

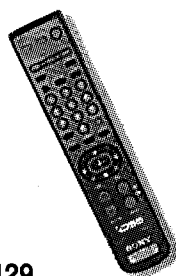
# SERVICE MANUAL

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**SAT-B2/2 RM-Y129**

**U.S. Models**

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**RM-Y129**



**SAT-B2/2**



**DIGITAL SATELLITE RECEIVER**  
**SONY®**

# Specifications

<b>Input Jacks</b>	UHF/VHF 75 ohm external terminal Satellite Antenna 75 ohm external terminal CONTROL-S IN/S-LINK (mini-jack) 5Vp-p AC Power (120V 60 Hz)
<b>Output Jacks</b>	S-VIDEO OUT 4-pin mini DIN VIDEO (phono jacks) (2) AUDIO R/L (phono jacks) (2) VHF (SAT)/UHF Wide Band Data 15-pin D-Sub Female TEL LINE VCR MOUSE/CONTROL-S OUT (mini-jack)
<b>Input Frequency</b>	950 - 1450 Mhz
<b>Power Requirements</b>	120V AC, 60 Hz
<b>Power Consumption</b>	20 W max.
<b>Dimensions (w/h/d)</b>	16.9 x 3.2 x 10.8 inches 430 x 85 x 290 mm
<b>Weight</b>	Set: 10.8 lb (4.9 kg) Unit: 6.4 lb (2.9 kg)
<b>Supplied Accessories</b>	Remote Commander, RM-Y129 Size AA Batteries (2) Access Card (1) Audio/Video Cable (1) RF Cable (1) Telephone Cable (1) AC Power Cord VCR Mouse, RM-VM101

*Design and specifications subject to change without notice.*

## Optional Sony-brand DSS Accessories

Installation Kit ANJ-DSI	Voltage Switch ECA-DV1	Universal Remote Commander RM-Y130	Coaxial Cable (75 ft.) SAK-C75
In-line Amplifier EAC-DA1	Multi-Room A/V Distribution System MDR-D1	Flat Cable SAK-F1	Dish Antennas SAT-18S1
Diplexer EAC-DD1	IR Target (for MRD-D1 System) EAC-T1	Coaxial Cable (25 ft.) SAK-C25	SAT-18D1

# Specifications

## SAFETY CHECK-OUT

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage using one of the methods listed.

## 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 instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 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 1)

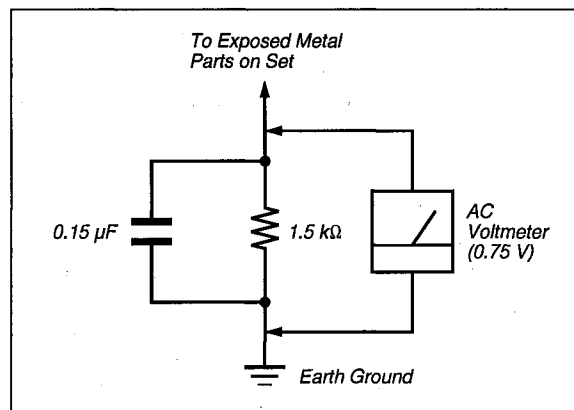


Figure 1. Using an AC voltmeter to check AC leakage.

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**SAFETY-RELATED COMPONENT WARNING!!**

Components identified by shading and mark  $\Delta$  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.

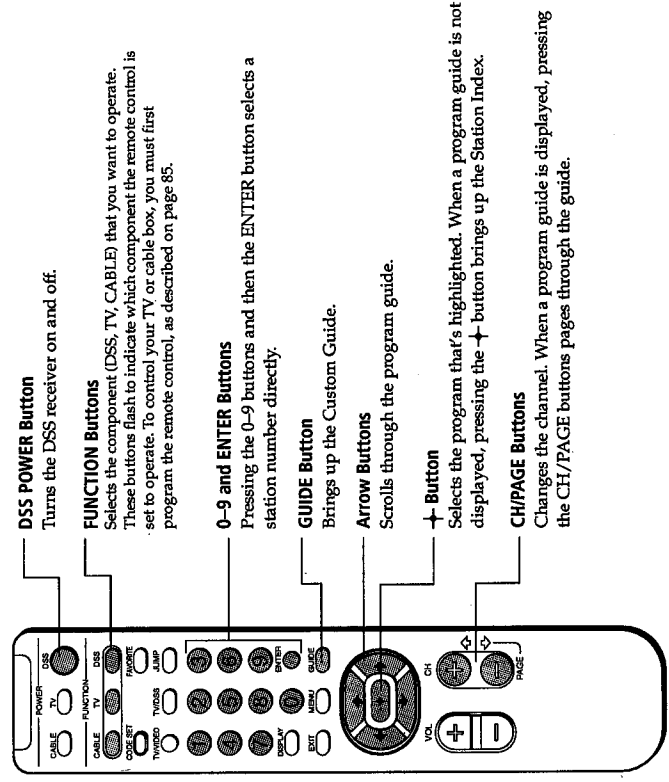


**SECTION 1  
GENERAL**

**TV Only**

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

**Remote Control for Model SAT-B2**



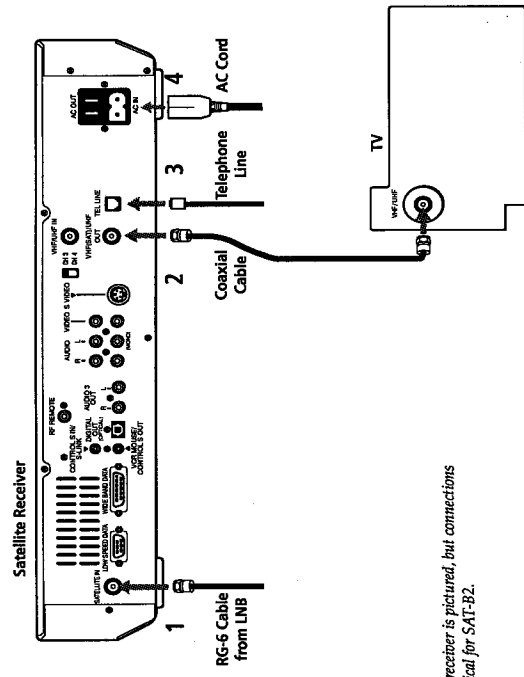
- See Also**
- Pages 9-10 for a quick start to using the program guide and the Station Index.
  - Chapter 4 for procedures for using the main system features.
  - Page 84 for a complete description of the buttons on the remote.

**TV With RF Connector Only**

Refer to the illustration below (SAT-A2 receiver is pictured).

- 1 Connect the RG-6 cable from the satellite antenna's LNB to the DSS receiver's SATELLITE IN jack.
  - 2 Connect the DSS receiver's VHF(SAT)/UHF OUT jack to the TV's VHF/UHF IN jack.
- Note**  
A VHF/UHF connection does not provide stereo sound. To receive stereo sound, you must use an A/V connection (described on page 13).
- 3 Connect one end of the telephone line cord to the DSS receiver's TEL LINE jack. Connect the other end to your home's modular telephone outlet.
  - 4 Connect one end of the AC power cord to the DSS receiver's AC IN jack. Connect the plug end to an AC outlet.

Some TVs label this jack RF IN, instead of VHF/UHF IN.



SAT-A2 receiver is pictured, but connections are identical for SAT-B2.

**Optional Connections**

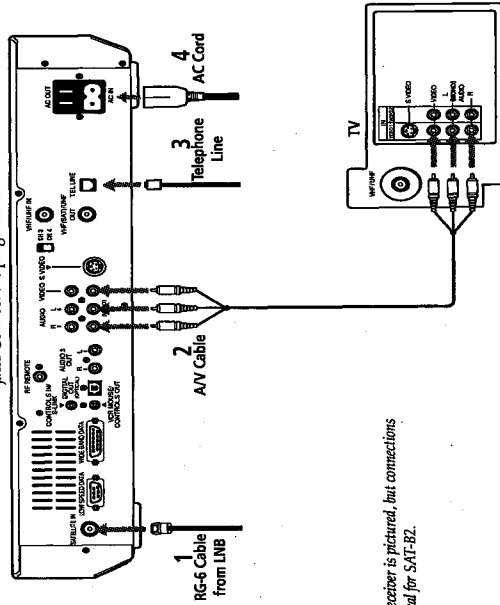
- If you have a cable input, cable box, or a terrestrial TV antenna, connect it to the DSS receiver's VHF/UHF IN jack.
- To connect the DSS receiver to your audio system, use audio cables to connect the DSS receiver to your audio receiver's AUDIO IN jacks.

**TV With AV Connectors**

Refer to the illustration below (SAT-A2 receiver is pictured).

- 1 Connect the RG-6 cable from the satellite antenna's LNB to the DSS receiver's SATELLITE IN jack.
- 2 Connect the DSS receiver's A/V jacks to the TV's A/V IN jacks.
- 3 Connect one end of the telephone line cord to the DSS receiver's TEL LINE jack. Connect the other end to your home's modular telephone outlet.
- 4 Connect one end of the AC power cord to the DSS receiver's AC IN jack. Connect the plug end to an AC outlet.

If your TV has only one AUDIO IN jack, connect the lower (mono) AUDIO L jack on the DSS receiver to the TV's AUDIO IN jack.



SAT-A2 receiver is pictured, but connections are identical for SAT-B2.

**Optional Connections**

- If you have a cable input, cable box, or a terrestrial TV antenna, connect it to the TV's VHF/UHF IN jack.
- *Best Connection:* If your TV has an S-VIDEO jack, use an S-VIDEO cable to connect the DSS receiver's S-VIDEO jack to the TV's S-VIDEO IN jack. This provides the best picture quality. Then use audio cables to connect one set of the DSS receiver's audio jacks to the TV's AUDIO IN jacks.
- To connect the DSS receiver to your audio system, use audio cables to connect the DSS receiver to your audio receiver's AUDIO IN jacks.

Some TVs label this jack RF IN, instead of VHF/UHF IN.

**TV and VCR**

Refer to the illustration on the opposite page (SAT-A2 receiver is pictured).

- 1 Connect the RG-6 cable from the satellite antenna's LNB to the DSS receiver's SATELLITE IN jack.
- 2 Complete one of the following to connect the DSS receiver:
  - *Better Connection:* Connect the DSS receiver's A/V jacks to the A/V IN jacks on the TV and VCR. If your VCR has only one AUDIO IN jack (monoaural VCR), connect it to the lower (mono) AUDIO L jack on the DSS receiver.
  - *Good Connection:* Connect the DSS receiver's VHF(SAT)/UHF OUT jack to the VCR's VHF/UHF IN jack.
- 3 Complete one of the following to connect the VCR to the TV:
  - *Better Connection:* If both your TV and VCR have A/V jacks, connect the VCR's A/V OUT jacks to the TV's A/V IN jacks.
  - *Good Connection:* If your TV or VCR has only an RF jack, connect the VCR's VHF/UHF OUT jack to the TV's VHF/UHF IN jack.
- 4 Connect one end of the telephone line cord to the DSS receiver's TEL LINE jack. Connect the other end to your home's modular telephone outlet.
- 5 Connect one end of the AC power cord to the DSS receiver's AC IN jack. Connect the plug end to an AC outlet.

Some VCRs and TVs label this jack RF IN, instead of VHF/UHF IN.

**Optional Connections**

- If you have a cable input, cable box, or a terrestrial TV antenna, connect it to the TV or VCR's VHF/UHF IN jack.
- *Best Connection:* If your TV has an S-VIDEO jack, use an S-VIDEO cable to connect the DSS receiver's S-VIDEO jack to the TV's S-VIDEO IN jack. This provides the best picture quality. Then use audio cables to connect one set of the DSS receiver's audio jacks to the TV's AUDIO IN jacks.
- To connect the DSS receiver to your audio system, use audio cables to connect the DSS receiver to your audio receiver's AUDIO IN jacks.
- If you are using the VCR Mouse, see page 20 for setup instructions.

**Note**

If the screen appears fuzzy, the program you are watching may be protected by Macrovision. Turn the VCR off to improve the picture quality.

## Hi-Fi TV, Hi-Fi VCR, Audio Receiver (SAT-A2 Only)

Refer to the illustration on the opposite page.

- 1 Connect the RG-6 cable from the satellite antenna's LNB to the DSS receiver's SATELLITE IN jack.
- 2 Connect the DSS receiver's audio OUT jacks to the audio receiver's audio IN jacks.
- 3 Connect the DSS receiver's AV jacks to the A/V IN jacks on the TV.
- 4 Complete one of the following to connect the DSS receiver to the VCR:
  - *Better Connection:* Connect the DSS receiver's A/V jacks to the A/V IN jacks on the VCR.
  - *Good Connection:* Connect the DSS receiver's VHF(SAT)/UHF OUT jack to the VCR's VHF/UHF IN jack.
- 5 Complete one of the following to connect the VCR to the TV:
  - *Better Connection:* If both your TV and VCR have A/V jacks, connect the VCR's A/V OUT jacks to the TV's A/V IN jacks.
  - *Good Connection:* If your TV or VCR has only an RF jack, connect the VCR's VHF/UHF OUT jack to the TV's VHF/UHF IN jack.
- 6 Connect one end of the telephone line cord to the DSS receiver's TEL LINE jack. Connect the other end to your home's modular telephone outlet.
- 7 Connect one end of the AC power cord to the DSS receiver's AC IN jack. Connect the plug end to an AC outlet.

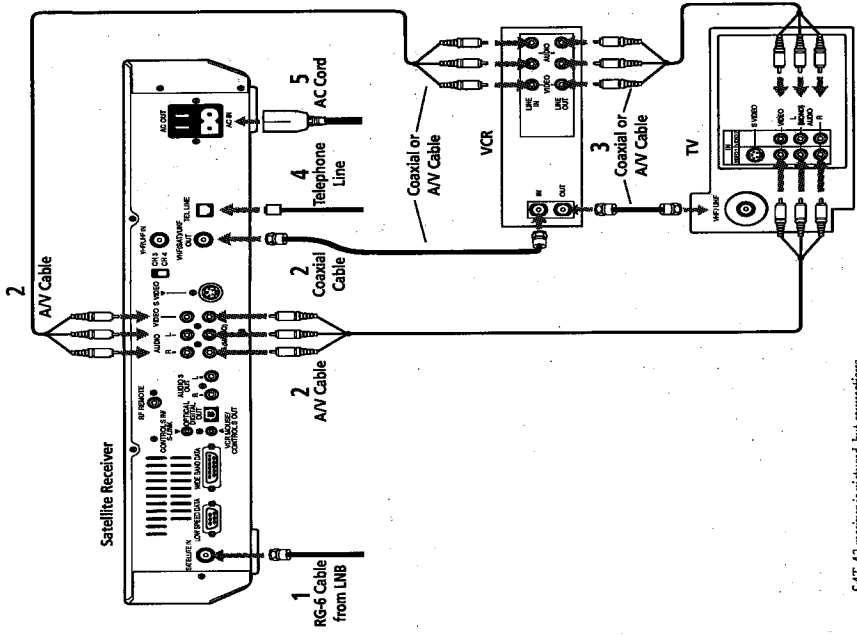
*Some VCRs and TVs label this jack RF IN, instead of VHF/UHF IN.*

### Optional Connections

- If you have a cable input, cable box, or a terrestrial TV antenna, connect it to the VCR's VHF/UHF IN jack.
- *Best Connection:* If your TV has an S-VIDEO jack, use an S-VIDEO cable to connect the DSS receiver's S-VIDEO jack to the TV's S-VIDEO IN jack. This provides the best picture quality. Then use audio cables to connect one set of the DSS receiver's audio jacks to the audio receiver's AUDIO IN jacks.
- If you are using the VCR Mousse, see page 20 for setup instructions.

### Note

*If the screen appears fuzzy, the program you are watching may be protected by Macrovision. Turn the VCR off to improve the picture quality.*



*SAT-A2 receiver is pictured, but connections are identical for SAT-B2.*

## Home Entertainment System (Hi-Fi TV, Hi-Fi VCR, Audio/Video Receiver)

Refer to the illustration on the opposite page (SAT-A2 receiver is pictured).

- 1 Connect the RG-6 cable from the satellite antenna's LNB to the DSS receiver's SATELLITE IN jack.
- 2 Connect the DSS receiver's A/V jacks to the VCR and A/V receiver's A/V IN jacks.
- 3 Connect the VCR's A/V OUT jacks to one set of the A/V receiver's A/V IN jacks.
- 4 Connect the A/V receiver's MONITOR OUT jack to the TV's VIDEO IN jack.
- 5 Connect one end of the telephone line cord to the DSS receiver's TEL LINE jack. Connect the other end to your home's modular telephone outlet.
- 6 Connect one end of the AC power cord to the DSS receiver's AC IN jack. Connect the plug end to an AC outlet.

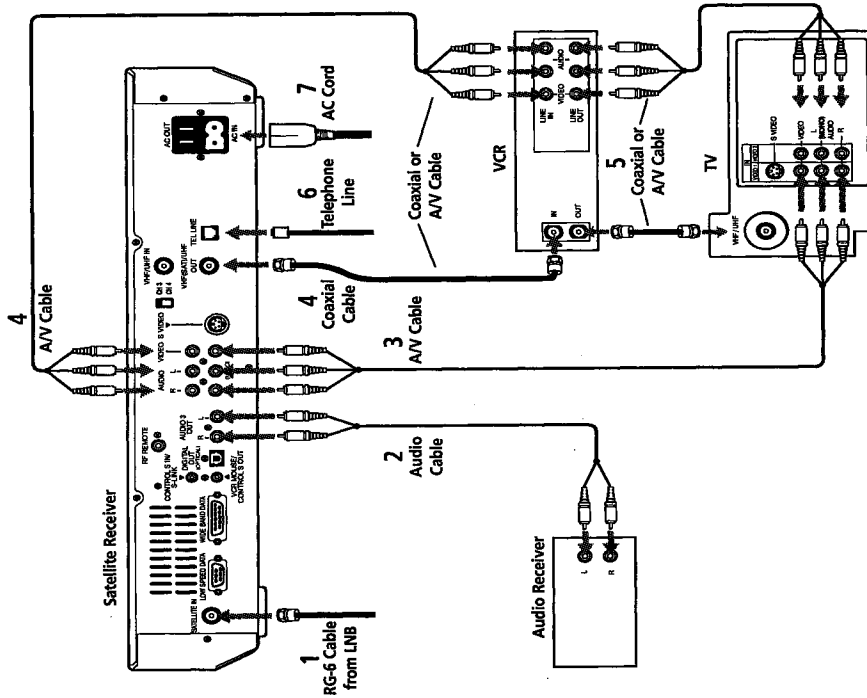
### Optional Connections

- If you have a cable input, cable box, or a terrestrial TV antenna, connect it to the VCR's VHF/UHF IN jack.
- Best Connection:* If your A/V receiver has an S-VIDEO jack, use an S-VIDEO cable to connect the DSS receiver's S-VIDEO jack to the A/V receiver's S-VIDEO IN jack. Then connect an S-VIDEO cable from the A/V receiver to the TV's S-VIDEO IN jack. This provides the best picture quality. Then use audio cables to connect one set of the DSS receiver's audio jacks to the A/V receiver's AUDIO IN jacks.
- If you are using the VCR Mouse, see page 20 for setup instructions.

### Note

If the screen appears fuzzy, the program you are watching may be protected by Macrovision. Turn the VCR off to improve the picture quality. In this configuration, the A/V receiver must be turned on in order to pass the video signals through to your TV.

Some VCRs label this jack RF IN, instead of VHF/UHF IN.

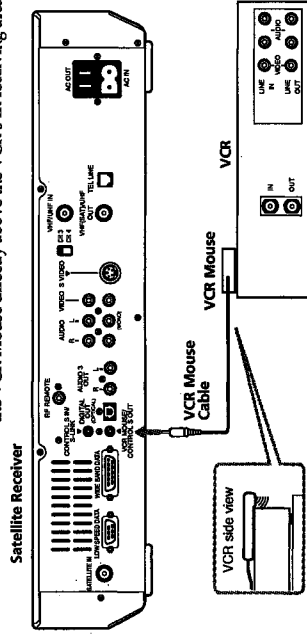




## Connecting the VCR Mouse

The VCR Mouse works with the DSS receiver's Timer function to automatically start and stop the recording function of your VCR. Connections are identical for SAT-B2.

- 1 Connect the VCR Mouse to the DSS receiver's VCR MOUSE/CONTROL SOUT jack. Then place the VCR Mouse on top of and slightly overhanging the front of the VCR. For best results, place the VCR Mouse directly above the VCR's IR receiving area.



- 2 Find the three-digit code number for your VCR in the table below. If more than one code number is listed, use the number listed first to complete step 3.

Manufacturer	Code	Manufacturer	Code
Sony*	301, 302, 303	Samsung	313, 321, 322
Hitechi	304, 305	Scott	312
Bell & Howell	343	JVC	314
Danewoo	341	Magnavox	308, 309, 310
Emerson	316, 317, 318, 319, 320	Mitsubishi	323, 324, 325, 326
Fisher	350, 353, 354, 355	NBC	356, 357
General Electric	304, 329	Panasonic	306, 307
Go-Video	339, 340	Philips	310
Goldstar	332	RCA	305
		Toshiba	338, 342
		Zenith	311

\*Code 301 is the default code for Sony VHS VCRs; for Sony 8mm VCRs, use code 302; for Sony Beta, ED VCRs, use code 303.

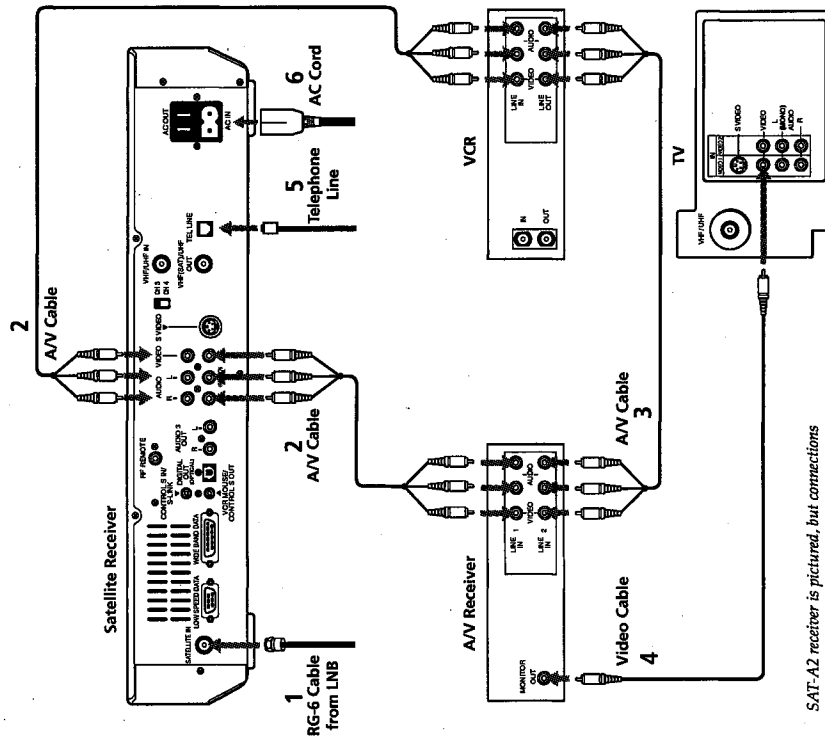
- 3 Using the buttons on the VCR Mouse: 1) Press the SET button, 2) Enter the three-digit code number, 3) Press the ENTER button.
- 4 To check that the code is correct, press the 1 button on the VCR Mouse. If the VCR turns on and off each time you press 1, the code number is correct.

### To use the VCR Mouse:

- 1) Set the DSS Timer (page 38), 2) Turn on the VCR and set the VCR's line input to the DSS receiver, 3) Insert a tape, 4) Turn off the VCR.

If the VCR Mouse doesn't seem to be working correctly, first check that the VCR Mouse is positioned directly above the VCR's IR receiving area. If it's still not working, try this procedure again using the other codes listed for your VCR. For more troubleshooting information, see page 90.

## 20 Chapter 3: Connecting Your System

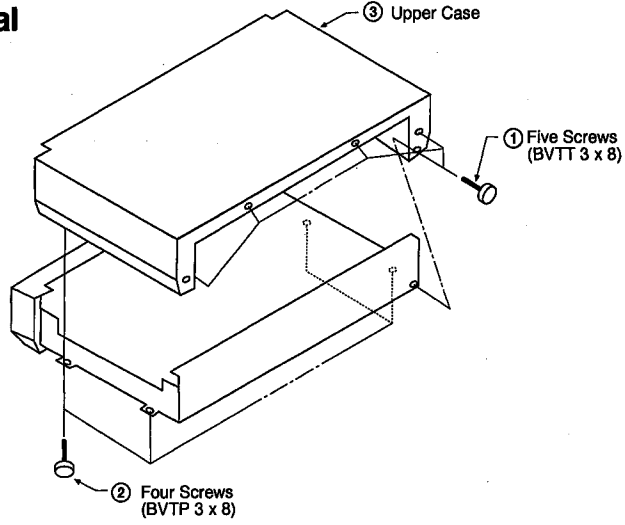


SAT-A2 receiver is pictured, but connections are identical for SAT-B2.

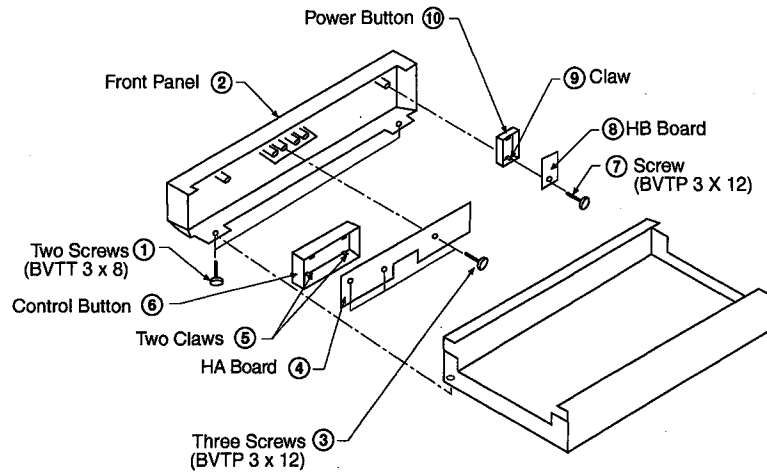
## Chapter 3: Connecting Your System 19

## SECTION 2 DISASSEMBLY

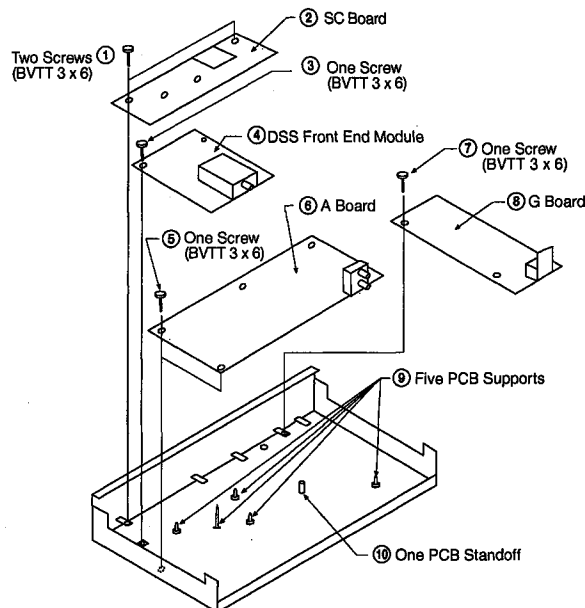
### 2-1. Upper Case Removal



### 2-2. HA and HB Board Removal



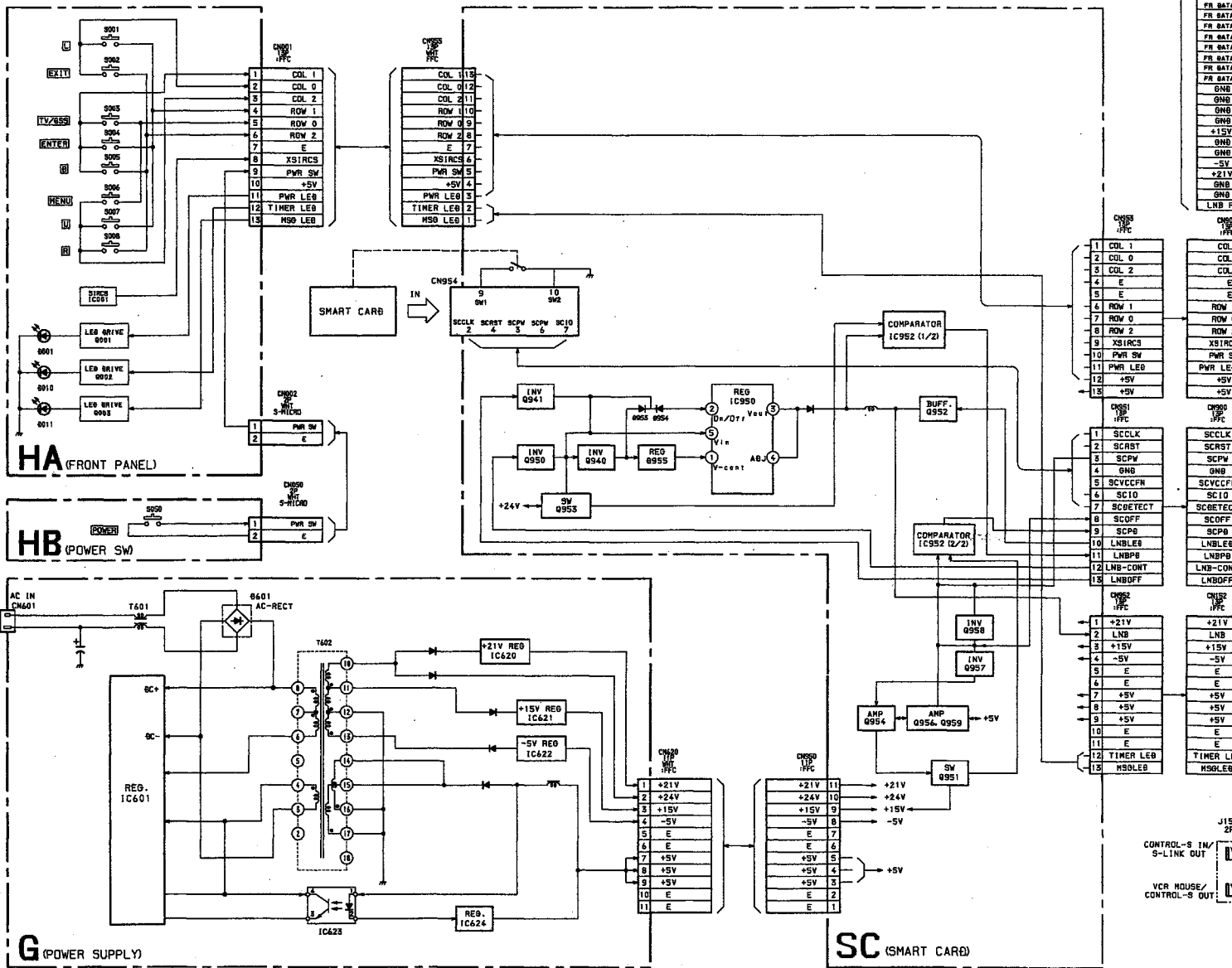
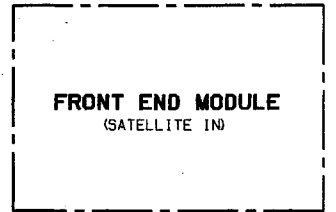
### 2-3. A, G, SC Board and DSS Front End Module Removal

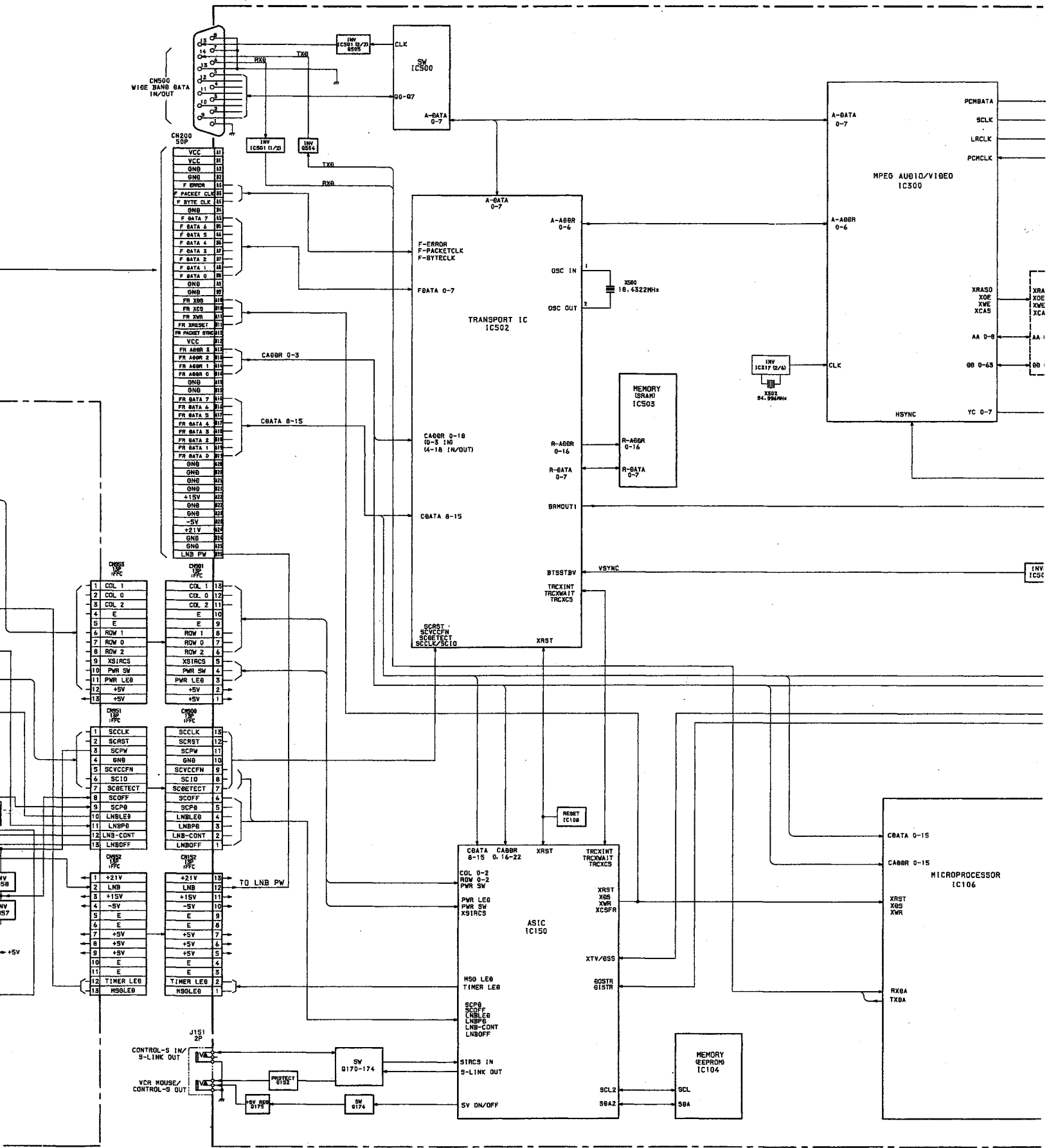


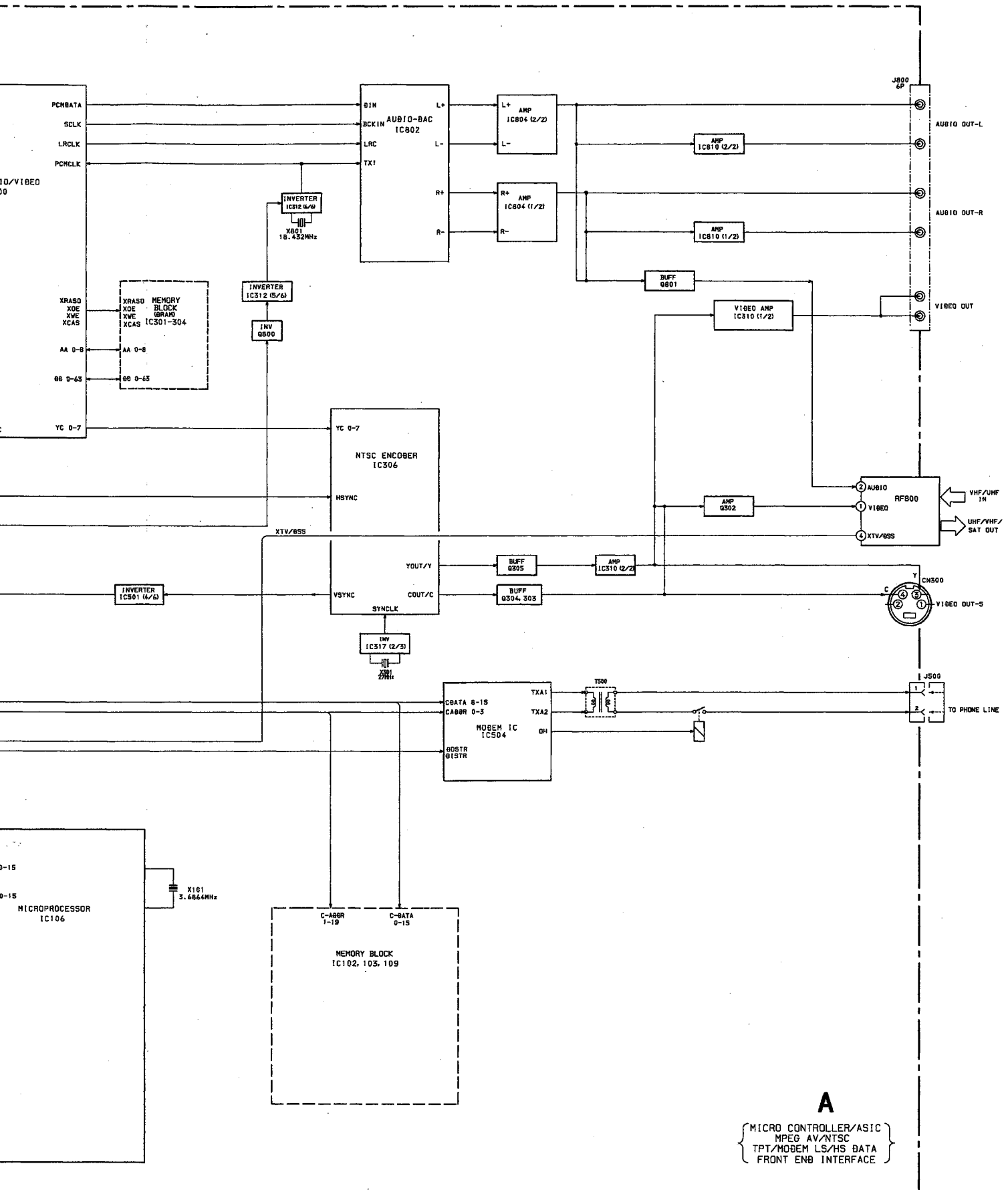
# SECTION 3 DIAGRAMS

SAT-B2/2

## 3-1. BLOCK DIAGRAMS



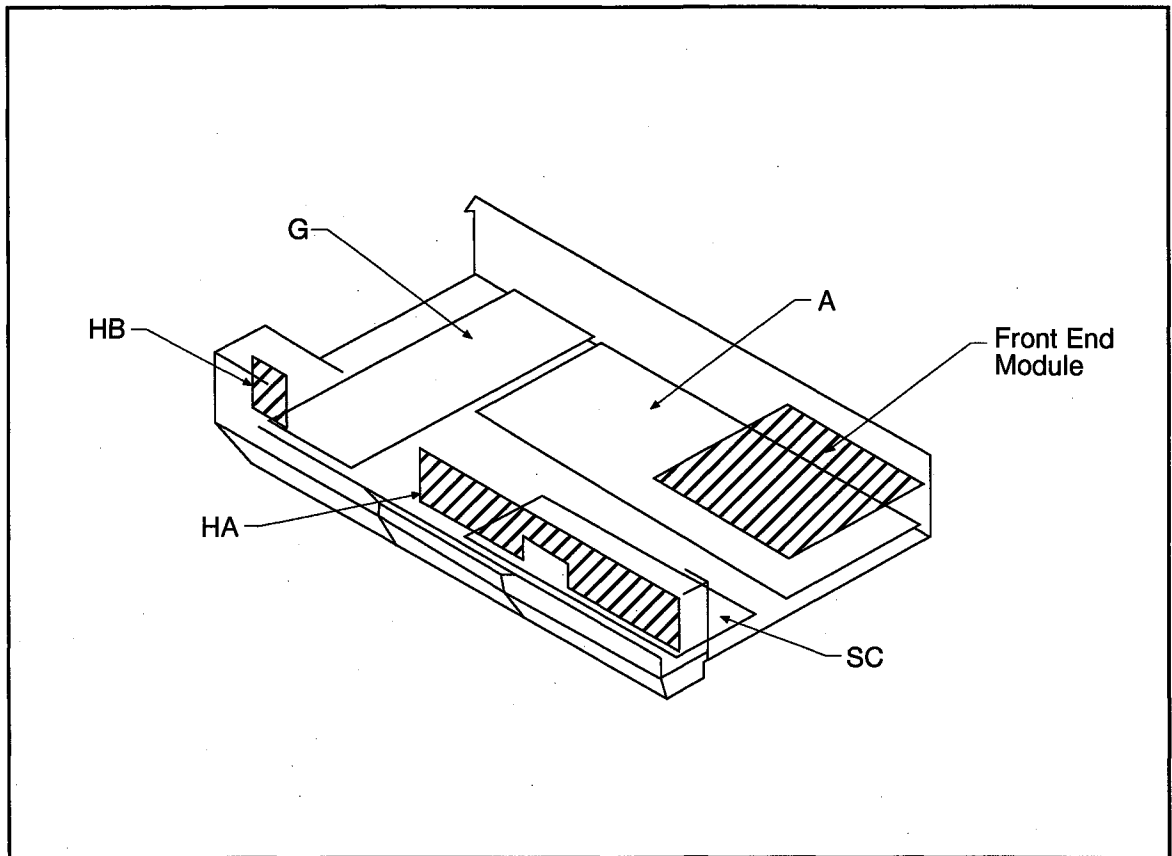




**A**

{ MICRO CONTROLLER/ASIC  
MPEG AV/NTSC  
TPT/MODEM LS/HS DATA  
FRONT END INTERFACE }

### 3-2. Circuit Boards Location








### 3-3. Schematic Diagrams and Printed Wiring Boards

**NOTE:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. PF:  $\mu\text{F}$  50 WV or less are not indicated except for electrolytic.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm  
 Rating electrical power 1/4 W (CHIP: 1/10W)

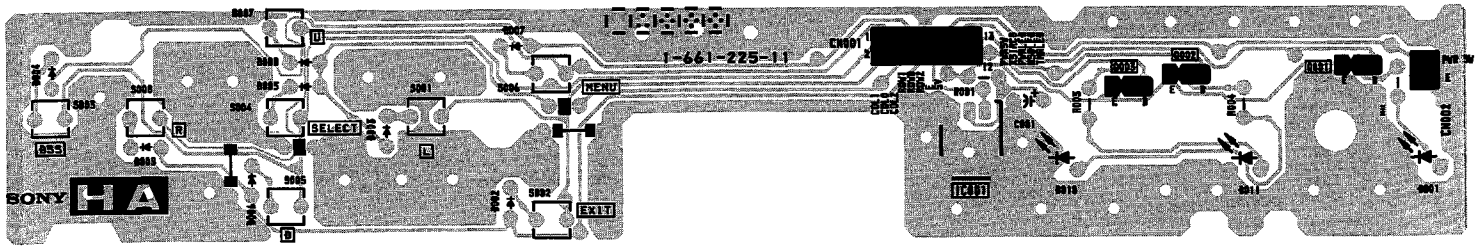
- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- $\Delta$ : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- $\perp$ : earth-ground.

- $\perp$ : earth-chassis.
- All voltages are in V.
- Readings are taken with a 10 M $\Omega$  digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- \* : Cannot be measured.
- : B+bus.
- : B-bus.

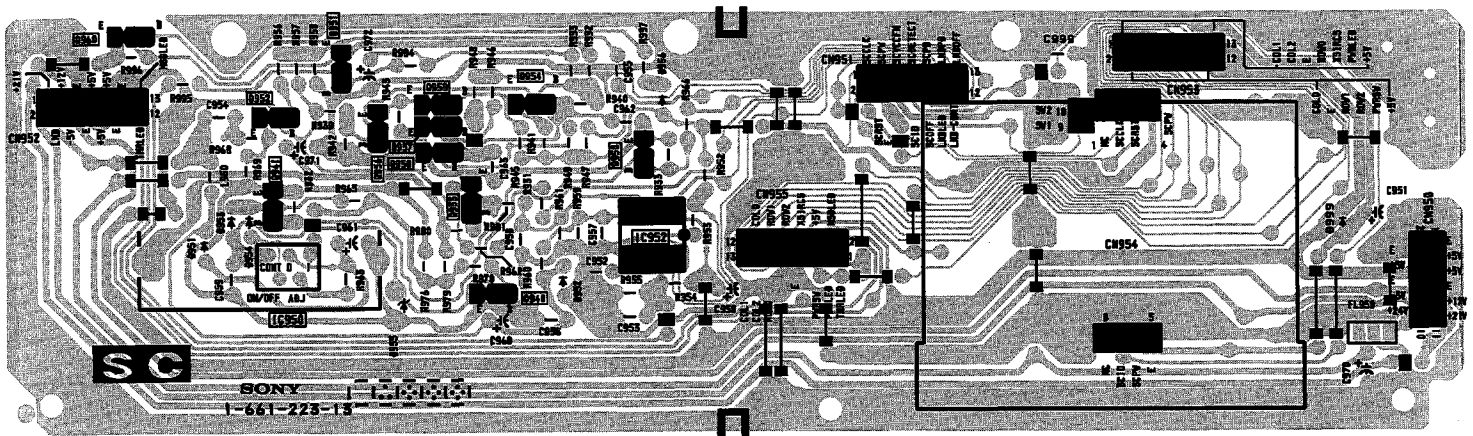
**NOTE:**

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

# HA [FRONT PANEL]

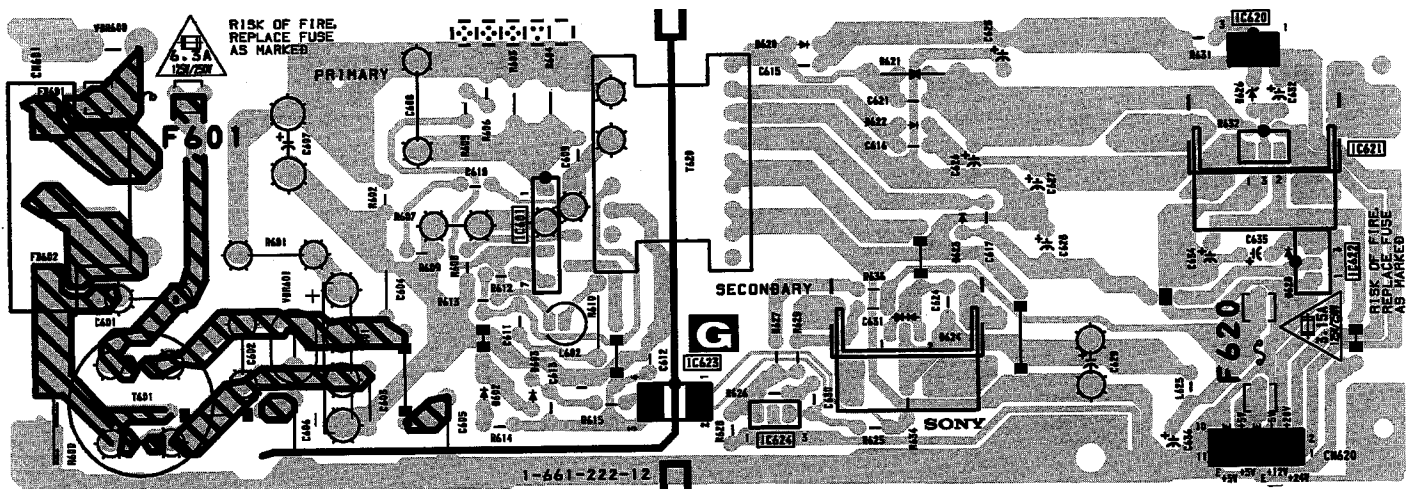


# SC [SMART CARD]

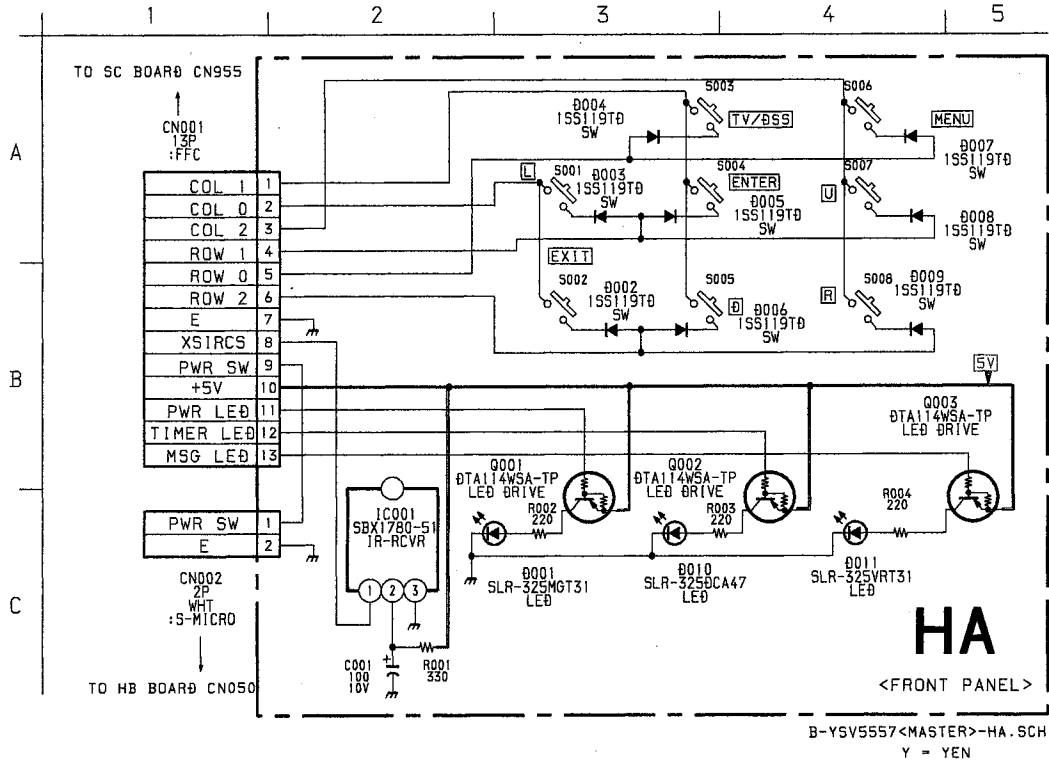


**NOTE:**  
Portions of the circuit marked as shown are high voltage areas. Use care to prevent electric shocks during inspection or repair.

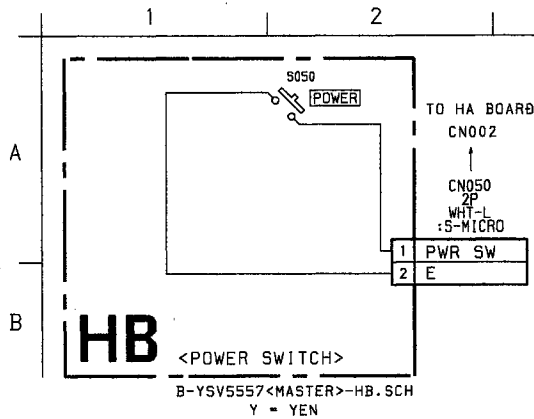
# G [POWER SUPPLY]



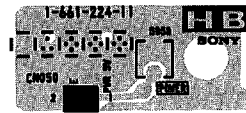
— HA BOARD —



— HB BOARD —



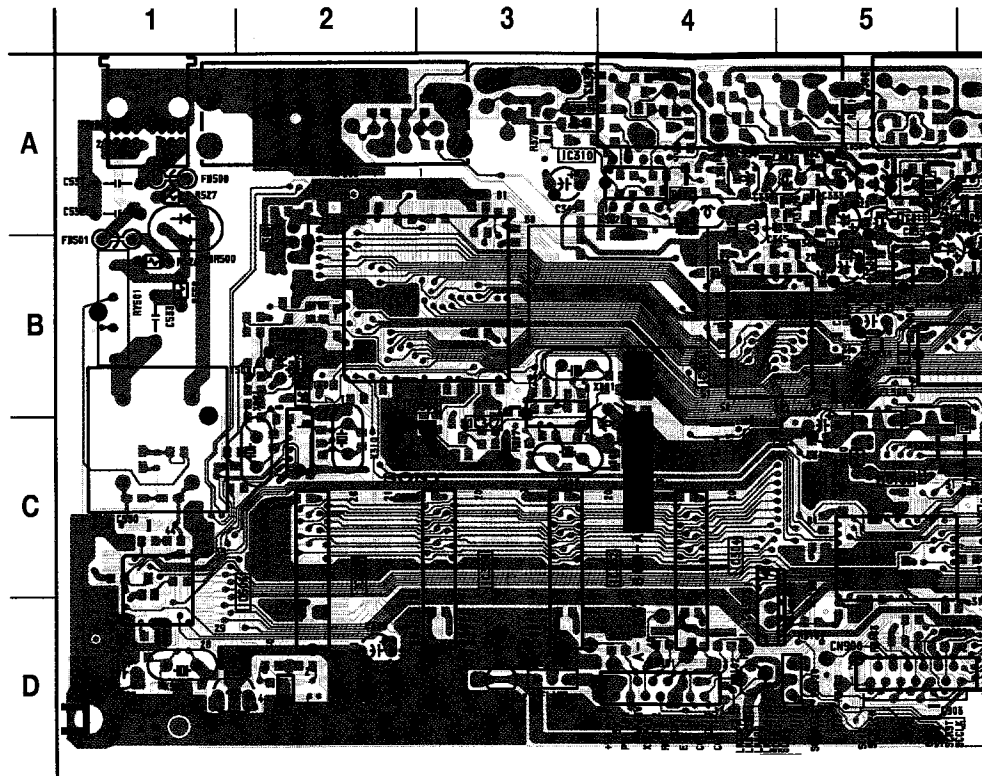
**HB** [POWER SW]



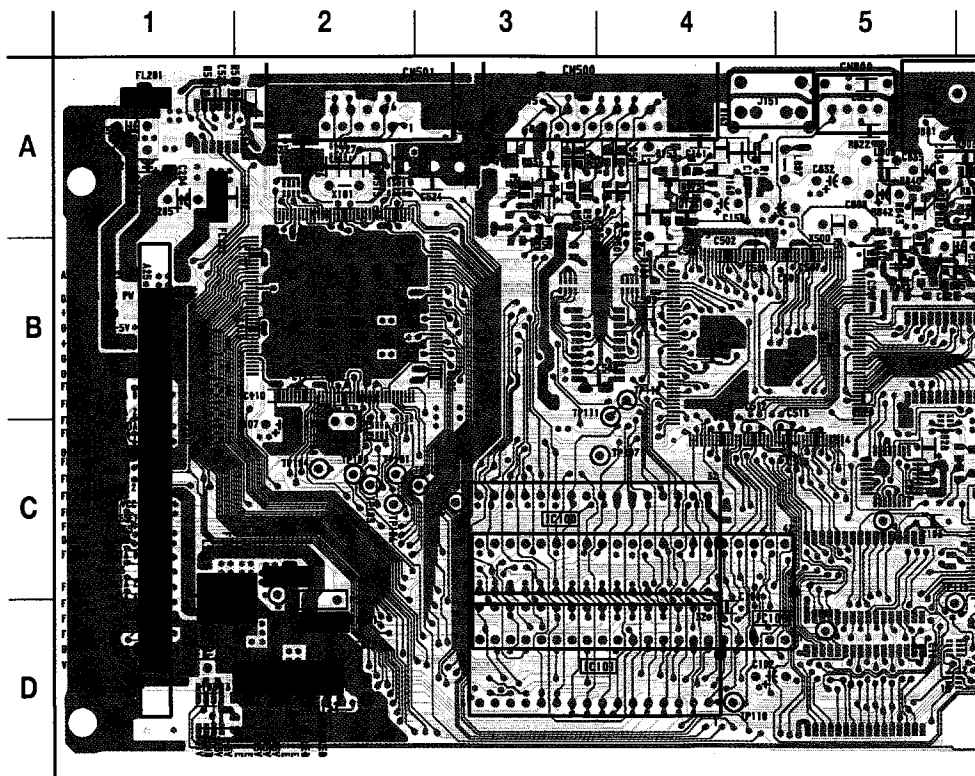


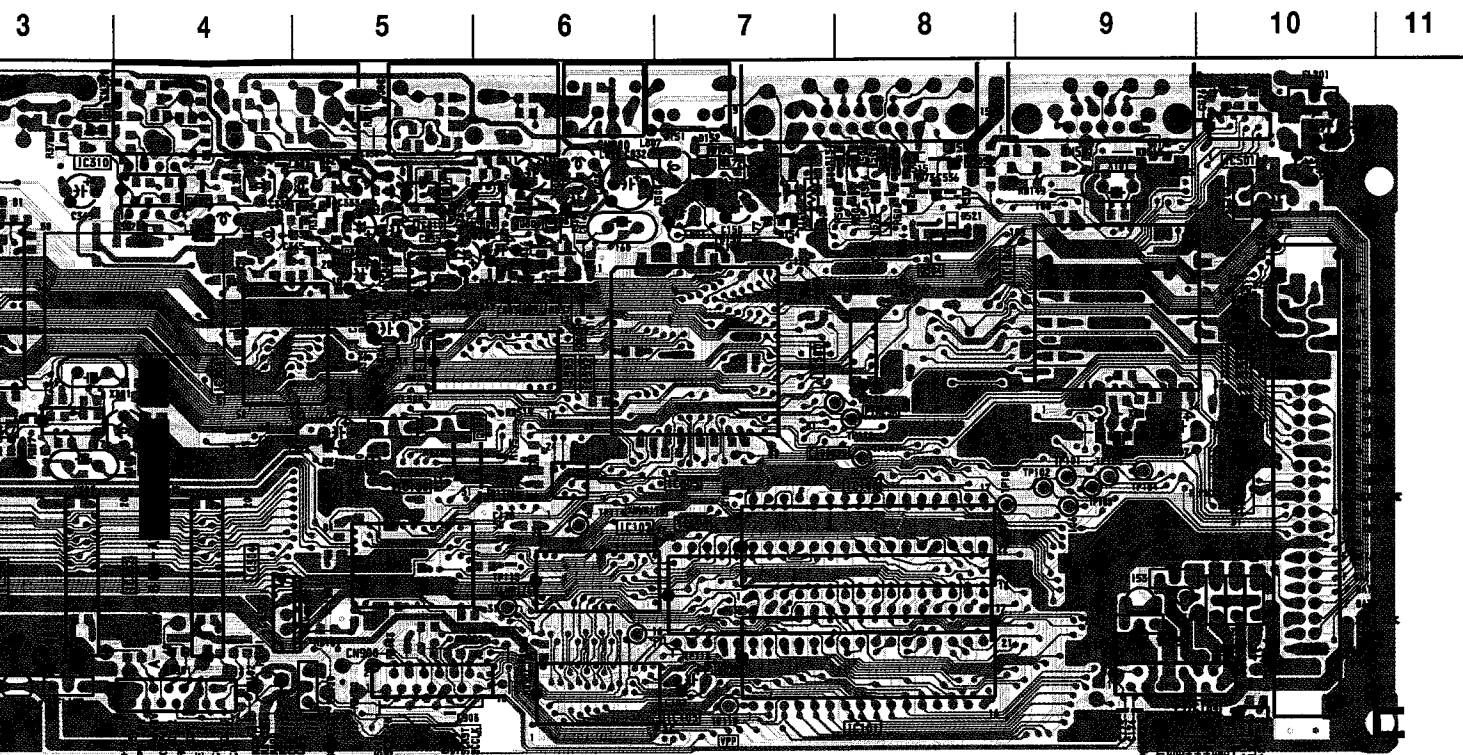
— A BOARD (Component Side) —



**A** MICROPROCESSOR/ASIC,  
MPEG AV / NTSC,  
TPT / MODEM LS / HS DATA,  
FRONT END INTERFACE

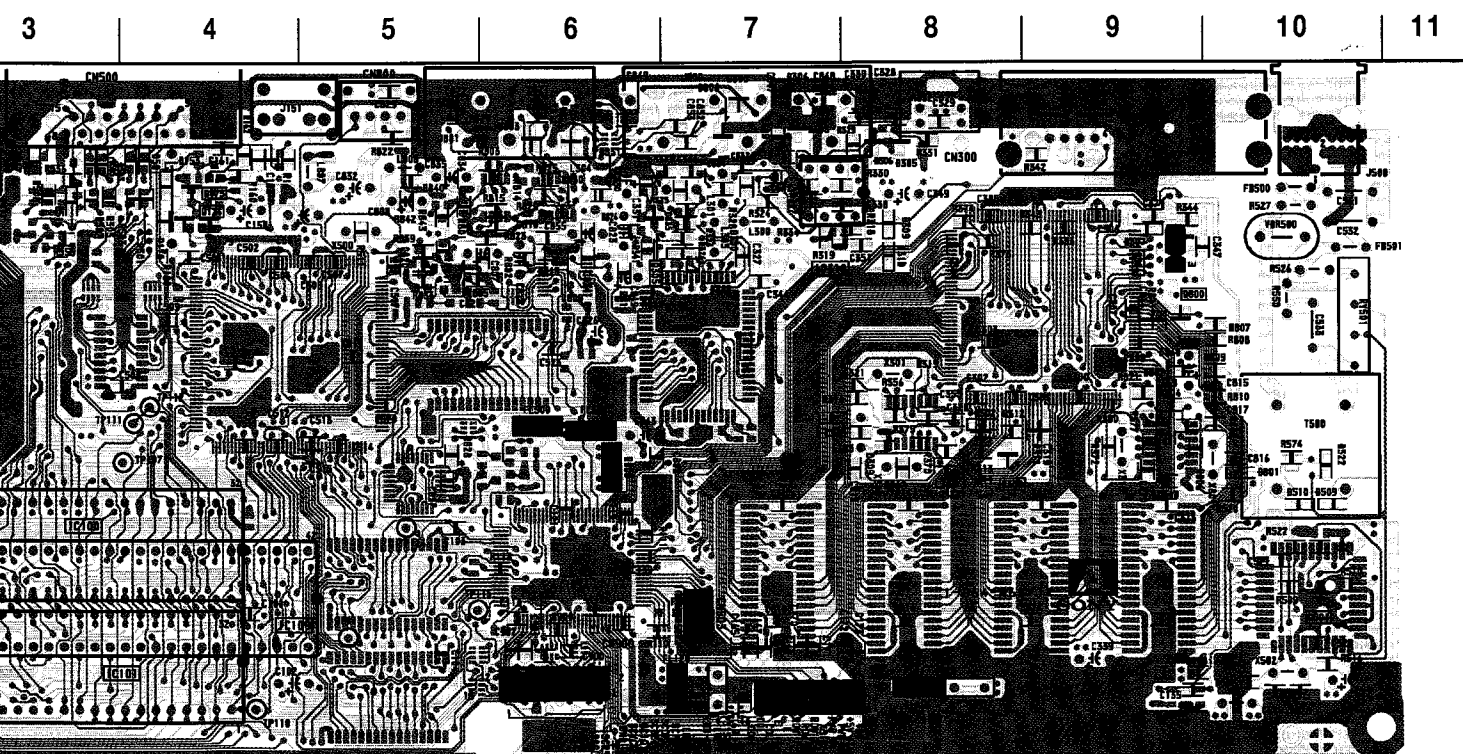


— A BOARD (Conductor Side) —



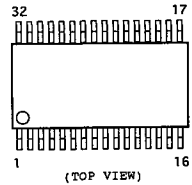
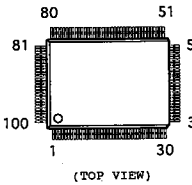
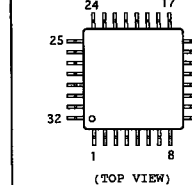
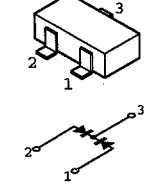
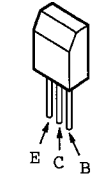
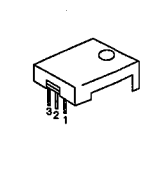
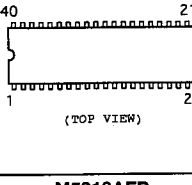
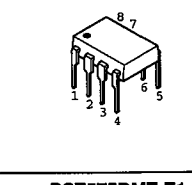
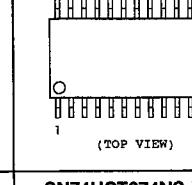
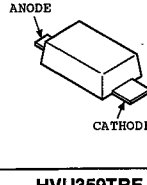
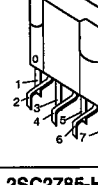
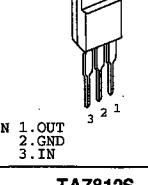
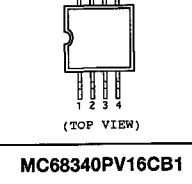
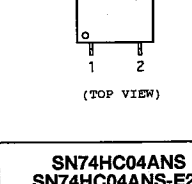
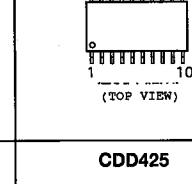
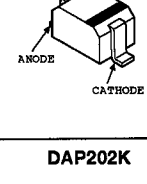
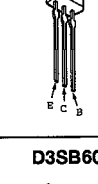
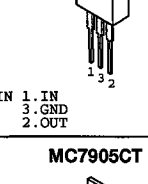
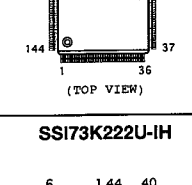
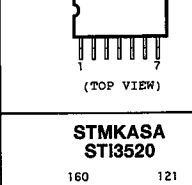
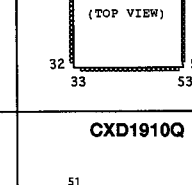
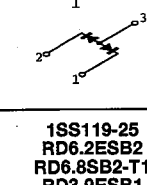
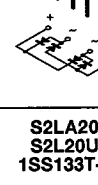
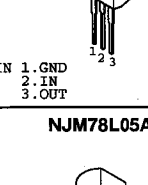
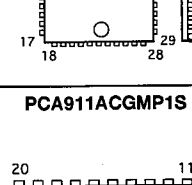
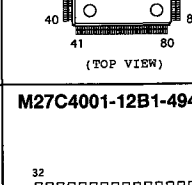
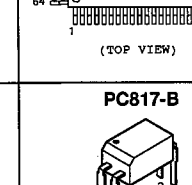
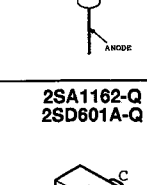
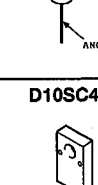
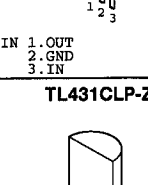
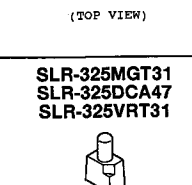
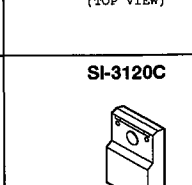
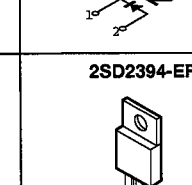
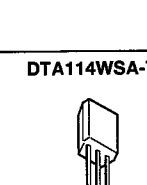
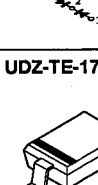
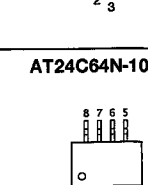
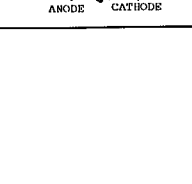
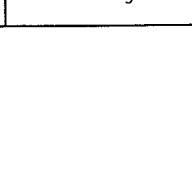
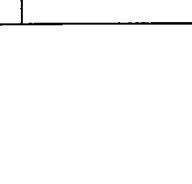
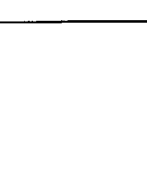

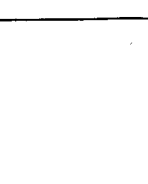


 :Top side pattern  
 :Rear side pattern





### 3-4. Semiconductors

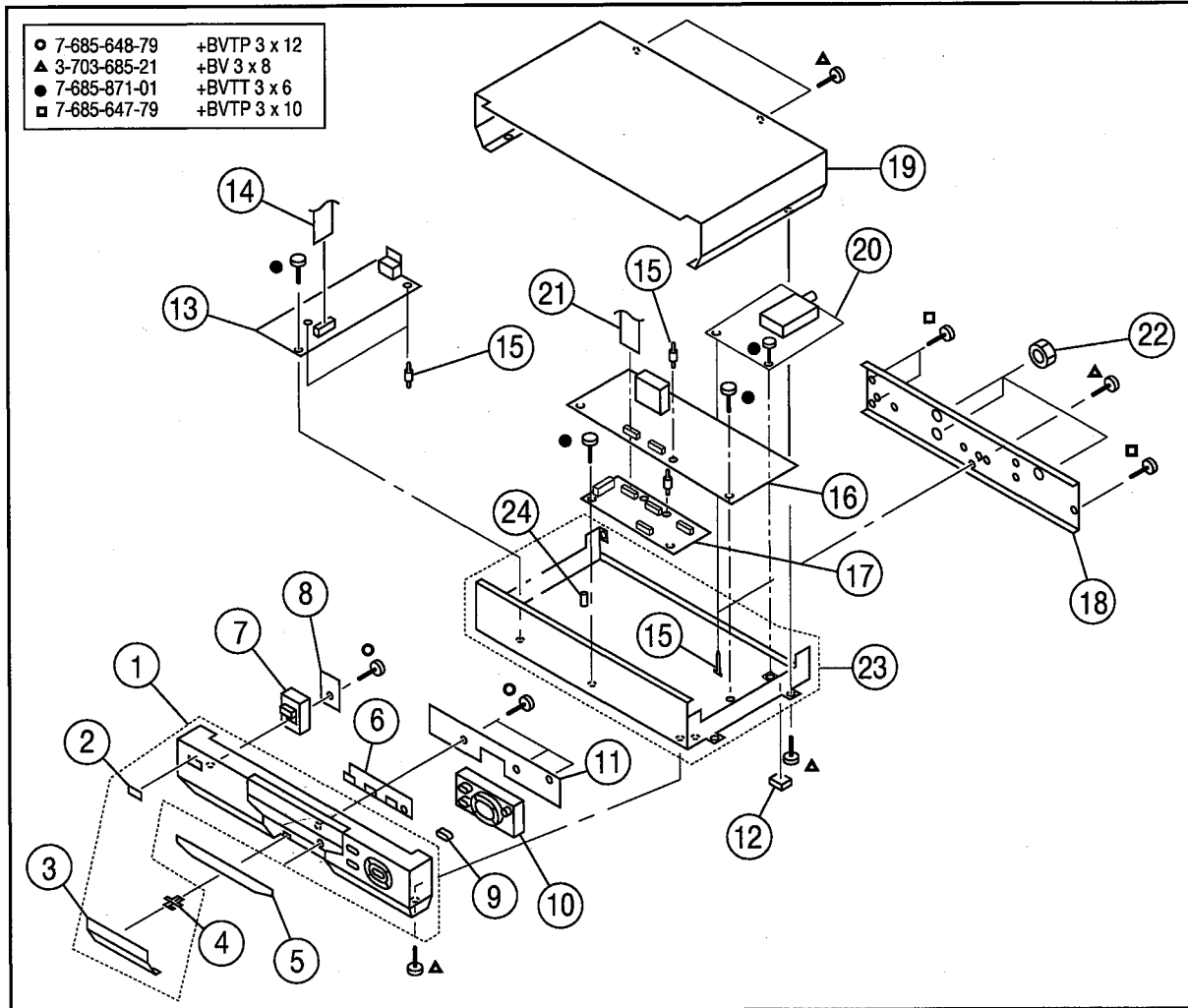
<b>CXK581000AM-70LL</b>  (TOP VIEW)	<b>ATLS60-CD-01</b>  (TOP VIEW)	<b>CXD2917Q</b>  (TOP VIEW)	<b>DAN202K</b> 	<b>2SD774-34</b> 	<b>SBX1780-51</b> 
<b>HM514260AJ-8Z</b>  (TOP VIEW)	<b>MC14577CP UPC358C</b> 	<b>AK4310-VM-E2</b>  (TOP VIEW)	<b>DTZ3-9B</b> 	<b>MA4520</b> 	<b>RC78M15FA</b> 
<b>M5218AFP LM358PS</b>  (TOP VIEW)	<b>PST575DMT-T1</b>  (TOP VIEW)	<b>SN74HCT374NS-E20</b>  (TOP VIEW)	<b>HVU359TRF</b> 	<b>2SC2785-HFE 2SA1175-HFE</b> 	<b>TA7812S</b> 
<b>MC68340PV16CB1</b>  (TOP VIEW)	<b>SN74HC04ANS SN74HC04ANS-E20 TC74AC04F-EL</b>  (TOP VIEW)	<b>CDD425</b>  (TOP VIEW)	<b>DAP202K</b> 	<b>D3SB60</b> 	<b>MC7905CT</b> 
<b>SSI73K222U-IH</b>  (TOP VIEW)	<b>STMKASA STI3520</b>  (TOP VIEW)	<b>CXD1910Q</b>  (TOP VIEW)	<b>1SS119-25 RD6.2ESB2 RD6.8SB2-T1 RD3.9ESB1</b> 	<b>S2LA20F S2L20UF 1SS133T-77</b> 	<b>NJM78L05A</b> 
<b>PCA911ACGMP1S</b>  (TOP VIEW)	<b>M27C4001-12B1-4941-1</b>  (TOP VIEW)	<b>PC817-B</b> 	<b>2SA1162-Q 2SD601A-Q</b> 	<b>D10SC4M</b> 	<b>TL431CLP-Z</b> 
<b>SLR-325MGT31 SLR-325DCA47 SLR-325VRT31</b> 	<b>SI-3120C</b> 	<b>2SD2394-EF</b> 	<b>DTA114WSA-TP</b> 	<b>UDZ-TE-17-6.8B</b> 	<b>AT24C64N-10SC</b>  (TOP VIEW)

## SECTION 4 EXPLODED VIEWS

**NOTE:**

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

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



REF.NO.	PARTNO.	DESCRIPTION	REMARK	REF.NO.	PARTNO.	DESCRIPTION	REMARK
1	X-4033-710-1	PANEL ASSY, FRONT	2, 3, 4	13	* A-1316-308-A	G BOARD, COMPLETE	
2	* 4-925-334-11	EMBLEM (S-A), SONY		14	* 1-900-800-61	CONNECTOR ASSY, 11P FFC	
3	4-048-292-31	DOOR		15	* 3-703-353-13	SUPPORTER, PCB	
4	3-703-035-11	SHAFT, LID		16	* A-1293-560-A	A BOARD	
5	4-054-012-01	PANEL, INDICATOR		17	* A-1390-610-A	SC BOARD	
6	* 4-049-040-01	GUIDE (LED), LIGHT		18	4-054-013-21	PANEL, REAR	
7	4-048-291-01	BUTTON, POWER		19	* 4-048-306-01	CASE, UPPER	
8	* A-1372-240-A	HB BOARD		20	1-693-320-11	FRONT END MODULE, DSS	
9	4-048-290-01	BUTTON, SELECT		21	* 1-900-800-59	CONNECTOR ASSY, 13P FFC	
10	4-048-294-01	BUTTON, CONTROL		22	3-682-691-00	NUT, WASHER HEXAGON	
11	* A-1372-239-A	HA BOARD		23	X-4033-570-1	CASE (LOWER) ASSY	
12	4-048-281-01	FOOT		24	4-050-233-01	STANDOFF, PCB	



## SECTION 5 ELECTRICAL PARTS LIST

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

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

**RESISTORS:**

- All resistors are in ohms.
- F: nonflammable.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

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

<b>Capacitors</b>	<b>Coils</b>
MF = $\mu$ F	UH = $\mu$ H
PF = pF	

REF.NO.	PARTNO.	DESCRIPTION	REMARK	REF.NO.	PARTNO.	DESCRIPTION	REMARK
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 5px; font-size: 2em; font-weight: bold; margin-right: 10px;">A</div> <div> <p>* A-1293-560-A    A BOARD</p> <p><b>CAPACITOR</b></p> </div> </div>							
C100	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C200	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C101	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C201	1-126-933-11	ELECT	100MF    20% 10V
C102	1-126-916-11	ELECT	1000MF    20% 6.3V	C202	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C103	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C203	1-126-964-11	ELECT	10MF    20% 50V
C104	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C204	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C107	1-126-933-11	ELECT	100MF    20% 10V	C205	1-126-964-11	ELECT	10MF    20% 50V
C108	1-163-235-11	CERAMIC CHIP	22pF    5% 50V	C206	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C109	1-163-235-11	CERAMIC CHIP	22pF    5% 50V	C207	1-126-964-11	ELECT	10MF    20% 50V
C110	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C208	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C111	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C300	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C112	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C301	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C113	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C302	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C114	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C303	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C115	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C304	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C116	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C305	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C117	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C306	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C118	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C307	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C119	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C308	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C120	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C309	1-163-237-11	CERAMIC CHIP	27pF    5% 50V
C121	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C310	1-164-232-11	CERAMIC CHIP	0.01MF    10% 50V
C122	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C311	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C124	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C312	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C125	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C313	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C126	1-163-241-11	CERAMIC CHIP	39pF    5% 50V	C314	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C127	1-163-241-11	CERAMIC CHIP	39pF    5% 50V	C315	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C128	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C316	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C129	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C317	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C130	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C318	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C135	1-163-038-91	CERAMIC CHIP	0.1MF    25V	C319	1-163-251-11	CERAMIC CHIP	100pF    5% 50V
C150	1-126-964-11	ELECT	10MF    20% 50V	C320	1-163-251-11	CERAMIC CHIP	100pF    5% 50V
C161	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C321	1-163-251-11	CERAMIC CHIP	100pF    5% 50V
C162	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C322	1-164-232-11	CERAMIC CHIP	0.01MF    10% 50V
C163	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C323	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C164	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C324	1-163-243-11	CERAMIC CHIP	47pF    5% 50V
C165	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C325	1-163-243-11	CERAMIC CHIP	47pF    5% 50V
C166	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C326	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C167	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C327	1-164-005-11	CERAMIC CHIP	0.47MF    25V
C168	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C328	1-163-243-11	CERAMIC CHIP	47pF    5% 50V
C169	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C329	1-163-243-11	CERAMIC CHIP	47pF    5% 50V
C170	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C330	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C171	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C331	1-163-253-11	CERAMIC CHIP	120pF    5% 50V
C172	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C332	1-163-253-11	CERAMIC CHIP	120pF    5% 50V
C173	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C333	1-163-038-91	CERAMIC CHIP	0.1MF    25V
C174	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C334	1-163-227-11	CERAMIC CHIP	10pF    0.5pF 50V
C175	1-163-251-11	CERAMIC CHIP	100pF    5% 50V	C335	1-163-243-11	CERAMIC CHIP	47pF    5% 50V
				C336	1-163-227-11	CERAMIC CHIP	10pF    0.5pF 50V
				C337	1-163-243-11	CERAMIC CHIP	47pF    5% 50V
				C338	1-163-227-11	CERAMIC CHIP	10pF    0.5pF 50V
				C339	1-126-933-11	ELECT	100MF    20% 10V
				C340	1-126-933-11	ELECT	100MF    20% 10V
				C341	1-163-038-91	CERAMIC CHIP	0.1MF    25V



REF.NO.	PARTNO.	DESCRIPTION	REMARK	REF.NO.	PARTNO.	DESCRIPTION	REMARK
C343	1-126-933-11	ELECT	100MF 20% 10V	C818	1-126-964-11	ELECT	10MF 20% 50V
C344	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C819	1-126-964-11	ELECT	10MF 20% 50V
C345	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C820	1-163-038-91	CERAMIC CHIP	0.1MF 25V
C346	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C823	1-126-916-11	ELECT	1000MF 20% 6.3V
C347	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C824	1-163-038-91	CERAMIC CHIP	0.1MF 25V
C348	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C825	1-163-038-91	CERAMIC CHIP	0.1MF 25V
C349	1-126-933-11	ELECT	100MF 20% 10V	C826	1-126-964-11	ELECT	10MF 20% 50V
C350	1-126-933-11	ELECT	100MF 20% 10V	C828	1-126-964-11	ELECT	10MF 20% 50V
C351	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C832	1-126-916-11	ELECT	1000MF 20% 6.3V
C352	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C833	1-163-038-91	CERAMIC CHIP	0.1MF 25V
C353	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C834	1-163-038-91	CERAMIC CHIP	0.1MF 25V
C354	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C835	1-126-964-11	ELECT	10MF 20% 50V
C355	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C847	1-163-243-11	CERAMIC CHIP	47pF 5% 50V
C365	1-164-004-11	CERAMIC CHIP	0.1MF 10% 16V	C848	1-163-243-11	CERAMIC CHIP	47pF 5% 50V
C368	1-163-235-11	CERAMIC CHIP	22pF 5% 50V	C849	1-163-243-11	CERAMIC CHIP	47pF 5% 50V
C369	1-163-235-11	CERAMIC CHIP	22pF 5% 50V	C852	1-163-243-11	CERAMIC CHIP	47pF 5% 50V
C370	1-163-235-11	CERAMIC CHIP	22pF 5% 50V	C853	1-163-243-11	CERAMIC CHIP	47pF 5% 50V
C371	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C854	1-163-243-11	CERAMIC CHIP	47pF 5% 50V
C500	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C855	1-126-964-11	ELECT	10MF 20% 50V
C501	1-126-933-11	ELECT	100MF 20% 10V	C900	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
C502	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C901	1-164-005-11	CERAMIC CHIP	0.47MF 25V
C504	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C902	1-163-251-11	CERAMIC CHIP	100pF 5% 50V
C505	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C903	1-163-251-11	CERAMIC CHIP	100pF 5% 50V
C507	1-163-038-91	CERAMIC CHIP	0.1MF 25V	C904	1-163-251-11	CERAMIC CHIP	100pF 5% 50V
C508	1-163-038-91	CERAMIC CHIP	0.1MF 25V	<b>CONNECTOR</b>			
C509	1-163-038-91	CERAMIC CHIP	0.1MF 25V	CN152	1-750-418-11	CONNECTOR, FFC/FPC 13P	
C510	1-163-038-91	CERAMIC CHIP	0.1MF 25V	CN200	* 1-770-680-11	CONNECTOR, BOARD TO BOARD (PLUG)	
C511	1-163-038-91	CERAMIC CHIP	0.1MF 25V	CN300	1-566-846-11	CONNECTOR, (S) TERMINAL 4P	
C512	1-163-038-91	CERAMIC CHIP	0.1MF 25V	CN500	1-770-583-11	CONNECTOR, D-SUB (FEMALE)	
C513	1-163-038-91	CERAMIC CHIP	0.1MF 25V	CN900	1-750-418-11	CONNECTOR, FFC/FPC 13P	
C514	1-163-038-91	CERAMIC CHIP	0.1MF 25V	CN901	1-750-418-11	CONNECTOR, FFC/FPC 13P	
C515	1-163-038-91	CERAMIC CHIP	0.1MF 25V	<b>DIODE</b>			
C516	1-163-235-11	CERAMIC CHIP	22pF 5% 50V	D150	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C517	1-163-235-11	CERAMIC CHIP	22pF 5% 50V	D152	8-719-404-49	DIODE MA111	
C518	1-163-038-91	CERAMIC CHIP	0.1MF 25V	D153	8-719-404-49	DIODE MA111	
C519	1-163-038-91	CERAMIC CHIP	0.1MF 25V	D154	8-719-914-43	DIODE DAN202K	
C520	1-163-038-91	CERAMIC CHIP	0.1MF 25V	D155	8-719-976-88	DIODE DTZ3.9B	
C521	1-163-038-91	CERAMIC CHIP	0.1MF 25V	D301	8-719-031-68	DIODE HVU359TRF	
C522	1-104-664-11	ELECT	47MF 20% 25V	D302	8-719-031-68	DIODE HVU359TRF	
C523	1-163-038-91	CERAMIC CHIP	0.1MF 25V	D303	8-719-914-44	DIODE DAP202K	
C526	1-163-038-91	CERAMIC CHIP	0.1MF 25V	D304	8-719-914-43	DIODE DAN202K	
C527	1-163-038-91	CERAMIC CHIP	0.1MF 25V	D305	8-719-914-44	DIODE DAP202K	
C528	1-163-241-11	CERAMIC CHIP	39pF 5% 50V	D306	8-719-914-43	DIODE DAN202K	
C529	1-163-241-11	CERAMIC CHIP	39pF 5% 50V	D307	8-719-976-88	DIODE UDZ-TE-17-3.9B	
C530	1-163-037-11	CERAMIC CHIP	0.022MF 10% 50V	D308	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C531	1-161-740-00	CERAMIC	470pF 10% 400V	D309	8-719-404-49	DIODE MA111	
C532	1-161-740-00	CERAMIC	470pF 10% 400V	D310	8-719-404-49	DIODE MA111	
C533	1-162-114-00	CERAMIC	0.0047MF 2KV	D311	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C535	1-163-251-11	CERAMIC CHIP	100pF 5% 50V	D500	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C536	1-163-125-00	CERAMIC CHIP	220pF 5% 50V	D501	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C800	1-163-038-91	CERAMIC CHIP	0.1MF 25V	D502	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C802	1-163-038-91	CERAMIC CHIP	0.1MF 25V	D503	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C807	1-163-009-11	CERAMIC CHIP	0.001MF 10% 50V	D504	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C809	1-163-009-11	CERAMIC CHIP	0.001MF 10% 50V	D505	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C814	1-163-251-11	CERAMIC CHIP	100pF 5% 50V	D506	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C815	1-164-004-11	CERAMIC CHIP	0.1MF 10% 16V	D507	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C816	1-163-251-11	CERAMIC CHIP	100pF 5% 50V				
C817	1-163-251-11	CERAMIC CHIP	100pF 5% 50V				



REF.NO.	PART.NO.	DESCRIPTION	REMARK	REF.NO.	PART.NO.	DESCRIPTION	REMARK
D509	8-719-976-88	DIODE UDZ-TE-17-3.9B					
D510	8-719-976-88	DIODE UDZ-TE-17-3.9B					
D516	8-719-056-83	DIODE UDZ-TE-17-6.8B					
D517	8-719-056-83	DIODE UDZ-TE-17-6.8B					
D520	8-719-404-49	DIODE MA111					
D521	8-719-404-49	DIODE MA111					
D522	8-719-404-49	DIODE MA111					
D801	8-719-031-68	DIODE HVU359TRF					
D802	8-719-031-68	DIODE HVU359TRF					
D803	8-719-914-44	DIODE DAP202K					
D804	8-719-914-43	DIODE DAN202K					
D805	8-719-914-44	DIODE DAP202K					
D806	8-719-914-43	DIODE DAN202K					
D807	8-719-404-49	DIODE MA111					
<b>FERRITE BEAD</b>							
FB151	1-410-396-41	FERRITE BEAD INDUCTOR	0.45UH				
FB500	1-412-911-11	INDUCTOR, FERRITE BEAD					
FB501	1-412-911-11	INDUCTOR, FERRITE BEAD					
<b>FILTER</b>							
FL120	1-236-071-11	ENCAPSULATED COMPONENT					
FL151	1-236-071-11	ENCAPSULATED COMPONENT					
FL152	1-236-071-11	ENCAPSULATED COMPONENT					
FL153	1-236-071-11	ENCAPSULATED COMPONENT					
FL154	1-236-071-11	ENCAPSULATED COMPONENT					
FL155	1-236-071-11	ENCAPSULATED COMPONENT					
FL300	1-236-071-11	ENCAPSULATED COMPONENT					
FL500	1-236-071-11	ENCAPSULATED COMPONENT					
<b>IC</b>							
IC102	8-752-364-81	IC CXK581000AM-70LL					
IC103	8-752-364-81	IC CXK581000AM-70LL					
IC104	8-759-427-46	IC AT24C64N-10SC					
IC106	8-759-373-05	IC MC68340FT16EB1					
IC108	8-759-342-60	IC PST575DMT-T1					
IC109	8-759-447-99	IC HN62448N-96MASK01					
IC150	8-759-443-53	IC UPD65646-9602					
IC300	8-759-445-44	IC ST13520CV					
IC301	8-759-279-78	IC HM514260AJ8Z					
IC302	8-759-279-78	IC HM514260AJ8Z					
IC303	8-759-279-78	IC HM514260AJ8Z					
IC304	8-759-279-78	IC HM514260AJ8Z					
IC306	8-752-378-81	IC CXD1910AQ					
IC310	8-759-262-02	IC MC14577CP					
IC312	8-759-269-92	IC SN74HCU04ANS-E20					
IC317	8-759-073-52	IC TC74AC04F-EL					
IC500	8-759-269-73	IC SN74HCT374ANS-E20					
IC501	8-759-925-74	IC SN74HC04ANS					
IC502	8-759-445-45	IC STMKLAEMTA					
IC503	8-752-364-81	IC CXK581000AM-70LL					
IC504	8-759-328-10	IC SSI73K222U-IH					
IC802	8-759-382-44	IC PCM1717E-T2					
IC804	8-759-636-55	IC M5218AFP					
IC810	8-759-636-55	IC M5218AFP					
				<b>JACK</b>			
J151	1-565-790-31	JACK, SMALL TYPE 2P					
J500	1-770-671-11	JACK, MODULAR					
J800	1-770-546-21	JACK, PIN 6P					
				<b>CHIP CONDUCTOR</b>			
JR200	1-216-295-91	CONDUCTOR, CHIP	(2012)				
JR201	1-216-295-91	CONDUCTOR, CHIP	(2012)				
JR202	1-216-295-91	CONDUCTOR, CHIP	(2012)				
				<b>COIL</b>			
L300	1-410-464-11	INDUCTOR	3.3UH				
L301	1-408-408-00	INDUCTOR	8.2UH				
L302	1-410-466-41	INDUCTOR	4.7UH				
L303	1-410-787-31	INDUCTOR	0.33UH				
L304	1-410-464-11	INDUCTOR	3.3UH				
L305	1-410-464-11	INDUCTOR	3.3UH				
L500	1-410-464-11	INDUCTOR	3.3UH				
L807	1-410-464-11	INDUCTOR	3.3UH				
L808	1-410-464-11	INDUCTOR	3.3UH				
				<b>TRANSISTOR</b>			
Q170	8-729-216-22	TRANSISTOR 2SA1162-G					
Q171	8-729-422-27	TRANSISTOR 2SD601A-Q					
Q172	8-729-216-22	TRANSISTOR 2SA1162-G					
Q173	8-729-422-27	TRANSISTOR 2SD601A-Q					
Q174	8-729-422-27	TRANSISTOR 2SD601A-Q					
Q175	8-729-422-27	TRANSISTOR 2SD601A-Q					
Q300	8-729-422-27	TRANSISTOR 2SD601A-Q					
Q302	8-729-216-22	TRANSISTOR 2SA1162-G					
Q303	8-729-216-22	TRANSISTOR 2SA1162-G					
Q304	8-729-422-27	TRANSISTOR 2SD601A-Q					
Q305	8-729-422-27	TRANSISTOR 2SD601A-Q					
Q306	8-729-140-96	TRANSISTOR 2SD774-34					
Q504	8-729-216-22	TRANSISTOR 2SA1162-G					
Q505	8-729-422-27	TRANSISTOR 2SD601A-Q					
Q800	8-729-422-27	TRANSISTOR 2SD601A-Q					
Q801	8-729-422-27	TRANSISTOR 2SD601A-Q					
				<b>RESISTOR</b>			
R100	1-218-179-11	METAL GLAZE	10M	5%	1/10W		
R101	1-216-109-00	METAL GLAZE	330K	5%	1/10W		
R102	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R103	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R104	1-216-049-91	METAL GLAZE	1K	5%	1/10W		
R107	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W		
R108	1-216-121-91	METAL GLAZE	1M	5%	1/10W		
R110	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R111	1-216-049-91	METAL GLAZE	1K	5%	1/10W		
R113	1-216-295-91	CONDUCTOR, CHIP		(2012)			
R150	1-218-179-11	METAL GLAZE	10M	5%	1/10W		
R151	1-216-025-91	METAL GLAZE	100	5%	1/10W		
R160	1-216-025-91	METAL GLAZE	100	5%	1/10W		
R161	1-216-049-91	METAL GLAZE	1K	5%	1/10W		





REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R162	1-216-025-91	METAL GLAZE	100 5% 1/10W	R378	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R170	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R379	1-216-025-91	METAL GLAZE	100 5% 1/10W
R171	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R500	1-216-033-00	METAL GLAZE	220 5% 1/10W
R172	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R501	1-216-033-00	METAL GLAZE	220 5% 1/10W
R173	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R502	1-216-033-00	METAL GLAZE	220 5% 1/10W
R174	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R503	1-216-033-00	METAL GLAZE	220 5% 1/10W
R175	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R504	1-216-033-00	METAL GLAZE	220 5% 1/10W
R176	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R505	1-216-033-00	METAL GLAZE	220 5% 1/10W
R177	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R506	1-216-033-00	METAL GLAZE	220 5% 1/10W
R178	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R507	1-216-033-00	METAL GLAZE	220 5% 1/10W
R179	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R511	1-216-121-91	METAL GLAZE	1M 5% 1/10W
R180	1-215-864-00	METAL OXIDE	150 5% 1W F	R512	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R309	1-216-022-00	METAL GLAZE	75 5% 1/10W	R513	1-216-001-00	METAL GLAZE	10 5% 1/10W
R310	1-216-022-00	METAL GLAZE	75 5% 1/10W	R518	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R311	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R519	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R312	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R520	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R313	1-216-097-91	METAL GLAZE	100K 5% 1/10W	R521	1-216-035-00	METAL GLAZE	270 5% 1/10W
R314	1-216-097-91	METAL GLAZE	100K 5% 1/10W	R522	1-216-037-00	METAL GLAZE	330 5% 1/10W
R315	1-216-025-91	METAL GLAZE	100 5% 1/10W	R526	1-249-393-11	CARBON	10 5% 1/4W F
R316	1-216-097-91	METAL GLAZE	100K 5% 1/10W	R527	1-249-393-11	CARBON	10 5% 1/4W F
R317	1-216-025-91	METAL GLAZE	100 5% 1/10W	R536	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R318	1-216-043-91	METAL GLAZE	560 5% 1/10W	R537	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R319	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R539	1-216-295-91	CONDUCTOR, CHIP (2012)	5% 1/10W
R320	1-216-037-00	METAL GLAZE	330 5% 1/10W	R544	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R321	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R550	1-249-414-11	CARBON	560 5% 1/4W F
R322	1-216-025-91	METAL GLAZE	100 5% 1/10W	R552	1-216-025-91	METAL GLAZE	100 5% 1/10W
R323	1-216-025-91	METAL GLAZE	100 5% 1/10W	R553	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R324	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R554	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R325	1-216-033-00	METAL GLAZE	220 5% 1/10W	R555	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R326	1-216-035-00	METAL GLAZE	270 5% 1/10W	R571	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R327	1-216-043-91	METAL GLAZE	560 5% 1/10W	R572	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R328	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R573	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R329	1-216-043-91	METAL GLAZE	560 5% 1/10W	R800	1-249-389-11	CARBON	4.7 5% 1/4W F
R330	1-216-043-91	METAL GLAZE	560 5% 1/10W	R801	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R331	1-216-022-00	METAL GLAZE	75 5% 1/10W	R802	1-208-787-11	METAL GLAZE	1.6K .50% 1/10W
R332	1-216-022-00	METAL GLAZE	75 5% 1/10W	R803	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R333	1-216-295-91	CONDUCTOR, CHIP (2012)		R804	1-216-295-91	CONDUCTOR, CHIP (2012)	
R334	1-216-043-91	METAL GLAZE	560 5% 1/10W	R805	1-216-025-91	METAL GLAZE	100 5% 1/10W
R335	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R806	1-216-121-91	METAL GLAZE	1M 5% 1/10W
R336	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R807	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R337	1-216-031-00	METAL GLAZE	180 5% 1/10W	R808	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R338	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R809	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R339	1-216-025-91	METAL GLAZE	100 5% 1/10W	R810	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R340	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R811	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R341	1-216-035-00	METAL GLAZE	270 5% 1/10W	R813	1-208-787-11	METAL GLAZE	1.6K .50% 1/10W
R342	1-216-017-91	METAL GLAZE	47 5% 1/10W	R814	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R344	1-216-025-91	METAL GLAZE	100 5% 1/10W	R815	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R345	1-216-295-91	CONDUCTOR, CHIP (2012)		R816	1-249-429-11	CARBON	10K 5% 1/4W
R356	1-216-121-91	METAL GLAZE	1M 5% 1/10W	R821	1-216-025-91	METAL GLAZE	100 5% 1/10W
R362	1-216-121-91	METAL GLAZE	1M 5% 1/10W	R823	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R363	1-216-025-91	METAL GLAZE	100 5% 1/10W	R824	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R370	1-216-025-91	METAL GLAZE	100 5% 1/10W	R826	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R371	1-216-025-91	METAL GLAZE	100 5% 1/10W	R829	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R372	1-216-121-91	METAL GLAZE	1M 5% 1/10W				
R373	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R830	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R374	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R831	1-216-033-00	METAL GLAZE	220 5% 1/10W
R375	1-216-025-91	METAL GLAZE	100 5% 1/10W	R833	1-216-001-00	METAL GLAZE	10 5% 1/10W
R377	1-216-025-91	METAL GLAZE	100 5% 1/10W	R846	1-216-073-00	METAL GLAZE	10K 5% 1/10W



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

REF.NO.	PARTNO.	DESCRIPTION	REMARK
R847	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R900	1-216-025-91	METAL GLAZE 100	5% 1/10W
<b>RESISTOR</b>			
RB100	1-239-409-11	NETWORK RESISTOR (CHIP)	47
RB101	1-239-409-11	NETWORK RESISTOR (CHIP)	47
RB102	1-239-409-11	NETWORK RESISTOR (CHIP)	47
RB103	1-239-409-11	NETWORK RESISTOR (CHIP)	47
RB145	1-236-908-11	NETWORK RESISTOR (CHIP)	10K
RB146	1-236-908-11	NETWORK RESISTOR (CHIP)	10K
RB147	1-239-409-11	NETWORK RESISTOR (CHIP)	47
RB149	1-236-908-11	NETWORK RESISTOR (CHIP)	10K
RB516	1-236-908-11	NETWORK RESISTOR (CHIP)	10K
RB517	1-236-908-11	NETWORK RESISTOR (CHIP)	10K
RB519	1-239-409-11	NETWORK RESISTOR (CHIP)	47
RB800	1-236-908-11	NETWORK RESISTOR (CHIP)	10K
RB819	1-216-182-00	NETWORK RESISTOR (CHIP)	220
RB900	1-236-908-11	NETWORK RESISTOR (CHIP)	10K
RB901	1-239-409-11	NETWORK RESISTOR (CHIP)	47
RB902	1-239-409-11	NETWORK RESISTOR (CHIP)	47
<b>MODULATOR</b>			
RF800	1-473-156-11	MODULATOR, RF	
<b>RELAY</b>			
RY501	1-755-160-11	RELAY	
<b>TRANSFORMER</b>			
T500	1-427-947-11	TRANSFORMER, MODEM	
<b>VARISTOR</b>			
VDR500	1-810-973-21	VARISTOR	
<b>CRYSTAL</b>			
X100	1-567-098-51	VIBRATOR, CRYSTAL	
X101	1-767-161-21	VIBRATOR, CRYSTAL	
X301	1-760-626-11	VIBRATOR, CRYSTAL	
X302	1-760-623-11	VIBRATOR, CRYSTAL	
X310	1-760-625-11	VIBRATOR, CRYSTAL	
X500	1-760-628-11	VIBRATOR, CRYSTAL	
X502	1-760-624-11	VIBRATOR, CRYSTAL	
X801	1-760-628-11	VIBRATOR, CRYSTAL	
<b>CAPACITOR</b>			
C601	$\Delta$ 1-136-345-21	FILM	0.1MF 20% 125V
C602	$\Delta$ 1-136-344-11	FILM	0.047MF 20% 125V
C603	$\Delta$ 1-102-050-00	CERAMIC	0.01MF 500V



\* A-1316-308-A COMPLETE PCB, G  
 1-533-223-11 HOLDER, FUSE  
 4-382-854-11 SCREW (M3X10), P, SW (+)

**CAPACITOR**

C601	$\Delta$ 1-136-345-21	FILM	0.1MF	20%	125V
C602	$\Delta$ 1-136-344-11	FILM	0.047MF	20%	125V
C603	$\Delta$ 1-102-050-00	CERAMIC	0.01MF		500V

REF.NO.	PARTNO.	DESCRIPTION	REMARK
C604	$\Delta$ 1-102-050-00	CERAMIC	0.01MF 500V
C605	$\Delta$ 1-161-742-00	CERAMIC	0.0022MF 20% 125V
C606	$\Delta$ 1-161-742-00	CERAMIC	0.0022MF 20% 125V
C607	1-104-759-11	ELECT	470MF 20% 200V
C608	1-129-722-00	FILM	0.047MF 5% 630V
C610	1-129-702-00	FILM	0.001MF 10% 630V
C611	1-136-153-00	FILM	0.01MF 5% 50V
C612	1-136-153-00	FILM	0.01MF 5% 50V
C613	1-102-978-00	CERAMIC	220pF 5% 50V
C615	1-102-244-00	CERAMIC	220pF 10% 500V
C616	1-102-244-00	CERAMIC	220pF 10% 500V
C617	1-102-244-00	CERAMIC	220pF 10% 500V
C621	1-102-244-00	CERAMIC	220pF 10% 500V
C624	1-102-244-00	CERAMIC	220pF 10% 500V
C625	1-126-948-11	ELECT	100MF 20% 35V
C626	1-126-951-11	ELECT	470MF 20% 35V
C627	1-126-951-11	ELECT	470MF 20% 35V
C628	1-104-666-11	ELECT	220MF 20% 25V
C629	1-128-546-11	ELECT	10000MF 20% 10V
C630	1-136-165-00	FILM	0.1MF 5% 50V
C632	1-126-964-11	ELECT	10MF 20% 50V
C634	1-104-665-11	ELECT	100MF 20% 25V
C635	1-104-665-11	ELECT	100MF 20% 25V
C636	1-104-665-11	ELECT	100MF 20% 25V
<b>CONNECTOR</b>			
CN601	$\Delta$ 1-251-135-11	INLET AC	
CN620	* 1-750-416-11	CONNECTOR, FFC/FPC 11P	
<b>DIODE</b>			
D601	$\Delta$ 8-719-510-22	DIODE D3SB60	
D603	8-719-911-19	DIODE 1SS119-25	
D620	8-719-510-64	DIODE S2LA20F	
D621	8-719-027-43	DIODE S2L20UF	
D622	8-719-510-64	DIODE S2LA20F	
D623	8-719-510-64	DIODE S2LA20F	
D624	8-719-510-12	DIODE D10SC4M	
D626	8-719-109-93	DIODE RD6.2ESB2	
<b>FUSE</b>			
F601	$\Delta$ 1-576-193-11	FUSE 6.3A/125V	
F620	$\Delta$ 1-576-107-11	FUSE 3.15A/250V	
<b>FERRITE BEAD</b>			
FB601	$\Delta$ 1-412-911-11	INDUCTOR, FERRITE BEAD	
FB602	$\Delta$ 1-412-911-11	INDUCTOR, FERRITE BEAD	
<b>IC</b>			
IC601	8-749-011-04	IC MA4520	
IC620	8-759-982-36	IC RC78M15FA	
IC621	8-759-982-36	IC RC78M15FA	
IC622	8-759-012-67	IC NJM790FA	
IC623	$\Delta$ 8-719-985-96	PHOTO COUPLER PC817-B	
IC624	8-759-908-15	IC TL431CLP	

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



REF.NO.	PARTNO.	DESCRIPTION	REMARK
<b>COIL</b>			
L602	1-411-314-11	COIL, CHOKE 190UH	
L625	1-406-659-11	COIL, CHOKE 10UH	
<b>RESISTOR</b>			
R600	Δ 1-202-723-00	SOLID	2.2M 20% 1/2W
R601	1-207-651-00	WIREWOUND	2.2 10% 3W F
R602	1-247-891-00	CARBON	330K 5% 1/4W
R603	1-215-927-00	METAL OXIDE	47K 5% 3W F
R604	1-215-927-00	METAL OXIDE	47K 5% 3W F
R605	1-247-883-00	CARBON	150K 5% 1/4W
R606	1-247-883-00	CARBON	150K 5% 1/4W
R607	1-216-367-11	METAL OXIDE	0.68 5% 2W F
R608	1-249-393-11	CARBON	10 5% 1/4W F
R610	1-215-863-11	METAL OXIDE	100 5% 1W F
R612	1-249-422-11	CARBON	2.7K 5% 1/4W F
R613	1-249-429-11	CARBON	10K 5% 1/4W F
R615	1-249-414-11	CARBON	560 5% 1/4W F
R625	1-249-417-11	CARBON	1K 5% 1/4W
R627	1-249-407-11	CARBON	150 5% 1/4W
R628	1-215-429-00	METAL	2.2K 1% 1/4W
R631	1-249-427-11	CARBON	6.8K 5% 1/4W
R632	1-249-377-11	CARBON	0.47 5% 1/4W F
R634	1-247-807-31	CARBON	100 5% 1/4W
R636	1-215-429-00	METAL	2.2K 1% 1/4W
<b>TRANSFORMER</b>			
T601	Δ 1-426-717-11	TRANSFORMER, LINE FILTER (LFT)	
T620	Δ 1-427-993-11	SRT	
<b>VARISTOR</b>			
VDR601	Δ 1-810-973-21	VARISTOR	



\* A-1372-239-A HA BOARD

**CAPACITOR**

C001	1-126-933-11	ELECT	100MF	20%	10V
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**CONNECTOR**

CN001	1-750-454-11	CONNECTOR, FFC/FPC 13P
CN002	1-564-505-11	PLUG, CONNECTOR 2P

**DIODE**

D001	8-719-050-06	DIODE SLR-325MGT31
D002	8-719-911-19	DIODE 1SS119-25
D003	8-719-911-19	DIODE 1SS119-25
D004	8-719-911-19	DIODE 1SS119-25
D005	8-719-911-19	DIODE 1SS119-25
D006	8-719-911-19	DIODE 1SS119-25
D007	8-719-911-19	DIODE 1SS119-25
D008	8-719-911-19	DIODE 1SS119-25
D009	8-719-911-19	DIODE 1SS119-25
D010	8-719-048-77	DIODE SLR-325DCA47

REF.NO.	PARTNO.	DESCRIPTION	REMARK
D011	8-719-050-06	DIODE SLR-325VRT31	
<b>IC</b>			
IC001	8-741-780-51	IC SBX1780-51	
<b>TRANSISTOR</b>			
Q001	8-729-029-25	TRANSISTOR DTA114WSA-TP	
Q002	8-729-029-25	TRANSISTOR DTA114WSA-TP	
Q003	8-729-029-25	TRANSISTOR DTA114WSA-TP	
<b>RESISTOR</b>			
R001	1-249-411-11	CARBON	330 5% 1/4W
R002	1-247-815-91	CARBON	220 5% 1/4W
R003	1-247-815-91	CARBON	220 5% 1/4W
R004	1-247-815-91	CARBON	220 5% 1/4W
<b>SWITCH</b>			
S001	1-572-198-11	SWITCH, KEYBOARD	
S002	1-572-198-11	SWITCH, KEYBOARD	
S003	1-572-198-11	SWITCH, KEYBOARD	
S004	1-572-198-11	SWITCH, KEYBOARD	
S005	1-572-198-11	SWITCH, KEYBOARD	
S006	1-572-198-11	SWITCH, KEYBOARD	
S007	1-572-198-11	SWITCH, KEYBOARD	
S008	1-572-198-11	SWITCH, KEYBOARD	



\* A-1372-240-A HB BOARD

**CONNECTOR**

CN050	1-564-517-11	PLUG, CONNECTOR 2P
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**SWITCH**

S050	1-572-198-11	SWITCH, KEYBOARD
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\* A-1390-610-A SC BOARD

**CAPACITOR**

C950	1-126-933-11	ELECT	100MF	20%	10V
C951	1-124-961-11	ELECT	2.2MF	20%	50V
C953	1-136-165-00	FILM	0.1MF	5%	50V
C954	1-136-165-00	FILM	0.1MF	5%	50V
C955	1-102-110-00	CERAMIC	220pF	10%	50V
C956	1-136-165-00	FILM	0.1MF	5%	50V
C958	1-136-165-00	FILM	0.1MF	5%	50V
C959	1-136-165-00	FILM	0.1MF	5%	50V
C960	1-126-964-11	ELECT	10MF	20%	50V
C961	1-124-960-11	ELECT	1MF	20%	50V
C962	1-102-074-00	CERAMIC	0.001MF	10%	50V
C963	1-136-153-00	FILM	0.01MF	5%	50V
C970	1-126-964-11	ELECT	10MF	20%	50V



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

REF.NO.	PART.NO.	DESCRIPTION	REMARK	REF.NO.	PART.NO.	DESCRIPTION	REMARK
C971	1-124-960-11	ELECT	1MF 20% 50V	R948	1-249-417-11	CARBON	1K 5% 1/4W
C972	1-124-960-11	ELECT	1MF 20% 50V	R949	1-249-389-11	CARBON	4.7 5% 1/4W F
C999	1-136-165-00	FILM	0.1MF 5% 50V	R952	1-249-419-11	CARBON	1.5K 5% 1/4W
<b>CONNECTOR</b>				R953	1-249-425-11	CARBON	4.7K 5% 1/4W
CN950 *	1-750-416-11	CONNECTOR, FFC/FPC 11P		R954	1-249-429-11	CARBON	10K 5% 1/4W
CN951	1-750-418-11	CONNECTOR, FFC/FPC 13P		R955	1-249-425-11	CARBON	4.7K 5% 1/4W
CN952	1-750-418-11	CONNECTOR, FFC/FPC 13P		R956	1-249-417-11	CARBON	1K 5% 1/4W
CN953	1-750-418-11	CONNECTOR, FFC/FPC 13P		R957	1-247-863-91	CARBON	22K 5% 1/4W
CN954	1-778-281-11	CONNECTOR, SMART CARD		R958	1-247-863-91	CARBON	22K 5% 1/4W
CN955	1-750-418-11	CONNECTOR, FFC/FPC 13P		R959	1-249-417-11	CARBON	1K 5% 1/4W
<b>DIODE</b>				R960	1-247-843-11	CARBON	3.3K 5% 1/4W
D951	8-719-510-64	DIODE S2LA20F		R961	1-249-417-11	CARBON	1K 5% 1/4W
D952	8-719-510-64	DIODE S2LA20F		R962	1-249-417-11	CARBON	1K 5% 1/4W
D953	8-719-991-33	DIODE 1SS133T-77		R963	1-249-421-11	CARBON	2.2K 5% 1/4W
D954	8-719-991-33	DIODE 1SS133T-77		R965	1-249-429-11	CARBON	10K 5% 1/4W
D955	8-719-109-84	DIODE RD5.1ESB1		R966	1-249-429-11	CARBON	10K 5% 1/4W
D999	8-719-510-64	DIODE S2LA20F		R968	1-249-393-11	CARBON	10 5% 1/4W F
<b>FILTER</b>				R969	1-249-409-11	CARBON	220 5% 1/4W F
FL950	1-236-071-11	ENCAPSULATED COMPONENT		R970	1-249-429-11	CARBON	10K 5% 1/4W
<b>IC</b>				R976	1-249-383-11	CARBON	1.5 5% 1/4W F
IC950	8-749-921-21	IC SI-3120C		R979	1-249-417-11	CARBON	1K 5% 1/4W
	4-382-854-11	SCREW (M3X10), P, SW (+) (screw for IC950)		R980	1-249-417-11	CARBON	1K 5% 1/4W
IC952	8-759-991-16	IC LM358N		R981	1-247-843-11	CARBON	3.3K 5% 1/4W
<b>COIL</b>				R992	1-249-389-11	CARBON	4.7 5% 1/4W F
L950	1-412-541-21	INDUCTOR 220UH		R993	1-249-417-11	CARBON	1K 5% 1/4W
<b>TRANSISTOR</b>				R994	1-249-417-11	CARBON	1K 5% 1/4W
Q940	8-729-119-78	TRANSISTOR 2SC2785-HFE		R995	1-249-429-11	CARBON	10K 5% 1/4W
Q941	8-729-119-78	TRANSISTOR 2SC2785-HFE		<b>REMOTE COMMANDER</b>			
Q950	8-729-119-78	TRANSISTOR 2SC2785-HFE		8-951-869-90	REMOTE COMMANDER (RM-Y129)		
Q951	8-729-119-76	TRANSISTOR 2SA1175-HFE		4-973-375-01	BATTERY COVER (for RM-Y129)		
Q952	8-729-119-78	TRANSISTOR 2SC2785-HFE		<b>ACCESSORIES AND PACKING MATERIALS</b>			
Q953	8-729-119-76	TRANSISTOR 2SA1175-HFE		1-558-226-11	CORD, CONNECTION (COAXIAL)		
Q954	8-729-019-01	TRANSISTOR 2SD2394-EF		1-575-334-11	CORD CONNECTION (AV)		
Q956	8-729-119-78	TRANSISTOR 2SC2785-HFE		1-769-758-11	CABLE, TELEPHONE		
Q957	8-729-119-78	TRANSISTOR 2SC2785-HFE		1-759-274-21	MOUSE, INTELLIGENT VCR		
Q958	8-729-140-96	TRANSISTOR 2SD774-34		Δ 1-751-678-11	CORD, POWER		
Q959	8-729-119-78	TRANSISTOR 2SC2785-HFE		* 3-701-627-00	BAG, POLYETHYLENE		
<b>RESISTOR</b>				3-856-591-21	INSTRUCTION MANUAL		
R931	1-249-429-11	CARBON	10K 5% 1/4W	* 4-048-663-01	CUSHION (LEFT)		
R932	1-249-429-11	CARBON	10K 5% 1/4W	* 4-048-664-01	CUSHION (RIGHT)		
R933	1-249-429-11	CARBON	10K 5% 1/4W	* 4-048-665-01	INDIVIDUAL CARTON		
R939	1-247-807-31	CARBON	100 5% 1/4W	* 4-048-666-01	INSERT, CORRUGATED FIBERBOARD		
R940	1-249-421-11	CARBON	2.2K 5% 1/4W	* 4-048-667-01	SHEET, PROTECTION		
R941	1-249-383-11	CARBON	1.5 5% 1/4W F				
R943	1-249-417-11	CARBON	1K 5% 1/4W				
R945	1-247-807-31	CARBON	100 5% 1/4W				
R946	1-249-417-11	CARBON	1K 5% 1/4W				
R947	1-249-421-11	CARBON	2.2K 5% 1/4W				



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