Self Diagnosis Supported model

SERVICE MANUAL

BA-6 CHASSIS

MODEL NAME	REMOTE COMMANDER	DESTINATION	CHASSIS NO.
KV-20FS100	RM-Y173	US	SCC-S61A-A
KV-20FS100	RM-Y173	CND	SCC-S59A-A
KV-20FV300	RM-Y180	US	SCC-S61B-A
KV-20FV300	RM-Y180	CND	SCC-S59B-A
KV-21FM100	RM-Y172	LATIN NORTH	SCC-S60E-A
KV-21FM100	RM-Y172	LATIN SOUTH	SCC-S60F-A
KV-21FS100	RM-Y173	LATIN NORTH	SCC-S60A-A
KV-21FS100	RM-Y173	LATIN SOUTH	SCC-S60B-A
KV-21FV300	RM-Y180	LATIN SOUTH	SCC-S60D-A
KV-21FV300	RM-Y180	LATIN NORTH	SCC-S60C-A
KV-24FV300	RM-Y180	US	SCC-S61C-A
KV-24FV300	RM-Y180	CND	SCC-S59C-A
KV-25FV300	RM-Y180	LATIN NORTH	SCC-S60G-A
KV-25FV300	RM-Y180	LATIN SOUTH	SCC-S60H-A

KV-24FV300

RM-Y180

TRINITRON® COLOR TELEVISION

SONY®

9-965-922-03

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SECTION TITLE **PAGE**

SPECIFICATIONS

	KV-21FM100 (N)	KV-21FM100 (S)	KV-21FS100 (S)	KV-20FS100/ 21FS100 (N)
Power requirements	120V, 60Hz	220V, 50/60Hz	220V, 50/60Hz	120V, 60Hz
Number of Inputs/Outputs				
Video [1]	2	2	2	2
S Video [2]	0	0	0	0
Y, P_B, P_R [3]	0	0	1	1
Audio [4]	2	2	4	4
Audio Out [5]	0	0	0	0
Speaker output (W)	3W x 2	3W x 2	5W x 2	5W x 2
Headphones [5]	1	1	1	1
Power Consumption (W)				
In use (Max)	115W	110W	115W	120W
In Standby	1W	1W	1W	1W
Dimensions(W/H/D)				
mm	592 x 466 x 494 mm	592 x 466 x 494 mm	592 x 466 x 494 mm	592 x 466 x 494 mm
in	23 1/4 x 18 3/8 x 19 1/2	23 1/4 x 18 3/8 x 19 1/2	23 1/4 x 18 3/8 x 19 1/2	23 1/4 x 18 3/8 x 19 1/2
Mass				
kg	24.8 kg	24.8 kg	24.8 kg	24.8 kg
lbs	54 lbs. 11 oz.	54 lbs. 11 oz.	54 lbs. 11 oz.	54 lbs. 11 oz.

	KV-20FV300/ 21FV300 (N)	KV-21FV300 (S)	KV-24FV300/ 25FV300 (N)	KV-25FV300 (S)
Power requirements	120V, 60Hz	220V, 50/60Hz	120V, 60Hz	220V, 50/60Hz
Number of Inputs/Outputs				
Video [1]	2	2	2	2
S Video [2]	1	1	1	1
Y, P_B, P_R [3]	1	1	1	1
Audio [4]	4	4	4	4
Audio Out [5]	1	1	1	1
Speaker output (W)	10W x 2	10W x 2	10W x 2	10W x 2
Headphones [5]	1	1	1	1
Power Consumption (W)				
In use (Max)	155W	155W	180W	180W
In Standby	1W	1W	1W	1W
Dimensions(W/H/D)				
mm	609 x 463 x 502 mm	609 x 463 x 502 mm	762 x 625 x 570 mm	762 x 625 x 570 mm
in	24 x 18 1/4 x 19 3/4	24 x 18 1/4 x 19 3/4	30 x 22 7/16 x 24 5/8	30 x 24 5/8 x 22 7/16
Mass				
kg	27 kg.	27 kg.	37 kg	37 kg
lbs	59 lbs. 8 oz.	59 lbs. 8 oz.	81 lbs. 9 oz.	81 lbs. 9 oz.

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

Television system
American TV Standard, NTSC

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

Picture tube
FD Trinitron® tube

Visible screen size
20/21-20 inch picture measured diagonally
24/25-24 inch picture measured diagonally

Actual screen size
20/21-21 inch measured diagonally
24/25-25 inch measured diagonally

Antenna
75 ohm external terminal for VHF/UHF

Supplied Accessories
Remote Commander:
RM-Y172
(KV-21FM100 ONLY)
RM-Y173
(KV-20FS100/21FS100 ONLY)
RM-Y180
(KV-20FV300/21FV300/24FV300/25FV300 ONLY)
Size AA (R6) batteries (2)
Antenna, Telescopic
(KV-21FM100/21FS100/21FV300/25FV300 ONLY)

(●) SRS (SOUND RETRIEVAL SYSTEM)

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

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

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

Design and specifications are subject to change without notice.

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!!

Apres avoir deconnecte le cap de l'anode, court-circuiter l'anode du tube cathodique et celui de l'anode du cap au chassis metallique de l'appareil, ou la couche de carbone peinte sur le tube cathodique ou au blindage du tube cathodique.

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

⚠ ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

Les composants identifies par une trame et par une marque ⚠ sur les schemas de principe, les vues explosees et les listes de pieces sont d'une importance critique pour la securite du fonctionnement. Ne les remplacer que par des composants Sony dont le numero de piece est indique dans le present manuel ou dans des supplements publies par Sony. Les reglages de circuit dont l'importance est critique pour la securite du fonctionnement sont identifies dans le present manuel. Suivre ces procedures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement suspecte.

SAFETY CHECK-OUT

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

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

2. Check the interboard wiring to ensure that no wires are “pinched” or 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.

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 milliampmeter. 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).

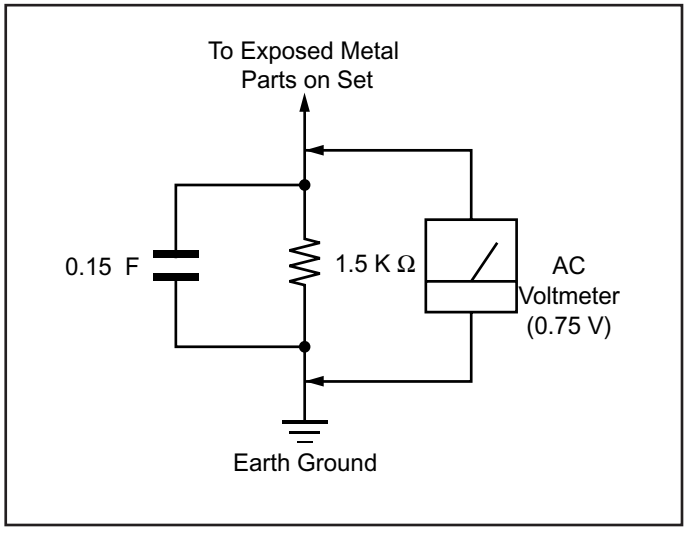


Figure A. Using an AC voltmeter to check AC leakage.

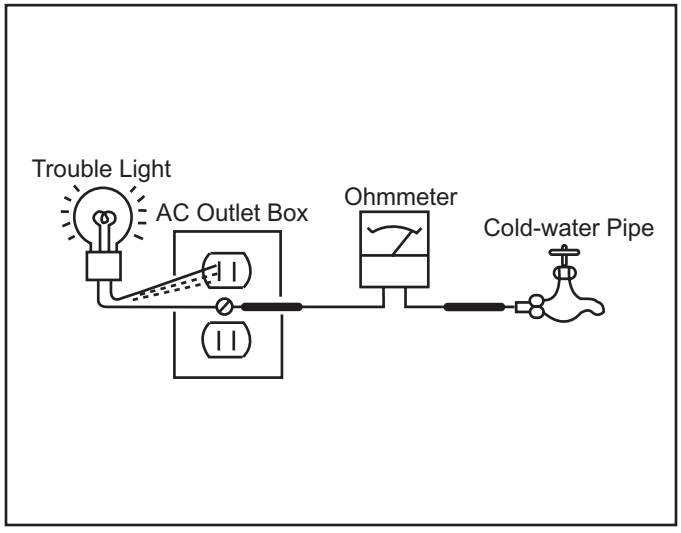


Figure B. Checking for earth ground.

SELF-DIAGNOSTIC FUNCTION

Self Diagnosis Supported model

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.

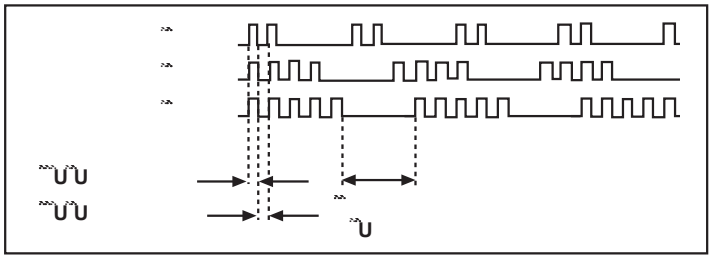
Results for all of the following diagnostic items are displayed on screen. No error has occurred if the screen displays a "0".

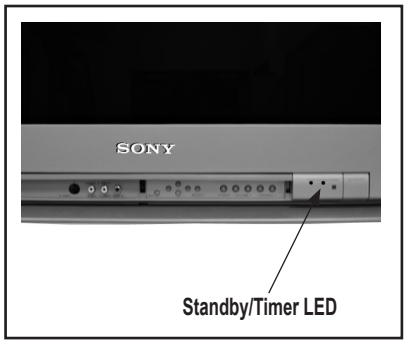
Diagnostic Item Description	No. of times STANDBY/ TIMER lamp flashes	Self-Diagnositc Display/ Diagnostic Result	Probable Cause Location	Detected Symptoms
Power does not turn on	Does not light	————	• Power cord is not plugged in. • Fuse is burned out (F601). (A Board)	• Power does not come on. • No power is supplied to the TV. • AC Power supply is faulty.
+B overcurrent (OCP)*	2 times	2:0 or 2:1	• H.OUT (Q505 OR Q506) is shorted. (A Board) • IC1751 is shorted. (CV Board)	• Power does not come on. • Load on power line is shorted.
I-Prot	4 times	4:0 or 4:1	• +13V is not supplied. (A Board) • IC1545 is faulty. (A Board)	• 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	• Viedo OUT (IC1545) is faulty. (A Board) • IC001 is faulty. (A Board) • Screen (G2) is improperly adjusted.**	• 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 mircrocontroller 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*
+B Overcurrent	2 times
I-Prot	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:

Display ➡ Channel 5 ➡ Sound Volume - ➡ Power ON

⇧ Note that this differs from entering the Service Mode (Sound Volume +).

Self-Diagnostic Screen Display

```
SELF DIAGNOSTIC
2:  000
3:  N/A
4:  000
5:  001
101: N/A
```

Numeral “0” means that no fault was detected.
Numeral “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

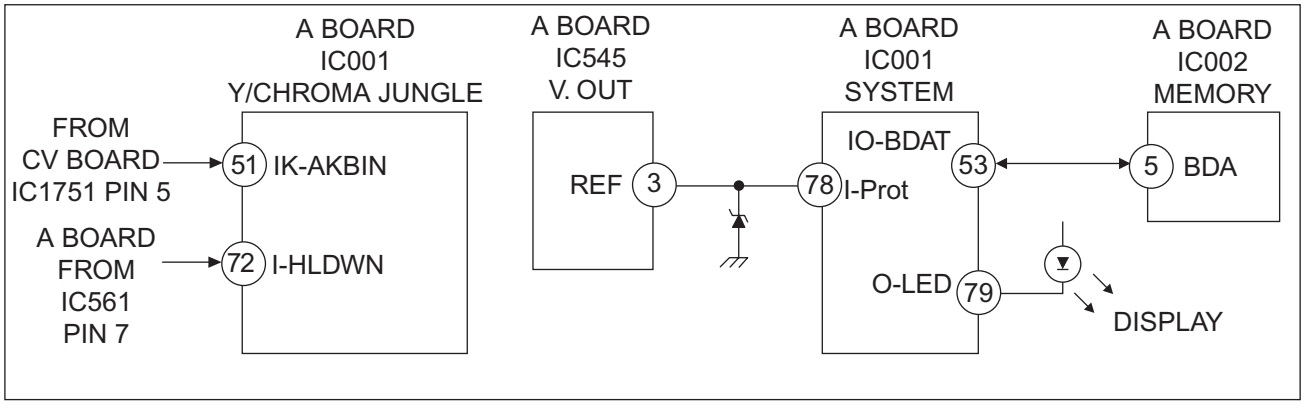
To clear the result display to “0”, press buttons on the Remote Commander sequentially when the diagnostic screen is displayed, as shown below:

Channel 8 ➡ ENTER

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 72 of IC001 (A Board). If the voltage of pin 72 of IC001 (A Board) is less than 1V when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.

I-Prot

Occurs when an absence of the vertical deflection pulse is detected by pin 78 of IC001 (A Board). Power supply will shut down when waveform interval exceeds 2 seconds.

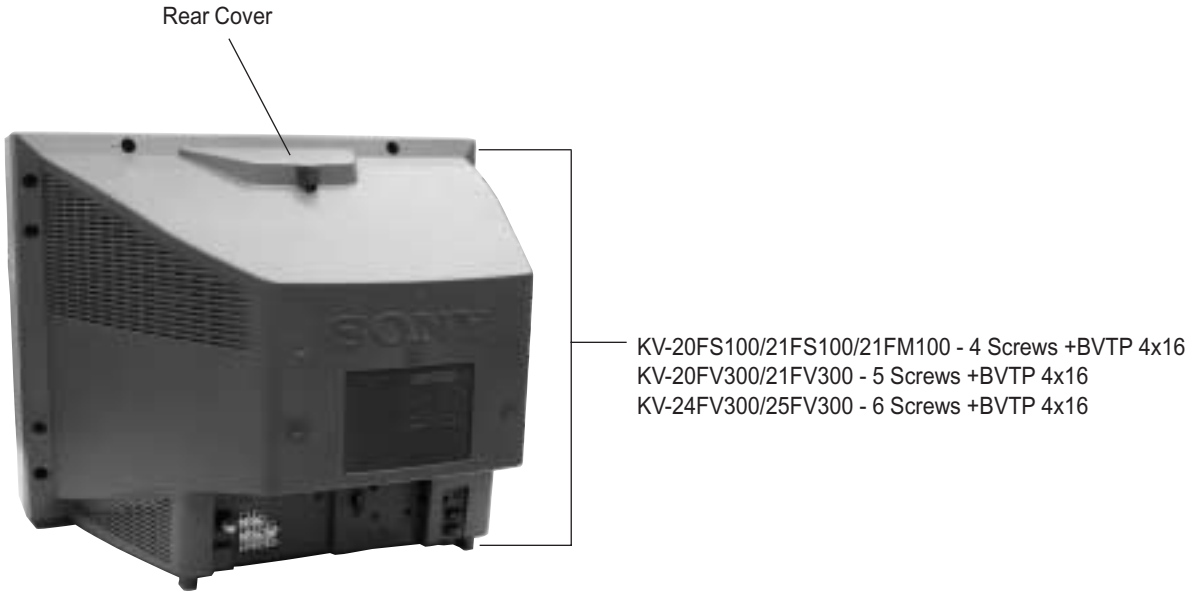
IK (AKB)

If the RGB levels* do not balance within 2 seconds after the power is turned on, this error will be detected by IC001 (A Board). TV will stay on, but there will be no picture.

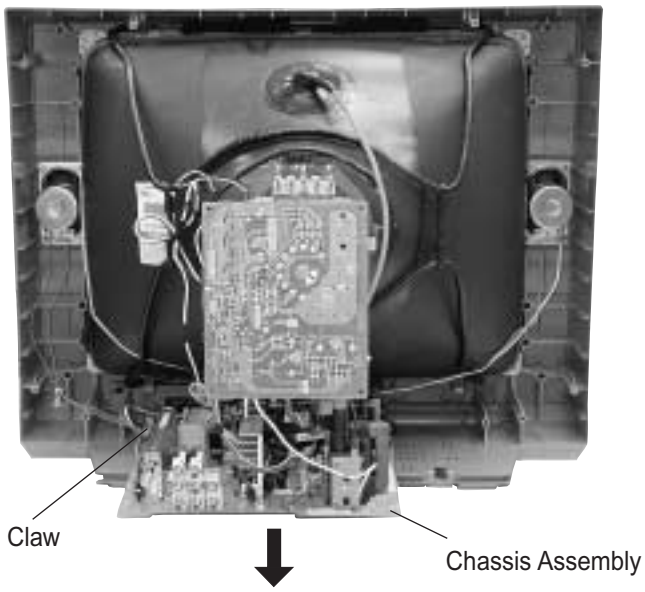
*(Refers to the RGB levels of the AKB detection Ref pulse that detects 1K).

SECTION 1: DISASSEMBLY

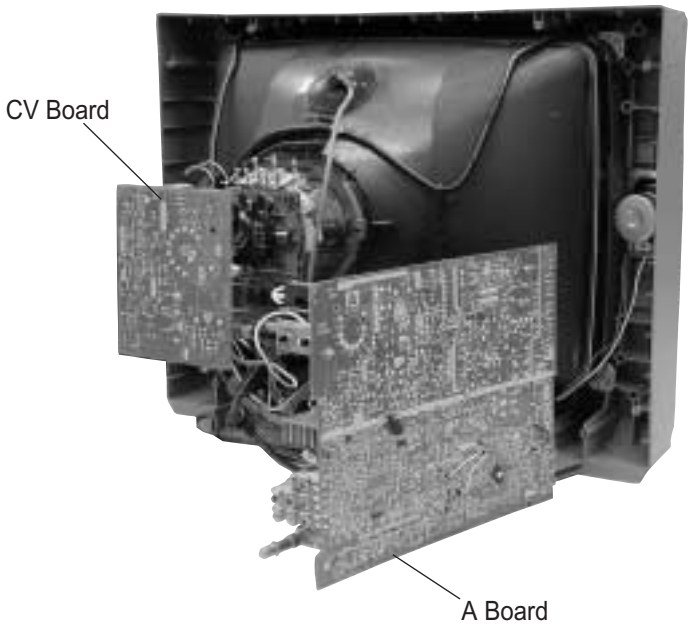
1-1. REAR COVER REMOVAL



1-2. CHASSIS ASSEMBLY REMOVAL

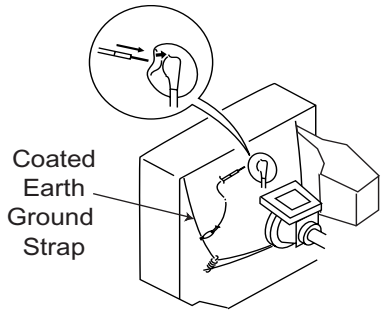


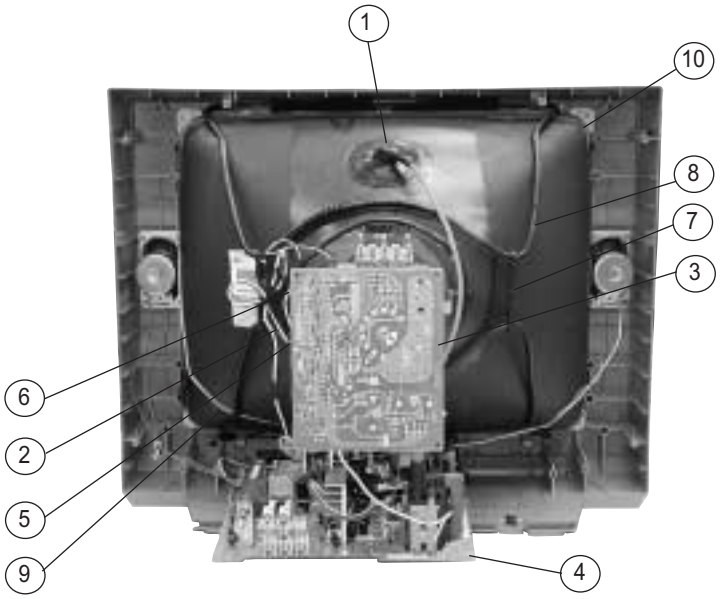
1-3. SERVICE POSITION



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.

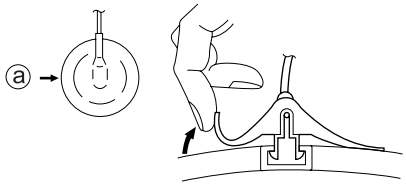




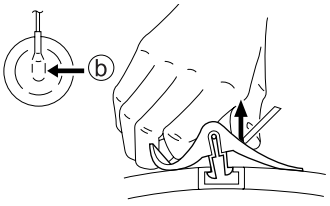
1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the deflection yoke, neck assembly, degaussing coils and CRT grounding strap.
3. Remove the CV Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the neck assembly fixing screw and remove.
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

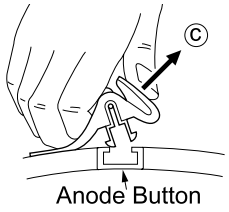
WARNING: High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT **before** attempting to remove the anode cap. Short between anode and coated earth ground strap of CRT.
NOTE: After removing the anode cap, short circuit the anode of the picture tube and the anode cap to either the metal chassis, CRT shield, or carbon painted on the CRT.



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



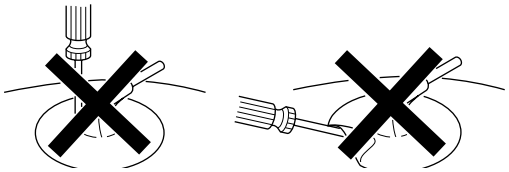
Use your thumb to pull the rubber cap firmly in the direction indicated by arrow ⓑ .



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 ⓒ .

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.

Set the controls as follows unless otherwise noted:
VIDEO MODE: Standard
PICTURE CONTROL: Normal
BRIGHTNESS CONTROL: Normal

Perform the adjustments in order as follows:

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

Note Test Equipment Required:

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter

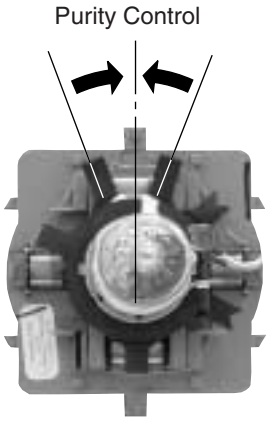
2-1. BEAM LANDING

Before beginning adjustment procedure:

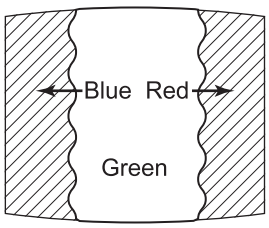
1. Degauss the entire screen.
2. Feed in the white pattern signal.

ADJUSTMENT PROCEDURE

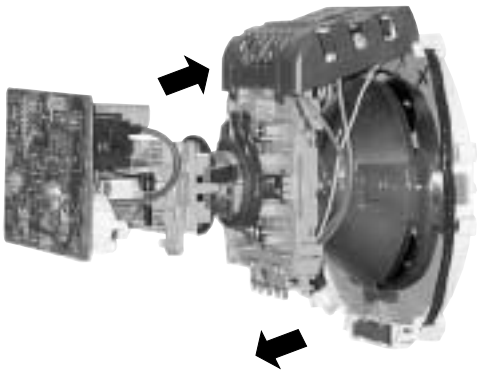
1. Input a raster signal with the pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown below:

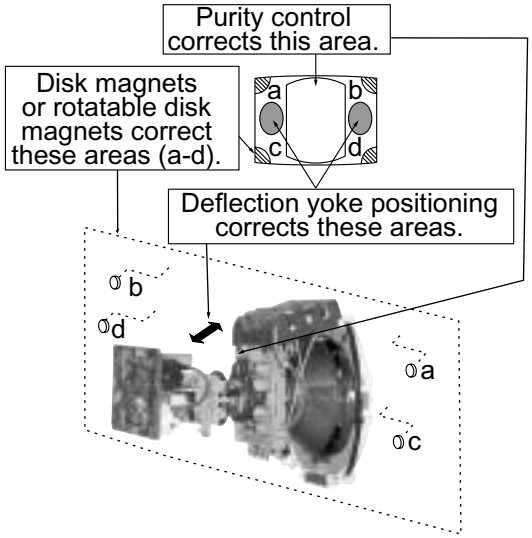


3. Turn the raster signal of the pattern generator to green.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are even on both sides.



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. If landing at the corner is not right, adjust by using the disk magnets.





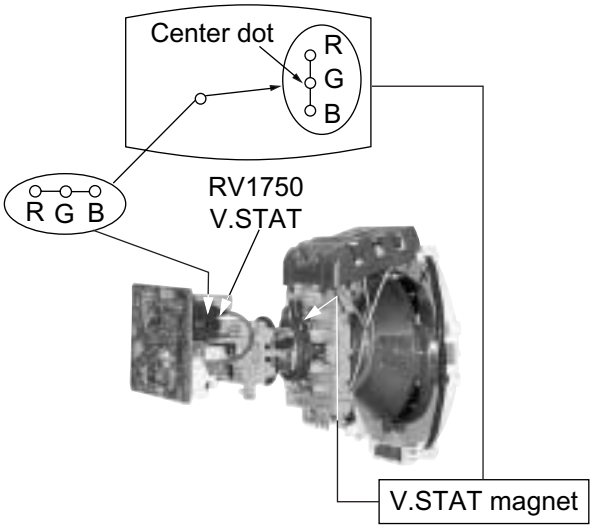
2-2. CONVERGENGE

Before starting convergence adjustments:

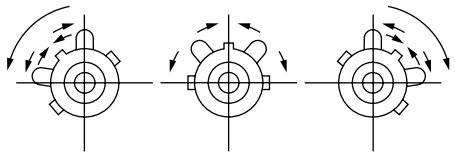
1 Perform FOCUS, VLIN and VSIZE adjustments.
2. Set BRIGHTNESS control to minimum.
3. Feed in dot pattern.

VERTICAL STATIC CONVERGENCE

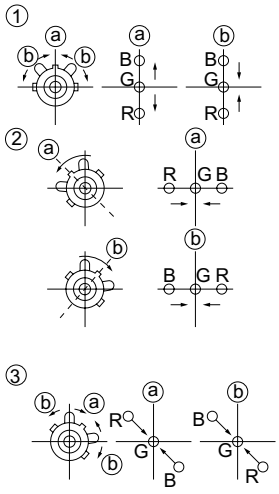
1. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen (Vertical movement adjust S V.STAT RV1750 to converge).



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



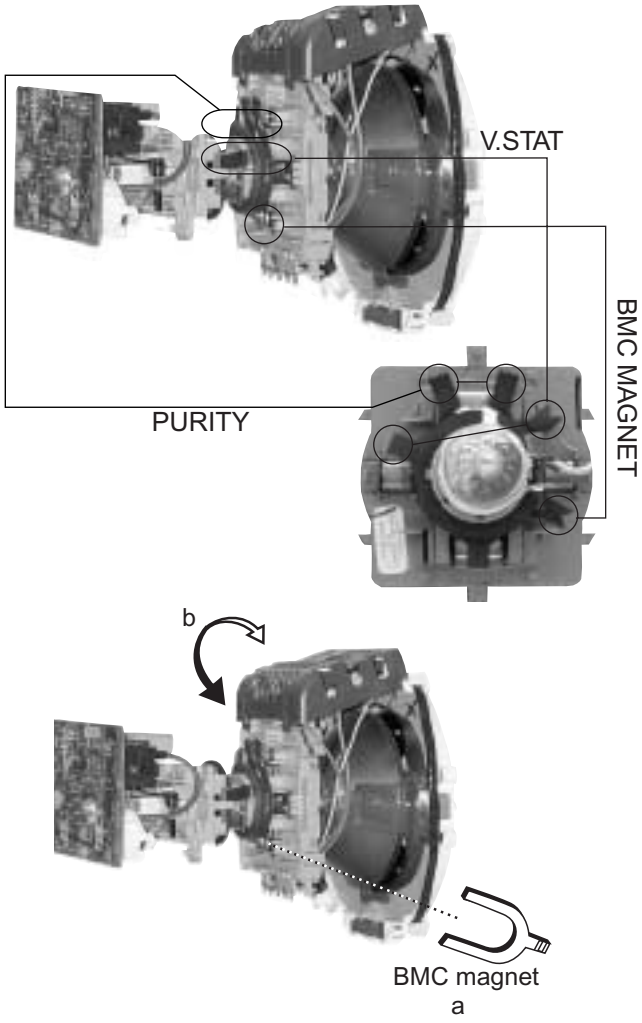
When the V. STAT magnet is moved in the direction of arrow a and b, red, green, and blue dots move as shown below:



HORIZONTAL STATIC CONVERGENCE

If the blue dot does not converge with the red and green dots, peform the following:

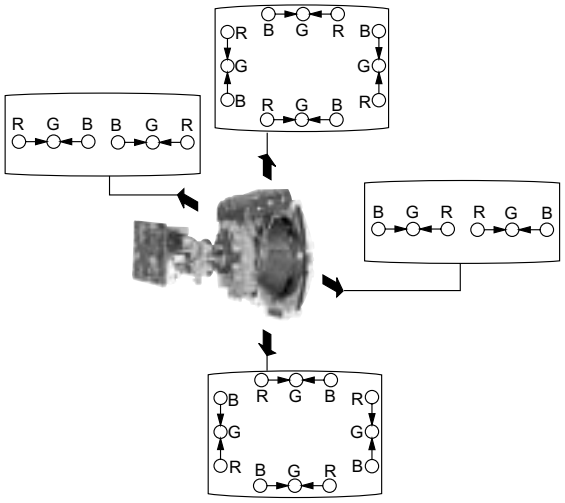
1. Move BMC magnet (a) to correct insufficient H.Static convergence.
2. Rotate BMC magnet (b) to correct insufficient V.Static convergence.
3. After adjusting the BMC magnet, repeat Beam Landing Adjustment.



DYNAMIC CONVERGENCE ADJUSTMENT

Before performing this adjustment, perform Horizontal and Vertical Static Convergence Adjustment.

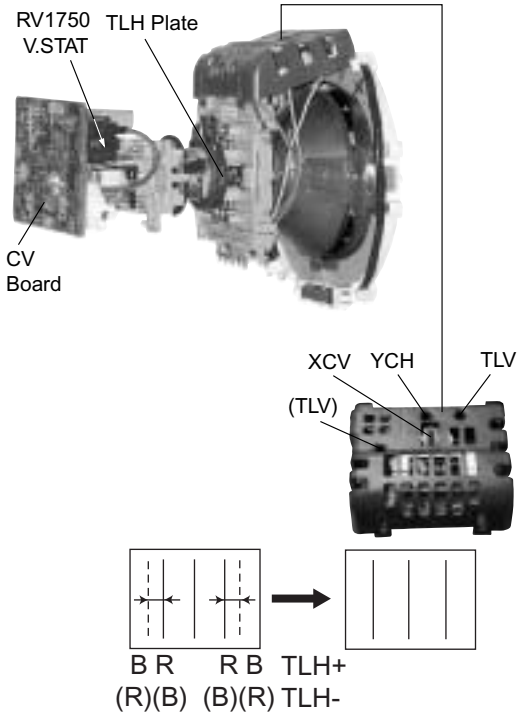
1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below:



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

TLH PLATE ADJUSTMENT

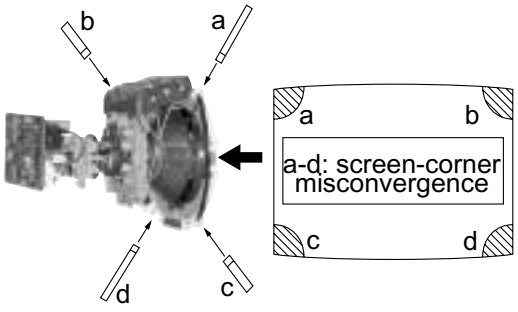
1. Input crosshatch pattern.
2. Adjust PICTURE QUALITY to standard, PICTURE and BRIGHTNESS to 50%, and OTHER to standard.
3 Adjust the Horizontal Convergence of red and blue dots by tilting the TLH plate on the deflection yoke.



4. Adjust XCV core to balance X axis.
5. Adjust YCH VR to balance Y axis.
6. Adjust vertical red and blue convergence with V.TILT (TLV VR.)
   Note: Perform adjustment 3-6 while tracking items 1 and 2.

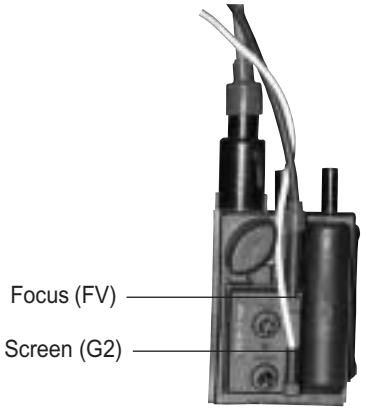
SCREEN-CORNER CONVERGENCE

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



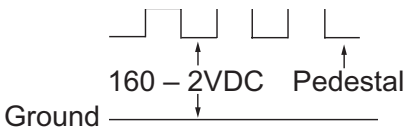
2-3. FOCUS

1. Adjust FOCUS control for best pictures.



2-4. SCREEN (G2)

1. Input a dot pattern.
2. Set the PICTURE and BRIGHTNESS controls at minimum and COLOR control at normal.
3. Adjust SBRT, GCUT, BCUT in service mode with an oscilloscope as shown below so that voltages on the red, green, and blue cathodes are 160 ± 2VDC.



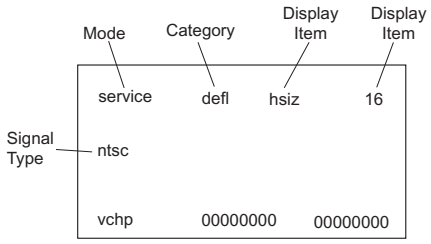
2-5. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

SERVICE MODE PROCEDURE

1. Standby mode (power off).
2. Press [Display] ➡ Channel [5] ➡ Sound Volume [+] ➡ Power on the Remote Commander (press each button within a second).

SERVICE ADJUSTMENT MODE ON

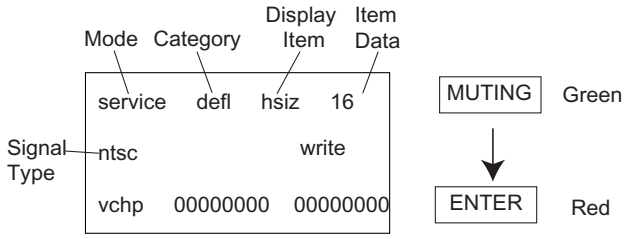
1. The CRT displays the time being adjusted.



2. Press [1] or [4] on the Remote Commander to select the time.
3. Press [3] or [6] on the Remote Commander to change the data.
4. Press [MUTING] then [ENTER] to save into the memory.

SERVICE ADJUSTMENT MODE MEMORY

Turn the set off then on to exit Service Adjustment Mode.



2-6. WHITE BALANCE ADJUSTMENTS

1. Input an entire white signal with burst.
2. Set to Service Adjustment Mode.
3. Set the PICTURE and BRIGHTNESS to minimum.
4. Adjust with SBRT if necessary.
5. Select GCUT and BCUT with [1] and [4] .
6. Adjust with [3] and [6] for the best white balance.
7. Set the PICTURE and BRIGHTNESS to maximum.
8. Select GDRV and BDRV with [1] and [4].
9. Adjust with [3] and [6] for the best white balance.
10. To write into memory, press [MUTING] then [ENTER].

SECTION 3: SAFETY RELATED ADJUSTMENTS

3-1. ⋈ R565 CONFIRMATION METHOD (HV HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components which are marked with ◪ on the schematic diagram:

Part Replaced (◪)	Adjustment (⋈)
DY, T585, CRT, IC001, IC561, C507, C508, C506, T511, L510, C588, L588, C566, C561, C563, D567, D568, D566, R567, R568, R565, R566, R562, R563, R561, R528.....A Board	HV HOLD-DOWN R565

PREPARATION BEFORE CONFIRMATION

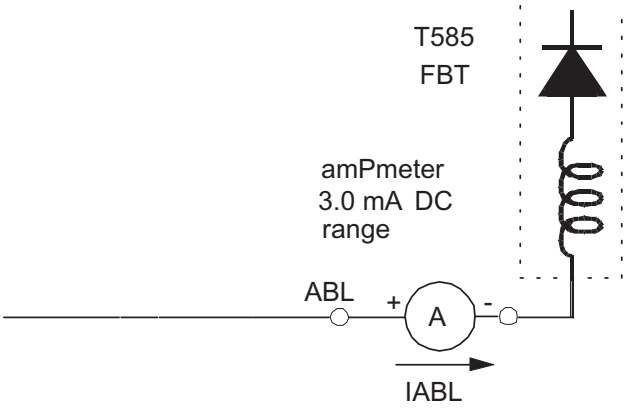
1. Using a Variac, apply AC input voltage: 120 ±2 VAC.
2. Turn the POWER switch ON.
3. Input a white signal and set the PICTURE and BRIGHTNESS controls to maximum.
4. Confirm that the voltage between C566 (+) or TP30 and ground is more than 97.0 VDC for 20” and 105 VDC for 24”.

HOLD-DOWN OPERATION CONFIRMATION

1. Connect the current meter between Pin 11 of the FBT (T585) and the PWB land where Pin 11 would normally attach (See Figure 1 on the next page).
2. Input a dot signal and set PICTURE and BRIGHTNESS to minimum: IABL = 100 ± 100µA.
3. Confirm the voltage of A Board TP-23 is 135.6 ± 1V.
4. Connect the digital voltmeter and the DC power supply via Diode 1SS119 to C566 (+) and ground (See Figure 1 on next page).
5. Increase the DC power voltage gradually until the picture blanks out.
6. Turn DC power source off immediately.
7. Read the digital voltmeter indication (standard < 117VDC).
8. Input a white signal and set PICTURE and BRIGHTNESS to maximum: IABL = 1350 ± 100µA.
9. 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 R565 component marked with ⋈.



3-2. B+ VOLTAGE CONFIRMATION AND ADJUSTMENT

Note: The following adjustments should always be performed when replacing the following components, which are marked with ◪ on the schematic diagram on the A Board:

A BOARD:	IC600, PH602

1. Using a Variac, apply AC input voltage: 130 + 2.0 / - 0.0 VAC.
2. Input a DOT pattern at Q.C.
3. Set the PICTURE and the BRIGHTNESS controls to minimum.
4. Confirm the voltage of A Board between TP-23 & Ground is <135.6 ± 1 VDC.
5. If step 4 is not satisfied, replace the components listed above, then repeat Steps 1 – 3.

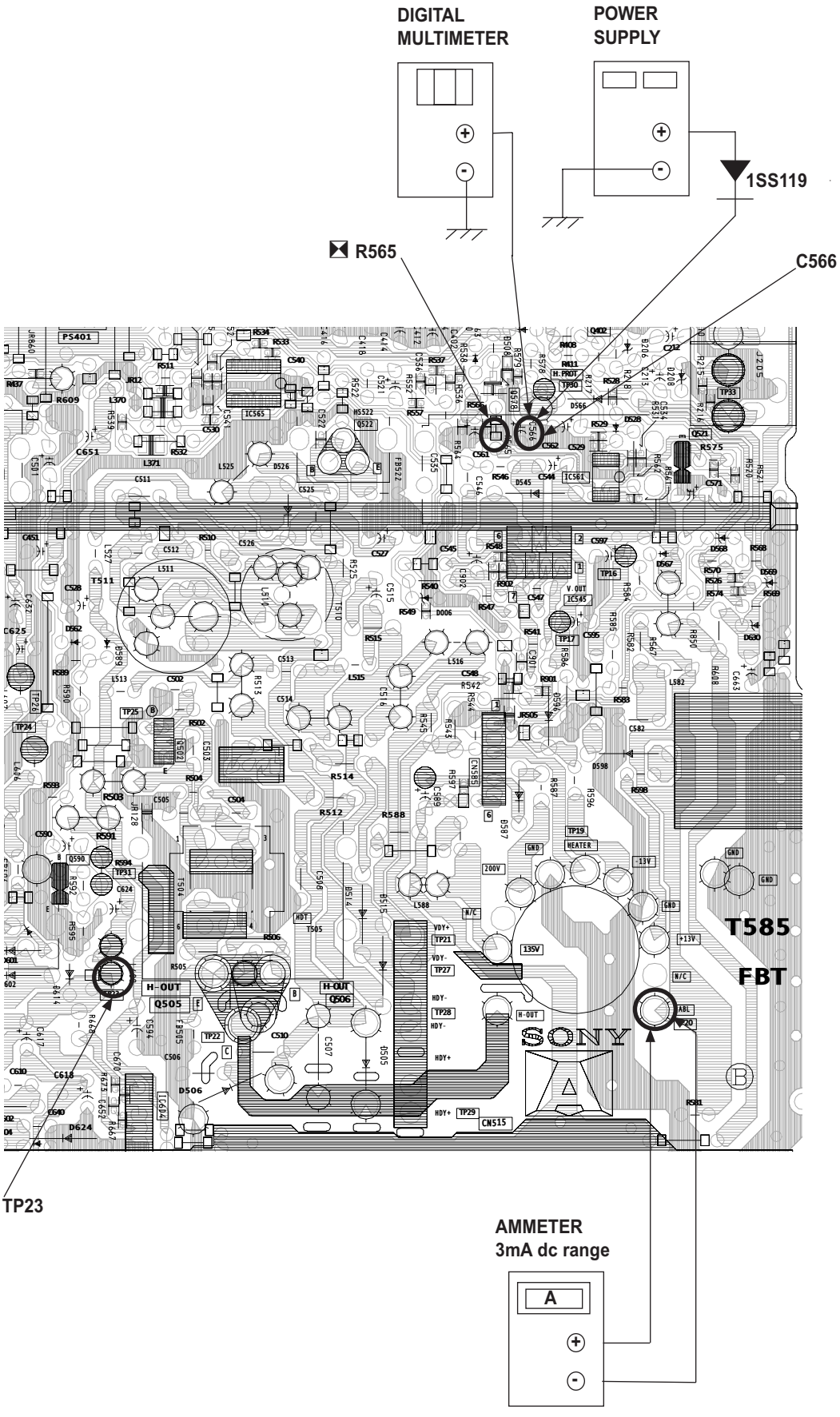

DIGITAL
MULTIMETER
POWER
SUPPLY
1SS119
R565
C566
T585
FBT
TP23
AMMETER
3mA dc range
A

Figure 1

SECTION 4: CIRCUIT ADJUSTMENTS

ELECTRICAL ADJUSTMENTS BY REMOTE COMMANDER

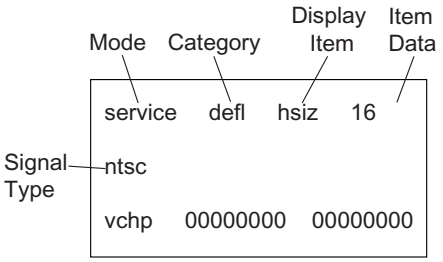
Use the Remote Commander (RM-Y172, RM-Y173, RM-Y180) to perform the circuit adjustments in this section.
Test Equipment Required: 1. Pattern generator 2. Frequency counter 3. Digital multimeter 4. Audio oscillator

4-1. SETTING THE SERVICE ADJUSTMENT MODE

1. Standby mode (Power off).
2. Press the following buttons on the remote commander within a second of each other:
   Display ➡ Channel 5 ➡ Sound Volumne + ➡ Power

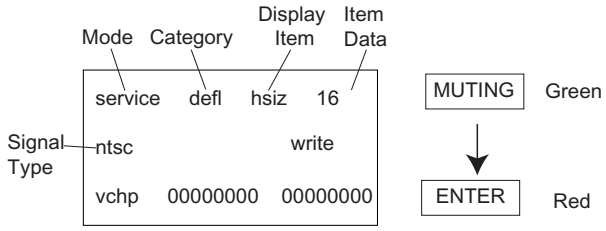
SERVICE ADJUSTMENT MODE ON

1. The CRT displays the item being adjusted.

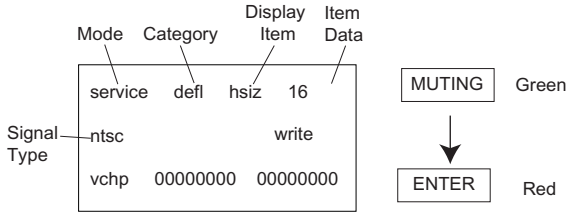


2. Press 1 or 4 on the Remote Commander to select the item.
3. Press 3 or 6 on the Remote Commander to change the data.
4. Press MUTING then ENTER to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



1. Press 8 then ENTER on the Remote Commander to initialize.



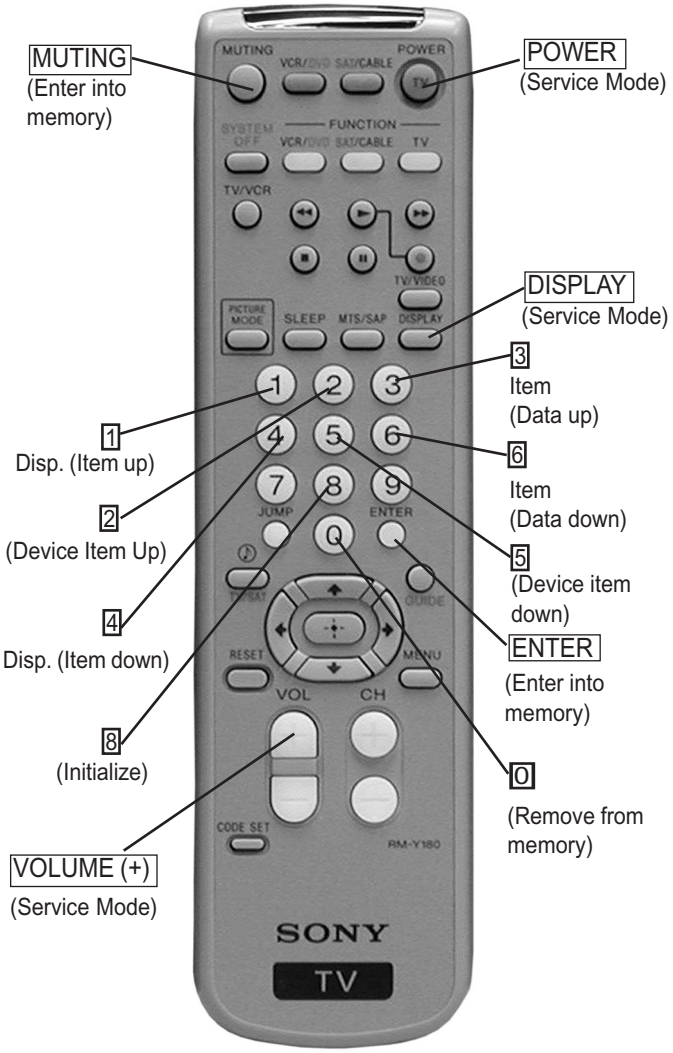
Carry out Step 1 when adjusting IDs 0-6 and when replacing and adjusting IC002

2. Turn set off then on to exit Service Adjustment Mode.

4-2. MEMORY WRITE CONFIRMATION METHOD

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

4-3. REMOTE ADJUSTMENT BUTTONS AND INDICATORS



RM-Y180

ADJUSTMENT ITEMS (1 OF 8)

DEVICE "DEF"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	HSIZ	H SIZE(EW DC)	00-63	25	38
2	HPOS	H POSITION	00-63	41	30
3	VSIZ	V RAMP SIZE	00-63	25	33
4	VPOS	V POSITION(RAMP DC)not useful	00-63	34	28
5	VLIN	V LINEARITY	00-63	36	44
6	SCOR	S CORRECTION	00-63	39	40
7	VBOW	BOW	00-63	36	31
8	VANG	ANGLE	00-63	35	33
9	TRAP	EW TRAPESIUM	00-63	29	32
10	PAMP	EW PIN	00-63	39	41
11	UPIN	UPPER PIN	00-63	28	29
12	LPIN	LOWER PIN	00-63	29	29
13	TROT	TROT	00-255	128	128
14	HBLK	H BLK mode select	00-01	0	0
15	LBLK	HBLK front timing	00-63	11	11
16	RBLK	HBLK rear timing	00-15	35	34
17	VBLK	V BLK width	00-03	0	0
18	HMSK	TOP VEND(when MACROVISION)prevent OFF	00-01	0	0
19	HDW	H PULSE WIDTH(25u/19u)	00-01	1	1
20	AFC	AFC GAIN	00-01	0	0
21	AFC1	AFC1 TIME CONSTANT	00-07	3	3
22	AFCW	AFC1 PULL IN WIDE	00-01	1	1
23	CDMD	V DET WINDOW SW TIMING	00-03	1	1
24	HSS	SYNC SLICE LEVEL(H sepa)	00-03	0	0
25	VSS	SYNC SLICE LEVEL(V sepa)	00-03	3	3
26	SLDN	Auto Slice level DOWN	00-03	0	0
27	SLUP	Auto Slicelevel UP	00-01	0	0
28	JPSW	Jump SW	00-01	0	0
29	HOSC	H VCO fo ADJUST	00-255	5	5
30	EHT	EHT	00-15	6	6
31	EHTG	EHT MODE	00-01	0	0

DEVICE "16:9"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	PAMP	EW PIN	00-63	59	59
2	UPIN	UPPER PIN	00-63	15	15
3	LPIN	LOWER PIN	00-63	21	21
4	ACLV	ACL VTH	00-03	0	0
5	ABLV	ABL VTH	63-00	58	58

DEVICE "VP1"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	RDRV	R DRIVE	00-127	55	75
2	GDRV	G DRIVE when Color Temp. is "Cool" and "Neutral"	00-127	38	65
3	BDRV	B DRIVE when Color Temp. is "Cool" and "Neutral"	00-127	47	63
4	RCUT		00-1023	130	130
5	GCUT		00-1023	90	90
6	BCUT		00-1023	72	72
7	SCON	CONTRAST LEVEL	00-127	20	20
8	SHUE	TINT	00-127	8	8
9	SCOL	COLOR LEVEL	00-127	17	17
10	SBRT	BRIGHT	00-255	40	40
11	RON	R OUTPUT MUTE	00-01	1	1
12	GON	G OUTPUT MUTE	00-01	1	1
13	BON	B OUTPUT MUTE	00-01	1	1
14	BLLV	BLUE STRETCH(00:no <-> 11:deep)	00-03	1	1
15	MTRX	MATRIX RATIO SELECT	00-03	2	2
16	AXIS	R-Y PHASE OFFSET	00-63	48	48
17	SSHO	SHARPNESS GAIN(OVER)	00-63	17	17
18	SSHP	SHARPNESS GAIN(PRE)	00-63	26	26
19	SHPF	SHRPNESS fo(00:2 CLK <-> 11:5 CLK)	00-03	1	1

ADJUSTMENT ITEMS (2 OF 8)

DEVICE "VP1"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
20	SHCL	SHARPNESS CPRING LEVEL	00-15	0	0
21	SHMX	SHARPNESS LIMITTER LEVEL	00-15	15	15
22	ACLV	ACL VTH	00-03	0	0
23	ABLV	ABL VTH	00-63	0	0
24	AKBD	AKB Self Diagnostic Counter(@1sec)	00-07	0	0
25	AKBS	AKB H/W S/W Switch	00-02	1	1
26	REFP	AKB REFPLS timing	00-01	1	1
27	YNRC	YNR LIMITER LEVEL	00-15	15	15
28	BKON	BLACK STRETCH ON	00-01	1	1
29	BKTH	BLACK STRETCH DETECTOR TRESH LEVEL	00-255	22	22
30	BKAR	BLACK STRETCH DETECTOR TRESH AREA	00-03	1	1
31	BKSP	BLACK STRETCH START POINT	00-03	3	3

DEVICE "VP2"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	VMLO	VM LEVEL at "Low" Setting	00-15	10	10
2	VMHI	VM LEVEL at "High" Setting	00-15	15	15
3	VMDL	VM DELAY	00-15	6	6
4	VMPL	VM PORALITY	00-01	0	0
5	VMWD	VM WIDTH	00-03	0	0
6	VMCL	VM CORING LEVEL	00-15	0	0
7	VMMX	VM LIMITER LEVEL	00-15	15	15
8	CKLV	COLOR KILLER VTH	00-127	1/YUV:0	1/YUV:0
9	CKON	FORCE KILLER	00-01	0	0
10	ALFA	ADAPTIVE DET SENSITIVITY	00-03	2	2
11	YCMD	YC SEPA FORCE SELECT(00:ADAPTIVE 01:H 10:V 11:HV)	00-03	0	0
12	VACL	V APERTURE CORING LEVEL	00-15	0	0
13	VAGA	V APERTURE GAIN LEVEL	00-15	Soft Cont'l	Soft Cont'l
14	VAMX	V APERTURE LIMITER LEVEL	00-15	3	3
15	GAMM	GANMA(00:no <-->11:deep)	00-03	Soft Cont'l	Soft Cont'l
16	YDLY	Y DELAY TIME	00-03	3/YUV:3	3/YUV:3
17	CDLY	C DELAY	00-03	2/YUV:2	2/YUV:2
18	YOFF	Y OUTPUT MUTE	00-01	0	0
19	CBPF	C BPF fo HI	00-01	0/YUV:0	0/YUV:0
20	CLIM	C OUTPUT LIMITTER	00-15	15	15
21	YFSL	Y BAND WIDTH	00-03	0	0
22	CFSL	C BAND WIDTH	00-03	0	0
23	BGPP	BGP(for C DECODER)TIMING	00-31	8	8
24	NRCH	NOISE DET TIME CONSTANT	00-03	0	0
25	NRCL	NOISE DET TIME CONSTANT	00-255	8	8
26	NRVL	NOISE DET VTH	00-255	16	16
27	NRVH	NOISE DET VTH	00-255	0	0
28	GDOF	G DRIVE	00-31	18	18
29	BDOF	B DRIVE	00-31	31	31
30	GCOF	G CUTOFF	00-31	02	02
31	BCOF	B CUTOFF	00-31	00	00
32	DCTV	DCTRANSFER VTH	00-127	5	5
33	DCTG	DCTRANSFER GAIN	00-31	Soft Cont'l	Soft Cont'l

ADJUSTMENT ITEMS (3 OF 8)

DEVICE "VIVID"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	VPIC	Picture(VIVID)	00-63	63	63
2	VBRI	Brightness(VIVID)	00-63	31	31
3	VCOL	Color(VIVID)	00-63	31	31
4	VHUE	Hue(VIVID)	00-63	31	31
5	VSHA	Sharpness(VIVID)	00-63	31	31
6	VVM	VM(VIVID)	00-02	2	2
7	VTRI	Color Temp(VIVID)	00-02	0	0
8	VAPA	Aperture G(VIVID)	00-15	7	7
9	VGMA	Gamma(VIVID)	00-03	3	3
10	DCTG	DCT LV(VIVID)	00-03	16	16

DEVICE "STD"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	VPIC	Picture(STANDARD)	00-63	50/FEFS:63	50/FEFS:63
2	VBRI	Brightness(STANDARD)	00-63	37/FEFS:31	37/FEFS:31
3	VCOL	Color(STANDARD)	00-63	28/FEFS:31	28/FEFS:31
4	VHUE	Hue(STANDARD)	00-63	31/FEFS:31	31/FEFS:31
5	VSHA	Sharpness(STANDARD)	00-63	31/FEFS:31	31/FEFS:31
6	VVM	VM(STANDARD)	00-02	1/FEFS:2	1/FEFS:2
7	VTRI	Color Temp(STANDARD)	00-02	1/FEFS:0	1/FEFS:0
8	VAPA	Aperture G(STANDARD)	00-15	7/FEFS:7	7/FEFS:7
9	VGMA	Gamma(STANDARD)	00-03	3/FEFS:3	3/FEFS:3
10	DCTG	DCT LV(STANDARD)	00-03	16/FEFS:16	16/FEFS:16

DEVICE "MOVIE"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	VPIC	Picture(MOVIE)	00-63	31	31
2	VBRI	Brightness(MOVIE)	00-63	54	54
3	VCOL	Color(MOVIE)	00-63	25	25
4	VHUE	Hue(MOVIE)	00-63	31	31
5	VSHA	Sharpness(MOVIE)	00-63	31	31
6	VVM	VM(MOVIE)	00-02	0	0
7	VTRI	Color Temp(MOVIE)	00-02	2	2
8	VAPA	Aperture G(MOVIE)	00-15	7	7
9	VGMA	Gamma(MOVIE)	00-03	3	3
10	DCTG	DCT LV(MOVIE)	00-03	16	16

DEVICE "SPORTS"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	VPIC	Picture(SPORTS)	00-63	63	63
2	VBRI	Brightness(SPORTS)	00-63	31	31
3	VCOL	Color(SPORTS)	00-63	34	34
4	VHUE	Hue(SPORTS)	00-63	31	31
5	VSHA	Sharpness(SPORTS)	00-63	31	31
6	VVM	VM(SPORTS)	00-02	2	2
7	VTRI	Color Temp(SPORTS)	00-02	0	0
8	VAPA	Aperture G(SPORTS)	00-15	7	7
9	VGMA	Gamma(SPORTS)	00-03	3	3
10	DCTG	DCT LV(SPORTS)	00-03	16	16

ADJUSTMENT ITEMS (4 OF 8)

DEVICE "Y"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	COFI	0:4 Linedelaies 1:2 Linedelaies	00-01	0	0
2	YNRS	YNR ON	00-01	0	0
3	YTHR	Y SIGNAL GENERATE from 2DYCS	00-01	0	0
4	Y2D	Y SIGNAL GENERATE from 2DYCS	00-01	0	0
5	2DFX	C SIGNAL GENELATE from H/V BPF only	00-01	1	1
6	CLPS	Y CLAMP TIME CONSTANT	00-01	1	1
7	VLPF	Y_LPF(ANALOG) fo Ajust	00-03	3	3
8	CLPF	C_LPF(ANALOG) fo Ajust	00-03	3	3
9	BKHS	BLACK STRETCH HYSTERISYS	00-31	1	1
10	BPFB	YCS HBPF SELECT(BACK)	00-03	1	1
11	BPFF	YCS HBPF SELECT(FRONT)	00-01	1	1

DEVICE "C"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	FORG	CHROMA DECODER PHASE SELECT	00-03	0	0
2	FSEL	CHROMA DECODER CLK SELECT	00-01	0/YUV:0	0/YUV:0
3	ACTL	ANALOG ACC AMP MAX GAIN	00-03	3	3
4	A1FL	ANALOG ACC hysteresis	00-255	34	34
5	A1FH		00-01	0	0
6	A1ON	ANALOG ACC AMP ON LEVEL	00-127	12	12
7	MV	MACROVISION(BURST) DET TRESH	00-15	0	0
8	MV1S	MACROVISION(BURST) DET ON	00-01	1	1
9	MV2S	MACROVISION(BURST) DET POSITION	00-01	1	1
10	ACCS	ACC ON/OFF	00-01	0/YUV:1	0/YUV:1
11	KILS	KILLER DET SELECT	00-01	0/YUV:1	0/YUV:1
12	AASL	C DECODER TIME CONSTANT(32,16,8,1H)	00-03	3	3
13	BASL	ACC TIME CONSTANT	00-03	0	0
14	ATIM	ANALOG ACC HISTERISYS SELECT	00-03	0	0
15	VMSK	ACC V BLK OFF WIDTH	00-07	0	0
16	A3ON	ACC MAX GAIN	00-01	0	0
17	INTE	C DECODER INTRGRATOR ENABLE	00-01	0	0
18	SIN	C DECODER PHASE V ENABLE	00-01	0	0
19	CKVT	PLL STOP BURST LEVEL	00-03	1	1
20	XFFR	VCXO FORCE FREERUN	00-01	0/YUV:1	0/YUV:1
21	ACCV	C DECODER PHASE V ENABLE	00-01	1	1
22	BWSL	KILLER DET SELECT	00-01	1/YUV:1	1/YUV:1
23	BWDT	PLL KILLER VTH	00-03	0/YUV:3	0/YUV:3
24	A23E	AMP2,3 ON/OFF ENABLE(0 FIX)	00-01	1	1
25	A2ON	ABL VTH	00-127	12	12
26	A3ON	ACL VTH	00-127	12	12
27	A2FL	AMP2 OFF LEVEL lower	00-255	34	34
28	A2FH	AMP2 OFF LEVEL upper	00-01	0	0
29	A3FL	AMP3 OFF LEVEL lower	00-255	34	34
30	A3FH	AMP3 OFF LEVEL upper	00-01	0	0
31	AXTH	AXS HYS	00-63	30	30
32	ACTH	ROM HYS	00-63	10	10
33	AVAV	AVE SEL AV	00-03	3	3
34	B2TH	B2COMP	00-127	0	0

ADJUSTMENT ITEMS (5 OF 8)

DEVICE "RGB"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	AMUT	RGB POWER ON MUTE	00-01	0	0
2	PMUT	RGB MUTE(EXCEPT OSD)	00-01	1	1
3	VBLK		00-01	0	0
4	CORL	R CUTOFF lower	00-255	200	200
5	CORH	R CUTOFF upper	00-01	0	0
6	COGL	G CUTOFF lower when Color Temp. is "Cool" and "Neutral"	00-255	200	200
7	COGH	G CUTOFF upper when Color Temp. is "Cool" and "Neutral"	00-01	0	0
8	COBL	B CUTOFF lower when Color Temp. is "Cool" and "Neutral"	00-255	200	200
9	COBH	B CUTOFF upper when Color Temp. is "Cool" and "Neutral"	00-01	0	0
10	ABLS	ABL SELECT (ON:00, OFF:01)	00-01	0	0
11	ACLS	ACL ON (ON:00, OFF:01)	00-01	1	1
12	ALSP	ACL SPEED	00-03	1	1
13	ALRS	ACL RECOVER SPEED	00-15	2	2
14	ALAS	ACL ATACK SPEED	00-15	9	9
15	ABLG	ABL GAIN	00-15	15	6
16	ALS2	ACL ATACK SPEED(2)	00-03	2	2
17	AKBS	AKB MODE	00-01	1	1
18	AKBP	AKB PULSE HEIGHT	00-63	55	55
19	OSDL	OSD LIMMIT SELECT	00-01	0	0
20	MPXS	UV MULTIPLEX ON	00-01	0/YUV:0	0/YUV:0
21	CXUV	YC/YUV SELECT	00-01	0/YUV:1	0/YUV:1
22	UVIN	U/V INVERT	00-01	0/YUV:0	0/YUV:0
23	UVOS	UV OFFSET CANCELER ON	00-01	0/YUV:0	0/YUV:0
24	ACL	SOFT ACL CONTROLE	00-63	63	63
25	HBLS	H BLK OFF	00-01	0	0
26	VENS	V-latch OFF	00-01	0	0
27	UOFS	U IN OFFSET	00-15	4	4
28	VOFS	V IN OFFSET	00-15	9	9
29	AABL	ANALOG ABL THRESHOLD LEVEL CONTROL	00-15	0	0
30	AABG	ANALOG ABL GAIN CONTROL	00-01	0	0
31	AALG	ANALOG ACL GAIN CONTROL	00-01	0	0
32	AABS	ANALOG ABL ON/OFF CONTROL (ON:01, OFF:00)	00-01	0	0
33	AALS	ANALOG ACL ON/OFF CONTROL (ON:01, OFF:00)	00-01	1	1

ADJUSTMENT ITEMS (6 OF 8)

DEVICE "DEFD"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	VSTP	V OUTPUT STOP	00-01	0	0
2	HFFR	AFC1 FORCE FREERUN	00-01	0	0
3	HFUP	H FREERUN FREQUENCY UP(700Hz)	00-01	0	0
4	VPHA	V PHASE(V POSITION ADJUST)	00-15	0	0
5	JSWW	Jump Pulse Width	00-01	0	0
6	EWG	EWV AD OUTPUT LEVEL(6db)	00-01	0	0
7	EWCL	EW/VRAMP DA CLOCK SELECT	00-03	2/YUV:2	2/YUV:2
8	EWDI	EW/VRAMP DA DITHER	00-01	0	0
9	XF0A	VCXO FREERUN ADJUST	00-15	0	0
10	BGST	BGP(for PLL) TIMING	00-63	17	17
11	SKWI	Skew correcter refernce phase	00-01	0/YUV:0	0/YUV:0
12	XPHA	VCXO PHASE ADJUST	00-15	10	10
13	SKEW	Skew correcterphase controle	00-07	0/YUV:3	0/YUV:3
14	HRMP	AFC2 TIME CONSTANT	00-03	0	0
15	RPLU	REF PLL TIME CONSTANT	00-07	3	3
16	RPLB	REF PLL TIME CONSTANT	00-01	1	1
17	XF0B	VCXO Fo ADJUST	00-03	0	0
18	RPLS	REF VCO FB LOOP SELECT	00-01	0	0
19	SSM	SyncSepaMasking CONTROL	00-01	0	0
20	VSAG	V-SAG prevent ON	00-01	0	0
21	AFC2	AFC2 GAIN CONTROL	00-03	0	0
22	VRFL	V RAMP FILTER SWITCHING OFF	00-01	0	0
23	SSLP	LPF pre SYNC SEPA ON/OFF	00-01	0	0
24	IMTS	I.M. TEST	00-01	0	0
25	XPLU	ACP TIME CONSTANT	00-01	1	1
26	8FSC	8fscCLK Skew OFF	00-01	1/YUV:1	1/YUV:1
27	4FS2	4fscCLK Skew OFF	00-01	1/YUV:1	1/YUV:1
28	EWVR	DSDAC V RESET Enable	00-01	0	0
29	VLOF	IIC V Latch OFF(for TEST)	00-01	0	0
30	1WIN	FORCE 1Window	00-01	1	1
31	BGPC	ANGLE Return current up	00-01	0	0
32	MHDL	ANGLE Return current up timing	00-01	1	1
33	BFRE	force V FREERUN	00-01	0	0
34	ANGG	ANGLE Retun current up	00-01	1	1
35	ANGT	ANGLE Retun current up timing	00-01	0	0
36	DOSD	Digital OSD ON	00-01	0	0
37	ANGS	AFC2 ANGLE/BOW INHIBIT	00-01	0	0
38	HRPP	FRAMP RRAMP H OUT CONTROL RANGE	00-15	8	8
39	VF50	FORCE V FREERUN 50Hz	00-01	0	0
40	CLKS	TBC clock system select	00-03	0	0
41	VBHK	V BLK HALF KILL	00-01	0	0
42	DSYC	CVBS INPUT CONTROL	00-01	0	0
43	VPW	V Pulse Wide	00-01	1	1
44	QSW	MODULATOR FEEDBACK GAIN CONTROL	00-01	0	0
45	ADTY	CLOCK DUTY CONTROL at IIC QSWITCH=ON	00-01	0	0
46	DTH	DITHER THRESHOLD LEVEL CONTROL at IIC AUTOD=ON	00-03	1	1
47	HBSW	HBLK REFERENCE AFC1/AFC2	00-01	0	0
48	DSCS	•DAC CLOCK ON/OFF CONTROL	00-01	0	0

ADJUSTMENT ITEMS (7 OF 8)

DEVICE "OTHER"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	PCLP	SYNC TIP/PEDESTAL CLAMP SELECT	00-01	0	0
2	VRT	ADC REFERENCE (00:1.15Vpp 01:1.25Vpp 10:1.35Vpp 11:1.45Vpp)	00-03	1/YUV:1	1/YUV:1
3	AM	INTERIGENT MONITOR OUTPUT SELECT(analog)	00-15	0	0
4	DME	INTERIGENT MONITOR OUTPUT SELECT(degital)	00-01	0	0
5	DM	INTERIGENT MONITOR OUTPUT SELECT(degital)	00-31	0	0
6	14HI	4fsc(Skew)CLK POLARITY	00-01	0	0
7	14HD	4fscCLK(Skew)CLK DELAY ADJUST	00-03	1	1
8	28I	8fscCLK POLARITY	00-01	1	1
9	28D	8fscCLK DELAY ADJUST	00-03	1	1
10	ADCD	ADC CLK DELAY ADJUST	00-03	1/YUV:0	1/YVV:2
11	CLKS	AD/LOGIC CLK SWAP	00-01	0/YUV:0	0/YUV:0
12	HDSL	HD OUT(for MCU)SELECT	00-01	1	1
13	CPSL	PLL CP LATCH ON	00-01	0	0
14	CPCL	PLL CP LATCH CLOCK	00-01	0	0
15	CPCP	PLL CP LATCH POLARTY	00-01	0	0
16	DUMY	DUMMY	00-0F	1	1

DEVICE "OSD"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	HT	HALF TONE LEVEL	00-03	0	0
2	OSLR	R OSD LEVEL	00-63	27	27
3	OSLG	G OSD LEVEL	00-63	27	27
4	OSDC		00-03	0	0
5	OSDB	B OSD LEVEL	00-63	27	27

DEVICE "S/W ADKB"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	SRIL	S/W AKB RED OUTPUT Lower	00-255	Soft Cont'l	Soft Cont'l
2	SRIH	S/W AKB RED OUTPUT Upper	00-01	Soft Cont'l	Soft Cont'l
3	SGIL	S/W AKB GREEN OUTPUT Lower	00-255	Soft Cont'l	Soft Cont'l
4	SGIH	S/W AKB GREEN OUTPUT Upper	00-01	Soft Cont'l	Soft Cont'l
5	SBIL	S/W AKB BLUE OUTPUT Lower	00-255	Soft Cont'l	Soft Cont'l
6	SBIH	S/W AKB BLUE OUTPUT Upper	00-01	Soft Cont'l	Soft Cont'l
7	SLM1	S/W AKB LIMIT DATA 1	00-255	4	4
8	SLM2	S/W AKB LIMIT DATA 2	00-255	29	29
9	SLM3	S/W AKB LIMIT DATA 3	00-255	130	130
10	SAD1	S/W AKB ADD DATA 1	00-255	1	1
11	SAD2	S/W AKB ADD DATA 2	00-255	1	1
12	SBIT	S/W AKB BIT SHIFT DATA	00-05	0	0
13	SNOP	S/W AKB POWER ON NOP TIMER COUNTER DATA	00-FF	1	1
14	SERL	S/W AKB BIT ERROR JUDGE LEVEL	01-80	124	124
15	SPWC	S/W AKB ERROR JUDGE COUNTER DATA	01-FF	2	2
16	SLMC	S/W AKB LIM2/LIM3 JUDGE COUNTER DATA	01-FF	10	10
17	SPWL	S/W AKB POWER ON MUTE OFF JUDGE LEVEL	01-80	30	30
18	SPMT	S/W AKB POWER ON MUTE EXIT TIMER DATA(@100ms)	00-FF	120	120
19	SEEP	S/W AKB INITIAL DATA EEPROM WRITE TIMER(@1sec)	00-FF	20	20

ADJUSTMENT ITEMS (8 OF 8)

DEVICE "AUDIO PROCESSOR"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	SBAL	Sub Balance	00-07	4	4
2	SBAS	Sub Bass	00-07	0	0
3	STRE	Sub Treble	00-07	0	0
4	SRL	Surround Level	00-01	0	0
5	BBOL	Surround Off-BBE Low	00-15	0	4
6	BBOH	Surround Off-BBE High	00-15	3	5
7	BBSL	Simulate BBE Low	00-15	0	0
8	BBSH	Simulate BBE High	00-15	0	0
9	BBGL	WOW Game BBE Low	00-15	7	8
10	BBGH	WOW Game BBE High	00-15	3	3
11	BBTL	SRS BBE Low	00-15	0	0
12	BBTH	SRS BBE High	00-15	2	2
13	VFIX	Audio output fix data	00-255	240	240
14	AGCL	AGC level	00-03	2	2

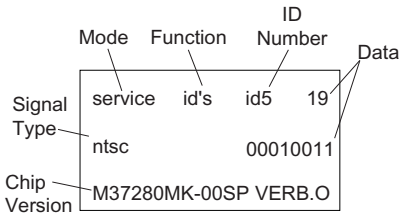
DEVICE "MICROPROCESSOR"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
1	DISP	OSD horizontal offset	00-127	53	53
2	CCHP	Closed Caption Horizontal Position	00-7E	73	73
3	HRLW	Low limit of H-pulse counting window (RF)	00-255	16	16
4	HRHG	High limit of H-pulse counting wondow (RF)	00-255	64	64
5	HSLW	Low limit of H-pulse counting window (S-Video)	00-255	16	16
6	HSHG	High limit of H-pulse counting wondow (S-Video)	00-255	64	64
7	HSDT	H-pulse Detection(S-Video)	00-255	8	8

DEVICE "FEATURE"

Item#	OSD	DETAIL	Range (DEC)	Initial Data 20/21"	Initial Data 24/25"
	ID0	Language related	00-255	SEE ID MAP	SEE ID MAP
	ID1	Video ralated	00-255	SEE ID MAP	SEE ID MAP
	ID2	Audio related	00-255	SEE ID MAP	SEE ID MAP
	ID3	Miscellaneous	00-255	SEE ID MAP	SEE ID MAP
	ID4	Miscellaneous	00-255	SEE ID MAP	SEE ID MAP
	ID5	Miscellaneous	00-255	SEE ID MAP	SEE ID MAP
	ID6	Miscellaneous	00-255	SEE ID MAP	SEE ID MAP
	ID7	Miscellaneous	00-255	SEE ID MAP	SEE ID MAP

Notes:
Range (DEC) shows the range of possible setting for each Adjustment Mode.
Initial Data shows the standard settings for each Adjustment Mode.



4-4. ID MAP TABLE

Model	Destination	ID-0	ID-1	ID-2	ID-3	ID-4	ID-5	ID-6	ID-7
KV-20FS100	US	89	7	65	33	128	48	0	150
KV-20FS100	CND	89	7	65	49	128	48	0	150
KV-20FV300	US	89	23	231	35	128	48	0	150
KV-20FV300	CND	89	23	231	51	128	48	0	150
KV-21FS100	E	81	7	81	129	160	48	0	214
KV-21FM100	E	81	3	64	129	160	16	0	198
KV-21FV300	E	81	23	231	131	160	48	0	214
KV-24FV300	US	89	23	231	35	128	48	0	150
KV-24FV300	CND	89	23	231	51	128	48	0	150
KV-25FV300	E	81	23	231	131	160	48	0	214

4-5. A BOARD ADJUSTMENTS

H. FREQUENCY (FREE RUN) CHECK

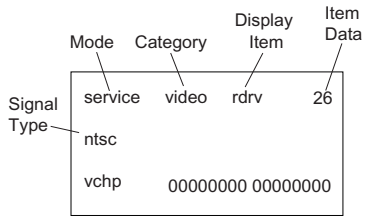
1. Input a TV mode (RF) with no signal.
2. Connect a frequency counter to base of Q502 (TP-25 H. DRIVE) on the A Board.
3. Check H. Frequency for 15735 ± 200 Hz.

V. FREQUENCY (FREE RUN) CHECK

1. Select video 1 with no signal input.
2. Set the conditions for a standard setting.
3. Connect the frequency counter to TP-27 (V OUT) or CN515 pin ⑥ (V DY+) and ground on the A Board .
4. Check that V. Frequency shows 60 ± 4 Hz.

DRIVE (SCON)

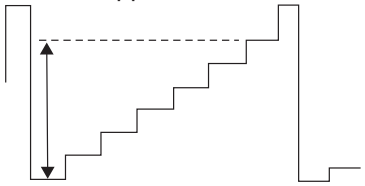
1. Input a color-bar signal and set the level to 75%.
2. Set in Standard mode.
3. Activate the Service Adjustment Mode.
4. Set AALS, ABLS, GON and BON items. Using 3 and 6 set each to the following values. Leave RON set to “1”.



AALS: OFF (0)
ABLS: OFF (1)
R ON: ON (1)
G ON: OFF (0)
B ON: OFF (0)

5. Connect an oscilloscope probe to CV Board, J1751Pin 12 (KR) (Red Out) .
6. Select SCON with 1 and 4 .
7. Adjust the value of SCON with 3 and 6 for 86 ± 3Vpp for 20/21 inch and 96 ± 3Vpp for 24/25 inch.

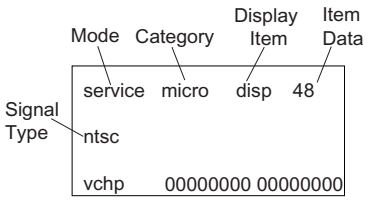
86 ± 3Vpp for 20 inch and
96 ± 3Vpp for 24 inch.



8. Reset AALS, ABLS, GON and BON values to “1”.
   AALS: ON (1)
   ABLS: ON (0)
   R ON: ON (1)
   G ON: ON (1)
   B ON: ON (1)
9. Press MUTING then ENTER to save into the memory.

DISPLAY POSITION ADJUSTMENT (DISP)

1. Input a color-bar signal.
2. Set to Service Adjustment Mode.
3. Select DISP with 1 and 4 .
4. Adjust values of DISP with 3 and 6 to adjust characters to the center.
5. Write to memory by pressing MUTING then ENTER .
6. Check to see if the text is displayed on the screen.



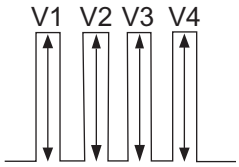
SUB BRIGHT ADJUSTMENT (SBRT)

1. Input a monoscope signal.
2. Activate the Service Adjustment Mode.
3. Set the PICTURE and BRIGHTNESS to minimum.
4. Select the SBRT item with 1 and 4 .
5. Adjust the values of SBRT with 3 and 6 to obtain a faintly visible crosshatch.
6. Press MUTING then ENTER to save into the memory.

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

1. Input color-bar signal at 75%.
2. Activate the Service Adjustment Mode.
3. Set (PIC) to Max and (COL) to 50%.
4. Connect an oscilloscope probe to CV Board, CN301Pin ④ Blue Out.
5. Select the SHUE and SCOL item with 1 and 4 .
6. While showing the SHUE item, adjust the waveform with 1 and 4 until the second and third bars show the same level (V2 = V3 < 0.15Vp-p). Set Sub Hue -2 Step.

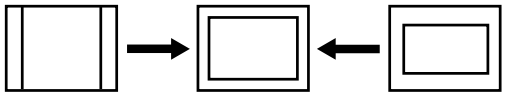
7. While showing the SCOL item, adjust the waveform with 3 and 6 until the first and fourth bars show the same level (V1 = V4 < 0.15Vp-p). Set Sub Col +2 Step.



8. Press MUTING then ENTER to save into the memory.

V. SIZE ADJUSTMENT (VSIZ)

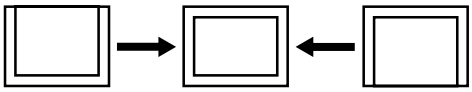
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the VSIZ item with 1 and 4 .
4. Adjust value of VPOS with 1 and 4 for the best vertical center.
5. Press MUTING then ENTER to save into the memory.



V. CENTER ADJUSTMENT (VPOS)

Perform this adjustment after performing H. Frequency (Free Run) Check.

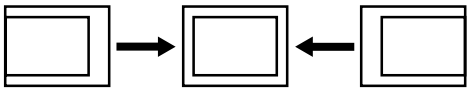
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the VPOS item with 1 and 4 .
4. Adjust value of VPOS with 3 and 6 for the best vertical center.
5. Press MUTING then ENTER to save into the memory.



H. CENTER ADJUSTMENT (HPOS)

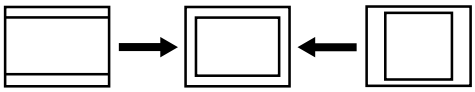
Perform this adjustment after performing H. Frequency (Free Run) Check.

1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the HPOS item with 1 and 4 .
4. Adjust the value of HPOS with 3 and 6 for the best horizontal center.
5. Press MUTING then ENTER to save into the memory.



H. SIZE ADJUSTMENT (HSIZ)

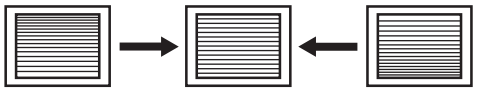
1. Input a monoscope signal.
2. Activate the Service Adjustment Mode.
3. Select HSIZ with 1 and 4 .
4. Adjust with 3 and 6 for the best horizontal size.
5. Press MUTING then ENTER to save into the memory.



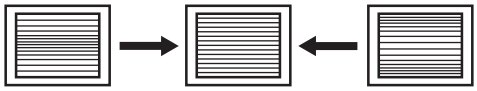
V. LINEARITY (VLIN), V. CORRECTION (SCOR), PIN AMP (PAMP), AND HORIZONTAL TRAPEZOID (HTRP) ADJUSTMENTS

1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select VLIN, SCOR, PAMP, and HTRP with with 1 and 4.
4. Adjust with 3 and 6 for the best horizontal size.
5. Press MUTING then ENTER to save into the memory.

V LINEARITY (VLIN)

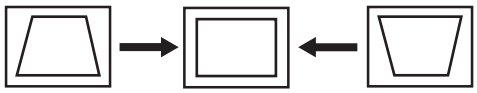


V CORRECTION (SCOR)



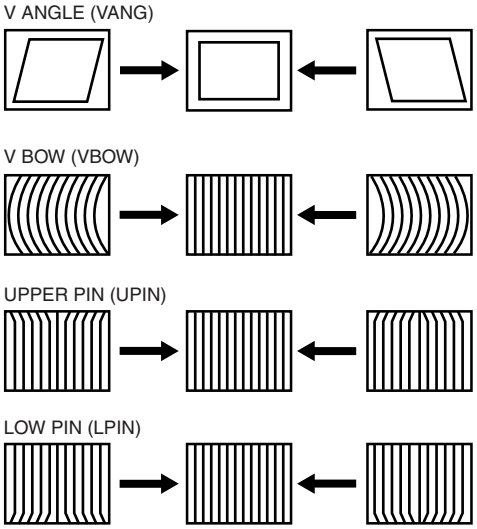
PIN AMP (PAMP)

HORIZONTAL TRAPEZOID (HTRP)



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

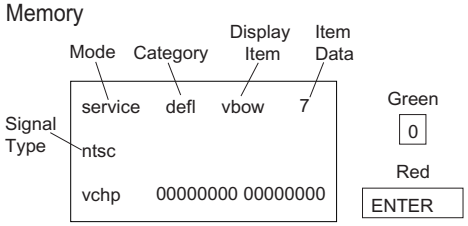
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select VANG, VBOW, UPIN, and LPIN with 1 and 4.
4. Adjust with 3 and 6 for the best picture.
5. Press MUTING then ENTER to save into the memory.



SERVICE ADJUSTMENT MODE MEMORY

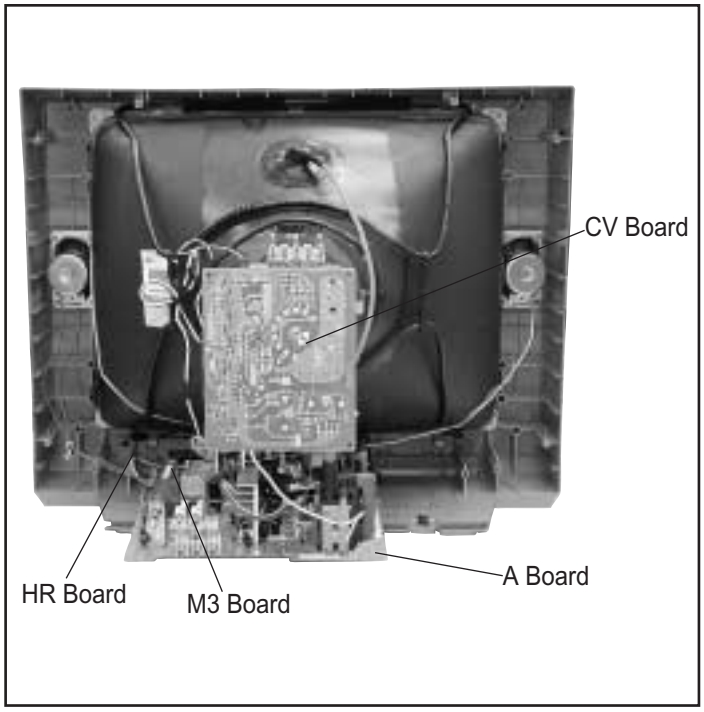
1. After completing all adjustments, press 0 then ENTER .

Read From Memory



SECTION 5: DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



5-2. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM INFORMATION

All capacitors are in µF unless otherwise noted. pF : µµF 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 : $^1/_4$ W

$^1/_4$ W in resistance, $^1/_{10}$ W and $^1/_8$ W in chip resistance.

: nonflammable resistor.

: fusible resistor.

△ : 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 impossibillity.

: 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 15.)

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

Part Replaced (◪)	Adjustment (⋈)
DY, T585, CRT, IC001, IC561, C507, C508, C506, T511, L510, C588, L588, C566, C561, C563, D567, D568, D566, R567, R568, R565, R566, R562, R563, R561, R528.....A Board	HV HOLD-DOWN R565

REFERENCE INFORMATION

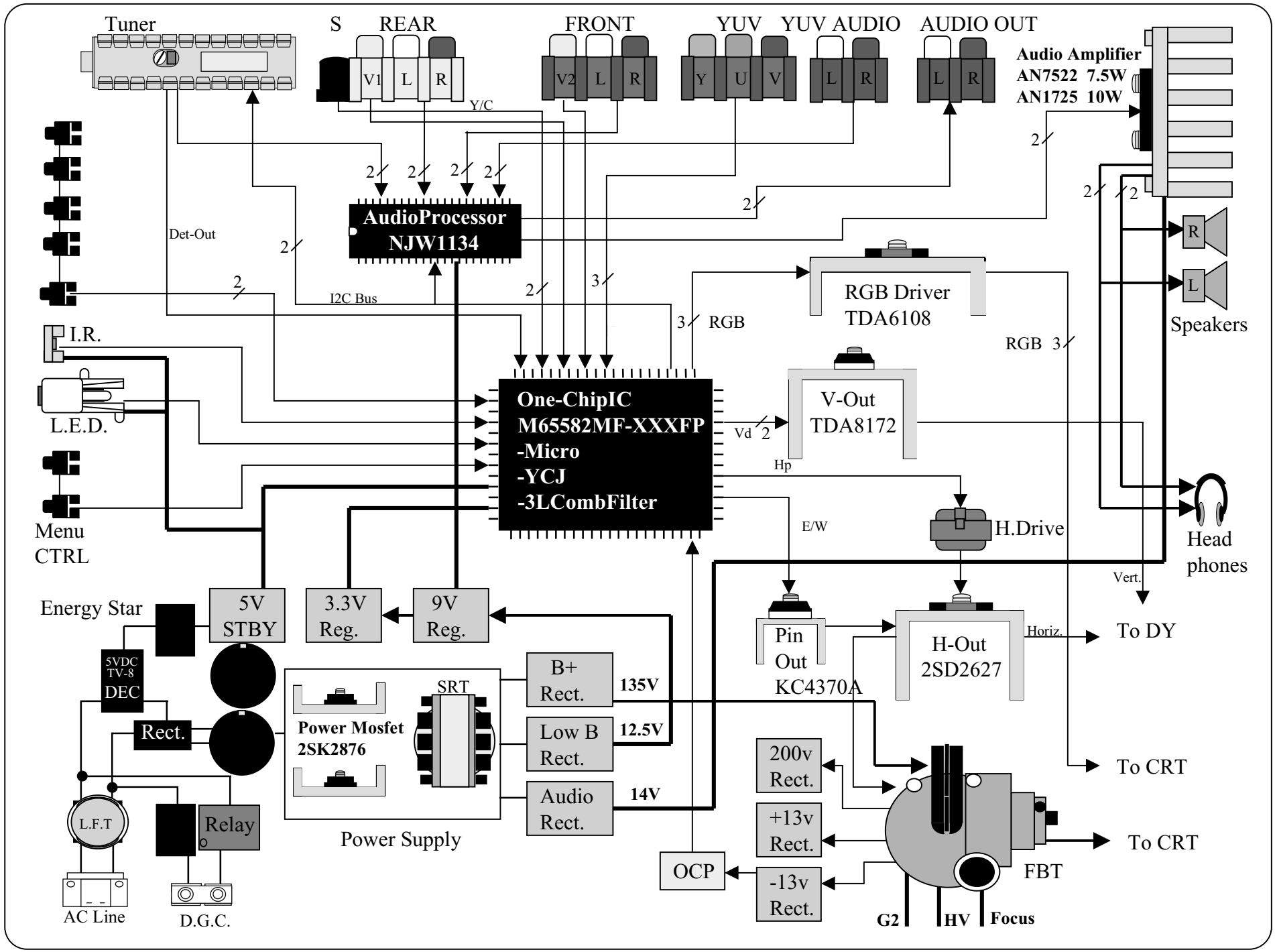
RESISTOR	**: RN**	**METAL FILM**
	: RC	**SOLID**
	: FPRD	**NONFLAMMABLE CARBON**
	: FUSE	**NONFLAMMABLE FUSIBLE**
	: RW	**NONFLAMMABLE WIREWOUND**
	: RS	**NONFLAMMABLE METAL OXIDE**
	: RB	**NONFLAMMABLE CEMENT**
	: ※	**ADJUSTMENT RESISTOR**
COIL	**: LF-8L**	**MICRO INDUCTOR**
CAPACITOR	**: TA**	**TANTALUM**
	: PS	**STYROL**
	: PP	**POLYPROPYLENE**
	: PT	**MYLAR**
	: MPS	**METALIZED POLYESTER**
	: MPP	**METALIZED POLYPROPYLENE**
	: ALB	**BIPOLAR**
	: ALT	**HIGH TEMPERATURE**
	: ALR	**HIGH RIPPLE**

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

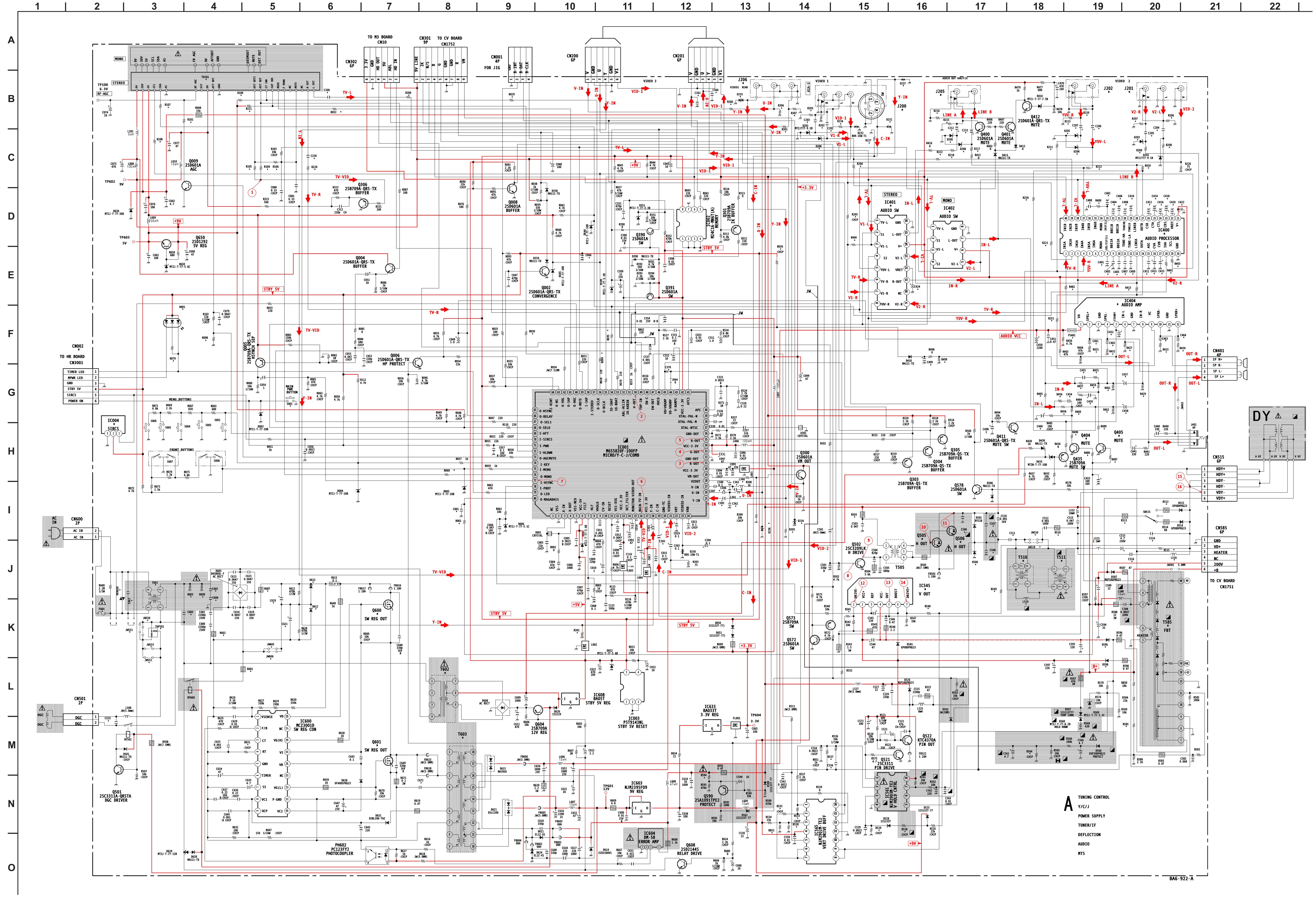
The symbol indicates a fast operating fuse and is displayed on the component side of the board. Replace only with fuse of the same rating as marked.

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

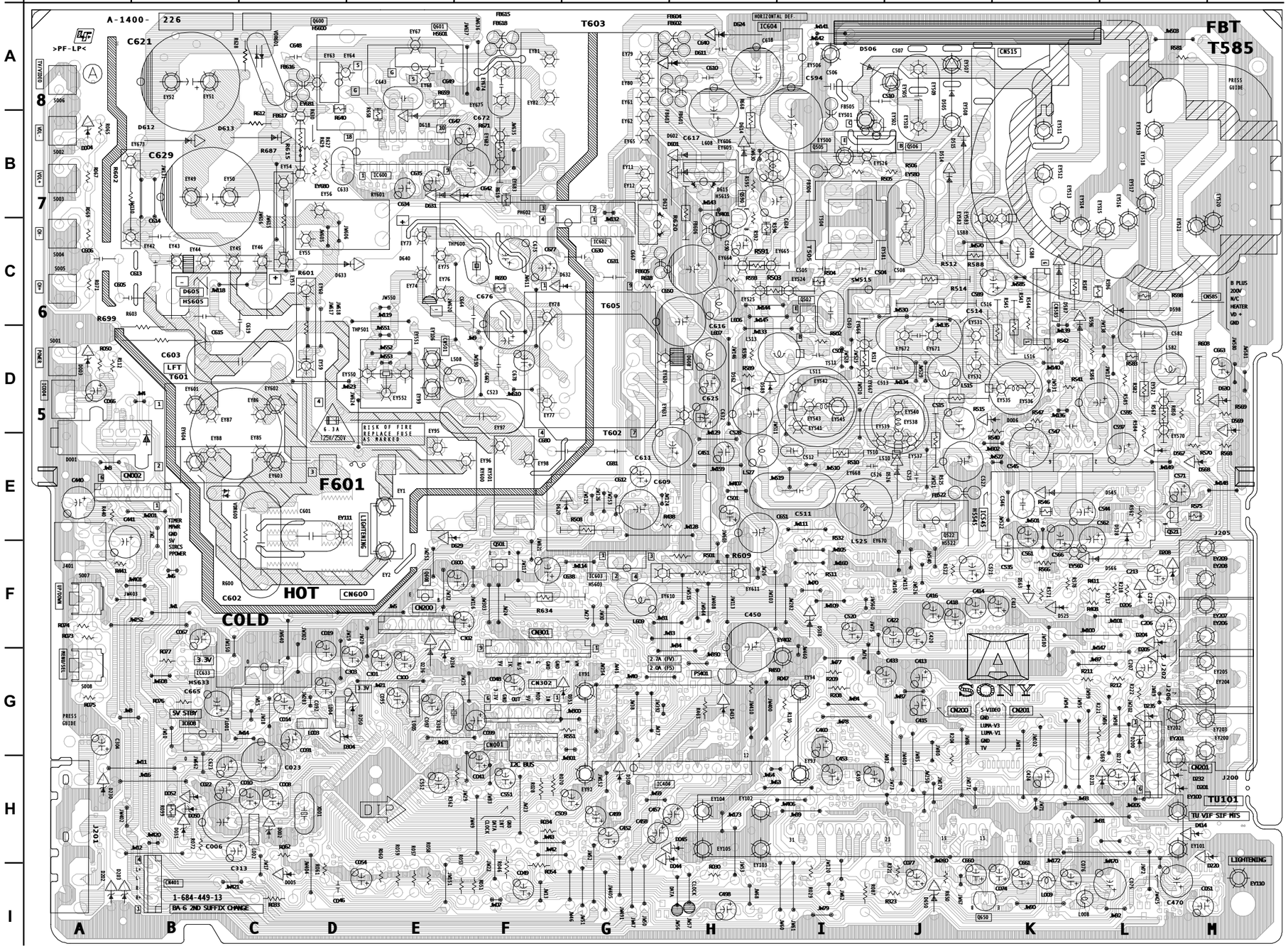
Le symbole indique une fusible a action rapide. Doit etre remplace par une fusible de meme yaleur, comme maque.


Tuner
S
REAR
FRONT
YUV
YUV AUDIO
AUDIO OUT
V1
L
R
V2
Y
U
V
Y/C
Audio Amplifier
AN7522 7.5W
AN1725 10W
AudioProcessor
NJW1134
Det-Out
I2C Bus
RGB Driver
TDA6108
RGB
Speakers
I.R.
L.E.D.
Menu
CTRL
One-ChipIC
M65582MF-XXXFP
-Micro
-YCJ
-3LCombFilter
V-Out
TDA8172
Vd
Hp
E/W
H.Drive
Head
phones
Vert.
Energy Star
5V
STBY
3.3V
Reg.
9V
Reg.
Pin
Out
KC4370A
H-Out
2SD2627
Horiz.
To DY
5VDC
TV-8
DEC
Rect.
SRT
Power Mosfet
2SK2876
B+
Rect.
135V
Low B
Rect.
12.5V
Audio
Rect.
14V
Power Supply
200v
Rect.
+13v
Rect.
-13v
Rect.
OCP
To CRT
To CRT
FBT
G2
HV
Focus
L.F.T
Relay
AC Line
D.G.C.

A BOARD SCHEMATIC DIAGRAM



A [POWER SUPPLY, DEFLECTION, TUNER/IF, AUDIO, MTS, TUNING CONTROL, Y-C JUNGLE]



A BOARD LOCATOR TABLE

DIODE		D412	B11	D613	H3
D001	E2	D413	A11	D614	H7
D002	B3	D414	B11	D615	H7
D003	F1	D501	E5	D618	H5
D004	H1	D505	I9	D620	E6
D005	A3	D506	I8	D621	G6
D006	F10	D508	D10	D624	I7
D044	A6	D509	C6	D628	E5
D045	B7	D514	H9	D629	E4
D050	B2	D515	H10	D630	F12
D051	B2	D525	D10	D631	H5
D052	B2	D526	E9	D650	A9
D200	B11	D528	D11	IC	
D201	B11	D545	E10	IC001	B4
D202	A1	D558	D5	IC002	B5
D203	A1	D559	F8	IC003	B3
D204	C11	D562	F7	IC004	F1
D205	C11	D566	D11	IC005	A11
D206	D11	D567	E11	IC400	C9
D208	D11	D568	E11	IC401	B9
D230	B1	D569	F12	IC402	B9
D231	B11	D587	G10	IC404	B7
D232	B11	D589	F8	IC545	E10
D234	C5	D596	F10	IC561	E11
D235	C11	D598	F11	IC565	D8
D236	C4	D601	H7	IC600	H4
D237	B11	D602	H7	IC603	D6
D351	C6	D605	G3	IC604	I8
D390	C7	D608	F7	IC608	C2
D410	B5	D611	I7	IC633	C3
D411	G7	D612	H2		

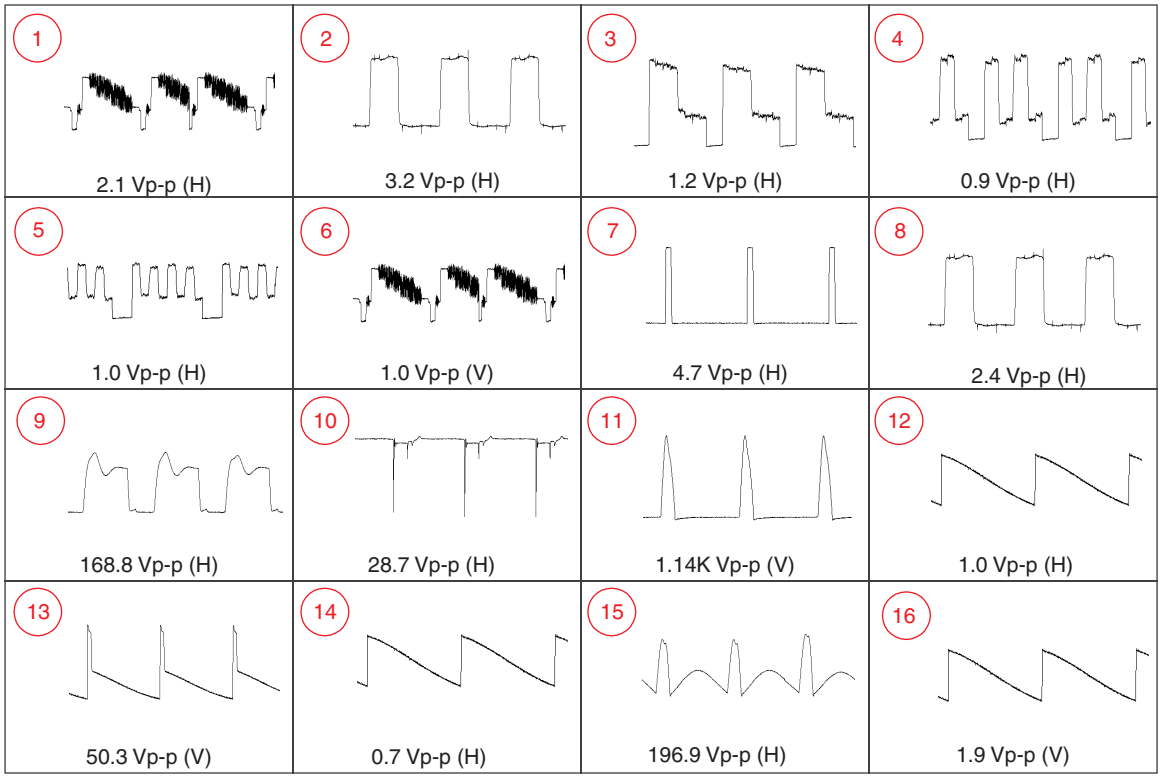
TRANSISTORS		Q390	C7	Q522	E9
Q002	B6	Q391	C6	Q572	D6
Q004	A11	Q400	C10	Q573	D6
Q005	A11	Q401	C10	Q578	D10
Q006	D6	Q404	C8	Q590	G7
Q008	C2	Q405	C8	Q600	I3
Q009	B10	Q411	A6	Q601	I4
Q300	C5	Q412	B11	Q604	E7
Q301	D5	Q501	D5	Q650	A9
Q303	D5	Q502	G8	Q860	C6
Q304	D5	Q505	H8		
Q305	C5	Q506	H9		
Q306	A8	Q521	D11		

A BOARD TRANSISTOR VOLTAGE LIST

	B	C	E		B	C	E
Q002	0.0	2.0	GND	**Q411**	0.0	5.8	GND
Q004	3.8	9.0	4.4	**Q412**	0.1	0.1	GND
Q005	5.1	0.8	5.0	**Q435**	0.0	GND	5.8
Q006	0.0	0.0	GND	**Q501**	0.0	14.3	GND
Q008	0.0	2.6	GND	**Q502**	0.0	74.1	GND
Q009	0.0	5.2	GND	**Q505**	0.0	131.8	0.0
Q300	1.8	9.0	2.4	**Q506**	0.0	131.8	0.0
Q301	3.6	2.1	3.6	**Q519**	1.1	5.0	1.6
Q303	3.6	GND	2.8	**Q521**	0.0	3.8	GND
Q304	3.6	GND	2.9	**Q522**	0.1	-2.1	0.0
Q305	3.6	GND	3.0	**Q572**	0.0	2.6	GND
Q306	5.5	GND	4.9	**Q573**	2.6	0.0	2.6
Q390	0.8	1.5	1.9	**Q578**	0.0	0.5	GND
Q391	0.6	3.3	1.5	**Q590**	133.7	0.0	134.2
Q400	0.0	0.1	GND	**Q604**	30.6	11.6	30.2
Q401	0.0	0.1	GND	**Q608**	0.0	6.7	GND
Q404	0.0	0.0	GND	**Q650**	5.8	9.0	5.0
Q405	0.0	0.0	GND	**Q860**	1.6	GND	3.0

	D	G	S
Q600	157.8	0.0	-4.4
Q601	-4.4	-153.7	-158.4

A BOARD WAVEFORMS



A BOARD IC VOLTAGE LIST

IC001	
PIN	VOLT
1	N/C
2	GND
3	2.2
4	2.2
5	GND
6	5.0
7	0.0
8	2.0
9	0.3
10	2.1
11	5.0
12	GND
13	3.3
14	3.1
15	1.0
16	1.5
17	3.3
18	0.5
19	1.1
20	GND
21	0.5
22	1.7
23	0.5
24	0.5
25	0.5
26	0.0
27	0.0
28	2.1
29	2.7
30	3.3
31	2.9
32	GND
33	2.8
34	3.3
35	2.9
36	GND
37	1.8
38	0.0
39	0.1
40	2.0
41	1.6
42	3.3
43	N/C
44	1.6
45	1.6
46	2.3
47	1.0
48	N/C
49	0.5
50	1.2
51	2.0
52	1.5
53	4.8
54	4.8
55	4.8
56	4.8
57	N/C
58	5.2
59	0.0
60	0.0
61	0.0
62	0.0
63	1.4
64	4.9
65	4.9
66	0.0
67	0.1
68	0.1
69	2.4
70	5.0
71	5.0
72	0.1
73	0.0
74	5.0
75	5.0
76	5.0
77	0.1
78	0.0
79	4.9
80	4.9

IC002	
PIN	VOLT
1	GND
2	GND
3	GND
4	GND
5	GND
6	GND

IC003	
PIN	VOLT
1	N/C
2	GND
3	GND
4	5.0
5	5.0
6	5.0
7	GND
8	5.0
9	4.5
10	4.5
11	4.5
12	4.5
13	4.5
14	4.5
15	0.6
16	3.5
17	3.5
18	4.8

IC004	
PIN	VOLT
1	5.0
2	5.0
3	GND
4	5.0
5	5.0

IC005	
PIN	VOLT
1	4.4
2	4.9
3	4.6
4	N/C
5	N/C
6	9.0
7	3.9
8	GND

IC400	
PIN	VOLT
1	4.5
2	0.3
3	4.5
4	0.3
5	4.5
6	4.5
7	4.5
8	4.5
9	4.5
10	N/C
11	4.4
12	0.0
13	4.5
14	9.0
15	4.4
16	GND
17	4.5
18	4.8
19	4.8
20	GND
21	9.0
22	4.5
23	3.8
24	3.9
25	3.9
26	0.6
27	4.5
28	4.5
29	4.5
30	4.5
31	4.5
32	4.5
33	4.5
34	N/C
35	N/C
36	N/C
37	4.5
38	4.5
39	4.5
40	4.5
41	4.5
42	4.5
43	4.5

IC401	
PIN	VOLT
1	4.5
2	0.3
3	4.5
4	0.3
5	4.5
6	4.5
7	4.5
8	GND

IC402	
PIN	VOLT
1	4.5
2	0.3

IC404	
PIN	VOLT
1	14.6
2	7.0
3	GND
4	7.0
5	5.9
6	0.0
7	GND
8	0.0
9	0.5
10	7.2
11	GND
12	7.0

IC545	
PIN	VOLT
1	0.7
2	13.5
3	-12.2
4	-13.3
5	0.2
6	13.8
7	0.7

IC561	
PIN	VOLT
1	0.1
2	3.4
3	2.3
4	GND
5	9.2
6	10.2
7	0.1
8	13.5

IC565	
PIN	VOLT
1	3.4
2	3.4
3	2.1
4	4.5
5	4.5
6	4.5
7	4.5
8	4.5
9	4.5
10	4.5
11	4.5
12	4.5
13	4.5
14	4.5
15	4.5
16	4.5
17	4.5
18	4.5
19	4.8
20	4.5
21	4.5
22	4.5
23	4.5
24	4.5
25	4.5
26	4.5
27	4.5
28	4.5
29	4.5
30	4.5
31	4.5
32	4.5
33	4.5
34	4.5
35	4.5
36	4.5
37	4.5
38	4.5
39	4.5
40	4.5
41	4.5
42	4.5
43	4.5

IC600	
PIN	VOLT
1	-155.0
2	-156.0
3	-155.0
4	-155.0
5	-158.0
6	-158.0
7	-151.0
8	-134.0
9	-158.0
10	-147.0
11	-158.0
12	-153.0
13	N/C
14	6.0
15	-4.4
16	0.0
17	N/C
18	158.0

IC603	
PIN	VOLT
I	12.0
G	GND
O	9.0

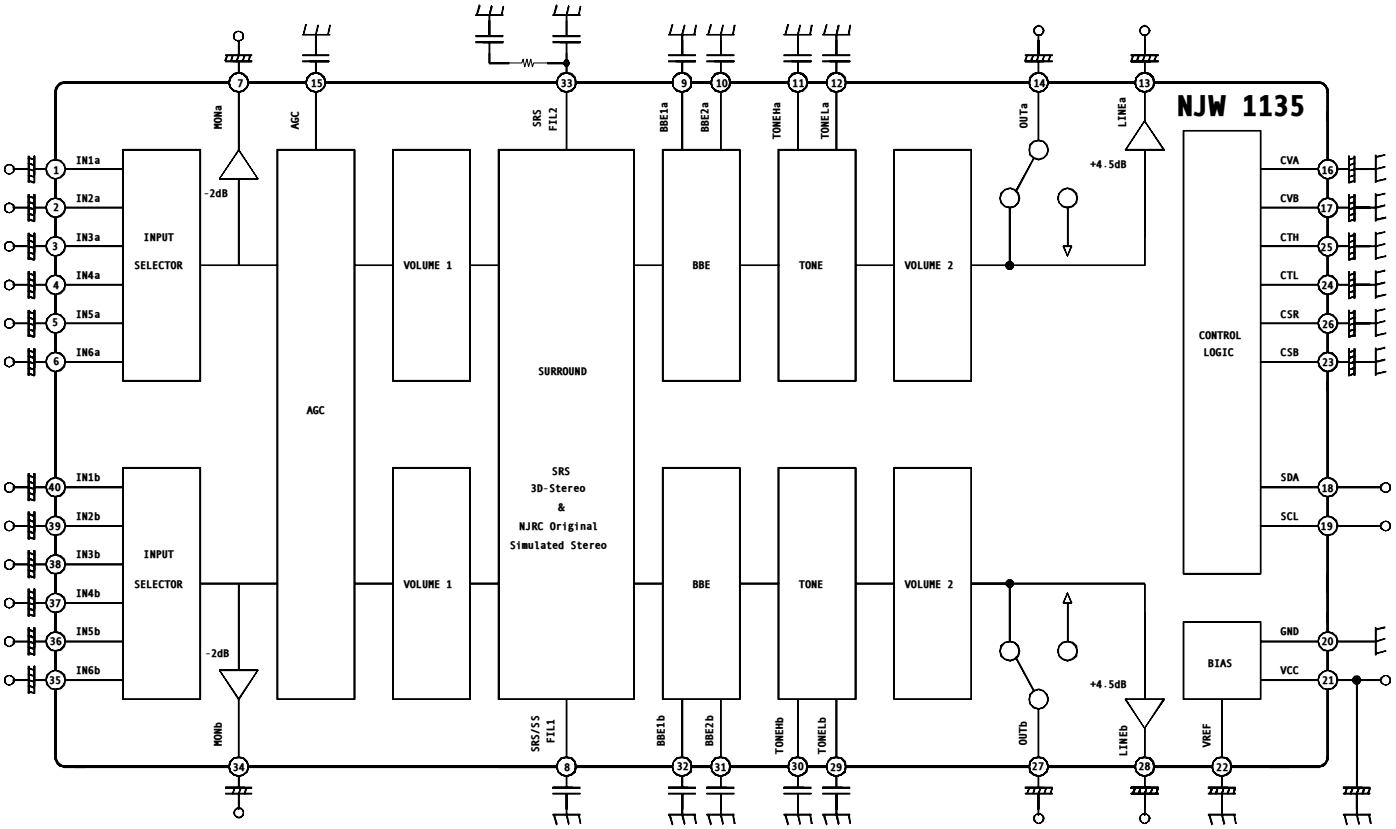
IC604	
PIN	VOLT
1	133.7
2	N/C
3	2.5
4	11.3
5	GND

IC608	
PIN	VOLT
I	11.0
O	5.0
G	GND

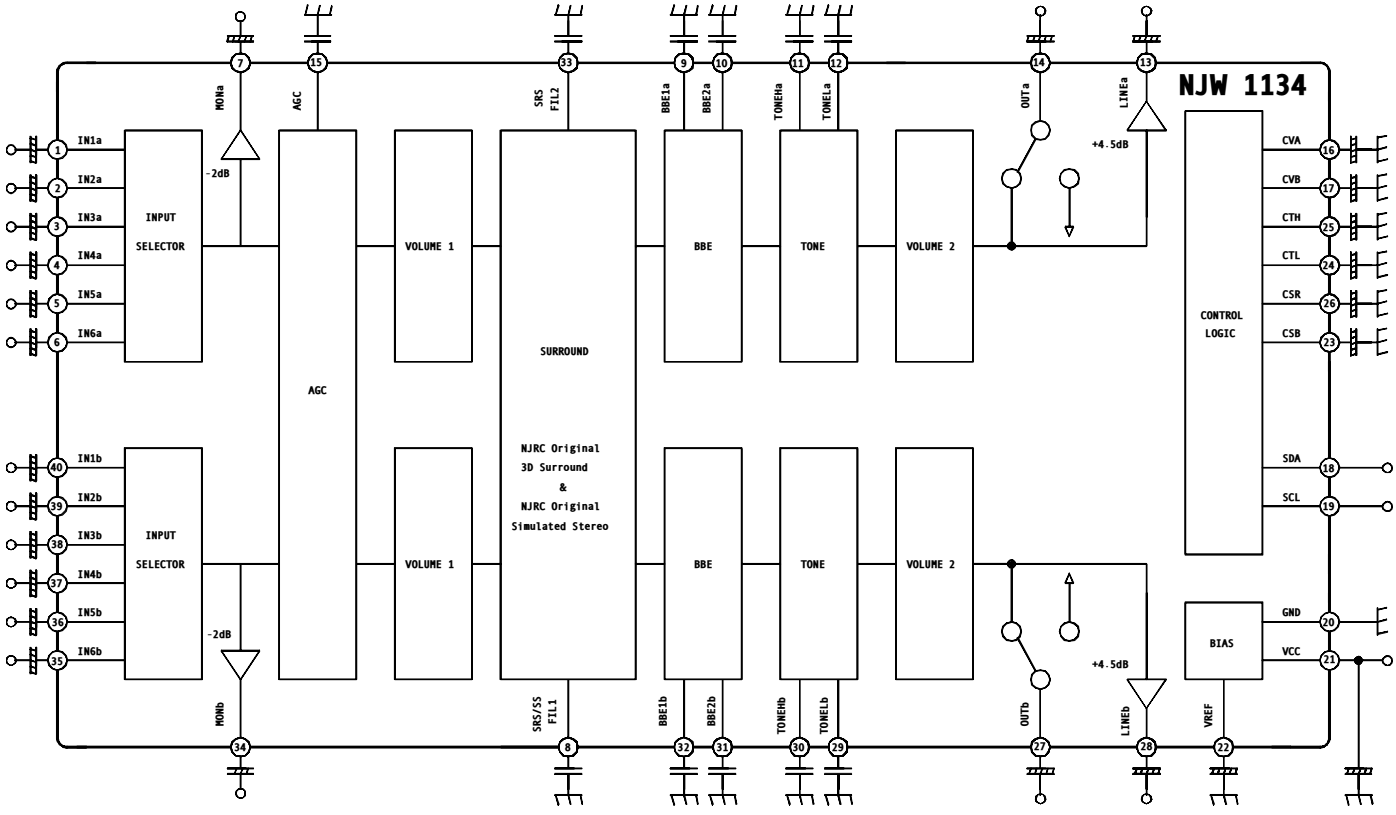
IC633	
PIN	VOLT
I	9.0
G	GND
O	3.3

A BOARD IC BLOCK DIAGRAMS

(KV-20FS100/21FM100/21FS100 ONLY)



(KV-20FV300/21FV300/24FV300/25FV300 ONLY)



A BOARD VARIANCE TABLE (1 OF 5)

REF. NO.	LOCATION	KV-20FS100 KV-21FS100(N)	KV-20FV300 KV-21FV300(N)	KV-21FM100(N)	KV-21FM100(S)	KV-21FS100(S)	KV-21FV300(S)	KV-24FV300 KV-25FV300(N)	KV-25FV300(S)
C001	I-8	200PF	#	200PF	200PF	200PF	#	#	#
C066	D-10	47UF	#	47UF	47UF	47UF	#	#	#
C200	B-6	0.1UF	0.1UF	0.47UF	0.47UF	0.1UF	0.1UF	0.1UF	0.1UF
C202	B-14	0.1UF	0.1UF	#	#	0.1UF	0.1UF	0.1UF	0.1UF
C203	B-14	0.1UF	0.1UF	0.47UF	0.47UF	0.1UF	0.1UF	0.1UF	0.1UF
C204	B-20	0.1UF	0.1UF	0.47UF	0.47UF	0.1UF	0.1UF	0.1UF	0.1UF
C205	B-20	0.1UF	0.1UF	#	#	0.1UF	0.1UF	0.1UF	0.1UF
C206	B-19	4.7UF	4.7UF	#	#	4.7UF	4.7UF	4.7UF	4.7UF
C207	B-19	4.7UF	4.7UF	#	#	4.7UF	4.7UF	4.7UF	4.7UF
C212	B-17	#	4.7UF	#	#	#	4.7UF	4.7UF	4.7UF
C213	B-17	#	4.7UF	#	#	#	4.7UF	4.7UF	4.7UF
C220	B-6	0.1UF	0.1UF	#	#	0.1UF	0.1UF	0.1UF	0.1UF
C301	I-11	#	0.1UF	#	#	#	0.1UF	0.1UF	0.1UF
C302	I-11	#	0.1UF	#	#	#	0.1UF	0.1UF	0.1UF
C305	H-13	0.1UF	0.1UF	#	#	0.1UF	0.1UF	0.1UF	0.1UF
C306	H-13	0.1UF	0.1UF	#	#	0.1UF	0.1UF	0.1UF	0.1UF
C307	H-13	0.1UF	0.1UF	#	#	0.1UF	0.1UF	0.1UF	0.1UF
C360	B-12	220PF	220PF	#	#	220PF	220PF	220PF	220PF
C361	B-12	220PF	220PF	#	#	220PF	220PF	220PF	220PF
C362	I-13	0.001UF	0.001UF	#	#	0.001UF	0.001UF	0.001UF	0.001UF
C363	I-13	0.001UF	0.001UF	#	#	0.001UF	0.001UF	0.001UF	0.001UF
C370	F-12	0.0068UF	0.0068UF	0.0068UF	0.0068UF	0.0068UF	0.0068UF	0.01UF	0.01UF
C400	C-19	#	0.33UF	#	#	#	0.33UF	0.33UF	0.33UF
C401	D-19	#	0.022UF	#	#	#	0.022UF	0.022UF	0.022UF
C402	C-19	#	0.0082UF	#	#	#	0.0082UF	0.0082UF	0.0082UF
C403	D-19	#	0.0033UF	#	#	#	0.0033UF	0.0033UF	0.0033UF
C404	C-19	#	0.0033UF	#	#	#	0.0033UF	0.0033UF	0.0033UF
C405	D-19	#	0.033UF	#	#	#	0.033UF	0.033UF	0.033UF
C406	C-19	#	0.033UF	#	#	#	0.033UF	0.033UF	0.033UF
C407	D-20	#	0.0015UF	#	#	#	0.0015UF	0.0015UF	0.0015UF
C408	C-20	#	0.0015UF	#	#	#	0.0015UF	0.0015UF	0.0015UF
C409	D-20	#	0.22UF	#	#	#	0.22UF	0.22UF	0.22UF
C410	C-20	#	0.22UF	#	#	#	0.22UF	0.22UF	0.22UF
C411	D-20	#	0.33UF	#	#	#	0.33UF	0.33UF	0.33UF
C412	C-20	#	1UF	#	#	#	1UF	1UF	1UF
C413	D-20	#	1UF	#	#	#	1UF	1UF	1UF
C414	C-20	#	2.2UF	#	#	#	2.2UF	2.2UF	2.2UF
C415	D-20	#	1UF	#	#	#	1UF	1UF	1UF
C416	C-20	#	1UF	#	#	#	1UF	1UF	1UF
C418	C-20	#	4.7UF	#	#	#	4.7UF	4.7UF	4.7UF
C420	C-20	#	1UF	#	#	#	1UF	1UF	1UF
C422	C-21	#	1UF	#	#	#	1UF	1UF	1UF
C424	E-16	1UF	#	#	#	1UF	#	#	#
C452	F-19	100UF	47UF	100UF	100UF	100UF	47UF	47UF	47UF
C454	G-19	0.022UF	#	0.022UF	0.022UF	0.022UF	#	#	#
C455	F-19	0.022UF	#	0.022UF	0.022UF	0.022UF	#	#	#
C457	F-20	0.22UF	4.7UF	0.22UF	0.22UF	0.22UF	4.7UF	4.7UF	4.7UF
C458	G-20	0.22UF	4.7UF	0.22UF	0.22UF	0.22UF	4.7UF	4.7UF	4.7UF
C459	G-19	0.47UF	#	0.47UF	0.47UF	0.47UF	#	#	#
C460	G-19	0.47UF	#	0.47UF	0.47UF	0.47UF	#	#	#

#: Not Mounted

A BOARD VARIANCE TABLE (2 OF 5)

REF. NO.	LOCATION	KV-20FS100 KV-21FS100(N)	KV-20FV300 KV-21FV300(N)	KV-21FM100(N)	KV-21FM100(S)	KV-21FS100(S)	KV-21FV300(S)	KV-24FV300 KV-25FV300(N)	KV-25FV300(S)
C461	F-19	#	0.22UF	#	#	#	0.22UF	0.22UF	0.22UF
C462	F-19	#	0.22UF	#	#	#	0.22UF	0.22UF	0.22UF
C463	F-20	#	0.22UF	#	#	#	0.22UF	0.22UF	0.22UF
C464	F-21	#	0.22UF	#	#	#	0.22UF	0.22UF	0.22UF
C499	F-16	47UF	10UF	47UF	47UF	47UF	10UF	10UF	10UF
C506	I-17	0.001UF	0.001UF	0.001UF	0.001UF	0.001UF	0.001UF	680PF	680PF
C507	I-17	8200PF	8200PF	8200PF	8200PF	8200PF	8200PF	19000PF	19000PF
C508	I-17	0.047UF	0.047UF	0.047UF	0.047UF	0.047UF	0.047UF	0.056UF	0.056UF
C511	I-17	0.82UF	0.82UF	0.82UF	0.82UF	0.82UF	0.82UF	0.75UF	0.75UF
C514	I-21	0.56UF	0.56UF	0.56UF	0.56UF	0.56UF	0.56UF	0.82UF	0.82UF
C516	I-20	#	#	#	#	#	#	0.15UF	0.15UF
C523	L-2	0.22UF 125V	0.22UF 125V	0.22UF 125V	0.22UF 300V	0.22UF 300V	0.22UF 300V	0.22UF 125V	0.22UF 300V
C536	M-15	0.022UF	0.022UF	0.022UF	0.022UF	0.022UF	0.022UF	0.0022UF	0.0022UF
C602	J-2	0.47UF 125V	0.47UF 25V	0.47UF 125V	0.47UF 300V	0.47UF 300V	0.47UF 300V	0.47UF 125V	0.47UF 300V
C603	J-3	0.47UF 125V	0.47UF 25V	0.47UF 125V	0.47UF 300V	0.47UF 300V	0.47UF 300V	0.47UF 125V	0.47UF 300V
C605	J-4	2200PF 250V	2200PF 250V	2200PF 250V	2200PF 250V	2200PF 250V	2200PF 250V	#	#
C606	J-4	2200PF 250V	2200PF 250V	2200PF 250V	2200PF 250V	2200PF 250V	2200PF 250V	#	#
C621	J-6	390UF	470UF	390UF	390UF	390UF	470UF	470UF	470UF
C629	J-5	390UF	470UF	390UF	390UF	390UF	470UF	470UF	470UF
C672	M-7	15000PF	22000PF	15000PF	15000PF	15000PF	22000PF	22000PF	22000PF
CN002	F-2	#	6P	#	#	#	6P	6P	6P
D001	E-3	8-719-070-80	#	8-719-070-80	8-719-070-80	8-719-070-80	#	#	#
D200	B-14	8-719-923-67	8-719-923-67	#	#	8-719-923-67	8-719-923-67	8-719-923-67	8-719-923-67
D203	B-20	8-719-923-67	8-719-923-67	#	#	8-719-923-67	8-719-923-67	8-719-923-67	8-719-923-67
D204	B-19	8-719-923-67	8-719-923-67	#	#	8-719-923-67	8-719-923-67	8-719-923-67	8-719-923-67
D205	B-19	8-719-923-67	8-719-923-67	#	#	8-719-923-67	8-719-923-67	8-719-923-67	8-719-923-67
D206	B-17	#	8-719-923-67	#	#	#	8-719-923-67	8-719-923-67	8-719-923-67
D208	B-17	#	8-719-923-67	#	#	#	8-719-923-67	8-719-923-67	8-719-923-67
D231	B-15	#	8-719-118-27	#	#	#	8-719-118-27	8-719-118-27	8-719-118-27
D234	B-14	8-719-118-27	8-719-118-27	#	#	8-719-118-27	8-719-118-27	8-719-118-27	8-719-118-27
D235	A-13	8-719-118-27	8-719-118-27	#	#	8-719-118-27	8-719-118-27	8-719-118-27	8-719-118-27
D236	B-13	8-719-118-27	8-719-118-27	#	#	8-719-118-27	8-719-118-27	8-719-118-27	8-719-118-27
D237	A-16	#	8-719-118-27	#	#	#	8-719-118-27	8-719-118-27	8-719-118-27
D506	I-17	8-719-940-94	8-719-940-95	8-719-940-94	8-719-940-94	8-719-940-94	8-719-940-95	8-719-312-10	8-719-312-10
D596	K-19	8-719-936-83	8-719-936-83	8-719-936-83	8-719-936-83	8-719-936-83	8-719-936-83	8-719-940-94	8-719-940-94
D598	K-19	8-719-936-83	8-719-936-83	8-719-936-83	8-719-936-83	8-719-936-83	8-719-936-83	8-719-940-94	8-719-940-94
D612	J-6	8-719-068-00	8-719-068-00	8-719-068-00	#	#	#	8-719-068-00	#
D613	J-6	8-719-068-00	8-719-068-00	8-719-068-00	#	#	#	8-719-068-00	#
F601	J-2	6.3A/125V	6.3A/125V	6.3A/125V	6.3A/250V	6.3A/250V	6.3A/250V	6.3A/125V	6.3A/250V
IC004	G-2	SBX3081-71	#	SBX3081-71	SBX3081-71	SBX3081-71	#	#	#
IC400	D-20	#	NJW1134G-TE2	#	#	#	NJW1134G-TE2	NJW1134G-TE2	NJW1134G-TE2
IC401	C-16	NJM2750M-TE2	#	#	#	NJM2750M-TE2	#	#	#
IC402	C-17	#	#	NJM2521M-TE1	NJM2521M-TE1	#	#	#	#

#: Not Mounted

A BOARD VARIANCE TABLE (3 OF 5)

REF. NO.	LOCATION	KV-20FS100 KV-21FS100(N)	KV-20FV300 KV-21FV300(N)	KV-21FM100(N)	KV-21FM100(S)	KV-21FS100(S)	KV-21FV300(S)	KV-24FV300 KV-25FV300(N)	KV-25FV300(S)
IC404	E-20	AN17820A	AN7125Z	AN17820A	AN17820A	AN17820A	AN7125Z	AN7125Z	AN7125Z
IC545	J-16	AN5522	AN5523	AN5522	AN5522	AN5522	AN5522	TDA8172	TDA8172
J200	B-15	3P	4P	2P	2P	3P	4P	4P	4P
J201	B-20	3P	3P	2P	2P	3P	3P	3P	3P
J202	B-19	2P	2P	#	#	2P	2P	2P	2P
J205	B-17	#	2P	#	#	#	2P	2P	2P
J206	B-13	3P	3P	#	#	3P	3P	3P	3P
JW510	I-18	5.0MM	5.0MM	5.0MM	5.0MM	5.0MM	5.0MM	#	#
JW519	I-18	7.5MM	7.5MM	7.5MM	7.5MM	7.5MM	7.5MM	#	#
JW550	J-3	5.0MM	5.0MM	5.0MM	#	#	#	5.0MM	#
JW551	K-3	5.0MM	5.0MM	5.0MM	#	#	#	5.0MM	#
JW552	K-3	12.5MM	12.5MM	12.5MM	12.5MM	12.5MM	12.5MM	12.5MM	12.5MM
JW553	K-3	#	#	#	5.0MM	5.0MM	5.0MM	#	5.0MM
JW605	K-5	7.5MM	7.5MM	7.5MM	#	#	#	7.5MM	#
JW606	K-5	7.5MM	7.5MM	7.5MM	#	#	#	7.5MM	#
L360	I-13	10UF	10UF	#	#	10UF	10UF	10UF	10UF
L361	I-13	10UF	10UF	#	#	10UF	10UF	10UF	10UF
L510	J-18	470UF	470UF	470UF	470UF	470UF	470UF	#	#
L516	I-20	#	#	#	#	#	#	150UF	150UF
PS401	F-19	1-576-336-21	1-576-337-21	1-576-336-21	1-576-336-21	1-576-336-21	1-576-337-21	1-576-337-21	1-576-337-21
Q404	G-19	2SD601A-QRS-TX	#	2SD601A-QRS-TX	2SD601A-QRS-TX	2SD601A-QRS-TX	#	#	#
Q405	G-19	2SD601A-QRS-TX	#	2SD601A-QRS-TX	2SD601A-QRS-TX	2SD601A-QRS-TX	#	#	#
Q505	I-16	#	#	#	#	#	#	6-550-041-01	6-550-041-01
Q506	I-17	2SD2627LS-YB11	2SD2627LS-YB12	2SD2627LS-YB11	2SD2627LS-YB11	2SD2627LS-YB11	2SD2627LS-YB12	#	#
Q600	J-6	2SK2876-01MR-F122	2SK2876-01MR-F122	2SK2876-01MR-F122	2SK2876-01MR-F122	2SK2876-01MR-F122	2SK2876-01MR-F122	2SK2876-01MR-F122	2SK2876-01MR-F122
Q601	M-R	2SK2876-01MR-F122	2SK2876-01MR-F122	2SK2876-01MR-F122	2SK2876-01MR-F122	2SK2876-01MR-F122	2SK2876-01MR-F122	2SK2876-01MR-F122	2SK2876-01MR-F122
R001	I-8	220	#	220	220	220	#	#	#
R029	B-9	220	220	#	#	220	220	220	220
R030	F-9	220	220	#	#	220	220	220	220
R032	B-6	220	220	#	#	220	220	220	220
R036	D-14	4.7K	2.2K	4.7K	4.7K	4.7K	2.2K	2.2K	2.2K
R060	H-8	220	220	#	#	220	220	220	220
R079	F-3	0	#	0	0	0	#	#	#
R094	G-11	0UH	0	0UH	0UH	0UH	0	0	0
R095	G-11	0UH	0	0UH	0UH	0UH	0	0	0
R098	F-4	33K	33K	22K	22K	33K	33K	33K	33K
R101	B-3	4.7K	4.7K	8.2K	8.2K	4.7K	4.7K	4.7K	4.7K
R104	C-5	#	#	0	0	#	#	#	#
R105	C-5	0	0	#	#	0	0	0	0
R106	C-5	#	#	0	0	#	#	#	#
R107	B-3	100	0UH	100	100	100	0UH	0UH	0UH
R108	B-3	100	0UH	100	100	100	0UH	0UH	0UH
R109	B-4	4.7K	4.7K	#	#	4.7K	4.7K	4.7K	4.7K
R111	B-5	4.7K	4.7K	#	#	4.7K	4.7K	4.7K	4.7K
R200	A-7	10K	220	220	220	10K	220	220	220
R202	B-14	100K	100K	#	#	100K	100K	100K	100K
R203	B-14	100K	100K	470K	470K	100K	100K	100K	100K
R204	C-15	JW(5.0MM)	JW(5.0MM)	#	#	JW(5.0MM)	JW(5.0MM)	JW(5.0MM)	JW(5.0MM)

#: Not Mounted

A BOARD VARIANCE TABLE (4 OF 5)

REF. NO.	LOCATION	KV-20FS100 KV-21FS100(N)	KV-20FV300 KV-21FV300(N)	KV-21FM100(N)	KV-21FM100(S)	KV-21FS100(S)	KV-21FV300(S)	KV-24FV300 KV-25FV300(N)	KV-25FV300(S)
R205	C-15	220	#	220	220	220	#	#	#
R206	B-20	100K	100K	470K	470K	100K	100K	100K	100K
R207	B-20	100K	100K	#	#	100K	100K	100K	100K
R208	B-20	10K	220	220	220	10K	220	220	220
R209	B-20	10K	220	220	220	10K	220	220	220
R210	B-19	100K	100K	#	#	100K	100K	100K	100K
R211	B-18	10K	220	#	#	10K	220	220	220
R212	C-19	10K	220	#	#	10K	220	220	220
R213	B-19	100K	100K	#	#	100K	100K	100K	100K
R215	B-16	#	100K	#	#	#	100K	100K	100K
R216	B-17	#	100K	#	#	#	100K	100K	100K
R217	B-17	#	220	#	#	#	220	220	220
R218	B-17	#	220	#	#	#	220	220	220
R220	B-6	10K	220	#	#	10K	220	220	220
R221	D-18	#	220	#	#	#	220	220	220
R222	B-16	#	220	#	#	#	220	220	220
R227	B-15	#	75	#	#	#	75	75	75
R234	B-15	#	#	0	0	#	#	#	#
R250	D-18	#	22K	#	#	#	22K	22K	22K
R251	F-18	#	22K	#	#	#	22K	22K	22K
R301	K-10	#	75	#	#	#	75	75	75
R305	I-14	75	75	#	#	75	75	75	75
R306	H-13	75	75	#	#	75	75	75	75
R307	H-14	75	75	#	#	75	75	75	75
R360	B-13	100	100	#	#	100	100	100	100
R361	B-14	100	100	#	#	100	100	100	100
R400	C-19	#	4.7K	#	#	#	4.7K	4.7K	4.7K
R401	D-20	#	100	#	#	#	100	100	100
R403	D-20	#	100	#	#	#	100	100	100
R404	D-15	#	#	0	0	#	#	#	#
R405	G-18	#	#	0	0	#	#	#	#
R406	B-17	#	220	#	#	#	220	220	220
R407	B-17	#	220	#	#	#	220	220	220
R410	B-16	0	#	0	0	0	#	#	#
R413	B-16	0	#	0	0	0	#	#	#
R427	F-19	#	4.7K	#	#	#	4.7K	4.7K	4.7K
R429	F-20	#	4.7K	#	#	#	4.7K	4.7K	4.7K
R431	F-19	#	2.2	#	#	#	2.2	2.2	2.2
R432	F-19	#	2.2	#	#	#	2.2	2.2	2.2
R433	F-20	#	2.2	#	#	#	2.2	2.2	2.2
R434	F-21	#	2.2	#	#	#	2.2	2.2	2.2
R455	F-19	1K	#	1K	1K	1K	#	#	#
R456	G-18	1K	#	1K	1K	1K	#	#	#
R457	F-19	1K	#	1K	1K	1K	#	#	#
R458	G-18	1K	#	1K	1K	1K	#	#	#
R459	F-19	470	#	470	470	470	#	#	#
R460	G-19	470	#	470	470	470	#	#	#
R461	F-19	2.2K	100K	1K	1K	2.2K	100K	100K	100K
R462	G-19	2.2K	100K	1K	1K	2.2K	100K	100K	100K

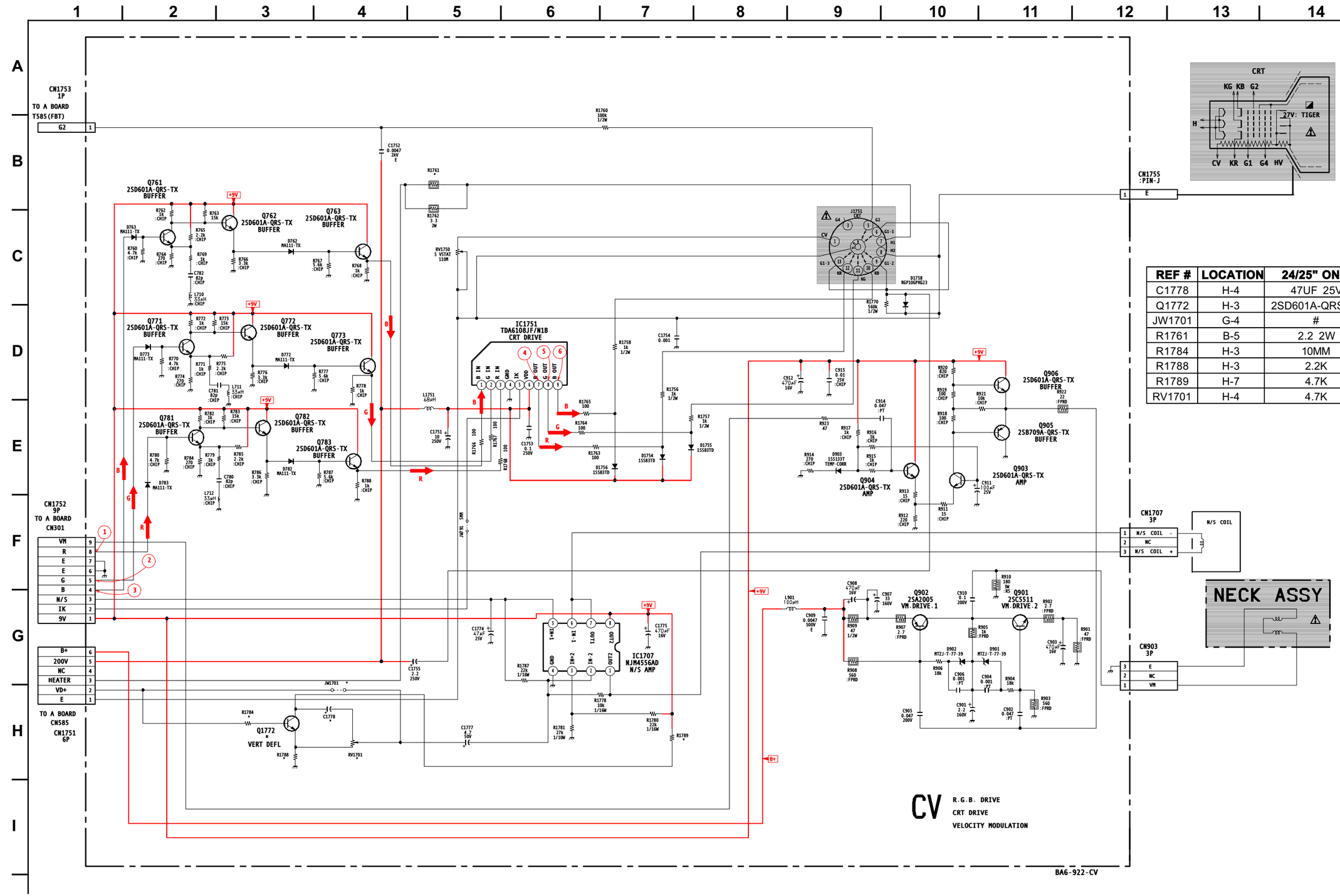
#: Not Mounted

A BOARD VARIANCE TABLE (5 OF 5)

REF. NO.	LOCATION	KV-20FS100 KV-21FS100(N)	KV-20FV300 KV-21FV300(N)	KV-21FM100(N)	KV-21FM100(S)	KV-21FS100(S)	KV-21FV300(S)	KV-24FV300 KV-25FV300(N)	KV-25FV300(S)
R482	E-18	#	0	#	#	#	0	0	0
R487	H-19	22K	#	22K	22K	22K	#	#	#
R488	H-19	22K	#	22K	22K	22K	#	#	#
R489	G-19	47	#	47	47	47	#	#	#
R490	G-19	47	#	47	47	47	#	#	#
R499	F-16	2.2K	10K	2.2K	2.2K	2.2K	10K	10K	10K
R503	I-15	3.9K	3.9K	3.9K	3.9K	3.9K	3.9K	2.2K	2.2K
R510	I-18	220	220	220	220	220	220	1K	1K
R512	I-21	68	68	68	68	68	68	#	#
R513	I-20	220	220	220	220	220	220	33	33
R515	I-19	100	100	100	100	100	100	68	68
R528	N-16	6.8K	6.8K	6.8K	6.8K	6.8K	6.8K	390	390
R529	N-15	22K	22K	22K	22K	22K	22K	15K	15K
R530	N-14	10K	10K	10K	10K	10K	10K	4.7K	4.7K
R533	N-14	2.7K	2.7K	2.7K	2.7K	2.7K	2.7K	10K	10K
R535	N-14	2.2K	2.2K	2.2K	2.2K	2.2K	2.2K	5.6K	5.6K
R537	M-15	680K	680K	680K	680K	680K	680K	180K	180K
R541	J-15	15K	15K	15K	15K	15K	15K	8.2K	8.2K
R548	J-16	15K	15K	15K	15K	15K	15K	8.2K	8.2K
R549	J-17	#	#	#	47K	47K	47K	47K	47K
R552	M-15	47K	47K	47K	47K	47K	47K	1M	1M
R564	M-18	#	#	#	#	#	#	82K	82K
R585	L-20	22K	22K	22K	22K	22K	22K	15K	15K
R594	M-12	1K	1K	1K	1K	1K	1K	1.2K	1.2K
R601	K-4	1	0.68	1	2.2	2.2	2.2	0.68	2.2
R602	K-4	1.8	1.8	1.8	2.2	2.2	2.2	1.8	2.2
R603	J-3	4.7M	4.7M	4.7M	#	#	#	4.7M	#
R631	M-4	10K	12K	10K	10K	10K	12K	12K	12K
R687	J-5	1.8	1.8	1.8	2.2	2.2	2.2	1.8	2.2
R699	J-4	#	#	#	8.2M	8.2M	8.2M	#	8.2M
R852	N-14	10K	10K	10K	10K	10K	10K	#	#
S001	G-5	1-786-025-21	#	1-786-025-21	1-786-025-21	1-786-025-21	#	#	#
T510	J-18	#	#	#	#	#	#	1-437-610-11	1-437-610-11
T511	J-19	1-435-079-21	1-435-079-21	1-435-079-21	1-435-079-21	1-435-079-21	1-435-079-21	1-433-850-21	1-433-850-21
T585	K-20	8-598-838-40	8-598-838-40	8-598-838-40	8-598-838-40	8-598-838-40	8-598-838-40	8-598-850-00	8-598-850-00
T601	J-3	1-435-617-11	1-435-617-11	1-435-617-11	1-426-717-11	1-426-717-11	1-426-717-11	1-435-617-11	1-426-717-11
T602	K-8	1-435-675-11	1-435-675-11	1-435-675-11	1-435-676-11	1-435-676-11	1-435-676-11	1-435-675-11	1-435-676-11
T603	M-8	1-437-609-11	1-437-611-11	1-437-609-11	1-437-609-11	1-437-609-11	1-437-611-11	1-437-611-11	1-437-611-11
THP501	K-3	1-809-539-11	1-809-539-11	1-809-539-11	1-803-541-11	1-803-541-11	1-803-541-11	1-809-539-11	1-803-541-11
TU101	A-4	BTF-WA421	BTF-WA421	BTF-FA421	BTF-FA421	BTF-WA421	BTF-WA421	BTF-WA421	BTF-WA421
VDR600	J-2	1-803-585-11	1-803-585-11	1-803-585-11	1-803-967-11	1-803-967-11	1-803-967-11	1-803-585-11	1-803-967-11

#: Not Mounted

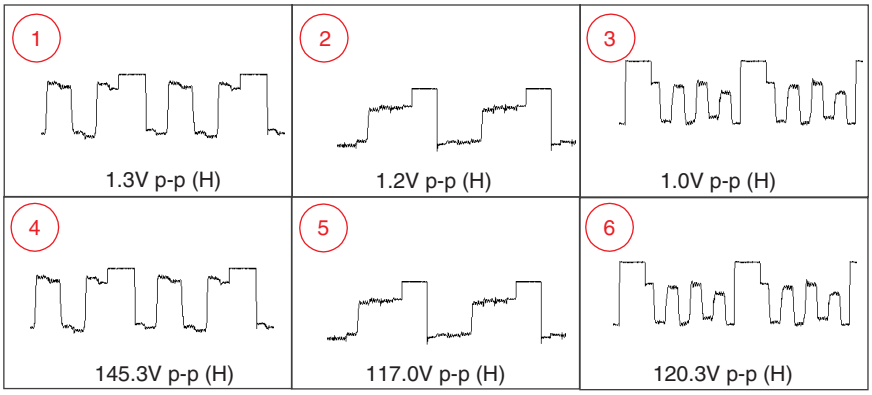
CV BOARD SCHEMATIC DIAGRAM



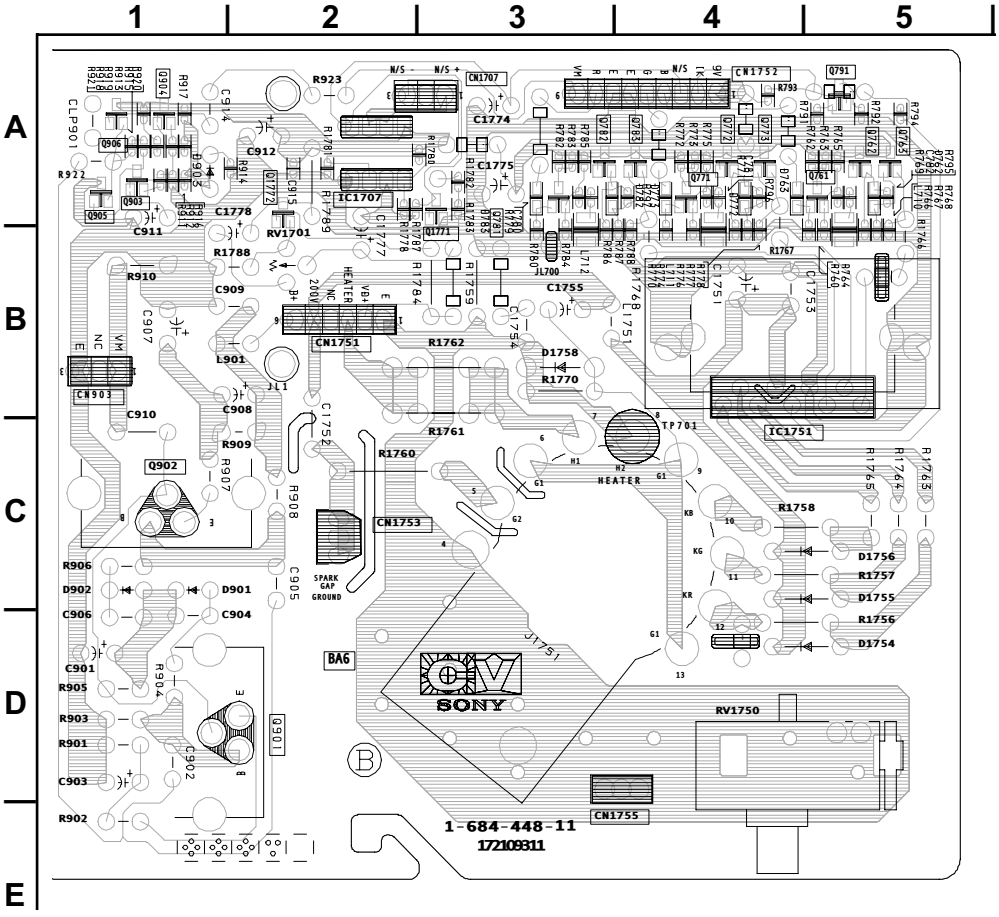
REF #	LOCATION	24/25" ONLY	ALL EXCEPT 24/25"
C1778	H-4	47UF 25V	#
Q1772	H-3	2SD601A-QRS-TX	#
JW1701	G-4	#	10.0MM
R1761	B-5	2.2 2W	#
R1784	H-3	10MM	#
R1788	H-3	2.2K	#
R1789	H-7	4.7K	#
RV1701	H-4	4.7K	#

#: Not Mounted

CV BOARD WAVEFORMS



CV [RGB DRIVE, CRT DRIVE, VELOCITY MODULATION]



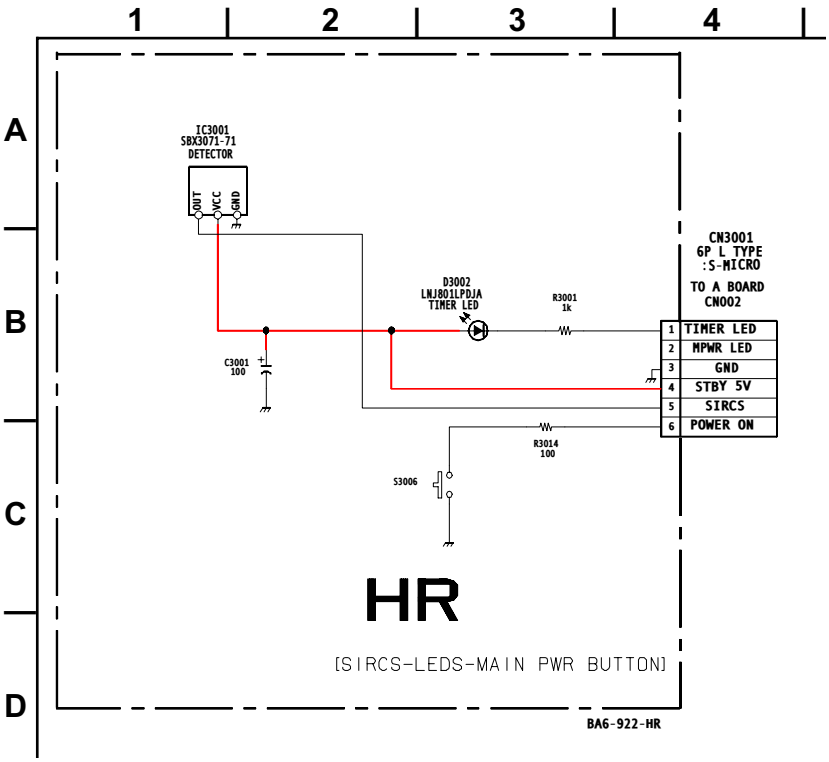
CV BOARD IC VOLTAGE TABLE

IC1707	
PIN	VOLT
1	1.8
2	2.8
3	4.4
4	GND
5	4.8
6	4.8
7	4.8
8	9.0
IC1751	
PIN	VOLT
1	2.0
2	2.0
3	2.4
4	GND
5	3.7
6	200.0
7	136.0
8	142.0
9	140.0

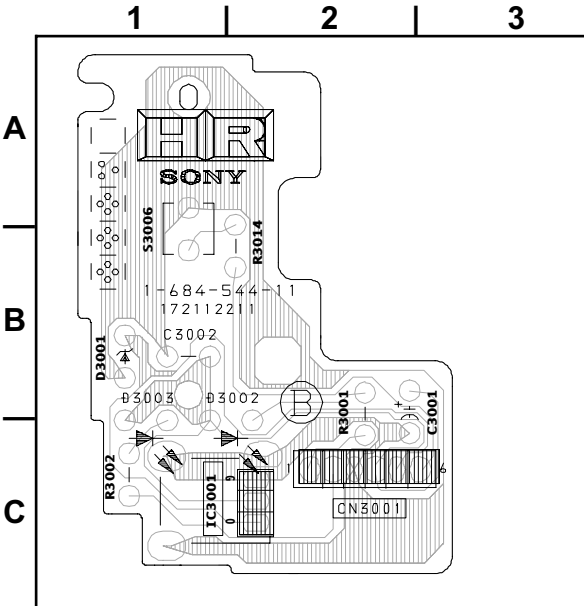
CV BOARD TRANSISTOR TABLE

	B	C	E		B	C	E
Q761	2.2	3.8	2.9	**Q783**	2.1	9.0	2.7
Q762	3.1	9.0	3.8	**Q901**	0.9	67.0	0.4
Q763	2.0	9.0	2.6	**Q902**	134.0	67.0	134.0
Q771	2.2	3.8	2.9	**Q903**	1.8	5.4	2.4
Q772	3.2	9.0	3.8	**Q904**	1.8	9.0	2.4
Q773	2.0	9.0	2.6	**Q905**	5.7	GND	5.4
Q781	2.2	3.9	2.9	**Q906**	5.7	9.0	6.1
Q782	3.3	9.0	3.9	**Q1772**	0.0	0.0	0.0

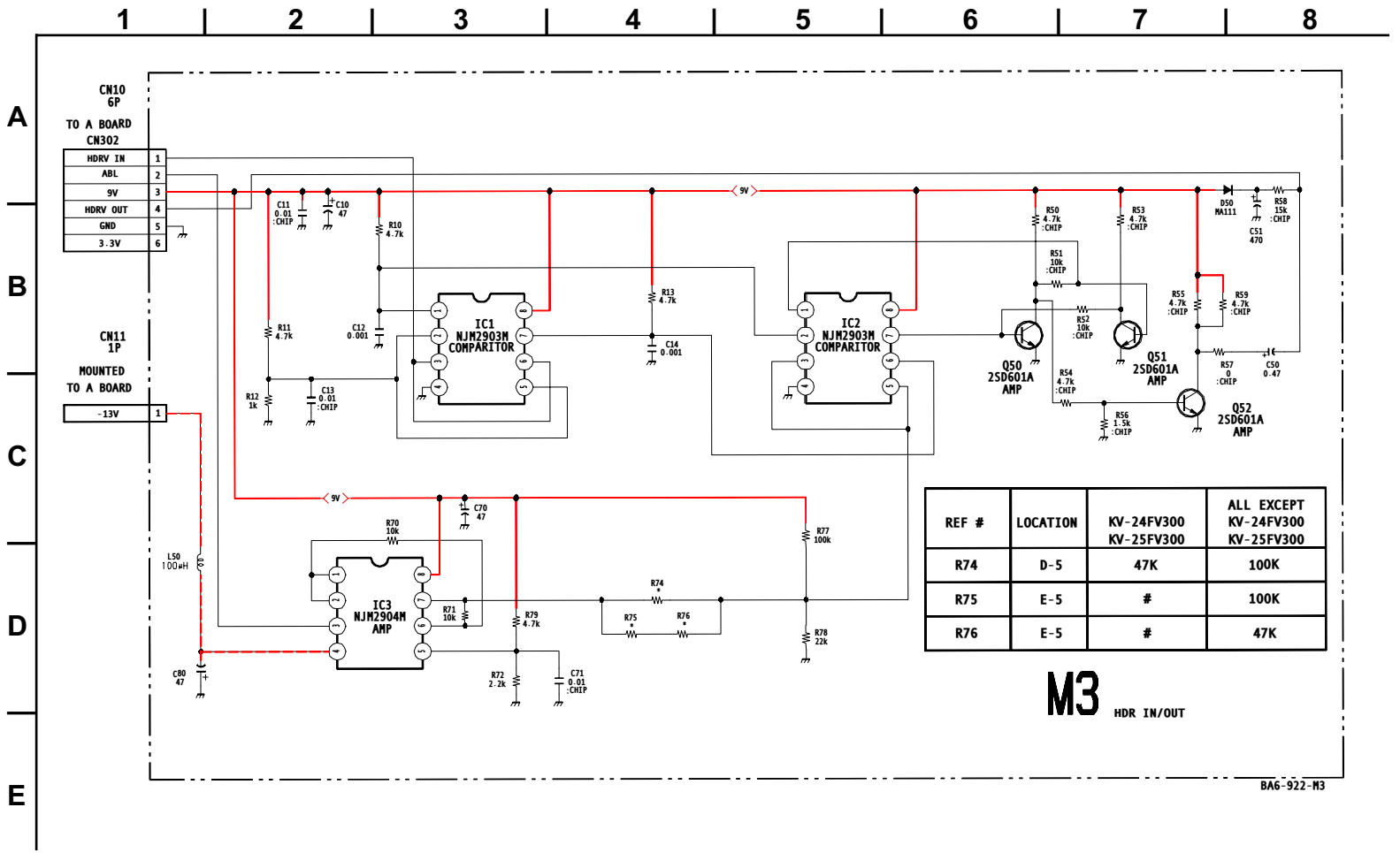
HR BOARD SCHEMATIC DIAGRAM



HR [MAIN PWR BUTTON, SIRCS, LEDS]

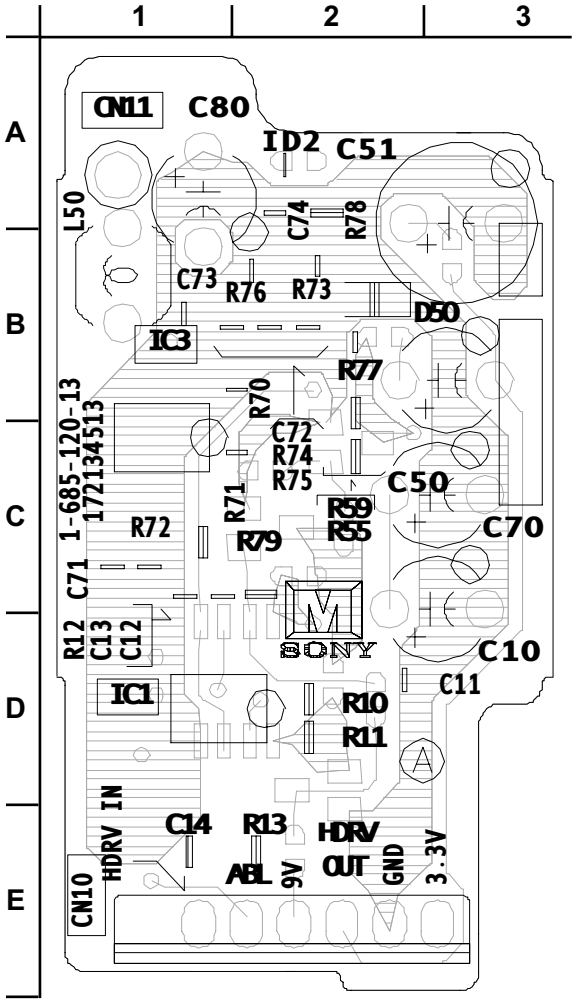


M3 BOARD SCHEMATIC DIAGRAM

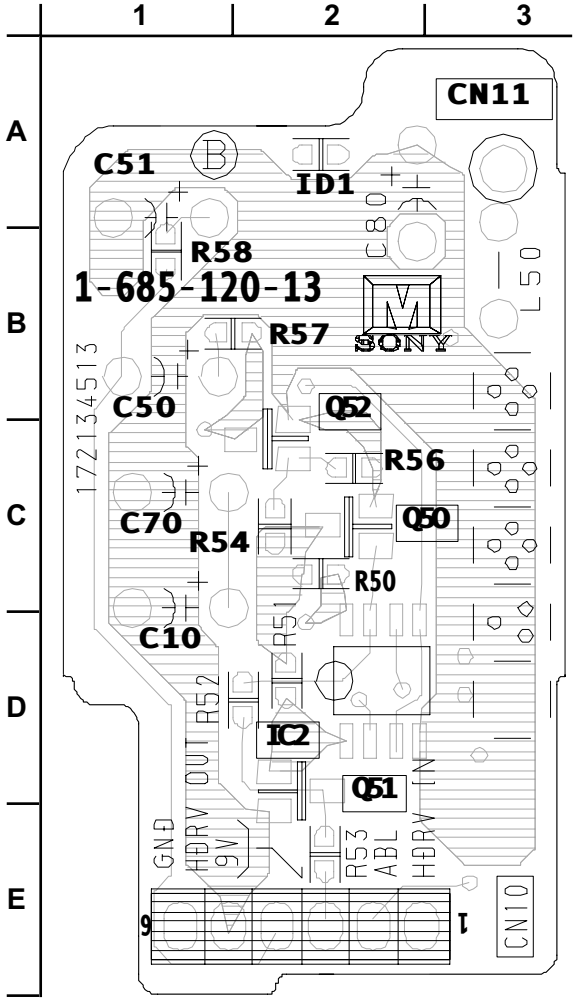


REF #	LOCATION	KV-24FV300 KV-25FV300	ALL EXCEPT KV-24FV300 KV-25FV300
R74	D-5	47K	100K
R75	E-5	#	100K
R76	E-5	#	47K

M3 [HDR IN/OUT CONDUCTOR SIDE]

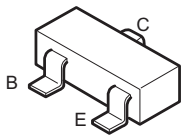


M3 [HDR IN/OUT COMPONENT SIDE]

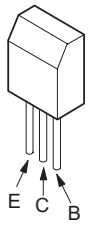


5-4. SEMICONDUCTORS

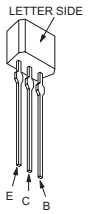
2SB709A-QRS-TX
2SD601A-QRS-TX



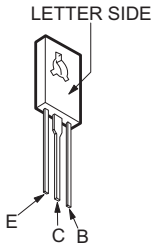
2SB734-T-34
2SC3209LK-TP



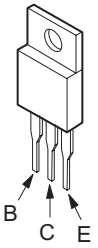
2SA1309A-QRSTA
2SC3311A-QRSTA
2SD2144S-TP-UVW



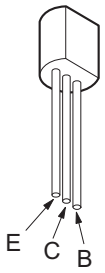
2SC3840K



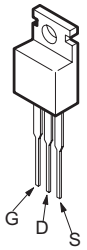
2SA1837



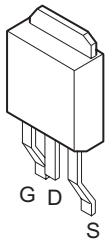
2SA1091O-TPE2



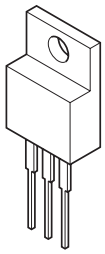
IRF614



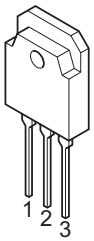
2SK2663



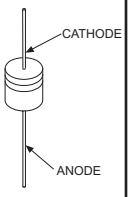
2SC4793



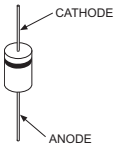
2SD2578-YB



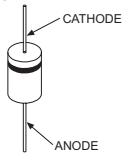
ERA38-06TP1
ERA82-004TP5
1SS133T-77
D1NS0R-TA
MTZJ-T-77-12C
MTZJ-T-77-15B
MTZJ-T-77-33B
MTZJ-T-77-39



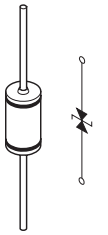
RU-1P
ERC06-15S
EGP20DPKG23
MTZJ-T-77-5.1C
MTZJ-T-77-5.6C
MTZJ-T-77-7.5A
MTZJ-T-77-10B
MTZJ-T-77-30D
RGP10-GPKG3
RGP02-17PKG23



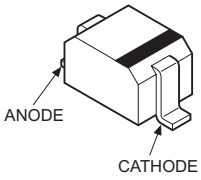
ERB44-06TP1
1SS83TD
GP08DPKG23
RGP10GPKG23
RU4AM-T3



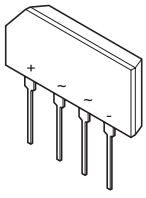
RD9.1EW-T1



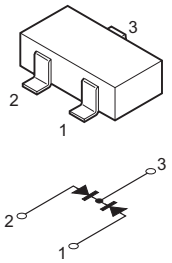
MA111-TX
UDZ-TE-17.5.1B
UDZ-TE-17.91B



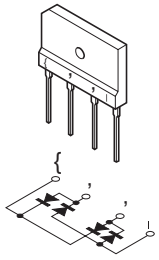
D2SB60A-F04



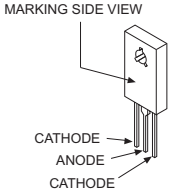
DAP202K-T-146



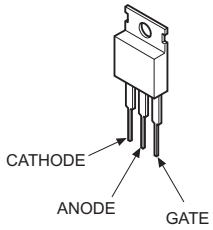
D4SB60L-F



D5LC20U



TF541M



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.

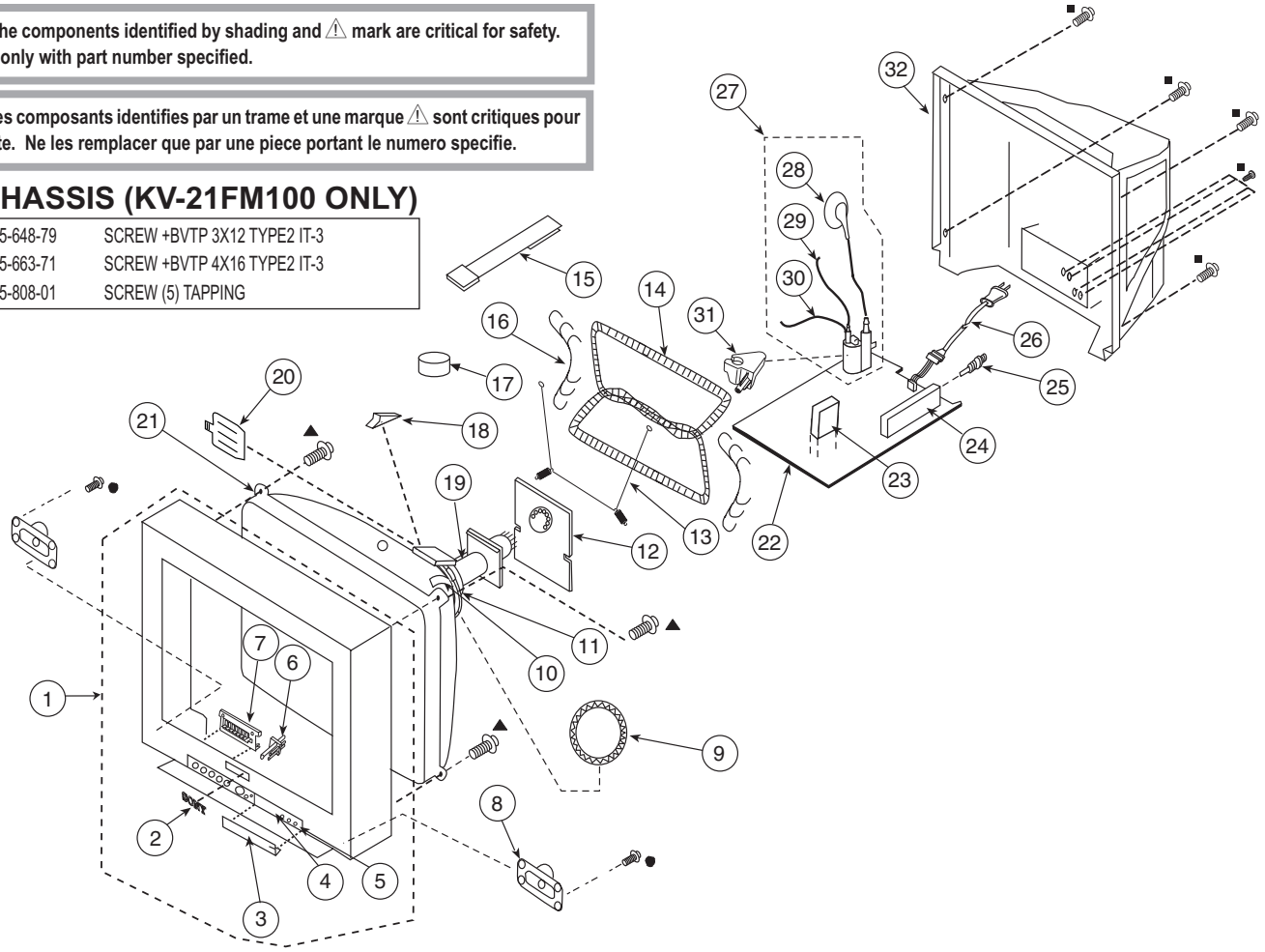
*** Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.**

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

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

6-1. CHASSIS (KV-21FM100 ONLY)

●	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3
■	7-685-663-71	SCREW +BVTP 4X16 TYPE2 IT-3
▲	4-365-808-01	SCREW (5) TAPPING



REF. NO.	PART NO.	DESCRIPTION	[Assembly Includes]
1	X-4039-907-1	BEZNET ASSY	2-7
2	4-046-161-11	EMBLEM (NO.8), SONY	
3	4-078-806-51	DOOR	
4	4-074-895-51	LABEL, FRONT TERMINAL (20)	
5	3-703-574-00	RETAINER, DOOR	
6	4-073-933-02	GUIDE, LED	
7	4-073-931-21	BUTTON, MULTI	
8	1-529-613-11	SPEAKER (9X5CM)	
⚠ 9	1-452-728-61	COIL, NA ROTATION (RT-154)	
* 10	4-074-576-01	CUSHION, DGC	
⚠ 11	8-451-505-71	DY Y21RSA-V	
* 12	A-1400-223-A	CV (VAR) MOUNTED PC BOARD	
* 13	4-375-394-01	SPRING, TENSION	
⚠ 14	1-419-287-12	COIL, DEGAUSSING	
15	4-083-414-01	PIECE A(110), CONV CORRECT	
* 16	4-080-810-21	BAND, DEGAUSS COIL	
17	1-452-032-00	MAGNET,DISC	
18	4-053-005-01	SPACER, DY	
19	1-451-552-21	NECK ASSEMBLY	
20	4-057-714-01	PIECE ASSY, TLH CORRECTION	
⚠ 21	8-738-831-05	CRT 21RSN(SDP) (A51LPT50X) 21FM100(N) (ONLY)	
⚠ 21	8-738-838-05	CRT 21RSN (SDP) SOUTH (A51LPT50X) 21FM100(S) (ONLY)	

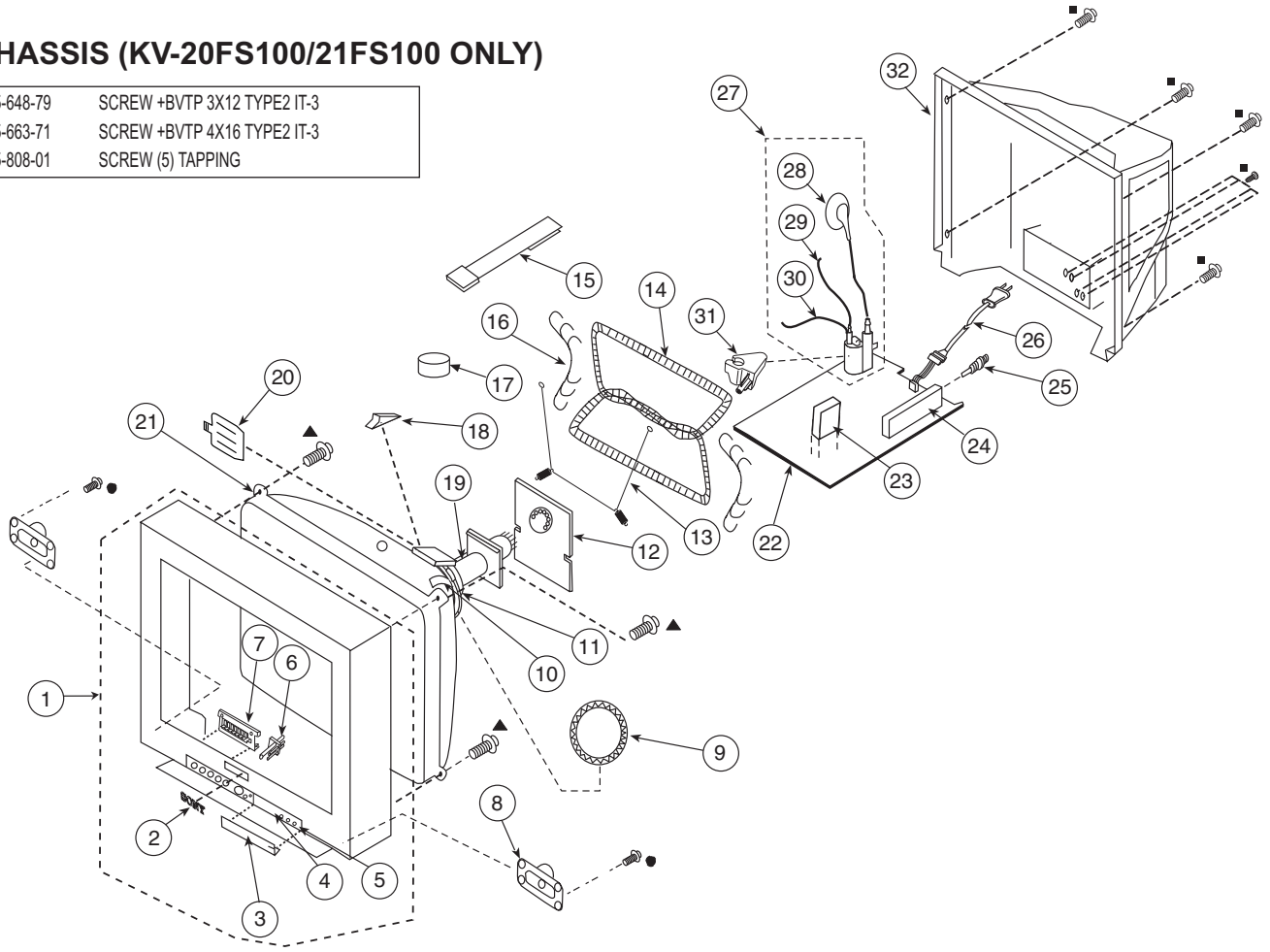
REF. NO.	PART NO.	DESCRIPTION	[Assembly Includes]
* 22	A-1300-147-A	A COMPLETE PC BOARD 21FM100(N) (ONLY) The high-voltage leads associated with the FBT on this board are not included and must be ordered separately (SEE 28-30).	23
* 22	A-1300-243-A	A COMPLETE PC BOARD 21FM100(S) (ONLY) The high-voltage leads associated with the FBT on this board are not included and must be ordered separately (SEE 28-30).	23
23	A-1400-738-A	M3 (VAR) MOUNTED PC BOARD	
⚠ 24	8-598-594-00	TUNER, FSS BTF-FA421	
⚠ 25	1-766-374-11	PLUG, F-PIN	
⚠ 26	1-791-935-12	CORD, AC POWER(WITH CONNECTOR) 21FM100(N) (ONLY)	
⚠ 26	1-769-796-31	CORD, POWER (WITH CONNECTOR) 21FM100(S) (ONLY)	
⚠ 27	1-453-316-21	FBT ASSY NX-1748//X4A4	28-30
⚠ 28	1-251-642-52	CAP ASSY, HIGH-VOLTAGE	
⚠ 29	1-900-800-65	CONNECTOR ASSY, FOCUS LEAD	
⚠ 30	1-900-803-22	WIRE ASSY, G2 LEAD	
31	4-071-497-02	HOLDER, FBT	
32	4-087-298-01	COVER, REAR	

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

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

6-2. CHASSIS (KV-20FS100/21FS100 ONLY)

●	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3
■	7-685-663-71	SCREW +BVTP 4X16 TYPE2 IT-3
▲	4-365-808-01	SCREW (5) TAPPING



REF. NO.	PART NO.	DESCRIPTION	[Assembly Includes]
1	X-4039-906-1	BEZNET ASSY	2-7
2	4-046-161-11	EMBLEM (NO.8), SONY	
3	4-078-806-51	DOOR	
4	4-074-895-41	LABEL, FRONT TERMINAL (20)	
5	3-703-574-00	RETAINER, DOOR	
6	4-073-933-02	GUIDE, LED	
7	4-073-931-31	BUTTON, MULTI	
8	1-825-070-11	SPEAKER (5x9CM)	
		20FS100 (ONLY)	
8	1-529-613-11	SPEAKER (9X5CM)	
		21FS100 (ONLY)	
⚠ 9	1-452-728-61	COIL, NA ROTATION (RT-154)	
* 10	4-074-576-01	CUSHION, DGC	
⚠ 11	8-451-505-71	DY Y21RSA-V	
* 12	A-1400-223-A	CV (VAR) MOUNTED PC BOARD	
* 13	4-375-394-01	SPRING, TENSION	
⚠ 14	1-419-287-12	COIL, DEGAUSSING	
15	4-083-414-01	PIECE A(110), CONV CORRECT	
* 16	4-080-810-21	BAND, DEGAUSS COIL	
17	1-452-032-00	MAGNET,DISC	
18	4-053-005-01	SPACER, DY	
19	1-451-552-21	NECK ASSEMBLY	
20	4-057-714-01	PIECE ASSY, TLH CORRECTION	
⚠ 21	8-738-838-05	CRT 21RSN(SDP) (A51LPT50X)	
		21FS100(S) (ONLY)	
⚠ 21	8-738-831-05	CRT 21RSN(SDP) (A51LPT50X)	
		20FS100/21FS100(N) (ONLY)	

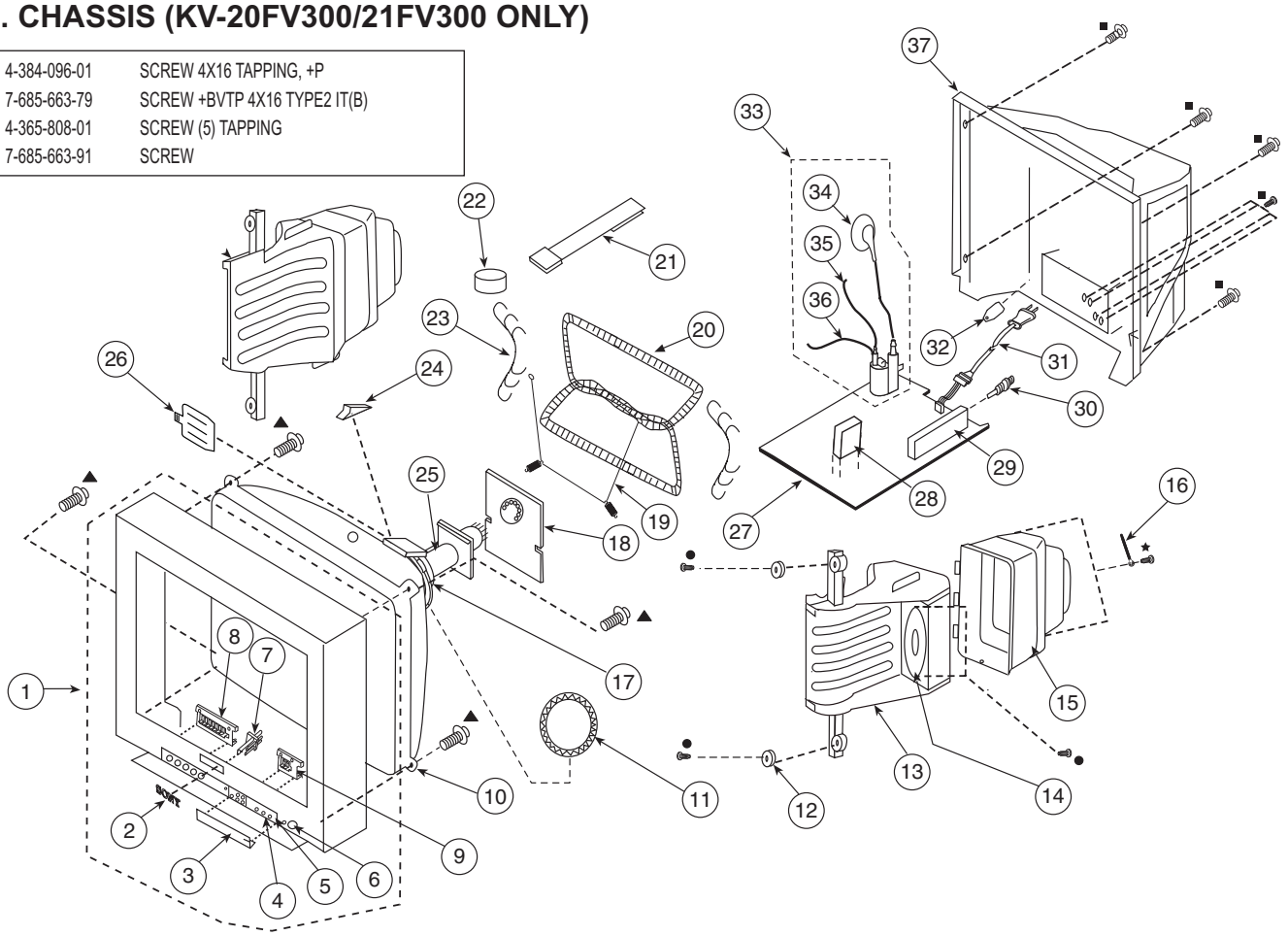
REF. NO.	PART NO.	DESCRIPTION	[Assembly Includes]
* 22	A-1300-242-A	A COMPLETE PC BOARD	23
		21FS100(S) (ONLY)	
		The high-voltage leads associated with the FBT on this	
		board are not included and must be ordered separately	
		(SEE 28-30).	
* 22	A-1300-146-A	A COMPLETE PC BOARD	23
		20FS100/21FS100(N) (ONLY)	
		The high-voltage leads associated with the FBT on this	
		board are not included and must be ordered separately	
		(SEE 28-30).	
23	A-1400-738-A	M3 (VAR) MOUNTED PC BOARD	
⚠ 24	8-598-593-00	TUNER, FSS BTF-WA421	
⚠ 25	1-766-374-11	PLUG, F-PIN	
⚠ 26	1-824-069-11	CORD, AC	
		20FS100 (ONLY)	
⚠ 26	1-769-796-31	CORD, AC POWER(WITH CONNECTOR)	
		21FS100(S) (ONLY)	
⚠ 26	1-791-935-12	CORD, AC POWER(WITH CONNECTOR)	
		21FS100(N) (ONLY)	
⚠ 27	1-453-316-21	FBT ASSY NX-1748//X4A4	28-30
⚠ 28	1-251-642-52	CAP ASSY, HIGH-VOLTAGE	
⚠ 29	1-900-800-65	CONNECTOR ASSY, FOCUS LEAD	
⚠ 30	1-900-803-22	WIRE ASSY, G2 LEAD	
31	4-071-497-02	HOLDER, FBT	
32	4-087-298-01	COVER, REAR	

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

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

6-3. CHASSIS (KV-20FV300/21FV300 ONLY)

●	4-384-096-01	SCREW 4X16 TAPPING, +P
■	7-685-663-79	SCREW +BVTP 4X16 TYPE2 IT(B)
▲	4-365-808-01	SCREW (5) TAPPING
★	7-685-663-91	SCREW

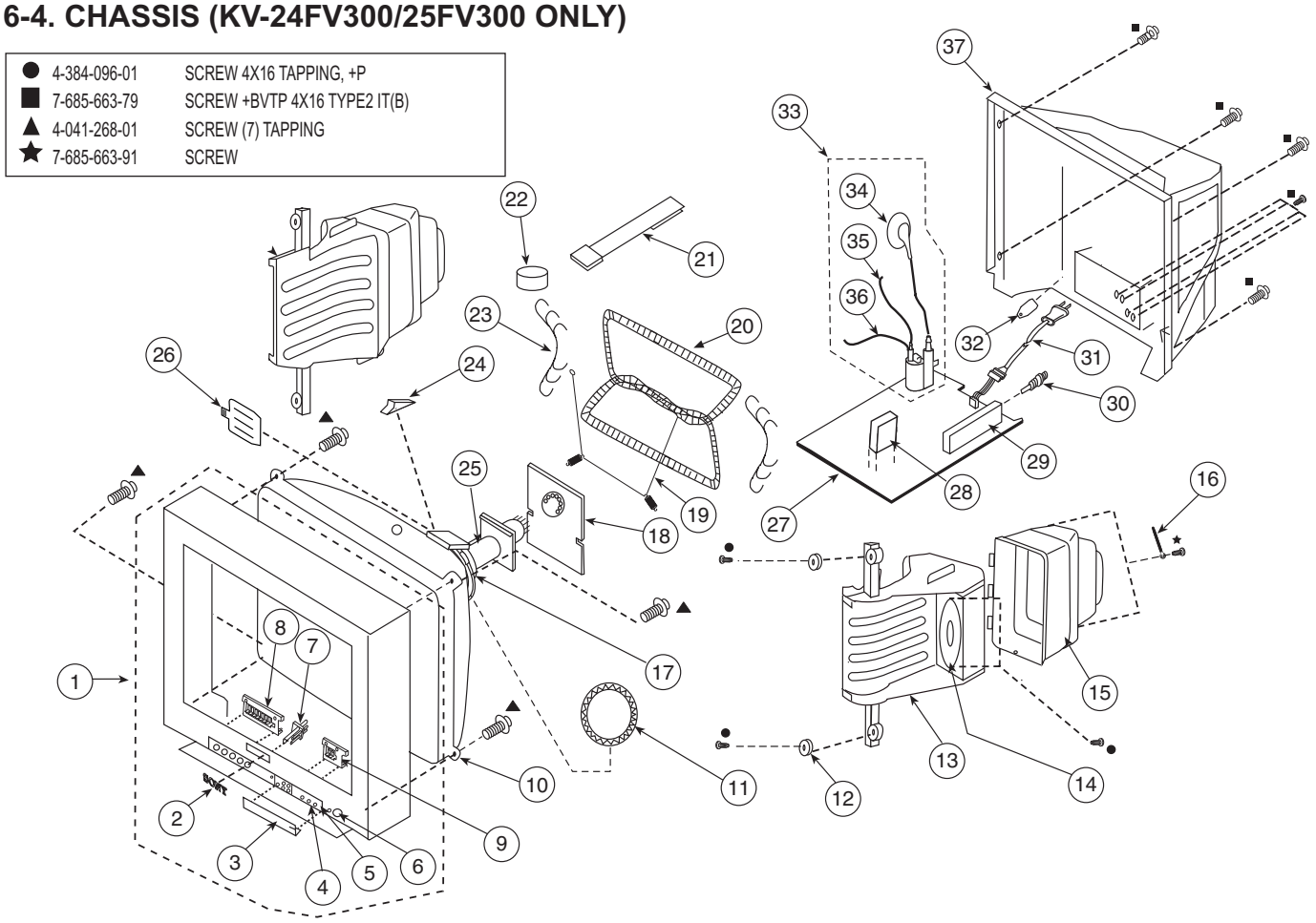


REF. NO.	PART NO.	DESCRIPTION	[Assembly Includes]
1	X-4039-877-1	BEZNET ASSY	2-8
2	4-046-161-11	EMBLEM (NO.8), SONY	
3	4-087-155-11	DOOR, CONTROL	
4	4-074-895-71	LABEL, FRONT TERMINAL (20)	
5	4-042-192-01	CATCHER, PUSH	
6	4-087-150-01	BUTTON, POWER	
7	4-087-156-01	GUIDE, LIGHT	
8	4-087-151-01	BUTTON, MULTI	
* 9	A-1400-251-A	HR (COM) MOUNTED PC BOARD	
⚠ 10	8-738-838-05	CRT 21RSN(SDP)(SOUTH) (A51LPT50X) 21FV300(S) (ONLY)	
⚠ 10	8-738-831-05	CRT 21RSN(SDP) (A51LPT50X) 20FV300/21FV300(N) (ONLY)	
⚠ 11	1-452-728-61	COIL, NA ROTATION (RT-154)	
* 12	4-374-745-31	CUSHION (A)	
13	4-087-154-01	BAFFLE, SPEAKER	
14	1-825-069-11	SPEAKER (8CM)	
15	4-071-350-01	COVER, SPEAKER	
16	4-857472-01	CLAMP	
⚠ 17	8-451-505-71	DY Y21RSA-V	
* 18	A-1400-223-A	CV (VAR) MOUNTED PC BOARD	
* 19	4-375-394-01	SPRING, TENSION	
⚠ 20	1-419-287-12	COIL, DEGAUSSING	
21	4-083-414-01	PIECE A(110), CONV CORRECT	
22	1-452-032-00	MAGNET,DISC	
* 23	4-080-810-21	BAND, DEGAUSS COIL	
24	4-053-005-01	SPACER, DY	
25	1-451-552-21	NECK ASSEMBLY	
26	4-057-714-01	PIECE, TLH CONVERGENCE	
* 27	A-1300-271-A	A COMPLETE PC BOARD 21FV300(S) (ONLY) The high-voltage leads associated with the FBT on this board are not included and must be ordered separately (SEE 34-36).	28
* 27	A-1300-156-A	A COMPLETE PC BOARD 20FV300/21FV300(N) (ONLY) The high-voltage leads associated with the FBT on this board are not included and must be ordered separately (SEE 34-36).	28
28	A-1400-738-A	M3 (VAR) MOUNTED PC BOARD	
⚠ 29	8-598-593-00	TUNER, FSS BTF-WA421	
⚠ 30	1-766-374-11	PLUG, F-PIN	
⚠ 31	1-757-840-12	CORD, AC POWER (WITH CONNECTOR) 21FV300(S) (ONLY)	
⚠ 31	1-824-069-11	CORD, AC	
* 32	4-081-980-11	HOLDER, AC CABLE	
⚠ 33	1-453-316-21	FBT ASSY NX-1748//X4A4	34-36
⚠ 34	1-251-642-52	CAP ASSY, HIGH-VOLTAGE	
⚠ 35	1-900-800-65	CONNECTOR ASSY, FOCUS LEAD	
⚠ 36	1-900-803-22	WIRE ASSY, G2 LEAD	
37	4-087-153-01	COVER, REAR	

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

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

6-4. CHASSIS (KV-24FV300/25FV300 ONLY)



REF. NO.	PART NO.	DESCRIPTION	[Assembly Includes]
1	X-4039-943-1	BEZNET ASSY	2-8
2	4-046-160-21	EMBLEM, SONY (NO.9)	
3	4-087-155-01	DOOR, CONTROL	
4	4-074-895-71	LABEL, FRONT TERMINAL (20)	
5	4-042-192-01	CATCHER, PUSH	
6	4-087-150-01	BUTTON, POWER	
7	4-087-156-01	GUIDE, LIGHT	
8	4-087-151-01	BUTTON, MULTI	
* 9	A-1400-251-A	HR (COM) MOUNTED PC BOARD	
⚠ 10	8-733-250-05	CRT 25RSN (A60LPN50X)	
⚠ 11	1-452-896-11	COIL, NA ROTATION (RT200)	
12	4-374-745-31	CUSHION (A)	
13	4-087-408-01	BAFFLE, SPEAKER	
14	1-529-640-11	SPEAKER (13X8CM)	
15	4-087-409-01	COVER, SPEAKER	
16	4-857472-01	CLAMP	
⚠ 17	1-451-475-11	DY (Y25RSA)	
18	A-1400-341-A	CV (VAR) MOUNTED PC	
* 19	4-036-329-01	SPRING (B), TENSION	
⚠ 20	1-419-509-21	COIL, DEGAUSSING	
21	4-083-414-01	PIECE A(110), CONV CORRECT	
22	1-452-032-00	MAGNET,DISC	
* 23	4-080-810-21	BAND, DEGAUSS COIL	
24	4-053-005-01	SPACER, DY	

REF. NO.	PART NO.	DESCRIPTION	[Assembly Includes]
25	1-451-552-11	NECK ASSEMBLY	
26	4-057-714-01	PIECE, TLH CONVERGENCE	
* 27	A-1300-306-A	A COMPLETE PC BOARD 25FV300(S) (ONLY) The high-voltage leads associated with the FBT on this board are not included and must be ordered separately (SEE 34-36).	28
* 27	A-1300-217-A	A COMPLETE PC BOARD 24FV300/25FV300(N) (ONLY) The high-voltage leads associated with the FBT on this board are not included and must be ordered separately (SEE 34-36).	28
28	A-1400-739-A	M3 (VAR) MOUNTED PC BOARD	
⚠ 29	8-598-593-00	TUNER, FSS BTF-WA421	
⚠ 30	1-766-374-11	PLUG, F-PIN	
⚠ 31	1-757-840-12	CORD, POWER (WITH CONNECTOR) 25FV300(S) (ONLY)	
⚠ 31	1-824-069-11	CORD, AC 24FV300/25FV300(N) (ONLY)	
32	4-081-980-11	HOLDER, AC CABLE	
⚠ 33	1-453-336-11	FBT ASSY NX-4011//X4A4	34-36
⚠ 34	1-251-642-52	CAP ASSY, HIGH-VOLTAGE	
⚠ 35	1-900-800-65	CONNECTOR ASSY, FOCUS LEAD	
⚠ 36	1-900-803-22	WIRE ASSY, G2 LEAD	
37	4-087-406-01	COVER, REAR	

SECTION 7: ELECTRICAL PARTS LIST

PARTS LISTING TABLE OF CONTENTS

ELECTRICAL PARTS LIST

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

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

The components in this manual identified by the following symbol: ⋈ indicate parts that have been carefully factory-selected to satisfy regulations regarding X-ray radiation FOR each set.

Should replacement be required FOR one of these components, replace ONLY with the value originally used.

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

COMMON PARTS LIST

A

RESISTORS

- **All resistors are in ohms**
- **F : nonflammable**
- **All variable and adjustable resistors have characteristic curve B, unless otherwise noted.**

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

A

A-1300-146-A KV-21FS100 (LATIN NORTH) / 20FS100
A-1300-147-A KV-21FM100 (LATIN NORTH)
A-1300-156-A KV-21FV300 (LATIN NORTH) / 20FV300
A-1300-217-A KV-25FV300 (LATIN NORTH) / 24FV300
A-1300-242-A KV-21FS100 (LATIN SOUTH)
A-1300-243-A KV-21FM100 (LATIN SOUTH)
A-1300-271-A KV-21FV300 (LATIN SOUTH)
A-1300-306-A KV-25FV300 (LATIN SOUTH)

The high voltage leads associated with the FBT on this board are not included and must be oordered separately.

REF. NO.	PART NO.	DESCRIPTION	VALUES
⚠	1-251-642-52	HV CAP ASSY	
⚠	1-900-800-65	FOCUS LEAD	
⚠	1-900-803-22	G2 LEAD	

CAPACITOR

REF. NO.	PART NO.	DESCRIPTION	VALUES		
C001	VARIANT (SEE VARIANT PARTS LIST)				
C003	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C004	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C005	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C006	1-126-942-61	ELECT	1000µF	20%	25V
C007	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C008	1-126-956-91	ELECT	0.1µF	20%	50V
C009	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C010	1-126-960-11	ELECT	1µF	20%	50V
C011	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C012	1-162-968-11	CERAMIC CHIP	0.0047µF	10%	50V
C014	1-126-960-11	ELECT	1µF	20%	50V
C015	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C019	1-126-956-91	ELECT	0.1µF	20%	50V
C021	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C022	1-126-964-11	ELECT	10µF	20%	50V
C023	1-126-935-11	ELECT	470µF	20%	16V
C033	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C041	1-126-964-11	ELECT	10µF	20%	50V
C047	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C048	1-104-665-11	ELECT	100µF	20%	25V
C049	1-126-960-11	ELECT	1µF	20%	50V
C051	1-126-964-11	ELECT	10µF	20%	50V
C052	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C053	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V
C054	1-126-960-11	ELECT	1µF	20%	50V
C056	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C057	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C064	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V
C066	VARIANT (SEE VARIANT PARTS LIST)				
C074	1-126-964-11	ELECT	10µF	20%	50V
C075	1-126-935-11	ELECT	470µF	20%	16V
C076	1-104-665-11	ELECT	100µF	20%	25V
C077	1-126-947-11	ELECT	47µF	20%	25V
C079	1-162-968-11	CERAMIC CHIP	0.0047µF	10%	50V
C080	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C081	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C090	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C091	1-126-947-11	ELECT	47µF	20%	25V
C092	1-126-947-11	ELECT	47µF	20%	25V
C094	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C095	1-126-947-11	ELECT	47µF	20%	25V
C096	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C097	1-126-947-11	ELECT	47µF	20%	25V
C098	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C099	1-126-947-11	ELECT	47µF	20%	25V
C100	1-126-956-91	ELECT	0.1µF	20%	50V
C115	1-164-739-11	CERAMIC CHIP	560pF	5%	50V
C116	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V

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

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

COMMON PARTS LIST A

REF. NO.	PART NO.	DESCRIPTION	VALUES		
C200	VARIANT (SEE VARIANT PARTS LIST)				
C202-C207	VARIANT (SEE VARIANT PARTS LIST)				
C212-C213	VARIANT (SEE VARIANT PARTS LIST)				
C220	VARIANT (SEE VARIANT PARTS LIST)				
C301-C302	VARIANT (SEE VARIANT PARTS LIST)				
C303	1-126-956-91	ELECT	0.1µF	20%	50V
C304	1-126-956-91	ELECT	0.1µF	20%	50V
C305-C307	VARIANT (SEE VARIANT PARTS LIST)				
C312	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C313	1-126-956-91	ELECT	0.1µF	20%	50V
C325	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C326	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C328	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C330	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C337	1-162-919-11	CERAMIC CHIP	22pF	5%	50V
C351	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C360-C363	VARIANT (SEE VARIANT PARTS LIST)				
C370	VARIANT (SEE VARIANT PARTS LIST)				
C390	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C400-C416	VARIANT (SEE VARIANT PARTS LIST)				
C418	VARIANT (SEE VARIANT PARTS LIST)				
C420	VARIANT (SEE VARIANT PARTS LIST)				
C422	VARIANT (SEE VARIANT PARTS LIST)				
C424	VARIANT (SEE VARIANT PARTS LIST)				
C440	1-126-940-11	ELECT	330µF	20%	25V
C441	1-126-940-11	ELECT	330µF	20%	25V
C450	1-126-943-11	ELECT	2200µF	20%	25V
C451	1-126-959-11	ELECT	0.47µF	20%	50V
C452	VARIANT (SEE VARIANT PARTS LIST)				
C453	1-126-933-11	ELECT	100µF	20%	16V
C454-C455	VARIANT (SEE VARIANT PARTS LIST)				
C457-C464	VARIANT (SEE VARIANT PARTS LIST)				
C470	1-126-935-11	ELECT	470UF	20%	16V
C498	1-126-960-11	ELECT	1µF	20%	50V
C499	VARIANT (SEE VARIANT PARTS LIST)				
C502	1-102-112-00	CERAMIC	330pF	10%	50V
C503	1-106-383-00	MYLAR	0.047µF	10%	200V
C504	1-102-212-00	CERAMIC	820pF	10%	500V
C505	1-102-002-00	CERAMIC	680pF	10%	500V
C506-C508	VARIANT (SEE VARIANT PARTS LIST)				
C509	1-128-551-11	ELECT	22µF	20%	25V
C510	1-117-214-11	CERAMIC	0.001µF	10%	2KV
C511	VARIANT (SEE VARIANT PARTS LIST)				
C512	1-104-987-11	MYLAR	0.001µF	10%	100V
C513	1-106-383-00	MYLAR	0.047µF	10%	200V
C514	VARIANT (SEE VARIANT PARTS LIST)				
C515	1-107-651-11	ELECT	4.7µF	20%	250V
C516	VARIANT (SEE VARIANT PARTS LIST)				
C520	1-126-965-91	ELECT	22µF	20%	50V
C521	1-126-960-11	ELECT	1µF	20%	50V
C522	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C523	VARIANT (SEE VARIANT PARTS LIST)				
C525	1-164-646-11	CERAMIC	2200pF	10%	500V
C526	1-102-244-00	CERAMIC	220pF	10%	500V
C527	1-107-645-11	ELECT	22µF	20%	160V
C529	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C534	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C536	VARIANT (SEE VARIANT PARTS LIST)				
C537	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C539	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C542	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C544	1-126-967-11	ELECT	47µF	20%	50V
C545	1-126-969-11	ELECT	220µF	20%	50V
C546	1-137-194-81	FILM	0.47µF	5%	50V
C551	1-126-960-11	ELECT	1µF	20%	50V
C552	1-126-964-11	ELECT	10µF	20%	50V
C553	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C554	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
⚠ C561	1-126-963-11	ELECT	4.7µF	20%	50V
⚠ C562	1-104-666-11	ELECT	220µF	20%	25V
C563	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
⚠ C566	1-107-635-11	ELECT	4.7µF	20%	160V
C571	1-104-665-11	ELECT	100µF	20%	25V
C582	1-106-387-00	MYLAR	0.068µF	10%	200V
⚠ C588	1-137-417-11	MYLAR	0.0047µF	10%	200V
C589	1-128-560-11	ELECT	22µF	20%	100V
⚠ C590	1-126-964-11	ELECT	10µF	20%	50V
C594	1-123-024-21	ELECT	33µF		160V
C595	1-104-666-11	ELECT	220µF	20%	25V
C597	1-104-666-11	ELECT	220µF	20%	25V
C600	1-126-964-11	ELECT	10µF	20%	50V
C602-C603	VARIANT (SEE VARIANT PARTS LIST)				
C605	VARIANT (SEE VARIANT PARTS LIST				
C606	VARIANT (SEE VARIANT PARTS LIST				
C609	1-126-942-61	ELECT	1000µF	20%	25V
C610	1-164-644-11	CERAMIC	330pF	10%	500V
C611	1-126-971-11	ELECT	470µF	20%	50V
C612	1-126-961-11	ELECT	2.2µF	20%	50V

COMMON PARTS LIST A

REF. NO.	PART NO.	DESCRIPTION	VALUES		
C613	1-161-964-91	CERAMIC	0.0047µF		250V
C614	1-161-964-91	CERAMIC	0.0047µF		250V
C615	1-161-964-91	CERAMIC	0.0047µF		250V
C616	1-126-943-11	ELECT	2200µF	20%	25V
C617	1-128-564-11	ELECT	220µF	20%	100V
C618	1-128-564-11	ELECT	220µF	20%	100V
C619	1-161-964-91	CERAMIC	0.0047µF		250V
C620	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C621	VARIANT (SEE VARIANT PARTS LIST)				
C624	1-107-636-11	ELECT	10µF	20%	160V
C625	1-126-964-11	ELECT	10µF	20%	50V
C629	VARIANT (SEE VARIANT PARTS LIST)				
C632	1-126-967-11	ELECT	47µF	20%	50V
C633	1-136-479-11	FILM	0.001µF	2%	50V
C634	1-126-947-11	ELECT	47µF	20%	25V
C635	1-126-963-11	ELECT	4.7µF	20%	50V
C636	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C637	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C638	1-104-665-11	ELECT	100µF	20%	25V
C640	1-164-644-11	CERAMIC	330pF	10%	500V
C642	1-126-969-11	ELECT	220µF	20%	50V
C643	1-130-777-00	MYLAR	0.1µF	5%	100V
C645	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C647	1-126-947-11	ELECT	47µF	20%	25V
C648	1-162-115-00	CERAMIC	330pF	10%	1KV
C649	1-162-115-00	CERAMIC	330pF	10%	1KV
C650	1-126-942-61	ELECT	1000µF	20%	25V
C651	1-126-942-61	ELECT	1000µF	20%	25V
C652	1-164-227-11	CERAMIC CHIP	0.022µF	10%	25V
C660	1-126-947-11	ELECT	47µF	20%	25V
C661	1-104-665-11	ELECT	100µF	20%	25V
C663	1-126-963-11	ELECT	4.7µF	20%	50V
C665	1-104-665-11	ELECT	100µF	20%	25V
C672	VARIANT (SEE VARIANT PARTS LIST)				
C680	1-127-793-51	CERAMIC	2200pF	20%	250V
C681	1-127-793-51	CERAMIC	2200pF	20%	250V
C690	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V

CONNECTOR

CN001	1-560-124-00	PLUG,CONNECTOR (2.5MM)	4P
CN002	VARIANT (SEE VARIANT PARTS LIST)		
CN401	1-564-507-11	PLUG,CONNECTOR	4P
CN501	1-508-786-00	PIN,CONNECTOR (5MM PITCH)	2P
CN515	1-580-798-11	CONNECTOR PIN (DY)	6P
CN585	1-564-509-11	PLUG,CONNECTOR	6P
CN600	1-580-843-11	PIN,CONNECTOR (POWER)	

DIODE

D001	VARIANT (SEE VARIANT PARTS LIST)	
D002	8-719-109-89	DIODE MTZJ-T-77-5.6B
D003	8-719-110-17	DIODE MTZJ-T-77-10B
D004	8-719-110-17	DIODE MTZJ-T-77-10B
D005	8-719-110-17	DIODE MTZJ-T-77-10B
D006	8-719-921-44	DIODE MTZJ-T-77-5.1C
D044	8-719-110-17	DIODE MTZJ-T-77-10B
D045	8-719-110-17	DIODE MTZJ-T-77-10B
D050	8-719-991-33	DIODE 1SS133T-77
D051	8-719-991-33	DIODE 1SS133T-77
D052	8-719-109-89	DIODE MTZJ-T-77-5.6B
D200	VARIANT (SEE VARIANT PARTS LIST)	
D201	8-719-929-15	DIODE MTZJ-T-77-9.1B
D202	8-719-929-15	DIODE MTZJ-T-77-9.1B
D203-D206	VARIANT (SEE VARIANT PARTS LIST)	
D208	VARIANT (SEE VARIANT PARTS LIST)	
D230	8-719-108-12	DIODE RD9.1EW-T1
D231	VARIANT (SEE VARIANT PARTS LIST)	
D232	8-719-108-12	DIODE RD9.1EW-T1
D234-D237	VARIANT (SEE VARIANT PARTS LIST)	
D351	8-719-109-66	DIODE MTZJ-T-77-3.3B
D390	8-719-404-50	DIODE MA111-TX
D410	8-719-404-50	DIODE MA111-TX
D412	1-216-864-11	SHORT
D413	8-719-404-50	DIODE MA111-TX
D414	8-719-921-63	DIODE MTZJ-T-77-7.5B
D435	8-719-110-17	DIODE MTZJ-T-77-10B
D438	8-719-404-50	DIODE MA111-TX
D501	8-719-404-50	DIODE MA111-TX
D505	8-719-081-00	DIODE BY228/A52A/
D506	VARIANT (SEE VARIANT PARTS LIST)	
D508	8-719-404-50	DIODE MA111-TX
D509	8-719-109-66	DIODE MTZJ-T-77-3.3B
D514	8-719-908-03	DIODE GP08DPKG23
D515	8-719-908-03	DIODE GP08DPKG23
D525	8-719-991-33	DIODE 1SS133T-77
D526	8-719-302-43	DIODE RGP10GPKG23
D528	8-719-991-33	DIODE 1SS133T-77
D545	8-719-908-03	DIODE GP08DPKG23
D558	8-719-404-50	DIODE MA111-TX

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

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

COMMON PARTS LIST A

	REF. NO.	PART NO.	DESCRIPTION	VALUES
	D559	8-719-404-50	DIODE MA111-TX	
⚠	D562	8-719-991-33	DIODE 1SS133T-77	
⚠	D566	8-719-979-84	DIODE EGP20DPKG23	
⚠	D567	8-719-991-33	DIODE 1SS133T-77	
	D568	8-719-110-08	DIODE MTZJ-T-77-8.2B	
⚠	D569	8-719-921-44	DIODE MTZJ-T-77-5.1C	
	D587	8-719-302-43	DIODE RGP10GPKG23	
⚠	D589	8-719-991-33	DIODE 1SS133T-77	
	D596	VARIANT (SEE VARIANT PARTS LIST)		
	D598	VARIANT (SEE VARIANT PARTS LIST)		
	D605	8-719-510-53	DIODE D4SB60L-F	
	D608	8-719-077-76	DIODE D2SB60A-F04	
	D611	8-719-302-43	DIODE EL1Z-V1	
	D612-D613	VARIANT (SEE VARIANT PARTS LIST)		
	D614	8-719-057-52	DIODE EZ0150AV1	
	D615	6-500-177-01	DIODE MA7D50	
	D618	8-719-979-64	DIODE µF4005PKG23	
	D620	8-719-911-19	DIODE 1SS119-25TD	
	D621	8-719-510-37	DIODE D5LC20U	
	D624	8-719-302-43	DIODE EL1Z-V1	
	D628	8-719-404-50	DIODE MA111-TX	
	D629	8-719-110-31	DIODE MTZJ-T-77-12B	
	D630	8-719-982-22	DIODE MTZJ-T-77-30D	
	D631	8-719-063-70	DIODE D1NL20U-TA2	
	D650	8-719-109-89	DIODE MTZJ-T-77-5.6C	

FUSE

	F601	VARIANT (SEE VARIANT PARTS LIST)		

FERRITE BEAD

	FB505	1-410-397-21	FERRITE	1.1µH
	FB522	1-410-397-21	FERRITE	1.1µH
	FB601	1-412-911-11	FERRITE	0µH
	FB602	1-412-911-11	FERRITE	0µH
	FB603	1-412-911-11	FERRITE	0µH
	FB604	1-412-911-11	FERRITE	0µH
	FB616	1-469-578-11	FERRITE	1.1µH
	FB617	1-469-578-11	FERRITE	1.1µH

FILTER

	FL001	1-239-803-11	ENCAPSULATED COMPONENT

IC

⚠	IC001	6-800-842-01	IC M65582UF-100FP
	IC002	8-759-699-33	IC M24C16-MN6T(A)
	IC003	8-759-352-91	IC PST9143NL
	IC004	VARIANT (SEE VARIANT PARTS LIST)	
	IC400-IC402	VARIANT (SEE VARIANT PARTS LIST)	
	IC404	VARIANT (SEE VARIANT PARTS LIST)	
	IC545	VARIANT (SEE VARIANT PARTS LIST)	
⚠	IC561	8-759-700-07	IC NJM2903M-TE2
	IC565	8-759-700-44	IC NJM2902M-TE2
	IC600	8-759-670-30	IC MCZ3001D
	IC603	8-759-833-71	IC NJM2395F09
⚠	IC604	8-749-012-13	IC DM-58
	IC608	8-759-450-47	IC BA05T
	IC633	8-759-445-59	IC BA033T

JACK

	J200-J202	VARIANT (SEE VARIANT PARTS LIST)	
	J205-J206	VARIANT (SEE VARIANT PARTS LIST)	
	J401	1-568-267-21	JACK

CHIP CONDUCTOR

	JR102	1-216-864-11	SHORT
	JR128	1-216-864-11	SHORT
	JR200	1-216-864-11	SHORT
	JR301	1-216-864-11	SHORT
	JR302	1-216-864-11	SHORT
	JR303	1-216-864-11	SHORT
	JR304	1-216-864-11	SHORT
	JR305	1-216-864-11	SHORT
	JR306	1-216-864-11	SHORT
	JR307	1-216-864-11	SHORT
	JR308	1-216-864-11	SHORT
	JR309	1-216-864-11	SHORT
	JR401	1-216-864-11	SHORT
	JR860	1-216-864-11	SHORT

COIL

	L002	1-239-803-11	ENCAPSULATED COMPONENT
	L003	1-239-803-11	ENCAPSULATED COMPONENT
	L004	1-239-803-11	ENCAPSULATED COMPONENT
	L005	1-239-803-11	ENCAPSULATED COMPONENT
	L006	1-412-032-11	INDUCTOR 100µH

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

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

COMMON PARTS LIST

A

REF. NO.	PART NO.	DESCRIPTION	VALUES
L007	1-412-032-11	INDUCTOR	100µH
L008	1-410-482-31	INDUCTOR	100µH
L009	1-410-482-31	INDUCTOR	100µH
L010	1-412-029-11	INDUCTOR	10µH
L101	1-414-229-11	FERRITE	0µH
L360-L361	VARIANT (SEE VARIANT PARTS LIST)		
L510	VARIANT (SEE VARIANT PARTS LIST)		
L513	1-406-677-11	INDUCTOR	10MH
L515	1-412-552-11	INDUCTOR	2.2MH
L516	VARIANT (SEE VARIANT PARTS LIST)		
L525	1-409-955-11	INDUCTOR	8MH
⚠ L588	1-412-528-81	INDUCTOR	18µH
L606	1-412-525-31	INDUCTOR	10µH
L607	1-412-525-31	INDUCTOR	10µH
L608	1-412-533-21	INDUCTOR	47µH
L609	1-412-525-31	INDUCTOR	10µH

PHOTO COUPLER

PH602	8-749-010-64	PHOTO COUPLER	PC123FY2

IC LINK

PS401	VARIANT (SEE VARIANT PARTS LIST)		

TRANSISTOR

Q002	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q004	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q005	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q006	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q008	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q009	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q300	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q301	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q303	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q304	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q305	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q306	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q390	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q391	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q400	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q401	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q404-Q405	VARIANT (SEE VARIANT PARTS LIST)	
Q411	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q412	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q435	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q501	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA
Q502	8-729-140-50	TRANSISTOR 2SC3209LK-TP
Q505-Q506	VARIANT (SEE VARIANT PARTS LIST)	
Q521	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA
Q522	8-729-053-87	TRANSISTOR KTC4370A
Q572	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
Q573	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q578	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX
⚠ Q590	8-729-200-17	TRANSISTOR 2SA1091O-TPE2
Q600-Q601	VARIANT (SEE VARIANT PARTS LIST)	
Q604	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX
Q608	8-729-922-37	TRANSISTOR 2SD2144S-TP-UVW
Q650	8-729-926-14	TRANSISTOR 2SD1292

RESISTOR

R001	VARIANT (SEE VARIANT PARTS LIST)				
R002	1-216-864-11	SHORT			
R003	1-216-821-11	RES-CHIP	1K	5%	1/10W
R004	1-216-817-11	RES-CHIP	470	5%	1/10W
R006	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R015	1-216-833-11	RES-CHIP	10K	5%	1/10W
R027	1-218-732-11	METAL CHIP	47K	0.50%	1/16W
R028	1-249-409-11	CARBON	220	5%	1/4W
R029-R030	VARIANT (SEE VARIANT PARTS LIST)				
R031	1-216-813-11	RES-CHIP	220	5%	1/10W
R032	VARIANT (SEE VARIANT PARTS LIST)				
R033	1-249-409-11	CARBON	220	5%	1/4W
R035	1-216-809-11	RES-CHIP	100	5%	1/10W
R036	VARIANT (SEE VARIANT PARTS LIST)				
R037	1-216-833-11	RES-CHIP	10K	5%	1/10W
R038	1-216-821-11	RES-CHIP	1K	5%	1/10W
R039	1-216-815-11	RES-CHIP	330	5%	1/10W
R040	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R041	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R042	1-216-813-11	RES-CHIP	220	5%	1/10W
R043	1-216-813-11	RES-CHIP	220	5%	1/10W
R044	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R045	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R047	1-249-409-11	CARBON	220	5%	1/4W
R048	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R049	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R050	1-249-425-11	CARBON	4.7K	5%	1/4W
R051	1-249-417-11	CARBON	1K	5%	1/4W
R052	1-216-813-11	RES-CHIP	220	5%	1/10W

COMMON PARTS LIST A

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R053	1-249-433-11	CARBON	22K	5%	1/4W
R054	1-249-433-11	CARBON	22K	5%	1/4W
R055	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R056	1-216-833-11	RES-CHIP	10K	5%	1/10W
R057	1-249-417-11	CARBON	1K	5%	1/4W
R058	1-249-429-11	CARBON	10K	5%	1/4W
R059	1-249-417-11	CARBON	1K	5%	1/4W
R060	VARIANT (SEE VARIANT PARTS LIST)				
R061	1-249-429-11	CARBON	10K	5%	1/4W
R062	1-249-413-11	CARBON	470	5%	1/4W
R063	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R065	1-249-415-11	CARBON	680	5%	1/4W
R067	1-249-416-11	CARBON	820	5%	1/4W
R069	1-249-421-11	CARBON	2.2K	5%	1/4W
R070	1-249-409-11	CARBON	220	5%	1/4W
R071	1-249-427-11	CARBON	6.8K	5%	1/4W
R072	1-249-425-11	CARBON	4.7K	5%	1/4W
R073	1-249-419-11	CARBON	1.5K	5%	1/4W
R074	1-249-421-11	CARBON	2.2K	5%	1/4W
R075	1-249-427-11	CARBON	6.8K	5%	1/4W
R076	1-247-807-31	CARBON	100	5%	1/4W
R079	VARIANT (SEE VARIANT PARTS LIST)				
R080	1-216-833-11	RES-CHIP	10K	5%	1/10W
R081	1-216-841-11	RES-CHIP	47K	5%	1/10W
R082	1-216-857-11	RES-CHIP	1M	5%	1/10W
R083	1-216-847-11	RES-CHIP	150K	5%	1/10W
R084	1-216-819-11	RES-CHIP	680	5%	1/10W
R085	1-216-864-11	SHORT			
R086	1-216-821-11	RES-CHIP	1K	5%	1/10W
R087	1-247-807-31	CARBON	100	5%	1/4W
R090	1-216-837-11	RES-CHIP	22K	5%	1/10W
R091	1-216-841-11	RES-CHIP	47K	5%	1/10W
R092	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R093	1-216-841-11	RES-CHIP	47K	5%	1/10W
R094	VARIANT (SEE VARIANT PARTS LIST				
R095	VARIANT (SEE VARIANT PARTS LIST				
R096	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R098	VARIANT (SEE VARIANT PARTS LIST				
R101	VARIANT (SEE VARIANT PARTS LIST)				
R102	1-216-837-11	RES-CHIP	22K	5%	1/10W
R103	1-216-833-11	RES-CHIP	10K	5%	1/10W
R104-R109	VARIANT (SEE VARIANT PARTS LIST)				
R110	1-249-409-11	CARBON	220	5%	1/4W
R111	VARIANT (SEE VARIANT PARTS LIST)				

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R112	1-249-425-11	CARBON	4.7K	5%	1/4W
R115	1-216-817-11	RES-CHIP	470	5%	1/10W
R116	1-216-853-11	RES-CHIP	470K	5%	1/10W
R200	VARIANT (SEE VARIANT PARTS LIST)				
R202	VARIANT (SEE VARIANT PARTS LIST)				
R203-R213	VARIANT (SEE VARIANT PARTS LIST)				
R215-R218	VARIANT (SEE VARIANT PARTS LIST)				
R220-R222	VARIANT (SEE VARIANT PARTS LIST)				
R226	1-218-285-11	RES-CHIP	75	5%	1/10W
R227	VARIANT (SEE VARIANT PARTS LIST)				
R234	VARIANT (SEE VARIANT PARTS LIST)				
R250-R251	VARIANT (SEE VARIANT PARTS LIST)				
R301	VARIANT (SEE VARIANT PARTS LIST)				
R303	1-218-285-11	RES-CHIP	75	5%	1/10W
R305-R307	VARIANT (SEE VARIANT PARTS LIST)				
R308	1-216-821-11	RES-CHIP	1K	5%	1/10W
R309	1-216-833-11	RES-CHIP	10K	5%	1/10W
R310	1-216-821-11	RES-CHIP	1K	5%	1/10W
R311	1-216-813-11	RES-CHIP	220	5%	1/10W
R312	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R313	1-216-864-11	SHORT			
R314	1-216-833-11	RES-CHIP	10K	5%	1/10W
R315	1-216-813-11	RES-CHIP	220	5%	1/10W
R316	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R317	1-216-813-11	RES-CHIP	220	5%	1/10W
R318	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R319	1-216-813-11	RES-CHIP	220	5%	1/10W
R320	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R321	1-247-807-31	CARBON	100	5%	1/4W
R322	1-216-817-11	RES-CHIP	470	5%	1/10W
R323	1-249-414-11	CARBON	560	5%	1/4W
R324	1-216-826-11	RES-CHIP	2.7K	5%	1/10W
R337	1-216-801-11	RES-CHIP	22	5%	1/10W
R351	1-216-833-11	RES-CHIP	10K	5%	1/10W
R352	1-216-853-11	RES-CHIP	470K	5%	1/10W
R360-R361	VARIANT (SEE VARIANT PARTS LIST)				
R370	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R371	1-216-857-11	RES-CHIP	1M	5%	1/10W
R372	1-216-827-11	RES-CHIP	3.3K	5%	1/10W
R390	1-216-864-11	SHORT			
R391	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R392	1-216-818-11	RES-CHIP	560	5%	1/10W
R393	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R394	1-216-833-11	RES-CHIP	10K	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.

COMMON PARTS LIST A

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R400-R401	VARIANT (SEE VARIANT PARTS LIST)				
R402	1-216-864-11	SHORT			
R403-R405	VARIANT (SEE VARIANT PARTS LIST)				
R406	1-216-813-11	RES-CHIP	220	5%	1/10W
R407	1-216-813-11	RES-CHIP	220	5%	1/10W
R410	VARIANT (SEE VARIANT PARTS LIST)				
R413	VARIANT (SEE VARIANT PARTS LIST)				
R415	1-216-864-11	SHORT			
R416	1-216-864-11	SHORT			
R427	VARIANT (SEE VARIANT PARTS LIST)				
R429	VARIANT (SEE VARIANT PARTS LIST)				
R431-R434	VARIANT (SEE VARIANT PARTS LIST)				
R435	1-216-833-11	RES-CHIP	10K	5%	1/10W
R436	1-216-864-11	SHORT			
R437	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R438	1-249-417-11	CARBON	1K	5%	1/4W
R440	1-249-409-11	CARBON	220	5%	1/4W
R441	1-249-409-11	CARBON	220	5%	1/4W
R450	1-249-425-11	CARBON	4.7K	5%	1/4W
R455-R462	VARIANT (SEE VARIANT PARTS LIST)				
R463	1-249-437-11	CARBON	47K	5%	1/4W
R464	1-216-841-11	RES-CHIP	47K	5%	1/10W
R477	1-216-819-11	RES-CHIP	680	5%	1/10W
R478	1-216-833-11	RES-CHIP	10K	5%	1/10W
R479	1-216-821-11	RES-CHIP	1K	5%	1/10W
R482	VARIANT (SEE VARIANT PARTS LIST)				
R484	1-216-809-11	RES-CHIP	100	5%	1/10W
R485	1-216-809-11	RES-CHIP	100	5%	1/10W
R487-R490	VARIANT (SEE VARIANT PARTS LIST)				
R494	1-216-833-11	RES-CHIP	10K	5%	1/10W
R498	1-216-864-11	SHORT			
R499	VARIANT (SEE VARIANT PARTS LIST)				
R502	1-249-425-11	CARBON	4.7K	5%	1/4W
R503	VARIANT (SEE VARIANT PARTS LIST)				
R504	1-249-426-11	CARBON	5.6K	5%	1/4W
R507	1-216-833-11	RES-CHIP	10K	5%	1/10W
R510	VARIANT (SEE VARIANT PARTS LIST)				
R512-R513	VARIANT (SEE VARIANT PARTS LIST)				
R514	1-215-910-00	METAL OXIDE	68	5%	3W
R515	VARIANT (SEE VARIANT PARTS LIST)				
R520	1-216-833-11	RES-CHIP	10K	5%	1/10W
R521	1-216-819-11	RES-CHIP	680	5%	1/10W
R522	1-249-411-11	CARBON	330	5%	1/4W
R524	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R525	1-215-861-00	METAL OXIDE	47	5%	1W
R526	1-216-837-11	RES-CHIP	22K	5%	1/10W
R527	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R528-R530	VARIANT (SEE VARIANT PARTS LIST)				
R533	VARIANT (SEE VARIANT PARTS LIST)				
R534	1-216-835-11	RES-CHIP	15K	5%	1/10W
R535	VARIANT (SEE VARIANT PARTS LIST)				
R536	1-216-833-11	RES-CHIP	10K	5%	1/10W
R537	VARIANT (SEE VARIANT PARTS LIST)				
R539	1-216-864-11	SHORT			
R540	1-249-429-11	CARBON	10K	5%	1/4W
R541	VARIANT (SEE VARIANT PARTS LIST)				
R542	1-215-445-00	METAL	10K	1%	1/4W
R543	1-216-351-00	METAL OXIDE	1.5	5%	1W
R545	1-215-890-11	METAL OXIDE	470	5%	2W
R546	1-249-385-11	CARBON	2.2	5%	1/4W
R547	1-215-445-00	METAL	10K	1%	1/4W
R548-R549	VARIANT (SEE VARIANT PARTS LIST)				
R550	1-216-817-11	RES-CHIP	470	5%	1/10W
R553	1-216-821-11	RES-CHIP	1K	5%	1/10W
R555	1-216-833-11	RES-CHIP	10K	5%	1/10W
R557	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R560	1-216-821-11	RES-CHIP	1K	5%	1/10W
⚠ R561	1-216-833-11	RES-CHIP	10K	5%	1/10W
⚠ R562	1-249-429-11	CARBON	10K	5%	1/4W
⚠ R563	1-216-833-11	RES-CHIP	10K	5%	1/10W
R564	VARIANT (SEE VARIANT PARTS LIST)				
⚠ ⋈ R565	1-218-716-11	RES-CHIP	10K	0.5%	1/16W
⚠ R566	1-215-469-00	METAL	100K	1%	1/4W
⚠ R567	1-215-879-11	METAL OXIDE	47K	5%	1W
⚠ R568	1-215-416-00	METAL	620	1%	1/4W
R569	1-249-429-11	CARBON	10K	5%	1/4W
R570	1-249-429-11	CARBON	10K	5%	1/4W
R572	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R573	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R574	1-216-833-11	RES-CHIP	10K	5%	1/10W
R575	1-249-389-11	CARBON	4.7	5%	1/4W
R578	1-249-429-11	CARBON	10K	5%	1/4W
R581	1-249-441-11	CARBON	100K	5%	1/4W
R583	1-249-377-11	CARBON	0.47	5%	1/4W
R584	1-215-453-00	METAL	22K	1%	1/4W
R585	VARIANT (SEE VARIANT PARTS LIST)				
R586	1-215-429-00	METAL	2.2K	1%	1/4W
R587	1-249-401-11	CARBON	47	5%	1/4W

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

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

COMMON PARTS LIST A

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
	R588	1-215-882-00	METAL OXIDE	22	5%	2W
⚠	R589	1-247-895-91	CARBON	470K	5%	1/4W
⚠	R590	1-249-429-11	CARBON	10K	5%	1/4W
⚠	R591	1-216-365-00	METAL OXIDE	0.47	5%	2W
⚠	R592	1-249-441-11	CARBON	100K	5%	1/4W
⚠	R593	1-249-429-11	CARBON	10K	5%	1/4W
	R594	VARIANT (SEE VARIANT PARTS LIST)				
⚠	R595	1-247-895-91	CARBON	470K	5%	1/4W
	R596	1-249-377-11	CARBON	0.47	5%	1/4W
	R597	1-216-849-11	RES-CHIP	220K	5%	1/10W
	R598	1-249-377-11	CARBON	0.47	5%	1/4W
	R600	1-219-512-11	CARBON	2.2M	5%	1/2W
	R601-R603	VARIANT (SEE VARIANT PARTS LIST)				
	R604	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R605	1-216-833-11	RES-CHIP	10K	5%	1/10W
	R606	1-216-833-11	RES-CHIP	10K	5%	1/10W
	R607	1-216-857-11	RES-CHIP	1M	5%	1/10W
	R608	1-215-924-00	METAL OXIDE	15K	5%	3W
	R609	1-240-251-11	CEMENTED	6.8	5%	10W
	R612	1-260-131-11	CARBON	470K	5%	1/2W
	R614	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
	R615	1-202-933-61	FUSIBLE	0.1	10%	1/2W
	R616	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R617	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R619	1-249-377-11	CARBON	0.47	5%	1/4W
	R620	1-216-353-00	METAL OXIDE	2.2	5%	1W
	R625	1-216-817-11	RES-CHIP	470	5%	1/10W
	R626	1-218-715-11	METAL CHIP	9.1K	0.50%	1/16W
	R627	1-215-481-00	METAL	330K	1%	1/4W
	R628	1-260-131-11	CARBON	470K	5%	1/2W
	R629	1-215-481-00	METAL	330K	1%	1/4W
	R630	1-215-481-00	METAL	330K	1%	1/4W
	R631	VARIANT (SEE VARIANT PARTS LIST)				
	R632	1-216-809-11	RES-CHIP	100	5%	1/10W
	R634	1-215-907-11	METAL OXIDE	22	5%	3W
	R640	1-249-417-11	CARBON	1K	5%	1/4W
	R647	1-216-811-11	RES-CHIP	150	5%	1/10W
	R650	1-249-415-11	CARBON	680	5%	1/4W
	R658	1-249-393-11	CARBON	10	5%	1/4W
	R659	1-249-393-11	CARBON	10	5%	1/4W
	R660	1-216-833-11	RES-CHIP	10K	5%	1/10W
	R667	1-216-833-11	RES-CHIP	10K	5%	1/10W
⚠	R668	1-249-418-11	CARBON	1.2K	5%	1/4W
	R670	1-216-833-11	RES-CHIP	10K	5%	1/10W
	R671	1-243-979-71	METAL OXIDE	0.1	5%	2W
	R680	1-216-864-11	SHORT			
	R687	VARIANT (SEE VARIANT PARTS LIST)				
	R699	VARIANT (SEE VARIANT PARTS LIST)				
	R850	1-215-451-00	METAL	18K	1%	1/4W
	R851	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R852	VARIANT (SEE VARIANT PARTS LIST)				
	R862	1-216-813-11	RES-CHIP	220	5%	1/10W

RELAY

	RY501	1-755-198-11	RELAY
⚠	RY600	1-755-395-11	RELAY(AC POWER)

SWITCH

S001	VARIANT (SEE VARIANT PARTS LIST)	
S002	1-692-431-21	SWITCH TACTILE
S003	1-692-431-21	SWITCH TACTILE
S004	1-692-431-21	SWITCH TACTILE
S005	1-692-431-21	SWITCH TACTILE
S006	1-692-431-21	SWITCH TACTILE
S007	1-762-816-11	SWITCH TACTILE
S008	1-762-816-11	SWITCH TACTILE

SWITCH LEVER

SW515	1-572-707-11	SWITCH LEVER

TRANSFORMER

T505	1-433-836-11	TRANSFORMER, HORIZONTAL DRIVE
T510	VARIANT (SEE VARIANT PARTS LIST)	
T511	VARIANT (SEE VARIANT PARTS LIST)	
T585	VARIANT (SEE VARIANT PARTS LIST)	
T601-T603	VARIANT (SEE VARIANT PARTS LIST)	

THERMISTOR

THP501	VARIANT (SEE VARIANT PARTS LIST)

TUNER

TU101	VARIANT (SEE VARIANT PARTS LIST)

VARISTOR

VDR600	VARIANT (SEE VARIANT PARTS LIST)

CRYSTAL

X001	1-795-006-21	OSCILLATOR, CRYSTAL
X301	1-781-377-11	VIBRATOR, CRYSTAL

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-20FS100/21FS100(N)

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
		CAPACITOR				
	C001	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
	C066	1-126-947-11	ELECT	47µF	20%	25V
	C200	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C202	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C203	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C204	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C205	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C206	1-126-963-11	ELECT	4.7µF	20%	50V
	C207	1-126-963-11	ELECT	4.7µF	20%	50V
	C212	1-126-968-11	ELECT	100µF	20%	50V
	C213	1-126-968-11	ELECT	100µF	20%	50V
	C220	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C305	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C306	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C307	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C360	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
	C361	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
	C362	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
	C363	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
	C370	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
	C424	1-126-960-11	ELECT	1µF	20%	50V
	C452	1-126-933-11	ELECT	100µF	20%	16V
	C454	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
	C455	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
	C457	1-137-378-11	MYLAR	0.22µF	5%	50V
	C458	1-137-378-11	MYLAR	0.22µF	5%	50V
	C459	1-137-194-91	FILM	0.47µF	5%	50V
	C460	1-137-194-91	FILM	0.47µF	5%	50V
	C499	1-126-965-91	ELECT	22µF	20%	50V
⚠	C506	1-117-214-11	CERAMIC	0.001µF	10%	2KV
⚠	C507	1-117-642-11	FILM	8200pF	3%	1.2KV
⚠	C508	1-129-722-00	FILM	0.047µF	5%	630V
	C511	1-115-521-11	FILM	0.82µF	5%	250V
	C514	1-115-519-11	FILM	0.56µF	5%	250V
	C523	1-136-346-51	MYLAR	0.22µF	20%	125V
	C536	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
⚠	C602	1-136-311-51	MYLAR	0.47µF	20%	125V
⚠	C603	1-136-311-51	MYLAR	0.47µF	20%	125V
⚠	C605	1-127-793-51	CERAMIC	2200PF	20%	250V
⚠	C606	1-127-793-51	CERAMIC	2200PF	20%	250V
	C621	1-165-921-11	ELECT	390µF	20%	250V
	C629	1-165-921-11	ELECT	390µF	20%	250V
	C672	1-135-871-21	FILM	15000pF	3%	800V

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
		DIODE				
	D001	8-719-070-80	DIODE LNK0120022G			
	D200	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D203	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D204	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D205	8-719-929-15	DIODE MTZJ-T-77-9.1B			
	D234	8-719-108-12	DIODE RD9.1EW-T1			
	D235	8-719-108-12	DIODE RD9.1EW-T1			
	D236	8-719-108-12	DIODE RD9.1EW-T1			
	D506	8-719-979-85	DIODE RGP15GPKG23			
	D596	8-719-908-03	DIODE GP08DPKG23			
	D598	8-719-908-03	DIODE GP08DPKG23			
	D612	8-719-068-00	DIODE ERC04-06SE			
	D613	8-719-068-00	DIODE ERC04-06SE			
		FUSE				
⚠	F601	1-576-193-11	FUSE	6.3A/125V		
		IC				
	IC004	8-742-212-20	HYB, IC SBX3081-71			
	IC401	6-701-105-01	IC NJM2750M-TE2			
	IC404	6-701-104-01	IC AN17820A			
	IC545	8-759-835-98	IC AN5522			
		JACK				
	J200	1-794-118-11	JACK BLOCK, PIN	3P		
	J201	1-794-048-11	JACK, PIN	3P		
	J202	1-794-116-11	JACK BLOCK, PIN	2P		
	J206	1-794-117-11	JACK BLOCK, PIN	3P		
		COIL				
	L360	1-412-029-11	INDUCTOR	10µH		
	L361	1-412-029-11	INDUCTOR	10µH		
⚠	L510	1-406-981-21	INDUCTOR	470µH		
		IC LINK				
	PS401	1-576-336-21	LINK, IC			
		TRANSISTOR				
	Q404	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
	Q405	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
⚠	Q506	6-550-042-01	TRANSISTOR 2SD2627LS-YB11			
	Q600	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122			
	Q601	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122			
		RESISTOR				
	R001	1-216-813-11	RES-CHIP	220	5%	1/10W

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-20FS100/21FS100(N)

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R029	1-249-409-11	CARBON	220	5%	1/4W
R030	1-249-409-11	CARBON	220	5%	1/4W
R032	1-216-813-11	RES-CHIP	220	5%	1/10W
R036	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R060	1-249-409-11	CARBON	220	5%	1/4W
R079	1-216-864-11	SHORT			
R094	1-414-229-11	FERRITE	0UH		
R095	1-414-229-11	FERRITE	0UH		
R098	1-216-839-11	RES-CHIP	33K	5%	1/10W
R101	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R105	1-216-864-11	SHORT			
R107	1-216-809-11	RES-CHIP	100	5%	1/10W
R108	1-216-809-11	RES-CHIP	100	5%	1/10W
R109	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R111	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R200	1-216-841-11	RES-CHIP	47K	5%	1/10W
R202	1-216-845-11	RES-CHIP	100K	5%	1/10W
R203	1-216-845-11	RES-CHIP	100K	5%	1/10W
R204	1-249-437-11	CARBON	47K	5%	1/4W
R205	1-216-841-11	RES-CHIP	47K	5%	1/10W
R206	1-216-845-11	RES-CHIP	100K	5%	1/10W
R207	1-216-845-11	RES-CHIP	100K	5%	1/10W
R208	1-249-437-11	CARBON	47K	5%	1/4W
R209	1-249-437-11	CARBON	47K	5%	1/4W
R210	1-216-845-11	RES-CHIP	100K	5%	1/10W
R211	1-249-437-11	CARBON	47K	5%	1/4W
R212	1-249-437-11	CARBON	47K	5%	1/4W
R213	1-216-845-11	RES-CHIP	100K	5%	1/10W
R220	1-216-841-11	RES-CHIP	47K	5%	1/10W
R250	1-216-864-11	SHORT			
R251	1-216-864-11	SHORT			
R305	1-218-285-11	RES-CHIP	75	5%	1/10W
R306	1-218-285-11	RES-CHIP	75	5%	1/10W
R307	1-218-285-11	RES-CHIP	75	5%	1/10W
R360	1-216-809-11	RES-CHIP	100	5%	1/10W
R361	1-216-809-11	RES-CHIP	100	5%	1/10W
R410	1-216-864-11	SHORT			
R413	1-216-864-11	SHORT			
R455	1-216-821-11	RES-CHIP	1K	5%	1/10W
R456	1-216-821-11	RES-CHIP	1K	5%	1/10W
R457	1-216-821-11	RES-CHIP	1K	5%	1/10W
R458	1-216-821-11	RES-CHIP	1K	5%	1/10W
R459	1-216-817-11	RES-CHIP	470	5%	1/10W
R460	1-216-817-11	RES-CHIP	470	5%	1/10W
R461	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R462	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R487	1-216-837-11	RES-CHIP	22K	5%	1/10W
R488	1-216-837-11	RES-CHIP	22K	5%	1/10W
R489	1-216-805-11	RES-CHIP	47	5%	1/10W
R490	1-216-805-11	RES-CHIP	47	5%	1/10W
R499	1-218-700-11	METAL CHIP	2.2K	0.50%	1/16W
R503	1-215-921-11	METAL OXIDE	4.7K	5%	3W
R510	1-260-320-11	CARBON	220	5%	1/2W
R512	1-215-910-00	METAL OXIDE	68	5%	3W
R513	1-215-913-11	METAL OXIDE	220	5%	3W
R515	1-215-886-11	METAL OXIDE	100	5%	2W
⚠ R528	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R529	1-216-837-11	RES-CHIP	22K	5%	1/10W
R530	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R533	1-216-826-11	RES-CHIP	2.7K	5%	1/10W
R535	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R537	1-216-855-11	RES-CHIP	680K	5%	1/10W
R541	1-215-449-00	METAL	15K	1%	1/4W
R548	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
R585	1-215-453-00	METAL	22K	1%	1/4W
⚠ R594	1-249-417-11	CARBON	1K	5%	1/4W
R601	1-205-998-11	CEMENTED	1	5%	10W
R602	1-202-961-11	CEMENTED	1.8	5%	10W
⚠ R603	1-219-513-11	CARBON	4.7M	5%	1/2W
R631	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R687	1-202-961-11	CEMENTED	1.8	5%	10W
R852	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
	SWITCH				
S001	1-692-431-21	SWITCH TACTILE			
	TRANSFORMER				
⚠ T511	1-435-079-11	TRANSFORMER,HORIZONTAL,LINEAR			
⚠ T585	1-453-316-21	FBT ASSY NX-1748//X4A4			
⚠ T601	1-435-617-11	TRANSFORMER, LINE FILTER			
⚠ T602	1-435-675-11	TRANSFORMER, STANDBY			
⚠ T603	1-437-609-11	POWER ISOLATION TRANSFORMER			
	THERMISTOR				
THP501	1-809-539-11	THERMISTOR, POSITIVE			
	TUNER				
⚠ TU101	8-598-593-00	TUNER, FSS BTF-WA421			
	VARISTOR				
VDR600	1-803-585-11	VARISTOR ENE271D-10A			

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-21FS100(S)

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
		CAPACITOR				
	C001	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
	C066	1-126-947-11	ELECT	47µF	20%	25V
	C200	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C202	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C203	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C204	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C205	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C206	1-126-963-11	ELECT	4.7µF	20%	50V
	C207	1-126-963-11	ELECT	4.7µF	20%	50V
	C212	1-126-968-11	ELECT	100µF	20%	50V
	C213	1-126-968-11	ELECT	100µF	20%	50V
	C220	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C305	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C306	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C307	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C360	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
	C361	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
	C362	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
	C363	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
	C370	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
	C424	1-126-960-11	ELECT	1µF	20%	50V
	C452	1-126-933-11	ELECT	100µF	20%	16V
	C454	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
	C455	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
	C457	1-137-378-11	MYLAR	0.22µF	5%	50V
	C458	1-137-378-11	MYLAR	0.22µF	5%	50V
	C459	1-137-194-91	FILM	0.47µF	5%	50V
	C460	1-137-194-91	FILM	0.47µF	5%	50V
	C499	1-126-965-91	ELECT	22µF	20%	50V
⚠	C506	1-117-214-11	CERAMIC	0.001µF	10%	2KV
⚠	C507	1-117-642-11	FILM	8200pF	3%	1.2KV
⚠	C508	1-129-722-00	FILM	0.047µF	5%	630V
	C511	1-115-521-11	FILM	0.82µF	5%	250V
	C514	1-115-519-11	FILM	0.56µF	5%	250V
	C523	1-136-346-61	MYLAR	0.22µF	20%	300V
	C536	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
⚠	C602	1-136-311-61	MYLAR	0.47µF	20%	300V
⚠	C603	1-136-311-61	MYLAR	0.47µF	20%	300V
⚠	C605	1-127-793-51	CERAMIC	2200PF	20%	250V
⚠	C606	1-127-793-51	CERAMIC	2200PF	20%	250V
	C621	1-165-921-11	ELECT	390µF	20%	250V
	C629	1-165-921-11	ELECT	390µF	20%	250V
	C672	1-135-871-21	FILM	15000pF	3%	800V

	REF. NO.	PART NO.	DESCRIPTION	VALUES
		DIODE		
	D001	8-719-070-80	DIODE LNK0120022G	
	D200	8-719-929-15	DIODE MTZJ-T-77-9.1B	
	D203	8-719-929-15	DIODE MTZJ-T-77-9.1B	
	D204	8-719-929-15	DIODE MTZJ-T-77-9.1B	
	D205	8-719-929-15	DIODE MTZJ-T-77-9.1B	
	D234	8-719-108-12	DIODE RD9.1EW-T1	
	D235	8-719-108-12	DIODE RD9.1EW-T1	
	D236	8-719-108-12	DIODE RD9.1EW-T1	
	D506	8-719-979-85	DIODE RGP15GPKG23	
	D596	8-719-908-03	DIODE GP08DPKG23	
	D598	8-719-908-03	DIODE GP08DPKG23	
		FUSE		
⚠	F601	1-532-506-51	FUSE	6.3A/250V
		IC		
	IC004	8-742-212-20	HYB, IC SBX3081-71	
	IC401	6-701-105-01	IC NJM2750M-TE2	
	IC404	6-701-104-01	IC AN17820A	
	IC545	8-759-835-98	IC AN5522	
		JACK		
	J200	1-794-118-11	JACK BLOCK, PIN	3P
	J201	1-794-048-11	JACK, PIN	3P
	J202	1-794-116-11	JACK BLOCK, PIN	2P
	J206	1-794-117-11	JACK BLOCK, PIN	3P
		COIL		
	L360	1-412-029-11	INDUCTOR	10µH
	L361	1-412-029-11	INDUCTOR	10µH
⚠	L510	1-406-981-21	INDUCTOR	470µH
		IC LINK		
	PS401	1-576-336-21	LINK, IC	
		TRANSISTOR		
	Q404	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
	Q405	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
⚠	Q506	6-550-042-01	TRANSISTOR 2SD2627LS-YB11	
	Q600	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122	
	Q601	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122	
		RESISTOR		

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R001	1-216-813-11	RES-CHIP	220	5%	1/10W
R029	1-249-409-11	CARBON	220	5%	1/4W
R030	1-249-409-11	CARBON	220	5%	1/4W
R032	1-216-813-11	RES-CHIP	220	5%	1/10W
R036	1-216-829-11	RES-CHIP	4.7K	5%	1/10W

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

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-21FS100(S)

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R060	1-249-409-11	CARBON	220	5%	1/4W
R079	1-216-864-11	SHORT			
R094	1-414-229-11	FERRITE	0UH		
R095	1-414-229-11	FERRITE	0UH		
R098	1-216-839-11	RES-CHIP	33K	5%	1/10W
R101	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R105	1-216-864-11	SHORT			
R107	1-216-809-11	RES-CHIP	100	5%	1/10W
R108	1-216-809-11	RES-CHIP	100	5%	1/10W
R109	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R111	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R200	1-216-841-11	RES-CHIP	47K	5%	1/10W
R202	1-216-845-11	RES-CHIP	100K	5%	1/10W
R203	1-216-845-11	RES-CHIP	100K	5%	1/10W
R204	1-249-437-11	CARBON	47K	5%	1/4W
R205	1-216-841-11	RES-CHIP	47K	5%	1/10W
R206	1-216-845-11	RES-CHIP	100K	5%	1/10W
R207	1-216-845-11	RES-CHIP	100K	5%	1/10W
R208	1-249-437-11	CARBON	47K	5%	1/4W
R209	1-249-437-11	CARBON	47K	5%	1/4W
R210	1-216-845-11	RES-CHIP	100K	5%	1/10W
R211	1-249-437-11	CARBON	47K	5%	1/4W
R212	1-249-437-11	CARBON	47K	5%	1/4W
R213	1-216-845-11	RES-CHIP	100K	5%	1/10W
R220	1-216-841-11	RES-CHIP	47K	5%	1/10W
R250	1-216-864-11	SHORT			
R251	1-216-864-11	SHORT			
R305	1-218-285-11	RES-CHIP	75	5%	1/10W
R306	1-218-285-11	RES-CHIP	75	5%	1/10W
R307	1-218-285-11	RES-CHIP	75	5%	1/10W
R360	1-216-809-11	RES-CHIP	100	5%	1/10W
R361	1-216-809-11	RES-CHIP	100	5%	1/10W
R410	1-216-864-11	SHORT			
R413	1-216-864-11	SHORT			
R455	1-216-821-11	RES-CHIP	1K	5%	1/10W
R456	1-216-821-11	RES-CHIP	1K	5%	1/10W
R457	1-216-821-11	RES-CHIP	1K	5%	1/10W
R458	1-216-821-11	RES-CHIP	1K	5%	1/10W
R459	1-216-817-11	RES-CHIP	470	5%	1/10W
R460	1-216-817-11	RES-CHIP	470	5%	1/10W
R461	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R462	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R487	1-216-837-11	RES-CHIP	22K	5%	1/10W
R488	1-216-837-11	RES-CHIP	22K	5%	1/10W
R489	1-216-805-11	RES-CHIP	47	5%	1/10W
R490	1-216-805-11	RES-CHIP	47	5%	1/10W
R499	1-218-700-11	METAL CHIP	2.2K	0.50%	1/16W
R503	1-215-921-11	METAL OXIDE	4.7K	5%	3W
R510	1-260-320-11	CARBON	220	5%	1/2W
R512	1-215-910-00	METAL OXIDE	68	5%	3W
R513	1-215-913-11	METAL OXIDE	220	5%	3W
R515	1-215-886-11	METAL OXIDE	100	5%	2W
⚠ R528	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R529	1-216-837-11	RES-CHIP	22K	5%	1/10W
R530	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R533	1-216-826-11	RES-CHIP	2.7K	5%	1/10W
R535	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R537	1-216-855-11	RES-CHIP	680K	5%	1/10W
R541	1-215-449-00	METAL	15K	1%	1/4W
R548	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
R549	1-216-841-11	RES-CHIP	47K	5%	1/10W
R585	1-215-453-00	METAL	22K	1%	1/4W
⚠ R594	1-249-417-11	CARBON	1K	5%	1/4W
R601	1-244-206-11	WIREWOUND	2.2	5%	10W
R602	1-244-206-11	WIREWOUND	2.2	5%	10W
R631	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R687	1-244-206-11	WIREWOUND	2.2	5%	10W
⚠ R699	1-218-265-11	METAL	8.2M	5%	1W
R852	1-218-716-11	METAL CHIP	10K	0.50%	1/16W

SWITCH

S001	1-692-431-21	SWITCH TACTILE

TRANSFORMER

⚠ T511	1-435-079-11	TRANSFORMER,HORIZONTAL DRIVE, LINEAR
⚠ T585	1-453-316-21	FBT ASSY NX-1748//X4A4
⚠ T601	1-426-717-11	TRANSFORMER,LINE FILTER
⚠ T602	1-435-676-11	TRANSFORMER, STANDBY
⚠ T603	1-437-609-11	POWER ISOLATION TRANSFORMER

THERMISTOR

THP501	1-803-540-11	THERMISTOR

TUNER

⚠ TU101	8-598-593-00	TUNER, FSS BTF-WA421

VARISTOR

VDR600	1-803-967-11	VARISTOR (ENE621D-14A)

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-20FV300/21FV300(N)

REF. NO.	PART NO.	DESCRIPTION	VALUES		
	CAPACITOR				
C200	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C202	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C203	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C204	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C205	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C206	1-126-963-11	ELECT	4.7µF	20%	50V
C207	1-126-963-11	ELECT	4.7µF	20%	50V
C212	1-126-963-11	ELECT	4.7µF	20%	50V
C213	1-126-963-11	ELECT	4.7µF	20%	50V
C220	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C301	1-126-956-91	ELECT	0.1µF	20%	50V
C302	1-126-956-91	ELECT	0.1µF	20%	50V
C305	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C306	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C307	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C360	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C361	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C362	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C363	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C370	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C400	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C401	1-164-227-11	CERAMIC CHIP	0.022µF	10%	25V
C402	1-164-174-11	CERAMIC CHIP	0.0082µF	10%	25V
C403	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C404	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C405	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C406	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C407	1-162-965-11	CERAMIC CHIP	0.0015µF	10%	50V
C408	1-162-965-11	CERAMIC CHIP	0.0015µF	10%	50V
C409	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C410	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C411	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C412	1-126-960-11	ELECT	1µF	20%	50V
C413	1-126-960-11	ELECT	1µF	20%	50V
C414	1-126-961-11	ELECT	2.2µF	20%	50V
C415	1-126-960-11	ELECT	1µF	20%	50V
C416	1-126-960-11	ELECT	1µF	20%	50V
C418	1-126-963-11	ELECT	4.7µF	20%	50V
C420	1-126-960-11	ELECT	1µF	20%	50V
C422	1-126-960-11	ELECT	1µF	20%	50V
C452	1-126-967-11	ELECT	47µF	20%	50V
C457	1-126-963-11	ELECT	4.7µF	20%	50V
C458	1-126-963-11	ELECT	4.7µF	20%	50V
C461	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C462	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C463	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C464	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C499	1-126-963-11	ELECT	4.7µF	20%	50V
⚠ C506	1-117-214-11	CERAMIC	0.001µF	10%	2KV
⚠ C507	1-117-642-11	FILM	8200pF	3%	1.2KV
⚠ C508	1-129-722-00	FILM	0.047µF	5%	630V
C511	1-115-521-11	FILM	0.82µF	5%	250V
C514	1-115-519-11	FILM	0.56µF	5%	250V
C523	1-136-346-51	MYLAR	0.22µF	20%	125V
C536	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
⚠ C602	1-136-311-51	MYLAR	0.47µF	20%	125V
⚠ C603	1-136-311-51	MYLAR	0.47µF	20%	125V
⚠ C605	1-127-793-51	CERAMIC	2200PF	20%	250V
⚠ C606	1-127-793-51	CERAMIC	2200PF	20%	250V
C621	1-165-922-11	ELECT	470µF	20%	250V
C629	1-165-922-11	ELECT	470µF	20%	250V
C672	1-137-756-21	FILM	22000pF	3%	800V
	CONNECTOR				
CN002	1-564-509-11	PLUG,CONNECTOR		6P	
	DIODE				
D200	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D203	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D204	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D205	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D206	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D208	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D231	8-719-108-12	DIODE RD9.1EW-T1			
D234	8-719-108-12	DIODE RD9.1EW-T1			
D235	8-719-108-12	DIODE RD9.1EW-T1			
D236	8-719-108-12	DIODE RD9.1EW-T1			
D237	8-719-108-12	DIODE RD9.1EW-T1			
D506	8-719-979-85	DIODE RGP15GPKG23			
D596	8-719-908-03	DIODE GP08DPKG23			
D598	8-719-908-03	DIODE GP08DPKG23			
D612	8-719-068-00	DIODE ERC04-06SE			
D613	8-719-068-00	DIODE ERC04-06SE			
	FUSE				
⚠ F601	1-576-193-11	FUSE	6.3A/125V		

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-20FV300/21FV300(N)

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
		IC				
	IC400	6-701-106-01	IC NJW1134G-TE2			
	IC404	6-701-107-01	IC AN7125Z			
	IC545	8-759-835-98	IC AN5522			
		JACK				
	J200	1-794-119-11	TERMINAL BLOCK, S4P			
	J201	1-794-048-11	JACK, PIN	3P		
	J202	1-794-116-11	JACK BLOCK, PIN	2P		
	J205	1-794-116-11	JACK BLOCK, PIN	2P		
	J206	1-794-117-11	JACK BLOCK, PIN	3P		
		COIL				
	L360	1-412-029-11	INDUCTOR	10µH		
	L361	1-412-029-11	INDUCTOR	10µH		
⚠	L510	1-406-981-21	INDUCTOR	470µH		
		IC LINK				
	PS401	1-576-337-21	LINK, IC			
		TRANSISTOR				
⚠	Q506	6-550-042-01	TRANSISTOR 2SD2627LS-YB11			
	Q600	8-729-053-36	TRANSISTOR 2SK2640-01MR-F122			
	Q601	8-729-053-36	TRANSISTOR 2SK2640-01MR-F122			
		RESISTOR				
	R029	1-249-409-11	CARBON	220	5%	1/4W
	R030	1-249-409-11	CARBON	220	5%	1/4W
	R032	1-216-813-11	RES-CHIP	220	5%	1/10W
	R036	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
	R060	1-249-409-11	CARBON	220	5%	1/4W
	R085	1-216-864-11	SHORT CHIP			
	R094	1-216-864-11	SHORT CHIP			
	R095	1-216-864-11	SHORT CHIP			
	R098	1-216-839-11	RES-CHIP	33K	5%	1/10W
	R101	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R105	1-216-864-11	SHORT			
	R107	1-414-229-11	FERRITE	0µH		
	R108	1-414-229-11	FERRITE	0µH		
	R109	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R111	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R200	1-216-813-11	RES-CHIP	220	5%	1/10W
	R202	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R203	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R204	1-249-409-11	CARBON	220	5%	1/4W
	R206	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R207	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R208	1-249-409-11	CARBON	220	5%	1/4W
	R209	1-249-409-11	CARBON	220	5%	1/4W
	R210	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R211	1-249-409-11	CARBON	220	5%	1/4W
	R212	1-249-409-11	CARBON	220	5%	1/4W
	R213	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R215	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R216	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R217	1-249-409-11	CARBON	220	5%	1/4W
	R218	1-249-409-11	CARBON	220	5%	1/4W
	R220	1-216-813-11	RES-CHIP	220	5%	1/10W
	R221	1-249-409-11	CARBON	220	5%	1/4W
	R222	1-249-409-11	CARBON	220	5%	1/4W
	R227	1-218-285-11	RES-CHIP	75	5%	1/10W
	R250	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R251	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R301	1-218-285-11	RES-CHIP	75	5%	1/10W
	R305	1-218-285-11	RES-CHIP	75	5%	1/10W
	R306	1-218-285-11	RES-CHIP	75	5%	1/10W
	R307	1-218-285-11	RES-CHIP	75	5%	1/10W
	R360	1-216-809-11	RES-CHIP	100	5%	1/10W
	R361	1-216-809-11	RES-CHIP	100	5%	1/10W
	R400	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R401	1-216-809-11	RES-CHIP	100	5%	1/10W
	R403	1-216-809-11	RES-CHIP	100	5%	1/10W
	R427	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R429	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R431	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R432	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R433	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R434	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R461	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R462	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R482	1-216-864-11	SHORT			
	R499	1-216-833-11	RES-CHIP	10K	5%	1/10W
	R503	1-215-921-11	METAL OXIDE	4.7K	5%	3W
	R510	1-260-320-11	CARBON	220	5%	1/2W
	R512	1-215-910-00	METAL OXIDE	68	5%	3W
	R513	1-215-913-11	METAL OXIDE	220	5%	3W
	R515	1-215-886-11	METAL OXIDE	100	5%	2W
⚠	R528	1-218-867-11	RES-CHIP	6.8K	5%	1/10W

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

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

VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-20FV300/21FV300(N)

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
	R529	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R530	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
	R533	1-216-826-11	RES-CHIP	2.7K	5%	1/10W
	R535	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
	R537	1-216-855-11	RES-CHIP	680K	5%	1/10W
	R541	1-215-449-00	METAL	15K	1%	1/4W
	R548	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
	R585	1-215-453-00	METAL	22K	1%	1/4W
⚠	R594	1-249-417-11	CARBON	1K	5%	1/4W
	R601	1-240-262-11	CEMENTED	0.68	5%	10W
	R602	1-202-961-11	CEMENTED	1.8	5%	10W
⚠	R603	1-219-513-11	CARBON	4.7M	5%	1/2W
	R631	1-218-718-11	METAL CHIP	12K	0.50%	1/16W
	R687	1-202-961-11	CEMENTED	1.8	5%	10W
	R852	1-218-716-11	METAL CHIP	10K	0.50%	1/16W

TRANSFORMER

⚠	T511	1-435-079-11	TRANSFORMER, HORIZONTAL LINEAR
⚠	T585	1-453-316-21	FBT ASSY NX-1748//X4A4
⚠	T601	1-435-617-11	TRANSFORMER, LINE FILTER
⚠	T602	1-435-675-11	TRANSFORMER, STANDBY
⚠	T603	1-437-611-11	POWER ISOLATION TRANSFORMER

THERMISTOR

	THP501	1-809-539-11	THERMISTOR, POSITIVE

TUNER

⚠	TU101	8-598-593-00	TUNER, FSS BTF-WA421

VARISTOR

	VDR600	1-803-585-11	VARISTOR ENE271D-10A

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

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

VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-21FV300(S)

REF. NO.	PART NO.	DESCRIPTION	VALUES		
	CAPACITOR				
C200	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C202	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C203	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C204	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C205	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C206	1-126-963-11	ELECT	4.7µF	20%	50V
C207	1-126-963-11	ELECT	4.7µF	20%	50V
C212	1-126-963-11	ELECT	4.7µF	20%	50V
C213	1-126-963-11	ELECT	4.7µF	20%	50V
C220	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C301	1-126-956-91	ELECT	0.1µF	20%	50V
C302	1-126-956-91	ELECT	0.1µF	20%	50V
C305	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C306	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C307	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C360	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C361	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C362	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C363	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C370	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C400	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C401	1-164-227-11	CERAMIC CHIP	0.022µF	10%	25V
C402	1-164-174-11	CERAMIC CHIP	0.0082µF	10%	25V
C403	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C404	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C405	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C406	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C407	1-162-965-11	CERAMIC CHIP	0.0015µF	10%	50V
C408	1-162-965-11	CERAMIC CHIP	0.0015µF	10%	50V
C409	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C410	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C411	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C412	1-126-960-11	ELECT	1µF	20%	50V
C413	1-126-960-11	ELECT	1µF	20%	50V
C414	1-126-961-11	ELECT	2.2µF	20%	50V
C415	1-126-960-11	ELECT	1µF	20%	50V
C416	1-126-960-11	ELECT	1µF	20%	50V
C418	1-126-963-11	ELECT	4.7µF	20%	50V
C420	1-126-960-11	ELECT	1µF	20%	50V
C422	1-126-960-11	ELECT	1µF	20%	50V
C452	1-126-967-11	ELECT	47µF	20%	50V
C457	1-126-963-11	ELECT	4.7µF	20%	50V
C458	1-126-963-11	ELECT	4.7µF	20%	50V
C461	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C462	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C463	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C464	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C499	1-126-963-11	ELECT	4.7µF	20%	50V
⚠ C506	1-117-214-11	CERAMIC	0.001µF	10%	2KV
⚠ C507	1-117-642-11	FILM	8200pF	3%	1.2KV
⚠ C508	1-129-722-00	FILM	0.047µF	5%	630V
C511	1-115-521-11	FILM	0.82µF	5%	250V
C514	1-115-519-11	FILM	0.56µF	5%	250V
C523	1-136-346-61	MYLAR	0.22µF	20%	300V
C536	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
⚠ C602	1-136-311-61	MYLAR	0.47µF	20%	300V
⚠ C603	1-136-311-61	MYLAR	0.47µF	20%	300V
⚠ C605	1-127-793-51	CERAMIC	2200PF	20%	250V
⚠ C606	1-127-793-51	CERAMIC	2200PF	20%	250V
C621	1-165-922-11	ELECT	470µF	20%	250V
C629	1-165-922-11	ELECT	470µF	20%	250V
C672	1-137-756-21	FILM	22000pF	3%	800V
	CONNECTOR				
CN002	1-564-509-11	PLUG,CONNECTOR	6P		
	DIODE				
D200	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D203	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D204	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D205	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D206	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D208	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D231	8-719-108-12	DIODE RD9.1EW-T1			
D234	8-719-108-12	DIODE RD9.1EW-T1			
D235	8-719-108-12	DIODE RD9.1EW-T1			
D236	8-719-108-12	DIODE RD9.1EW-T1			
D237	8-719-108-12	DIODE RD9.1EW-T1			
D506	8-719-979-85	DIODE RGP15GPKG23			
D596	8-719-908-03	DIODE GP08DPKG23			
D598	8-719-908-03	DIODE GP08DPKG23			
	FUSE				
⚠ F601	1-532-506-51	FUSE	6.3A/250V		

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

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-21FV300(S)

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
		IC				
	IC400	6-701-106-01	IC NJW1134G-TE2			
	IC404	6-701-107-01	IC AN7125Z			
	IC545	8-759-835-98	IC AN5522			
		JACK				
	J200	1-794-119-11	TERMINAL BLOCK, S	4P		
	J201	1-794-048-11	JACK, PIN	3P		
	J202	1-794-116-11	JACK BLOCK, PIN	2P		
	J205	1-794-116-11	JACK BLOCK, PIN	2P		
	J206	1-794-117-11	JACK BLOCK, PIN	3P		
		COIL				
	L360	1-412-029-11	INDUCTOR	10µH		
	L361	1-412-029-11	INDUCTOR	10µH		
⚠	L510	1-406-981-21	INDUCTOR	470µH		
		IC LINK				
	PS401	1-576-337-21	LINK, IC			
		TRANSISTOR				
⚠	Q506	6-550-042-01	TRANSISTOR 2SD2627LS-YB11			
	Q600	8-729-053-36	TRANSISTOR 2SK2640-01MR-F122			
	Q601	8-729-053-36	TRANSISTOR 2SK2640-01MR-F122			
		RESISTOR				
	R029	1-249-409-11	CARBON	220	5%	1/4W
	R030	1-249-409-11	CARBON	220	5%	1/4W
	R032	1-216-813-11	RES-CHIP	220	5%	1/10W
	R036	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
	R060	1-249-409-11	CARBON	220	5%	1/4W
	R094	1-216-864-11	SHORT CHIP			
	R095	1-216-864-11	SHORT CHIP			
	R098	1-216-839-11	RES-CHIP	33K	5%	1/10W
	R101	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R105	1-216-864-11	SHORT			
	R107	1-414-229-11	FERRITE	0UH		
	R108	1-414-229-11	FERRITE	0UH		
	R109	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R111	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R200	1-216-813-11	RES-CHIP	220	5%	1/10W
	R202	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R203	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R204	1-249-409-11	CARBON	220	5%	1/4W
	R206	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R207	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R208	1-249-409-11	CARBON	220	5%	1/4W
	R209	1-249-409-11	CARBON	220	5%	1/4W
	R210	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R211	1-249-409-11	CARBON	220	5%	1/4W
	R212	1-249-409-11	CARBON	220	5%	1/4W
	R213	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R215	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R216	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R217	1-249-409-11	CARBON	220	5%	1/4W
	R218	1-249-409-11	CARBON	220	5%	1/4W
	R220	1-216-813-11	RES-CHIP	220	5%	1/10W
	R221	1-249-409-11	CARBON	220	5%	1/4W
	R222	1-249-409-11	CARBON	220	5%	1/4W
	R227	1-218-285-11	RES-CHIP	75	5%	1/10W
	R250	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R251	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R301	1-218-285-11	RES-CHIP	75	5%	1/10W
	R305	1-218-285-11	RES-CHIP	75	5%	1/10W
	R306	1-218-285-11	RES-CHIP	75	5%	1/10W
	R307	1-218-285-11	RES-CHIP	75	5%	1/10W
	R360	1-216-809-11	RES-CHIP	100	5%	1/10W
	R361	1-216-809-11	RES-CHIP	100	5%	1/10W
	R400	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R401	1-216-809-11	RES-CHIP	100	5%	1/10W
	R403	1-216-809-11	RES-CHIP	100	5%	1/10W
	R427	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R429	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R431	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R432	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R433	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R434	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R461	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R462	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R482	1-216-864-11	SHORT			
	R499	1-216-833-11	RES-CHIP	10K	5%	1/10W
	R503	1-215-921-11	METAL OXIDE	4.7K	5%	3W
	R510	1-260-320-11	CARBON	220	5%	1/2W
	R512	1-215-910-00	METAL OXIDE	68	5%	3W
	R513	1-215-913-11	METAL OXIDE	220	5%	3W
	R515	1-215-886-11	METAL OXIDE	100	5%	2W
⚠	R528	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
	R529	1-216-837-11	RES-CHIP	22K	5%	1/10W

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

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

VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-21FV300(S)

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
	R530	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
	R533	1-216-826-11	RES-CHIP	2.7K	5%	1/10W
	R535	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
	R537	1-216-855-11	RES-CHIP	680K	5%	1/10W
	R541	1-215-449-00	METAL	15K	1%	1/4W
	R548	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
	R549	1-216-841-11	RES-CHIP	47K	5%	1/10W
	R585	1-215-453-00	METAL	22K	1%	1/4W
⚠	R594	1-249-417-11	CARBON	1K	5%	1/4W
	R601	1-244-206-11	WIREWOUND	2.2	5%	10W
	R602	1-244-206-11	WIREWOUND	2.2	5%	10W
	R631	1-218-718-11	METAL CHIP	12K	0.50%	1/16W
	R687	1-244-206-11	WIREWOUND	2.2	5%	10W
⚠	R699	1-218-265-11	METAL	8.2M	5%	1W
	R852	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
			TRANSFORMER			
⚠	T511	1-435-079-11	TRANSFORMER, HORIZONTAL LINEAR			
⚠	T585	1-453-316-21	FBT ASSY NX-1748//X4A4			
⚠	T601	1-426-717-11	TRANSFORMER, LINE FILTER		(LFT)	
⚠	T602	1-435-676-11	TRANSFORMER, STANDBY			
⚠	T603	1-437-611-11	POWER ISOLATION TRANSFORMER			
			THERMISTOR			
	THP501	1-803-540-11	THERMISTOR			
			TUNER			
⚠	TU101	8-598-593-00	TUNER, FSS BTF-WA421			
			VARISTOR			
	VDR600	1-803-967-11	VARISTOR (ENE621D-14A)			

REF. NO.	PART NO.	DESCRIPTION	VALUES

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

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-21FM100(N)

REF. NO.	PART NO.	DESCRIPTION	VALUES		
		CAPACTIOR			
C001	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C066	1-126-947-11	ELECT	47µF	20%	25V
C200	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C203	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C204	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C212	1-126-968-11	ELECT	100µF	20%	50V
C213	1-126-968-11	ELECT	100µF	20%	50V
C370	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C452	1-126-933-11	ELECT	100µF	20%	16V
C454	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C455	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C457	1-137-378-11	MYLAR	0.22µF	5%	50V
C458	1-137-378-11	MYLAR	0.22µF	5%	50V
C459	1-137-194-91	FILM	0.47µF	5%	50V
C460	1-137-194-91	FILM	0.47µF	5%	50V
C499	1-126-965-91	ELECT	22µF	20%	50V
⚠ C506	1-117-214-11	CERAMIC	0.001µF	10%	2KV
⚠ C507	1-117-642-11	FILM	8200pF	3%	1.2KV
⚠ C508	1-129-722-00	FILM	0.047µF	5%	630V
C511	1-115-521-11	FILM	0.82µF	5%	250V
C514	1-115-519-11	FILM	0.56µF	5%	250V
C523	1-136-346-51	MYLAR	0.22µF	20%	125V
C536	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
⚠ C602	1-136-311-51	MYLAR	0.47µF	20%	125V
⚠ C603	1-136-311-51	MYLAR	0.47µF	20%	125V
⚠ C605	1-127-793-51	CERAMIC	2200PF	20%	250V
⚠ C606	1-127-793-51	CERAMIC	2200PF	20%	250V
C621	1-165-921-11	ELECT	390µF	20%	250V
C629	1-165-921-11	ELECT	390µF	20%	250V
C672	1-135-871-21	FILM	15000pF	3%	800V
		DIODE			
D001	8-719-070-80	DIODE LNK0120022G			
D506	8-719-979-85	DIODE RGP15GPKG23			
D596	8-719-908-03	DIODE GP08DPKG23			
D598	8-719-908-03	DIODE GP08DPKG23			
D612	8-719-068-00	DIODE ERC04-06SE			
D613	8-719-068-00	DIODE ERC04-06SE			
		FUSE			
⚠ F601	1-576-193-11	FUSE 6.3A/125V			
		IC			
IC004	8-742-212-20	HYB, IC SBX3081-71			
IC402	8-759-450-93	IC NJM2521M-TE1			
IC404	6-701-104-01	IC AN17820A			
IC545	8-759-835-98	IC AN5522			
		JACK			
J200	1-794-115-11	JACK BLOCK PIN	2P		
J201	1-580-441-41	JACK, PIN	2P		
		COIL			
⚠ L510	1-406-981-21	INDUCTOR	470µH		
		IC LINK			
PS401	1-576-336-21	LINK, IC			
		TRANSISTOR			
Q404	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q405	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
⚠ Q506	6-550-042-01	TRANSISTOR 2SD2627LS-YB11			
Q600	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122			
Q601	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122			
		RESISTOR			
R001	1-216-813-11	RES-CHIP	220	5%	1/10W
R036	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R079	1-216-864-11	SHORT			
R094	1-414-229-11	FERRITE	0UH		
R095	1-414-229-11	FERRITE	0UH		
R098	1-216-837-11	RES-CHIP	22K	5%	1/10W
R107	1-216-809-11	RES-CHIP	100	5%	1/10W
R108	1-216-809-11	RES-CHIP	100	5%	1/10W
R101	1-216-832-11	RES-CHIP	8.2K	5%	1/10W
R104	1-216-864-11	SHORT			
R106	1-216-864-11	SHORT			
R107	1-216-809-11	RES-CHIP	100	5%	1/10W
R108	1-216-809-11	RES-CHIP	100	5%	1/10W
R200	1-216-841-11	RES-CHIP	47K	5%	1/10W
R203	1-216-853-11	RES-CHIP	470K	5%	1/10W
R204	1-249-437-11	CARBON	47K	5%	1/4W
R205	1-216-841-11	RES-CHIP	47K	5%	1/10W
R206	1-216-853-11	RES-CHIP	470K	5%	1/10W
R208	1-249-437-11	CARBON	47K	5%	1/4W
R209	1-249-437-11	CARBON	47K	5%	1/4W
R211	1-249-437-11	CARBON	47K	5%	1/4W
R212	1-249-437-11	CARBON	47K	5%	1/4W

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

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

VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-21FM100(N)

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
	R220	1-216-841-11	RES-CHIP	47K	5%	1/10W
	R234	1-216-864-11	SHORT			
	R250	1-216-864-11	SHORT			
	R251	1-216-864-11	SHORT			
	R404	1-216-864-11	SHORT			
	R405	1-216-864-11	SHORT			
	R410	1-216-864-11	SHORT			
	R413	1-216-864-11	SHORT			
	R455	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R456	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R457	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R458	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R459	1-216-817-11	RES-CHIP	470	5%	1/10W
	R460	1-216-817-11	RES-CHIP	470	5%	1/10W
	R461	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R462	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R487	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R488	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R489	1-216-805-11	RES-CHIP	47	5%	1/10W
	R490	1-216-805-11	RES-CHIP	47	5%	1/10W
	R499	1-218-700-11	METAL CHIP	2.2K	0.50%	1/16W
	R503	1-215-921-11	METAL OXIDE	4.7K	5%	3W
	R510	1-260-320-11	CARBON	220	5%	1/2W
	R512	1-215-910-00	METAL OXIDE	68	5%	3W
	R513	1-215-913-11	METAL OXIDE	220	5%	3W
	R515	1-215-886-11	METAL OXIDE	100	5%	2W
⚠	R528	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
	R529	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R530	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
	R533	1-216-826-11	RES-CHIP	2.7K	5%	1/10W
	R535	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
	R537	1-216-855-11	RES-CHIP	680K	5%	1/10W
	R541	1-215-449-00	METAL	15K	1%	1/4W
	R548	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
	R585	1-215-453-00	METAL	22K	1%	1/4W
⚠	R594	1-249-417-11	CARBON	1K	5%	1/4W
	R601	1-205-998-11	CEMENTED	1	5%	10W
	R602	1-202-961-11	CEMENTED	1.8	5%	10W
⚠	R603	1-219-513-11	CARBON	4.7M	5%	1/2W
	R631	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
	R687	1-202-961-11	CEMENTED	1.8	5%	10W
	R852	1-218-716-11	METAL CHIP	10K	0.50%	1/16W

	REF. NO.	PART NO.	DESCRIPTION	VALUES
		SWITCH		
	S001	1-692-431-21	SWITCH TACTILE	
		TRANSFORMER		
⚠	T511	1-435-079-11	TRANSFORMER, HORIZONTAL LINEAR	
⚠	T585	1-453-316-21	FBT ASSY NX-1748//X4A4	
⚠	T601	1-435-617-11	TRANSFORMER, LINE FILTER	
⚠	T602	1-435-675-11	TRANSFORMER, STANDBY	
⚠	T603	1-437-609-11	POWER ISOLATION TRANSFORMER	
		THERMISTOR		
	THP501	1-809-539-11	THERMISTOR, POSITIVE	
		TUNER		
⚠	TU101	8-598-594-00	TUNER, FSS BTF-FA421	
		VARISTOR		
	VDR600	1-803-585-11	VARISTOR ENE271D-10A	

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

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-21FM100(S)

REF. NO.	PART NO.	DESCRIPTION	VALUES		
		CAPACITOR			
C001	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C066	1-126-947-11	ELECT	47µF	20%	25V
C200	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C203	1-113-619-211	CERAMIC CHIP	0.47µF		10V
C204	1-113-619-11	CERAMIC CHIP	0.47µF		10V
C212	1-126-968-11	ELECT	100µF	20%	50V
C213	1-126-968-11	ELECT	100µF	20%	50V
C370	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C452	1-126-933-11	ELECT	100µF	20%	16V
C454	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C455	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C457	1-137-378-11	MYLAR	0.22µF	5%	50V
C458	1-137-378-11	MYLAR	0.22µF	5%	50V
C459	1-137-194-91	FILM	0.47µF	5%	50V
C460	1-137-194-91	FILM	0.47µF	5%	50V
C499	1-126-965-91	ELECT	22µF	20%	50V
⚠ C506	1-117-214-11	CERAMIC	0.001µF	10%	2KV
⚠ C507	1-117-642-11	FILM	8200pF	3%	1.2KV
⚠ C508	1-129-722-00	FILM	0.047µF	5%	630V
C511	1-115-521-11	FILM	0.82µF	5%	250V
C514	1-115-519-11	FILM	0.56µF	5%	250V
C523	1-136-346-61	MYLAR	0.22µF	20%	300V
C536	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
⚠ C602	1-136-311-61	MYLAR	0.47µF	20%	300V
⚠ C603	1-136-311-61	MYLAR	0.47µF	20%	300V
⚠ C605	1-127-793-51	CERAMIC	2200PF	20%	250V
⚠ C606	1-127-793-51	CERAMIC	2200PF	20%	250V
C621	1-165-921-11	ELECT	390µF	20%	250V
C629	1-165-921-11	ELECT	390µF	20%	250V
C672	1-135-871-21	FILM	15000pF	3%	800V
		DIODE			
D001	8-719-070-80	DIODE LNK0120022G			
D506	8-719-979-85	DIODE RGP15GPKG23			
D596	8-719-908-03	DIODE GP08DPKG23			
D598	8-719-908-03	DIODE GP08DPKG23			
		FUSE			
⚠ F601	1-532-506-51	FUSE	6.3A/250V		
		IC			
IC004	8-742-212-20	HYB, IC SBX3081-71			
IC402	8-759-450-93	IC NJM2521M-TE1			
IC404	6-701-104-01	IC AN17820A			
IC545	8-759-835-98	IC AN5522			
		JACK			
J200	1-794-115-11	JACK BLOCK PIN	2P		
J201	1-580-441-41	JACK, PIN	2P		
		COIL			
⚠ L510	1-406-981-21	INDUCTOR	470µH		
		IC LINK			
PS401	1-576-336-21	LINK, IC			
		TRANSISTOR			
Q404	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q405	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
⚠ Q506	6-550-042-01	TRANSISTOR 2SD2627LS-YB11			
Q600	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122			
Q601	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122			
		RESISTOR			
R001	1-216-813-11	RES-CHIP	220	5%	1/10W
R036	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R079	1-216-864-11	SHORT			
R094	1-414-229-11	FERRITE	0UH		
R095	1-414-229-11	FERRITE	0UH		
R098	1-216-837-11	RES-CHIP	22K	5%	1/10W
R101	1-216-832-11	RES-CHIP	8.2K	5%	1/10W
R104	1-216-864-11	SHORT			
R106	1-216-864-11	SHORT			
R107	1-216-809-11	RES-CHIP	100	5%	1/10W
R108	1-216-809-11	RES-CHIP	100	5%	1/10W
R200	1-216-841-11	RES-CHIP	47K	5%	1/10W
R203	1-216-853-11	RES-CHIP	470K	5%	1/10W
R204	1-249-437-11	CARBON	47K	5%	1/4W
R205	1-216-841-11	RES-CHIP	47K	5%	1/10W
R206	1-216-853-11	RES-CHIP	470K	5%	1/10W
R208	1-249-437-11	CARBON	47K	5%	1/4W
R209	1-249-437-11	CARBON	47K	5%	1/4W
R211	1-249-437-11	CARBON	47K	5%	1/4W
R212	1-249-437-11	CARBON	47K	5%	1/4W
R220	1-216-841-11	RES-CHIP	47K	5%	1/10W
R234	1-216-864-11	SHORT			
R250	1-216-864-11	SHORT			

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

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-21FM100(S)

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
	R251	1-216-864-11	SHORT			
	R404	1-216-864-11	SHORT			
	R405	1-216-864-11	SHORT			
	R410	1-216-864-11	SHORT			
	R413	1-216-864-11	SHORT			
	R455	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R456	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R457	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R458	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R459	1-216-817-11	RES-CHIP	470	5%	1/10W
	R460	1-216-817-11	RES-CHIP	470	5%	1/10W
	R461	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R462	1-216-821-11	RES-CHIP	1K	5%	1/10W
	R487	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R488	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R489	1-216-805-11	RES-CHIP	47	5%	1/10W
	R490	1-216-805-11	RES-CHIP	47	5%	1/10W
	R499	1-218-700-11	METAL CHIP	2.2K	0.50%	1/16W
	R503	1-215-921-11	METAL OXIDE	4.7K	5%	3W
	R510	1-260-320-11	CARBON	220	5%	1/2W
	R512	1-215-910-00	METAL OXIDE	68	5%	3W
	R513	1-215-913-11	METAL OXIDE	220	5%	3W
	R515	1-215-886-11	METAL OXIDE	100	5%	2W
⚠	R528	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
	R529	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R530	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
	R533	1-216-826-11	RES-CHIP	2.7K	5%	1/10W
	R535	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
	R537	1-216-855-11	RES-CHIP	680K	5%	1/10W
	R541	1-215-449-00	METAL	15K	1%	1/4W
	R548	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
	R549	1-216-841-11	RES-CHIP	47K	5%	1/10W
	R585	1-215-453-00	METAL	22K	1%	1/4W
⚠	R594	1-249-417-11	CARBON	1K	5%	1/4W
	R601	1-244-206-11	WIREWOUND	2.2	5%	10W
	R602	1-244-206-11	WIREWOUND	2.2	5%	10W
	R631	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
	R687	1-244-206-11	WIREWOUND	2.2	5%	10W
⚠	R699	1-218-265-11	METAL	8.2M	5%	1W
	R852	1-218-716-11	METAL CHIP	10K	0.50%	1/16W

SWITCH

	S001	1-692-431-21	SWITCH TACTILE

TRANSFORMER

⚠	T511	1-435-079-11	TRANSFORMER, HORIZONTAL LINEAR
⚠	T585	1-453-316-21	FBT ASSY NX-1748//XA4A
⚠	T601	1-426-717-11	TRANSFORMER, LINE FILTER (LFT)
⚠	T602	1-435-676-11	TRANSFORMER, STANDBY
⚠	T603	1-437-609-11	POWER ISOLATION TRANSFORMER

THERMISTOR

	THP501	1-803-540-11	THERMISTOR

TUNER

⚠	TU101	8-598-594-00	TUNER, FSS BTF-FA421

VARISTOR

	VDR600	1-803-967-11	VARISTOR (ENE621D-14A)

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

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-25FV300(S)

REF. NO.	PART NO.	DESCRIPTION	VALUES		
	CAPACITOR				
C200	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C202	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C203	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C204	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C205	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C206	1-126-963-11	ELECT	4.7µF	20%	50V
C207	1-126-963-11	ELECT	4.7µF	20%	50V
C212	1-126-963-11	ELECT	4.7µF	20%	50V
C213	1-126-963-11	ELECT	4.7µF	20%	50V
C220	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C301	1-126-956-91	ELECT	0.1µF	20%	50V
C302	1-126-956-91	ELECT	0.1µF	20%	50V
C305	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C306	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C307	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C360	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C361	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C362	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C363	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C370	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C400	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C401	1-164-227-11	CERAMIC CHIP	0.022µF	10%	25V
C402	1-164-174-11	CERAMIC CHIP	0.0082µF	10%	25V
C403	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C404	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C405	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C406	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C407	1-162-965-11	CERAMIC CHIP	0.0015µF	10%	50V
C408	1-162-965-11	CERAMIC CHIP	0.0015µF	10%	50V
C409	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C410	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C411	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C412	1-126-960-11	ELECT	1µF	20%	50V
C413	1-126-960-11	ELECT	1µF	20%	50V
C414	1-126-961-11	ELECT	2.2µF	20%	50V
C415	1-126-960-11	ELECT	1µF	20%	50V
C416	1-126-960-11	ELECT	1µF	20%	50V
C418	1-126-963-11	ELECT	4.7µF	20%	50V
C420	1-126-960-11	ELECT	1µF	20%	50V
C422	1-126-960-11	ELECT	1µF	20%	50V
C452	1-126-967-11	ELECT	47µF	20%	50V
C457	1-126-963-11	ELECT	4.7µF	20%	50V
C458	1-126-963-11	ELECT	4.7µF	20%	50V
C461	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C462	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C463	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C464	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C499	1-126-963-11	ELECT	4.7µF	20%	50V
⚠ C506	1-162-116-00	CERAMIC	680pF	10%	2KV
⚠ C507	1-127-717-21	FILM	19000pF	3%	1.2KV
⚠ C508	1-130-895-00	FILM	0.056µF	10%	400V
C511	1-117-813-11	FILM	0.75µF	5%	250V
C514	1-115-521-11	FILM	0.82µF	5%	250V
C516	1-117-661-11	FILM	0.15µF	5%	250V
C523	1-136-346-61	MYLAR	0.22µF	20%	300V
⚠ C602	1-136-311-61	MYLAR	0.47µF	20%	300V
⚠ C603	1-136-311-61	MYLAR	0.47µF	20%	300V
C536	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C621	1-165-922-11	ELECT	470µF	20%	250V
C629	1-165-922-11	ELECT	470µF	20%	250V
C672	1-137-756-21	FILM	22000pF	3%	800V
	CONNECTOR				
CN002	1-564-509-11	PLUG,CONNECTOR		6P	
	DIODE				
D200	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D203	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D204	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D205	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D206	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D208	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D231	8-719-108-12	DIODE RD9.1EW-T1			
D234	8-719-108-12	DIODE RD9.1EW-T1			
D235	8-719-108-12	DIODE RD9.1EW-T1			
D236	8-719-108-12	DIODE RD9.1EW-T1			
D237	8-719-108-12	DIODE RD9.1EW-T1			
D506	8-719-312-10	DIODE RU4AM-T3			
D596	8-719-979-85	DIODE RGP15GPKG23			
D598	8-719-979-85	DIODE RGP15GPKG23			
	FUSE				
⚠ F601	1-532-506-51	FUSE	6.3A/250V		

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

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

VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-25FV300(S)

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
		IC				
	IC400	6-701-106-01	IC NJW1134G-TE2			
	IC404	6-701-107-01	IC AN7125Z			
	IC545	8-759-980-58	IC TDA8172			
		JACK				
	J200	1-794-119-11	TERMINAL BLOCK S	4P		
	J201	1-794-048-11	JACK, PIN	3P		
	J202	1-794-116-11	JACK BLOCK PIN	2P		
	J205	1-794-116-11	JACK BLOCK PIN	2P		
	J206	1-794-117-11	JACK BLOCK PIN	3P		
		COIL				
	L360	1-412-029-11	INDUCTOR	10µH		
	L361	1-412-029-11	INDUCTOR	10µH		
	L516	1-406-978-11	INDUCTOR	150µH		
		IC LINK				
	PS401	1-576-337-21	LINK, IC			
		TRANSISTOR				
⚠	Q505	6-550-041-01	TRANSISTOR 2SD2634-YB			
	Q600	8-729-053-36	TRANSISTOR 2SK2640-01MR-F122			
	Q601	8-729-053-36	TRANSISTOR 2SK2640-01MR-F122			
		RESISTOR				
	R029	1-249-409-11	CARBON	220	5%	1/4W
	R030	1-249-409-11	CARBON	220	5%	1/4W
	R032	1-216-813-11	RES-CHIP	220	5%	1/10W
	R036	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
	R060	1-249-409-11	CARBON	220	5%	1/4W
	R085	1-216-864-11	SHORT CHIP			
	R094	1-216-864-11	SHORT CHIP			
	R095	1-216-864-11	SHORT CHIP			
	R101	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R105	1-216-864-11	SHORT			
	R107	1-414-229-11	FERRITE	0UH		
	R108	1-414-229-11	FERRITE	0UH		
	R109	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R111	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R200	1-216-813-11	RES-CHIP	220	5%	1/10W
	R202	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R203	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R204	1-249-409-11	CARBON	220	5%	1/4W
	R206	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R207	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R208	1-249-409-11	CARBON	220	5%	1/4W
	R209	1-249-409-11	CARBON	220	5%	1/4W
	R210	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R211	1-249-409-11	CARBON	220	5%	1/4W
	R212	1-249-409-11	CARBON	220	5%	1/4W
	R213	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R215	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R216	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R217	1-249-409-11	CARBON	220	5%	1/4W
	R218	1-249-409-11	CARBON	220	5%	1/4W
	R220	1-216-813-11	RES-CHIP	220	5%	1/10W
	R221	1-249-409-11	CARBON	220	5%	1/4W
	R222	1-249-409-11	CARBON	220	5%	1/4W
	R227	1-218-285-11	RES-CHIP	75	5%	1/10W
	R250	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R251	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R301	1-218-285-11	RES-CHIP	75	5%	1/10W
	R305	1-218-285-11	RES-CHIP	75	5%	1/10W
	R306	1-218-285-11	RES-CHIP	75	5%	1/10W
	R307	1-218-285-11	RES-CHIP	75	5%	1/10W
	R360	1-216-809-11	RES-CHIP	100	5%	1/10W
	R361	1-216-809-11	RES-CHIP	100	5%	1/10W
	R400	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R401	1-216-809-11	RES-CHIP	100	5%	1/10W
	R403	1-216-809-11	RES-CHIP	100	5%	1/10W
	R427	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R429	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R431	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R432	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R433	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R434	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R461	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R462	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R482	1-216-864-11	SHORT			
	R499	1-216-833-11	RES-CHIP	10K	5%	1/10W
	R503	1-215-919-11	METAL OXIDE	2.2K	5%	3W
	R510	1-260-328-11	CARBON	1K	5%	1/2W
	R513	1-215-908-00	METAL OXIDE	33	5%	3W
	R515	1-215-885-00	METAL OXIDE	68	5%	2W
⚠	R528	1-216-816-11	RES-CHIP	390	5%	1/10W
	R529	1-216-835-11	RES-CHIP	15K	5%	1/10W
	R530	1-218-708-11	METAL CHIP	4.7K	0.50%	1/16W

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

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

VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-25FV300(S)

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
	R533	1-216-833-11	RES-CHIP	10K	5%	1/10W
	R535	1-216-830-11	RES-CHIP	5.6K	5%	1/10W
	R537	1-216-848-11	RES-CHIP	180K	5%	1/10W
	R541	1-215-443-00	METAL	8.2K	1%	1/4W
	R548	1-218-714-11	METAL CHIP	8.2K	0.50%	1/16W
	R549	1-216-841-11	RES-CHIP	47K	5%	1/10W
⚠	R564	1-218-738-11	METAL CHIP	82K	0.50%	1/16W
	R585	1-215-449-00	METAL	15K	1%	1/4W
⚠	R594	1-249-418-11	CARBON	1.2K	5%	1/4W
	R601	1-244-206-11	WIREWOUND	2.2	5%	10W
	R602	1-244-206-11	WIREWOUND	2.2	5%	10W
	R631	1-218-718-11	METAL CHIP	12K	0.50%	1/16W
	R687	1-244-206-11	WIREWOUND	2.2	5%	10W
⚠	R699	1-218-265-11	METAL	8.2M	5%	1W

TRANSFORMER

⚠	T510	1-437-610-11	TRANSFORMER, FERRITE	(PMT)
⚠	T511	1-433-850-11	TRANSFORMER, HORIZONTAL LINEAR	
⚠	T585	1-453-336-11	FBT ASSY NX-4011//X4A4	
⚠	T601	1-426-717-11	TRANSFORMER, LINE FILTER	(LFT)
⚠	T602	1-435-676-11	TRANSFORMER, STANDBY	
⚠	T603	1-437-611-11	POWER ISOLATION TRANSFORMER	

THERMISTOR

	THP501	1-803-540-11	THERMISTOR

TUNER

⚠	TU101	8-598-593-00	TUNER, FSS BTF-WA421

VARISTOR

	VDR600	1-803-967-11	VARISTOR (ENE621D-14A)

REF. NO.	PART NO.	DESCRIPTION	VALUES

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

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-24FV300/25FV300(N)

REF. NO.	PART NO.	DESCRIPTION	VALUES		
	CAPACITOR				
C200	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C202	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C203	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C204	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C205	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C206	1-126-963-11	ELECT	4.7µF	20%	50V
C207	1-126-963-11	ELECT	4.7µF	20%	50V
C212	1-126-963-11	ELECT	4.7µF	20%	50V
C213	1-126-963-11	ELECT	4.7µF	20%	50V
C220	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C301	1-126-956-91	ELECT	0.1µF	20%	50V
C302	1-126-956-91	ELECT	0.1µF	20%	50V
C305	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C306	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C307	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C360	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C361	1-164-230-11	CERAMIC CHIP	220pF	5%	50V
C362	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C363	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C370	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C400	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C401	1-164-227-11	CERAMIC CHIP	0.022µF	10%	25V
C402	1-164-174-11	CERAMIC CHIP	0.0082µF	10%	25V
C403	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C404	1-162-967-11	CERAMIC CHIP	0.0033µF	10%	50V
C405	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C406	1-164-677-11	CERAMIC CHIP	0.033µF	10%	16V
C407	1-162-965-11	CERAMIC CHIP	0.0015µF	10%	50V
C408	1-162-965-11	CERAMIC CHIP	0.0015µF	10%	50V
C409	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C410	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C411	1-128-934-91	CERAMIC CHIP	0.33µF	20%	10V
C412	1-126-960-11	ELECT	1µF	20%	50V
C413	1-126-960-11	ELECT	1µF	20%	50V
C414	1-126-961-11	ELECT	2.2µF	20%	50V
C415	1-126-960-11	ELECT	1µF	20%	50V
C416	1-126-960-11	ELECT	1µF	20%	50V
C418	1-126-963-11	ELECT	4.7µF	20%	50V
C420	1-126-960-11	ELECT	1µF	20%	50V
C422	1-126-960-11	ELECT	1µF	20%	50V
C452	1-126-967-11	ELECT	47µF	20%	50V
C457	1-126-963-11	ELECT	4.7µF	20%	50V
C458	1-126-963-11	ELECT	4.7µF	20%	50V
C461	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C462	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C463	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C464	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C499	1-126-963-11	ELECT	4.7µF	20%	50V
⚠ C506	1-162-116-00	CERAMIC	680pF	10%	2KV
⚠ C507	1-127-717-21	FILM	19000pF	3%	1.2KV
⚠ C508	1-130-895-00	FILM	0.056µF	10%	400V
C511	1-117-813-11	FILM	0.75µF	5%	250V
C514	1-115-521-11	FILM	0.82µF	5%	250V
C516	1-117-661-11	FILM	0.15µF	5%	250V
C523	1-136-346-51	MYLAR	0.22µF	20%	125V
C536	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
⚠ C602	1-136-311-51	MYLAR	0.47µF	20%	125V
⚠ C603	1-136-311-51	MYLAR	0.47µF	20%	125V
C621	1-165-922-11	ELECT	470µF	20%	250V
C629	1-165-922-11	ELECT	470µF	20%	250V
C672	1-137-756-21	FILM	22000pF	3%	800V
	CONNECTOR				
CN002	1-564-509-11	PLUG,CONNECTOR	6P		
	DIODE				
D200	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D203	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D204	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D205	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D206	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D208	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D231	8-719-108-12	DIODE RD9.1EW-T1			
D234	8-719-108-12	DIODE RD9.1EW-T1			
D235	8-719-108-12	DIODE RD9.1EW-T1			
D236	8-719-108-12	DIODE RD9.1EW-T1			
D237	8-719-108-12	DIODE RD9.1EW-T1			
D506	8-719-312-10	DIODE RU4AM-T3			
D596	8-719-979-85	DIODE RGP15GPKG23			
D598	8-719-979-85	DIODE RGP15GPKG23			
D612	8-719-068-00	DIODE ERC04-06SE			
D613	8-719-068-00	DIODE ERC04-06SE			
	FUSE				
⚠ F601	1-576-193-11	FUSE	6.3A/125V		

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VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-24FV300/25FV300(N)

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
		IC				
	IC400	6-701-106-01	IC NJW1134G-TE2			
	IC404	6-701-107-01	IC AN7125Z			
	IC545	8-759-980-58	IC TDA8172			
		JACK				
	J200	1-794-119-11	TERMINAL BLOCK S	4P		
	J201	1-794-048-11	JACK, PIN	3P		
	J202	1-794-116-11	JACK BLOCK PIN	2P		
	J205	1-794-116-11	JACK BLOCK PIN	2P		
	J206	1-794-117-11	JACK BLOCK PIN	3P		
		COIL				
	L360	1-412-029-11	INDUCTOR	10µH		
	L361	1-412-029-11	INDUCTOR	10µH		
	L516	1-406-978-11	INDUCTOR	150µH		
		IC LINK				
	PS401	1-576-337-21	LINK, IC			
		TRANSISTOR				
⚠	Q505	6-550-041-01	TRANSISTOR 2SD2634-YB			
	Q600	8-729-053-36	TRANSISTOR 2SK2640-01MR-F122			
	Q601	8-729-053-36	TRANSISTOR 2SK2640-01MR-F122			
		RESISTOR				
	R029	1-249-409-11	CARBON	220	5%	1/4W
	R030	1-249-409-11	CARBON	220	5%	1/4W
	R032	1-216-813-11	RES-CHIP	220	5%	1/10W
	R036	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
	R060	1-249-409-11	CARBON	220	5%	1/4W
	R085	1-216-864-11	SHORT CHIP			
	R094	1-216-864-11	SHORT CHIP			
	R095	1-216-864-11	SHORT CHIP			
	R101	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R105	1-216-864-11	SHORT			
	R107	1-414-229-11	FERRITE	0UH		
	R108	1-414-229-11	FERRITE	0UH		
	R109	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R111	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R200	1-216-813-11	RES-CHIP	220	5%	1/10W
	R202	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R203	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R204	1-249-409-11	CARBON	220	5%	1/4W
	R206	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R207	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R208	1-249-409-11	CARBON	220	5%	1/4W
	R209	1-249-409-11	CARBON	220	5%	1/4W
	R210	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R211	1-249-409-11	CARBON	220	5%	1/4W
	R212	1-249-409-11	CARBON	220	5%	1/4W
	R213	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R215	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R216	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R217	1-249-409-11	CARBON	220	5%	1/4W
	R218	1-249-409-11	CARBON	220	5%	1/4W
	R220	1-216-813-11	RES-CHIP	220	5%	1/10W
	R221	1-249-409-11	CARBON	220	5%	1/4W
	R222	1-249-409-11	CARBON	220	5%	1/4W
	R227	1-218-285-11	RES-CHIP	75	5%	1/10W
	R250	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R251	1-216-837-11	RES-CHIP	22K	5%	1/10W
	R301	1-218-285-11	RES-CHIP	75	5%	1/10W
	R305	1-218-285-11	RES-CHIP	75	5%	1/10W
	R306	1-218-285-11	RES-CHIP	75	5%	1/10W
	R307	1-218-285-11	RES-CHIP	75	5%	1/10W
	R360	1-216-809-11	RES-CHIP	100	5%	1/10W
	R361	1-216-809-11	RES-CHIP	100	5%	1/10W
	R400	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R401	1-216-809-11	RES-CHIP	100	5%	1/10W
	R403	1-216-809-11	RES-CHIP	100	5%	1/10W
	R427	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R429	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
	R431	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R432	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R433	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R434	1-216-789-11	RES-CHIP	2.2	5%	1/10W
	R461	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R462	1-216-845-11	RES-CHIP	100K	5%	1/10W
	R482	1-216-864-11	SHORT			
	R499	1-216-833-11	RES-CHIP	10K	5%	1/10W
	R503	1-215-919-11	METAL OXIDE	2.2K	5%	3W
	R510	1-260-328-11	CARBON	1K	5%	1/2W
	R513	1-215-908-00	METAL OXIDE	33	5%	3W
	R515	1-215-885-00	METAL OXIDE	68	5%	2W
⚠	R528	1-216-816-11	RES-CHIP	390	5%	1/10W
	R529	1-216-835-11	RES-CHIP	15K	5%	1/10W
	R530	1-218-708-11	METAL CHIP	4.7K	0.50%	1/16W

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

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

VARIANT PARTS LIST A

The parts on this page belong to the following model(s) ONLY:
KV-24FV300/25FV300(N)

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R533	1-216-833-11	RES-CHIP	10K	5%	1/10W
R535	1-216-830-11	RES-CHIP	5.6K	5%	1/10W
R537	1-216-848-11	RES-CHIP	180K	5%	1/10W
R541	1-215-443-00	METAL	8.2K	1%	1/4W
R548	1-218-714-11	METAL CHIP	8.2K	0.50%	1/16W
R549	1-216-841-11	RES-CHIP	47K	5%	1/10W
⚠ R564	1-218-738-11	METAL CHIP	82K	0.50%	1/16W
R585	1-215-449-00	METAL	15K	1%	1/4W
⚠ R594	1-249-418-11	CARBON	1.2K	5%	1/4W
R601	1-240-262-11	CEMENTED	0.68	5%	10W
R602	1-202-961-11	CEMENTED	1.8	5%	10W
R603	1-219-513-11	CARBON	4.7M	5%	1/2W
R631	1-218-718-11	METAL CHIP	12K	0.50%	1/16W
R687	1-202-961-11	CEMENTED	1.8	5%	10W
	TRANSFORMER				
⚠ T510	1-437-610-11	TRANSFORMER, FERRITE	(PMT)		
⚠ T511	1-433-850-11	TRANSFORMER, HORIZONTAL LINEAR			
⚠ T585	1-453-336-11	FBT ASSY NX-4011//X4A4			
⚠ T601	1-435-617-11	TRANSFORMER, LINE FILTER			
⚠ T602	1-435-675-11	TRANSFORMER, STANDBY			
⚠ T603	1-437-611-11	POWER ISOLATION TRANSFORMER			
	THERMISTOR				
THP501	1-809-539-11	THERMISTOR, POSITIVE			
	TUNER				
⚠ TU101	8-598-593-00	TUNER, FSS BTF-WA421			
	VARISTOR				
VDR600	1-803-585-11	VARISTOR ENE271D-10A			

REF. NO.	PART NO.	DESCRIPTION	VALUES

CV

REF. NO.	PART NO.	DESCRIPTION	VALUES		
*	**A-1400-223-A**	**CV (VAR) BOARD, MOUNTED**			
	(FOR 21FS100/21FM100/21FV300/20FV300/20FS100 ONLY)				
*	**A-1400-341-A**	**CV (VAR) BOARD, MOUNTED**			
	(FOR 24FV300/25FV300 ONLY)				
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	CAPACITOR				
C780	1-162-926-11	CERAMIC CHIP	82pF	5%	50V
C781	1-162-926-11	CERAMIC CHIP	82pF	5%	50V
C782	1-162-926-11	CERAMIC CHIP	82pF	5%	50V
C901	1-107-667-11	ELECT	2.2µF	20%	160V
C902	1-130-491-00	MYLAR	0.047µF	5%	50V
C903	1-126-935-11	ELECT	470µF	20%	16V
C904	1-130-471-00	MYLAR	0.001µF	5%	50V
C905	1-106-383-00	MYLAR	0.047µF	10%	200V
C906	1-130-471-00	MYLAR	0.001µF	5%	50V
C907	1-107-638-11	ELECT	33µF	20%	160V
C908	1-126-935-11	ELECT	470µF	20%	16V
C909	1-161-830-00	CERAMIC	00.0047µF		500V
C910	1-104-999-11	MYLAR	0.1µF	10%	200V
C911	1-104-665-11	ELECT	100µF	20%	25V
C912	1-126-935-11	ELECT	470µF	20%	16V
C914	1-130-491-00	MYLAR	0.047µF	5%	50V
C915	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C1751	1-107-652-11	ELECT	10µF	20%	250V
C1752	1-162-114-00	CERAMIC	00.0047µF		2KV
C1753	1-137-528-11	MYLAR	0.1µF	10%	250V
C1754	1-102-074-00	CERAMIC	0.001µF	10%	50V
C1755	1-107-649-11	ELECT	2.2µF	20%	250V
C1774	1-126-947-11	ELECT	47µF	20%	25V
C1775	1-126-935-11	ELECT	470µF	20%	16V
C1777	1-126-963-11	ELECT	4.7µF	20%	50V
C1778	1-126-947-11	ELECT	47µF	20%	25V
	(FOR 24FV300/25FV300 ONLY)				
	CONNECTOR				
CN903	1-564-506-11	PLUG,CONNECTOR	3P		
CN1707	1-564-506-11	PLUG,CONNECTOR	3P		
CN1751	1-564-509-11	PLUG,CONNECTOR	6P		
* CN1752	1-564-512-11	PLUG,CONNECTOR	9P		
CN1753	1-785-879-11	CONNECTOR, ONE TOUCH			
CN1755	1-695-915-11	TAB (CONTACT)			
	DIODE				
D762	8-719-404-50	DIODE MA111-TX			
D763	8-719-404-50	DIODE MA111-TX			
D772	8-719-404-50	DIODE MA111-TX			
D773	8-719-404-50	DIODE MA111-TX			
D782	8-719-404-50	DIODE MA111-TX			
D783	8-719-404-50	DIODE MA111-TX			
D901	8-719-110-86	DIODE MTZJ-T-77-39			
D902	8-719-110-86	DIODE MTZJ-T-77-39			
D903	8-719-991-33	DIODE 1SS133T-77			
D1754	8-719-901-83	DIODE 1SS83TD			
D1755	8-719-901-83	DIODE 1SS83TD			
D1756	8-719-901-83	DIODE 1SS83TD			
D1758	8-719-302-43	DIODE RGP10GPKG23			
	IC				
IC1707	8-759-356-16	IC NJM4556AD			
IC1751	8-759-562-43	IC TDA6108JF/N1B			
	COIL				
L710	1-410-387-11	INDUCTOR	33µH		
L711	1-410-387-11	INDUCTOR	33µH		
L712	1-410-387-11	INDUCTOR	33µH		
L901	1-408-615-31	INDUCTOR	100µH		
L1751	1-408-613-31	INDUCTOR	68µH		
	TRANSISTOR				
Q761	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q762	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q763	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q771	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q772	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q773	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q781	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q782	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q783	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q901	8-729-045-04	TRANSISTOR 2SC5511			
Q902	8-729-045-05	TRANSISTOR 2SA2005			
Q903	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q904	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q905	8-729-424-02	TRANSISTOR 2SB709A-QRS-TX			

REF. NO.	PART NO.	DESCRIPTION	VALUES		
Q906	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q1772	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
	(FOR 24FV300/25FV300 ONLY)				
	RESISTOR				
R760	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R762	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R763	1-216-835-11	RES-CHIP	15K	5%	1/10W
R764	1-218-678-11	METAL CHIP	270	0.50%	1/16W
R765	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R766	1-216-827-11	RES-CHIP	3.3K	5%	1/10W
R767	1-216-830-11	RES-CHIP	5.6K	5%	1/10W
R768	1-216-821-11	RES-CHIP	1K	5%	1/10W
R769	1-216-821-11	RES-CHIP	1K	5%	1/10W
R770	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R771	1-216-821-11	RES-CHIP	1K	5%	1/10W
R772	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R773	1-216-835-11	RES-CHIP	15K	5%	1/10W
R774	1-218-678-11	METAL CHIP	270	0.50%	1/16W
R775	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R776	1-216-827-11	RES-CHIP	3.3K	5%	1/10W
R777	1-216-830-11	RES-CHIP	5.6K	5%	1/10W
R778	1-216-821-11	RES-CHIP	1K	5%	1/10W
R779	1-216-821-11	RES-CHIP	1K	5%	1/10W
R780	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R782	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R783	1-216-835-11	RES-CHIP	15K	5%	1/10W
R784	1-218-678-11	METAL CHIP	270	0.50%	1/16W
R785	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R786	1-216-827-11	RES-CHIP	3.3K	5%	1/10W
R787	1-216-830-11	RES-CHIP	5.6K	5%	1/10W
R788	1-216-821-11	RES-CHIP	1K	5%	1/10W
R901	1-249-401-11	CARBON	47	5%	1/4W
R902	1-249-386-11	CARBON	2.7	5%	1/4W
R903	1-249-414-11	CARBON	560	5%	1/4W
R904	1-249-432-11	CARBON	18K	5%	1/4W
R905	1-249-417-11	CARBON	1K	5%	1/4W
R906	1-249-432-11	CARBON	18K	5%	1/4W
R907	1-249-386-11	CARBON	2.7	5%	1/4W
R908	1-249-414-11	CARBON	560	5%	1/4W
R909	1-260-312-11	CARBON	47	5%	1/2W
R910	1-216-476-11	METAL OXIDE	180	5%	3W
R911	1-216-799-11	RES-CHIP	15	5%	1/10W
R912	1-216-813-11	RES-CHIP	220	5%	1/10W
R913	1-216-799-11	RES-CHIP	15	5%	1/10W
R914	1-216-814-11	RES-CHIP	270	5%	1/10W
R915	1-216-821-11	RES-CHIP	1K	5%	1/10W
R916	1-216-821-11	RES-CHIP	1K	5%	1/10W
R917	1-216-821-11	RES-CHIP	1K	5%	1/10W
R918	1-216-809-11	RES-CHIP	100	5%	1/10W
R919	1-216-809-11	RES-CHIP	100	5%	1/10W
R920	1-216-820-11	RES-CHIP	820	5%	1/10W
R921	1-216-833-11	RES-CHIP	10K	5%	1/10W
R922	1-249-397-11	CARBON	22	5%	1/4W
R923	1-249-401-11	CARBON	47	5%	1/4W
R1756	1-260-328-11	CARBON	1K	5%	1/2W
R1757	1-260-328-11	CARBON	1K	5%	1/2W
R1758	1-260-328-11	CARBON	1K	5%	1/2W
R1760	1-260-123-11	CARBON	100K	5%	1/2W
R1761	1-216-373-11	METAL OXIDE	2.2	5%	2W
	(FOR 24FV300/25FV300 ONLY)				
R1762	1-216-375-00	METAL OXIDE	3.3	5%	2W
R1763	1-247-807-31	CARBON	100	5%	1/4W
R1764	1-247-807-31	CARBON	100	5%	1/4W
R1765	1-247-807-31	CARBON	100	5%	1/4W
R1766	1-247-807-31	CARBON	100	5%	1/4W
R1767	1-247-807-31	CARBON	100	5%	1/4W
R1768	1-247-807-31	CARBON	100	5%	1/4W
R1770	1-260-132-11	CARBON	560K	5%	1/2W
R1778	1-216-833-11	RES-CHIP	10K	5%	1/10W
R1780	1-216-837-11	RES-CHIP	22K	5%	1/10W
R1781	1-216-838-11	RES-CHIP	27K	5%	1/10W
R1787	1-216-837-11	RES-CHIP	22K	5%	1/10W
R1788	1-249-421-11	CARBON	2.2K	5%	1/4W
	(FOR 24FV300/25FV300 ONLY)				
R1789	1-249-425-11	CARBON	4.7K	5%	1/4W
	(FOR 24FV300/25FV300 ONLY)				
	VARIABLE RESISTOR				
RV1701	1-238-019-11	RES, ADJ, CARBON	47K		
	(FOR 24FV300/25FV300 ONLY				
RV1750	1-241-656-11	RES, ADJ, METAL FILM	110M		

HR M3

REF. NO.	PART NO.	DESCRIPTION	VALUES		
HR					
*	**A-1400-251-A**	**HR (COM) BOARD, MOUNTED**			
	(FOR 21FV300/20FV300/24FV300/25FV300 ONLY)				
	CAPACITOR				
C3001	1-104-665-11	ELECT	100µF	20%	25V
	CONNECTOR				
CN3001	1-564-521-11	PLUG,CONNECTOR	6P		
	DIODE				
D3002	8-719-057-09	DIODE LNJ801LPDJA			
	IC				
IC3001	8-742-211-20	HYB IC SBX3071-71			
	RESISTOR				
R3001	1-249-417-11	CARBON	1K	5%	1/4W
R3014	1-247-807-31	CARBON	100	5%	1/4W
	SWITCH				
S3006	1-572-198-11	SWITCH KEYBOARD			
M3					
*	**A-1400-738-A**	**M3 (VAR) BOARD, MOUNTED**			
	(FOR 20FS100/21FM100/21FV300/20FV300/21FS100 ONLY)				
*	**A-1400-739-A**	**M3 (VAR) BOARD, MOUNTED**			
	(FOR 24FV300/25FV300 ONLY)				
	CAPACITOR				
C10	1-126-947-11	ELECT	47µF	20%	25V
C11	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C12	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C13	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C14	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C50	1-126-959-11	ELECT	0.47µF	20%	50V
C51	1-126-935-11	ELECT	470µF	20%	16V
C70	1-126-947-11	ELECT	47µF	20%	25V
C71	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C80	1-126-947-11	ELECT	47µF	20%	25V

REF. NO.	PART NO.	DESCRIPTION	VALUES		
	CONNECTOR				
CN10	1-816-567-11	HEADER,CONNECTOR	6P		
	DIODE				
D50	8-719-404-50	DIODE MA111-TX			
	IC				
IC1	8-759-700-07	IC NJM2903M-TE2			
IC2	8-759-700-07	IC NJM2903M-TE2			
IC3	8-759-701-01	IC NJM2904M(TE2)			
	CHIP CONDUCTOR				
JR1	1-216-864-11	SHORT			
JR2	1-216-864-11	SHORT			
JR6	1-216-864-11	SHORT			
JR7	1-216-864-11	SHORT			
JR12	1-216-864-11	SHORT			
JR44	1-216-864-11	SHORT			
	COIL				
L50	1-408-615-31	INDUCTOR	100µH		
	TRANSISTOR				
Q50	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q51	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
Q52	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX			
	RESISTOR				
R10	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R11	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R12	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R13	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W
R50	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R51	1-216-833-11	RES-CHIP	10K	5%	1/10W
R52	1-216-833-11	RES-CHIP	10K	5%	1/10W
R53	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R54	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R55	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R56	1-216-823-11	RES-CHIP	1.5K	5%	1/10W
R70	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R71	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R57	1-216-864-11	SHORT			
R58	1-216-835-11	RES-CHIP	15K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R59	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R72	1-218-700-11	METAL CHIP	2.2K	0.50%	1/16W
R74	1-218-740-11	METAL CHIP	100K	0.50%	1/16W
	(ALL EXCEPT 24FV300/25FV300 ONLY)				
R74	1-218-732-91	METAL CHIP	47K	0.5%	1/16W
	(FOR 20FS100/20FV300/21FS100/21FV300/21FM100 ONLY)				
R75	1-218-740-11	METAL CHIP	100K	0.50%	1/16W
	(ALL EXCEPT 24FV300/25FV300 ONLY)				
R76	1-218-732-11	METAL CHIP	47K	0.50%	1/16W
	(ALL EXCEPT 24FV300/25FV300 ONLY)				
R77	1-218-740-11	METAL CHIP	100K	0.50%	1/16W
R78	1-208-814-91	METAL CHIP	22K	0.50%	1/10W
R79	1-208-798-11	METAL CHIP	4.7K	0.50%	1/10W

ACCESSORIES AND PACKING

1-501-730-41 ANTENNA, TELESCOPIC
(FOR 21FS100/21FM100/21FV300/25FV300 ONLY)

4-041-255-01 BAG, PROTECTION
(FOR 20FV300/21FV300/24FV300/25FV300 ONLY)
4-073-838-01 BAG, PROTECTION
(FOR 20FS100 ONLY)
4-073-838-21 BAG, PROTECTION
(FOR 21FS100/21FM100 ONLY)

4-087-237-01 BRACKET, TERMINAL
(FOR 20FS100/21FS100(N) ONLY)
4-087-237-11 BRACKET, TERMINAL
(FOR 21FM100 ONLY)

4-085-776-01 CARTON, INDIVIDUAL
(FOR 20FV300/21FV300 ONLY)
4-087-323-02 CARTON, INDIVIDUAL
(FOR 20FS100/21FS100/21FM100 ONLY)
4-087-500-01 CARTON, INDIVIDUAL
(FOR 24FV300(U/C)/25FV300 ONLY)

1-417-182-11 CONVERTER (EAC-25)
(FOR 21FM100/21FS100/21FV300/25FV300 ONLY)

REF. NO.	PART NO.	DESCRIPTION	VALUES
	4-073-477-01	CUSHION ASSY, LOWER	
	(FOR 20FS100/21FS100/21FM100 ONLY)		
	4-073-478-01	CUSHION ASSY, UPPER	
	(FOR KV-20FS100/21FS100/21FM100 ONLY)		
	4-085-774-01	CUSHION, UPPER	
	(FOR KV-20FV300/21FV300 ONLY)		
	4-085-775-01	CUSHION, LOWER	
	(FOR 20FV300/21FV300 ONLY)		
	4-087-501-01	CUSHION, UPPER	
	(FOR 24FV300/25FV300 ONLY)		
	4-087-502-01	CUSHION, LOWER	
	(FOR 24FV300/25FV300 ONLY)		
	4-086-340-21	MANUAL, INSTRUCTION	
	(FOR 20FS100(U) ONLY)		
	4-086-340-31	MANUAL, INSTRUCTION	
	(FOR 20FS100(C) ONLY)		
	4-086-341-41	MANUAL, INSTRUCTION	
	(FOR 21FM100 ONLY)		
	4-086-342-41	MANUAL, INSTRUCTION	
	(FOR 21FS100 ONLY)		
	4-086-343-21	MANUAL, INSTRUCTION	
	(FOR 20FV300(U)/24FV300(U) ONLY)		
	4-086-343-31	MANUAL, INSTRUCTION	
	(FOR 20FV300(C)/24FV300(C) ONLY)		
	4-086-343-41	MANUAL, INSTRUCTION	
	(FOR 21FV300/25FV300 ONLY)		
	4-059-492-01	PERMALLOY (75)	
	(ALL EXCEPT KV-24FV300/25FV300)		

REMOTE COMMANDER

1-476-680-11 REMOTE COMMANDER (RM-Y180)
(FOR 20FV300/21FV300/24FV300/25FV300 ONLY)
1-477-118-21 REMOTE COMMANDER (RM-Y172)
(FOR 21FM100 ONLY)
1-477-119-21 REMOTE COMMANDER (RM-Y173)
(FOR 20FS100/21FS100 ONLY)
4-978-977-11 BATTERY COVER (FOR RM-Y180)
(FOR 20FV300/21FV300/24FV300/25FV300 ONLY)
3-709-322-31 BATTERY COVER (FOR RM-Y172, RM-Y173)
(FOR 21FM100/20FS100/21FS100 ONLY)

Sony Corporation
Sony Technology Center
Technical Services
Service Promotion Department

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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 convience 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.”