Self Diagnosis Supported model

SERVICE MANUAL

BX-1L CHASSIS

MODEL NAME	REMOTE COMMANDER	DESTINATION	CHASSIS NO.
KV-29FS140	RM-YA005	LATIN NORTH	SCC-S79C-A
KV-29FS140	RM-YA005	LATIN SOUTH	SCC-S79D-A



KV-29FS140



RM-YA005

TRINITRON® COLOR TELEVISION

SONY®

9-883-705-01

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SPECIFICATIONS

	KV-29FS140
Power Requirements	120V, 60Hz 220V, 50/60Hz (Chile, Perú, Bolivia)
Number of Inputs/Outputs	
Video [1]	3
S Video [2]	1
Y,P_B, P_R [3]	1
Audio [4]	4
VHF/UHF	1
Speaker Output (W)	10W x 2
Power Consumption (W)	
In Use (Max)	165W
In Standby (Max) [5]	<1W
Dimensions (W x H x D)	
mm	774 x 590 x 506 mm
in	$30\ 1/2$ x $23\ 1/4$ x 20 in
Mass	
kg	44 kg
lbs	97 lbs

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

Television system
American TV standard, NTSC

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

Antenna
75-ohm external antenna terminal for VHF/UHF

Picture tube
FD Trinitron® tube

Visible screen size
27-inch picture measured diagonally

Actual screen size
29-inch measured diagonally

Supplied Accessories
Remote Commander RM-YA005
Two Size AA (R6) Batteries

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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.

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).

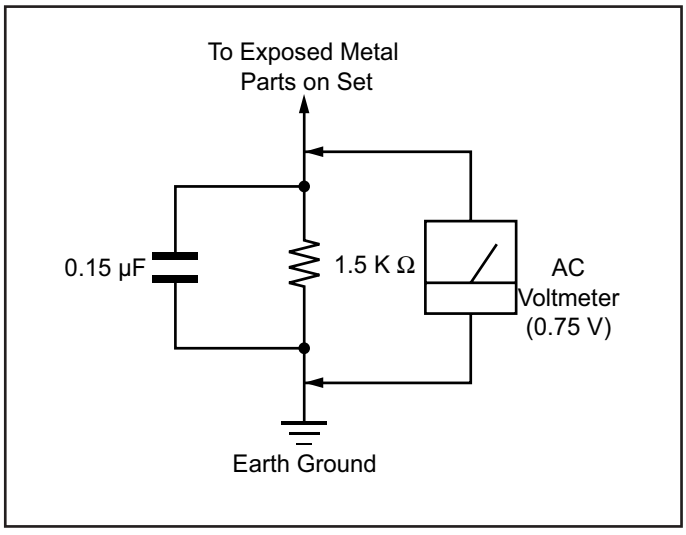


Figure A. Using an AC voltmeter to check AC leakage.

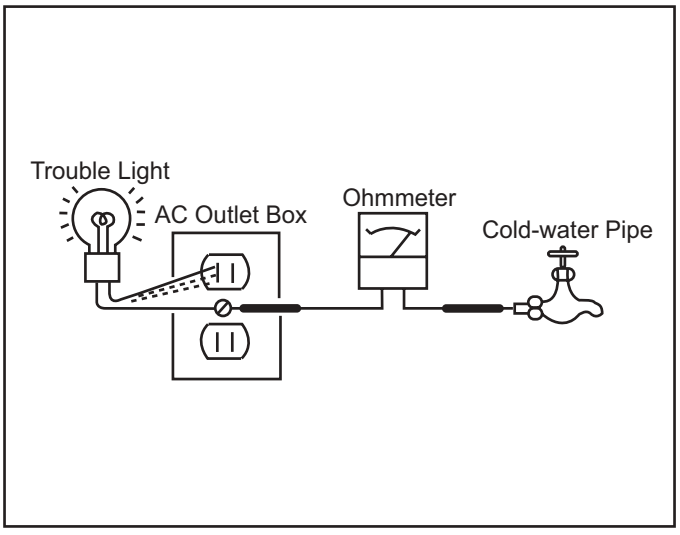


Figure B. Checking for earth ground.

SELF-DIAGNOSTIC FUNCTION

Self Diagnosis Supported model

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY LED indicator 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 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.

1. Diagnostic Test Indicators

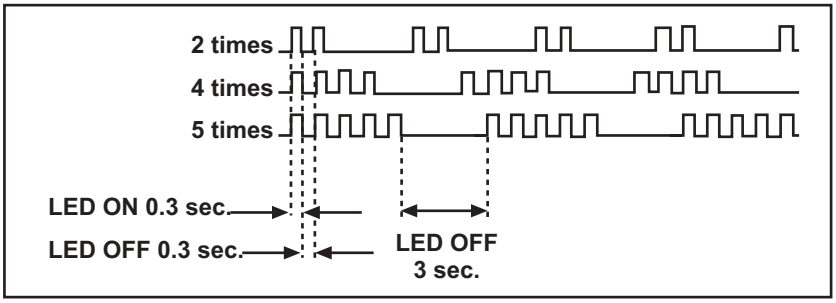
When an error occurs, the STANDBY LED indicator will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the indicator will identify the first of the problem areas.
Results for all of the following diagnostic items are displayed on screen. No error has occurred if the screen displays a "0".

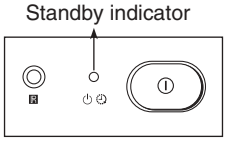
Diagnosis Item Description	No. of times STANDBY Indicator flashes	Diagnostic Result on screen display	Probable Cause Location	Detected Symptoms
• No Power	Does not light	—	• Power cord is not plugged in. • Fuse is burned out (F4101) (H1 Board)	•Power does not turn on. •No power is supplied to the TV. •AC power supply is faulty.
• +B overcurrent (OCP)	2 times	2 OCP:0 2 OCP:1 ~ 255	• H.OUT (Q511) is shorted. (A board) • IC751 is shorted. (C/CV Board)	•Power does not turn on. •Load on power line is shorted.
• Vertical NG.	4 times	4 VSTOP:0 4 VSTOP:1 ~ 255	• +13V is not supplied. (A Board) • IC503 voltage list 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 AKB:0 5 AKB:1 ~ 255	• Video OUT (IC751) is faulty. (CV Board) • IC001 is faulty. (A Board) • Screen (G2) is improperly adjusted.	•No raster is generated. •CRT cathode current detection reference pulse output is small.
• Supply Voltage Protection	8 times	8 SUP:0 8 SUP:1 ~ 255	• IC604 faulty. • IC607 faulty.	•No power supply to CRT ANODE. •No RASTER is generated.

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

*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.

2. Display of STANDBY LED Flash Count





3. Stopping the STANDBY LED Indicator Flash

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY LED Indicator from flashing.

4. 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

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

The following screen will be displayed indicating the error count:

```
SELF DIAGNOSTIC
 2   OCP     :  0
 3   OVP     :  N/A
 4   VSTOP   :  0
 5   AKB     :  1
 8   SUP     :  0
 101 WDT     :  N/A

 SERIAL:  FFFFFFF
 MODEL: FFFFFFFF
```

Number “0” means that no fault was detected.

Number “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

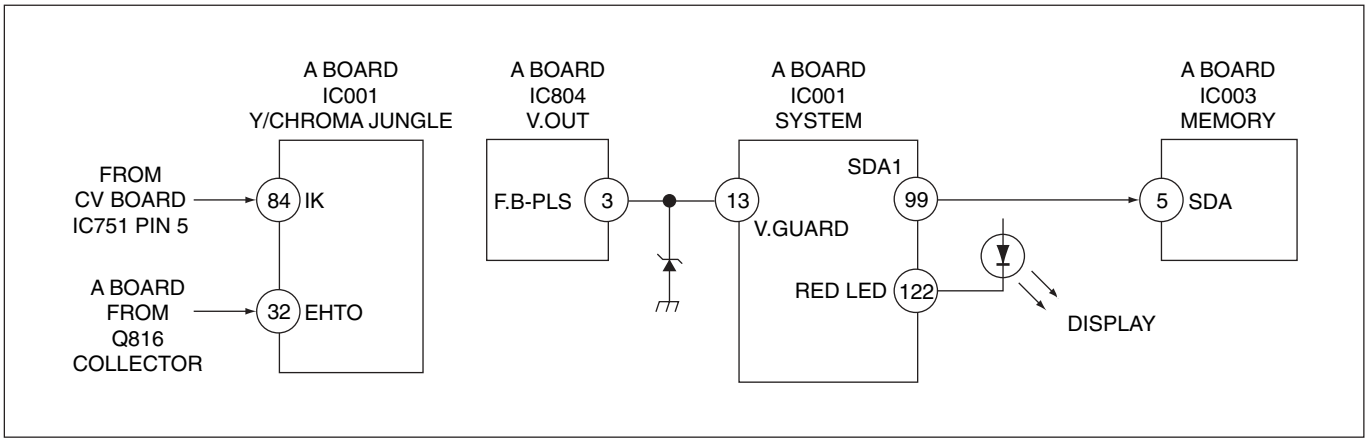
To clear the result display to “0”, press buttons on the Remote Commander sequentially when the diagnostic screen is displayed, as shown below:

Channel 8 → 0

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 32 of IC001 (A Board). If the voltage of pin 32 of IC001 (A Board) is more than 4V when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.

V-Protect

Occurs when an absence of the vertical deflection pulse is detected by pin 13 of IC001 (A Board). Power supply will shut down when waveform interval exceeds 2 seconds.

IK (AKB)

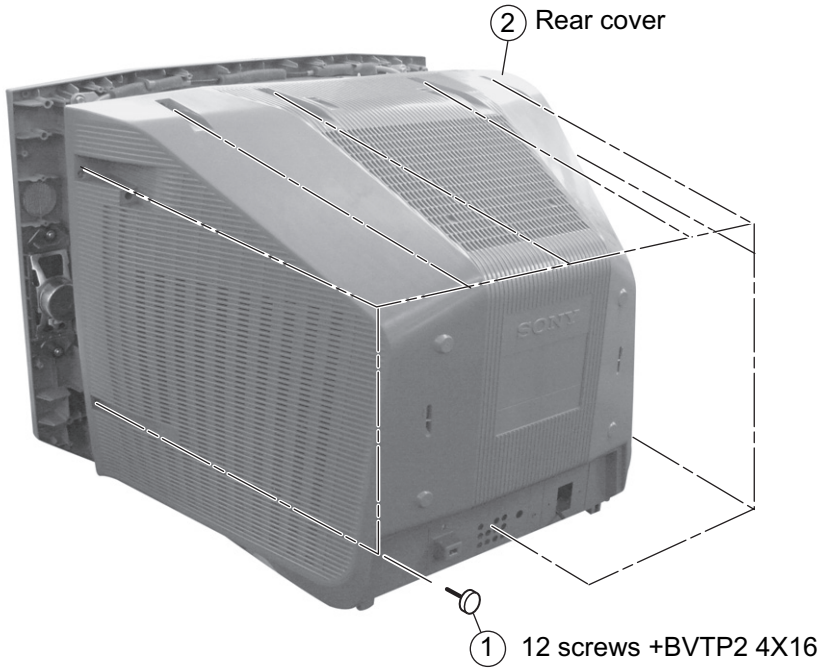
If the RGB levels* do not balance within 15 seconds after the power is turned on, this error will be detected by IC001 (A Board). TV will stay on, but there will be no picture.

Power Supply NG (+5V) for Video Processor

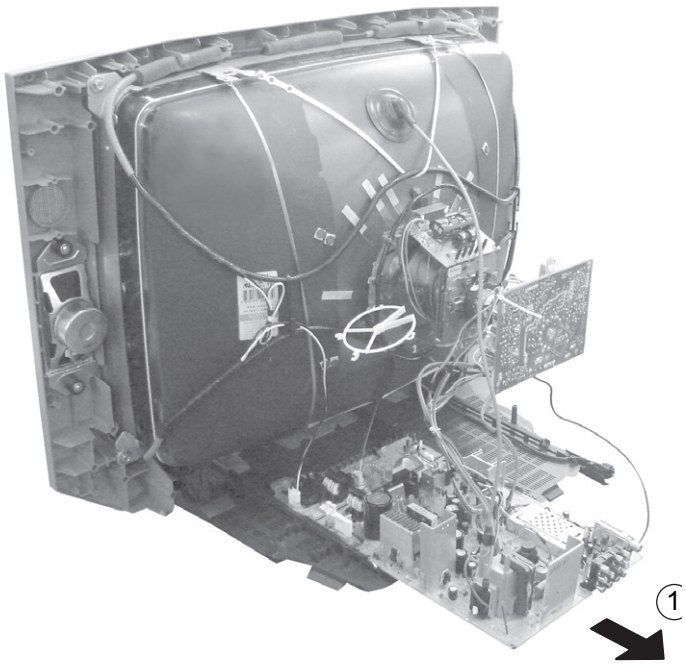
Occurs when IC001 internal HV protect detects an abnormal H-Pulse (frequency) due to improper power supply to IC001. The TV cuts off high voltage power of anode CRT. No picture will be detected. eg: faulty IC602 or IC604

SECTION 1: DISASSEMBLY

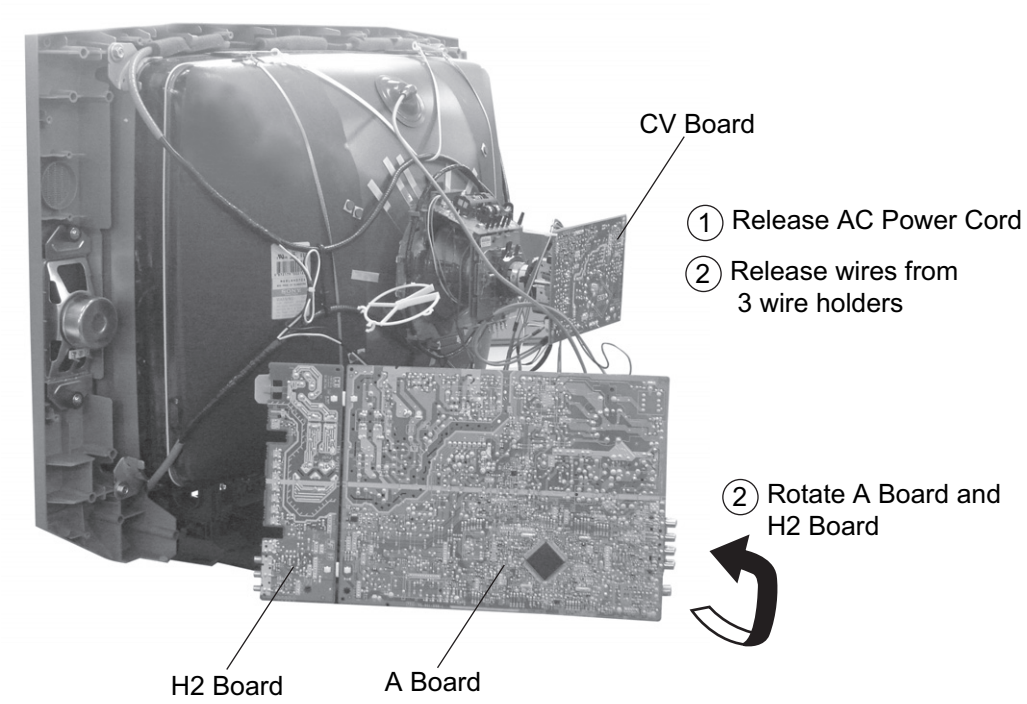
1-1. REAR COVER REMOVAL



1-2. CHASSIS ASSEMBLY REMOVAL

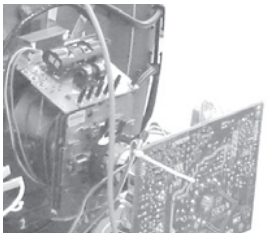


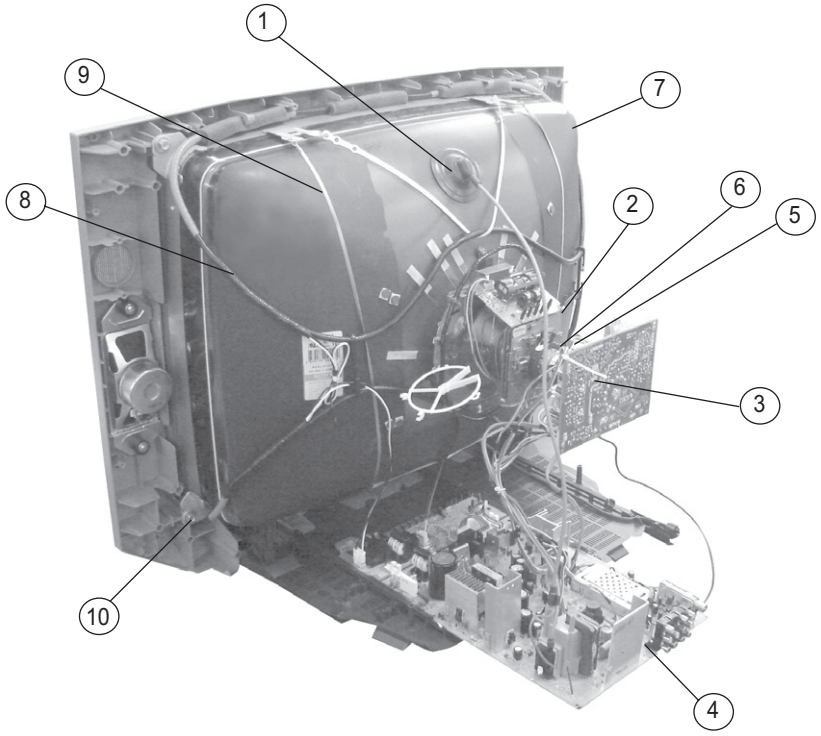
1-3. SERVICE POSITION



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.



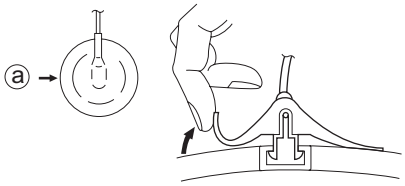


1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the deflection yoke, neck assembly, degaussing coils and CRT grounding strap.
3. Remove the CV Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the neck assembly fixing screw and remove.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

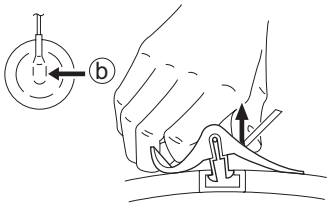
ANODE CAP REMOVAL PROCEDURE

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.

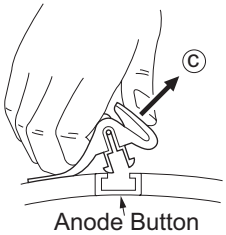
REMOVAL PROCEDURES



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



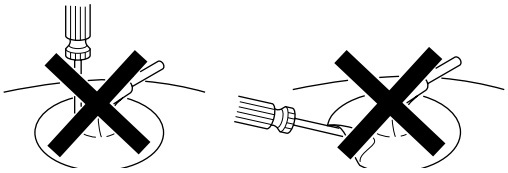
Use your thumb to pull the rubber cap firmly in the direction indicated by arrow ⓑ .



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:

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
5. Oscilloscope
6. Landing Checker
7. XCV Adjuster

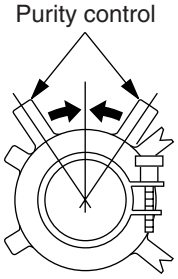
2-1. BEAM LANDING

Before beginning adjustment procedure:

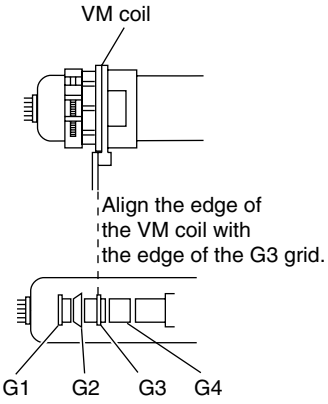
1. Feed in the white pattern signal.
2. In order to reduce the geomagnetism on the set's picture tube, face it east or west.

Adjustment Procedure

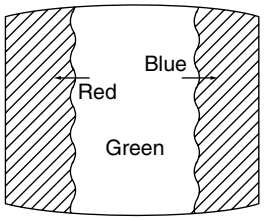
1. Input a raster signal with the pattern generator.
2. Loosen the deflection yoke (DY) mounting screw, and set the purity control to the center as shown below:



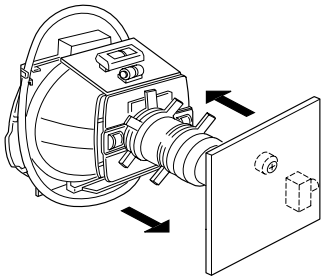
3. Position the VM coil as shown below:



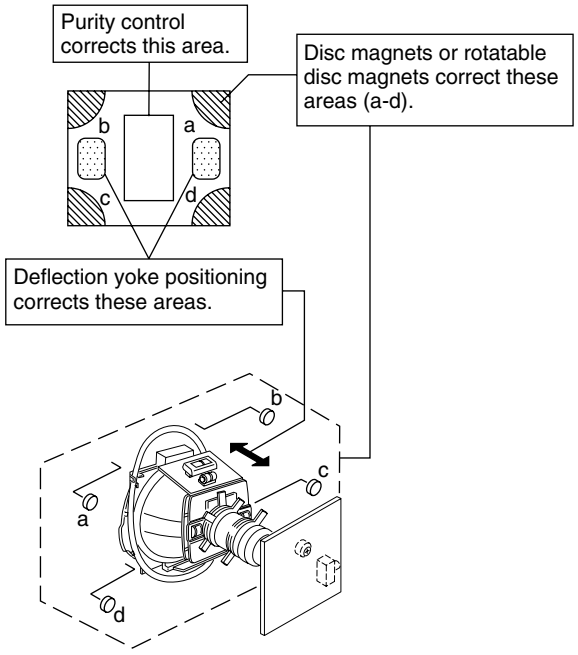
4. Set the raster signal of the pattern generator to green.
5. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are even on both sides.



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



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



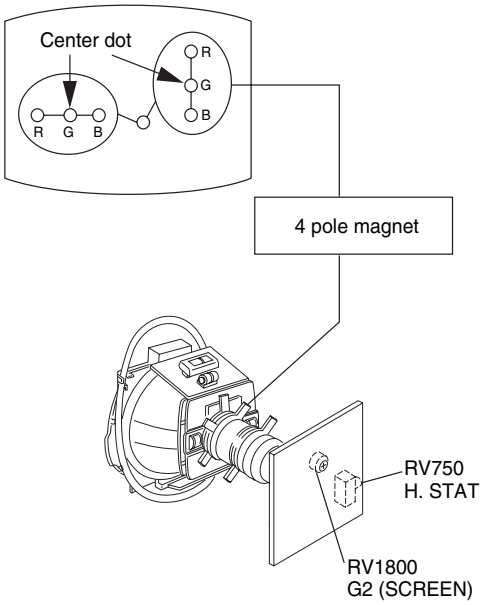
2-2. CONVERGENCE

Before starting convergence adjustments:

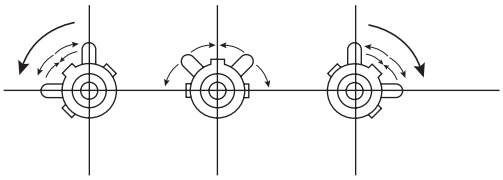
1 Perform FOCUS adjustments.
2. Set Picture mode to “CUSTOM”.
3. Feed in dot pattern.

Vertical Static Convergence

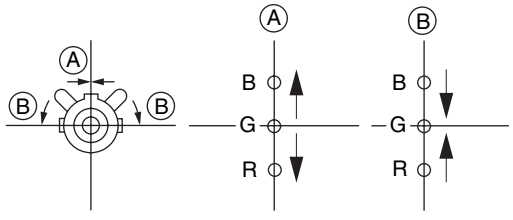
1. Adjust the 4 pole magnet to converge red, green and blue dots in the center of the screen.



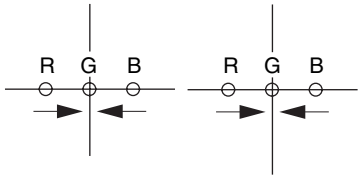
2. Tilt the 4 pole magnet and adjust static convergence to open or close the 4 pole magnet.



3. When the 4 pole magnet is moved in the direction of arrow Ⓐ and Ⓑ, the red, green, and blue dots move as shown below:

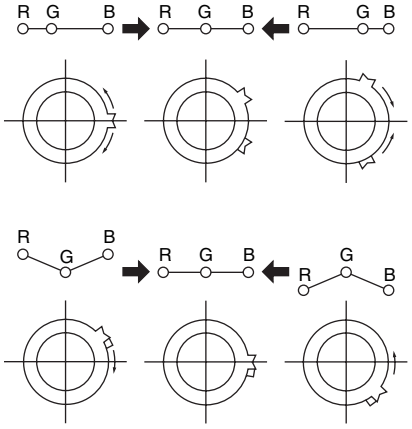


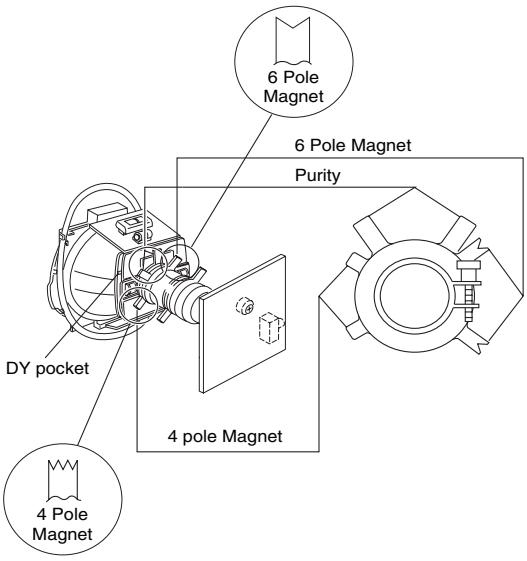
Moved RV750 (H.STAT)



Horizontal Static Convergence

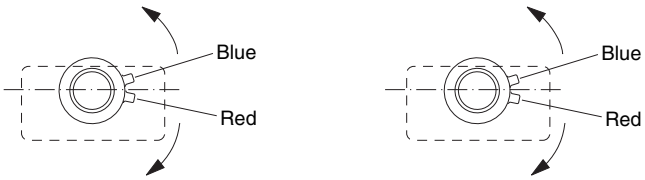
If the blue dot does not converge with the red and green dots, use the 6 pole magnet to adjust as shown:

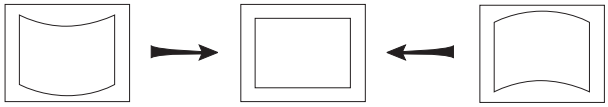




Y Separation Axix Correction Magnet Adjustment

1. Input cross hatch pattern.
2. Set Picture to “MINIMUM”, Brightness to ‘STANDARD”.
3. Adjust the Y separation axis correction magnet on the Neck Assembly so that the horizontal lines at the top and bottom of the screen are straight.





Convergence Rough Adjustment

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

Input cross hatch pattern.

a) TLH

Adjust the horizontal convergence of red and blue dots by inserting TLH Correction Plate to the DY pocket (left or right).

b) YCH

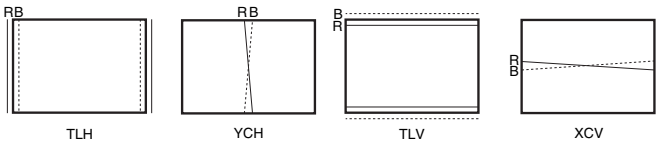
Adjust YCH to balance Y axis.

c) TLV

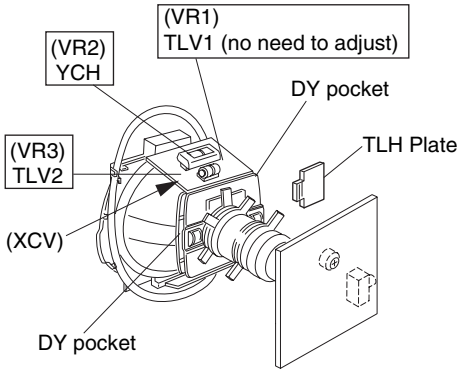
Adjust the vertical convergence of red and blue dots.

d) XCV

Adjust XCV to balance X-axis.

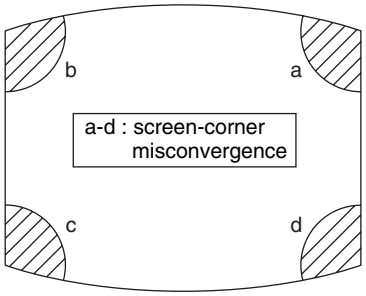


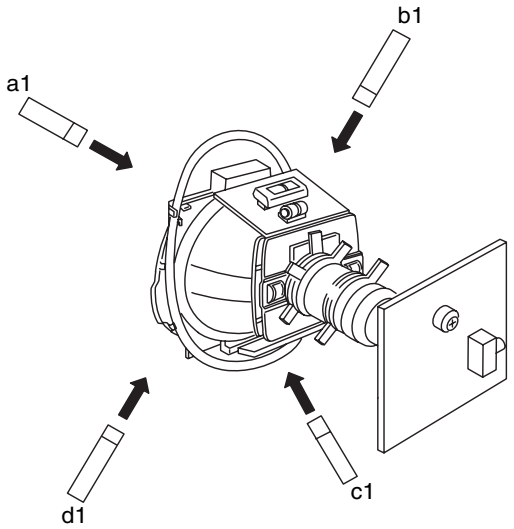
ON DY :



Screen Corner Convergence

Affix a Piece A (110), Convergence Correct/Permaloy Assy Correction to the misconverged areas.



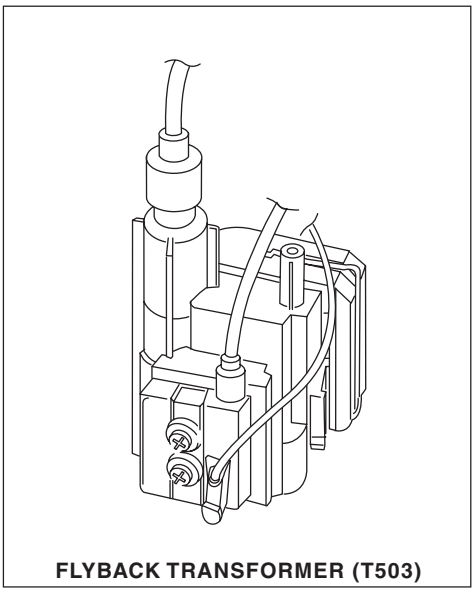


a1~d1: Piece A(110), Convergence Correct
or
Permaloy Assy Correction

2-3. FOCUS ADJUSTMENT

FOCUS adjustment should be completed before White Balance adjustment. (See 3-4. WHITE BALANCE ADJUSTMENT)

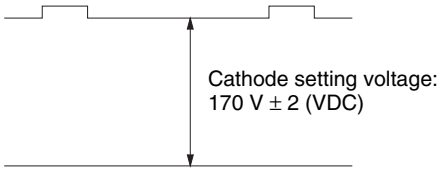
1. Receive digital monoscope pattern.
2. Set Picture Mode to “STANDARD”.
3. Adjust focus VR to obtain a just focus at the center of the screen.
4. Change the receiving signal to white pattern and blue back.
5. Confirm magenta ring is not noticeable. In case magenta ring is obvious, then adjust FOCUS VR to balance magenta ring and FOCUS.



FLYBACK TRANSFORMER (T503)

2-4. SCREEN (G2)

1. Before beginning adustment procedure:
   -Set Picture and Brightness to “STANDARD”.
   -Set TV to Video mode.
   -Set WHBL 016 “RGBB” to 01
2. Connect R, G, B of the CV board cathode to oscilloscope.
3. Adjust Brightness to obtain the cathode value to the value shown below:



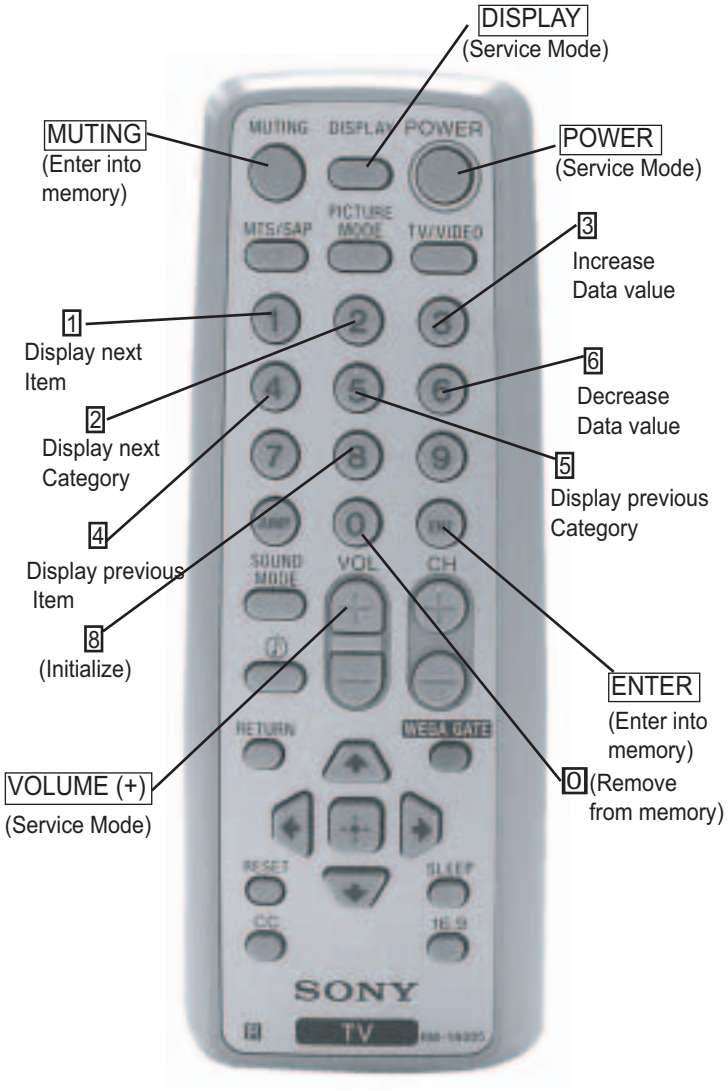
4. Adjust SCREEN VR on the FBT until the scanning line disappears.
5. Set WHBL 16 “RGBB” back to 00.

SECTION 3: CIRCUIT ADJUSTMENTS

Electrical Adjustments by Remote Commander

Use the Remote Commander (RM-YA005) to perform the circuit adjustments in this section.
Test Equipment Required: 1. Pattern generator 2. Frequency counter 3. Digital multimeter 4. Audio oscillator

3-1. REMOTE ADJUSTMENT BUTTONS AND INDICATORS



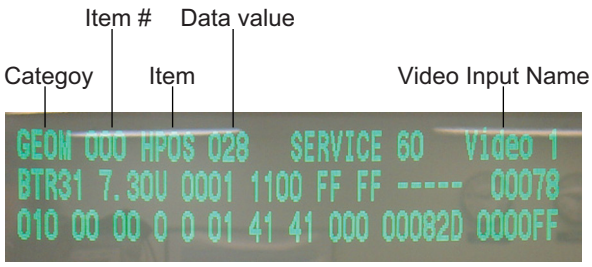
RM-YA005

3-2. ACCESSING THE SERVICE MENU

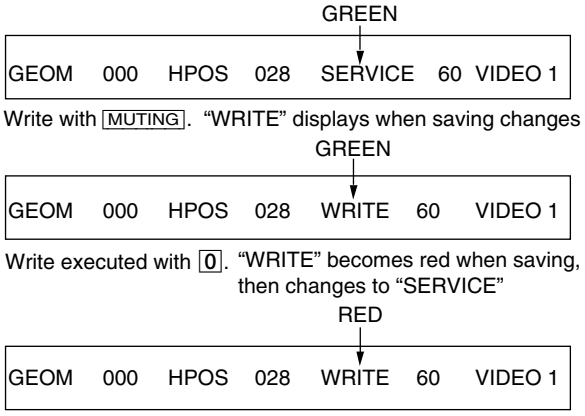
Use the remote commander to access the service menu and perform the following adjusments.

1. Standby mode (Power off).
2. Press the following buttons on the remote commander within a second of each other:
   DISPLAY → Channel 5 → Sound Volume + → POWER

The screen displays the first service data category item.



1. On the Remote Commander press 2 to select the next category, or 5 to select the previous category.
2. Press 1 to select the next item, or 4 to select the previous item.
3. Press 3 to increase the data value, or 6 to decrease the data value.
4. Press MUTING then 0 to write into memory.



Resetting the User Menus

Use the following procedure to reset the User Menus to the factory default settings.

1. Access Service Menu.
2. Press 8 then 0 on the Remote Commander.

3-3. CONFIRMING SERVICE ADJUSTMENT CHANGES

1. After completing adjustments, pull out the plug from the AC outlet, then replace the plug in the AC outlet again.
2. Access Service Menu.
3. Using the buttons on the Remote Commander, locate the adjusted items again to confirm they were adjusted.

3-4. WHITE BALANCE ADJUSTMENTS

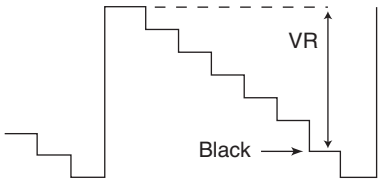
NOTE: FOCUS adjustment should be completed before White Balance adjustment. (See 2-3. FOCUS ADJUSTMENT)

1. Access Service Menu.
2. Input white raster signal using signal generator.
3. Set the following condition:
   Picture "STANDARD", PICT 006, note value of "WTS" then change to 00.
4. Press 2 or 5 to select the WHBL category.
5. Press 1 or 4 to display the 03 "GDRV" and 04 "BDRV" items.
6. Press 3 or 6 to adjust for the best white balance.
7. At Cutoff, select WHBL 000 "BKOR" and 001 "BKOG" and adjust the data.
8. Perform adjustment at Highlight and Cutoff condition until it reaches its target.
9. Press MUTING then ENTER to save into the memory.
10. Set PICT 006 "WTS" back to its original data.

3-5. PICTURE QUALITY ADJUSTMENTS

P Max/Contrast Adjustment

1. Set TV to Video mode.
2. Set Picture mode to "CUSTOM".
3. Input PAL 100% Color Bar (CB) to TV set (OTHER model)
   NTSC 75% Color Bar (CB) (NTSC model).
4. Set the following condition:
   PICTURE 100%, COLOR 0%, BRIGHTNESS 50%
5. Connect an oscilloscope to pin④ (R Output) of CN004.
6. Access the Service Menu. Set PICT 003 "PWL" to 00h and WHBL 017 "BLBG" to 01h.
7. Press 1 or 4 to display SADJ 000 "PMAX", then adjust VR by pressing 3 or 6 until the spec below is displayed:



	PAL	NTCS
VR	2.15± 0.03Vpp	1.61± 0.03Vpp

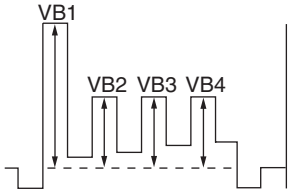
8. Copy the adjusted PMAX data to TV mode.

9. Select Wide Mode to “ON” in TV and Video mode and write “PMAX” data - 6 steps (for models with V-Compression features only).
10. Press [MUTING] then [0] to write into memory.
11. Set “PWL” and “BLBG” back to initial data.
    (“PWL”: 01h and “BLBG”: 00h)
12. Press [MUTING] then [0] to write into memory.

Sub Color Adjustment

1. Set TV to Video mode.
2. Set Picture mode to “CUSTOM”.
3. Input PAL 100% Color Bar (CB) to TV.
4. Set the following condition:
   PICTURE 100%, COLOR 50%, BRIGHTNESS 50%, HUE 50%, SHARPNESS 50%
5. Set PICT 006 “WTS” to 00h.
6. Connect an oscilloscope to pin② (B Output) of CN004 on A Board.
7. Access service mode, then press [1] or [4] to select SADJ 004 “SCOL”, then adjust $V_{B2}=V_{B3}=V_{B4}$ (for PAL) by pressing [3] or [6], then write in the data as shown below:

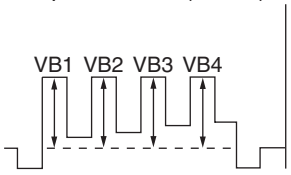
Add 3 steps to “SCOL” (PAL) – 29"



VB2 = VB3 = VB4 (for PAL)

8. Copy “SCOL” 50 (PAL) video data to “SCOL” 50 (SECAM) video.
9. Copy “SCOL” 50 (PAL) video data and “SCOL” 50 (SECAM) video data to “SCOL” 50 (PAL) and “SCOL” 50 (SECAM) TV table.
10. For NTSC model, input NTSC 75% Color Bar (CB) to TV and repeat steps 4-6.
11. Access service mode, then press [1] or [4] to select SADJ 004 “SCOL”, then adjust $V_{B1} = V_{B4}$ (for NTSC) by pressing [3] or [6], then write in the data as shown below:

Add 4 steps to SCOL (NTSC) – 29"

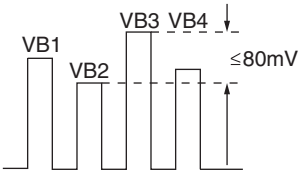


VB1 = VB4 (for NTSC)
(Difference is within 70mV)

12. Copy “SCOL” 60 (NTSC) video data to “SCOL” 60 (NTSC) TV.
13. Copy “SCOL” 50 (PAL) and “SCOL” 60 (NTSC) data to “SCOL” 50 (PAL) and “SCOL” 60 (NTSC) in DVD mode.
14. Press [MUTING] then [0] to write into memory.
15. Set PICT 006 “WTS” back to original data.

Sub Hue Adjustment

1. Set TV to Video mode.
2. Input NTSC 3.58 Color Bar(CB) to TV set.
3. Set the following condition:
   PICTURE 100%, COLOR 50%, BRIGHTNESS 50%, HUE 50%, SHARPNESS 50%
4. Connect oscilloscope to pin② (B output) of CN004.
5. Access service menu, then press [1] or [4] to select SADJ 001 “SHUE” and YC 013 “TINT”, then adjust $V_{B1}= V_{B2} = V_{B3} = V_{B4}$ by pressing [3] or [6].
6. Press [MUTING] then [0] to write into memory.
7. Select TV channel with NTSC 3.58 and repeat steps 3-7.
8. For single system model with NTSC 4.43, select TV channel with NTSC 4.43 and repeat steps 3-7.
9. Once adjustment is completed in Video mode, repeat the adjustment in DVD mode. Set TV to DVD mode. Input NTSC 3.58 Color Bar (CB).
10. Connect oscilloscope to pin② (B output) of CN004.
11. Access service menu, then press [1] or [4] to select YC 013 “TINT”, then adjust $V_{B1}= V_{B2} = V_{B3} = V_{B4}$ by pressing [3] or [6].
12. Press [MUTING] then [0] to write into memory.



The highest level of VB1, VB2, VB3 and VB4 should be aligned at the same line.
The ideal difference between VB2 and VB3 is within ± 80mV.

Sub Bright Adjustment

1. Set TV to RF mode.
2. Input PAL monoscope to RF mode (OTHER model) and NTSC monoscope (NTSC model).
3. In CUSTOM mode, set BRIGHTNESS 50% and PICTURE to “MINIMUM”
4. Access the service menu and press [1] or [4] to select WHBL 010 “SBRT”, then press [3] to increase the data value, or [6] to decrease the data value so that the cut-off level is 10 IRE, slightly glimmer: 20 IRE + 2 steps.
5. Press [MUTING] then [0] to write into memory.
6. Copy the adjusted data WHBL 010 “SBRT” to Video mode.
7. Once adjustment is completed in RF and Video mode, repeat the adjustment in DVD mode. Repeat steps 2 and 3.
8. Access the service menu and press [1] or [4] to select WHBL 010 “SBRT”, then press [3] to increase the data value, or [6] to decrease the data value so that the cut-off level is 10 IRE, slightly glimmer: 20 IRE.

Geometry Adjustment

Geometry adjustment must be done for both color systems PAL and NTSC.

H-Trapezoid Adjustment

1. Receive cross hatch/dot signal.
2. Adjust RV 1800 on CV Board to make H-Trapezoid distortion best/to obtain the center illustration shown in TABLE 1.

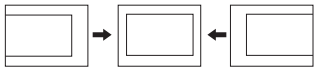
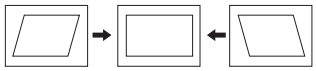
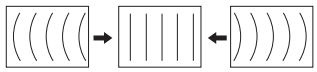
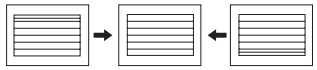
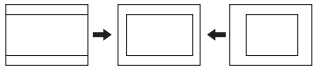
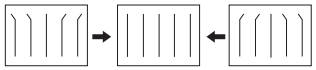
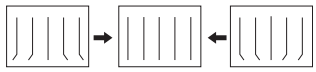
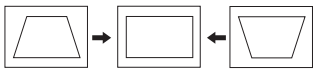
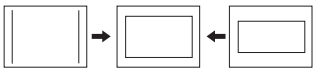
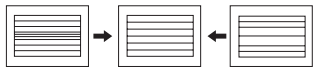
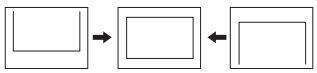
Category	Function	Illustration
GEOM 000 (HPOS)	H Position	
GEOM 001 (HPAR)	H Parallelogram	
GEOM 002 (HBOW)	H Bow	
GEOM 003 (VLIN)	Linearity	
GEOM 005 (HSIZ)	EW Width	 *Note: Adjust HSIZ* *16.6 + -(SPCB) – 50Hz* *14.8 + -(PAL Monoscope) – 50Hz* *15.3 + -(NTSC Monoscope) – 60Hz*
GEOM 006 (EWPW)	EW Parabola/Width	
GEOM 007 (UCOP)	EW Upper Corner Parabola	
GEOM 008 (LCOP)	EW Lower Corner Parabola	
GEOM 009 (EWTZ)	EW Trapezoid	
GEOM 011 (VSIZ)	V-Amplitude	 *Note: Adjust VSIZ* *12.6 + -(SPCB) – 50Hz* *11.3 + -(PAL Monoscope) – 50Hz* *11.7 + -(NTSC Monoscope) – 60Hz*
GEOM 012 (SCOR)	S-Correction	
GEOM 013 (VPOS)	V-Shift	

TABLE 1

Normal Mode 50Hz/60Hz

1. Input PAL Special Color Bar (SPCB) or PAL Monoscope (OTHER model) and Video mode or NTSC Monoscope (NTSC model) signal using a pattern generator.
2. Set Wide Mode to “OFF”.
3. Use TABLE 1 to complete the adjustments by acesssing service mode and then selecting the category item that needs adjusting by pressing 1 or 4.
4. Press 3 to increase the data value, or 6 to decrease the data value.
5. Press MUTING then 0 to write into memory.

Wide Mode

1. Input PAL Special Color Bar (SPCB) or PAL Monoscope (OTHER model) and Video mode or NTSC Monoscope (NTSC model) signal using a pattern generator.
2. Set Wide Mode to “ON”.
3. Copy NORMAL MODE 50Hz/60Hz adjusted data for the following items:

   GEOM: 011 VSIZ, 010 VSLP, 012 SCOR, and 003 VLIN
4. Use TABLE 1 to adjust the data by pressing 3 to increase the data value, or 6 to decrease the data value until the screen displays the center illustration for all items except the following:

   GEOM: 003 VLIN, 010 VSLP, 011 VSIZ, and 012 SCOR
5. Press MUTING then 0 to write into memory.

3-6. SERVICE DATA

Category	No.	Name	Function	COMMON	(4:3) 50	(4:3) 60	(4:3) w50	(4:3) w60
GEOM	000	HPOS	Horizontal Shift (HS)		26	36	30	37
	001	HPAR	Horizontal Parallelogram		43	44	42	45
	002	HBOW	Horizontal Bow		30	24	26	28
	003	VLIN	Vertical Linearity		39	39	39	39
	004	VSCR	Vertical Scroll		31	31	31	31
	005	HSIZ	EW Width (EW)		42	41	46	47
	006	EWPW	EW Parabola/Width (PW)		45	47	49	35
	007	UCOP	EW Upper Corner Parabola		40	38	39	57
	008	LCOP	EW Lower Corner Parabola		45	47	58	15
	009	EWTZ	EW Trapezium		27	17	18	31
	010	VSLP	Vertical Slope (VS)		31	31	31	31
	011	VSIZ	Vertical Amplitude		21	21	18	19
	012	SCOR	S-Correction (SC)		37	37	37	37
	013	VPOS	Vertical Shift (VSH)		48	49	40	44
	014	VZOM	Vertical Zoom (VZ)		00	00	00	00
	015	HBL	RGB Blanking Mode		01	01	01	01
	016	WBF	Timing of Wide Blanking (WBF)		10	03	10	03
	017	WBR	Timing of Wide Blanking (WBR)		11	11	11	11
	018	SBL	Service Blanking	00				
	019	COPY	Copy the GEO data to all 50/60Hz NVM area					

Category	No.	Name	Function	Common	Col Temp (Cool other)	Col Temp (Warm Other)	Col Temp (Neutral other)	Col Temp (Cool YUV)	Col Temp (Warm YUV)	Col Temp (Neutral YUV)	YUV	50pal(TV)	50pal(Video)	Pic mode 0	Pic mode 1	Pic Mode 2	TV	Video
WHBL	000	BKOR	Black Level Offset R (OFB = 00), Offset B (OFB = 01)		31	31	31	31	31	31								
	001	BKOG	Black Level Offset G		20	20	20	20	20	20								
	002	RDRV	White Point R		37	37	37	37	37	37								
	003	GDRV	White Point G		45	42	37	45	42	37								
	004	BDRV	White Point B		48	40	30	48	40	30								
	005	LPG	RGB Gain Preset	00														
	006	PGR	Preset Gain R (PGR)	50														
	007	PGG	Preset Gain G (PGG)	50														
	008	PGB	Preset Gain B (PGB)	50														
	009	GNOF	Preset Gain Offset	10														
	010	SBRT	Sub-Brightness								38	35	33				35	33
	011	SBRO	Sub-Brightness Offset (Intelligent Pic)	00														
	012	EGL	Enable Gain Loop in CCC System	00														
	013	SGL	Selection of High Current in CCC System	00														
	014	AKB	Black Current Stabilization	00														
	015	CBS	Control Sequence of Beam Current Limiting	00														
	016	RGBB	RGB Blanking															
	017	BLBG	Blanking of Blue & Green Output	00														
	018	OFB	Black Level Offset Blue	01														
	019	NSBR	Non Standard Brightness offset	00														
	020	WBP	Color Temp setting (0:High , 1:Normal , 2,3: Low)											00	01	**02**		

Category	No.	Name	Function	Common	YUV	50pal (TV)	50pal (Video)	50secam (TV)	50secam (Video)	60ntsc (TV)	60ntsc (Video)	60palm (TV)	60palm (Video)	50YUV	60YUV	Pic mode 0	Pic mode 1	Pic Mode 2	TV	Video	TV Wide (4:3)	Video Wide (4:3)
SADJ	000	PMAX	Picture Maximum																48	48	42	42
	001	SHUE	Sub-Hue																06	11		
	002	SSHP	Sub-Sharpness		35														35	37		
	003	SSHO	Sub-Sharpness Offset (Intelligent Pic)	04																		
	004	SCOL	Sub-Color			35	37	29	31	33	31	31	31	41	34							
	005	SCOO	Sub-Color Offset (Intelligent Pic)	01																		
	006	PIC	Picture Control [GA:0~100(valid); >100(invalid), Others:0~63(valid); ignore bit 6(invalid)]													100	90	80				
	007	COL	Color Control [GA:0~100(valid); >100(invalid), Others:0~63(valid); ignore bit 6(invalid)]													57	50	50				
	008	BRT	Brightness Control [GA:0~100(valid); >100(invalid), Others:0~63(valid); ignore bit 6(invalid)]													48	50	50				
	009	HUE	Hue Control [GA:0~100(valid); >100(invalid), Others:0~63(valid); ignore bit 6(invalid)] (* send to TINT #1Eh(5-0) with US model)													50	50	50				
	010	SHP	Sharpness Control [GA:0~100(valid); >100(invalid), Others:0~63(valid); ignore bit 6(invalid)]													58	50	50				

Category	No.	Name	Function	Common	Others	YUV	PAL(TV)	NTSC(TV)	SECAM(TV)	PAL(Video)	NTSC(Video)	SECAM(Video)	S-INPUT	SECAM	NTSC	TV
YC	000	PFRQ	Peaking Center Frequency and Delay		00											00
	001	RPA	Ratio Pre & Over Shoot		0											01
	002	RPO	Ratio of Positive & Negative Peaks		02											03
	003	YDLY	Y-Delay			10	10	06	06	11	09	06	-			
	004	CMAT	PAL-SECAM or NTSC (Japan/USA) Matrix	01												
	005	ACL	Automatic Color Limiting	01												
	006	CB	Chroma Bandpass Center Frequency	00												
	007	SBO	SECAM Black Offset	01												
	008	CHSE	PAL/NTSC Ident Sensitivity	02												
	009	CLO	Center Frequency of Cloche(Bell) Filter	00												
	010	CTRP	Chroma Trap Mode		00									01		
	011	QDT	Second Chroma Trap		00									00		
	012	BPS	Bypass of Chroma Base-band Delay Line		01										01	
	013	FCO	Forced Color On	00												
	014	TINT	Base-Band Tint Control		32	32										32
	015	TUV	Tint Control on UV Signals	00												

Category	No.	Name	Function	Common	(4:3) 50	(4:3) 60	Others	YUV	TV	Video	Teletext	TV-ip	No Signal
SYNC	000	SYS	Synchronization on YSYNC Input	00									
	001	FO	Phase 1 Time Constant						03	03	01	00	00
	002	VID	Video Ident Mode		00	00							
	003	FSL	Forced Slicing Level for Vertical Sync	00									
	004	SSL	Slicing Level Sync Separator		00	00							
	005	SVID	Source Selection for Video Identification				00	00					
	006	FORF	Forced Field Frequency	01									
	007	MVK	Macro Vision Keying	01									

Category	No.	Name	Function	Common	Others	Live	TV(Dyn)	TV(Others)	Video(Dyn)	Video(Others)	Color Temp (HIGH)	Color Temp (Others)	Color Temp (LOW)	Color Temp (NORMAL)
PICT	000	CADL	Cathode Drive Level	05										
	001	CFA	Comb Filter Mode	00										
	002	SOC	Soft Clipping Level	02										
	003	PWL	Peak White Limiting Switch	01										
	004	WHTL	Peak White Limiting	00										
	005	GAM	Gamma	01										
	006	WTS	Gamma Control and White Stretch		01	01								
	007	TFR	DC Transfer Ratio of Luminance Signal		01	01								
	008	COR	Coring				01	02	00	01				
	009	CORO	Coring Offset (Intelligent Pic)	01										
	010	BKS	Black Stretch		02									
	011	AAS	Black Area to Switch off the Black Stretch	01										
	012	DSK	Dynamic Skin Control	00										
	013	BLS	Blue Stretch								00	00		
	014	NBLS	Operation Blue Stretch Circuit	00										
	015	NRR	Non Red Reduction								01		01	01

Category	No.	Name	Function	Common	YUV	TV	Video
SW	000	CV2	CVBS2 Input Signal Selection	00			
	001	SVO	Function of IFVO/SVO/CVBSI Pin @ 48		03	01	01
	002	DFL	Flash Protection	01			

Category	No.	Name	Function	Common
VIF	000	OIFD	Offset IF Demodulator	36
	001	AGCT	AGC Take-over	18
	002	STM	Search Tuning Mode	01
	003	GD	Group Delay on CVBS1 Signal	00
	004	AGCS	IF AGC Speed	01
	005	FFI	Fast Filter IF PLL	00
	006	LNAI	RF Amp LNA bit initial value	00
	007	LNAT	RF Amp Threshold Level	195
	008	LNSN	RF Amp SN Level Threshold	03
	009	LNSD	RF Amp SN Level Drop Threshold	01
	010	LNEX	RF Amp check SN Drop Timing	30
	011	CHTR	Channel Threshold after Auto Prg to set RF Amp User Mode	25
	012	TUSO	Sony Tuner used	00

Category	No.	Name	Function	Common	Others	Pic mode 0	Pic mode 1	Pic Mode 2	SECAM	TV
VM	000	RGBD	Delay of RGB Output to VM Output	03						
	001	VMA	Amplitude of VM Output	03						
	002	VMAP	VM setting (0:High , 1:Low , 2,3: OFF)			00	00	00		
	003	VMMO	VM Mode	03						
	004	CRAO	Coring on SVM		00					00

Category	No.	Name	Function	Common
SDEM	000	FMWS	Window Selection for FM Demodulator	02
	001	QSS	Quasi Split Sound (QSS) Amplifier Mode(N/A for GA multi M system)	01
	002	BPB	Bypass of Sound Bandpass Filter	00
	003	AMLO	Audio Output Signal for AM Sound	00
	004	HPVC	Head Phone Volume Control	00
	005	CMCA	Activate Mono Channel	00

Category	No.	Name	Function	Common
TXT	000	TXV	Teletext Vertical Position for Philips	00
	001	THD	Teletext H-sync Active Edge Shift	00
	002	TBR	Teletext RGB Brightness	00
	003	ACQ	Teletext Acquisition (Auto-0, PAL-1)	00

Category	No.	Name	Function	Common	TV	Video	Off	SRS/WOW	Trusurround	Istereo	Imono
SDSP	000	BBL	BBE Contour	00							
	001	BBH	BBE Process	00							
	002	BBLW	BBE Contour Offset	04							
	003	SVOF	Surround /Effect Mode Volume Offset				06	11	06	08	06
	004	LAD	Decoder Level Adjust	05							
	005	LAM	Mono Level Adjust	05							
	006	LAN	Nicam Level Adjust	22							
	007	LAS	SAP Level Adjust	08							
	008	LAA	ADC Level Adjust		00	00					
	009	SEF	Incredible Mono/Stereo Effect							05	03
	010	BAS	Main Bass Offset	23							
	011	TRE	Main Treble Offset	29							
	012	EQ1	Equalizer Main Channel Band (100 Hz) Offset	00							
	013	EQ2	Equalizer Main Channel Band (300 Hz) Offset	18							
	014	EQ3	Equalizer Main Channel Band (1000 Hz) Offset	01							
	015	EQ4	Equalizer Main Channel Band (3000 Hz) Offset	15							
	016	EQ5	Equalizer Main Channel Band (8000 Hz) Offset	03							
	017	BFCT	DBE, DUB and BBE Control	00							
	018	SCEN	SRS3D Center Control	04							
	019	SSPA	SRS3D Space Control	01							
	020	BBHW	BBE process offset in WOW mode	00							
	021	STRE	Treble Offset for surround mode	01							
	022	BBHT	BBE Offset in TV mode	00							
	023	TTRE	Treble Offset in TV Mode	03							
	024	VBAS	Bass Offset depend on user volume	01							
	025	VTRE	Treble Offset depend on user volume	01							
	026	TBAS	Bass Offset for TV	00							

Category	No.	Name	Function	Common
SDEC	000	SPTU	Upper Threshold forSAP carrier detection	09
	001	SPTL	Lower Threshold for SAP carrier detection	15
	002	SPTH	Noise Threshold for automute of SAP	09
	003	SPHY	Hysteresis size for automute of SAP	03
	004	FMTH	Noise Threshold for automute of SC2 in FM A2 standard	18
	005	FMHY	Hysteresis size for automute of SC2 in FM A2 standard	07
	006	NILE	NICAM lower error limit (DDEP)	50
	007	NIUE	NICAM upper error limit (DDEP)	200
	008	EPMD	DEMDEC Easy Programming (DDEP)	01
	009	STDS	Bits multiplexed for ASD and SSS modes	13
	010	OVMA	FM overmodulation adaption	00
	011	FLBW	FM/AM demodulator filter bandwidth	01
	012	IDMD	FM ident speed in SSS mode	00
	013	OVMT	Overmodulation level threshold relative to nominal	03
	014	DCXI	NICAM DCXO Scaling Control Inverter	00
	015	DCXG	NICAM DCXO Scaling Control Gain	00
	016	DCLL	NICAM DCXO Scaling Control Limit (L)	00
	017	DCLH	NICAM DCXO Scaling Control Limit (H)	00
	018	IDKR	IDMOD setting for Korean M STD	00

Category	No.	Name	Function	Common
HTV	000	VMAX	Maximum Volume Level (MAX = 35 + VMAX)	00
	001	VINI	Initial Volume Level at power on	00
	002	STBY	Last Power Status (0 = follow the last power status, 1 = always STBY)	00
	003	IPRG	Initial Program Number at power on (only for Multi models)	00

Category	No.	Name	Function	Common	(4:3) 50	(4:3) 60	Others	YUV
OPTM	000	ASHT	auto shut off timer (data * 5 min)	06				
	001	OSDB	OSD brightness	16				
	002	OSDH	OSD Horizontal Position	08				
	003	OSDV	OSD Vertical Position		61	39		
	004	MUTE	No Signal Mute Switch (1 = enabled)	01				
	005	RFUL	RF Signal Change Counter after Unlocked (Disable when 0fh)	01				
	006	RFLK	RF Signal Change Counter after Locked (Disable when 0fh)	04				
	007	LANG	OSD language shipping condition	01				
	008	HTXT	sync separator sw				00	01
	009	CMSS	Sync sw	1				
	010	DCXO	DCXO Value	47				
	011	DISC	target DISCO data for DCXO adjust by color dec	128				
	012	EXBL	Extended Blanking Timer to Eliminate White Noise.	04				
	013	TSYS	Memorize TV Sys in NVM at Test Reset [0:B/G, 1:I, 2:D/K, 3:M] (GA Mod	03				
	014	LNSW	Signal Booster Shipping/Test Reset condition (1: Auto, 0:Off)	00				
	015	LBL	Brightness Reduction At No Signal condition	00				
	016	HPRO	Hpara Offset for Picture Rotation	03				
	017	AVUL	AV Signal Change Counter after Unlocked (Disable when 0Fh)	04				
	018	AVLK	AV Signal Change Counter after Locked (Disable when 0Fh)	00				
	019	N1F	UOCIII Micro selection (0:N1E, 1:N1F)	01				

Category	No.	Name	Function	Common	Others	YUV
OPUS	000	SOFF	stay off (0: follow last memory with AC on, 1: standby with AC on)	01		
	001	SPCH	Channel Number after Shipping Condition	06		
	002	SPCA	Cable Selection after Shipping Condition (1 = Cable On)	01		
	003	CCBR	CC Brightness (only for US)	20		
	004	CCHP	CC H position (only for US)	13		
	005	OUV	Offset Control on UV Input Signals (only for NTSC model)		00	00
	006	CFA2	Forced Comb Filter On (only for NTSC model)	00		
	007	HSYC	H Sync Selection for Tuning (SL, LOCK or SID) only for US	01		
	008	CLK	US clock offset (1step: 8ms/15min) only for US	122		
	009	CLKS	US clock offset in Standby (1step: 8ms/15min) only for US	142		

Category	No.	Name	Function	Common	Others	SECAM	NTSC
OPVP	000	BPBS	Bypass of sound bandpass filter at stereo mode (BPBS)	01			
	001	BWYC	Bandwidth at YC mode for 3.58 MHz color system (BWYC)	00			
	002	OSB	Width of internal burstkey pulse of chroma demodulator (OSB)	00			
	003	BKC	Burst Key Position		00	01	00

Category	No.	Name	Function	Common	Others	YUV
OPUS	000	SOFF	stay off (0: follow last memory with AC on, 1: standby with AC on)	01		
	001	SPCH	Channel Number after Shipping Condition	06		
	002	SPCA	Cable Selection after Shipping Condition (1 = Cable On)	01		
	003	CCBR	CC Brightness (only for US)	20		
	004	CCHP	CC H position (only for US)	13		
	005	OUV	Offset Control on UV Input Signals (only for NTSC model)		00	00
	006	CFA2	Forced Comb Filter On (only for NTSC model)	00		
	007	HSYC	H Sync Selection for Tuning (SL, LOCK or SID) only for US	01		
	008	CLK	US clock offset (1step: 8ms/15min) only for US	122		
	009	CLKS	US clock offset in Standby (1step: 8ms/15min) only for US	142		

Category	No.	Name	Function	Common	Others	SECAM	NTSC
OPVP	000	BPBS	Bypass of sound bandpass filter at stereo mode (BPBS)	01			
	001	BWYC	Bandwidth at YC mode for 3.58 MHz color system (BWYC)	00			
	002	OSB	Width of internal burstkey pulse of chroma demodulator (OSB)	00			
	003	BKC	Burst Key Position		00	01	00

Category	No.	Name	Function	Common
OPTB	000	IALL	Standard Write Switch (not memorized in NVM)	
	001	OPB1	Option 1 (System related)	Refer to OPB1
	002	OPB2	Option 2 (Video Signal related)	Refer to OPB2
	003	OPB3	Option 3 (Stereo Decoding related)	Refer to OPB3
	004	OPB4	Option 4 (Miscellaneous)	Refer to OPB4
	005	OPB5	Option 5 (Miscellaneous)	Refer to OPB5
	006	OPB6	Option 6 (OSD Language related)	Refer to OPB6

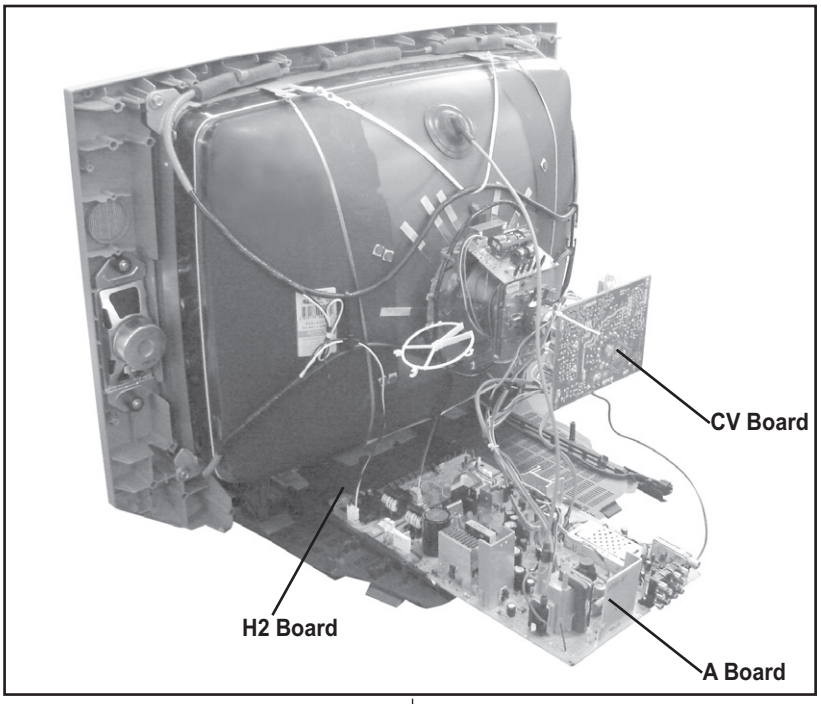
	OPB 1								OPB 2							
LOCATION	b7	b6	b5	b4	b3	b2	b1	b0	b7	b6	b5	b4	b3	b2	b1	b0
	Speed Search		Home Theatre	Wide Screen	M	B / G	I	D / K	Party Mode	FM Radio	Component	Composite		SECAM	Color Decoding	
LATIN NORTH	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	1
LATIN SOUTH	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	1

	OPB 3								OPB 4							
LOCATION	b7	b6	b5	b4	b3	b2	b1	b0	b7	b6	b5	b4	b3	b2	b1	b0
	REV 1	NICAM ST	NICAM BI	A2 ST	Thai Bilingual	US ST	Korean ST	Mono	Sound Special	1 Speaker Models	VM	WSS-RF	Surround		TOP	Text
LATIN NORTH	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
LATIN SOUTH	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0

	OPB 5								OPB 6							
LOCATION	b7	b6	b5	b4	b3	b2	b1	b0	b7	b6	b5	b4	b3	b2	b1	b0
	Signal Booster	M SYS ASD	COSMIC_ASD	ASD	Tilt	Band Edge	IP	Wide	REV	3D OSD	3D Comb	PIP	OSD Language Selection			
LATIN NORTH	0	0	0	0	1	0	1	1	0	0	0	0	0	0	1	1
LATIN SOUTH	0	0	0	0	1	0	1	1	0	0	0	0	0	0	1	1

SECTION 4: DIAGRAMS

4-1. CIRCUIT BOARDS LOCATION



4-2. 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 in resistance, $^1/_{10}$ W and $^1/_8$ W in chip resistance.

: nonflammable resistor.

: fusible resistor.

△ : internal component.

: panel designation and adjustment for repair.

⊥ : earth ground

⏚ : earth-chassis

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 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.

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

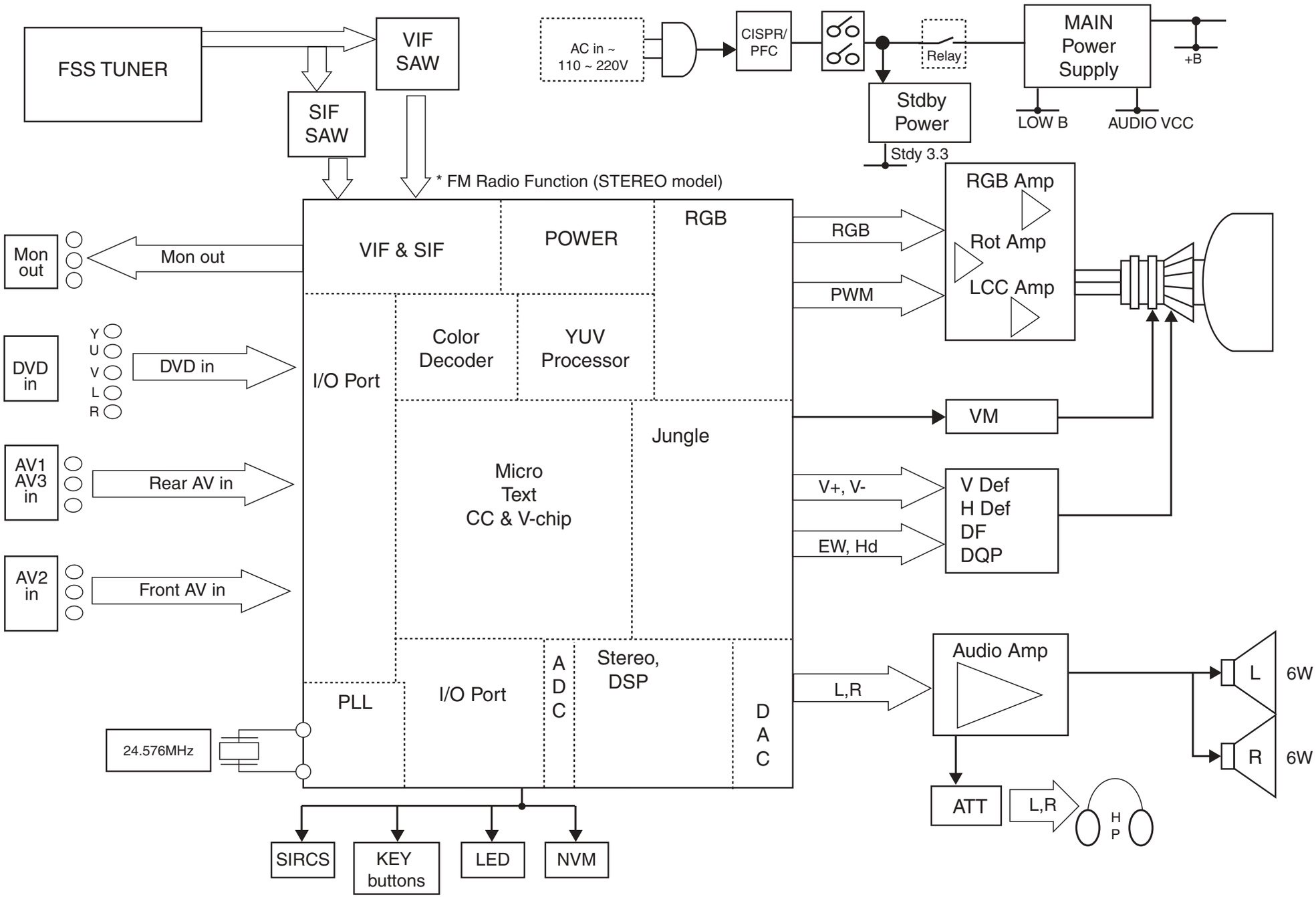
COIL

: LF-8L	MICRO INDUCTOR

CAPACITOR

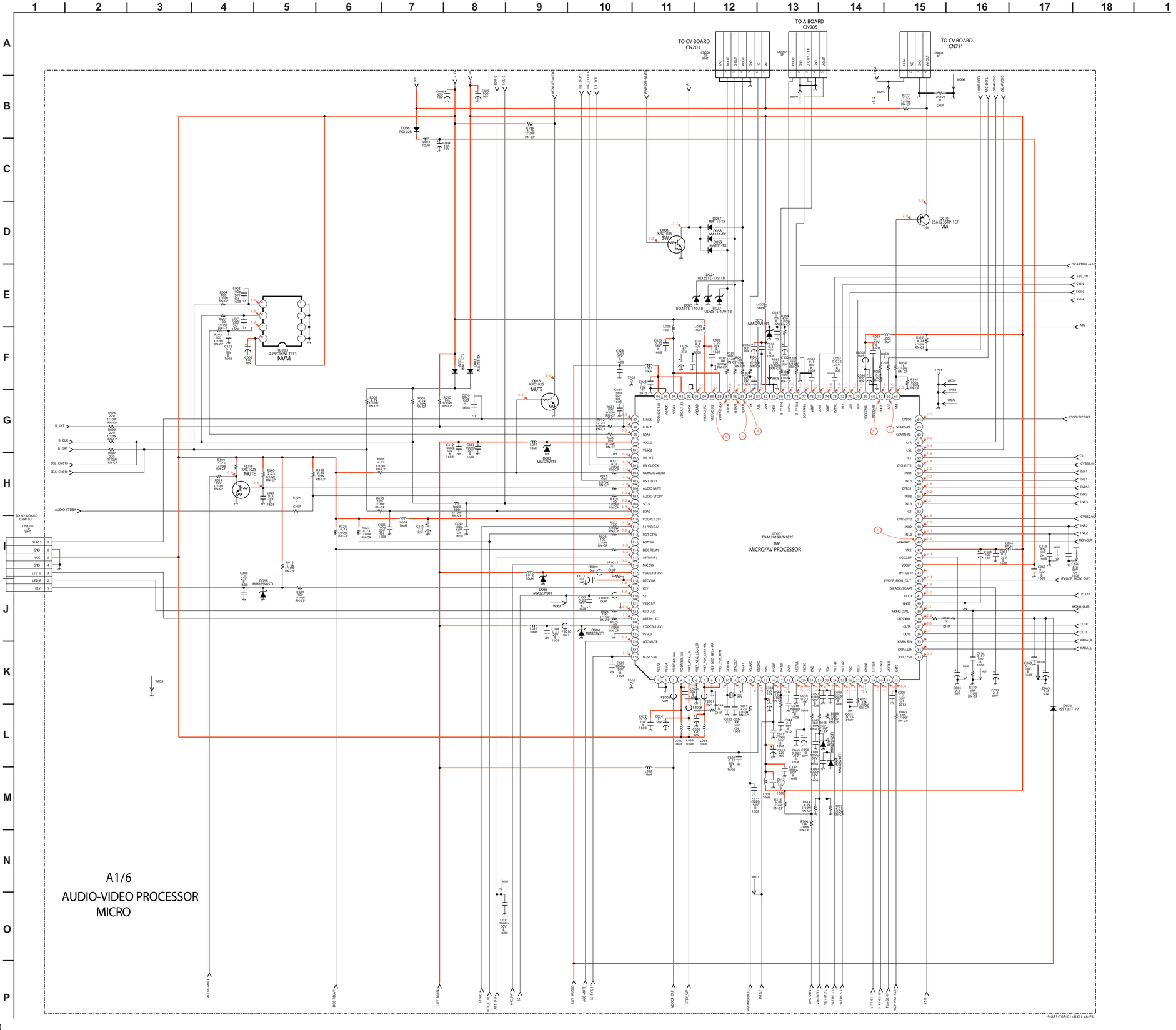
: TA	TANTALUM
: PS	STYROL
: PP	POLYPROPYLENE
: PT	MYLAR
: MPS	METALIZED POLYESTER
: MPP	METALIZED POLYPROPYLENE
: ALB	BIPOLAR
: ALT	HIGH TEMPERATURE
: ALR	HIGH RIPPLE

4-3. BLOCK DIAGRAMS AND SCHEMATICS

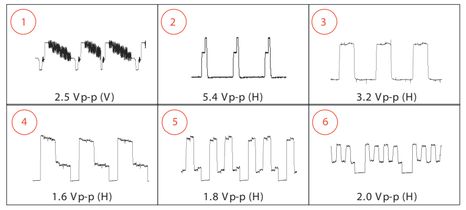


4-4. SCHEMATICS AND SUPPORTING INFORMATION

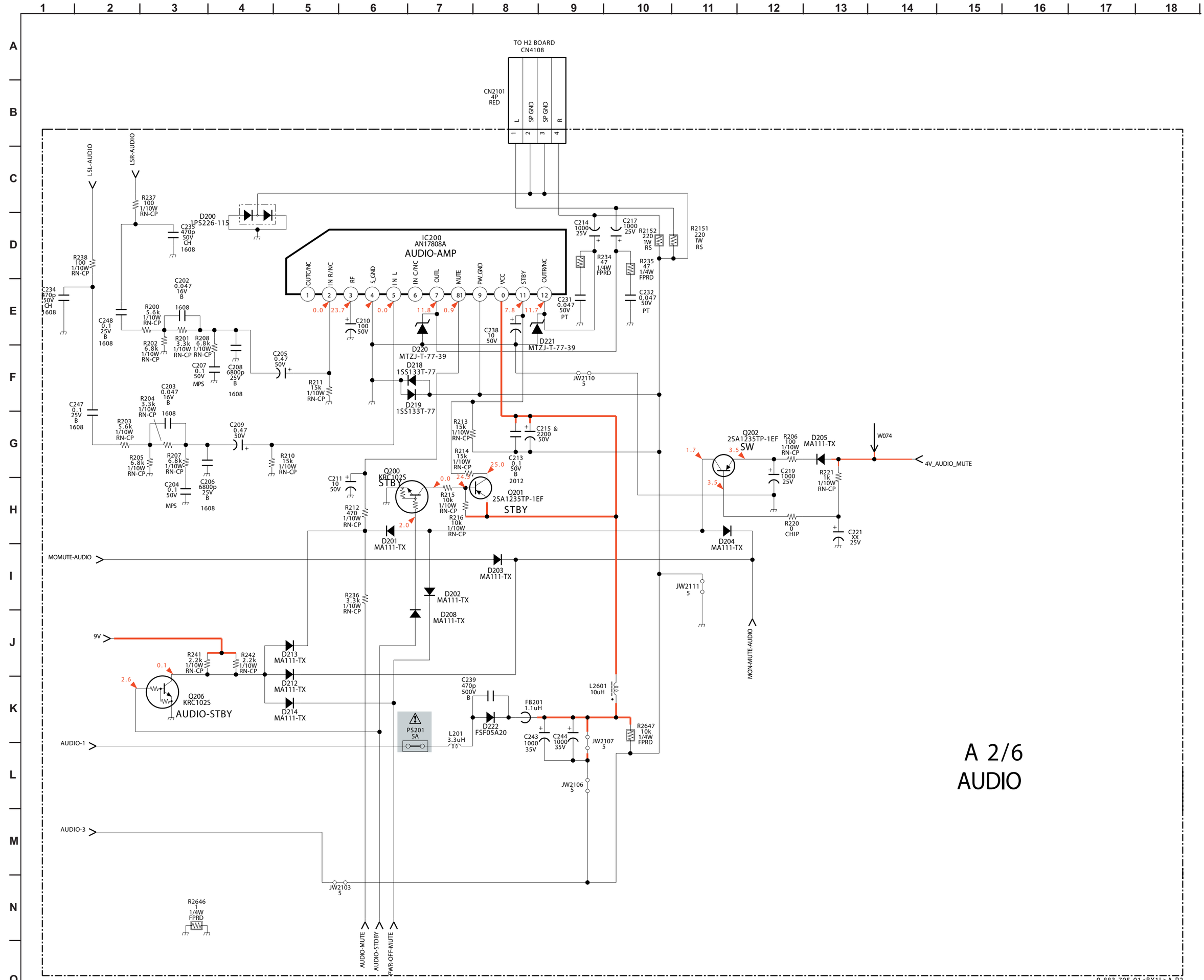
A BOARD SCHEMATIC DIAGRAM (1 OF 6)



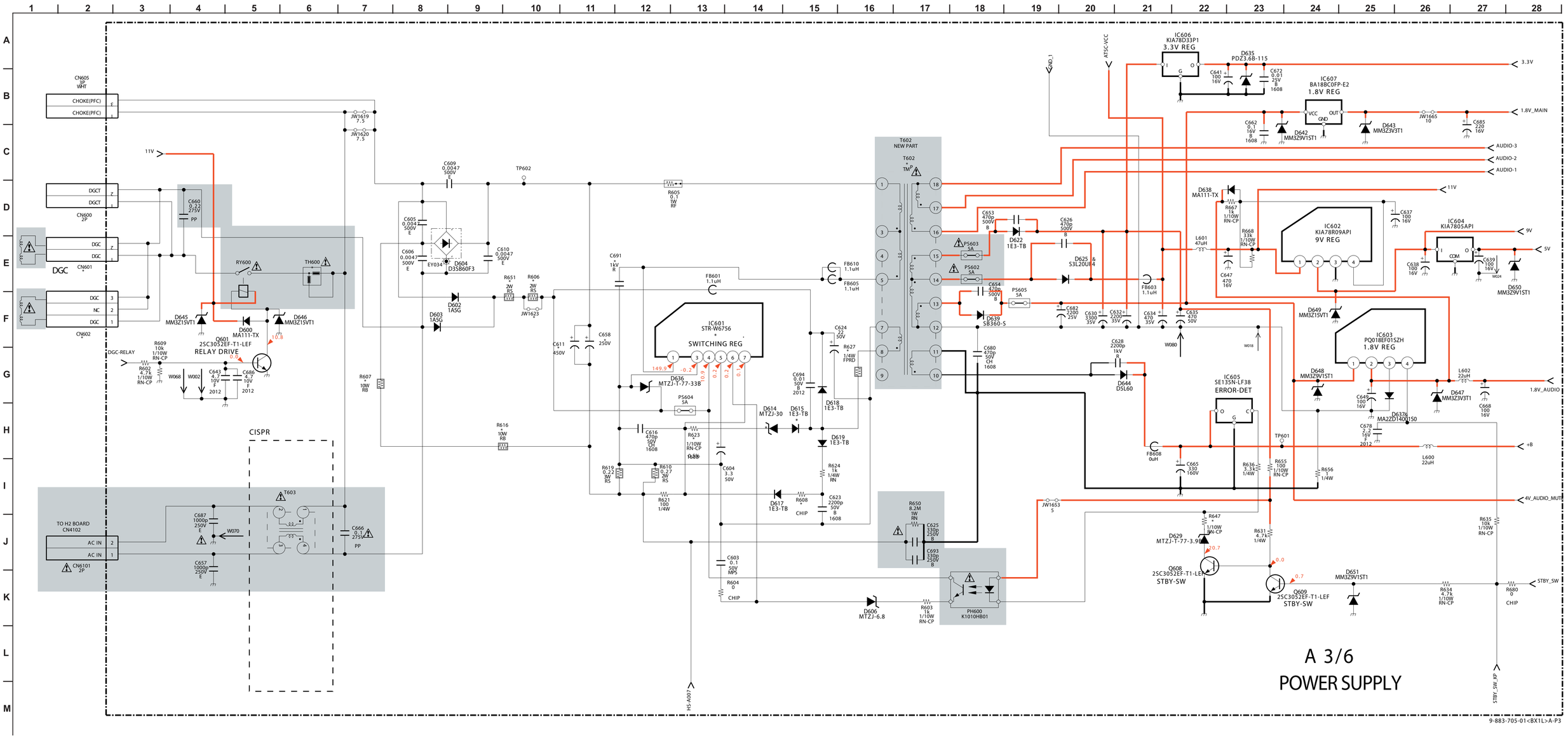
A BOARD WAVEFORMS



A BOARD SCHEMATIC DIAGRAM (2 OF 6)



A BOARD SCHEMATIC DIAGRAM (3 OF 6)



A BOARD SCHEMATIC DIAGRAM (4 OF 6)

H-DRIVE

PIN CORRECTION

HORIZONTAL DEFLECTION

OCP CIRCUIT

FBT

V-DRIVE

A 4/6

DEFLECTION

A BOARD WAVEFORMS

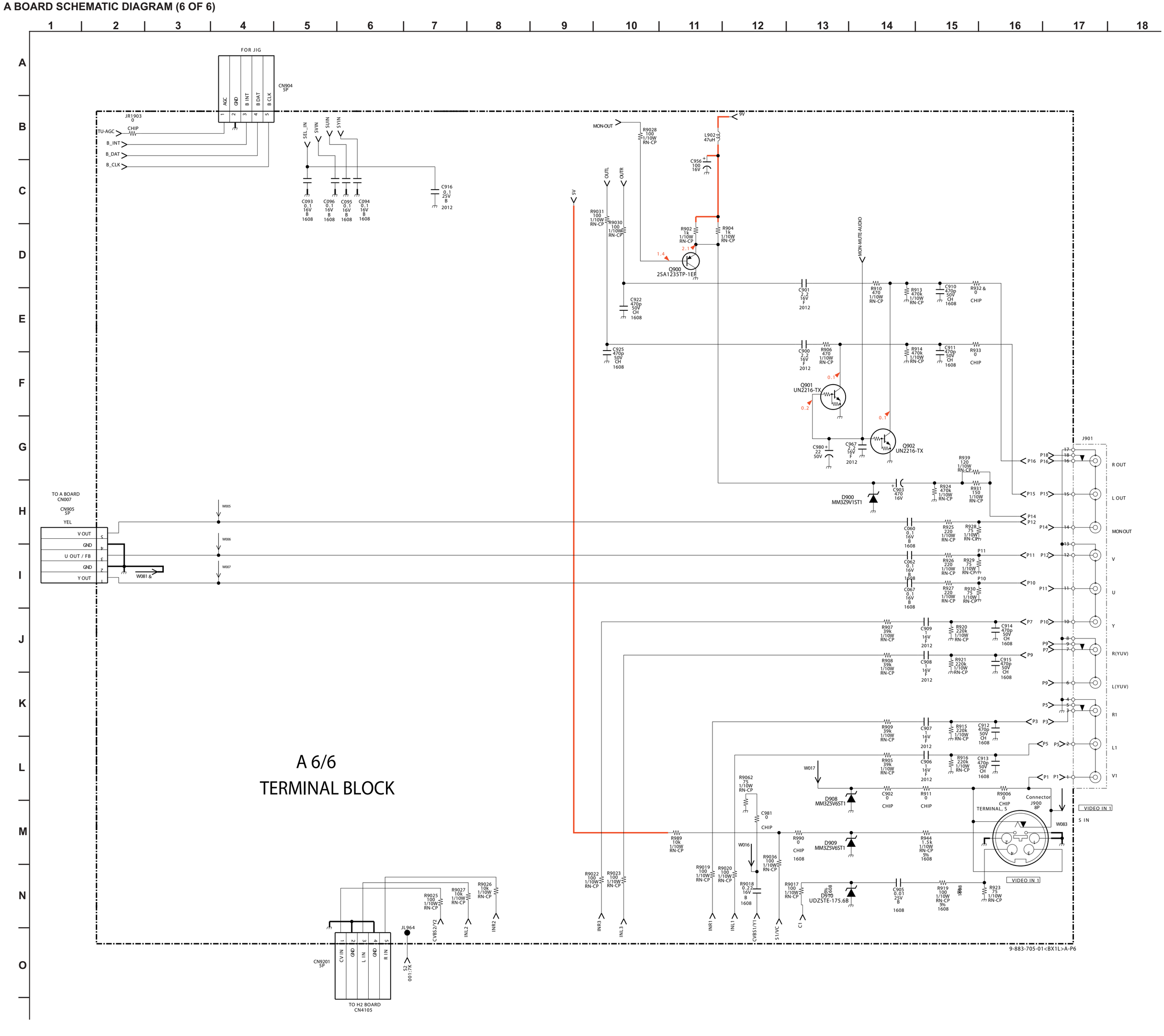
1 — 1.40Vp-p	2 — 224.0Vp-p	3 — 660.0mVp-p
4 — 30.20Vp-p	5 — 700.0mVp-p	6 — 52.00Vp-p

A BOARD SCHEMATIC DIAGRAM (5 OF 6)

A 5/6 BOARD
TUNER

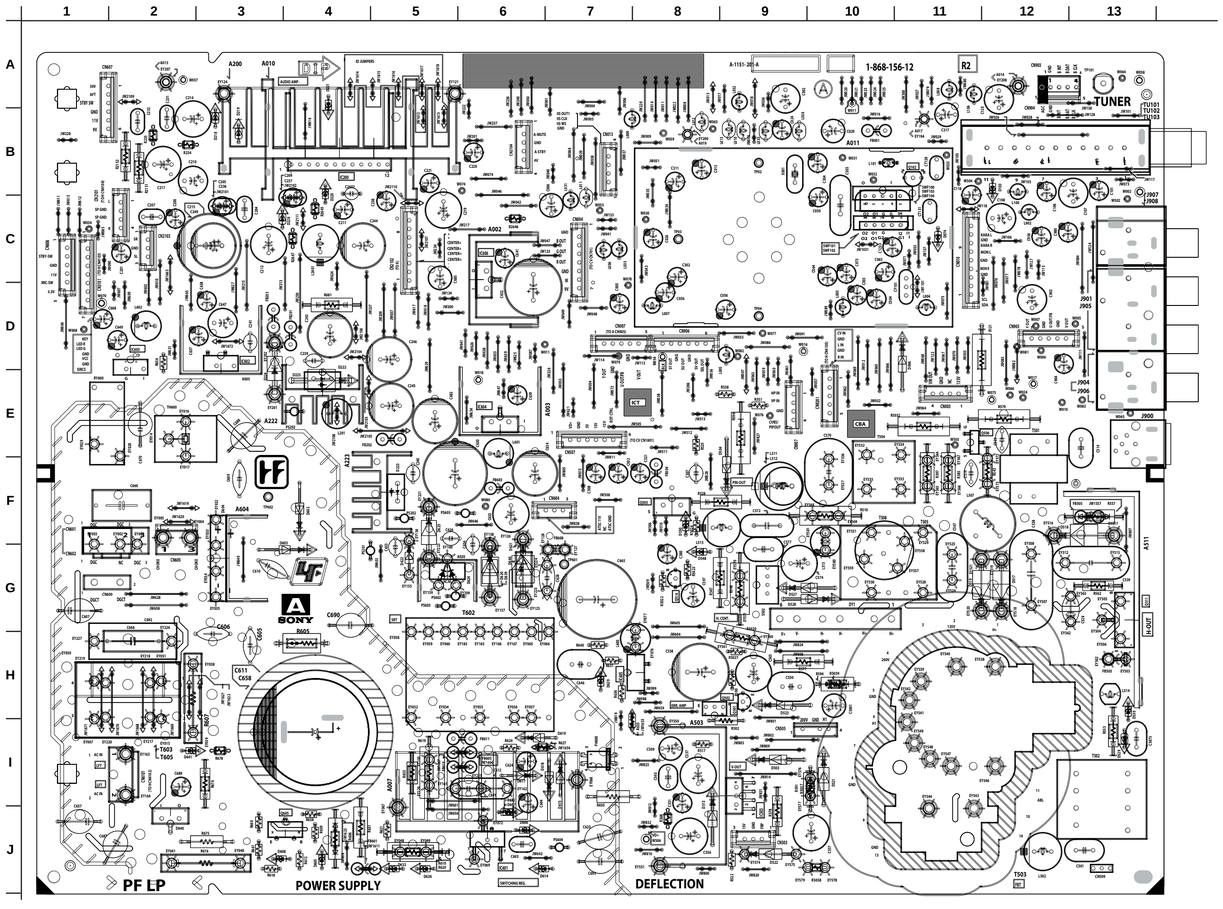
TU101
AGC
TU
ADD
SCL
SDA
NC
V supply
NC
BIL
NC
IF1
JR1101 0 CHIP
C140 1000p 50V B 1608
C142 47p 50V CH 1608
R115 100 1/10W RN-CP
R116 100 1/10W RN-CP
C120 470 16V
L106 100uH
C102 10p 50V CH 1608
D108 MM3Z5V6ST1
C104 10p 50V CH 1608
D109 MM3Z5V6ST1
Q100 2SC3052EF-T1-LEF
4.3
R118 100 1/10W RN-CP
C106 10 50V
3.6
R152 150 CHIP
C101 10 50V
R100 1k 1/10W RN-CP
TU-AGC
JR1050& 150 1/10W RN-CP
L100 100uH
C107 470 16V
C108 470 16V
C109 4700p 50V B 1608
C111 0.01 25V B 1608
JR1110 0 CHIP
CT131
R103 33 1/10W RN-CP
R119 33 1/10W RN-CP
CT139
C112 5p 50V CH 1608
C138 0.01 25V B 1608
R106 8.2k 1/10W RN-CP
L101 1.2uH
R108 820 1/10W RN-CP
C116 4700p 50V B 1608
3.1
C115 4700p 50V B 1608
R107 2.7k 1/10W RN-CP
Q102 2SC3779C,D-AA
2.4
JR1111 0 CHIP
R109 68 1/10W CHIP 2012
C117 0.01 50V CH 1608
1608
JR1100 0 CHIP
SWF104
L1
L2
SWF
O1
O2
G2
SWF102
L
SWF
O1
O2
G1
G2
R128 0 CHIP
C135 0.01 25V B 1608
D105 MA111-TX
D106 MM3Z3V3T1
C137 47p 50V CH 1608
C133 100P 25V B 1608
R121 22k 3W R5
C118 22 50V
D103 MTZJ-T-77-33B
C119 0.01 50V B 2012
R149 470 CHIP
JW015 7.5
R061 680 1/10W RN-CP
W058
C057 0.01 25V B 1608
R355 22k 1/10W RN-CP
C148 0.1 25V B 1608
C1019 0.47 10V B 1608
C300 0.22 16V B 1608
JR1006 0 CHIP
JR042 10 1/10W RN-CP
JW007 10
C061 4700p 50V B 1608
R088 390 1/10W RN-CP
C070 0.1 16V B 1608
SCL-0
SDA-0
9V
30V
AGC-MUTE
+B_2
TUAGC-IF
5V
VDDC4_CAP
STBY_SW
VIFIN1-IF
VIFIN2-IF
MONO_OUTL
PLLIF
SIFIN1-IF
SIFIN2-IF

A BOARD SCHEMATIC DIAGRAM (6 OF 6)



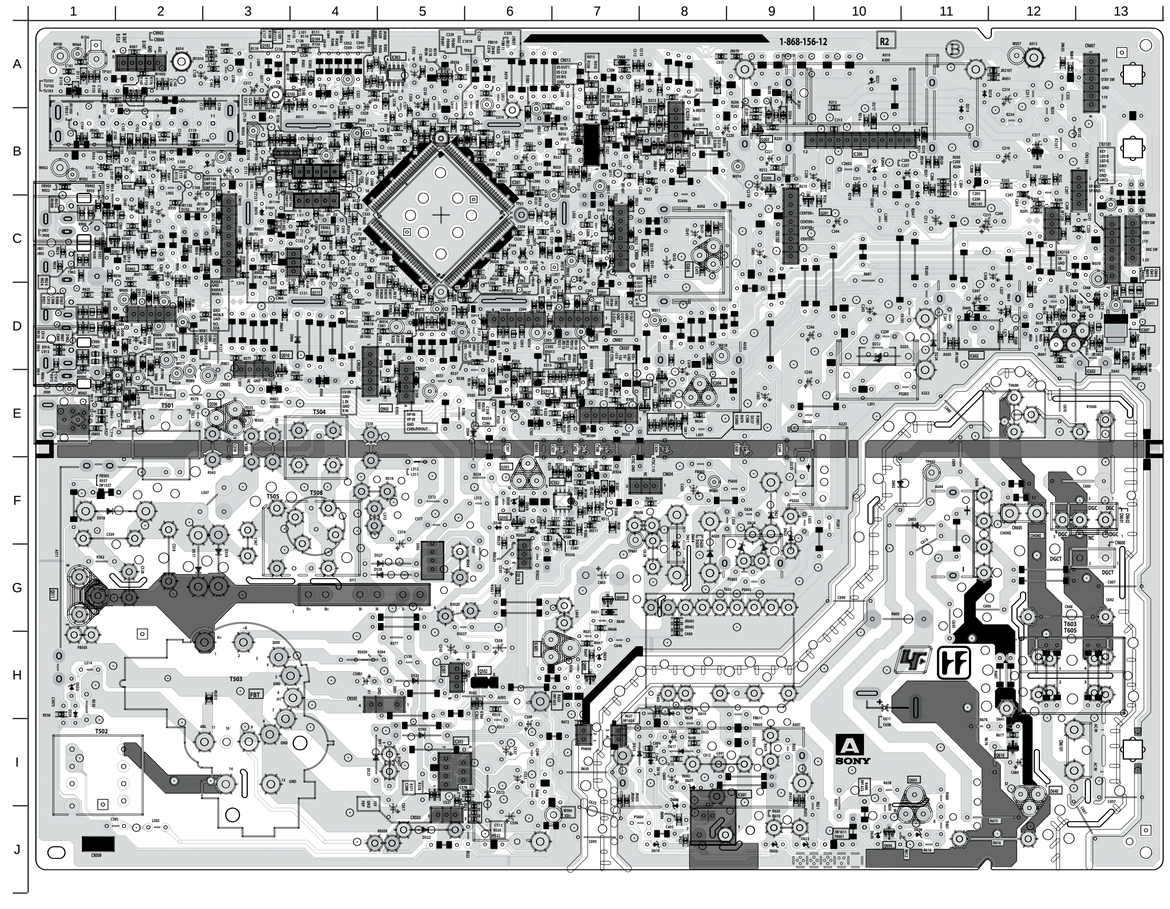
A [AUDIO-VIDEO PROCESSOR, MICRO, AUDIO, POWER SUPPLY, DEFLECTION, TUNER, TERMINAL BLOCK]

COMPONENT SIDE



A [AUDIO-VIDEO PROCESSOR, MICRO, AUDIO, POWER SUPPLY, DEFLECTION, TUNER, TERMINAL BLOCK]

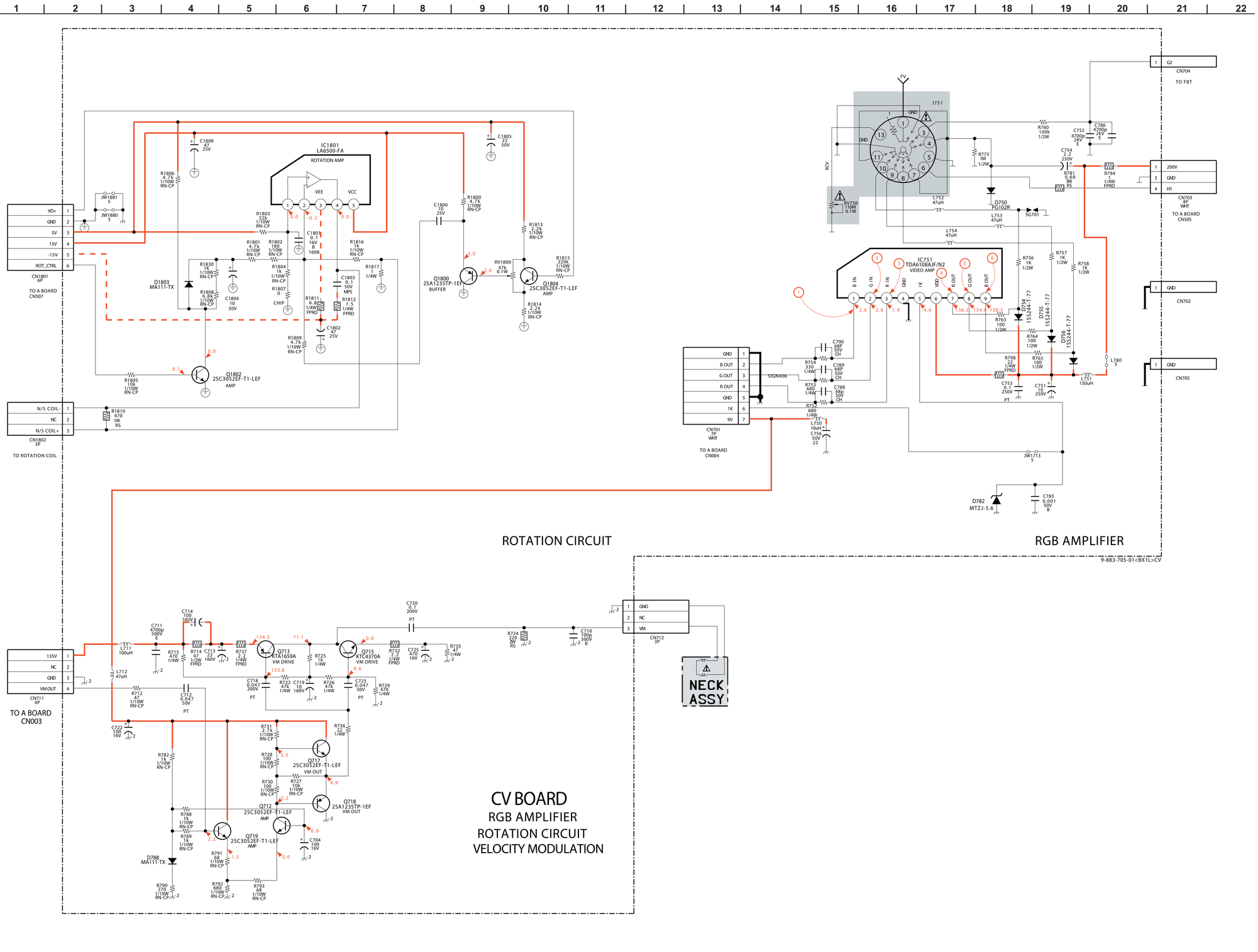
CONDUCTOR SIDE



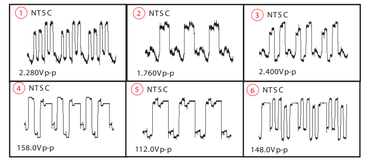
A BOARD LOCATOR LIST
CONDUCTOR SIDE

DIODE		DIODE		DIODE		DIODE		DIODE		DIODE		IC		TRANSISTOR		TRANSISTOR	
D002	A-5	D082	B-7	D208	A-8	D513	I-6	D603	F-11	D645	D-13	IC001	C-6	Q001	D-7	Q503	F-6
D003	A-4	D083	A-6	D212	B-8	D517	C-2	D604	F-11	D646	D-13	IC003	A-5	Q010	D-3	Q505	F-6
D023	B-7	D084	A-6	D213	B-8	D518	F-1	D606	I-8	D647	D-12	IC200	B-10	Q016	B-7	Q506	E-3
D024	B-7	D103	B-3	D214	C-8	D521	I-4	D617	I-8	D648	C-12	IC502	F-7	Q018	B-7	Q511	G-1
D025	C-7	D105	B-2	D218	A-11	D522	J-5	D618	I-8	D649	D-11	IC503	I-6	Q100	B-2	Q512	E-8
D057	C-7	D106	B-1	D219	A-11	D523	H-5	D619	H-8	D650	D-8	IC601	I-9	Q102	A-3	Q513	E-8
D058	C-7	D108	B-2	D220	B-10	D527	G-4	D622	F-9	D651	G-7	IC602	D-11	Q200	B-9	Q515	E-6
D059	C-7	D109	B-2	D221	A-10	D528	G-4	D625	F-9	D900	C-2	IC603	D-13	Q201	B-10	Q516	G-6
D064	A-4	D200	B-12	D222	D-10	D529	H-1	D629	H-7	D908	E-2	IC604	D-9	Q202	B-9	Q601	D-13
D065	B-4	D201	A-9	D501	E-6	D530	H-1	D635	C-8	D909	E-2	IC605	H-6	Q206	B-8	Q608	H-7
D066	D-4	D202	B-8	D504	E-6	D536	E-7	D636	J-9	D910	E-2	IC606	C-8	Q501	H-5	Q609	G-7
D068	A-7	D203	B-8	D505	E-6	D537	E-9	D637	D-13			IC607	D-13	Q502	H-6	Q900	C-3
D074	C-3	D204	B-8	D506	E-6	D548	F-6	D638	D-12							Q901	C-1
D075	C-6	D205	A-9	D507	F-7	D549	F-6	D639	F-8							Q902	C-2
				D508	F-7	D550	F-6	D642	D-13								
				D509	E-5	D600	D-13	D643	C-12								
				D511	D-7	D602	F-10	D644	F-8								

CV BOARD SCHEMATIC DIAGRAM



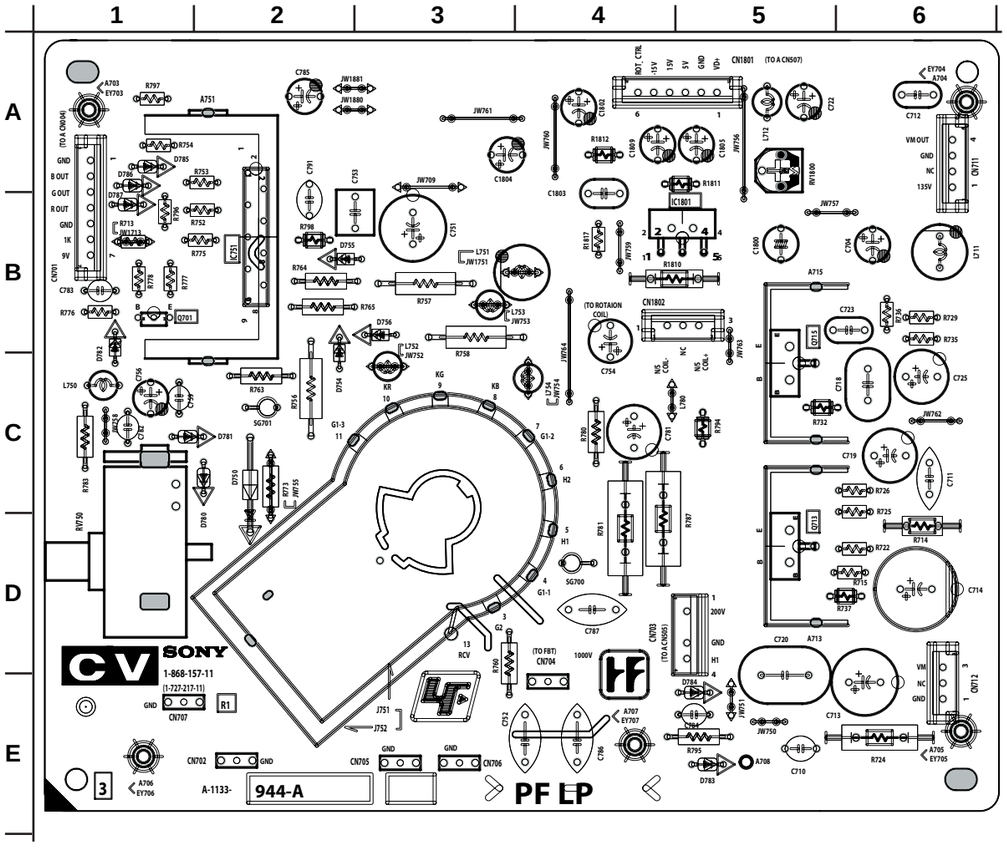
CV BOARD WAVEFORMS



CV

[RGB AMPLIFIER, ROTATION CIRCUIT, VELOCITY MODULATION]

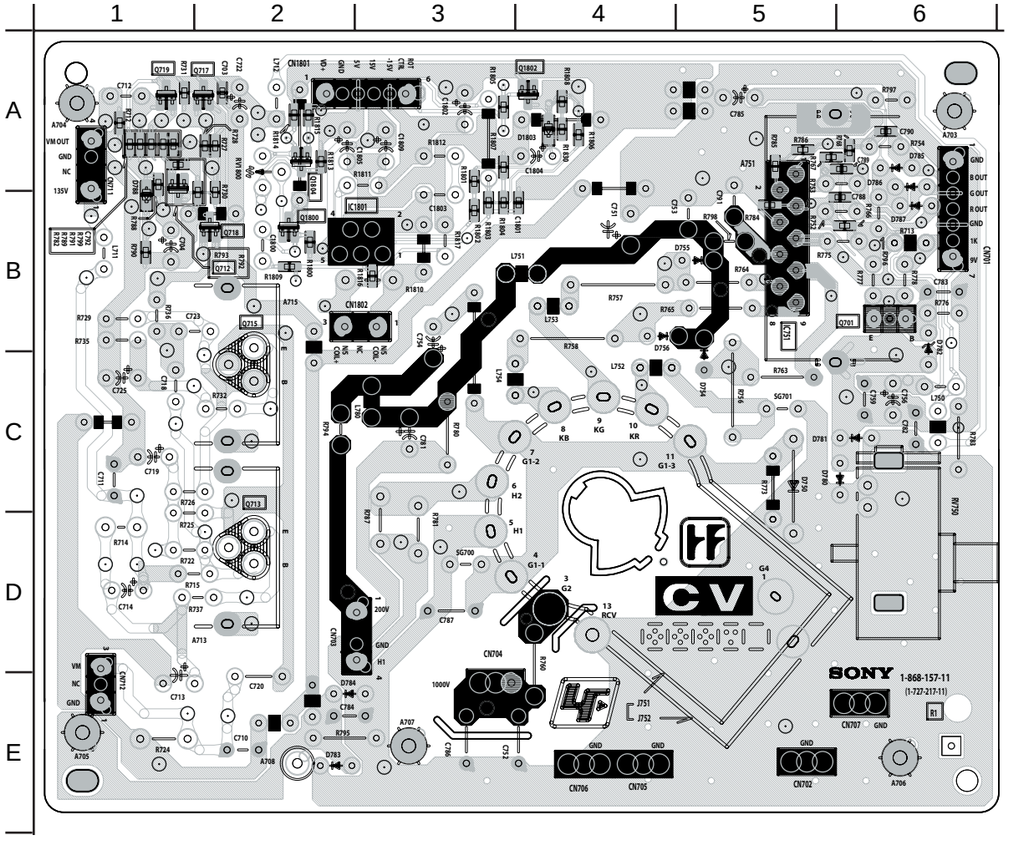
COMPONENT SIDE



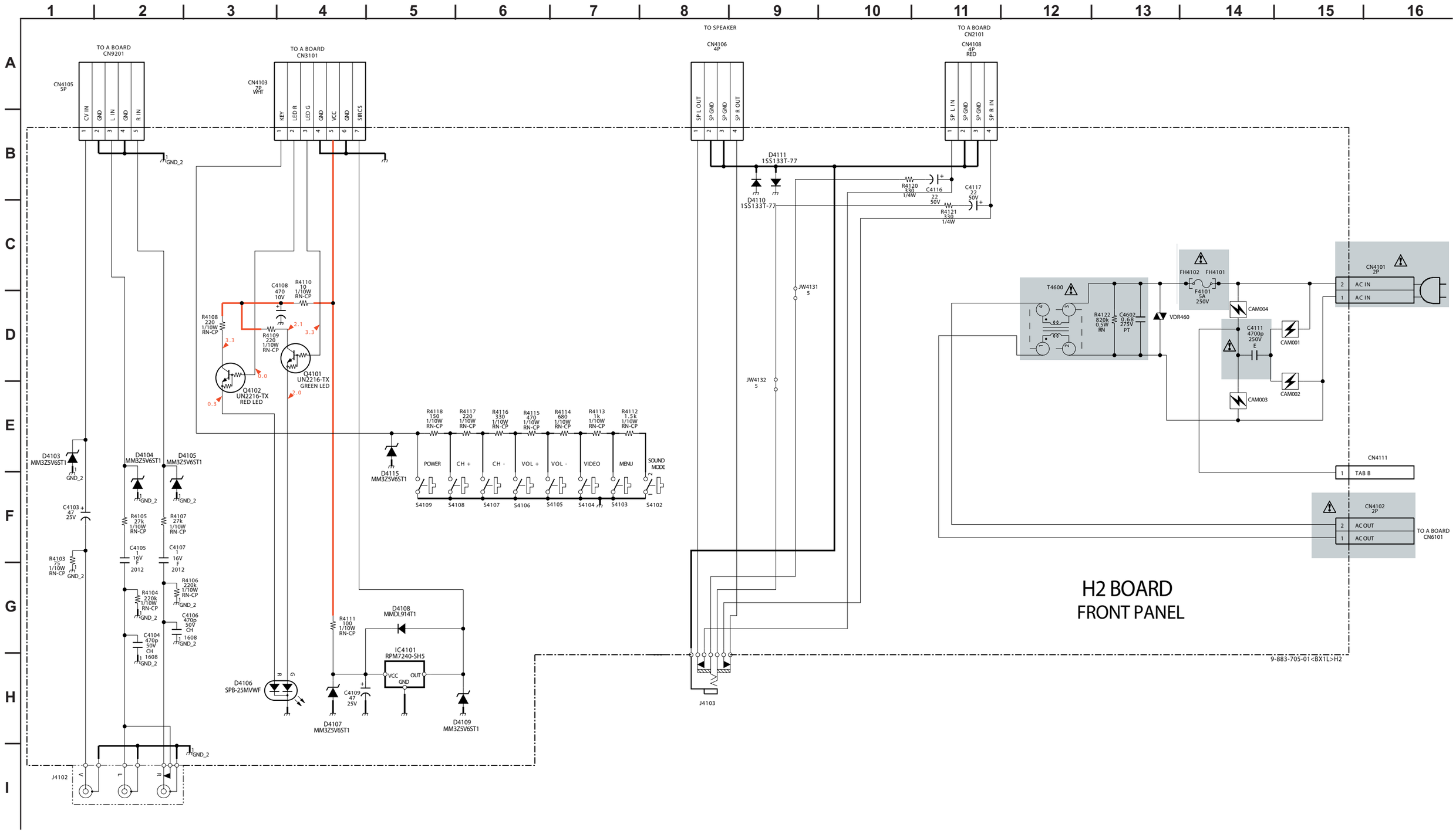
CV

[RGB AMPLIFIER, ROTATION CIRCUIT, VELOCITY MODULATION]

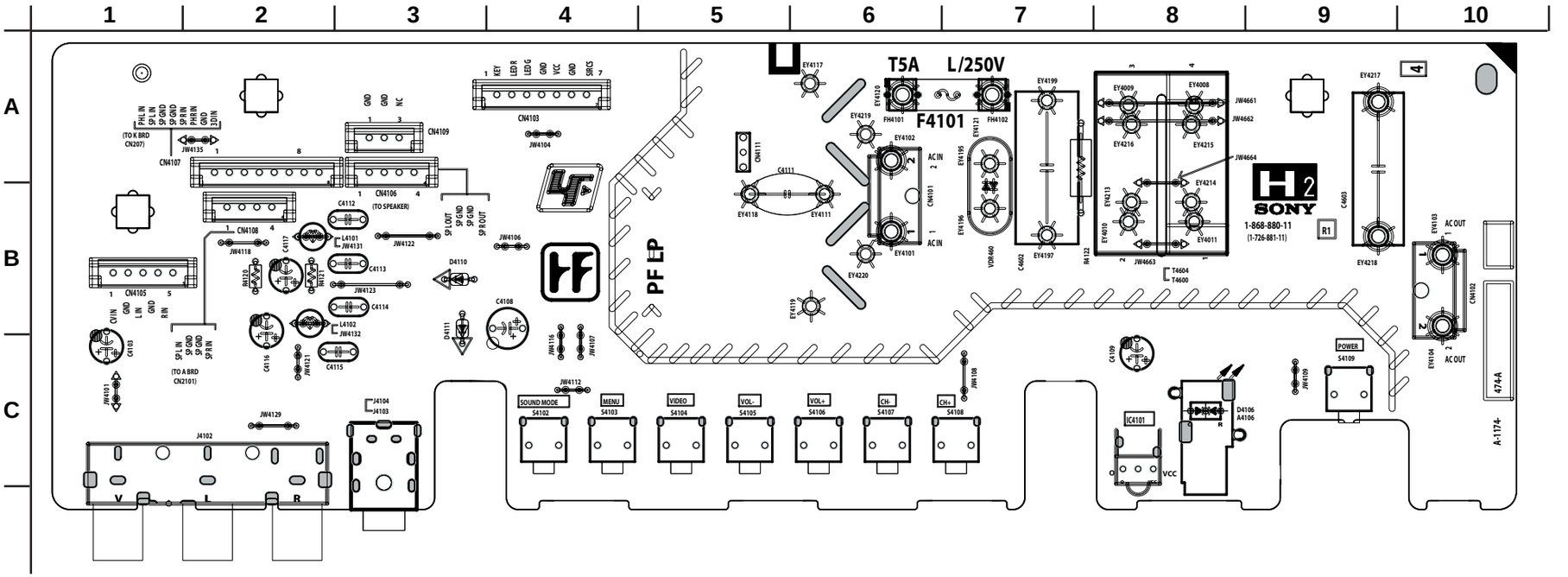
CONDUCTOR SIDE



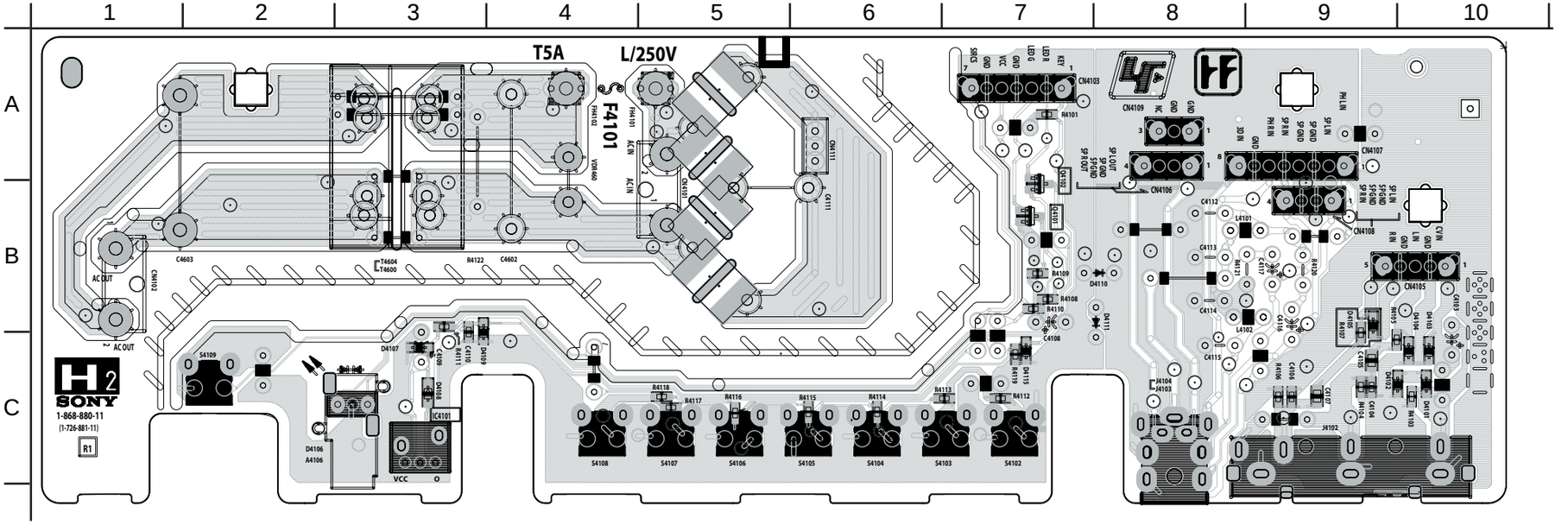
H2 BOARD SCHEMATIC DIAGRAM



H2 [FRONT PANEL]
COMPONENT SIDE

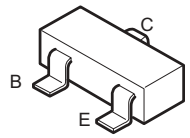


H2 [FRONT PANEL]
CONDUCTOR SIDE

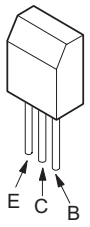


4-5. SEMICONDUCTORS

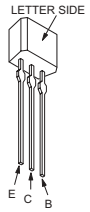
2SB709A-QRS-TX
2SD601A-QRS-TX



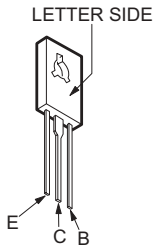
2SB734-T-34
2SC3209LK-TP



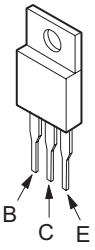
2SA1309A-QRSTA
2SC3311A-QRSTA
2SD2144S-TP-UVW



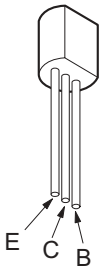
2SC3840K



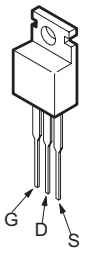
2SA1837



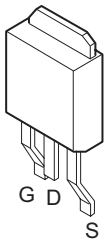
2SA1091O-TPE2



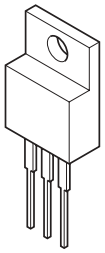
IRF614



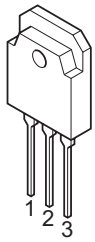
2SK2663



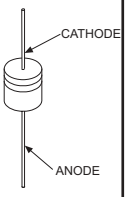
2SC4793



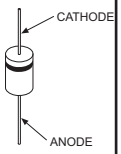
2SD2578-YB



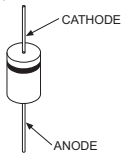
ERA38-06TP1
ERA82-004TP5
1SS133T-77
D1NS0R-TA
MTZJ-T-77-12C
MTZJ-T-77-15B
MTZJ-T-77-33B
MTZJ-T-77-39



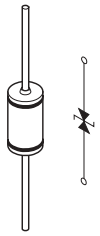
RU-1P
ERC06-15S
EGP20DPKG23
MTZJ-T-77-5.1C
MTZJ-T-77-5.6C
MTZJ-T-77-7.5A
MTZJ-T-77-10B
MTZJ-T-77-30D
RGP10-GPKG3
RGP02-17PKG23
RGP15GPKG23



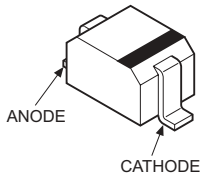
ERB44-06TP1
1SS83TD
GP08DPKG23
RGP10GPKG23
RU4AM-T3



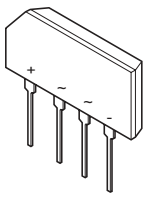
RD9.1EW-T1



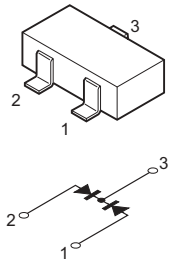
MA111-TX
UDZ-TE-17.5.1B
UDZ-TE-17.91B



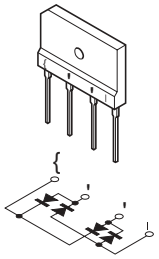
D2SB60A-F04



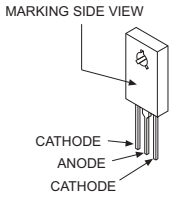
DAP202K-T-146



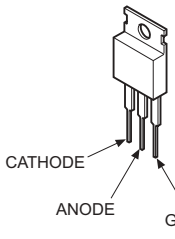
D4SB60L-F



D5LC20U



TF541M



SECTION 5: EXPLODED VIEWS

Components not identified by a part number or description are not stocked because they are seldom required for routine service.

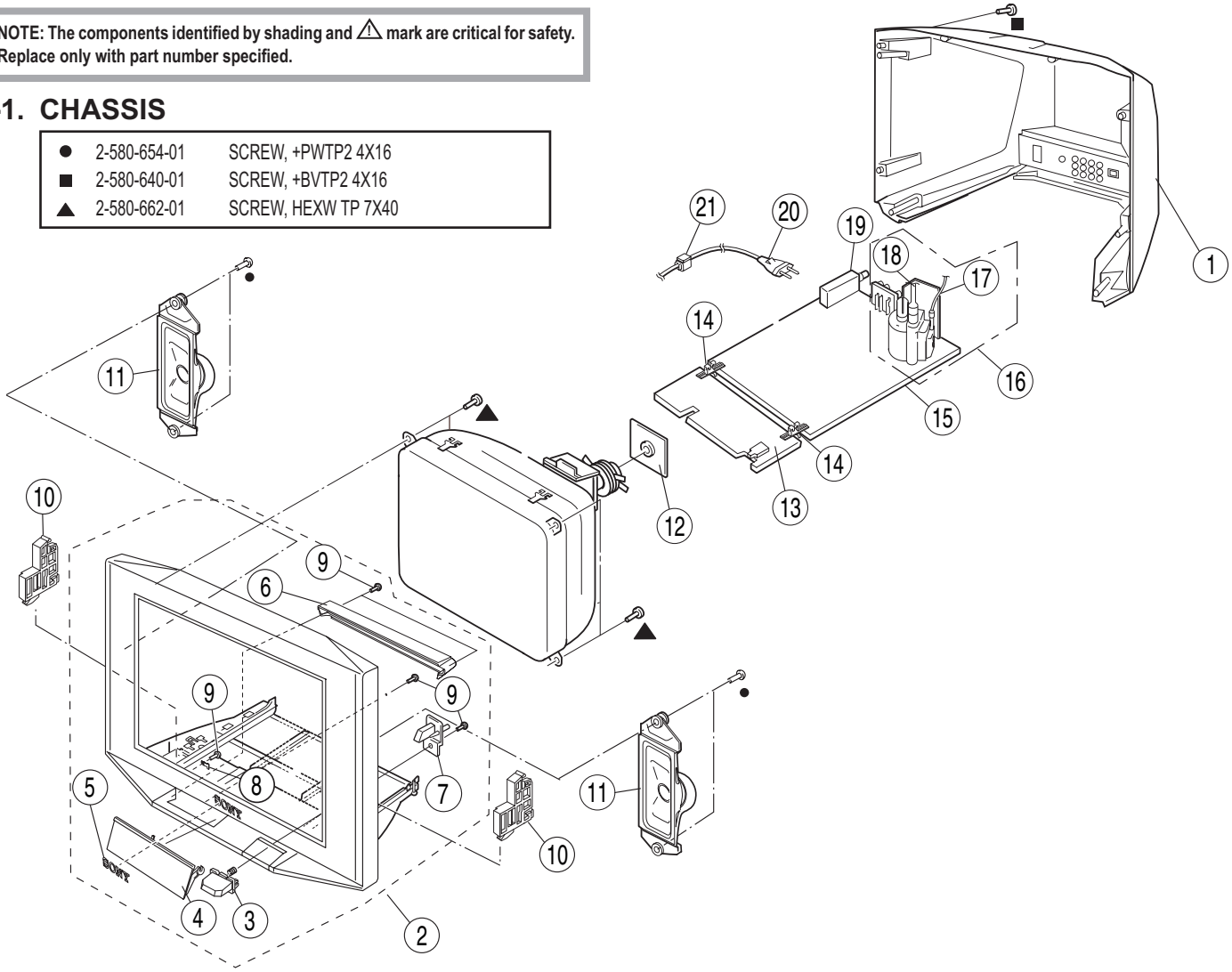
The component parts of an assembly are indicated by the reference numbers in the far right column of the parts list and within the dotted lines of the diagram.

*** 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.

5-1. CHASSIS

●	2-580-654-01	SCREW, +PWTP2 4X16
■	2-580-640-01	SCREW, +BVTP2 4X16
▲	2-580-662-01	SCREW, HEXW TP 7X40



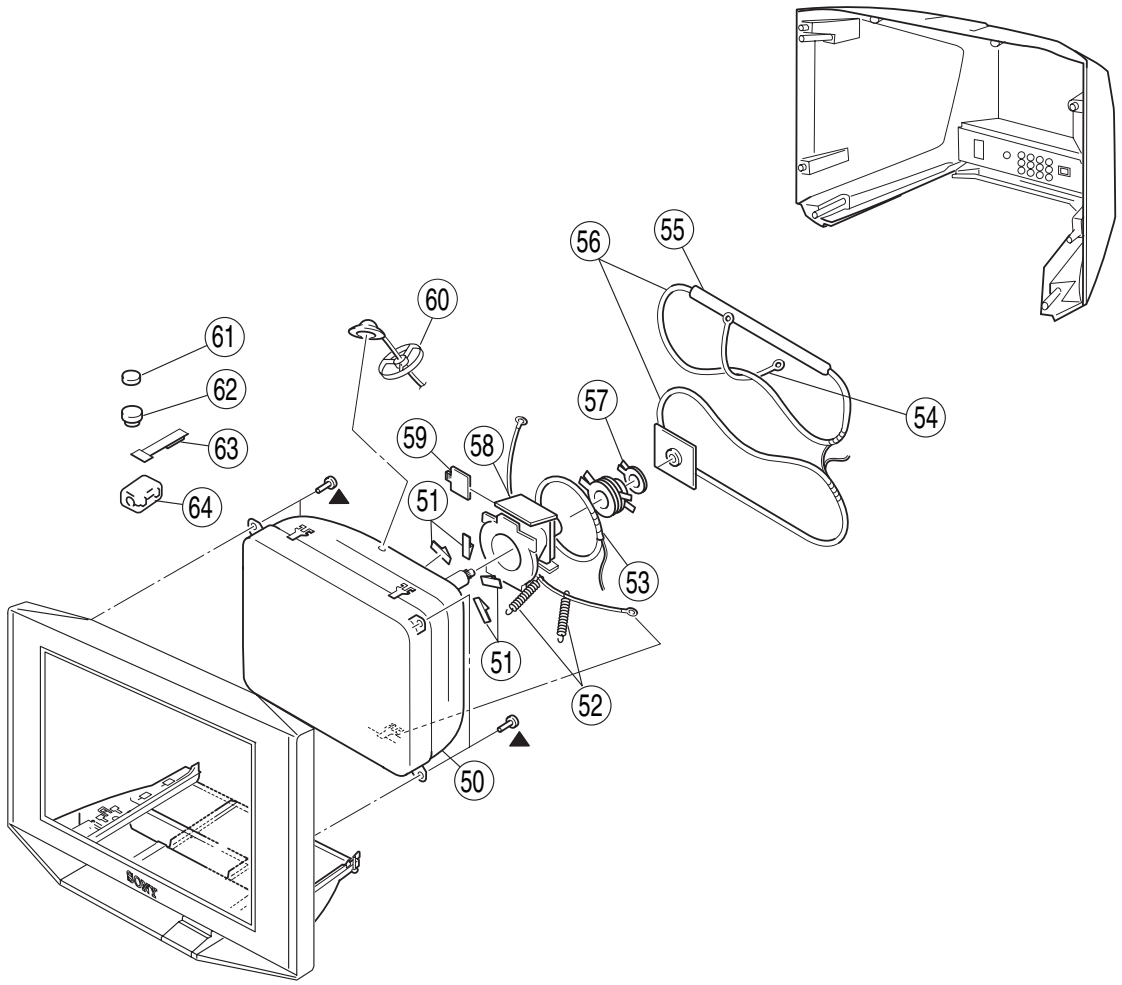
REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]
1	2-666-828-01	COVER, REAR	
2	X-2108-322-1	BEZNET ASSY	[3-9]
3	2-666-830-01	BUTTON, POWER	
4	2-666-831-01	DOOR	
5	4-046-160-31	EMBLEM, SONY NO.9	
6	2-666-833-01	COVER, CONTROL	
7	2-666-832-01	GUIDE, LIGHT	
8	2-682-963-01	SPRING, DOOR	
9	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	
10	2-666-834-01	SUPPORT, CRT	
11	1-826-364-11	LOUDSPEAKER (6.5X15CM)	
* 12	A-1133-945-A	CV (VAR) BOARD, MOUNTED	
13	A-1174-473-A	H2 (VAR) BOARD, MOUNTED	
* 14	2-668-944-01	HOLDER, PWB	

REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES
15	A-1174-475-A	A BOARD, COMPLETE (LATIN NORTH MODEL ONLY)	
15	A-1176-474-A	A BOARD, COMPLETE (LATIN SOUTH MODEL ONLY)	
		The high-voltage leads associated with the FBT on these A boards are not included and must be ordered separately. (See 17-18)	
⚠ 16	1-453-483-11	FBT ASSY NX-4910//X4B4	[17-18
⚠ 17	1-900-704-14	LEAD ASSY, G2+FOCUS	
⚠ 18	1-417-665-31	HIGH-VOLTAGE CAP ASSY	
19	1-693-694-11	TUNER (ENV56K18G3F)	
⚠ 20	1-827-949-12	CORD, AC POWER(WITH CONNECTOR) (LATIN NORTH MODEL ONLY)	
⚠ 20	1-824-968-11	POWER CORD (WITH CONNECTOR) (LATIN SOUTH MODEL ONLY)	
21	4-022-115-00	HOLDER, AC CORD	

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

5-2. PICTURE TUBE

▲	2-580-662-01	SCREW, HEXW TP 7X40



REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]
⚠ 50	8-735-256-05	CRT 29RSN(SDP)(NORTH AMERICA) M65LNH050X	(LATIN NORTH MODEL ONLY)
⚠ 50	8-735-257-05	CRT 29RSN(SDP)(SOUTH2) M68LNH050X	(LATIN SOUTH MODEL ONLY)
51	4-046-600-11	SPACER, DY	
52	4-036-329-01	SPRING (B), TENSION	
⚠ 53	1-419-363-11	COIL, NA ROTATION (RT-200)	
54	4-079-376-01	BAND, DGC	
55	4-100-433-11	TUBE, DGC (A)	
⚠ 56	1-419-156-22	COIL, DEGAUSSING	(LATIN NORTH MODEL ONLY)
⚠ 56	1-419-523-21	COIL, DEGAUSSING	(LATIN SOUTH MODEL ONLY)

REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES
⚠ 57	8-453-026-31	NECK ASSEMBLY NA2921-S3	
⚠ 58	8-451-494-41	DEFLECTION YOKE (DY Y29RSA-V)	
59	4-077-228-02	PIECE, TLH CONVERGENCE	
* 60	2-656-888-01	HOLDER, HV CABLE	
61	1-452-032-00	MAGNET,DISC	
62	1-452-094-00	CIRCULAR DISC MAGNET B	
63	4-083-414-01	PIECE A(110), CONV CORRECT	
64	1-469-089-11	FILTER, CLAMP (FERRITE CORE)	

SECTION 6: ELECTRICAL PARTS LIST

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

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

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.

REF. NO.	PART NO.	DESCRIPTION	VALUES
A			
	A-1174-475-A	**A BOARD, COMPLETE (LATIN NORTH MODEL ONLY)**	
	A-1176-474-A	**A BOARD, COMPLETE (LATIN SOUTH MODEL ONLY)**	
		The high-voltage leads associated with the FBT on these A boards are not included and must be ordered separately.	
⚠	1-900-704-14	LEAD ASSY, G2+FOCUS	
⚠	1-417-665-31	HIGH-VOLTAGE CAP ASSY	
	4-382-854-01	SCREW (M3X8), P, SW (+)	
	4-382-854-01	SCREW (M3X8), P, SW (+)	
	WIRE PIN		
* A017	4-102-022-01	PIN(30), WIRE	
* A019	4-102-022-01	PIN(30), WIRE	
	CAPACITOR		
C001	1-162-927-11	CERAMIC CHIP	100pF 5% 50V
C002	1-126-935-11	ELECT	470µF 20% 16V
C003	1-162-927-11	CERAMIC CHIP	100pF 5% 50V
C004	1-126-933-11	ELECT	100µF 20% 16V
C005	1-126-933-11	ELECT	100µF 20% 16V
C006	1-126-925-91	ELECT	470µF 20% 10V
C010	1-164-315-11	CERAMIC CHIP	470pF 5% 50V
C013	1-126-933-11	ELECT	100µF 20% 16V
C018	1-162-970-11	CERAMIC CHIP	0.01µF 10% 25V
C020	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C021	1-162-927-11	CERAMIC CHIP	100pF 5% 50V
C022	1-127-715-91	CERAMIC CHIP	0.22µF 10% 16V
C023	1-164-505-11	CERAMIC CHIP	2.2µF 16V
C024	1-126-965-91	ELECT	22µF 20% 50V
C025	1-127-715-91	CERAMIC CHIP	0.22µF 10% 16V
C026	1-126-947-11	ELECT	47µF 20% 35V
C028	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C029	1-126-925-91	ELECT	470µF 20% 10V
C030	1-127-715-91	CERAMIC CHIP	0.22µF 10% 16V
C031	1-162-964-11	CERAMIC CHIP	0.001µF 10% 50V
C036	1-126-933-11	ELECT	100µF 20% 16V
C037	1-165-908-11	CERAMIC CHIP	1µF 10% 10V
C038	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C041	1-162-968-11	CERAMIC CHIP	0.0047µF 10% 50V
C042	1-127-715-91	CERAMIC CHIP	0.22µF 10% 16V
C044	1-164-505-11	CERAMIC CHIP	2.2µF 16V
C046	1-162-969-11	CERAMIC CHIP	0.0068µF 10% 25V
C048	1-127-715-91	CERAMIC CHIP	0.22µF 10% 16V
C049	1-164-227-11	CERAMIC CHIP	0.022µF 10% 25V
C050	1-126-964-11	ELECT	10µF 20% 50V
C052	1-162-964-11	CERAMIC CHIP	0.001µF 10% 50V
C053	1-164-227-11	CERAMIC CHIP	0.022µF 10% 25V
C054	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C055	1-100-829-11	FILM	0.15µF 5% 250V
C056	1-126-933-11	ELECT	100µF 20% 16V
C057	1-162-970-11	CERAMIC CHIP	0.01µF 10% 25V
C060	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C061	1-162-968-11	CERAMIC CHIP	0.0047µF 10% 50V
C062	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C063	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C064	1-126-961-11	ELECT	2.2µF 20% 50V
C065	1-126-962-11	ELECT	3.3µF 20% 50V
C067	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C069	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C070	1-107-826-11	CERAMIC CHIP	0.1µF 10% 16V
C073	1-126-961-11	ELECT	2.2µF 20% 50V
C080	1-162-964-11	CERAMIC CHIP	0.001µF 10% 50V
C081	1-162-964-11	CERAMIC CHIP	0.001µF 10% 50V
C089	1-162-964-11	CERAMIC CHIP	0.001µF 10% 50V
C090	1-162-927-11	CERAMIC CHIP	100pF 5% 50V

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REF. NO.	PART NO.	DESCRIPTION	VALUES		
C091	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C092	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C093	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C094	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C095	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C096	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C101	1-126-964-11	ELECT	10µF	20%	50V
C102	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C104	1-162-915-11	CERAMIC CHIP	10pF	0.50pF	50V
C106	1-126-964-11	ELECT	10µF	20%	50V
C107	1-126-935-11	ELECT	470µF	20%	16V
C108	1-126-935-11	ELECT	470µF	20%	16V
C109	1-162-968-11	CERAMIC CHIP	0.0047µF	10%	50V
C111	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C112	1-162-910-11	CERAMIC CHIP	5pF	0.25pF	50V
C115	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C116	1-162-968-11	CERAMIC CHIP	0.0047µF	10%	50V
C117	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C118	1-126-965-91	ELECT	22µF	20%	50V
C119	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C120	1-126-935-11	ELECT	470µF	20%	16V
C133	1-162-927-11	CERAMIC CHIP	100pF	5%	50V
C135	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C137	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C138	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C140	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C142	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C148	1-100-566-91	CERAMIC CHIP	0.1µF	10%	25V
C202	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V
C203	1-165-176-11	CERAMIC CHIP	0.047µF	10%	16V
C204	1-136-497-81	FILM	0.1µF	5%	50V
C205	1-126-959-11	ELECT	0.47µF	20%	50V
C206	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C207	1-136-497-81	FILM	0.1µF	5%	50V
C208	1-162-969-11	CERAMIC CHIP	0.0068µF	10%	25V
C209	1-126-959-11	ELECT	0.47µF	20%	50V
C210	1-126-968-11	ELECT	100µF	20%	50V
C211	1-126-964-11	ELECT	10µF	20%	50V
C213	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C214	1-126-942-61	ELECT	1000µF	20%	25V
C215	1-128-550-11	ELECT	2200µF	20%	50V
C217	1-126-942-61	ELECT	1000µF	20%	25V
C219	1-126-942-61	ELECT	1000µF	20%	25V
C231	1-137-374-11	MYLAR	0.047µF	5%	50V
C232	1-137-374-11	MYLAR	0.047µF	5%	50V
C234	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C235	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C238	1-126-964-11	ELECT	10µF	20%	50V
C239	1-102-228-00	CERAMIC	470pF	10%	500V
C243	1-126-972-11	ELECT	1000µF	20%	50V
C244	1-126-972-11	ELECT	1000µF	20%	50V
C247	1-100-566-91	CERAMIC CHIP	0.1µF	10%	25V
C248	1-100-566-91	CERAMIC CHIP	0.1µF	10%	25V
C300	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C301	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
C302	1-126-963-11	ELECT	4.7µF	20%	50V
C303	1-126-933-11	ELECT	100µF	20%	16V
C304	1-126-933-11	ELECT	100µF	20%	16V
C308	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C311	1-126-961-11	ELECT	2.2µF	20%	50V
C312	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C313	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C316	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
C317	1-126-934-11	ELECT	220µF	20%	16V
C318	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
C319	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C320	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C321	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C322	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C323	1-112-034-91	CERAMIC CHIP	0.01µF	5%	50V
C325	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C328	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C329	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
C332	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
C333	1-100-566-91	CERAMIC CHIP	0.1µF	10%	25V
C335	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
C502	1-126-933-11	ELECT	100µF	20%	16V
C507	1-102-228-00	CERAMIC	470pF	10%	500V
C511	1-164-690-91	CERAMIC CHIP	0.0022µF	5%	50V
C513	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C514	1-106-383-00	MYLAR	0.047µF	10%	200V
C517	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
C518	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C519	1-164-645-11	CERAMIC	1000pF	10%	500V
C521	1-126-933-11	ELECT	100µF	20%	16V
C523	1-164-645-11	CERAMIC	1000pF	10%	500V
C524	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
C527	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V

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

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	REF. NO.	PART NO.	DESCRIPTION	VALUES		
	C537	1-107-911-11	ELECT	220µF	20%	50V
⚠	C538	1-117-651-11	FILM	20000pF	3%	1.2KV
⚠	C539	1-130-895-00	FILM	0.056µF	5%	400V
	C540	1-136-171-00	FILM	0.33µF	5%	50V
	C550	1-106-220-00	MYLAR	0.1µF	10%	100V
	C556	1-126-941-11	ELECT	470µF	20%	25V
	C557	1-126-941-11	ELECT	470µF	20%	25V
	C558	1-123-024-21	ELECT	33µF		160V
	C565	1-107-645-11	ELECT	22µF	20%	200V
⚠	C567	1-117-813-91	FILM	0.75µF	5%	250V
⚠	C570	1-115-521-11	FILM	0.82µF	5%	250V
	C572	1-117-661-71	FILM	0.15µF	5%	250V
	C574	1-107-683-11	ELECT	2.2µF		250V
	C577	1-106-383-00	MYLAR	0.047µF	5%	200V
	C580	1-126-933-11	ELECT	100µF	20%	16V
	C587	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
	C588	1-162-964-11	CERAMIC CHIP	0.001µF	10%	50V
	C590	1-162-968-11	CERAMIC CHIP	0.0047µF	10%	50V
	C592	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
	C597	1-126-925-91	ELECT	470µF	20%	10V
	C598	1-162-968-11	CERAMIC CHIP	0.0047µF	10%	50V
	C603	1-136-497-81	FILM	0.1µF	5%	50V
	C604	1-126-961-11	ELECT (LATIN SOUTH MODEL ONLY)	2.2µF	20%	50V
	C604	1-126-962-11	ELECT (LATIN NORTH MODEL ONLY)	3.3µF	20%	50V
	C605	1-161-830-00	CERAMIC	0.0047µF	20%	500V
	C606	1-161-830-00	CERAMIC	0.0047µF	20%	500V
	C609	1-161-830-00	CERAMIC	0.0047µF	20%	500V
	C610	1-161-830-00	CERAMIC	0.0047µF	20%	500V
	C611	1-117-752-11	CERAMIC (LATIN SOUTH MODEL ONLY)	330µF	20%	500V
	C616	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
	C623	1-162-966-11	CERAMIC CHIP	0.0022µF	10%	50V
	C624	1-126-965-91	ELECT	22µF	20%	50V
⚠	C625	1-127-942-51	CERAMIC	330pF	10%	250V
	C626	1-102-228-00	CERAMIC	470pF	10%	500V
	C628	1-104-331-11	CERAMIC	0.0022µF	10%	1KV
	C630	1-128-549-11	ELECT	3300µF	20%	35V
	C632	1-126-953-11	ELECT	2200µF	20%	35V
	C634	1-126-941-11	ELECT	470µF	20%	25V
	C635	1-126-971-11	ELECT	470µF	20%	50V
	C637	1-107-882-91	ELECT	100µF	20%	16V
	C638	1-107-882-91	ELECT	100µF	20%	16V
	C639	1-126-933-11	ELECT	100µF	20%	16V
	C641	1-126-933-11	ELECT	100µF	20%	16V
	C643	1-117-720-11	CERAMIC CHIP	4.7µF		10V
	C647	1-126-935-11	ELECT	470µF	20%	16V
	C649	1-126-933-11	ELECT	100µF	20%	16V
	C653	1-102-228-00	CERAMIC	470pF	10%	500V
	C654	1-102-228-00	CERAMIC	470pF	10%	500V
⚠	C657	1-113-889-11	CERAMIC	0.001µF	20%	250V
	C658	1-100-957-11	ELECT(BLOCK) (LATIN NORTH MODEL ONLY)	820µF	20%	250V
⚠	C660	1-165-539-31	FILM	0.22µF	10%	275V
	C662	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C665	1-107-855-12	ELECT(BLOCK)	330µF		160V
⚠	C666	1-165-538-31	FILM	0.1µF	10%	275V
	C668	1-126-933-11	ELECT	100µF	20%	16V
	C672	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
	C678	1-164-505-11	CERAMIC CHIP	2.2µF		16V
	C680	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
	C682	1-126-943-11	ELECT	2200µF	20%	25V
	C685	1-126-934-11	ELECT	220µF	20%	16V
	C686	1-117-720-11	CERAMIC CHIP	4.7µF		10V
⚠	C687	1-113-889-11	CERAMIC	0.001µF	20%	250V
	C691	1-104-331-11	CERAMIC (LATIN NORTH MODEL ONLY)	0.0022µF	10%	1KV
	C691	1-117-214-11	CERAMIC (LATIN SOUTH MODEL ONLY)	0.0001µF	10%	2KV
⚠	C693	1-127-942-51	CERAMIC	330pF	10%	250V
	C694	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
	C900	1-164-505-11	CERAMIC CHIP	2.2µF		16V
	C901	1-164-505-11	CERAMIC CHIP	2.2µF		16V
	C902	1-216-864-11	SHORT CHIP			
	C903	1-126-935-11	ELECT	470µF	20%	16V
	C905	1-162-970-11	CERAMIC CHIP	0.01µF	10%	25V
	C906	1-164-346-11	CERAMIC CHIP	1µF		16V
	C907	1-164-346-11	CERAMIC CHIP	1µF		16V
	C908	1-164-346-11	CERAMIC CHIP	1µF		16V
	C909	1-164-346-11	CERAMIC CHIP	1µF		16V
	C910	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
	C911	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
	C912	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
	C913	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
	C914	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
	C915	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
	C916	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V

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

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
	C922	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
	C925	1-164-315-11	CERAMIC CHIP	470pF	5%	50V
	C956	1-126-933-11	ELECT	100µF	20%	16V
	C967	1-164-505-11	CERAMIC CHIP	2.2µF		16V
	C980	1-126-965-91	ELECT	22µF	20%	50V
	C981	1-216-864-11	SHORT CHIP			
	C1019	1-125-891-11	CERAMIC CHIP	0.47µF	10%	10V
	C5001	1-107-957-11	ELECT	1µF	20%	250V
	C5073	1-106-375-12	MYLAR	0.022µF	5%	200V
		CONNECTOR				
*	CN507	1-564-509-11	PLUG, CONNECTOR		6P	
*	CN600	1-508-786-00	PIN, CONNECTOR (5MM PITCH)		2P	
	CN601	1-691-134-11	PIN, CONNECTOR (PC BOARD) (LATIN SOUTH MODEL ONLY)		2P	
*	CN602	1-573-963-11	PIN, CONNECTOR (PC BOARD) (LATIN NORTH MODEL ONLY)		3P	
*	CN904	1-508-743-00	PIN, CONNECTOR		5P	
*	CN2101	1-564-507-11	PLUG, CONNECTOR		4P	
*	CN3101	1-564-510-11	PLUG, CONNECTOR		7P	
*⚠	CN6101	1-580-843-11	PIN, CONNECTOR (POWER)			
*	CN9201	1-564-508-11	PLUG, CONNECTOR		5P	
		CERAMIC TRAP				
	CT139	1-813-754-21	TRAP, CERAMIC			
		DIODE				
	D002	8-719-404-50	DIODE	MA111-TX		
	D003	8-719-404-50	DIODE	MA111-TX		
	D023	8-719-069-60	DIODE	UDZSTE-179.1B		
	D024	8-719-069-60	DIODE	UDZSTE-179.1B		
	D025	8-719-069-60	DIODE	UDZSTE-179.1B		
	D057	8-719-404-50	DIODE	MA111-TX		
	D058	8-719-404-50	DIODE	MA111-TX		
	D059	8-719-404-50	DIODE	MA111-TX		
	D064	8-719-036-94	DIODE	RD5.6SB-T1		
	D065	8-719-036-94	DIODE	RD5.6SB-T1		
	D066	8-719-083-20	DIODE	PG102R		
	D068	8-719-036-94	DIODE	RD5.6SB-T1		
	D074	8-719-991-33	DIODE	1SS133T-77		
	D075	6-500-028-01	DIODE	MM3Z9V1ST1		
	D082	6-500-600-01	DIODE	MM3Z3V3T1		
	D083	6-500-600-01	DIODE	MM3Z3V3T1		
	D084	6-500-600-01	DIODE	MM3Z3V3T1		
	D103	8-719-982-26	DIODE	MTZJ-33B		

REF. NO.	PART NO.	DESCRIPTION	VALUES
D105	8-719-404-50	DIODE	MA111-TX
D106	6-500-600-01	DIODE	MM3Z3V3T1
D108	8-719-036-94	DIODE	RD5.6SB-T1
D109	8-719-036-94	DIODE	RD5.6SB-T1
D200	8-719-062-51	DIODE	1PS226-115
D201	8-719-404-50	DIODE	MA111-TX
D202	8-719-404-50	DIODE	MA111-TX
D203	8-719-404-50	DIODE	MA111-TX
D204	8-719-404-50	DIODE	MA111-TX
D205	8-719-404-50	DIODE	MA111-TX
D208	8-719-404-50	DIODE	MA111-TX
D212	8-719-404-50	DIODE	MA111-TX
D213	8-719-404-50	DIODE	MA111-TX
D214	8-719-404-50	DIODE	MA111-TX
D218	8-719-991-33	DIODE	1SS133T-77
D219	8-719-991-33	DIODE	1SS133T-77
D220	8-719-110-86	DIODE	RD39ESB
D221	8-719-110-86	DIODE	RD39ESB
D222	8-719-080-57	DIODE	FSF05A20
D501	8-719-404-50	DIODE	MA111-TX
D504	8-719-074-25	DIODE	PG104R
D505	8-719-404-50	DIODE	MA111-TX
D506	8-719-404-50	DIODE	MA111-TX
D507	8-719-978-33	DIODE	DTZ-TT11-6.8B
D508	8-719-404-50	DIODE	MA111-TX
D509	6-501-457-01	DIODE	KDZ5.6V-Y-RTK/P
D511	8-719-404-50	DIODE	MA111-TX
D513	8-719-075-05	DIODE	FR104-A5
D517	6-501-299-01	DIODE	BY228GP
D518	8-719-312-10	DIODE	RU4AM-T3
D521	8-719-085-57	DIODE	ER202
D522	8-719-085-57	DIODE	ER202
D523	8-719-074-25	DIODE	PG104R
D527	8-719-075-05	DIODE	FR104-A5
D528	8-719-075-05	DIODE	FR104-A5
D529	8-719-991-33	DIODE	1SS133T-77
D530	8-719-982-13	DIODE	MTZJ-27
D536	8-719-404-50	DIODE	MA111-TX
D537	8-719-404-50	DIODE	MA111-TX
D548	8-719-991-33	DIODE	1SS133T-77
D549	8-719-036-94	DIODE	RD5.6SB-T1
D550	8-719-982-26	DIODE	MTZJ-33B
D600	8-719-404-50	DIODE	MA111-TX
D602	6-501-301-01	DIODE	1A5G

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REF. NO.	PART NO.	DESCRIPTION	VALUES
D603	6-501-301-01	DIODE	1A5G
D604	8-719-077-77	DIODE	D3SB60F3
D606	8-719-109-97	DIODE	RD6.8ESB2
D614	8-719-982-19	DIODE	MTZJ-30A
		(LATIN SOUTH MODEL ONLY)	
D615	6-500-175-01	DIODE	1E3-TB
		(LATIN SOUTH MODEL ONLY)	
D617	6-500-175-01	DIODE	1E3-TB
D618	6-500-175-01	DIODE	1E3-TB
D619	6-500-175-01	DIODE	1E3-TB
D622	6-500-175-01	DIODE	1E3-TB
D625	8-719-510-73	DIODE	S3L20UF4
D629	8-719-109-72	DIODE	RD3.9ESB2
D635	8-719-072-63	DIODE	PDZ3.6B-115
D636	8-719-982-26	DIODE	MTZJ-33B
D637	8-719-072-70	DIODE	MA2ZD14001S0
D638	8-719-404-50	DIODE	MA111-TX
D639	6-501-311-01	DIODE	SB360-S
D642	6-500-028-01	DIODE	MM3Z9V1ST1
D643	6-500-600-01	DIODE	MM3Z3V3T1
D644	8-719-029-04	DIODE	D5L60
D645	8-719-082-03	DIODE	MM3Z15VT1
D646	8-719-082-03	DIODE	MM3Z15VT1
D647	6-500-600-01	DIODE	MM3Z3V3T1
D648	6-500-028-01	DIODE	MM3Z9V1ST1
D649	8-719-082-03	DIODE	MM3Z15VT1
D650	6-500-028-01	DIODE	MM3Z9V1ST1
D651	6-500-028-01	DIODE	MM3Z9V1ST1
D900	6-500-028-01	DIODE	MM3Z9V1ST1
D908	8-719-036-94	DIODE	RD5.6SB-T1
D909	8-719-036-94	DIODE	RD5.6SB-T1
D910	8-719-069-55	DIODE	UDZSTE-175.6B

DY CONNECTOR

*	DY1	1-580-798-11	CONNECTOR PIN (DY)	6P

FERRITE BEAD

FB005	1-469-981-21	FERRITE	0µH
FB006	1-469-981-21	FERRITE	0µH
FB007	1-469-981-21	FERRITE	0µH
FB008	1-469-981-21	FERRITE	0µH
FB009	1-414-229-11	FERRITE	0µH
FB010	1-414-229-11	FERRITE	0µH
FB011	1-414-234-22	FERRITE	0µH
FB201	1-469-578-11	FERRITE	1.1µH
FB503	1-469-579-11	FERRITE	0.45µH
FB504	1-469-578-11	FERRITE	1.1µH
FB601	1-469-578-11	FERRITE	1.1µH
FB603	1-469-578-11	FERRITE	1.1µH
FB605	1-469-578-11	FERRITE	1.1µH
FB608	1-412-911-31	FERRITE	0µH
FB610	1-469-578-11	FERRITE	1.1µH

IC

IC001	6-709-776-01	IC	TDA12001H/N1F4B
IC003	6-705-864-01	IC	CAT24WC16WI-TE13
IC200	6-703-477-01	IC	AN5277T
IC502	8-759-700-07	IC	NJM2903M
IC503	6-709-348-01	IC	LA78041-E
IC601	6-709-448-01	IC	STR-W6735-LF2011
		(LATIN NORTH MODEL ONLY)	
IC601	6-709-487-01	IC	STR-W6753-LF2011
		(LATIN SOUTH MODEL ONLY)	
IC602	6-706-789-01	IC	KIA78R09API
IC603	6-703-478-01	IC	PQ018EF01SSH
IC604	8-759-646-52	IC	KIA7805API
IC605	6-705-063-01	IC	SE135N-LF38
IC606	6-706-886-01	IC	KIA78D33PI
IC607	8-759-832-05	IC	BA18BC0FP-E2

JACK

J900	1-694-242-11	TERMINAL, S	
J901	1-817-299-22	PHONO JACK	11P

CHIP CONDUCTOR

JR001	1-216-864-11	SHORT CHIP
JR003	1-216-864-11	SHORT CHIP
JR007	1-216-864-11	SHORT CHIP
JR008	1-216-864-11	SHORT CHIP
JR009	1-216-864-11	SHORT CHIP
JR013	1-216-864-11	SHORT CHIP
JR014	1-216-864-11	SHORT CHIP
JR016	1-216-864-11	SHORT CHIP
JR026	1-216-864-11	SHORT CHIP
JR027	1-216-864-11	SHORT CHIP
JR030	1-216-864-11	SHORT CHIP
JR031	1-216-864-11	SHORT CHIP
JR036	1-216-864-11	SHORT CHIP
JR037	1-216-864-11	SHORT CHIP

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

REF. NO.	PART NO.	DESCRIPTION	VALUES		
JR042	1-216-797-11	METAL CHIP	10	5%	1/10W
JR049	1-216-864-11	SHORT CHIP			
JR051	1-216-864-11	SHORT CHIP			
JR052	1-216-864-11	SHORT CHIP			
JR071	1-216-864-11	SHORT CHIP			
JR072	1-216-864-11	SHORT CHIP			
JR099	1-216-864-11	SHORT CHIP			
JR203	1-216-864-11	SHORT CHIP			
JR301	1-216-864-11	SHORT CHIP			
JR302	1-216-864-11	SHORT CHIP			
JR303	1-216-864-11	SHORT CHIP			
JR304	1-216-864-11	SHORT CHIP			
JR501	1-216-864-11	SHORT CHIP			
JR502	1-216-864-11	SHORT CHIP			
JR503	1-216-864-11	SHORT CHIP			
JR504	1-216-864-11	SHORT CHIP			
JR506	1-216-864-11	SHORT CHIP			
JR509	1-216-864-11	SHORT CHIP			
JR511	1-216-864-11	SHORT CHIP			
JR512	1-216-864-11	SHORT CHIP			
JR513	1-216-864-11	SHORT CHIP			
JR522	1-216-864-11	SHORT CHIP			
JR601	1-216-864-11	SHORT CHIP			
JR602	1-216-864-11	SHORT CHIP			
JR650	1-216-864-11	SHORT CHIP			
JR651	1-216-864-11	SHORT CHIP			
JR652	1-216-864-11	SHORT CHIP			
JR653	1-216-864-11	SHORT CHIP			
JR654	1-216-864-11	SHORT CHIP			
JR655	1-216-864-11	SHORT CHIP			
JR666	1-216-864-11	SHORT CHIP			
JR667	1-216-864-11	SHORT CHIP			
JR668	1-216-864-11	SHORT CHIP			
JR800	1-216-864-11	SHORT CHIP			
JR801	1-216-864-11	SHORT CHIP			
JR805	1-216-864-11	SHORT CHIP			
JR1006	1-216-864-11	SHORT CHIP			
JR1011	1-216-864-11	SHORT CHIP			
JR1012	1-216-864-11	SHORT CHIP			
JR1050	1-216-811-11	METAL CHIP	150	5%	1/10W
JR1100	1-216-864-11	SHORT CHIP			
JR1101	1-216-864-11	SHORT CHIP			
JR1110	1-216-864-11	SHORT CHIP			
JR1111	1-216-864-11	SHORT CHIP			
JR1903	1-216-864-11	SHORT CHIP			
JR5001	1-216-864-11	SHORT CHIP			
JR5035	1-216-864-11	SHORT CHIP			

COIL

L003	1-414-856-11	INDUCTOR	10µH	
L004	1-414-187-11	INDUCTOR	47µH	
L005	1-414-856-11	INDUCTOR	10µH	
L006	1-414-856-11	INDUCTOR	10µH	
L007	1-414-856-11	INDUCTOR	10µH	
L008	1-414-856-11	INDUCTOR	10µH	
L009	1-414-934-21	INDUCTOR	10µH	
L010	1-414-934-21	INDUCTOR	10µH	
L011	1-414-934-21	INDUCTOR	10µH	
L012	1-414-934-21	INDUCTOR	10µH	
L013	1-414-934-21	INDUCTOR	10µH	
L031	1-414-856-11	INDUCTOR	10µH	
L032	1-414-856-11	INDUCTOR	10µH	
L033	1-414-934-21	INDUCTOR	10µH	
L035	1-414-856-11	INDUCTOR	10µH	
L036	1-414-934-21	INDUCTOR	10µH	
L100	1-414-857-11	INDUCTOR	100µH	
L101	1-414-138-11	INDUCTOR	0.33µH	
L106	1-414-189-31	INDUCTOR	100µH	
L201	1-412-519-11	INDUCTOR	3.3µH	
L507	1-419-633-21	INDUCTOR	10MH	
L512	1-406-666-21	INDUCTOR	150µH	
L513	1-412-552-11	INDUCTOR	2.2MH	
L514	1-408-947-00	INDUCTOR	2.2MH	
L515	1-406-677-11	INDUCTOR	10MH	
L600	1-412-529-11	INDUCTOR	22µH	
L601	1-412-533-21	INDUCTOR	47µH	
L602	1-412-529-11	INDUCTOR	22µH	
L902	1-414-187-11	INDUCTOR	47µH	
L2601	1-406-659-11	INDUCTOR	10µH	

PHOTO COUPLER

⚠	PH600	8-749-019-60	IC	K1010HB01	

IC LINK

⚠	PS201	1-533-597-41	IC LINK	5A	90V
⚠	PS602	1-533-597-41	IC LINK	5A	90V
⚠	PS603	1-533-597-41	IC LINK	5A	90V
	PS604	1-533-597-41	IC LINK	5A	90V
	PS605	1-533-597-41	IC LINK	5A	90V

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REF. NO.	PART NO.	DESCRIPTION	VALUES		
	TRANSISTOR				
Q001	8-729-038-67	TRANSISTOR	KRC102S		
Q010	8-729-600-22	TRANSISTOR	2SA1235-F		
Q016	8-729-038-67	TRANSISTOR	KRC102S		
Q018	8-729-038-67	TRANSISTOR	KRC102S		
Q100	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q102	8-729-022-54	TRANSISTOR	2SC3779C,D-AA		
Q200	8-729-038-67	TRANSISTOR	KRC102S		
Q201	8-729-600-22	TRANSISTOR	2SA1235-F		
Q202	8-729-600-22	TRANSISTOR	2SA1235-F		
Q206	8-729-038-67	TRANSISTOR	KRC102S		
Q501	6-550-362-01	TRANSISTOR	KTA1279		
Q502	8-729-140-50	TRANSISTOR	2SC3209LK		
Q503	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q505	6-551-406-01	TRANSISTOR	IRFS614BYDTU		
Q506	6-551-129-01	TRANSISTOR	2SK3462		
Q511	6-550-845-01	TRANSISTOR	TT2142		
Q512	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q513	8-729-600-22	TRANSISTOR	2SA1235-F		
Q515	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q516	6-550-362-01	TRANSISTOR	KTA1279		
Q601	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q608	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q609	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q900	8-729-600-22	TRANSISTOR	2SA1235-F		
Q901	8-729-027-56	TRANSISTOR	DTC143TKA-T146		
Q902	8-729-027-56	TRANSISTOR	DTC143TKA-T146		
	RESISTOR				
R001	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R002	1-216-809-11	METAL CHIP	100	5%	1/10W
R003	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R004	1-216-809-11	METAL CHIP	100	5%	1/10W
R010	1-216-833-11	METAL CHIP	10K	5%	1/10W
R011	1-216-817-11	METAL CHIP	470	5%	1/10W
R012	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R014	1-216-809-11	METAL CHIP	100	5%	1/10W
R015	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R020	1-216-809-11	METAL CHIP	100	5%	1/10W
R022	1-216-809-11	METAL CHIP	100	5%	1/10W
R023	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R024	1-216-809-11	METAL CHIP	100	5%	1/10W
R025	1-216-809-11	METAL CHIP	100	5%	1/10W
R026	1-216-809-11	METAL CHIP	100	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R029	1-216-809-11	METAL CHIP	100	5%	1/10W
R030	1-216-809-11	METAL CHIP	100	5%	1/10W
R038	1-216-809-11	METAL CHIP	100	5%	1/10W
R039	1-216-809-11	METAL CHIP	100	5%	1/10W
R041	1-216-809-11	METAL CHIP	100	5%	1/10W
R042	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R044	1-216-834-11	METAL CHIP	12K	5%	1/10W
R045	1-216-809-11	METAL CHIP	100	5%	1/10W
R046	1-216-809-11	METAL CHIP	100	5%	1/10W
R048	1-216-809-11	METAL CHIP	100	5%	1/10W
R051	1-218-885-11	METAL CHIP	39K	0.50%	1/10W
R056	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R058	1-216-864-11	SHORT CHIP			
R059	1-216-821-11	METAL CHIP	1K	5%	1/10W
R060	1-216-809-11	METAL CHIP	100	5%	1/10W
R061	1-216-819-11	METAL CHIP	680	5%	1/10W
R088	1-216-816-11	METAL CHIP	390	5%	1/10W
R096	1-216-813-11	METAL CHIP	220	5%	1/10W
R097	1-216-813-11	METAL CHIP	220	5%	1/10W
R099	1-216-813-11	METAL CHIP	220	5%	1/10W
R100	1-216-821-11	METAL CHIP	1K	5%	1/10W
R103	1-211-981-11	METAL CHIP	33	0.50%	1/10W
R106	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R107	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R108	1-216-820-11	METAL CHIP	820	5%	1/10W
R109	1-216-021-00	RES-CHIP	68	5%	1/10W
R115	1-216-809-11	METAL CHIP	100	5%	1/10W
R116	1-216-809-11	METAL CHIP	100	5%	1/10W
R118	1-216-809-11	METAL CHIP	100	5%	1/10W
R119	1-211-981-11	METAL CHIP	33	0.50%	1/10W
R121	1-215-925-11	METAL OXIDE	22K	5%	3W
R128	1-216-864-11	SHORT CHIP			
R149	1-218-839-11	METAL CHIP	470	0.50%	1/10W
R152	1-216-811-11	METAL CHIP	150	5%	1/10W
R200	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R201	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R202	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R203	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R204	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R205	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R206	1-216-809-11	METAL CHIP	100	5%	1/10W
R207	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R208	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R210	1-216-835-11	METAL CHIP	15K	5%	1/10W

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REF. NO.	PART NO.	DESCRIPTION	VALUES		
R211	1-216-835-11	METAL CHIP	15K	5%	1/10W
R212	1-216-817-11	METAL CHIP	470	5%	1/10W
R213	1-216-835-11	METAL CHIP	15K	5%	1/10W
R214	1-216-835-11	METAL CHIP	15K	5%	1/10W
R215	1-216-833-11	METAL CHIP	10K	5%	1/10W
R216	1-216-833-11	METAL CHIP	10K	5%	1/10W
R220	1-216-864-11	SHORT CHIP			
R221	1-216-821-11	METAL CHIP	1K	5%	1/10W
R234	1-249-401-11	CARBON	47	5%	1/4W
R235	1-249-401-11	CARBON	47	5%	1/4W
R236	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R237	1-216-809-11	METAL CHIP	100	5%	1/10W
R238	1-216-809-11	METAL CHIP	100	5%	1/10W
R241	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R242	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R306	1-218-873-11	METAL CHIP	12K	0.50%	1/10W
R314	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R315	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R316	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R317	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R320	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R323	1-216-809-11	METAL CHIP	100	5%	1/10W
R324	1-216-864-11	SHORT CHIP			
R336	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R337	1-216-817-11	METAL CHIP	470	5%	1/10W
R338	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R339	1-216-809-11	METAL CHIP	100	5%	1/10W
R340	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R341	1-216-809-11	METAL CHIP	100	5%	1/10W
R355	1-216-837-11	METAL CHIP	22K	5%	1/10W
R356	1-218-851-11	METAL CHIP	1.5K	0.50%	1/10W
R364	1-216-817-11	METAL CHIP	470	5%	1/10W
R377	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R379	1-216-843-11	METAL CHIP	68K	5%	1/10W
R380	1-216-809-11	METAL CHIP	100	5%	1/10W
R384	1-216-809-11	METAL CHIP	100	5%	1/10W
R385	1-216-809-11	METAL CHIP	100	5%	1/10W
R386	1-216-809-11	METAL CHIP	100	5%	1/10W
R393	1-216-809-11	METAL CHIP	100	5%	1/10W
R394	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R395	1-216-845-11	METAL CHIP	100K	5%	1/10W
R399	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R500	1-216-821-11	METAL CHIP	1K	5%	1/10W
R501	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R502	1-260-127-11	CARBON	220K	5%	1/2W
R503	1-216-841-11	METAL CHIP	47K	5%	1/10W
R504	1-216-841-11	METAL CHIP	47K	5%	1/10W
R505	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R506	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R510	1-243-527-71	METAL OXIDE	47	5%	3W
R513	1-216-849-11	METAL CHIP	220K	5%	1/10W
R514	1-216-841-11	METAL CHIP	47K	5%	1/10W
R515	1-216-853-11	METAL CHIP	470K	5%	1/10W
R518	1-216-838-11	METAL CHIP	27K	5%	1/10W
R519	1-216-841-11	METAL CHIP	47K	5%	1/10W
R520	1-218-869-11	METAL CHIP	8.2K	0.50%	1/10W
R521	1-216-841-11	METAL CHIP	47K	5%	1/10W
R522	1-249-428-11	CARBON	8.2K	5%	1/4W
R523	1-216-839-11	METAL CHIP	33K	5%	1/10W
R524	1-218-887-11	METAL CHIP	47K	0.50%	1/10W
R525	1-245-476-21	METAL	390K	1%	1/4W
R526	1-218-865-11	METAL CHIP	5.6K	0.50%	1/10W
R529	1-218-875-11	METAL CHIP	15K	0.50%	1/10W
R530	1-218-879-11	METAL CHIP	22K	0.50%	1/10W
R531	1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R532	1-216-857-11	METAL CHIP	1M	5%	1/10W
R533	1-216-846-11	METAL CHIP	120K	5%	1/10W
R535	1-216-809-11	METAL CHIP	100	5%	1/10W
R536	1-218-879-11	METAL CHIP	22K	0.50%	1/10W
R537	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R538	1-215-451-00	METAL	18K	1%	1/4W
R542	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R543	1-216-437-00	METAL OXIDE	5.6K	5%	1W
R544	1-218-891-11	METAL CHIP	68K	0.50%	1/10W
R547	1-243-571-71	METAL OXIDE	390	5%	2W
R548	1-215-915-21	METAL OXIDE	470	5%	3W
R551	1-215-455-00	METAL	27K	1%	1/4W
R553	1-218-845-11	METAL CHIP	820	0.50%	1/10W
R554	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R555	1-215-873-00	METAL OXIDE	4.7K	5%	1W
R556	1-218-871-11	METAL CHIP	10K	0.50%	1/10W
R560	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R562	1-243-683-71	METAL OXIDE	47	5%	1W
R568	1-249-383-11	CARBON	1.5	5%	1/4W
R571	1-218-865-11	METAL CHIP	5.6K	0.50%	1/10W
R577	1-243-565-71	METAL OXIDE	120	5%	2W
R578	1-243-809-71	METAL OXIDE	1	5%	1W
R579	1-215-916-71	METAL OXIDE	680	5%	3W

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

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REF. NO.	PART NO.	DESCRIPTION	VALUES		
R580	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R582	1-216-858-11	METAL CHIP	1.2M	5%	1/10W
R585	1-243-544-71	METAL OXIDE	2.2	5%	2W
R596	1-215-916-71	METAL OXIDE	680	5%	3W
R597	1-243-576-71	METAL OXIDE	1K	5%	2W
R599	1-216-838-11	METAL CHIP	27K	5%	1/10W
R602	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R603	1-216-821-11	METAL CHIP	1K	5%	1/10W
R604	1-216-864-11	SHORT CHIP			
R605	1-242-949-11	FUSIBLE	0.1	10%	1W
R606	1-245-504-71	METAL OXIDE (LATIN SOUTH MODEL ONLY)	100K	5%	2W
R607	1-240-262-11	METAL (LATIN NORTH MODEL ONLY)	0.68	5%	10W
R607	1-205-997-31	METAL (LATIN SOUTH MODEL ONLY)	2.2	5%	10W
R608	1-216-864-11	SHORT CHIP (LATIN NORTH MODEL ONLY)			
R608	1-216-813-11	METAL CHIP (LATIN SOUTH MODEL ONLY)	220	5%	1/10W
R609	1-216-833-11	METAL CHIP	10K	5%	1/10W
R610	1-216-362-21	METAL OXIDE	0.27	5%	2W
R616	1-240-262-11	METAL (LATIN NORTH MODEL ONLY)	0.68	5%	10W
R616	1-205-997-31	METAL (LATIN SOUTH MODEL ONLY)	2.2	5%	10W
R619	1-243-953-71	METAL OXIDE	0.22	5%	3W
R621	1-247-807-31	CARBON	100	5%	1/4W
R623	1-218-883-11	METAL CHIP (LATIN SOUTH MODEL ONLY)	33K	0.5%	1/10W
R624	1-215-421-00	METAL	1K	1%	1/4W
R627	1-249-393-11	CARBON (LATIN NORTH MODEL ONLY)	10	5%	1/4W
R627	1-249-403-11	CARBON (LATIN SOUTH MODEL ONLY)	68	5%	1/4W
R631	1-249-425-11	CARBON	4.7K	5%	1/4W
R634	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R635	1-216-833-11	METAL CHIP	10K	5%	1/10W
R636	1-247-843-11	CARBON	3.3K	5%	1/4W
R647	1-216-821-11	METAL CHIP (LATIN NORTH MODEL ONLY)	1K	5%	1/10W
R647	1-216-813-11	METAL CHIP (LATIN SOUTH MODEL ONLY)	220	5%	1/10W
⚠ R650	1-247-289-00	METAL	8.2M	5%	1W

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R651	1-243-598-71	METAL OXIDE (LATIN NORTH MODEL ONLY)	68K	5%	2W
R651	1-245-504-71	METAL OXIDE (LATIN SOUTH MODEL ONLY)	100K	5%	2W
R655	1-216-809-11	METAL CHIP	100	5%	1/10W
R656	1-249-381-11	CARBON	1	5%	1/4W
R667	1-216-821-11	METAL CHIP	1K	5%	1/10W
R668	1-216-839-11	METAL CHIP	33K	5%	1/10W
R680	1-216-864-11	SHORT CHIP			
R902	1-216-821-11	METAL CHIP	1K	5%	1/10W
R904	1-216-821-11	METAL CHIP	1K	5%	1/10W
R905	1-216-840-11	METAL CHIP	39K	5%	1/10W
R906	1-216-817-11	METAL CHIP	470	5%	1/10W
R907	1-216-840-11	METAL CHIP	39K	5%	1/10W
R908	1-216-840-11	METAL CHIP	39K	5%	1/10W
R909	1-216-840-11	METAL CHIP	39K	5%	1/10W
R910	1-216-817-11	METAL CHIP	470	5%	1/10W
R911	1-216-864-11	SHORT CHIP			
R913	1-216-853-11	METAL CHIP	470K	5%	1/10W
R914	1-216-853-11	METAL CHIP	470K	5%	1/10W
R915	1-216-849-11	METAL CHIP	220K	5%	1/10W
R916	1-216-849-11	METAL CHIP	220K	5%	1/10W
R919	1-216-809-11	METAL CHIP	100	5%	1/10W
R920	1-216-849-11	METAL CHIP	220K	5%	1/10W
R921	1-216-849-11	METAL CHIP	220K	5%	1/10W
R923	1-218-285-11	METAL CHIP	75	5%	1/10W
R924	1-216-853-11	METAL CHIP	470K	5%	1/10W
R925	1-216-813-11	METAL CHIP	220	5%	1/10W
R926	1-216-813-11	METAL CHIP	220	5%	1/10W
R927	1-216-813-11	METAL CHIP	220	5%	1/10W
R928	1-218-285-11	METAL CHIP	75	5%	1/10W
R929	1-218-285-11	METAL CHIP	75	5%	1/10W
R930	1-218-285-11	METAL CHIP	75	5%	1/10W
R931	1-216-811-11	METAL CHIP	150	5%	1/10W
R932	1-216-864-11	SHORT CHIP			
R933	1-216-864-11	SHORT CHIP			
R939	1-216-810-11	METAL CHIP	120	5%	1/10W
R944	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R989	1-216-833-11	METAL CHIP	10K	5%	1/10W
R990	1-216-864-11	SHORT CHIP			
R2151	1-243-692-71	METAL OXIDE	220	5%	1W
R2152	1-243-692-71	METAL OXIDE	220	5%	1W
R2646	1-249-381-11	CARBON	1	5%	1/4W
R2647	1-249-429-11	CARBON	10K	5%	1/4W

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

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R5000	1-216-837-11	METAL CHIP	22K	5%	1/10W
R5001	1-216-841-11	METAL CHIP	47K	5%	1/10W
R5002	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5003	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5005	1-216-809-11	METAL CHIP	100	5%	1/10W
R5006	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5008	1-216-845-11	METAL CHIP	100K	5%	1/10W
R5009	1-216-853-11	METAL CHIP	470K	5%	1/10W
R5010	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5011	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R5012	1-216-835-11	METAL CHIP	15K	5%	1/10W
R5013	1-216-857-11	METAL CHIP	1M	5%	1/10W
R5014	1-216-859-11	METAL CHIP	1.5M	5%	1/10W
R5015	1-208-830-11	METAL CHIP	100K	0.50%	1/10W
R5020	1-243-957-71	METAL OXIDE	0.47	5%	3W
R5021	1-218-843-11	METAL CHIP	680	0.50%	1/10W
R5022	1-245-470-21	METAL	220K	1%	1/4W
R5023	1-245-470-21	METAL	220K	1%	1/4W
R5024	1-218-865-11	METAL CHIP	5.6K	0.50%	1/10W
R5025	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5026	1-245-470-21	METAL	220K	1%	1/4W
R5027	1-245-466-21	METAL	150K	1%	1/4W
R5032	1-215-916-71	METAL OXIDE	680	5%	3W
R5034	1-216-857-11	METAL CHIP	1M	5%	1/10W
R5035	1-216-821-11	METAL CHIP	1K	5%	1/10W
R5036	1-218-839-11	METAL CHIP	470	0.50%	1/10W
R5037	1-249-377-11	CARBON	0.47	5%	1/4W
R5038	1-249-377-11	CARBON	0.47	5%	1/4W
R5039	1-249-377-11	CARBON	0.47	5%	1/4W
R9017	1-216-809-11	METAL CHIP	100	5%	1/10W
R9018	1-127-715-91	CERAMIC CHIP	0.22µF	10%	16V
R9019	1-216-809-11	METAL CHIP	100	5%	1/10W
R9020	1-216-809-11	METAL CHIP	100	5%	1/10W
R9021	1-216-809-11	METAL CHIP	100	5%	1/10W
R9022	1-216-809-11	METAL CHIP	100	5%	1/10W
R9023	1-216-809-11	METAL CHIP	100	5%	1/10W
R9025	1-216-809-11	METAL CHIP	100	5%	1/10W
R9026	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9027	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9028	1-216-809-11	METAL CHIP	100	5%	1/10W
R9030	1-216-809-11	METAL CHIP	100	5%	1/10W
R9031	1-216-809-11	METAL CHIP	100	5%	1/10W
R9036	1-216-809-11	METAL CHIP	100	5%	1/10W
R9062	1-218-285-11	METAL CHIP	75	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION	VALUES
	RELAY		
⚠ RY600	1-755-198-11	RELAY, AC POWER	
	SWITCH		
S502	1-572-707-11	SWITCH, LEVER	
	SAW FILTER		
SWF102	1-813-391-11	FILTER,SURFACE WAVE (41.25MHZ)	
SWF104	1-795-929-12	SAW FILTER	
	TRANSFORMER		
⚠ T501	1-437-195-51	TRANSFORMER, HORIZONTAL DRIVE	
⚠ T503	1-453-483-11	FBT ASSY NX-4910//X4B4	
T504	1-433-850-11	TRANSFORMER, HORIZONTAL LINEAR	
T508	1-437-610-11	TRANSFORMER, FERRITE (PMT)	
⚠ T602	1-443-955-11	CONVERTER TRANSFORMER (SRT) (LATIN NORTH MODEL ONLY)	
⚠ T602	1-443-979-11	CONVERTER TRANSFORMER (SRT) (LATIN SOUTH MODEL ONLY)	
⚠ T603	1-431-182-11	TRANSFORMER, LINE FILTER	
	THERMISTOR		
⚠ TH600	1-803-970-11	THERMISTOR, POSITIVE (LATIN NORTH MODEL ONLY)	
⚠ TH600	1-805-808-11	THERMISTOR, POSITIVE (LATIN SOUTH MODEL ONLY)	
	POST PIN		
TP02	1-536-354-00	POST PIN	
TP03	1-536-354-00	POST PIN	
TP04	1-536-354-00	POST PIN	
TP601	1-536-354-00	POST PIN	
TP602	1-536-354-00	POST PIN	
	TUNER		
TU101	1-693-694-11	TUNER (ENV56K18G3F)	
	CRYSTAL		
X001	1-813-311-21	QUARTS CRYSTAL UNIT	

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

CV

CV

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
*		**A-1133-945-A**	**CV BOARD, MOUNTED**			
		1-900-262-86	LEAD ASSY, FOCUS			
		4-382-854-01	SCREW (M3X8), P, SW (+)			
			CAPACITOR			
	C704	1-126-933-11	ELECT	100µF	20%	16V
	C710	1-162-117-00	CERAMIC	100pF	10%	500V
	C711	1-161-830-00	CERAMIC	0.0047µF		500V
	C712	1-137-374-11	MYLAR	0.047µF	5%	50V
	C713	1-107-645-11	ELECT	22µF	20%	200V
	C714	1-107-648-91	ELECT	100µF	20%	200V
	C718	1-106-383-00	MYLAR	0.047µF	10%	200V
	C719	1-107-636-11	ELECT	10µF	20%	160V
	C720	1-104-999-11	MYLAR	0.1µF	5%	200V
	C722	1-126-933-11	ELECT	100µF	20%	16V
	C723	1-137-374-11	MYLAR	0.047µF	5%	50V
	C725	1-126-935-11	ELECT	470µF	20%	16V
	C751	1-107-652-11	ELECT	10µF	20%	250V
	C752	1-115-350-51	CERAMIC	0.0047µF		2KV
	C753	1-136-189-00	MYLAR	0.1µF	10%	250V
	C754	1-107-649-11	ELECT	2.2µF	20%	250V
	C756	1-126-965-91	ELECT	22µF	20%	50V
	C783	1-102-074-00	CERAMIC	0.001µF	10%	50V
	C786	1-115-350-51	CERAMIC	0.0047µF		2KV
	C788	1-162-925-11	CERAMIC CHIP	68pF	5%	50V
	C789	1-162-925-11	CERAMIC CHIP	68pF	5%	50V
	C790	1-162-925-11	CERAMIC CHIP	68pF	5%	50V
	C1800	1-107-698-11	ELECT	10µF	20%	25V
	C1801	1-107-826-11	CERAMIC CHIP	0.1µF	10%	16V
	C1802	1-126-947-11	ELECT	47µF	20%	35V
	C1803	1-136-497-81	FILM	0.1µF	5%	50V
	C1804	1-126-964-11	ELECT	10µF	20%	50V
	C1805	1-126-965-91	ELECT	22µF	20%	50V
	C1809	1-126-947-11	ELECT	47µF	20%	35V
			CONNECTOR			
*	CN701	1-564-510-11	PLUG, CONNECTOR		7P	
	CN702	1-695-915-11	TAB (CONTACT)			
	CN703	1-691-765-11	PLUG (MICRO CONNECTOR)		3P	
	CN704	1-695-915-11	TAB (CONTACT)			
	CN705	1-695-915-11	TAB (CONTACT)			

	REF. NO.	PART NO.	DESCRIPTION	VALUES		
*	CN711	1-564-507-11	PLUG, CONNECTOR		4P	
*	CN712	1-564-506-11	PLUG, CONNECTOR		3P	
*	CN1801	1-564-509-11	PLUG, CONNECTOR		6P	
*	CN1802	1-564-506-11	PLUG, CONNECTOR		3P	
			DIODE			
	D750	8-719-083-20	DIODE	PG102R		
	D754	8-719-970-83	DIODE	HSS82-TJ		
	D755	8-719-970-83	DIODE	HSS82-TJ		
	D756	8-719-970-83	DIODE	HSS82-TJ		
	D782	8-719-109-89	DIODE	RD5.6ESB2		
	D788	8-719-404-50	DIODE	MA111-TX		
	D1803	8-719-404-50	DIODE	MA111-TX		
			IC			
	IC751	6-709-352-01	IC	TDA6108AJF/N2		
	IC1801	8-759-803-42	IC	LA6500-FA		
			JACK			
⚠	J751	1-451-544-11	SOCKET, CRT			
			COIL			
	L711	1-412-537-31	INDUCTOR	100µH		
	L712	1-414-187-11	INDUCTOR	47µH		
	L750	1-414-856-11	INDUCTOR	10µH		
	L751	1-412-539-11	INDUCTOR	150µH		
	L752	1-414-187-11	INDUCTOR	47µH		
	L753	1-414-187-11	INDUCTOR	47µH		
	L754	1-414-187-11	INDUCTOR	47µH		
			TRANSISTOR			
	Q712	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
	Q713	6-550-247-01	TRANSISTOR	KTA1659A		
	Q715	8-729-053-87	TRANSISTOR	KTC4370A		
	Q717	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
	Q718	8-729-600-22	TRANSISTOR	2SA1235-F		
	Q719	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
	Q1800	8-729-600-22	TRANSISTOR	2SA1235-F		
	Q1802	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
	Q1804	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
			RESISTOR			
	R712	1-216-805-11	METAL CHIP	47	5%	1/10W
	R714	1-260-312-11	CARBON	47	5%	1/2W
	R715	1-249-413-11	CARBON	470	5%	1/4W

CV H2

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

REF. NO.	PART NO.	DESCRIPTION	VALUES		
R722	1-249-437-11	CARBON	47K	5%	1/4W
R724	1-215-888-00	METAL OXIDE	220	5%	2W
R725	1-249-417-11	CARBON	1K	5%	1/4W
R726	1-249-437-11	CARBON	47K	5%	1/4W
R727	1-216-833-11	METAL CHIP	10K	5%	1/10W
R728	1-216-809-11	METAL CHIP	100	5%	1/10W
R729	1-249-413-11	CARBON	470	5%	1/4W
R730	1-216-809-11	METAL CHIP	100	5%	1/10W
R731	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R732	1-249-385-11	CARBON	2.2	5%	1/4W
R735	1-249-401-11	CARBON	47	5%	1/4W
R736	1-247-791-91	CARBON	22	5%	1/4W
R737	1-249-385-11	CARBON	2.2	5%	1/4W
R752	1-249-415-11	CARBON	680	5%	1/4W
R753	1-249-415-11	CARBON	680	5%	1/4W
R754	1-249-411-11	CARBON	330	5%	1/4W
R756	1-219-746-11	METAL	1K	5%	1/2W
R757	1-219-746-11	METAL	1K	5%	1/2W
R758	1-219-746-11	METAL	1K	5%	1/2W
R760	1-260-123-11	CARBON	100K	5%	1/2W
R763	1-260-087-11	CARBON	100	5%	1/2W
R764	1-260-087-11	CARBON	100	5%	1/2W
R765	1-260-087-11	CARBON	100	5%	1/2W
R773	1-260-135-11	CARBON	1M	5%	1/2W
R781	1-243-951-71	METAL OXIDE	0.68	5%	2W
R782	1-216-821-11	METAL CHIP	1K	5%	1/10W
R788	1-216-821-11	METAL CHIP	1K	5%	1/10W
R789	1-216-821-11	METAL CHIP	1K	5%	1/10W
R790	1-216-814-11	METAL CHIP	270	5%	1/10W
R791	1-216-807-11	METAL CHIP	68	5%	1/10W
R792	1-216-819-11	METAL CHIP	680	5%	1/10W
R793	1-216-807-11	METAL CHIP	68	5%	1/10W
R794	1-249-381-11	CARBON	1	5%	1/4W
R798	1-249-397-11	CARBON	22	5%	1/4W
R1800	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1801	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R1802	1-218-829-11	METAL CHIP	180	0.50%	1/10W
R1803	1-218-879-11	METAL CHIP	22K	0.50%	1/10W
R1804	1-218-847-11	METAL CHIP	1K	0.50%	1/10W
R1805	1-218-871-11	METAL CHIP	10K	0.50%	1/10W
R1806	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1807	1-216-864-11	SHORT CHIP			
R1808	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R1809	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1810	1-243-696-71	METAL OXIDE	470	5%	1W
R1811	1-249-391-11	CARBON	6.8	5%	1/4W
R1812	1-249-383-11	CARBON	1.5	5%	1/4W
R1813	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1814	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1815	1-216-849-11	METAL CHIP	220K	5%	1/10W
R1816	1-218-847-11	METAL CHIP	1K	0.50%	1/10W
R1817	1-249-381-11	CARBON	1	5%	1/4W
R1830	1-218-847-11	METAL CHIP	1K	0.50%	1/10W

VARIABLE RESISTOR

⚠	RV750	1-241-656-21	RES, ADJ, METAL FILM 110M
	RV1800	1-238-019-11	RES, ADJ, CARBON 47K

H2

A-1174-473-A H2 BOARD, MOUNTED

*	A4106	4-055-304-01	HOLDER, LED

CAPACITOR

	C4103	1-126-947-11	ELECT	47µF	20% 35V
	C4104	1-164-315-11	CERAMIC CHIP	470pF	5% 50V
	C4105	1-164-346-11	CERAMIC CHIP	1µF	16V
	C4106	1-164-315-11	CERAMIC CHIP	470pF	5% 50V
	C4107	1-164-346-11	CERAMIC CHIP	1µF	16V
	C4108	1-126-925-91	ELECT	470µF	20% 10V
	C4109	1-126-947-11	ELECT	47µF	20% 35V
⚠	C4111	1-119-895-51	CERAMIC	4700pF	20% 250V
	C4116	1-126-965-91	ELECT	22µF	20% 50V
	C4117	1-126-965-91	ELECT	22µF	20% 50V
⚠	C4602	1-165-533-31	MYLAR	0.68µF	10 0V

CONNECTOR

⚠	*CN4101	1-580-843-11	PIN, CONNECTOR (POWER)	
⚠	*CN4102	1-580-843-11	PIN, CONNECTOR (POWER)	
*	CN4103	1-564-510-11	PLUG, CONNECTOR	7P
*	CN4105	1-564-508-11	PLUG, CONNECTOR	5P
*	CN4106	1-564-507-11	PLUG, CONNECTOR	4P
*	CN4108	1-564-507-11	PLUG, CONNECTOR	4P
	CN4111	1-695-915-11	TAB (CONTACT)	

DIODE

	D4103	8-719-036-94	DIODE RD5.6SB-T1
	D4104	8-719-036-94	DIODE RD5.6SB-T1
	D4105	8-719-036-94	DIODE RD5.6SB-T1

H2

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

REF. NO.	PART NO.	DESCRIPTION	VALUES		
D4106	8-719-083-18	DIODE	SPB-25MVWF		
D4107	8-719-036-94	DIODE	RD5.6SB-T1		
D4108	8-719-081-97	DIODE	MMDL914T1		
D4109	8-719-036-94	DIODE	RD5.6SB-T1		
D4110	8-719-991-33	DIODE	1SS133T-77		
D4111	8-719-991-33	DIODE	1SS133T-77		
D4115	8-719-036-94	DIODE	RD5.6SB-T1		
		FUSE			
⚠ F4101	1-576-334-41	FUSE	5A	250V	
		FUSE HOLDER			
⚠ FH4101	1-533-223-11	FUSE HOLDER	0A	0V	
⚠ FH4102	1-533-223-11	FUSE HOLDER	0A	0V	
		IC			
IC4101	6-704-532-01	IC	RPM7240-H5		
		JACK			
J4102	1-770-329-13	JACK, PIN	3P		
J4103	1-770-786-31	JACK			
		TRANSISTOR			
Q4101	8-729-027-56	TRANSISTOR	DTC143TKA-T146		
Q4102	8-729-027-56	TRANSISTOR	DTC143TKA-T146		
		RESISTOR			
R4103	1-218-285-11	METAL CHIP	75	5%	1/10W
R4104	1-216-849-11	METAL CHIP	220K	5%	1/10W
R4105	1-216-838-11	METAL CHIP	27K	5%	1/10W
R4106	1-216-849-11	METAL CHIP	220K	5%	1/10W
R4107	1-216-838-11	METAL CHIP	27K	5%	1/10W
R4108	1-216-813-11	METAL CHIP	220	5%	1/10W
R4109	1-216-813-11	METAL CHIP	220	5%	1/10W
R4110	1-216-797-11	METAL CHIP	10	5%	1/10W
R4111	1-216-809-11	METAL CHIP	100	5%	1/10W
R4112	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R4113	1-216-821-11	METAL CHIP	1K	5%	1/10W
R4114	1-216-819-11	METAL CHIP	680	5%	1/10W
R4115	1-216-817-11	METAL CHIP	470	5%	1/10W
R4116	1-216-815-11	METAL CHIP	330	5%	1/10W
R4117	1-216-813-11	METAL CHIP	220	5%	1/10W
R4118	1-216-811-11	METAL CHIP	150	5%	1/10W
R4120	1-249-411-11	CARBON	330	5%	1/4W
R4121	1-249-411-11	CARBON	330	5%	1/4W
⚠ R4122	1-243-994-91	METAL	820K	5%	0.5W
		SWITCH			
S4102	1-692-431-21	SWITCH, TACTILE			
S4103	1-692-431-21	SWITCH, TACTILE			
S4104	1-692-431-21	SWITCH, TACTILE			
S4105	1-692-431-21	SWITCH, TACTILE			
S4106	1-692-431-21	SWITCH, TACTILE			
S4107	1-692-431-21	SWITCH, TACTILE			
S4108	1-692-431-21	SWITCH, TACTILE			
S4109	1-692-431-21	SWITCH, TACTILE			
		TRANSFORMER			
⚠ T4600	1-431-182-11	TRANSFORMER, LINE FILTER			
		VARISTOR			
VDR460	1-804-995-11	VARISTOR			
		PACKING AND ACCESSORIES			
*	2-657-860-01	BAG, PROTECTION			
*	2-687-141-01	CARTON, INDIVIDUAL			
*	2-666-103-01	CUSHION, LOWER			
*	2-666-102-01	CUSHION, UPPER			
	2-669-426-42	MANUAL, INSTRUCTION			
		REMOTE COMMANDER			
	1-479-626-11	REMOTE COMMANDER (RM-YA005)			
	9-939-697-00	BATTERY COVER (RM-YA005)			

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Sony Technology Center
Technical Services
Service Promotion Department

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SERVICE MANUAL

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In an effort to reduce the size of this pdf file the tiled schematics are not attached to this Service Manual. To receive a complete set of the tiled schematics for this manual please submit a request to:

Service_Promotion@am.sony.com.