.
- Do not install the TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.
- The AC power cord is attached to the rear of the TV with hooks. Do not attempt to remove the cord from these hooks. Doing so could cause damage to the TV



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Owner's Record

The model and serial numbers are provided on the front of this instruction manual and at the rear of the TV. Refer to them whenever you call upon your Sony dealer regarding this product.

About this Manual

This manual is for models KV-32FV27 and KV-36FV27. The menu and illustrations shown are for model KV-36FV27 to show the maximum features available. Differences in operation will be indicated in the text, for example, "For KV-36FV27 only."

Important Safeguards

For your protection, please read these instructions completely, and keep this manual for future reference.

Carefully observe and comply with all warnings, cautions and instructions placed on the set or described in the operating instructions or service manual.

WARNING

To guard against injury, the following basic safety precautions should be observed in the installation, use and servicing of the set.

Use

Power Sources

This set should be operated only from the type of power source indicated on the serial/model plate. If you are not sure of the type of electrical power supplied to your home, consult your dealer or local power company. For those sets designed to operate from battery power, refer to the operating instructions.



Grounding or Polarization

This set is equipped with a polarized AC power cord plug (a plug having one blade wider than the other), or with a three-wire grounding type plug (a plug having a third pin for grounding). Follow the instructions below:

For the set with a polarized AC power cord plug

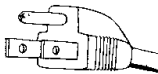
This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the polarized plug by forcing it in.



Alternate Warning

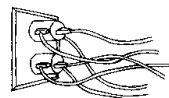
For the set with a three-wire grounding type AC plug

This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the grounding plug.



Overloading

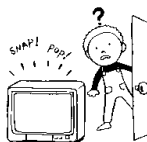
Do not overload wall outlets, extension cords or convenience receptacles beyond their capacity, since this can result in fire or electric shock.



Always turn the set off when it is not being used. When the set is left unattended and unused for long periods of time, unplug it from the wall outlet as a precaution against the possibility of an internal malfunction that could create a fire hazard.

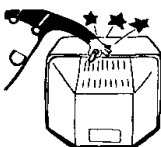


If a snapping or popping sound from a TV set is continuous or frequent while the TV is operating, unplug the TV and consult your dealer or service technician. It is normal for some TV sets to make occasional snapping or popping sounds, particularly when being turned on or off.



Object and Liquid Entry

Never push objects of any kind into the set through the cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the set.



Cleaning

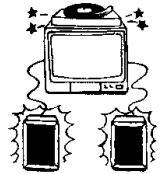
Unplug the set from the wall outlet before cleaning or polishing it. Do not use liquid cleaners or aerosol cleaners. Use a cloth lightly dampened with water for cleaning the exterior of the set.



Installation

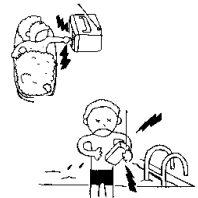
Attachments

Do not use attachments not recommended by the manufacturer, as they may cause hazards.



Water and Moisture

Do not use power-line operated sets near water — for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.



Accessories

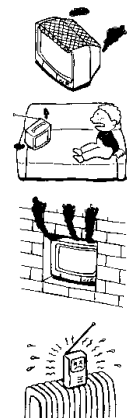
Do not place the set on an unstable cart, stand, table or shelf. The set may fall, causing serious injury to a child or an adult and serious damage to the set. Use only a cart or stand recommended by the manufacturer for the specific model of TV. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



Ventilation

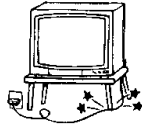
The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of the set, and to protect it from overheating, these slots and openings must never be blocked or covered.

- ❑ Never cover the slots and openings with a cloth or other materials.
- ❑ Never block the slots and openings by placing the set on a bed, sofa, rug or other similar surface.
- ❑ Never place the set in a confined space, such as a bookcase or built-in cabinet, unless proper ventilation is provided.
- ❑ Do not place the set near or over a radiator or heat register, or where it is exposed to direct sunlight.



Power-Cord Protection

Do not allow anything to rest on or roll over the power cord, and do not place the set where the power cord is subject to wear or abuse.



Antennas

Outdoor Antenna Grounding

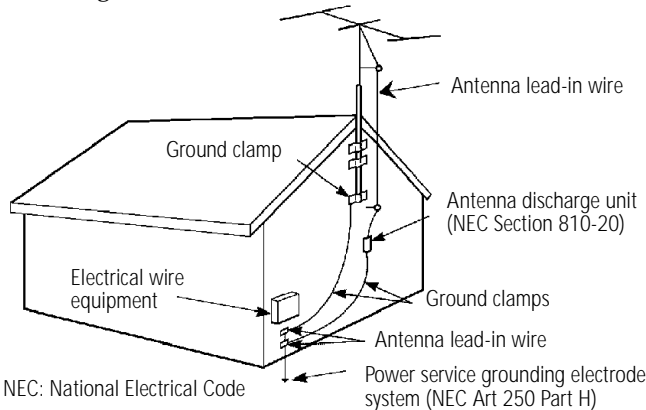
If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits.

WHEN INSTALLING AN OUTDOOR ANTENNA SYSTEM, EXTREME CARE SHOULD BE TAKEN TO KEEP FROM CONTACTING SUCH POWER LINES OR CIRCUITS AS CONTACT WITH THEM IS ALMOST INVARIABLY FATAL.

Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code (NEC) in USA and Section 54 of the Canadian Electrical Code in Canada provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Antenna Grounding According to the NEC

Refer to section 54-300 of Canadian Electrical Code for Antenna Grounding.



Lightning

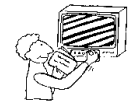
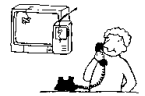
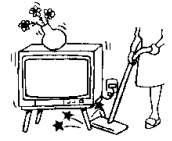
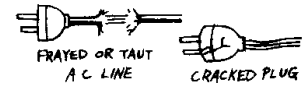
For added protection for this television receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power-line surges.

Service

Damage Requiring Service

Unplug the set from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power cord or plug is damaged or frayed.
- If liquid has been spilled into the set.
- If the set has been exposed to rain or water.
- If the set has been subject to excessive shock by being dropped, or the cabinet has been damaged.
- If the set does not operate normally when following the operating instructions. Adjust only those controls that are specified in the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the set to normal operation.
- When the set exhibits a distinct change in performance, it indicates a need for service.



Servicing

Do not attempt to service the set yourself since opening the cabinet may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.



Replacement Parts

When replacement parts are required, be sure the service technician certifies in writing that he has used replacement parts specified by the manufacturer that have the same characteristics as the original parts.

Unauthorized substitutions may result in fire, electric shock or other hazards.

Safety Check

Upon completion of any service or repairs to the set, ask the service technician to perform routine safety checks (as specified by the manufacturer) to determine that the set is in safe operating condition, and to so certify. When the set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the set.



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Introducing the FD Trinitron Wega

Overview

This chapter defines the contents of your Wega TV and provides an overview of how to set up and use basic features.

<i>Topic</i>	<i>Page</i>
Presenting the FD Trinitron Wega	2
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Presenting the FD Trinitron Wega

The FD Trinitron Wega (pronounced VAY-GAH) is characterized by outstanding contrast, uncompromising accuracy, and corner-to-corner detail.

You'll recognize the superiority of Wega technology almost immediately. The first thing you probably will notice is minimal glare from the flat picture tube. This flat-screen technology improves picture detail without distortion, unlike conventional curved screens. The FD Trinitron delivers outstanding image detail not only at the screen center, but also at the corners — so you can enjoy a bright, clear picture from any location in a room.

Features

Some of the features that you will enjoy with your new TV include:

- ❑ **16:9 Enhancement:** Vertical Compression technology that maximizes picture resolution on “anamorphic” or “enhanced for widescreen” sources, including selected DVDs.
- ❑ **Velocity Modulation:** Vertical line enhancement that sharpens picture definition.
- ❑ **Steady Sound:** Equalizes volume levels so there is consistent output between programs and commercials.
- ❑ **Parental Control:** V-Chip technology allows parents to block unsuitable programming for younger viewers.
- ❑ **Component Video Inputs:** Offers the best video quality for DVD player connections.
- ❑ **S-VIDEO Inputs:** Provides a high-quality image for connected equipment.
- ❑ **Dual Tuner Picture in Picture (PIP):** Allows you to watch two programs at once.
- ❑ **Favorite Channel Preview:** Preview up to eight favorite channels without leaving the current channel.
- ❑ **Wireless Infrared Headphones:** Enjoy listening to programs without disturbing anyone else.

Package Contents

Along with your new Trinitron TV, the packing box contains a remote control, a pair of wireless headphones, and three AA batteries (two for the remote control, one for the headphones). These items are all you need to set it up and operate the TV in its basic configuration.

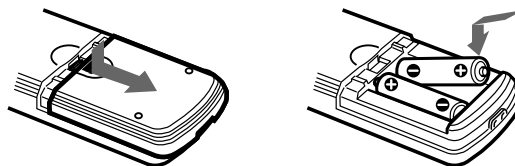
Most peripherals come with the necessary cables to connect them. If you want to set up special configurations, you may need to buy extra cables or connectors. It is best to ensure that you have all needed materials on hand before beginning a special-connection project.


Using the Remote Control

The remote control is the primary mechanism for controlling your TV. Handle the remote control with care; avoid dropping it, getting it wet, placing it in direct sunlight, near a heater, or where the humidity is high.

Inserting Batteries

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

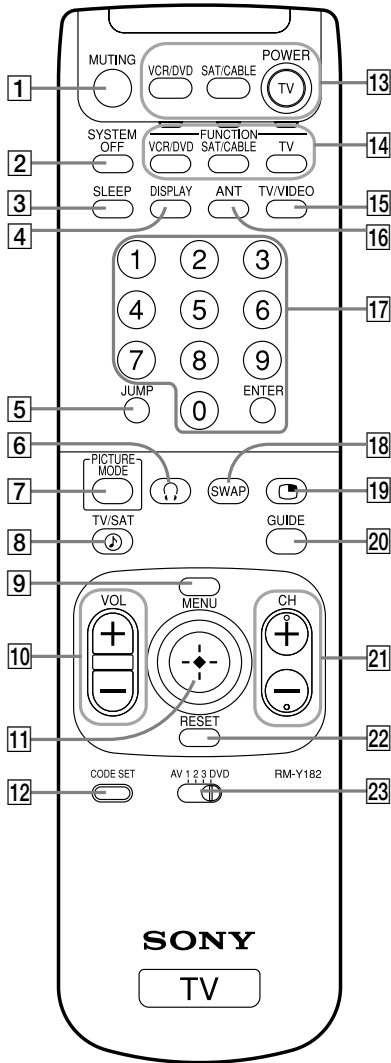


 Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.


Button Descriptions




The POWER button on the remote control (no. 13 in the illustration below) activates both the remote control and the TV.


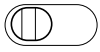
Outside Panel



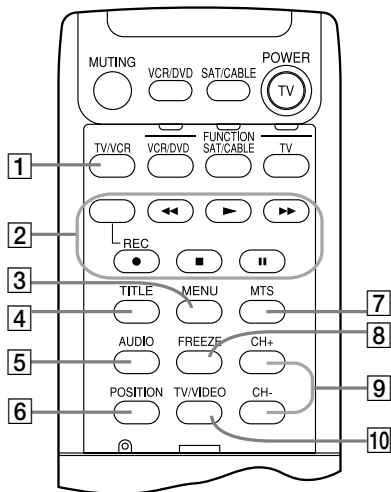
RM-Y182






 To scan rapidly through the channels, press and hold down the CH+ or CH- button.

Button	Description
1 MUTING	Press to mute the sound. Press again or press VOL + to restore the sound.
2 SYSTEM OFF	Powers off all Sony equipment at once. (This feature may not work with older Sony equipment.)
3 SLEEP	Press repeatedly until the TV displays the time in minutes (15, 30, 45, 60, or 90) that you want the TV to remain on before shutting off automatically. Cancel by pressing until SLEEP OFF appears. While Sleep feature is set, press once to view remaining time
4 DISPLAY	Press once to display the current time and channel label (if set) and channel number. Press again to turn Display off. See page 47 for details on setting the time.
5 JUMP	Press to jump back and forth between two channels. The TV alternates between the current channel and the last channel that was selected.
6 	Turns the headphones on/off.
7 PICTURE MODE	Press repeatedly to step through the available video picture modes: Vivid, Standard, Pro, Movie. Also available in the Video menu. For details, see "Selecting Video Options" on page 38.
8 TV/SAT 	Switches between the TV and SAT (satellite) inputs when in SAT FUNCTION mode. Provides quick access for changing available audio settings. For details, see "Selecting Audio Options" on page 38.
9 MENU	Press to display the TV on-screen menu. Press again to exit from the menus.
10 VOL +/-	Adjusts the volume.
11 	Joystick allows for movement of the on-screen cursor. Pressing down on the center of the joystick selects the item.
12 CODE SET	Used for programming the remote control to operate non-Sony video equipment. For details, see "Programming the Remote Control" on page 52.
13 POWER buttons (GREEN)	Turn on and off the TV and other audio/video equipment you have programmed into the remote control. For instructions, see "Programming the Remote Control" on page 52.
14 FUNCTION buttons (WHITE)	Select the equipment (TV, VCR/DVD, SAT/CABLE) that you want to operate. The indicator lights up momentarily when pushed to show which device the remote control is operating.

Button	Description
15 TV/VIDEO	Cycles through the video equipment connected to the TV's video inputs: TV, VIDEO 1, VIDEO 2, VIDEO 3, VIDEO 4, VIDEO 5, VIDEO 6.
16 ANT	Changes between the VHF/UHF input to the AUX input.
17 0 - 9 and ENTER	Press 0 - 9 to select a channel, the channel changes after 2 seconds. Press ENTER to select immediately.
18 SWAP	Switches the position of the main picture with the window picture.
19 	Turns on/off PIP. For details, see "Using Picture in Picture (PIP)" on page 29.
20 GUIDE	Displays the program guide of your satellite antenna.
21 CH +/-	Scan through channels.
22 RESET	Press when in a menu to reset the settings to the factory defaults.
23 AV 1 2 3 DVD 	Use to switch control for connected video equipment. You can program one video source for each switch position. For details, see "Programming the Remote Control" on page 52.

Inside Panel



1 TV/VCR	Switch between TV and VCR mode. If you have a non-Sony VCR, you will need to program the remote control to recognize your VCR. For details, see "Programming the Remote Control" on page 52.
2 	Rewind
REC	Record (press the blank button - above, left - at the same time)
	Fast-forward
	Play
	Stop
	Pause (Press again to resume normal playback)
3 MENU	Displays the DVD's menu.
4 TITLE	Displays the DVD's Title menu.
5 AUDIO	Alternates sound between the main picture and the window picture.
6 POSITION	Moves the location of the PIP window picture.
7 MTS	Cycles through the Multi-channel TV Sound (MTS) options: Stereo and Mono.
8 FREEZE	Freezes the window picture. Press again to restore the picture.
9 CH +/-	Changes the channel in the PIP window picture.
10 TV/VIDEO	The PIP window picture, cycles through the video equipment connected to your TV's video inputs: TV, VIDEO 1, VIDEO 2, VIDEO 3, VIDEO 4. This allows you to select different sources for the PIP display.

Installing the TV

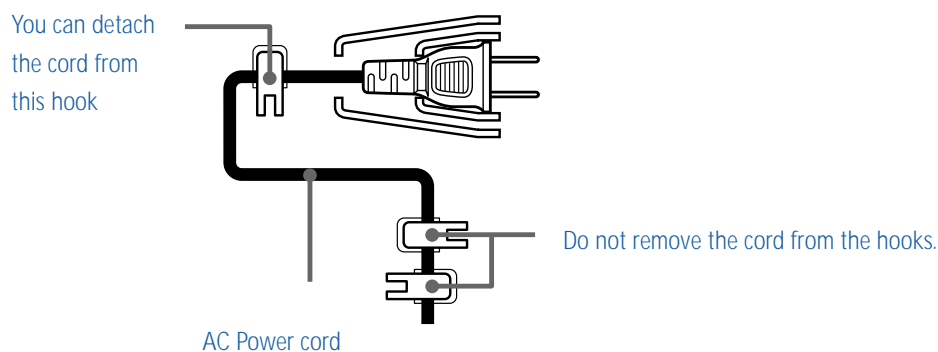
Overview

This chapter includes illustrated instructions for setting up your TV.

<i>Topic</i>	<i>Page</i>
TV Controls and Connectors	8
Basic Connections (Connecting a Cable or Antenna)	10
Connecting a VCR and Cable	14
Connecting a VCR and Cable Box	15
Connecting Two VCRs for Tape Editing	18
Connecting a Satellite Receiver	19
Connecting a Satellite Receiver with a VCR	20
Connecting an Audio Receiver	22
Connecting a DVD Player with Component Video Connectors	23
Connecting a DVD Player with A/V Connectors	24
Connecting a Camcorder	25
Using the CONTROL S Feature	26
Setting Up the TV Automatically	27

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.



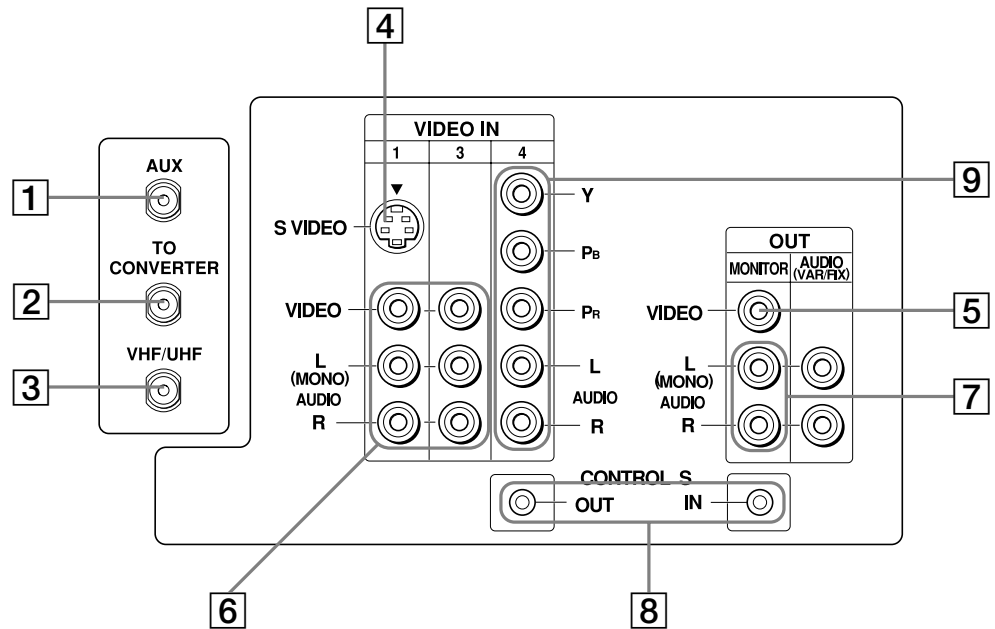
TV Controls and Connectors

Front Panel Menu Controls

The front panel menu controls allow access to the on-screen menus without the use of a remote control. Pressing the MENU button brings up the on-screen menus. The arrow buttons (↑↓) move the on-screen cursor in the menus and the (↵) button selects the menu item.

TV Rear Panel

Model KV-36FV27



Back Panel Descriptions

Connection	Description
1 AUX	Allows you to view local and cable channels if your cable provider does not feature local channels. You can switch between local and cable channels easily by pressing ANT on the remote control. Devices connected to the AUX input cannot be viewed in PIP.
2 TO CONVERTER	This is a VHF/UHF out jack that lets you set up your TV to switch between scrambled channels (through a cable box) and normal cable channels (CATV). Use this jack instead of a splitter to get better picture quality when needing to switch between scrambled and unscrambled cable channels.
3 VHF/UHF	Connects to your VHF/UHF antenna or cable.

<i>Connection</i>	<i>Description</i>
4 S VIDEO	Connects to the S VIDEO OUT jack of your VCR or other S VIDEO-equipped video component. Provides better picture quality than the VHF/UHF jacks or the Video IN jack.
5 MONITOR OUT	Lets you record the program you are watching to a VCR. When two VCRs are connected (see page 17), you can use your TV as a monitor for tape-to-tape editing.
6 AUDIO (L/R)/ VIDEO	Connects to the audio and video OUT jacks on your VCR or other video component. A third video input (VIDEO 2) is located on the front panel of the TV. The Audio and Video IN jacks provide better picture quality than the VHF/UHF jack.
7 AUDIO OUT (VAR/FIX) L (MONO)/R	Connects to the left and right audio inputs of your audio or video component. You can use these outputs to listen to your TV's audio through your stereo system.
8 CONTROL S IN/OUT	Allows the TV to receive (IN) and send (OUT) remote control signals (via wire) to other Sony infrared-controlled audio or video components.
9 Y, PB, PR, L, R	Connects to your DVD player's or Digital Set-top box's component video (Y, PB, PR) and audio (L/R) jacks.

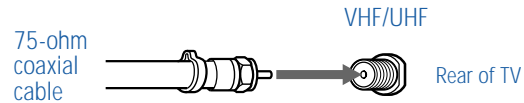
Basic Connections (Connecting a Cable or Antenna)

Connecting Directly to Cable or to an Antenna

The connection you choose depends on the cable found in your home.

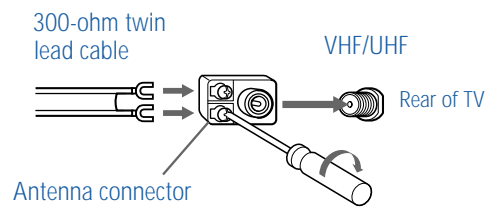
Newer homes usually have standard coaxial cable:

VHF Only or VHF/UHF or Cable



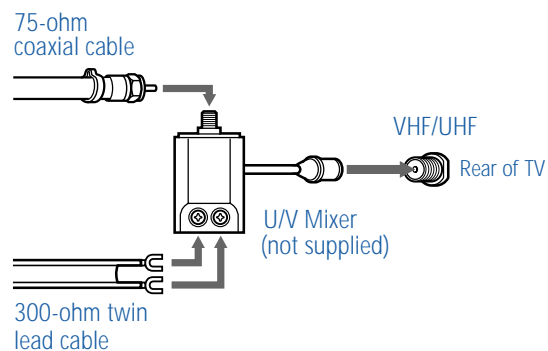
Older homes may have 300-ohm, twin-lead cable:

VHF Only or UHF Only or VHF/UHF



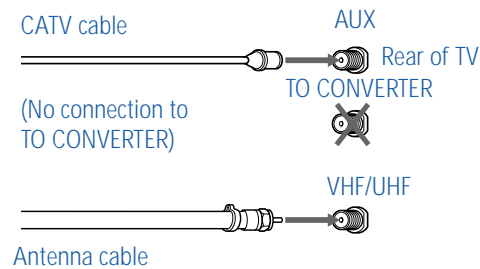
Other homes may have both:

VHF and UHF



Cable and Antenna

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



To receive channels using an antenna, instead of using the CATV cable

- 1 Select antenna mode by pressing the ANT button on the remote control. (This is a toggle: pressing the button once selects antenna mode; pressing the button again selects cable mode.)
- 2 Turn the Cable to OFF (see page 42).
- 3 Perform the Auto Program function (see page 42).

Basic Cable Box Connections

Cable Box and Cable

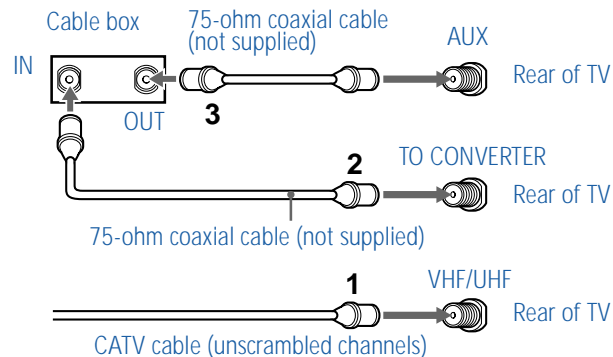
This is the preferred basic cable TV hookup to use if your cable TV company scrambles some channels, but not all of them (pay channels vs. regular cable channels), and you need to use a cable box.

With this setup you can:

- ❑ Use the TV remote control to change channels on your cable box when the signal is scrambled.
- ❑ Use the TV remote control to change channels using your TV when the signal is not scrambled. (Your TV's tuner provides a better signal than the cable box.)
- ❑ Use the PIP feature normally with the CATV input.
- ❑ Use the PIP feature partially with the cable box. (When you switch the TV input to AUX — to use the cable box — the scrambled picture will display only in the main window. If you turn on the PIP, you will be able to see any of the regular channels in the PIP window, but you cannot SWAP the pictures between the main and PIP windows.)

(Continued on the next page)

- 1 Connect the Cable TV cable to the TV's VHF/UHF jack.
- 2 Using a coaxial cable, connect the TV's TO CONVERTER jack to the cable box's IN jack. The TV's internal converter allows you to switch between unscrambled signals coming straight into the TV and scrambled signals coming in through the cable box, eliminating the need for an external splitter.
- 3 Using a coaxial cable, connect the cable box's OUT jack to the TV's AUX jack.



To switch between channels from cable box and channels from regular cable

- Press the ANT button on the TV remote control. (This is a toggle: pressing the button once selects the cable box; pressing the button again selects regular cable.)

To use the cable box

- Have your TV tuner set to channel 3 or 4 (as appropriate) and then use the cable box to switch channels.

To use the TV remote control to switch channels on the cable box

- Program the remote control as necessary. (See “Programming the Remote Control” on page 52.) Then use the remote control to switch cable box channels.

To use the TV remote control to switch channels on the VCR

- Program the remote control as necessary. (By default, the remote control is set for a Sony VCR; to change to another brand see “Programming the Remote Control” on page 52.) Then use the VCR buttons on the remote control to switch channels on the VCR.

To prevent the accidental switching of TV channels

- When using the cable box, you need your TV to stay on a required channel (usually channel 3 or 4). You can use the TV's Channel Fix feature to lock in a specific channel. The Channel Fix feature is under the Channel menu. For details, see “Using the Channel Menu” on page 42.

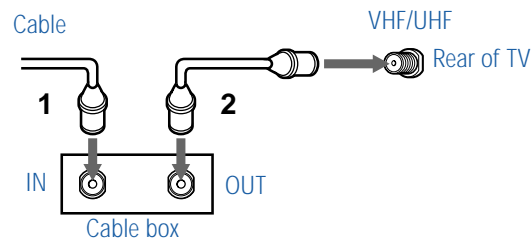
Cable Box only

Use this hookup if:

- ❑ You subscribe to a cable TV system that scrambles or encodes all signals, requiring a cable box to view all channels, and
- ❑ You do not intend to hook up any other audio or video equipment to your TV.

When all channels are routed through your cable box, only one unscrambled signal is sent to the TV, so you cannot use the PIP feature. If some of your channels are scrambled, but others are not, consider using the hookup “Cable Box and Cable” on page 11 instead.


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

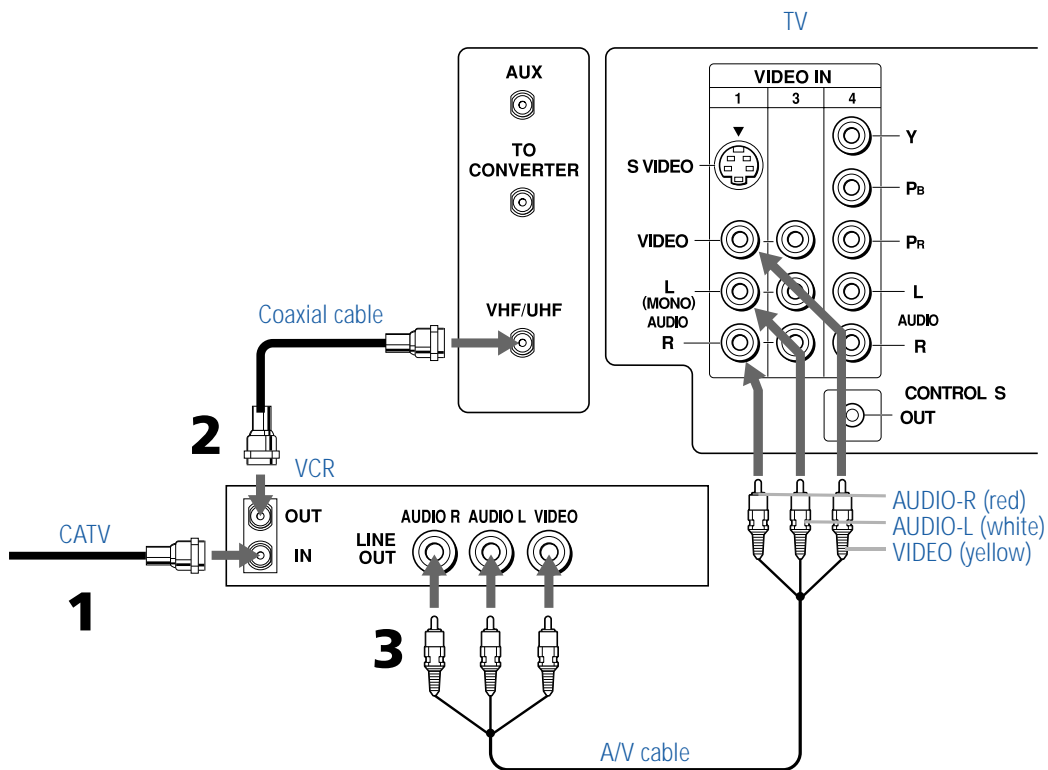


Connecting a VCR and Cable

Use this hookup if you subscribe to a cable TV (CATV) system that does not require a cable box.

- 1 Connect the CATV cable to the VCR's IN jack.
- 2 Using a coaxial cable, connect the VCR's OUT jack to the TV's VHF/UHF jack.
- 3 Using an A/V cable, connect the VCR's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.

 If the VCR you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will need audio cables for sound.



Connecting a VCR and Cable Box

Use this hookup if:


- ❑ Your cable TV company scrambles some channels, but not all of them (pay channels vs. regular cable channels) and you therefore need to use a cable box, and
- ❑ You want to use the PIP feature.

With this setup you can:

- ❑ Use the TV remote control to change cable box channels when the signal is scrambled.
- ❑ Use the TV remote control to change TV channels when the signal is not scrambled. (Your TV's tuner provides a better signal than the cable box.)
- ❑ Use the PIP feature.
- ❑ Record both regular CATV and scrambled channels.

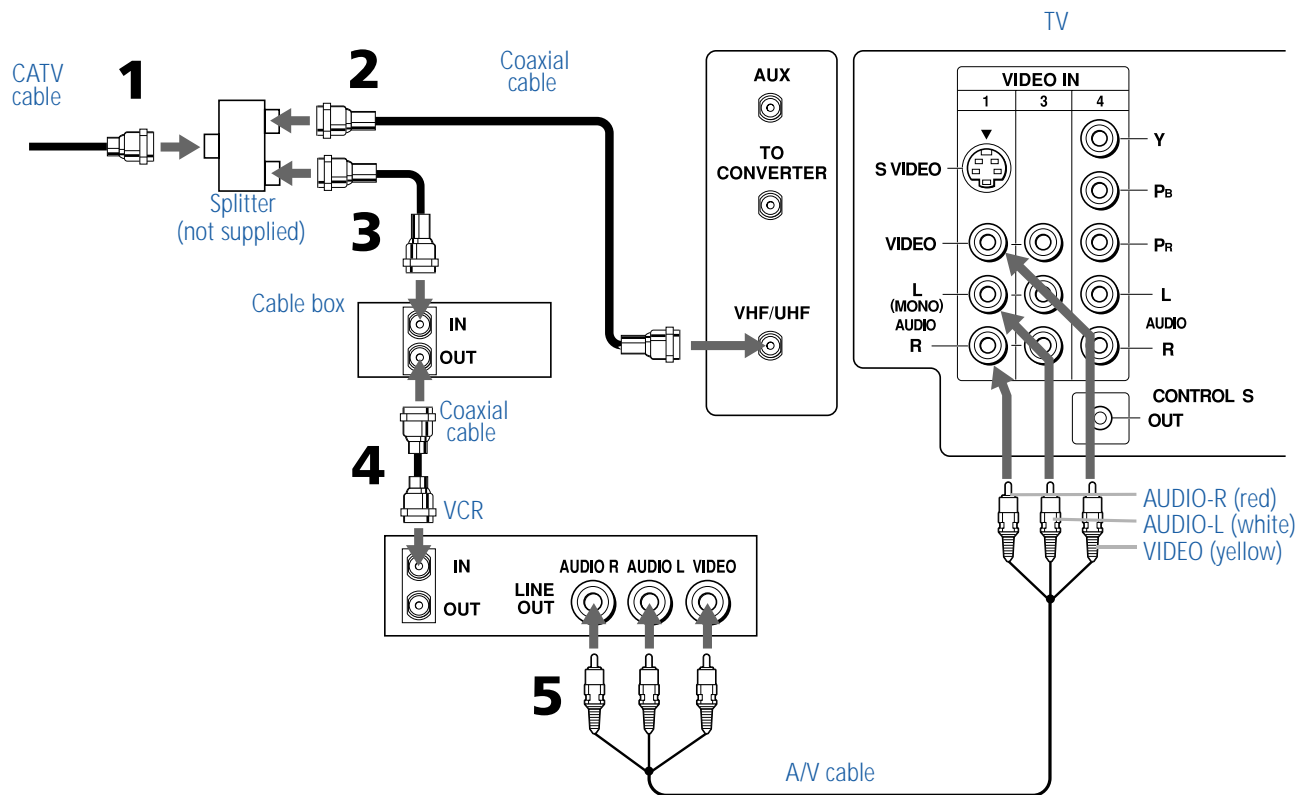
To connect a cable box and a VCR, you will need:

- ❑ A small, inexpensive device known as a splitter.
 - ❑ Three coaxial cables.
 - ❑ Either a combination audio/video cable, or an S VIDEO cable and audio cables.
- 1 Connect the CATV cable to the single (input) jack of the splitter.
 - 2 Use a coaxial cable to connect one of the two output jacks of the splitter to the TV's VHF/UHF jack.
 - 3 Use a coaxial cable to connect the other output jack of the splitter to the input jack of the cable box.
 - 4 Use a coaxial cable to connect the output jack of the cable box to the input jack of the VCR.
 - 5 Use the video line (yellow) of a combination audio/video (A/V) cable to connect the video output jack of the VCR to the video input jack of the TV.

 If the VCR has an S VIDEO jack, you can use an S VIDEO cable to improve picture quality, replace the yellow video cable of the combination A/V cable with the S VIDEO cable. (Do not connect both types of cable at the same time.) You will still need audio cables for sound.

Connect the left (white) and right (red) audio output channels of the VCR to the respective input channels on the TV.

(Continued on the next page)



To view cable box channels

- ❑ Turn on the VCR and set it to the channel the cable box uses (channel 3 or 4). Set the TV to VIDEO 1. Use the cable box to switch channels.

To use the TV remote control to switch channels on the cable box


- ❑ Program the remote control as necessary. (See “Programming the Remote Control” on page 52.) Then use the remote control to switch cable box channels.

To use the TV remote control to switch channels on the VCR

- ❑ Program the remote control as necessary. (By default, the remote control is set for a Sony VCR; to change to another brand see “Programming the Remote Control” on page 52.) Then use the VCR buttons on the remote control to switch VCR channels.

To use PIP with the Cable Box

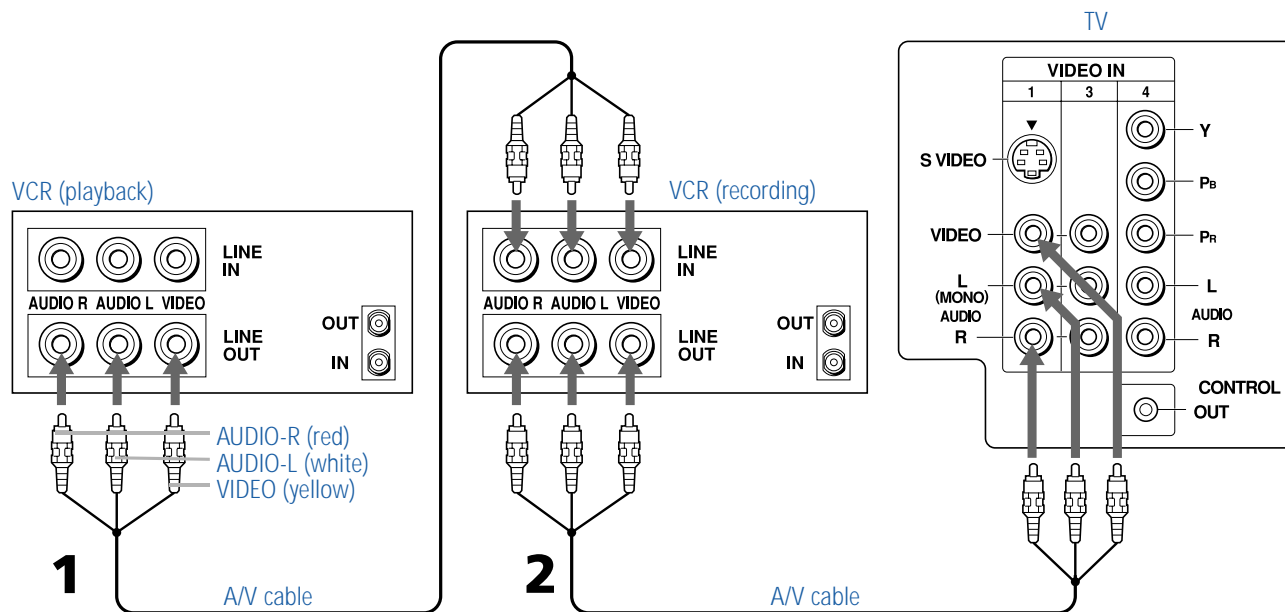
- ❑ **Turn on the cable box and VCR. Use the remote control's TV/VIDEO (yellow) button to set the PIP output to VIDEO 1. Change the PIP channel via the cable box. (The cable box's tuner is used as the PIP video source; if you do not turn on the cable box, the PIP will not work.)**

 This system is needed because the cable box unscrambles only one channel at a time (unlike regular cable, which makes all channels available concurrently).

Connecting Two VCRs for Tape Editing

If you connect two VCR's together, so you can record from one to the other, you may want to monitor the recording process. You can connect the recording VCR into your TV and then view what is being recorded. The procedure below shows you how to do this.

- 1 Using an A/V cable, connect the playback VCR's Audio and Video OUT jacks to the recording VCR's Audio and Video IN jacks.
- 2 Using an A/V cable, connect the recording VCR's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.




To change the video input of the VCR.

- ❑ See your VCR's user's guide for instructions.


To view what is being recorded

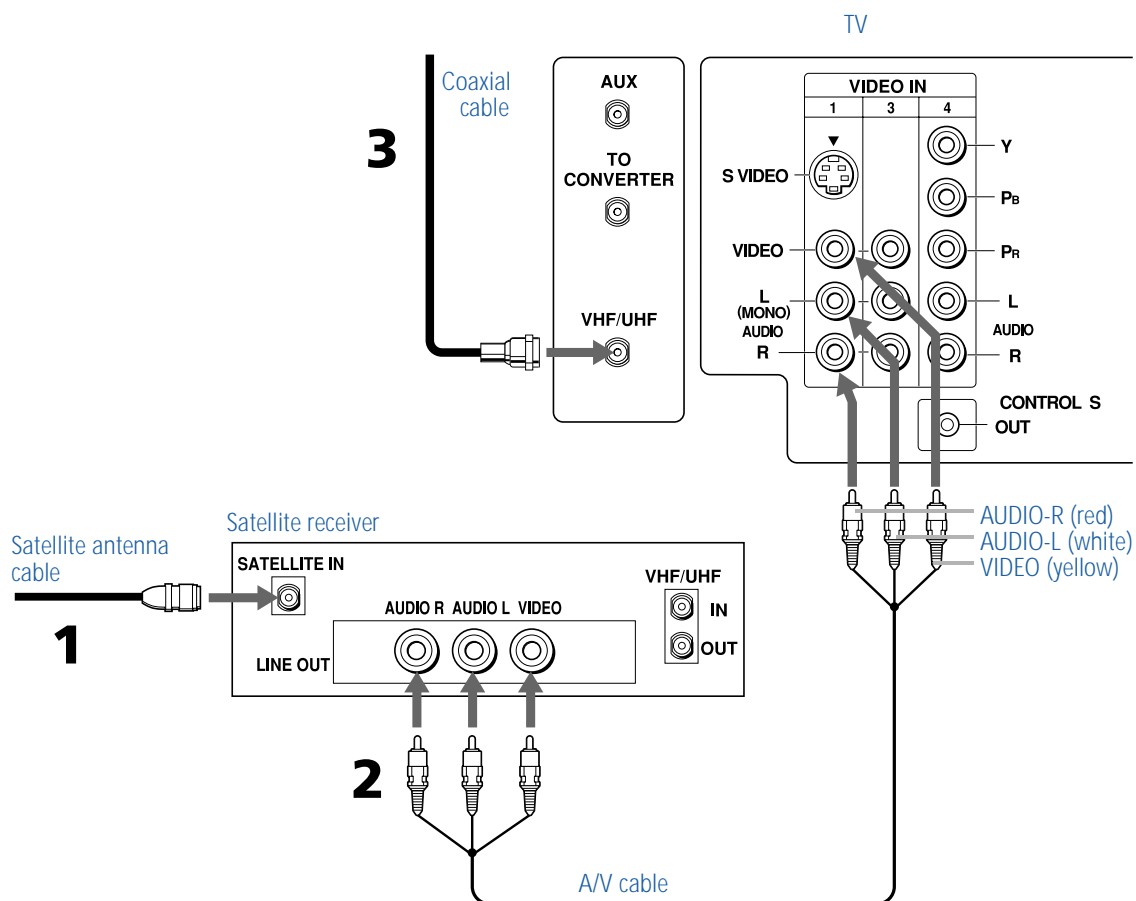
- ❑ Use the remote control to set the TV to the video input that the recording VCR is connected to. (VIDEO 1 in the illustration above.)

 If the VCRs you are connecting have S VIDEO jacks, you can use S VIDEO cables to improve picture quality, replace the yellow video cable of the combination A/V cable with the S VIDEO cable. (Do not connect both types of cable at the same time.) You will still need audio cables for sound.

Connecting a Satellite Receiver

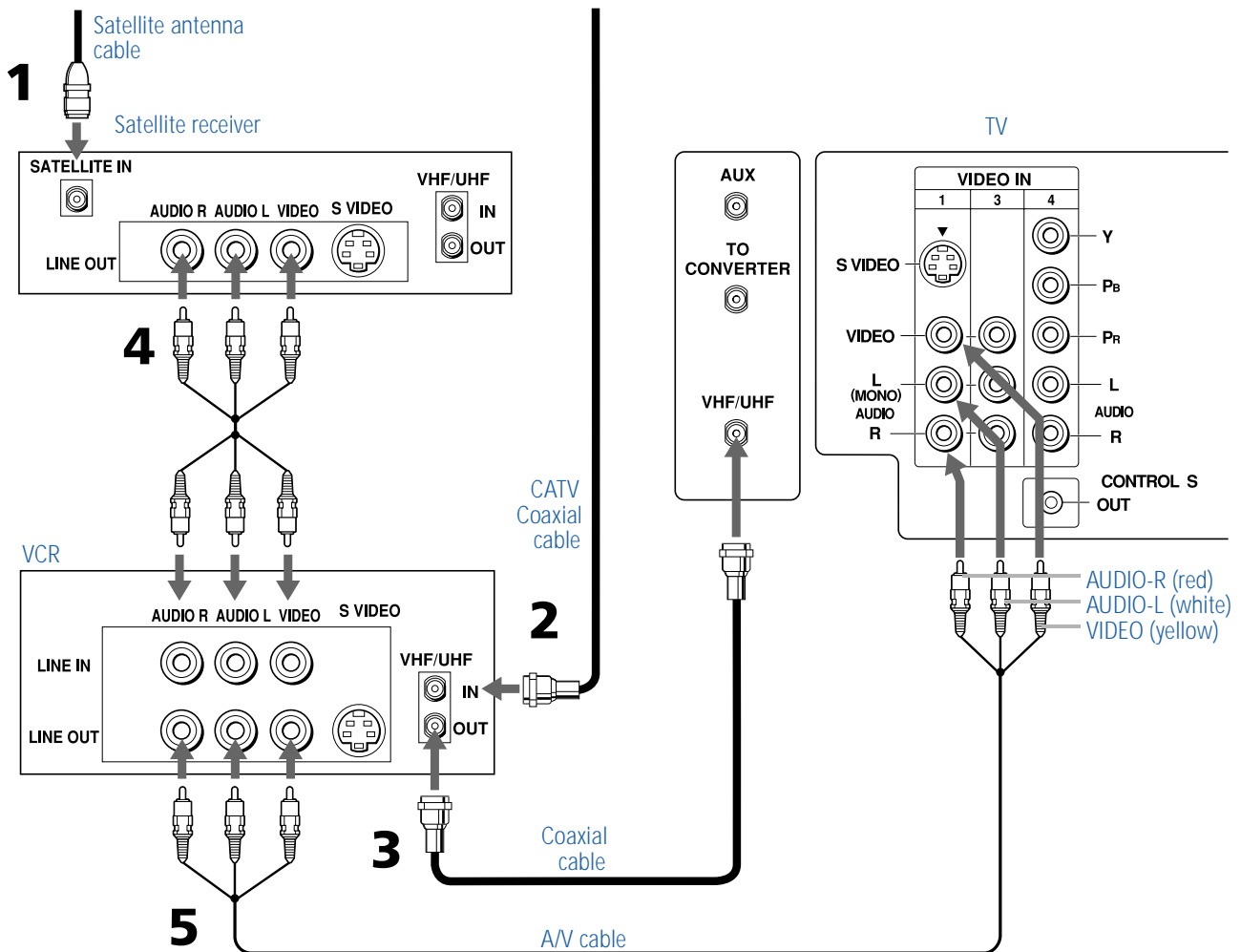
- 1 Connect the satellite antenna cable to the satellite receiver's SATELLITE IN jack.
- 2 Using an A/V cable, connect the satellite receiver's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.
- 3 Connect a coaxial cable from your cable or antenna to the TV's VHF/UHF jack.


 If the satellite receiver has an S VIDEO jack, you can use an S VIDEO cable to improve picture quality, replace the yellow video cable of the combination A/V cable with the S VIDEO cable. (Do not connect both types of cable at the same time.) You will still need audio cables for sound.



Connecting a Satellite Receiver with a VCR

- 1 Connect the satellite antenna cable to the satellite receiver's SATELLITE IN jack.
- 2 Connect the CATV cable to the VCR's VHF/UHF IN jack.
- 3 Using a coaxial cable, connect the VCR's OUT jack to the TV's VHF/UHF jack.
- 4 Using an A/V cable, connect the satellite receiver's Audio and Video OUT jacks to the VCR's Audio and Video IN jacks.
- 5 Using an A/V cable, connect the VCR's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.



 If the satellite receiver and VCR have S VIDEO jacks, you can use an S VIDEO cable to improve picture quality, replace the yellow video cable of each combination A/V cable with the S VIDEO cable. (Do not connect both types of cable at the same time.) You will still need audio cables for sound.

To change VCR video input

- ❑ See your VCR's user's guide for instructions.

To watch satellite TV, or the VCR

- ❑ Use the **TV/VIDEO** on the remote control to select **VIDEO 1**.

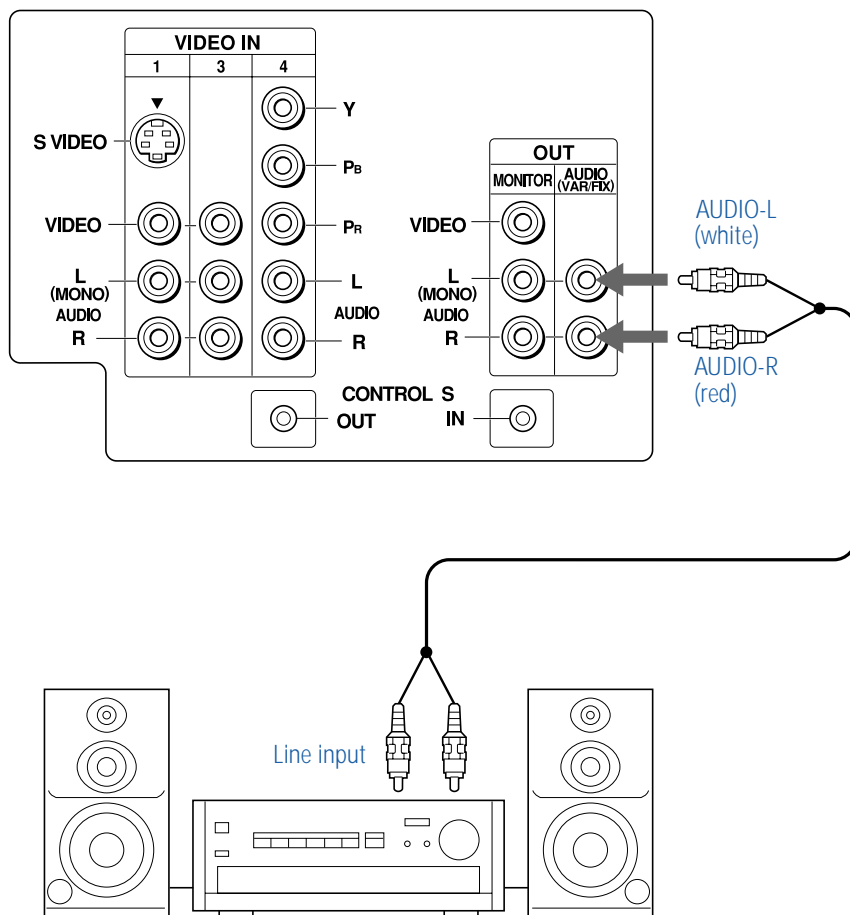
To watch cable TV

- ❑ Use the **TV/VIDEO** on the remote control to select **VHF/UHF**.

Connecting an Audio Receiver

For improved sound quality, you may want to send the TV's audio signals to your stereo system. The procedure below tells you how.


- 1 Using audio cables, connect the TV's Audio OUT jacks to the audio receiver's Audio LINE IN jacks.



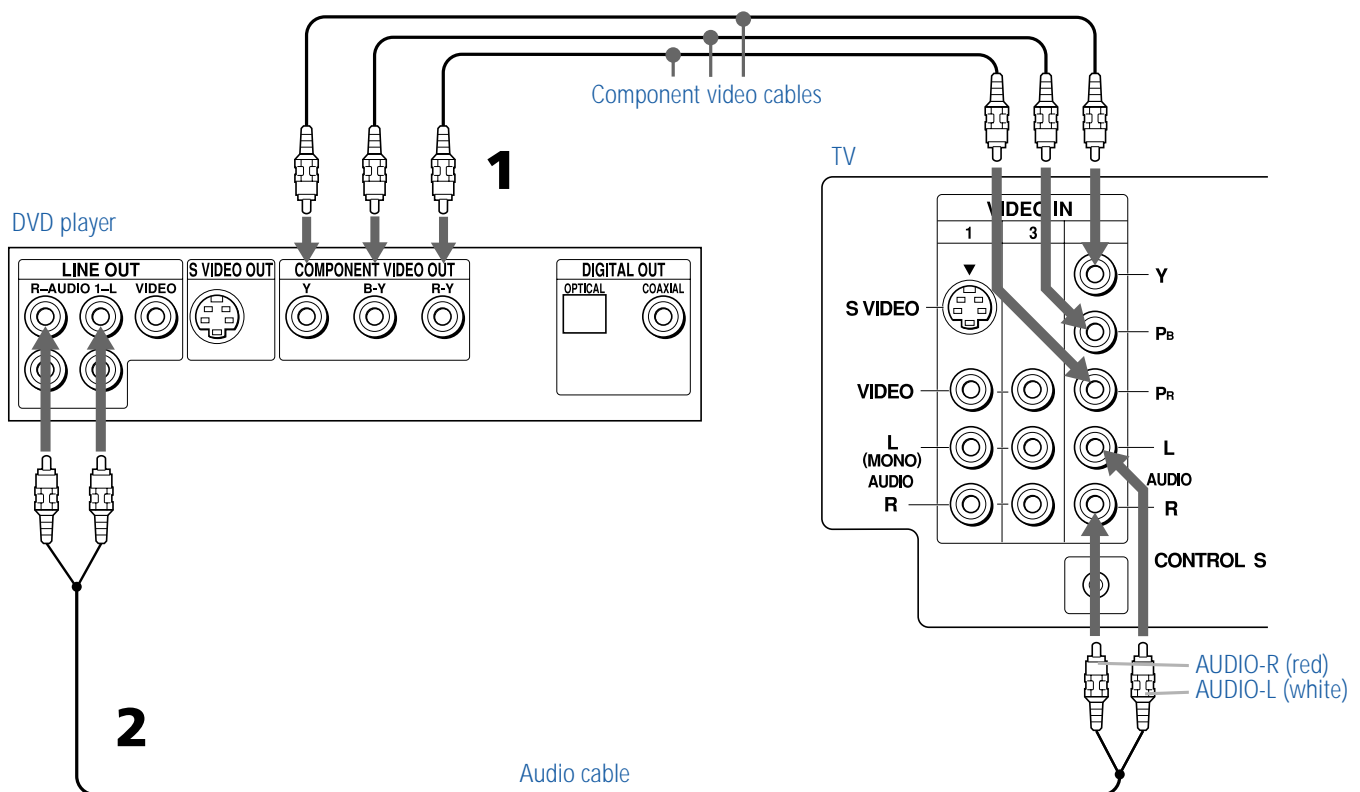
Connecting a DVD Player with Component Video Connectors


This is the preferred hookup to use if your DVD player has component video (Y, P_B, P_R) jacks.

- 1 Using three separate component video cables, connect the DVD player's Y, P_B and P_R jacks to the Y, P_B and P_R jacks on the TV. Use the VIDEO 4 connections.

 The Y, P_B and P_R jacks on your DVD player are sometimes labeled Y, C_B and C_R, or Y, B-Y and R-Y. If so, connect the cables to like colors.


- 2 Using an audio cable, connect the DVD player's Audio OUT jacks to the TV's Audio IN jacks. Be sure to use the same column (VIDEO 4) of inputs that you used for the video connection.



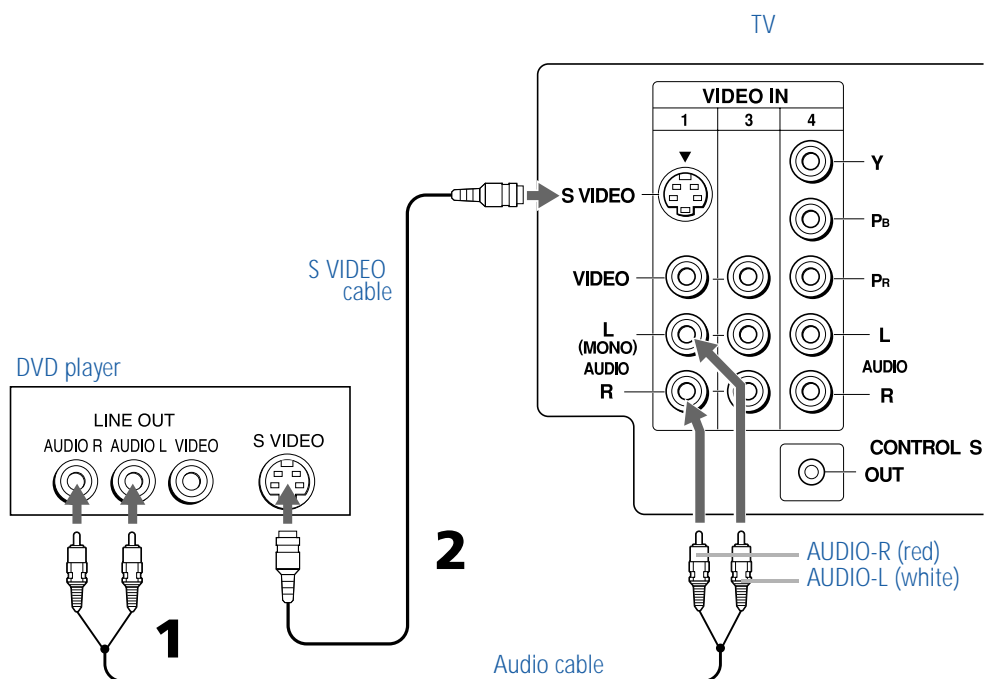
 You cannot record the signal from any equipment connected into the Y, P_B, P_R jacks.

Connecting a DVD Player with A/V Connectors

Use this hookup if your DVD player does not have component video (Y, Pb, Pr) jacks.

 An S VIDEO connection will give a good quality video signal, but if your DVD player has component video, that connection (described on the previous page) will give an even better video signal.

- 1 Using audio cables, connect the DVD player's Audio OUT jacks to the TV's Audio IN jacks.
- 2 Using an S VIDEO cable, connect the DVD player's S VIDEO jack to the TV's S VIDEO jack.



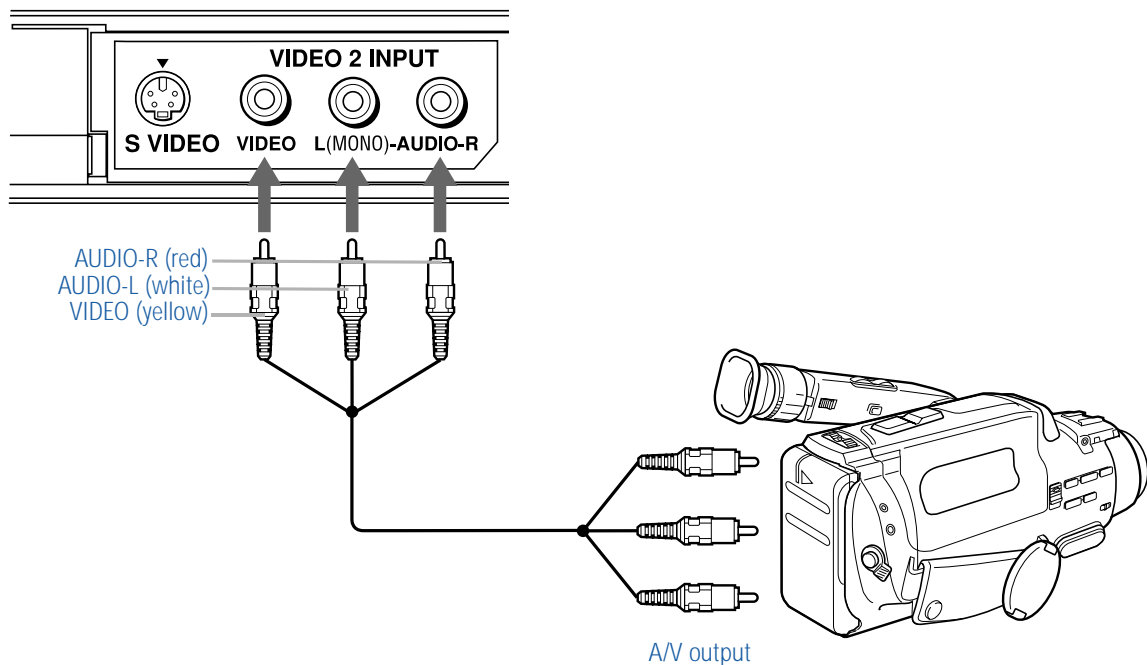
To switch between your TV and DVD

- ❑ Use the TV/VIDEO button on the remote control to switch from one input device to another.


Connecting a Camcorder

For easy connection of a camcorder, the TV has front Audio and Video inputs (shown below). If you prefer, however, you can connect the camcorder to the TV's rear Audio and Video IN jacks.

- 1 Using A/V cables, connect the camcorder's Audio and Video OUT jacks to the TV's Audio and Video IN jacks.



If you have a mono camcorder, connect its audio output to the TV's AUDIO L jack.

 If the camcorder has an S VIDEO jack, you can use an S VIDEO cable to improve picture quality, replace the yellow video cable of the combination A/V cable with the S VIDEO cable. (Do not connect both types of cable at the same time.) You will still need audio cables for sound.

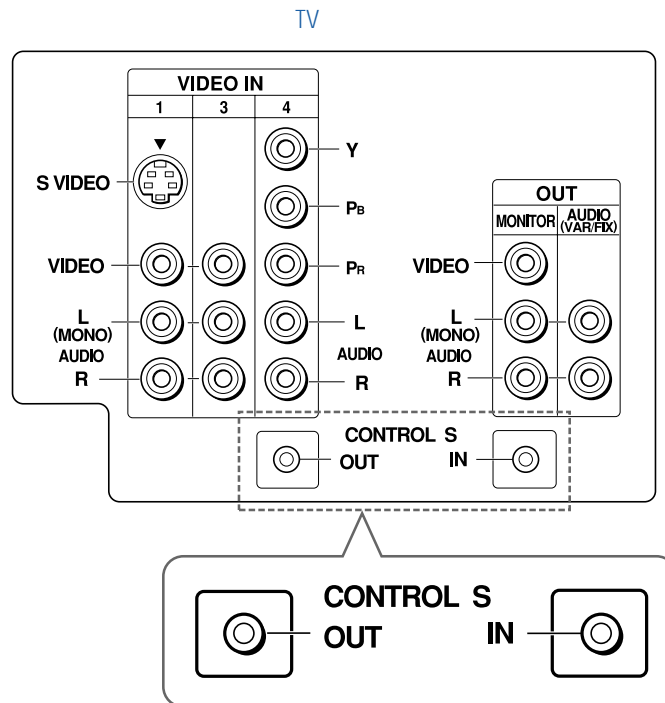
To view the camera's output

- Use the TV's remote control to set the appropriate input on the TV (VIDEO 2, in the illustration).

Using the CONTROL S Feature


The CONTROL S feature allows you to control other equipment through your TV. Pointing the remote control at your TV, rather than at the equipment, allows you to keep other equipment hidden or out of direct line of sight.

To control your other Sony equipment with your TV's remote control, use a CONTROL S cable (not supplied) to connect the equipment's CONTROL S IN jack to the TV's CONTROL S OUT jack.



Setting Up the TV Automatically

After you finish connecting your TV, you need to run Auto Setup to set up your channels. The Auto Setup screen appears when you turn your TV on for the first time after installing it. If you do not want to set up the channels at this time, you can do it later by using the Auto Program feature in the Channel menu (see pages 42 and 42).

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

Using Auto Setup

- 1 Press **POWER** to turn on the TV.
- 2 Press the **TV** function button on the remote control.
- 3 Press **CH+** on the front of your TV to run the Auto Setup or press **CH-** to exit. If you use the channel buttons on your remote control, be sure to use the main set of buttons.

To reset TV to factory settings

- 1 Turn the TV on.
- 2 Hold down the **RESET** button on the remote control.
- 3 Press and release the **POWER** button on the TV. (The TV will turn itself off, then back on.)
- 4 Release the **RESET** button.

Using the Features

Overview

This chapter describes how to use special features of your TV.

<i>Topic</i>	<i>Page</i>
Using Favorite Channels	30
Using Picture in Picture (PIP)	31
Using Wireless Headphones	34

Using Favorite Channels

The Favorite Channel feature lets you select programs from a list of favorite channels that you specify.

To display a list of your favorite channels

- 1 If you have not already done so, create a list of favorite channels. (See the Favorite Channels section of “Selecting Channel Options” on page 40.)
- 2 If any menus are open, close them.
- 3 Press \star . (The Favorite Channels options appear.)

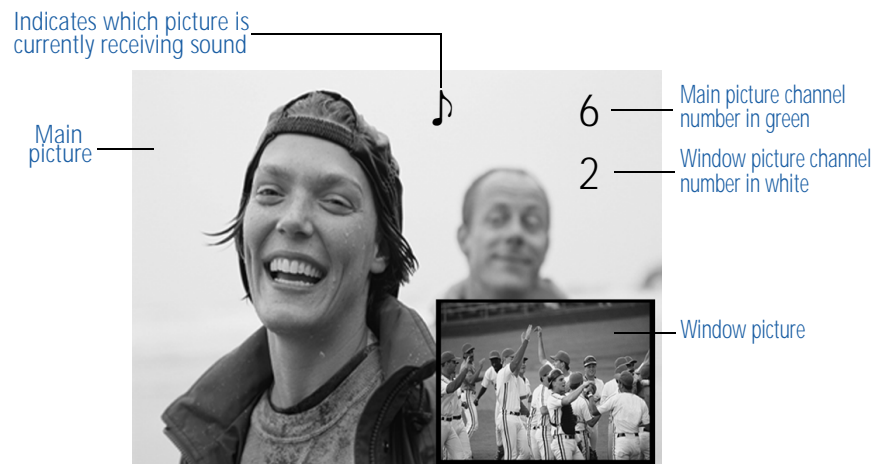


- 4 Press \uparrow or \downarrow to highlight the channel you want to watch. The program on that channel appears in the preview window. Press \star to select.


Using Picture in Picture (PIP)

Picture in Picture (PIP) allows you to watch two channels simultaneously — one in the main window and another in a secondary (PIP) window.

Displaying Picture in Picture




To use PIP:

- 1 Make sure your TV is tuned to a channel that you know is airing programming.
- 2 Press the  button (or the button labeled PIP). The window picture appears.
- 3 Use the yellow-labeled buttons on your remote control (see diagram) to control the PIP features (which are listed on the next page).

To check your PIP:

- 1 Tune your TV to a channel that you know is airing programming.
- 2 Press SWAP and select that same channel as the main window. You should now have the same program playing in both your main window and your picture window.
- 3 Use the PIP (yellow) CH+/- buttons to change the channel in the picture window.

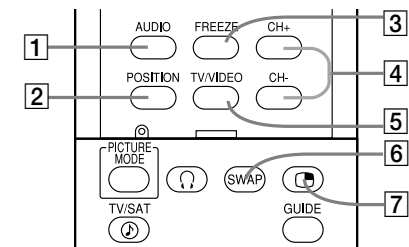
 You must press TV (FUNCTION) before you can control PIP with the yellow-labeled buttons.

The AUX input cannot be viewed in the PIP window.


(Continued on the next page)

- Now use the main CH+/- buttons of your remote control to change the channel in the main window. If this does not work, check “Troubleshooting” on page 54 for potential solutions.

PIP Functions



RM-Y182

Yellow-labeled PIP Button	Description
1 AUDIO	Alternates sound between the main picture and the window picture. The sound symbol (🔊) appears for 3 seconds, indicating whether you are hearing sound from the main picture or the window picture.
2 POSITION	Moves the location of the window picture among the four corners of the screen.
3 FREEZE	Freezes the window picture. Press again to restore the picture. The main window continues to play as usual.
4 CH +/-	Changes the channel in the window picture. To change the channel in the main window, use the main CH+/- buttons at the bottom of the remote control.
5 TV/VIDEO	Cycles through available video equipment you have connected to the TV.
6 SWAP	Switches the main picture with the window picture. Press again to change them back.
7 	Turns the PIP feature on and off. Press repeatedly to change the window size (1/9, 1/16, OFF).


To change channels/programs in the PIP window


- ❑ Use the yellow PIP CH+/- button to scroll through the TV channels.
- ❑ Use the yellow TV/VIDEO button to cycle through your other video equipment connected to the TV, such as your VCR, DVD player or Satellite Receiver.

Setups that affect your ability to use PIP


- ❑ Any video equipment you have connected to the AUX input cannot be viewed in the PIP window.
- ❑ If you are viewing all channels through a cable box, the PIP feature will not work. The cable box only unscrambles one signal at a time, so the window picture will be the same as the main picture.
- ❑ You can use PIP to see pictures from different sources on your TV. For example, you can have a regular (CATV) channel and the output from a VCR or DVD player or satellite receiver on screen at the same time using PIP. To do this:
 - 1 Connect the CATV cable to the UHF/VHF input on the back of the TV.
 - 2 Connect the peripheral (VCR or DVD player or satellite receiver) to any of the VIDEO IN inputs on the the back of the TV.
 - 3 Tune to one image in the main picture.
 - 4 Tune to a second image in the PIP window.

You can then SWAP the images on the TV screen.

 Be sure to label your video sources to make them easier to find in the Display. See “Video Label” on page 49 for labeling instructions.

 You cannot use a signal from the AUX connection with PIP.

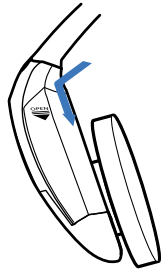
Using Wireless Headphones

 Wireless headphones are included and can be used only with Sony TV models KV-32FV26 and 36FV26.

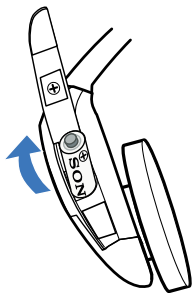
Installing the Battery

Install the supplied size AA (R6) battery into the headphones.

- 1 Open the battery compartment lid by pressing and sliding the lid as illustrated.



- 2 Insert the battery into the compartment with the positive side up and then close the lid.





When used continuously, the battery lasts:

up to 40 hours	with an alkaline battery
up to 20 hours	with a manganese battery

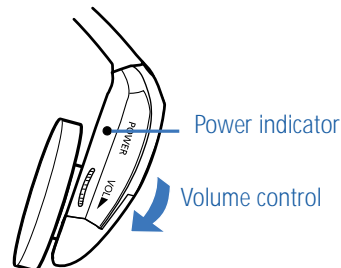
Replace the battery with a new one when the sound becomes weak.

Using the Headphones

- 1 Press . (The  icon and channel number display.)



- 2 Turn on the power by placing the headphones securely onto your head.



To listen to sound only from wireless headphones

- Turn down the TV speaker level, or press **MUTING** on the remote control.


To turn off headphones,

- Put down the headphones and press .

To ensure optimal sound reception with headphones

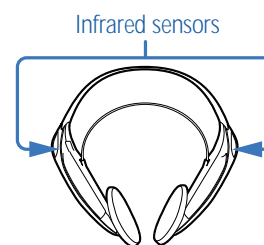
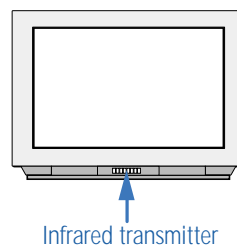
- Be sure that the infrared transmitter on the TV and the infrared sensors on the headphones have a clear (unobstructed) line of sight to one another.


To protect the TV's infrared transmitter from possible damage

- Press  to turn off the headphone feature when the headphones are not in use.

To protect your hearing from sudden or prolonged excessive volume

- Set the headphone volume just high enough to hear comfortably.



 For optimal sound quality, be sure that the infrared transmitter on the TV, and the infrared sensors on the headphones, are not obstructed and can "see" one another.



Listening to Sound from PIP Main and Window Pictures

To use your headphones to listen to the sound from the main or window picture (when using PIP), select the audio source.

- 1 If PIP is not already started, press  to display a PIP window.





- 2 Press .

The  icon and channel number appear for about three seconds. (The  is level with the channel number of the main picture.)



Main picture audio

Press  again to switch the audio to the PIP window. (The  changes - drops down - to the level of the PIP channel.)



Window picture audio

- 3 When you are finished using the headphones, press  to turn them off.



Headphones off



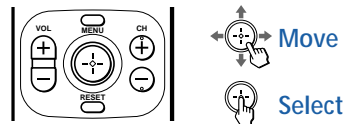
Exiting from PIP returns the sound to the main picture.

The audio to the headphones automatically turns off when the TV is powered off.

SAP (Second Audio Programs) are not available in the PIP window.

Using the Menus

Overview










Joystick

Opening and choosing a menu:

- 1 Press MENU to display the Menu screen.
- 2 Use the joystick to move to the desired menu icon. Press to select it.
- 3 Use the joystick to scroll up and down through the features.
- 4 See the specific menu page for instructions on moving through the menu.

The Menu gives you access to the following features:

<i>Menu Icon</i>	<i>Description</i>	<i>Page</i>
	Allows you to make adjustments to your picture settings. It also allows you to customize the Picture Mode based on the type of program you are viewing.	38
	Offers enhanced audio options such as listening to second audio programming (SAP) or customizing the Effect of the sound on your TV.	40
	Allows you to set up a Favorite Channel list, run the Auto Program function, and more.	42
	Lets you control the viewing of programs based on their ratings.	44
	Lets you set the clock on your TV and allows you to program your TV for scheduled viewing using the Timers.	47
	Provides several options for setting up your channels, labeling your video inputs, and selecting the language of the on-screen menus.	48
	Provides quick access to frequently used settings.	50

To end a menu session:

Press MENU again


To end one menu session and move to another:

Press to return to the menu icons.

Move the joystick to choose a menu icon and press to select it.

Video *Using the Video Menu*

To select the Video Menu


- 1 Press MENU.
- 2 Use the joystick to move to the Video icon  and press \oplus .
- 3 Use the joystick to scroll up and down through the options.
- 4 Press \oplus to select a feature. That feature's adjustment appears.
- 5 Use the joystick to make the desired adjustments.
- 6 Press \oplus to select/set.
- 7 Press MENU to exit the menu screen.




To restore the factory default settings for Picture, Brightness, Color, Hue, Sharpness, Color Temp and VM.

- Press RESET on the remote control when in the Video menu.

Selecting Video Options

 To change from one Video Mode to another, use the PICTURE MODE button on the remote control.

The Video Menu includes the following options.


Option	Description
Mode	Vivid Select for enhanced picture contrast and sharpness.
<i>Customized picture viewing</i>	Standard Select for standard picture settings.
	Movie Select to display a softer picture.
	Sports Select to display a brighter, more intense picture.
 You can alter the Video Menu settings (Picture, Brightness, Color, etc.) for each Mode.	
Picture	Adjust to increase picture contrast and deepen the color, or decrease picture contrast and soften the color.
Brightness	Adjust to brighten or darken the picture.
Color	Adjust to increase or decrease color intensity.
Hue	Adjust to increase or decrease the green tones.
Sharpness	Adjust to sharpen or soften the picture.

<i>Option</i>	<i>Description</i>
Color Temp	Choose from three color temperatures:
<i>White</i>	Cool Select to give the white colors a blue tint.
<i>intensity</i>	Neutral Select to give the white colors a neutral tint.
<i>adjustment</i>	Warm Select to give the white colors a red tint (NTSC-Standard).
VM	Sharpens picture definition to give every object a sharp, clean
<i>Velocity</i>	edge. Select from High, Low, OFF.
<i>Modulation</i>	



Using the Audio Menu

To select the Audio Menu


- 1 Press MENU.
- 2 Use the joystick to move to the Audio icon  and press \leftarrow .
- 3 Use the joystick to scroll up and down through the options.
- 4 Press \leftarrow to select an option. That option's settings appear.
- 5 Use the joystick to scroll through the settings.
- 6 Press \leftarrow to select the desired setting.
- 7 Press MENU to exit the menu screen.



To restore the factory default settings for Treble, Bass, and Balance

- Press RESET on the remote control when in the Audio menu.

Selecting Audio Options

 As a shortcut to using the menus, use the Ⓢ button on the remote control to cycle through available audio settings.

The Audio Menu includes the following options:





Option	Description
Treble	Adjust to decrease or increase higher-pitched sounds.
Bass	Adjust to decrease or increase lower-pitched sounds.
Balance	Adjust to emphasize left or right speaker balance.
Steady Sound	ON Select to stabilize the volume.
	OFF Select to turn off Steady Sound.
	Effect
MTS	Simulated Adds a surround-like effect to mono programs.
	Surround Select for Surround sound.
	OFF Normal stereo or mono reception.
MTS <i>Enjoy stereo, bilingual and mono programs</i>	Stereo Select for stereo reception when viewing a program broadcast in stereo.
	Auto-SAP Select to automatically switch the TV to second audio programs when a signal is received. (If no SAP signal is present, the TV remains in Stereo mode.)
	Mono Select for mono reception. (Use to reduce noise during weak stereo broadcasts.)
Speaker	ON Select to turn on the TV speakers.
	OFF Select to turn off the TV speakers and listen to the TV's sound only through your external audio system speakers.

<i>Option</i>	<i>Description</i>
Audio Out	This option can be set only when the Speaker option is set to OFF.
<i>Easy control of volume adjustments</i>	Variable The TV's speakers are turned off, but the volume output from your audio system can still be controlled by the TV's remote control.
	Fixed The TV's speakers are turned off and the volume output of the TV is fixed. Use your audio receiver's remote control to adjust the volume through your audio system.



Using the Channel Menu




To select the Channel Menu


- 1 Press MENU.
- 2 Use the joystick to move to the Channel icon  and press .
- 3 Use the joystick to scroll up and down through the options.
- 4 Press  to select a feature. That feature's options appear.
- 5 Use the joystick to scroll through the options.
- 6 Press  to select the desired option.
- 7 Press MENU to exit the menu screen.





Selecting Channel Options

The Channel Menu includes the following options:

Option	Description
Favorite Channel	<ol style="list-style-type: none"> 1 Press  to select a favorite channel number. 2 Use the joystick to scroll through the channels until you find the channel you want to add to your favorites. 3 Press  to select it.
Cable	<p>ON Select if you are receiving cable channels with a CATV cable.</p> <p>OFF Select if you are using an antenna.</p> <p> You should run Auto Program after changing the cable setting.</p>
Channel Fix	<p>2-6 "Fix" your TV's channel setting to 3 or 4 and use the cable box or Satellite receiver to change channels. Select one of these settings if you have connected the device to the VHF/UHF jack.</p> <p>AUX 2-6 Same as 2-6, except you select one of these settings if you have connected the device to the AUX jack (see page 8).</p> <p>VIDEO 1 Use this setting if you have connected the device to the Audio and Video IN jacks.</p>
Auto Program	Automatically programs the TV for all receivable channels.

 Channels that you set to be skipped can be accessed only with the 0-9 buttons.




<i>Option</i>	<i>Description</i>
Channel Skip/Add	<p>Removes and adds viewable channels.</p> <ol style="list-style-type: none">1 Use the joystick to scroll through the channels until you find the channel you want to skip/add.2 Press  to select it.3 Press the joystick to toggle between “Add” or “Skip.”4 Press  to select.
Channel Label	Label up to 40 channels with their station call letters.




Using the Parent Menu

The Parent menu allows you to set up the TV to block programs according to their content and rating levels.


To select the Parent Menu


- 1 Press MENU.
- 2 Use the joystick to move to the Parent icon  and press .
- 3 Use the 0-9 buttons on the remote control to enter your four-digit password.
- 4 Confirm your password by entering it again. (The Parent menu options appear.)
- 5 Use the joystick to scroll through the settings.
- 6 Press  to select the desired setting.
- 7 Press MENU to exit the menu screen.



 You need your password for any future access into the Parent menu. If you lose your password, see "Lost password" on page 57.

Using the Parent Menu


 If you are not familiar with the Parental Guideline rating system, you should select Child, Youth, or Young Adult to help simplify the rating selection. To set more restrictive ratings, select Custom.


 For descriptions of Child, Youth, and Young Adult ratings, see page 45.


The Parent menu includes the following options.

Option	Description
Parental Lock	OFF
Turn ratings on/off and select a rating system	
Child	Parental lock is off. No programs are blocked from viewing. Maximum ratings permitted are: <input type="checkbox"/> US: TV-Y, TV-G, G <input type="checkbox"/> Canada: C, G
Youth	Maximum ratings permitted are: <input type="checkbox"/> US: TV-PG, PG <input type="checkbox"/> Canada: 8 ans+
Young Adult	Maximum ratings permitted are: <input type="checkbox"/> US: TV-14, PG-13 <input type="checkbox"/> Canada: 14+, 13 ans+
Custom	Select to set ratings manually. <input type="checkbox"/> US: See page 45 for details. <input type="checkbox"/> Canada: See page 46 for details.
Change Password	For changing your password.

US Models: Selecting Custom Rating Options

 The content ratings will increase depending on the level of the age-based rating. For example, a program with a TV-PG V (Violence) rating may contain moderate violence, while a TV-14 V (Violence) rating may contain more intense violence.

 To ensure maximum blocking capability, the age-based ratings should be blocked.

 If you block unrated TV programs, be aware that the following types of programs may be blocked: emergency broadcasts, political programs, sports, news, public service announcements, religious programs and weather.

Viewing Blocked Programs

For US models, the Custom Rating Menu includes the following options. (For Canadian models, see page 46.)

<i>Option</i>	<i>Description</i>
Movie Rating	G All children and General Audience.
	PG Parental Guidance suggested.
	PG-13 Parental Guidance for children under 13.
	R Restricted viewing, parental guidance is suggested for children under 17.
	NC-17 and X No one 17 or under allowed.
TV Rating <i>Block programs by their rating, content or both</i>	Age-Based Options
	TV-Y All children.
	TV-Y7 Directed to older children.
	TV-G General Audience.
	TV-PG Parental Guidance suggested.
	TV-14 Parents Strongly cautioned.
	TV-MA Mature Audience only.
	Content-Based Options
	FV Fantasy Violence.
	D Suggestive Dialogue.
L Strong Language.	
S Sexual situations.	
V Violence.	
Unrated <i>Block programs or movies that are broadcast without a rating</i>	Block Blocks all programs and movies that are broadcast without a rating.
	Allow Allows programs and movies that are broadcast without a rating.

You can view blocked programs by entering the password. Press the ENTER button when tuned to a blocked program, then enter the password. This temporarily switches off the Parental Lock. To reactivate the Parental Lock settings, turn off the TV. When the TV is turned on again, your Parental Controls settings are reactivated.

Canadian Models: Selecting Custom Rating Options

For Canadian models, the Custom Rating Menu includes the following options. (For US models, see page 45.)

<i>Option</i>	<i>Description</i>	
English Rating	C	All children.
	C8	Children 8 years and older.
	G	General programming.
	PG	Parental Guidance.
	14+	Viewers 14 and older.
	18+	Adult programming.
French Rating	G	General programming.
	8 ans+	Not recommended for young children.
	13 ans+	Not recommended for ages under 13.
	16 ans+	Not recommended for ages under 16.
	18 ans+	Programming restricted to adults.
USA Rating	See "US Models" on page 45 for details.	


Viewing Blocked Programs

You can view blocked programs by entering the password. Press the ENTER button when tuned to a blocked program, then enter the password. This temporarily switches off the Parental Lock. To reactivate the Parental Lock settings, turn off the TV. When the TV is turned on again, your Parental Controls settings are reactivated.





Using the Timer Menu

To select the Timer Menu

- 1 Press MENU.
- 2 Use the joystick to move to the Timer icon  and press .



To set the Current Time

- 1 Use the joystick to select “Current Time”, then press .
- 2 If it is currently Daylight Savings Time, be sure to set the mode to “ON” first. (Daylight Savings Time starts in the Spring, and ends in the Fall.)
- 3 Use the joystick to enter the correct time, then press .
- 4 Press MENU to exit the menu screen.



To set the Timer

Before setting the timer, be sure to set your TV's clock to the current time (and, if appropriate, to Daylight Savings Mode).

- 1 Use the joystick to move to “Timer 1” or “Timer 2”, then press .
- 2 Use the joystick to enter your date, time and channel preferences, then press  to select each one.
- 3 Press MENU to exit the menu screen.

To reset the Clock or Timers

- Press RESET on the remote control, when in the Timer menu, to reset to the factory defaults.

Selecting Timer Options


The Timer Menu includes the following options:

Option	Description
Timer 1	Program
Timer 2	Program
	Select to set the Timer by day, time, duration, and channel.
	OFF
	Select to turn off the Timer. (Your previous settings will be saved.)
Current Time	Set the current time.
Daylight Savings	ON
	Select in the spring to turn on this mode during Daylight Saving Time.
	OFF
	Select in the fall to turn off this mode at the end of Daylight Saving Time.



Using the Setup Menu

To select the Setup Menu




- 1 Press MENU.
- 2 Use the joystick to move to the Setup icon  and press \leftarrow .
- 3 Use the joystick to scroll through the features.
- 4 Press \leftarrow to select a feature. (That feature's options appear.)
- 5 Use the joystick to scroll through the options.
- 6 Press \leftarrow to select the desired option.
- 7 Press MENU to exit the menu screen.




Selecting Setup Options

The Setup Menu includes the following options:


<i>Option</i>	<i>Description</i>
Caption Vision	Allows you to select from three closed-caption modes (for programs that are broadcast with closed caption).
CC1, CC2, CC3, CC4	Displays a printed version of the dialog or sound effects of a program. (Should be set to CC1 for most programs.)
TEXT1, TEXT2, TEXT3, TEXT4	Displays network/station information presented using either half or the whole screen (if available). For closed captioning, set to CC1.
XDS (Extended Data Service)	Displays a network name, program name, program length, and time of the show (if the broadcaster offers this service).
OFF	Turns off Caption Vision.

<i>Option</i>	<i>Description</i>
Video Label	Allows you to label the audio/video components you connected to the TV, so you can identify them when using the TV/VIDEO button. When in the Setup menu's Video Label feature, use the joystick to highlight an input to label, then press  to select it. Use the joystick to scroll through the labels. Press  to select the component you connected to each of the input jacks on the back of your TV. Select "Skip" if you do not have a component connected to a particular set of input jacks.
VIDEO 1/2/3	Choose VHS, 8mm, Beta, LD, Game, SAT, DVD, Web, Receiver, DTV, Skip
VIDEO 4	Choose DVD, DTV, Skip
	 If you select "Skip", your TV skips this connection when you press the TV/VIDEO button.
Tilt Correction	Allows you to correct any tilt of the picture.
Language	Select to display all on-screen menus in your language of choice.
16:9 Enhanced	Provides enhanced picture resolution for widescreen (anamorphic) sources, such as selected DVD titles (only available when the TV is in VIDEO mode). Press TV/VIDEO and select from one of the following options:
	ON To activate.
	OFF To turn off 16:9.
Demo	Runs a demonstration of on-screen menus.

 To use this feature with widescreen DVDs, set your DVD player to 16:9 aspect ratio.


Using the Basic Menu

To select the Basic Menu

- 1 Press MENU.
- 2 Use the joystick to move to the Basic icon  and press \leftarrow .
- 3 Use the joystick to scroll through the features.
- 4 Press \leftarrow to select a feature. (That feature's options appear.)
- 5 Use the joystick to scroll through the options.
- 6 Press \leftarrow to select the desired option.
- 7 Press MENU to exit the menu screen.



Selecting Basic Options

 As a shortcut to using the menus, use the \leftarrow button on the remote control to cycle through available audio settings.

The Basic Menu includes the following options:

<i>Option</i>	<i>Description</i>	
Picture	Adjust the picture contrast.	
Caption Vision	Displays your current advanced-menu setting: (CC1-4, TEXT 1-4, or XDS) and OFF.	
Effect	SRS	Produces a dynamic three-dimensional sound for stereo signals.
	Simulated	Adds a surround-like effect to mono programs.
	Surround	Select for Surround sound.
	OFF	Normal stereo or mono reception.
Advanced Menu	Select to return to the advanced menus.	

Other Information

Overview

This chapter includes the following topics:


<i>Topic</i>	<i>Page</i>
Programming the Remote Control	52
Operating Other Components with Your TV Remote Control	54
Troubleshooting	56
Specifications	58
Index	59

Programming the Remote Control

The remote control is preset to operate Sony-brand video equipment.

<i>Sony Equipment</i>	<i>Switch Position on Remote Control</i>	<i>Programmable Code Number</i>
Beta, ED Beta VCRs	AV1	303
8 mm VCR	AV2	302
VHS VCR	AV3	301
DVD Player	DVD	751


If you have video equipment other than Sony brand that you want to control with the TV's remote control, use the following procedure to program the remote control.

 The equipment must have infrared (IR) remote capability in order to be used with the remote control.



- ❑ If more than one code number is listed, try entering them one by one until you come to the correct code for your component.
- ❑ If you enter a new code number, the code number you previously entered at that setting is erased.
- ❑ In some cases, you may not be able to operate your component with the supplied remote control. In such cases, use the component's own remote control unit.
- ❑ Whenever you remove the batteries to replace them, the code numbers may revert to the factory setting and must be reset.

- 1 Check the list of "Manufacturer's Codes" on page 53, and find the three-digit code number for the manufacturer of your component. (If more than one code number is listed, use the number listed first.)

 You must do step 4 within 10 seconds of step 3, or you must redo steps 2 and 3.

- 2 Press CODE SET.
- 3 Press the function button for the type of component you want to control with the TV's remote control (VCR/DVD or SAT/CABLE).
- 4 Enter the three-digit manufacturer's code number.
- 5 Press ENTER.
- 6 To check if the code number works, aim the TV's remote control at the component and press the green POWER button that corresponds with that component. If it responds, you are done. If not, try using another code listed for that manufacturer.

Manufacturer's Codes

VCRs

<i>Manufacturer</i>	<i>Code</i>
Sony	301
Admiral (M. Ward)	327
Aiwa	338, 344
Audio Dynamic	314, 337
Broksonic	319, 317
Canon	309, 308
Citizen	332
Craig	302, 332
Criterion	315
Curtis Mathes	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318, 341
Fisher	330, 335
Funai	338
General Electric	329, 304, 309
Go Video	322, 339, 340
Goldstar	332
Hitachi	306, 304, 305, 338
Instant Replay	309, 308
JC Penney	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337, 345, 346, 347
Kenwood	314, 336, 332, 337
LXI (Sears)	332, 305, 330, 335, 338
Magnavox	308, 309, 310
Marantz	314, 336, 337
Marta	332
Memorex	309, 335
Minolta	305, 304
Mitsubishi/ MGA	323, 324, 325, 326
Multitech	325, 338, 321
NEC	314, 336, 337

<i>Manufacturer</i>	<i>Code</i>
Olympic	309, 308
Optimus	327
Panasonic	308, 309, 306, 307
Pentax	305, 304
Philco	308, 309
Philips	308, 309, 310
Pioneer	308
Quasar	308, 309, 306
RCA/ PROSCAN	304, 305, 308, 309, 311, 312, 313, 310, 329
Realistic	309, 330, 328, 335, 324, 338
Sansui	314
Samsung	322, 313, 321
Sanyo	330, 335
Scott	312, 313, 321, 335, 323, 324, 325, 326
Sharp	327, 328
Shintom	315
Signature 2000 (M. Ward)	338, 327
SV2000	338
Sylvania	308, 309, 338, 310
Symphonic	338
Tashiro	332
Tatung	314, 336, 337
Teac	314, 336, 338, 337
Technics	309, 308
Toshiba	312, 311
Wards	327, 328, 335, 331, 332
Yamaha	314, 330, 336, 337
Zenith	331

Laserdisc Players

<i>Manufacturer</i>	<i>Code</i>
Sony	701
Panasonic	704, 710
Pioneer	702

DVD Players

<i>Manufacturer</i>	<i>Code</i>
Sony	751
Hitachi	758
JVC	756
Magnavox	757
Mitsubishi	761
Oritron	759
Panasonic	753
Philips	757
Pioneer	752
RCA	755
Samsung	758
Toshiba	754
Zenith	760

Cable Boxes

<i>Manufacturer</i>	<i>Code</i>
Sony	230
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 Receivers

<i>Manufacturer</i>	<i>Code</i>
Sony	801
Dish Network	810
Echostar	810
General Electric	802
Hitachi	805
Hughes	804
Mitsubishi	809
Panasonic	803
RCA/ PROSCAN	802, 808
Toshiba	806, 807

Operating Other Components with Your TV Remote Control

Operating a VCR

Move the slide switch to the AV input you coded for the VCR.

<i>To Do This ...</i>	<i>Press</i>
Turn on/off	VCR/DVD (green POWER button)
Select VCR	VCR/DVD (FUNCTION button)
Change channels	CH +/-
Record	● and □ simultaneously.
Play	▶
Stop	■
Fast forward	▶▶
Rewind the tape	◀◀
Pause	(press again to resume normal playback)
Search the picture forward or backward	▶▶ or ◀◀ during playback (release to resume normal playback)
Change input mode	TV/VCR

Operating a DVD Player

Move the slide switch to the AV input you coded for the DVD Player.

<i>To Do This ...</i>	<i>Press</i>
Turn on/off	VCR/DVD (green POWER button)
Select DVD	VCR/DVD (FUNCTION button)
Play	▶
Stop	■
Pause	(press again to resume normal playback)
Step through different tracks of an audio disc	▶▶ to step forward, or ◀◀ to step backward
Step through different chapters of a video disc	CH+ to step forward, or CH- to step backward
Select tracks directly	0-9 buttons
Display the menu (Setup)	MENU

Operating a Cable Box

To Do This ...	Press
Turn on/off	SAT/CABLE (green POWER button)
Select Cable Box	SAT/CABLE (FUNCTION button)
Select a channel	0-9 buttons, ENTER
Change channels	CH +/-
Back to previous channel	JUMP

Operating a Satellite Receiver

To Do This ...	Press
Turn on/off	SAT/CABLE (green POWER button)
Select Satellite Receiver	SAT/CABLE (FUNCTION button)
Select a channel	0-9 buttons, ENTER
Change channels	CH +/-
Back to previous channel	JUMP
Change input mode	TV/SAT
Display channel number	DISPLAY
Display DBS guide	GUIDE
Display DBS menu	MENU
Move highlight (cursor)	Joystick
Select item	↔ button

Operating an MDP (Laserdisc Player)

Move the slide switch to the AV input you coded for the selected switch position.

To Do This ...	Press
Turn on/off	VCR/DVD (green POWER button)
Select AV 1, 2, 3 or DVD switch position	VCR/DVD (FUNCTION button)
Play	▶
Stop	■
Pause	⏸ (press again to resume normal playback)
Search the picture forward or backward	▶▶ or ◀◀ during playback (release to resume normal playback)
Search a chapter forward or backward	CH +/-

Troubleshooting

<i>Problem</i>	<i>Possible Remedies</i>
Reset TV to factory settings	<ul style="list-style-type: none">❑ Turn on the TV. While holding down the RESET button on the remote control, press the POWER button on the TV. (The TV will turn itself off, then back on again.) Release the RESET button.
No picture (screen not lit), no sound	<ul style="list-style-type: none">❑ If your TV does not turn on, and a red light keeps flashing, your TV may need service. Call your local Sony Service Center.❑ Make sure the power cord is plugged in.❑ Push the power button on the front of the TV.❑ Check to see if the TV/VIDEO setting is correct: when watching TV, set to TV. When watching connected equipment, set to VIDEO 1, 2, 3, or 4, as appropriate.❑ Try another channel, it could be station trouble.
Remote control does not operate	<ul style="list-style-type: none">❑ Batteries could be weak. Replace the batteries.❑ Press TV (FUNCTION) when operating your TV.❑ Make sure the TV's power cord is connected securely to the wall outlet.❑ Locate the TV at least 3-4 feet away from fluorescent lights.❑ Check the orientation of the batteries.
Dark, poor or no picture (screen lit), good sound	<ul style="list-style-type: none">❑ Adjust the Picture setting in the Video menu (see page 38).❑ Adjust the Brightness setting in the Video menu (see page 38).❑ Check antenna/cable connections.
Good picture, no sound	<ul style="list-style-type: none">❑ Press MUTING so that "MUTING" disappears from the screen (see page 4).❑ Make sure Speaker is set to ON in the Audio menu (see page 40).
Cannot receive upper channels (UHF) when using an antenna	<ul style="list-style-type: none">❑ Change Cable to OFF (see page 42).❑ Use Auto Program in the Channel menu to add receivable channels that are not presently in the TV's memory (see page 42).
No color	<ul style="list-style-type: none">❑ Adjust the Color settings in the Video menu (see page 38).
Only snow and noise appear on the screen	<ul style="list-style-type: none">❑ Check the antenna/cable connections.❑ Try another channel; it could be station trouble.❑ Press ANT to change the input mode (see page 5).
Dotted lines or stripes	<ul style="list-style-type: none">❑ Adjust the antenna.❑ Move the TV away from noise sources such as cars, neon signs, or hair-dryers.
TV is fixed to one channel	<ul style="list-style-type: none">❑ Use Auto Program in the Channel menu to add receivable channels that are not presently in the TV's memory (see page 42).❑ Check your Channel Fix settings (see page 42).
Double images or ghosts	<ul style="list-style-type: none">❑ Using a highly directional outdoor antenna or a cable may solve the problem.
Cannot operate menu	<ul style="list-style-type: none">❑ If the item you want to choose appears in gray, you cannot select it.
Cannot receive any channels when using cable TV	<ul style="list-style-type: none">❑ Use Auto Program in the Channel menu to add receivable channels that are not presently in the TV's memory (see page 42).❑ Check your cable settings.❑ Make sure Cable is set to ON in the Channel menu (see page 42).

<i>Problem</i>	<i>Possible Remedies</i>
Cannot gain enough volume when using a cable box	<ul style="list-style-type: none"> ❑ Increase the volume of the cable box using the cable box's remote control. Then press TV (FUNCTION) and adjust the TV's volume.
Cannot receive channels	<ul style="list-style-type: none"> ❑ Use Auto Program in the Channel menu to add receivable TV channels that are not presently in TV memory (see page 42).
Unable to select a channel	<ul style="list-style-type: none"> ❑ Use Auto Program in the Channel menu to add receivable TV channels that are not presently in TV memory (see page 42).
Lost password	<ul style="list-style-type: none"> ❑ In the password screen (see page 44), enter the following master password: 4357. The master password clears your previous password; it cannot be used to temporarily unblock channels.
Cannot change channels with the remote control	<ul style="list-style-type: none"> ❑ If you are using the TV to change channels, be sure the TV FUNCTION button is selected. ❑ If you are using another device to change channels, be sure you have not inadvertently switched your TV from the channel 3 or 4 setting. Use the Channel Fix feature to "fix" the channel based on the hookup you used (see page 42). ❑ If you are using another device to change channels, be sure to press the green "FUNCTION" button for that device. For example, if you are using your VCR to change channels, be sure to press the VCR/DVD FUNCTION button.
Cannot cycle through the other video equipment connected to the TV	<ul style="list-style-type: none"> ❑ Be sure the Video Label feature has not been set to "Skip" (see page 49).
There is a black box on the screen	<ul style="list-style-type: none"> ❑ You have selected a text option in the Setup menu and no text is available. (See page 48 to reset Setup selections.) To turn off this feature, select OFF in the Caption Vision option. If you were trying to select closed captioning, select CC1 instead of TEXT 1-4.
The remote control will not work in PIP mode	<ul style="list-style-type: none"> ❑ Press the TV FUNCTION button. You may have inadvertently pressed the VCR/DVD FUNCTION button, which changes the PIP buttons to VCR mode.
There is no window picture or it is just static	<ul style="list-style-type: none"> ❑ Be sure your window picture is set to a video source/channel that has a program airing. ❑ You may be tuned to a video input with nothing connected to it. Try cycling through your video inputs using the PIP TV/VIDEO button. ❑ PIP is not set to receive a signal from the AUX input. If you connected a VCR, DVD player or Satellite Receiver to the AUX input on the TV, it will not show in the small window picture.
I get the same program in the window picture as in the main picture	<ul style="list-style-type: none"> ❑ Both may be set to the same channel. Try changing channels in either the main picture or the window picture. ❑ You may be using a cable box for all your channels. If you must have a cable box to unscramble all channels, then you are limited to only one picture (because that is all that the cable box allows - one channel at a time). But if you need the cable box only part time (to unscramble premium channels), then you can use PIP when you are not using the cable box (when you use the CATV cable without going through the box).
I cannot get anything but TV in my window picture	<ul style="list-style-type: none"> ❑ Be sure the video label has not been set to skip your video inputs. (See the Setup menu on page 49.)

If, after reading these operating instructions, you have additional questions related to the use of your Sony television, please call our Direct Response Center at 1-800-222-SONY (7669) (U.S. residents only) or (416) 499-SONY (7669) (Canadian residents only).

Specifications

All Models (General)

Picture Tube	FD Trinitron® tube	
Antenna	75 ohm external terminal for VHF/UHF	
Television System	NTSC, American TV Standard	
Channel Coverage		
VHF	2-13	
UHF	14-69	
CATV	1-125	
Power Requirements	120V, 60 Hz	
Number of Inputs/Outputs		
Video (IN)	3	1 Vp-p, 75 ohms unbalanced, sync negative
S Video (IN)	2	Y: 1 Vp-p, 75 ohms unbalanced, sync negative C: 0.286 Vp-p (Burst signal), 75 ohms
Audio (IN)	4	500 mVrms (100% modulation) Impedance: 47 kilohm
Variable/Fixed Audio (OUT)	1	More than 408 mVrms at the maximum volume setting (Variable) More than 408 mVrms (Fixed) Impedance (output): 2 kilohms
CONTROL-S (IN/OUT)	1	
Component Video Input	1 (Y, P _B , P _R)	Y: 1.0 Vp-p, 75 ohms unbalanced, sync negative; P _B : 0.7 Vp-p, 75 ohms P _R : 0.7 Vp-p, 75 ohms

KV-32FV27

Supplied Accessories

Remote Control	RM-Y182
AA (R6) Batteries	2 supplied for remote control, 1 supplied for wireless headphones
Wireless Stereo Headphones	MDR-IF0230

Optional Accessories

AV Cable	VMC-810/820/830 HG
Audio Cable	RKC-515HG
Component Video Cable	VMC-10/30 HG
TV Stand	SU-32FD4

Visible Screen Size	32 in (812.8 mm) picture measured diagonally
Actual CRT Size	34 in (863.6 mm) picture measured diagonally
Speaker Output	15 W x 2
Dimensions (W x H x D)	882 x 687 x 592 mm (34 3/4 x 27 x 23 1/4 in)
Mass	80 kg (176 lbs)
Power Consumption	
In Use	210 W
In Standby	2 W

KV-36FV27**Supplied Accessories**

Remote Control	RM-Y182
AA (R6) Batteries	2 supplied for remote control, 1 supplied for wireless headphones
Wireless Stereo Headphones	MDR-IF0230

Optional Accessories

AV Cable	VMC-810/820/830 HG
Audio Cable	RKC-515HG
Component Video Cable	VMC-10/30 HG
TV Stand	SU-36FD4

Visible Screen Size	36 in (914.4 mm) picture measured diagonally
---------------------	--

Actual CRT Size	38 in (965.2 mm) picture measured diagonally
-----------------	--

Speaker Output	15 W x 2
----------------	----------

Dimensions (W x H x D)	975 x 757 x 633 mm (38 3/8 x 29 3/4 x 24 7/8 in)
------------------------	--

Mass	107 kg (236 lbs)
------	------------------

Power Consumption

In Use	210 W
In Standby	2 W

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PRINTING THE SERVICE MANUAL

The PDF of this service manual is not designed to be printed from cover to cover. The pages vary in size, and must therefore be printed in sections based on page dimensions.

NON-SCHEMATIC PAGES

Data that does NOT INCLUDE schematic diagrams are formatted to 8.5 x 11 inches and can be printed on standard letter-size and/or A4-sized paper.

SCHEMATIC DIAGRAMS

The schematic diagram pages are provided in two ways, full size and tiled. The full-sized schematic diagrams are formatted on paper sizes between 8.5" x 11" and 18" x 30" depending upon each individual diagram size. Those diagrams that are LARGER than 11" x 17" in full-size mode have been tiled for your convenience and can be printed on standard 11" x 17" (tabloid-size) paper, and reassembled.

TO PRINT FULL SIZE SCHEMATIC DIAGRAMS

If you have access to a large paper plotter or printer capable of outputting the full-sized diagrams, output as follows:

- 1) Note the page size(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.
- 2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your large format printer. Confirm that the printer settings are set to output the indicated page size or larger.
- 3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT TILED VERSION OF SCHEMATICS



Schematic pages that are larger than 11" x 17" full-size are provided in a 11" x 17" printable tiled format near the end of the document. These can be printed to tabloid-sized paper and assembled to full-size for easy viewing.


If you have access to a printer capable of outputting the tabloid size (11" x 17") paper, then output the tiled version of the diagram as follows:

- 1) Note the page number(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.
- 2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your printer. Confirm that the plotter settings are set to output 11" x 17", or tabloid size paper in landscape () mode.
- 3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT SPECIFIC SECTIONS OF A SCHEMATIC

To print just a particular section of a PDF, rather than a full page, access the Graphics Select tool in the Acrobat Reader tool bar.

- 1) To view the Graphics Select Tool, press and HOLD the mouse button over the Text Select Tool which looks like:  This tool will expand to reveal to additional tools. Choose the Graphics Select tool by placing the cursor over the button on of the far right that looks like: 
- 2) After selecting the Graphics Select Tool, place your cursor in the document window and the cursor will change to a plus (+) symbol. Click and drag the cursor over the area you want to print. When you release the mouse button, a marquee (or dotted lined box) will be displayed outlining the area you selected.
- 3) With the marquee in place, go to the file menu and select the "Print..." option. When the print window appears, choose the option under the section called "Print Range" which says "Selected Graphic".

Select OK and the output will print only the area that you outlined with the marquee. 

(continued >)

ON-SCREEN SEARCH OPTION

All of the text within the service manual PDF is content searchable. This means that you can enter any text, word, phrase or reference number that appears in the manual, and the PDF software will search, find and move the cursor to the location where you requested text first appears. This feature can be particularly useful in locating components on a specific schematic or printed wire circuit board (PWB) diagrams.

Follow these steps to effectively locate a component on a schematic diagram:

- 1) Locate the schematic you want to search by clicking on the corresponding bookmark on the left side of the screen. The view on the right of the screen will then jump to the desired schematic page.
- 2) Magnify the diagram to at least 400% before conducting a component search. This will enable you to easily view the reference number when it is highlighted on screen. To do this, click on the magnifying glass button on the tool bar at the top of the screen. Move the cursor over the diagram and RIGHT click you mouse. Select the 400% magnification option on the pop-up menu. Click on the button with the icon of the open hand to deactivate the magnification tool
- 3) Search the diagram (or the entire manual) by clicking on the binocular button tool at the top of the screen. The "Find" window will appear and allow you to type in your desired text. Type in a reference designator, such as R502, and click on the "Find" button. If the component is not on the diagram, but is listed anywhere else in the manual, the cursor will jump to the first location the text is found in the file. To find another instance of that same text, click on the binocular button again and select "Find Again."