

# AV RECEIVER

# RX-V359/HTR-5930

## SERVICE MANUAL

RX-V359/HTR-5930

### IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

**WARNING:** Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

**IMPORTANT:** The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

**WARNING:** Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

**IMPORTANT:** Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

## ■ CONTENTS

|                                      |       |                              |       |
|--------------------------------------|-------|------------------------------|-------|
| TO SERVICE PERSONNEL .....           | 2~3   | DISPLAY DATA .....           | 35~36 |
| IMPEDANCE SELECTOR .....             | 3     | IC DATA .....                | 37~43 |
| FRONT PANELS .....                   | 3~5   | PRINTED CIRCUIT BOARD .....  | 45~52 |
| REAR PANELS .....                    | 5~9   | PIN CONNECTION DIAGRAM ..... | 53~54 |
| REMOTE CONTROL PANELS .....          | 10    | BLOCK DIAGRAM .....          | 55    |
| SPECIFICATIONS .....                 | 11~12 | SCHEMATIC DIAGRAMS .....     | 56~60 |
| INTERNAL VIEW .....                  | 12    | REPLACEMENT PARTS LIST ..... | 61~69 |
| DISASSEMBLY PROCEDURES .....         | 13~15 | REMOTE CONTROL .....         | 70~71 |
| SELF DIAGNOSIS FUNCTION (DIAG) ..... | 16~33 | ADVANCED SETUP .....         | 72~73 |
| CONFIRMATION OF IDLING CURRENT ..... | 34    |                              |       |



このサービスマニュアルは、エコマーク認定の再生紙を使用しています。  
This Service Manual uses recycled paper.

100995

© 2006 YAMAHA CORPORATION All rights reserved.  
This manual is copyrighted by YAMAHA and may not be copied or  
redistributed either in print or electronically without permission.




# YAMAHA

YAMAHA CORPORATION  
P.O.Box 1, Hamamatsu, Japan

'06.01

## ■ TO SERVICE PERSONNEL

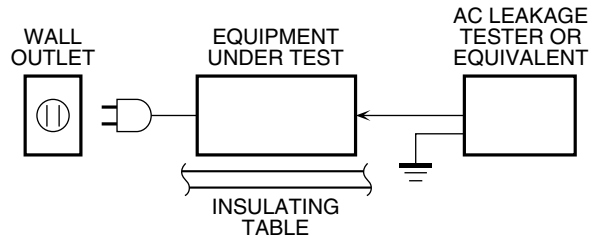
### 1. Critical Components Information

Components having special characteristics are marked  and must be replaced with parts having specifications equal to those originally installed.

### 2. Leakage Current Measurement (For 120V Models Only)

When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.

- Meter impedance should be equivalent to 1500 ohms shunted by 0.15µF.



- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.



#### “CAUTION”

“F371: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 6A, 125V FUSE.”

#### CAUTION

F371: REPLACE WITH SAME TYPE 6A, 125V FUSE.

#### ATTENTION

F371: UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE DE 6A, 125V.

## WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

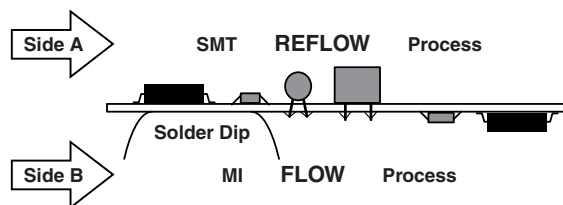
Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

## About Lead Free Solder

The P.C.B.s installed in this unit are soldered using the following solder.

|                 | Side A           | Side B           |
|-----------------|------------------|------------------|
| DSP P.C.B.      | Lead Free Solder | Lead Free Solder |
| FUNCTION P.C.B. | —                | Lead Free Solder |
| MAIN P.C.B.     | —                | Lead Free Solder |



Among some types of lead free solder currently available, it is recommended to use one of the following types for the repair work.

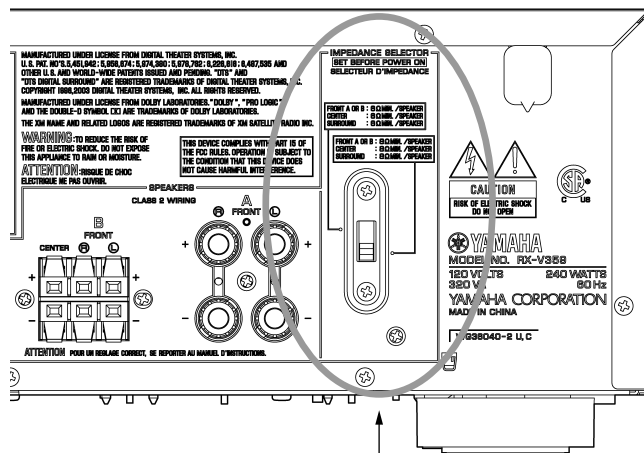
- Sn + Ag + Cu (tin + silver + copper)
- Sn + Cu (tin + copper)
- Sn + Zn + Bi (tin + zinc + bismuth)

**Caution:**

1. As the melting point temperature of the lead free solder is about 30°C to 40°C (50°F to 70°F) higher than that of the lead solder, be sure to use a soldering iron suitable to each solder.
2. If lead solder must be used, be sure to remove lead free solder from each terminal section of the parts to be replaced and from the area around it completely before soldering, or make sure that the lead free solder and lead solder melt together fully.

■ IMPEDANCE SELECTOR

U, C models

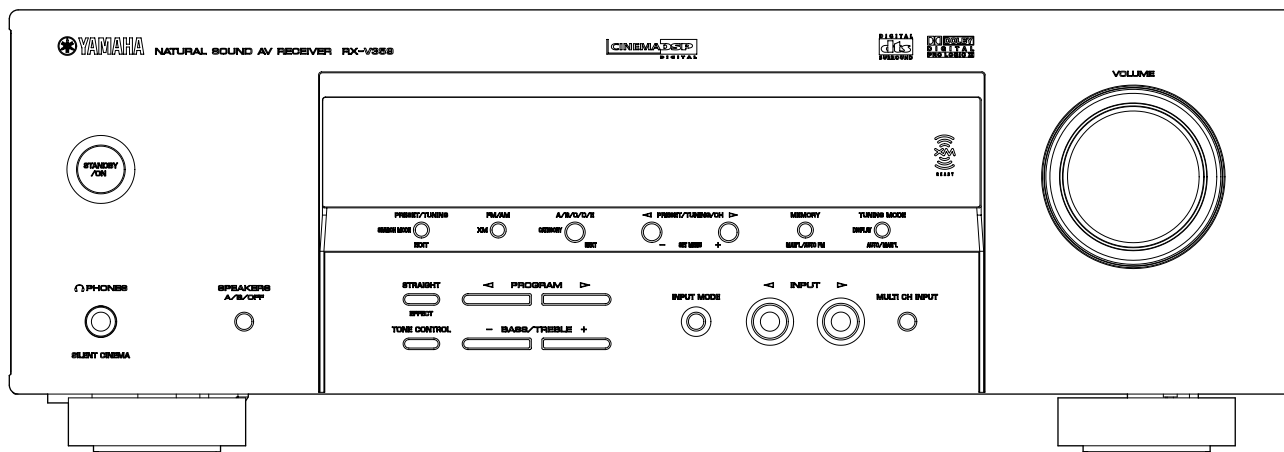


IMPEDANCE SELECTOR

**WARNING:**  
Do not change the IMPEDANCE SELECTOR switch setting while the power to this unit is on, otherwise this unit may be damaged.

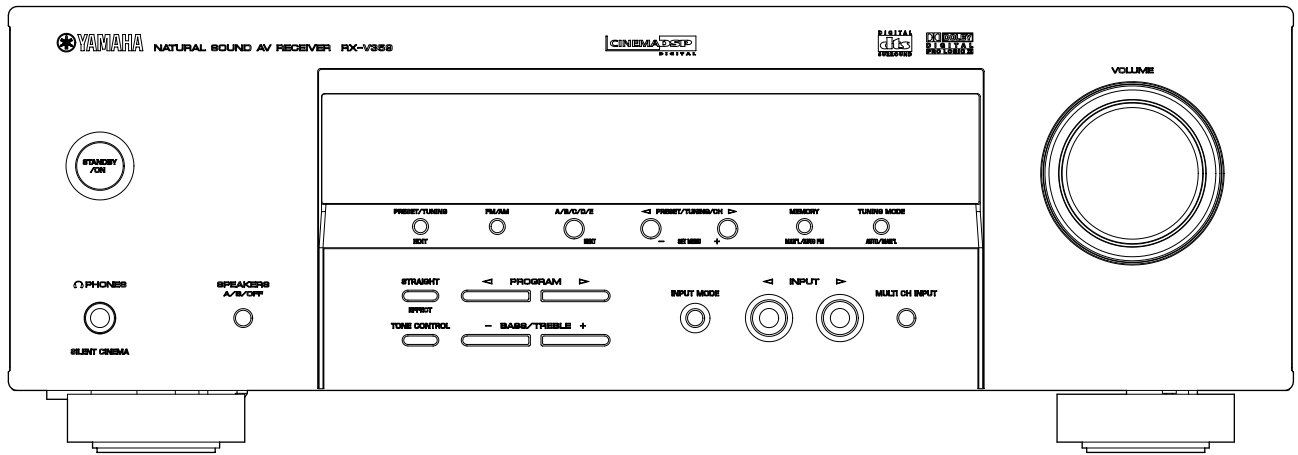
■ FRONT PANELS

RX-V359 (C model)

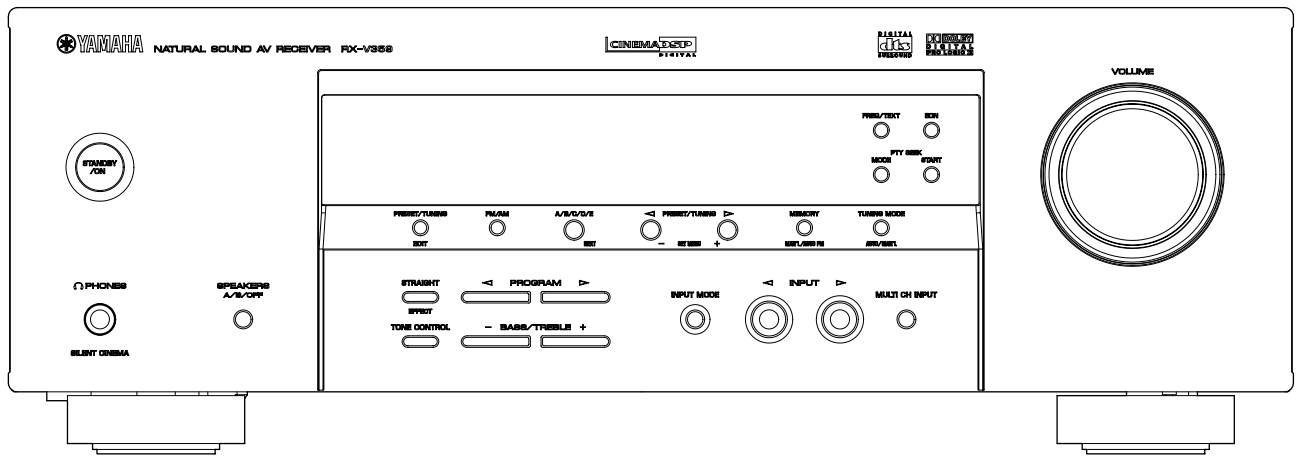


RX-V359/HTR-5930

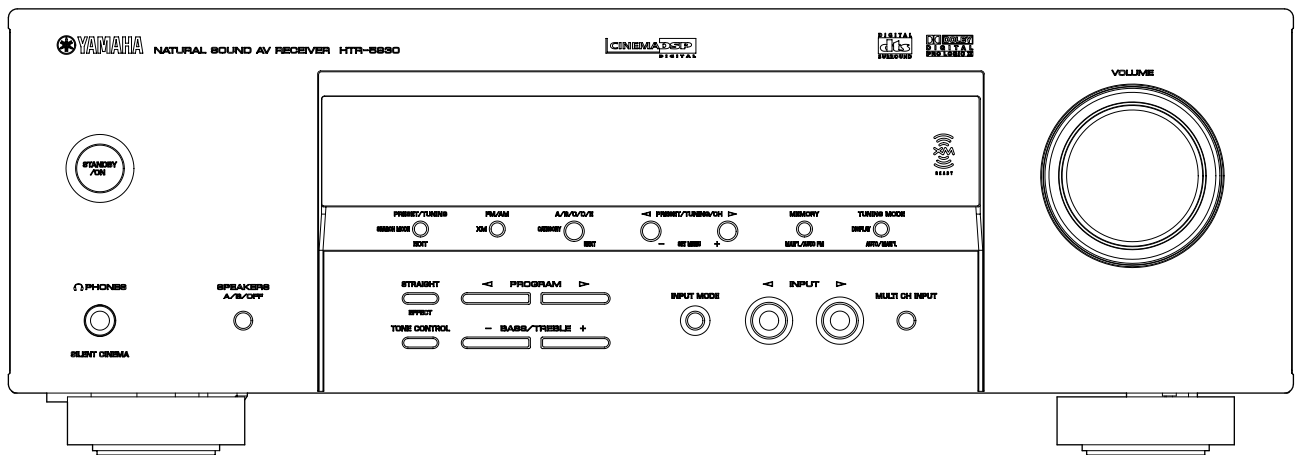
RX-V359 (R, T, K, A, L models)



RX-V359 (B, G, E models)

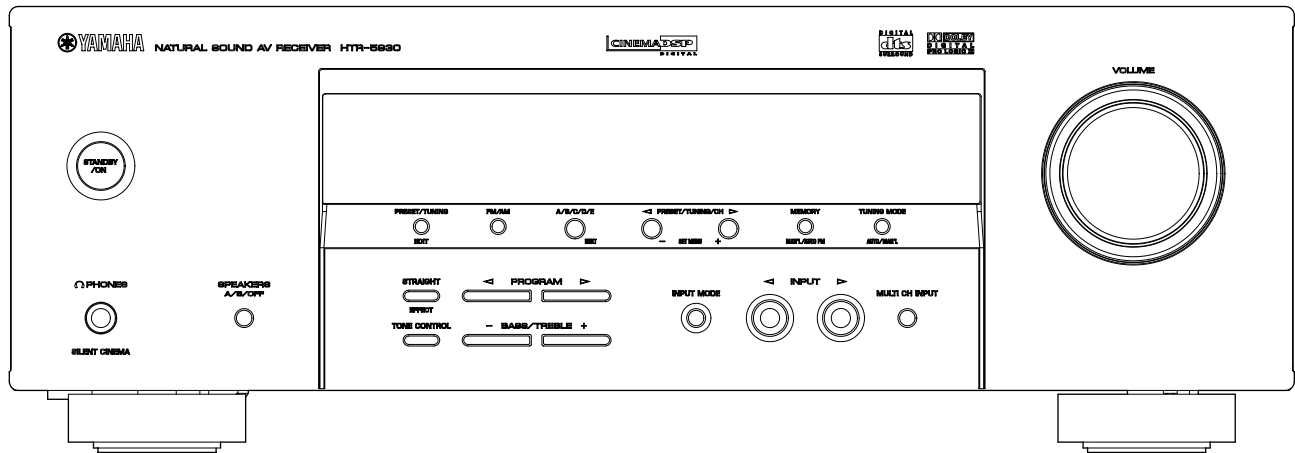


HTR-5930 (U, C models)

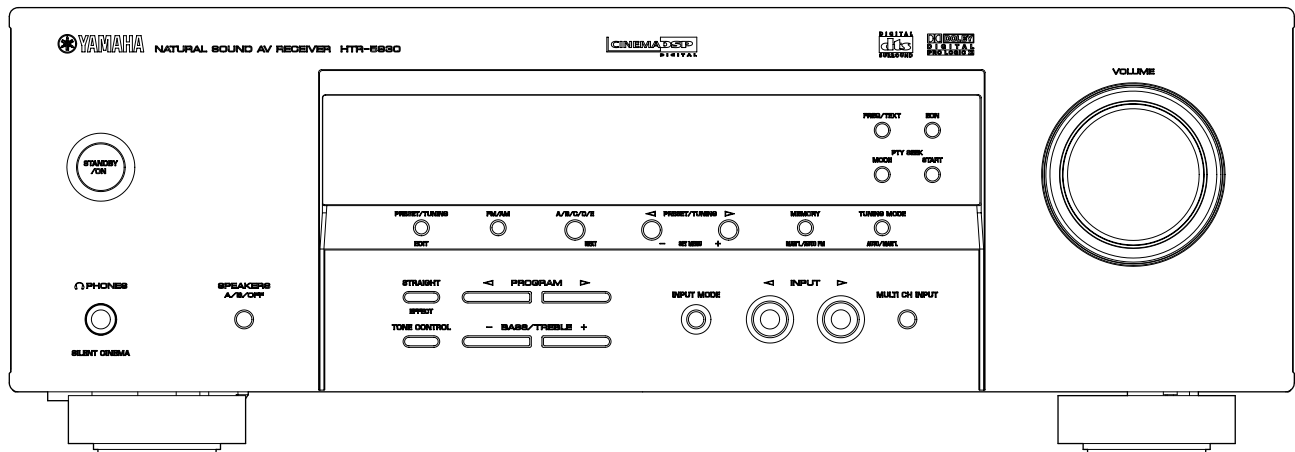


RX-V359/HTR-5930

HTR-5930 (R, T, K, A models)

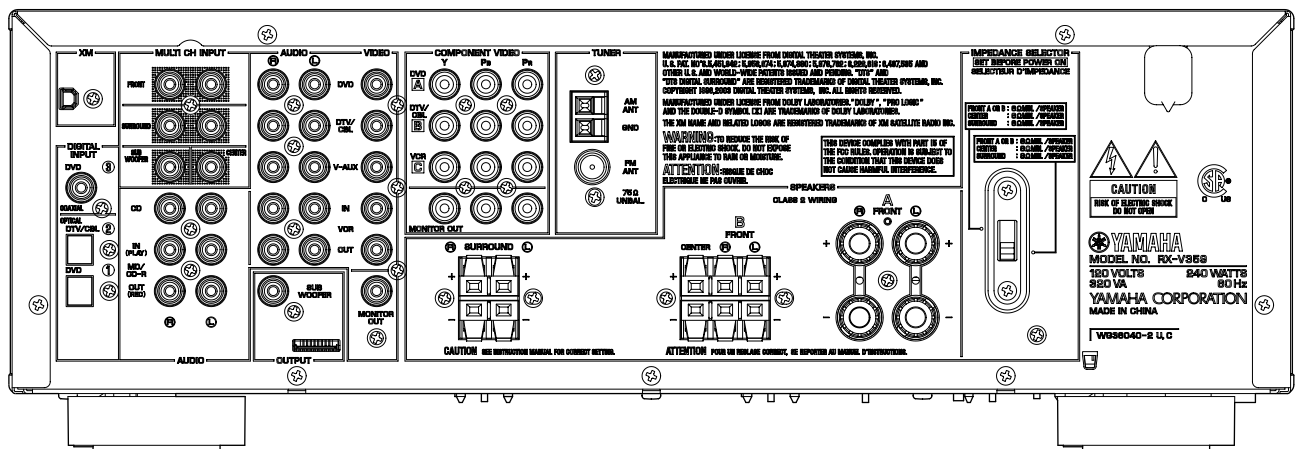


HTR-5930 (B, G, E models)



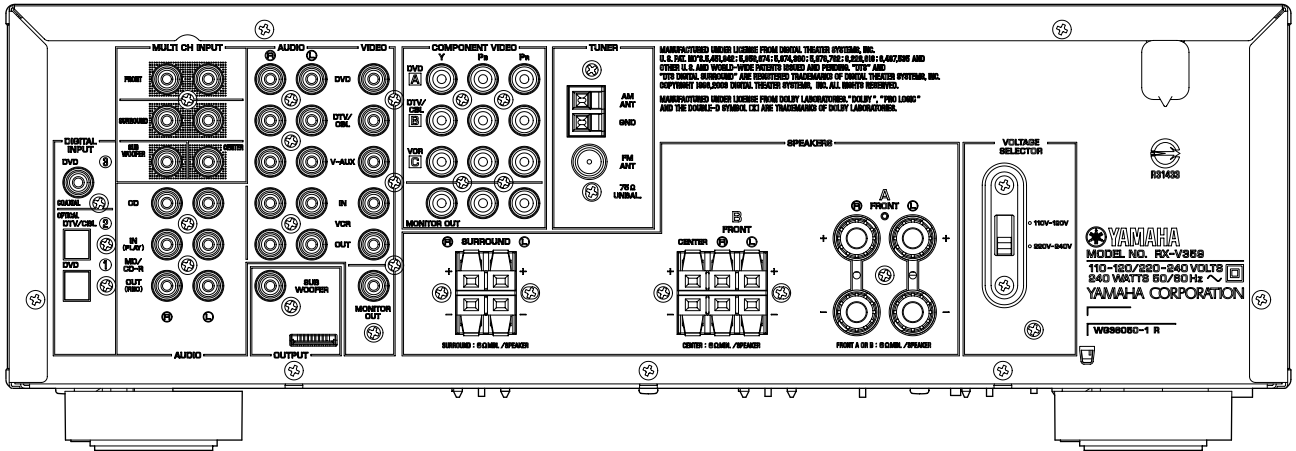
REAR PANELS

RX-V359 (C model)

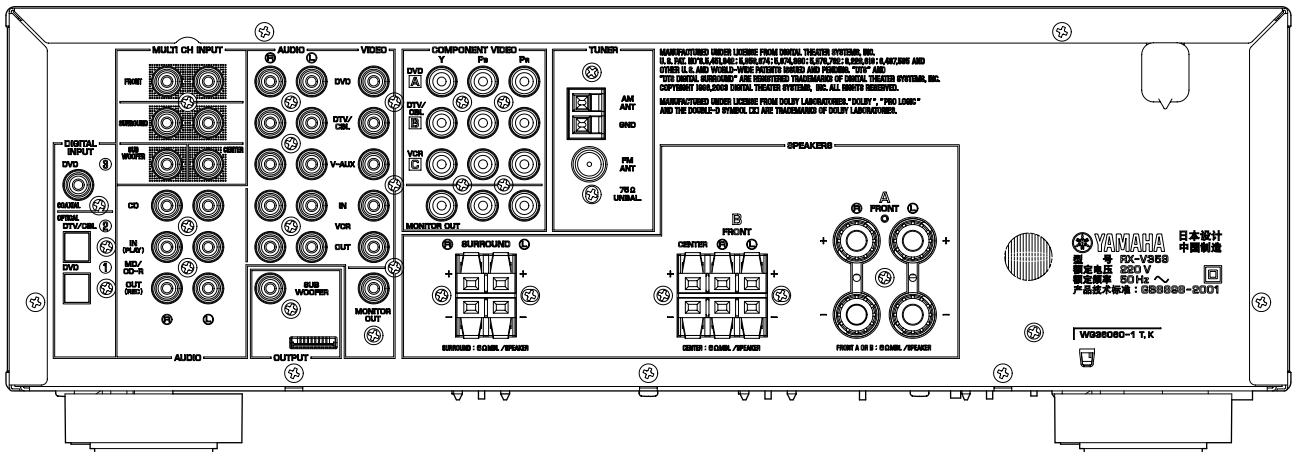


RX-V359/HTR-5930

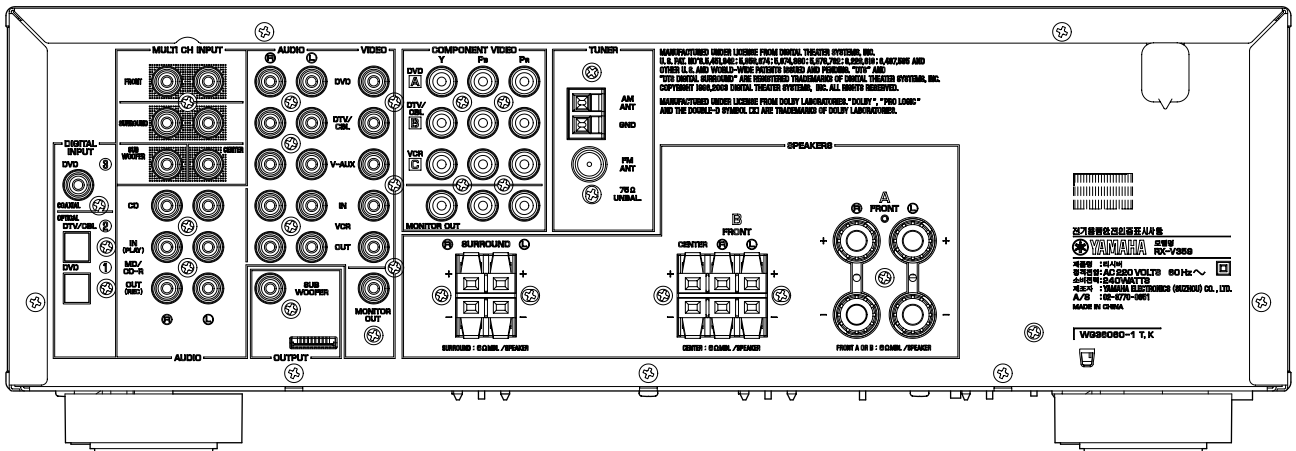
RX-V359 (R model)



RX-V359 (T model)

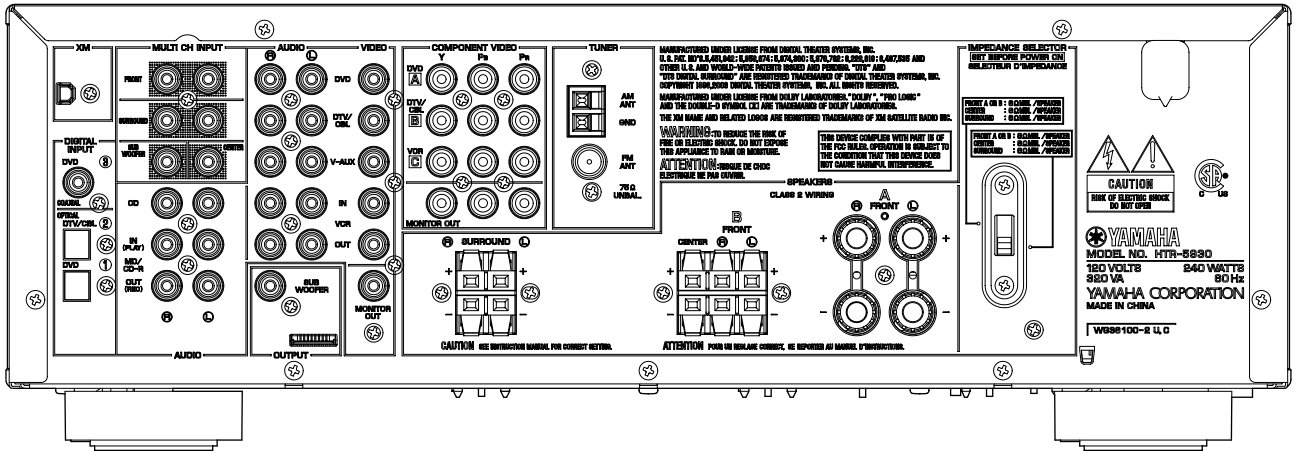


RX-V359 (K model)

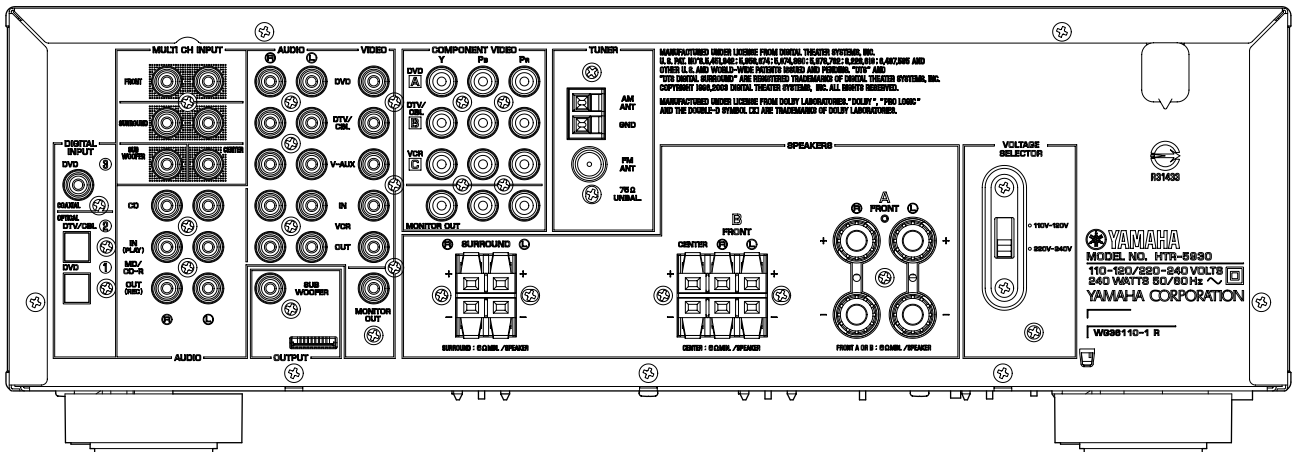




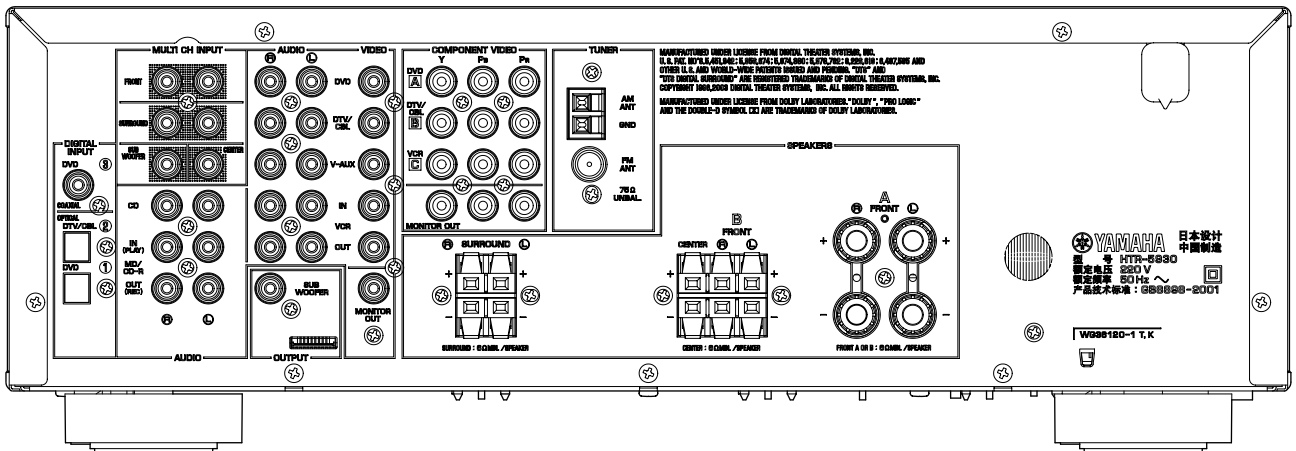
HTR-5930 (U, C models)



HTR-5930 (R model)

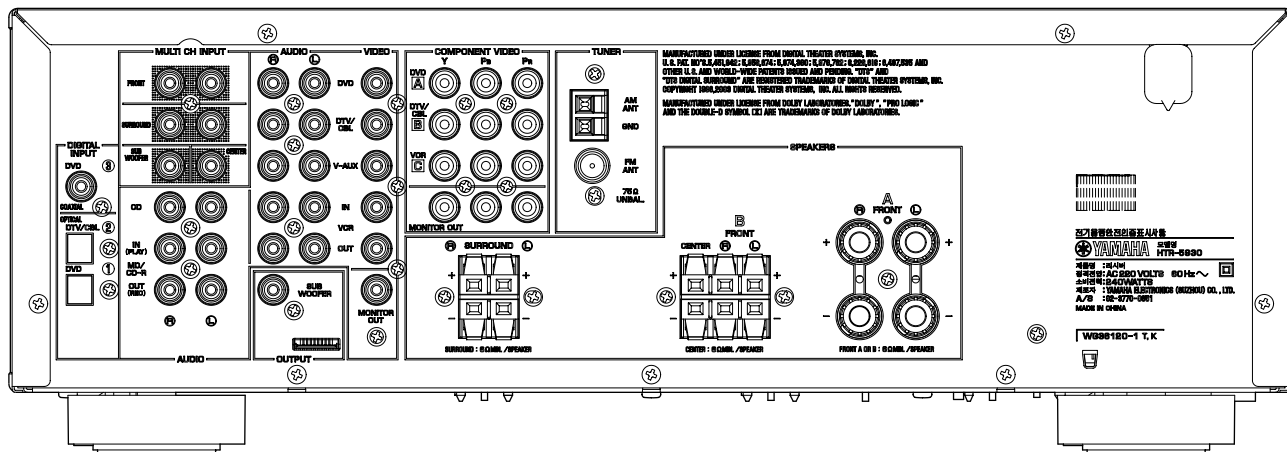


HTR-5930 (T model)

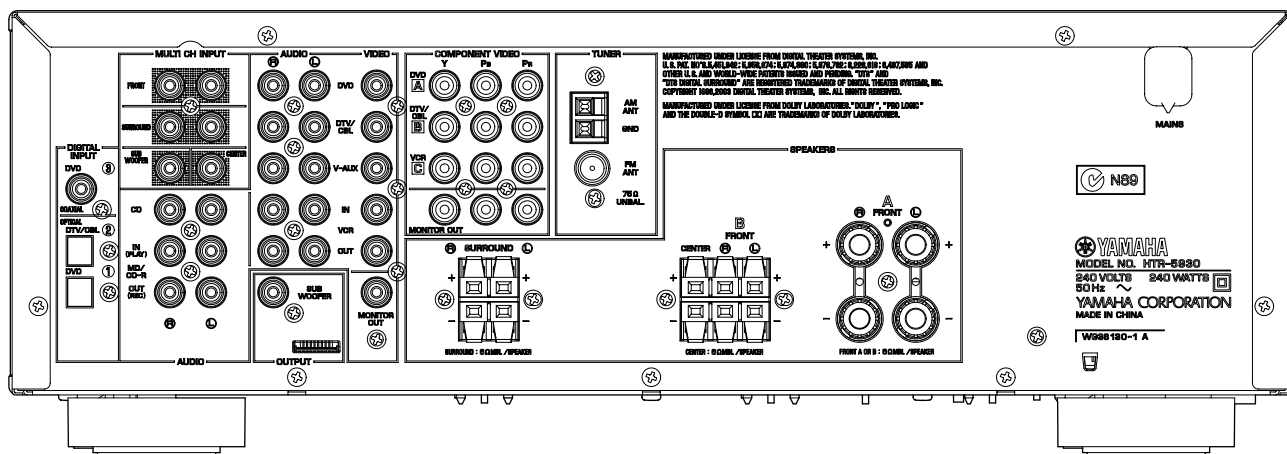




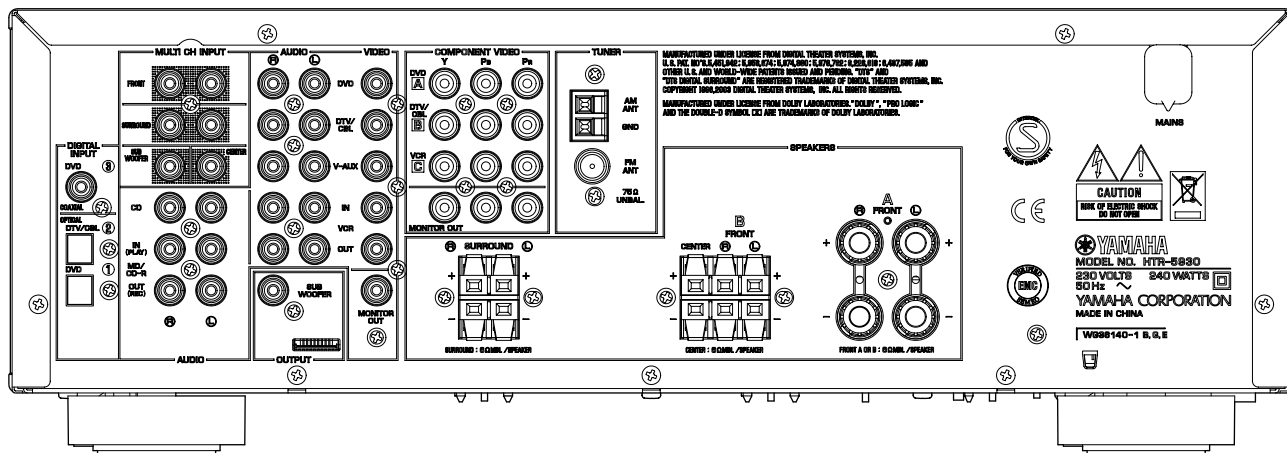
HTR-5930 (K model)



HTR-5930 (A model)



HTR-5930 (B, G, E models)

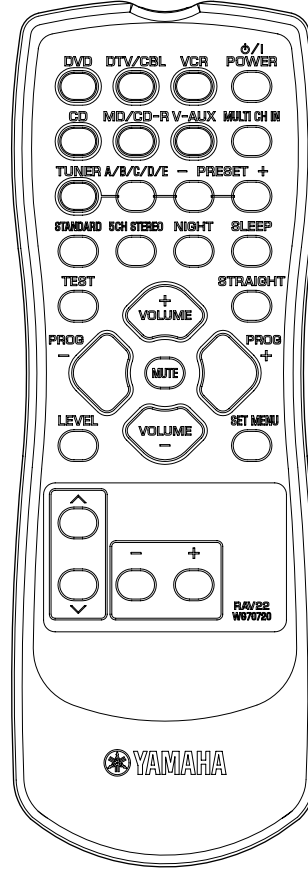
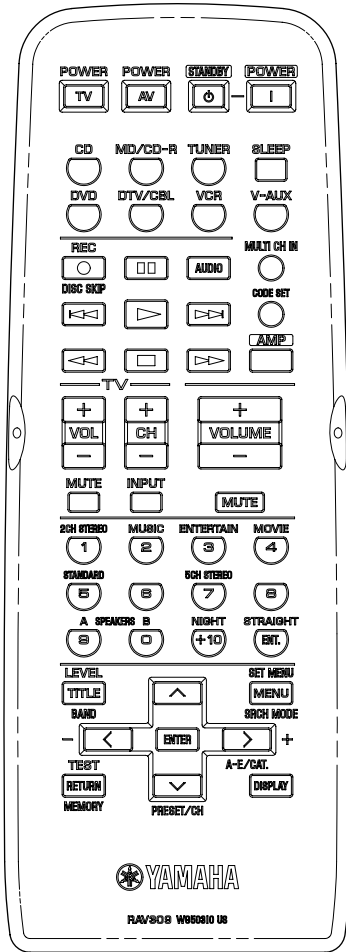


RX-V359/HTR-5930

## ■ REMOTE CONTROL PANELS

RX-V359 (C, R, T, K, A, L models)  
 HTR-5930 (U, C, R, T, K, A models)

RX-V359 (B, G, E models)  
 HTR-5930 (B, G, E models)



RX-V359/HTR-5930

## ■ SPECIFICATIONS

### ■ Audio Section

#### Minimum RMS Output Power (Power Amp. Section)

(1 kHz, 0.9 % THD, 8 ohms)

|              |               |
|--------------|---------------|
| FRONT L/R    |               |
| U, C models  | 110 W + 110 W |
| CENTER       |               |
| U, C models  | 110 W         |
| SURROUND L/R |               |
| U, C models  | 110 W + 110 W |

(1 kHz, 0.9 % THD, 6 ohms)

|                               |               |
|-------------------------------|---------------|
| FRONT L/R                     |               |
| U, C models                   | 110 W + 110 W |
| R, T, K, A, B, G, E, L models | 100 W + 100 W |
| CENTER                        |               |
| U, C models                   | 110 W         |
| R, T, K, A, B, G, E, L models | 100 W         |
| SURROUND L/R                  |               |
| U, C models                   | 110 W + 110 W |
| R, T, K, A, B, G, E, L models | 100 W + 100 W |

#### Maximum Power [R, T, K, L models]

(1 kHz, 10 % THD, 6 ohms)

|              |               |
|--------------|---------------|
| FRONT L/R    | 110 W + 110 W |
| CENTER       | 110 W         |
| SURROUND L/R | 110 W + 110 W |

#### Maximum Output Power Per Channel

[B, G, E, models]  
(1 kHz, 0.7 % THD, 4 ohms)

|              |               |
|--------------|---------------|
| FRONT L/R    | 105 W + 105 W |
| CENTER       | 105 W         |
| SURROUND L/R | 105 W + 105 W |

#### IEC Power [B, G, E models]

1 kHz, 0.1 % THD, 6 ohms

|  |             |
|--|-------------|
|  | 90 W + 90 W |
|--|-------------|

#### Dynamic Power Per Channel (IHF)

U, C models  
(8/6/4/2 ohms)

|  |                   |
|--|-------------------|
|  | 120/140/160/180 W |
|--|-------------------|

R, T, K, A, B, G, L, E models  
(6/4/2 ohms)

|  |               |
|--|---------------|
|  | 105/135/165 W |
|--|---------------|

#### Dynamic Headroom [U, C models]

8 ohms

|  |         |
|--|---------|
|  | 0.38 dB |
|--|---------|

#### Input Sensitivity / Input Impedance

CD, etc.

|  |                    |
|--|--------------------|
|  | 200 mV / 47 k-ohms |
|--|--------------------|

EXT. DECODER

|                                  |                    |
|----------------------------------|--------------------|
| FRONT L/R, CENTER, SURROUND L/R, |                    |
| SUBWOOFER                        | 200 mV / 47 k-ohms |

#### Maximum Input Signal

[U, C, R, T, K, A, B, G, E models]  
(1 kHz, 0.5 % THD, Effect on)

|          |               |
|----------|---------------|
| CD, etc. | 2.0 V or more |
|----------|---------------|

#### Output Level / Output Impedance

|                             |                     |
|-----------------------------|---------------------|
| REC OUT                     | 200 mV / 1.2 k-ohms |
| SUBWOOFER (FRONT SP: Small) | 4 V / 1.2 k-ohms    |

#### Headphone Jack Rated Output / Impedance

CD, etc. (1 kHz, 200 mV, 8 ohms)

|  |                  |
|--|------------------|
|  | 0.4 V / 470 ohms |
|--|------------------|

#### Frequency Response

(10 Hz to 100 kHz)

|                       |             |
|-----------------------|-------------|
| CD, etc. to FRONT L/R | 0 / -3.0 dB |
|-----------------------|-------------|

#### Total Harmonic Distortion

(1 kHz, 50 W, 6 ohms)

|   |                |
|---|----------------|
| CD, etc. (Effect off) to FRONT L/R SP OUT | 0.06 % or less |
|---|----------------|

#### Signal to Noise Ratio (IHF-A Network)

CD, etc. (STEREO) to Input shorted SP OUT

|       |                |
|-------|----------------|
| 250mV | 100 dB or more |
|-------|----------------|

#### Residual Noise (IHF-A Network)

FRONT L/R SP OUT

|  |                |
|--|----------------|
|  | 150 μV or less |
|--|----------------|

#### Channel Separation

(Vol -14 dB, STEREO)  
CD, etc. (Input 5.1 k-ohms shorted, 1 kHz / 10 kHz)

|  |                               |
|--|-------------------------------|
|  | 60 dB or more / 45 dB or more |
|--|-------------------------------|

#### Tone Control Characteristics

BASS

|           |                |
|-----------|----------------|
| Boost/Cut | ±10 dB (100Hz) |
|-----------|----------------|

TREBLE

|           |                 |
|-----------|-----------------|
| Boost/Cut | ±10 dB (20 kHz) |
|-----------|-----------------|

#### Filter Characteristics

FRONT, SURROUND L/R

|                    |                    |
|--------------------|--------------------|
| SP Small (H.P.F.)  | 90 Hz / 12 dB oct. |
| SUBWOOFER (L.P.F.) | 90 Hz / 18 dB oct. |

### ■ Video Section

#### Video Signal Type

|                         |      |
|-------------------------|------|
| U, C, R, K models       | NTSC |
| T, A, B, G, E, L models | PAL  |

#### Video Signal Level

|  |                  |
|--|------------------|
|  | 1 Vp-p / 75 ohms |
|--|------------------|

#### Component Signal Level

|  |                  |
|--|------------------|
|  | 1 Vp-p / 75 ohms |
|--|------------------|

#### Maximum Input Level

|  |                  |
|--|------------------|
|  | 1.5 Vp-p or more |
|--|------------------|

#### Signal to Noise Ratio

|  |               |
|--|---------------|
|  | 50 dB or more |
|--|---------------|

#### Monitor Out Frequency Response

|                        |                       |
|------------------------|-----------------------|
| Video signal level     | 5 Hz to 10 MHz, -3 dB |
| Component signal level | 5 Hz to 60 MHz, -3 dB |

### ■ FM Section

#### Tuning Range

|                         |                                     |
|-------------------------|-------------------------------------|
| U, C models             | 87.5 to 107.9 MHz                   |
| R, L models             | 87.5 to 108.0 / 87.50 to 108.00 MHz |
| T, K, A, B, G, E models | 87.50 to 108.00 MHz                 |

#### 50dB Quieting Sensitivity (IHF)

(1 kHz, 100 % Mod.)

|      |                   |
|------|-------------------|
| Mono | 2.8 μV (20.2 dBf) |
|------|-------------------|

#### Signal to Noise Ratio (IHF)

|               |               |
|---------------|---------------|
| Mono / Stereo | 73 dB / 70 dB |
|---------------|---------------|

#### Harmonic Distortion

(1 kHz)

|             |               |
|-------------|---------------|
| Mono/Stereo | 0.5 % / 0.5 % |
|-------------|---------------|

#### Antenna Input

|  |                    |
|--|--------------------|
|  | 75 ohms unbalanced |
|--|--------------------|

### ■ AM Section

#### Tuning Range

|                         |                                 |
|-------------------------|---------------------------------|
| U, C models             | 530 to 1,710 kHz                |
| R, L models             | 530 to 1,710 / 531 to 1,611 kHz |
| T, K, A, B, G, E models | 531 to 1,611 kHz                |

#### Antenna

|  |              |
|--|--------------|
|  | Loop antenna |
|--|--------------|

### ■ General

#### Power Supply

|                |                                |
|----------------|--------------------------------|
| U, C models    | AC 120 V, 60 Hz                |
| R, L models    | AC 110-120/220-240 V, 50/60 Hz |
| T model        | AC 220 V, 50 Hz                |
| K model        | AC 220 V, 60 Hz                |
| A model        | AC 240 V, 50 Hz                |
| B, G, E models | AC 230 V, 50 Hz                |

#### Power Consumption

|                               |                |
|-------------------------------|----------------|
| U, C models                   | 240 W / 320 VA |
| R, T, K, A, B, G, E, L models | 240 W          |

#### Standby Power Consumption (reference data)

|                            |       |
|----------------------------|-------|
| U, C models                | 0.5 W |
| T, K, A, B, G, E, L models | 0.7 W |

#### Maximum Power Consumption [R, L models]

|                     |       |
|---------------------|-------|
| 5ch Drive, 10 % THD | 510 W |
|---------------------|-------|

#### Dimensions (W x H x D)

|     |   |
|-----|---|
| ... | 435 x 151 x 317.6 mm (17-1/8" x 5-15/16" x 12-1/2") |
|-----|---|

#### Weight

|  |                         |
|--|-------------------------|
|  | 9.0 kg (19 lbs. 13 oz.) |
|--|-------------------------|

#### Finish

[RX-V359]

|                |                         |
|----------------|-------------------------|
| Gold color     | T, L models             |
| Black color    | R, A, B, G, E models    |
| Silver color   | C, R, K, B, G, E models |
| Titanium color | G, L models             |

#### [HTR-5930]

|              |                               |
|--------------|-------------------------------|
| Gold color   | T model                       |
| Black color  | U, C, R models                |
| Silver color | U, C, R, T, K, A, G, E models |

#### Accessories

|                        |                                |
|------------------------|--------------------------------|
| Remote control x 1,    | Batteries (Manganese dry) x 2, |
| Indoor FM antenna x 1, | AM loop antenna x 1            |

\* Specifications are subject to change without notice due to product improvements.

|   |                            |   |                       |
|---|----------------------------|---|-----------------------|
| U | ..... U.S.A. model         | C | .... Canadian model   |
| R | ..... General model        | T | .... Chinese model    |
| K | ..... Korean model         | A | .... Australian model |
| B | ..... British model        | G | .... European model   |
| E | ..... South European model | L | .... Singapore model  |



Manufactured under license from Dolby Laboratories.

"Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories.



"DTS", and "DTS Digital Surround" are registered trademarks of Digital Theater Systems, Inc.

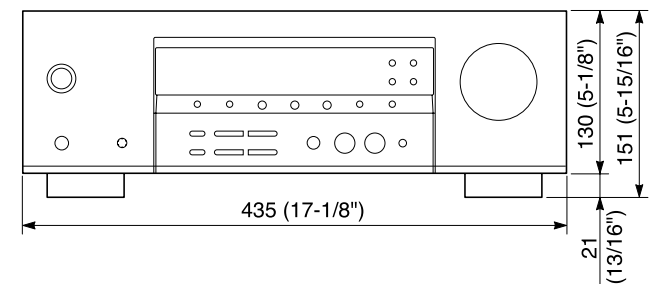
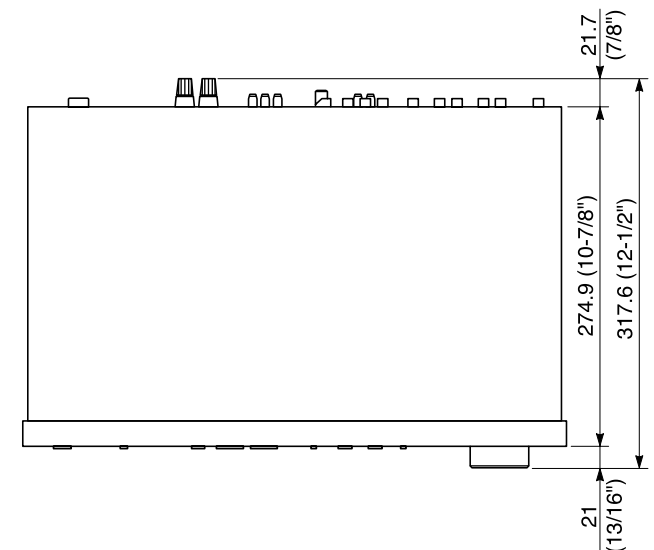


"SILENT CINEMA" is a trademark of YAMAHA CORPORATION.



The XM name and related logos are registered trademarks of XM Satellite Radio Inc.

### • DIMENSIONS



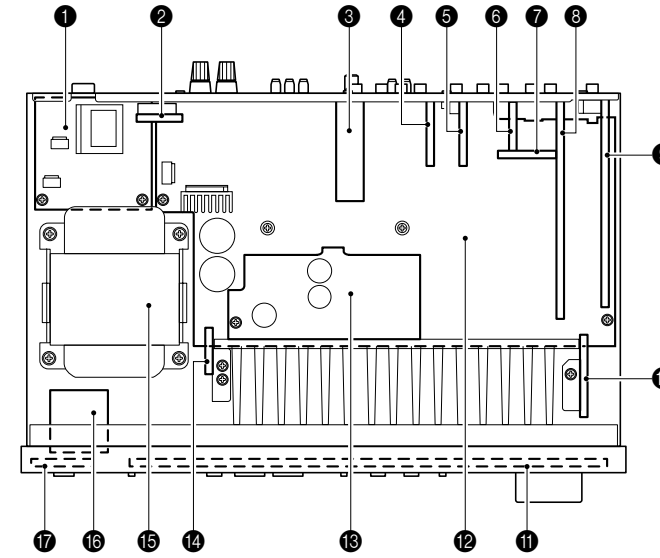
Unit : mm (inch)

• Set Menu Table

The value inside of [ ] shows initial setting.

| Category       | No.        | MAIN MENU                     | SUB MENU          | VALUE [INITIAL]  |                            |
|----------------|------------|-------------------------------|-------------------|--|----------------------------|
| BASIC          | 1          | SETUP                         | ROOM : S >M L     | S/[M]/L  |                            |
|                |            |                               | SUBWOOFER YES     | [YES]/NONE   |                            |
|                |            |                               | SPEAKERS 5spk     | 2/3/4/[5]  |                            |
|                |            |                               | >SET CANCEL       | [SET]/CANCEL   |                            |
|                |            |                               | Check : Test Tone |  |                            |
|                |            |                               | Check OK? Yes     | [Yes]/No   |                            |
|                | 2          | SP LEVEL                      | FL -----  ----- R | [Center] ±10step   |                            |
|                |            |                               | C -----  -----    | [Center] ±10step   |                            |
|                |            |                               | SL -----  -----   | [Center] ±10step   |                            |
|                |            |                               | SR -----  -----   | [Center] ±10step   |                            |
| SWFR -----     |            |                               | [0dB] -20step     |  |                            |
| SOUND          | 1          | SPEAKER SET                   | 1A CENTER SML     | LRG/[SML]/NON  |                            |
|                |            |                               | 1B FRONT LRG      | [LRG]/SML  |                            |
|                |            |                               | 1C SURR LR SML    | LRG/[SML]/NON  |                            |
|                |            |                               | 1D BASS BOTH      | SWFR/FRNT/[BOTH]   |                            |
|                | 2          | SP DISTANCE                   | UNIT              | meters(m)/feet(ft)   |                            |
|                |            |                               | FRONT L/R 3.00m   | 0.3 to 24m [3.00m]/0.1m step   |                            |
|                |            |                               | CENTER 3.00m      | 0.3 to 24m [3.00m]/0.1m step<br>(Effective distance difference 1.5m) |                            |
|                |            |                               | SURR LR 3.00m     | 0.3 to 24m [3.00m]/0.1m step   |                            |
|                | 3          | LFE LEVEL                     | SP LFE 0          | -20dB to [0dB]/1dB step  |                            |
|                |            |                               | HP LFE 0          | -20dB to [0dB]/1dB step  |                            |
|                | 4          | DYNAMIC RANGE                 | SP D.R > MAX      | MIN/STD/[MAX]  |                            |
|                |            |                               | HP D.R > MAX      | MIN/STD/[MAX]  |                            |
|                | 5          | TONE BYPASS                   | > AUTO OFF        | [AUTO]/OFF   |                            |
|                | INPUT      | 1                             | I/O ASSIGN        | 1A (A) DVD   | VCR, V-AUX, DTV/CBL, [DVD] |
|                |            |                               |                   | 1A (B) DTV/CBL   | VCR, V-AUX, [DTV/CBL], DVD |
| 1A (C) VCR     |            |                               |                   | [VCR], V-AUX, DTV/CBL, DVD   |                            |
| 1B (1) DVD     |            |                               |                   | CD, VCR, V-AUX, DTV/CBL, [DVD], MD/CD-R                              |                            |
| 1B (2) DTV/CBL |            |                               |                   | CD, VCR, V-AUX, [DTV/CBL], DVD, MD/CD-R                              |                            |
| 1C (3) CD      |            |                               |                   | [CD], VCR, V-AUX, DTV/CBL, DVD, MD/CD-R                              |                            |
| 2              | INPUT MODE | 2 >AUTO LAST                  | [AUTO]/LAST       |  |                            |
| OPTION         | 1          | DISPLAY SET                   | 1 DIMMER 0        | -4 to [0]/1 step   |                            |
|                | 2          | MEMORY GUARD                  | 2 M GUARD OFF     | [OFF]/ON   |                            |
|                | 3          | AUDIO MUTE                    | 3 MUTE: MUTE      | [MUTE]/-50dB/-20dB   |                            |
|                | 4          | XM RADIO SET<br>(U, C models) | 4 ANTENNA         | NONE/0~100%  |                            |
| 4 SCROLL CONT  |            |                               | [CONT]/ONCE       |  |                            |

■ INTERNAL VIEW



- ❶ MAIN (2) P.C.B.
- ❷ MAIN (4) P.C.B. (U, C models)  
FUNCTION (7) P.C.B. (R, L models)
- ❸ Tuner
- ❹ MAIN (5) P.C.B.
- ❺ MAIN (3) P.C.B.
- ❻ FUNCTION (3) P.C.B.
- ❼ FUNCTION (6) P.C.B.
- ❽ FUNCTION (1) P.C.B.
- ❾ DSP P.C.B.
- ❿ FUNCTION (9) P.C.B.
- ⓫ FUNCTION (2) P.C.B.
- ⓬ MAIN (1) P.C.B.
- ⓭ FUNCTION (4) P.C.B.
- ⓮ FUNCTION (8) P.C.B.
- ⓯ Power Transformer
- ⓰ FUNCTION (10) P.C.B.
- ⓱ FUNCTION (5) P.C.B.

• The variable range of the parameter (Min/Max/Step)

|           |         | Unit |
|-----------|---------|------|
| DSP LEVEL | -6/+3/1 | dB   |
| DELAY     | 1/99/1  | ms   |

| 5ch Stereo Parameter |         | Unit |
|----------------------|---------|------|
| CT LEVEL             | 0/100/1 | %    |
| SL LEVEL             | 0/100/1 | %    |
| SR LEVEL             | 0/100/1 | %    |

| Pro Logic II Music Parameter |         | Unit |
|------------------------------|---------|------|
| PANORAMA                     | OFF/ON  |      |
| DIMENSIONS                   | -3/+3/1 |      |
| CT WIDTH                     | 0/7/1   |      |

## ■ DISASSEMBLY PROCEDURES

(Remove parts in the order as numbered.)  
Disconnect the power cable from the AC outlet.

### 1. Removal of Top Cover

- Remove 4 screws (①), 4 screws (②) and 1 screw (③). (Fig. 1)
- Slide the Top Cover rearward to remove it. (Fig. 1)

### 2. Removal of Front Panel Unit

- Loosen the harness fixture fixing the cable.
- Remove CB431, CB653 and CB804. (Fig. 1)
- Remove 6 screws (④). (Fig. 1)
- Release a hook on the right side of the Front Panel Unit, then remove the Front Panel Unit forward. (Fig. 1)

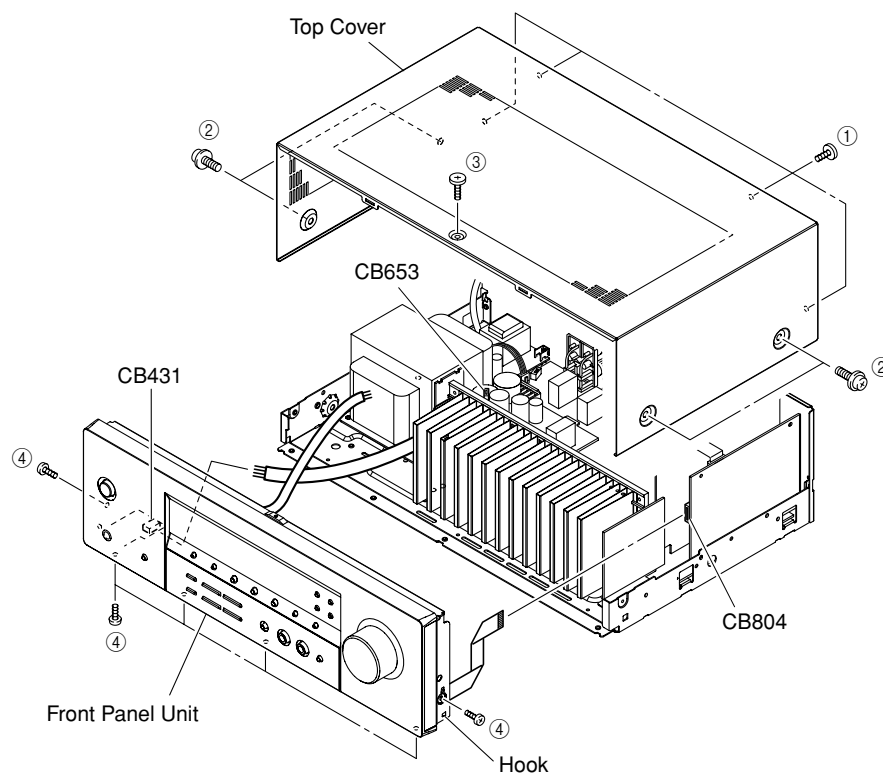


Fig. 1

**3. Removal of MAIN (3), MAIN (5), FUNCTION (3), FUNCTION (6) P.C.B.s and Tuner**

- a. Remove CB242. (Fig. 2)
- b. Remove 12 screws (5). (Fig. 3)
- c. Remove MAIN (3), MAIN (5) P.C.B.s and the Tuner. (Fig. 2)
- d. Remove 14 (U, C models)/13 (R, T, K, A, B, G, L models) screws (6). (Fig. 3)
- e. Remove 4 screws (7). (Fig. 3)
- f. Remove 2 (U, C, R, L models) screws (8). (Fig. 3)
- g. Remove Cord Stopper. (Fig. 2)
- h. Remove Rear Panel. (Fig. 2)
- i. Remove, FUNCTION (3) and FUNCTION (6) P.C.B.s. (Fig. 2)

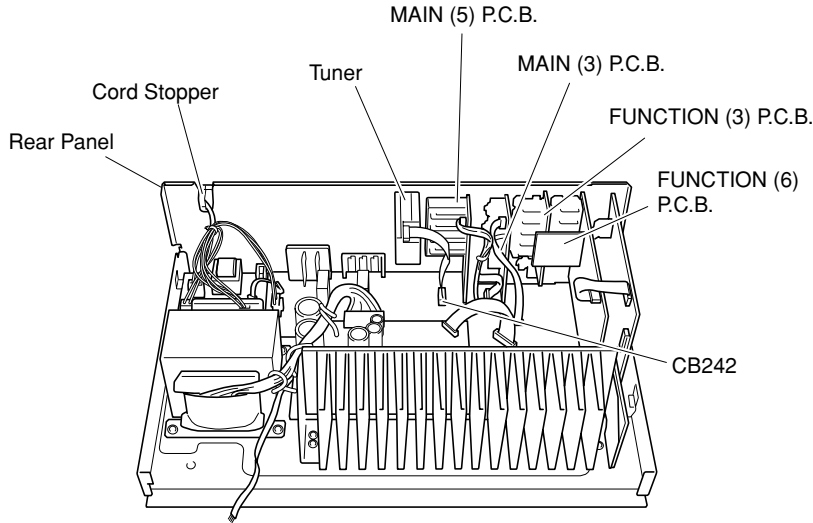


Fig. 2

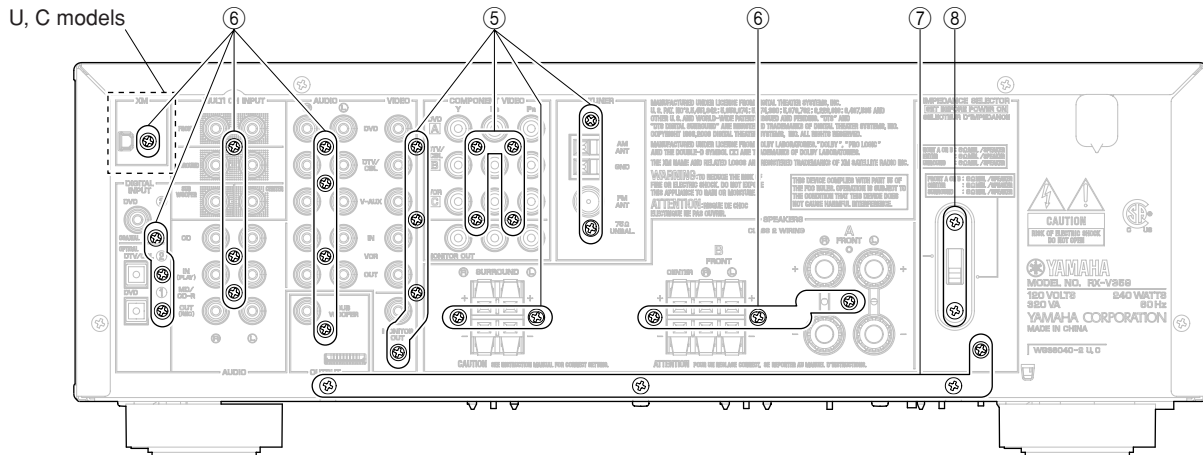
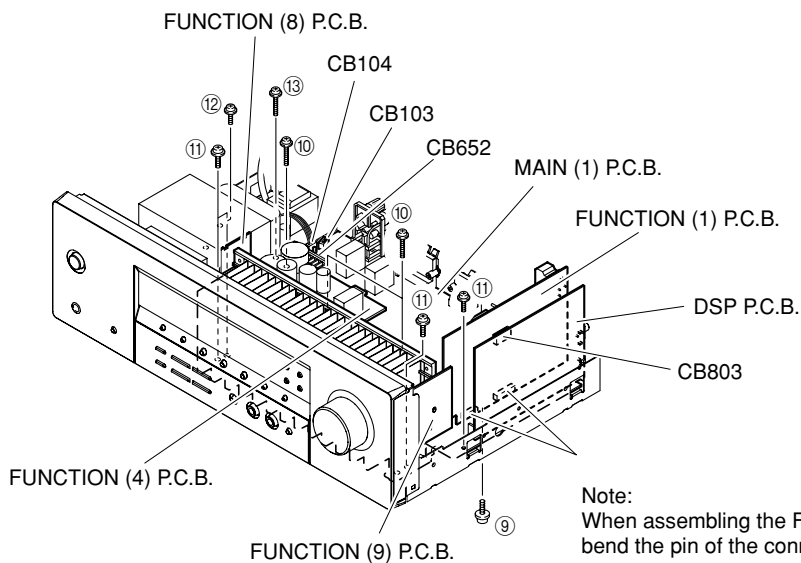


Fig. 3

#### 4. Removal of MAIN (1), DSP, FUNCTION (1), FUNCTION (8) and FUNCTION (9) P.C.B.s

- Remove 1 screw (9). (Fig. 4)
- Remove CB803. (Fig. 4)
- Remove FUNCTION (1) P.C.B. (Fig. 4)
- Remove CB103, CB104 and CB652. (Fig. 4)
- Remove 3 screws (10). (Fig. 4)
- Remove 4 screws (11). (Fig. 4)
- Remove MAIN (1), DSP, FUNCTION (4), FUNCTION (8) and FUNCTION (9) P.C.B.s. (Fig. 4)

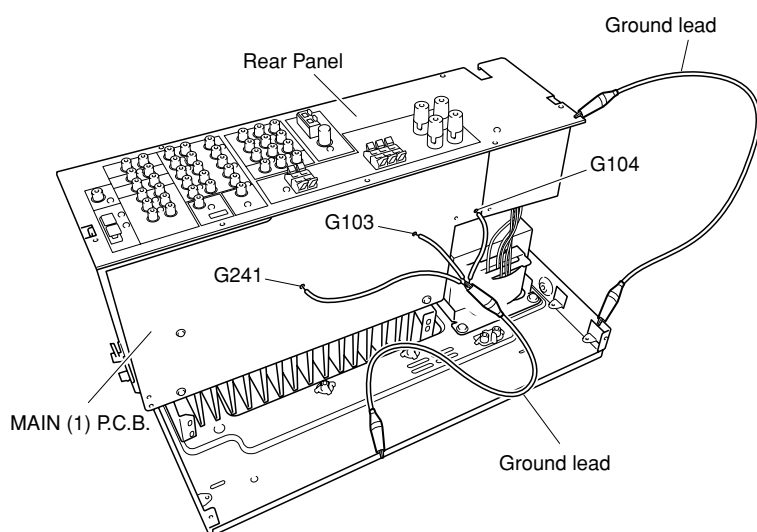


**Note:**  
When assembling the FUNCTION (1) P.C.B., be careful not to bend the pin of the connectors (CB101 and CB244).

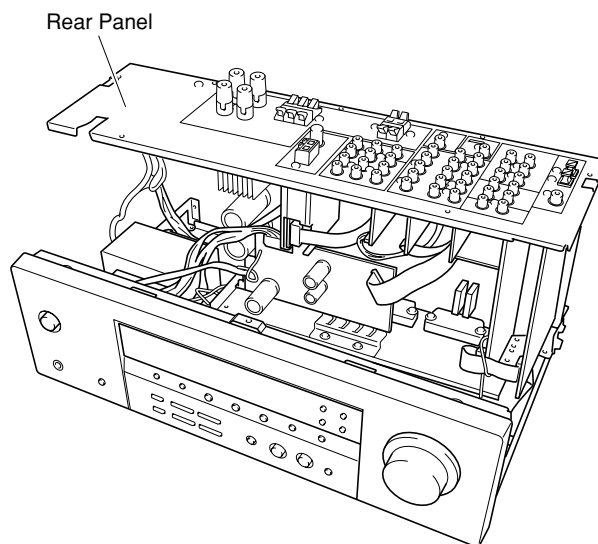
**Fig. 4**

#### When checking the P.C.B.:

- Remove the Top Cover.
- Remove 4 screws (7). (Fig. 3)
- Remove 3 screws (10). (Fig. 4)
- Remove 4 screws (11). (Fig. 4)
- Remove 1 screw (12). (Fig. 4)
- Remove 1 screw (13). (Fig. 4)
- Place the P.C.B. upright. (Fig. A and B)
- Be sure to connect the ground of Rear Panel and MAIN (1) P.C.B. (G103, G104, G241) to the chassis with a ground lead or the like.



**Fig. A**



**Fig. B**

## ■ SELF DIAGNOSIS FUNCTION (DIAG)

There are 16 DIAG menu items, each of which has sub-menu items.

Listed in the table below are menu items and sub-menu items.

Note that not all menu items listed will apply to the models covered in this service manual.

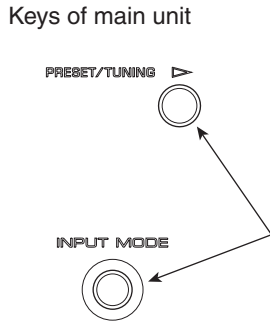
| No | DIAG menu   | sub-menu  |
|----|---|---|
| 1  | DSP THROUGH <input type="text" value="1. ANALOG BYPASS"/>           | 1. ANALOG BYPASS                                      |
|    |   | 2. DSP BYPASS   |
|    |   | 3. YSS Presence 0dB                                   |
|    |   | 4. YSS FULL BIT                                       |
|    |   | 5. YSS FULL BIT P                                     |
| 2  | RAM THROUGH <input type="text" value="2. RAM FULLBIT"/>             | 1. RAM FULL BIT                                       |
|    |   | 2. RAM MARGIN   |
| 3  | DOLBY PRO LOGIC <input type="text" value="3. PRO LOGIC I"/>         | 1. PRO LOGIC I  |
|    |   | 2. PRO LOGIC II                                       |
|    |   | 3. Neo:6 (Not applied to these models)                |
| 4  | SPEAKERS SET <input type="text" value="4. FRNT: SML 0dB"/>          | 1. FRONT: SMALL 0dB                                   |
|    |   | 2. CENTER: NONE (Not applied to these models)         |
|    |   | 3. LFE/BASS: FRONT (Not applied to these models)      |
|    |   | 4. PRESENCE MIX: 5ch (Not applied to these models)    |
|    |   | 5. SURROUND B power (Not applied to these models)     |
|    |   | 6. Tone Control Flat                                  |
|    |   | 7. Tone Control +10dB                                 |
|    |   | 8. Tone Control -10dB                                 |
| 5  | HP Test <input type="text" value="5. FRONT12dB"/>                   | 1. FRONT 12 dB  |
|    |   | 2. FRONT 15 dB  |
| 6  | XCH INPUT <input type="text" value="6. XCH INPUT"/>                 | 1. Xch INPUT  |
|    |   | 2. LIMIT (Not applied to these models)                |
| 7  | DISPLAY CHECK <input type="text" value="7. VFD CHECK"/>             | 1. VFD CHECK (Initial display)                        |
|    |   | 2. VFD DISP OFF (All segments OFF)                    |
|    |   | 3. VFD DISP ALL (All segments ON 100%)                |
|    |   | 4. VFD DIMMER (All segments ON 50%)                   |
|    |   | 5. CHECKED PATTERN (ON in lattice)                    |
| 8  | MANUAL TEST <input type="text" value="8. TEST ALL"/>                | 1. TEST ALL   |
|    |   | 2. TEST FRONT L                                       |
|    |   | 3. TEST CENTER  |
|    |   | 4. TEST FRONT R                                       |
|    |   | 5. TEST SURROUND R                                    |
|    |   | 6. TEST SURROUND C (Not applied to these models)      |
|    |   | 7. TEST SURROUND L                                    |
|    |   | 8. TEST LFE   |
| 9  | FACTORY PRESET <input type="text" value="9. PRESET INHI"/>          | 1. PRESET INHIBITED (memory initialization inhibited) |
|    |   | 2. PRESET RESERVED (memory initialized)               |
| 10 | AD DATA CHECK /FAN TEST <input type="text" value="DC: 28%PS: 16%"/> | 1. DC/PS (protection indication)                      |
|    |   | 2. THM/Fan  |
|    |   | 3. REC-OUT (Not applied to these models)              |
|    |   | 4. IMP SW/POWER LIMIT                                 |
|    |   | 5. K0/K1 (panel key)                                  |
|    |   | 6. FAN DRIVE TEST: HIGH (Not applied to these models) |
|    |   | 7. FAN DRIVE TEST: MID (Not applied to these models)  |
|    |   | 8. FAN DRIVE TEST: LOW (Not applied to these models)  |
| 11 | XM STATUS (U, C models) <input type="text" value="1k - 1dB/44 x"/>  | 1. 1k -1dB /44.1k                                     |
|    |   | 2. 1k -61dB /44.1k                                    |
|    |   | 3. Mute /44.1k  |



| No | DIAG menu  | sub-menu                                      |
|----|--|---|
|    |  | 4. XM Tone /44.1k                             |
|    |  | 5. ISO Tone /44.1k                            |
|    |  | 6. 1k -1dB /32k                               |
|    |  | 7. 1k -61dB /32k                              |
|    |  | 8. Mute /32k                                  |
|    |  | 9. XM Tone /32k                               |
|    |  | 10. ISO Tone /32k                             |
|    |  | 11. XM/DT Bus Power: OFF                      |
| 12 | IF STATUS <input type="text" value="IS1:2200020000"/><br>(Not applied to these models)   | 1. INSIDE STATUS 1 (5 Byte)                   |
|    |  | 2. INSIDE STATUS 2 (3 Byte)                   |
|    |  | 3. CHANNEL STATUS 1 (5 Byte)                  |
|    |  | 4. CHANNEL STATUS 2 (5 Byte)                  |
|    |  | 5. CHANNEL STATUS 3 (5 Byte)                  |
|    |  | 6. CHANNEL STATUS 4 (5 Byte)                  |
|    |  | 7. CHANNEL STATUS 5 (4 Byte)                  |
|    |  | 8. BSI (YSS) 1 (5 Byte)                       |
|    |  | 9. BSI (YSS) 2 (5 Byte)                       |
|    |  | 10. BSI (YSS) 3 (5 Byte)                      |
|    |  | 11. BSI (YSS) 4 (4 Byte)                      |
|    |  | 12. BSI (CS) 1 (5 Byte)                       |
|    |  | 13. BSI (CS) 2 (5 Byte)                       |
|    |  | 14. BSI (CS) 3 (5 Byte)                       |
|    |  | 15. BSI (CS) 4 (5 Byte)                       |
|    |  | 16. BSI (CS) 5 (1 Byte)                       |
|    |  | 17. YSS938-1 (5 Byte)                         |
|    |  | 18. YSS938-2 (5 Byte)                         |
|    |  | 19. YSS938-3 (4 Byte)                         |
|    |  | 20. SECOND DECODER (3 Byte)                   |
|    |  | 21. Mute Trigger (5 Byte)                     |
| 13 | DSP RAM CHECK <input type="text" value="DSP BUS:NoEr"/><br>(Not applied to these models) | 1. DSP BUS CHECK                              |
|    |  | 2. PLD/SRAM BUS CHECK                         |
| 14 | SD DL CODE <input type="text" value="RDV:XXXXXXXX"/><br>(Not applied to these models)    | 1. ROM DATA Version                           |
|    |  | 2. TOC Area 0                                 |
|    |  | 3. TOC Area 1                                 |
|    |  | 4. TOC Area 2                                 |
|    |  | 5. TOC Area 3                                 |
|    |  | 6. TOC Area 4                                 |
|    |  | 7. TOC Area 5                                 |
|    |  | 8. Sum check Area 0                           |
|    |  | 9. Sum check Area 1                           |
|    |  | 10. Sum check Area 2                          |
|    |  | 11. Sum check Area 3                          |
|    |  | 12. Sum check Area 4                          |
|    |  | 13. Sum check Area 5                          |
| 15 | SOFT SWITCH <input type="text" value="15.SW :PCB"/>                                      | 1. SW MODE: PCB/SOFT                          |
|    |  | 2. MODEL SETTING: V357/V357T                  |
|    |  | 3. TUNER DESTINATION: UC/AKGTE/RL             |
|    |  | 4. TUNER: EXIST/NOT                           |
|    |  | 5. RDS: EXIST/NOT                             |
|    |  | 6. ZONE 2: EXIST/NOT                          |
|    |  | 7. VIDEO FORMAT (Not applied to these models) |
| 16 | ROM VERSION/CHECK SUM/<br>PORT <input type="text" value="VER. XXXXX"/>                   | 1. VERSION                                    |
|    |  | 2. CHECK SUM ALL/PROGRAM                      |
|    |  | 3. PORT                                       |
|    |  | 4. AAC PORT (Not applied to these models)     |

• **Starting DIAG**

Press the “STANDBY/ON” key while simultaneously pressing those two keys of the main unit as indicated in the figure below.



Turn on the power while pressing these keys.

• **Starting DIAG in the protection cancel mode**

If the protection function works and causes hindrance to trouble diagnosis, cancel the protection function as described below, and it will be possible to enter the DIAG mode. (The protection functions other than the excess current detect function will be disabled.)

Press the “STANDBY/ON” key while simultaneously pressing those two keys indicated in the figure above. At this time, keep pressing those two keys for 3 seconds or longer.

In this mode, the “SLEEP” segment of the FL display of the main unit flashes to indicate that the mode is DIAG mode with the protection functions disabled.

**CAUTION!**

Using this product with the protection function disabled may cause damage to itself. Use special care for this point when using this mode.

• **Canceling DIAG**

[1] Before canceling DIAG, execute setting for PRESET of DIAG menu No.9 (Memory initialization inhibited or Memory initialized).

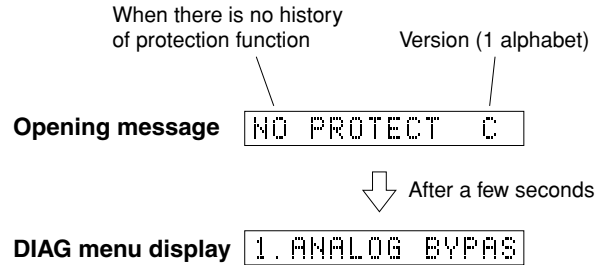
\* In order to keep the user memory stored, be sure to select PRESET INHIBITED (Memory initialization inhibited).

[2] Turn off the power by pressing the “STANDBY/ON” key of the main unit.

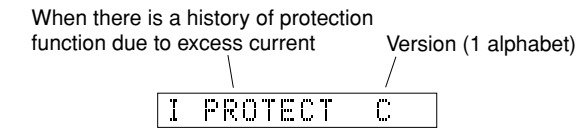
• **Display provided when DIAG started**

The FL display of the main unit displays the protection function history data and the version (1 alphabet) and the DIAG menu [sub-menu (ANALOG BYPASS) of DIAG menu No.1 DSP THROUGH] a few seconds later.

**When there is no history of protection function:**



**When there is a history of protection function:**



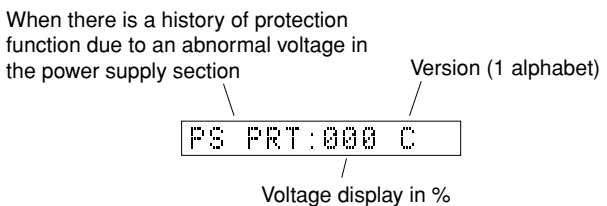
**Cause:** An excessive current flowed through the power amplifier.

**Supplementary information:** As the current through the power transistor is detected, the abnormal channel can be identified by checking the current detect transistor.

Turning on the power without correcting the abnormality will cause the protection function to work immediately and the power supply will instantly be shut off.

**Note)**

- Applying the power to a unit without correcting the abnormality can be dangerous and cause additional circuit damage.
- The output transistors in each amplifier channel should be checked for damage before applying any power.
- The amplifier current should be monitored by measuring across the emitter resistors for each channel.



**Cause:** The voltage in the power supply section is abnormal.

**Supplementary information:** The abnormal voltage is displayed in % based on 5V as 100%.

Turning on the power without correcting the abnormality will cause the protection function to work 1 second later and the power supply will be shut off.

When there is a history of protection function due to abnormal DC output

DC PRT: C

Version (1 alphabet)

**Cause:** DC output of the power amplifier is abnormal.

Turning on the power without correcting the abnormality will cause the protection function to work 3 seconds later and the power supply will be shut off.

When there is a history of protection function due to excessive heat sink temperature

TMP PRT: 000 C

Version (1 alphabet)

Voltage display in %

**Cause:** The temperature of the heat sink is excessive.

**Supplementary information:** The abnormal voltage is displayed in % based on 5V as 500%.

Turning on the power without correcting the abnormality will cause the protection function to work 1 second later and the power supply will be shut off.

\* Additional causes of protection can be due to loose connections, associated components, Microprocessor, etc.

\* For the protection voltage value, refer to DIAG menu No.10 described later.

### • History of protection function

When the protection function has worked, its history is stored in memory with a backup. Even if no abnormality is noted while servicing the unit, an abnormality which has occurred previously can be defined as long as the backup data has been stored.

The history of the protection function is cleared when DIAG is cancelled by selecting PRESET RESERVED (Memory initialized) of DIAG menu No.9 or when the backup data is erased.

### • Display during menu operation

During the DIAG operation, the function at work is indicated on the FL indicator. The contents displayed during the function operation are described in the later section on details of functions.

## • Operation procedure of DIAG menu and SUB-MENU

There are 15 MENU items, each of which has some SUB-MENU items.

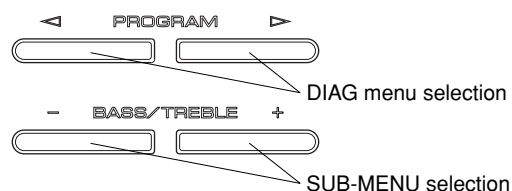
### DIAG menu selection

Main unit: Select the menu using ▷ (Forward) and ◁ (Reverse) PROGRAM keys.

### SUB-MENU selection

Main unit: Select the sub-menu using - and + BASS/TREBLE keys.

#### Keys of main unit



## • Functions in DIAG mode

In addition to the DIAG menu items, functions as listed below are available.

- Input selection, MULTI CH input
- Center/Surround/Sub-woofer level adjustment
- Muting
- Power on/off
- Master volume

\* Functions related to the tuner and the set menu are not available.

\* It is possible to confirm Menu No.11 IF STATUS while keeping the signal process (operation status) of each DIAG menu by using the input mode key of the main unit.

## • Initial settings used to start DIAG

The following initial settings are used when starting DIAG. When DIAG is canceled, these settings are restored to those before starting DIAG.

- Master volume: -24dB
- Input: DVD (MULTI CH INPUT OFF)
- Effect level: 0dB
- Audio mute: OFF
- Speaker setting: LARGE / BASS OUT = BOTH
- DIAG menu: DSP THROUGH (1. ANALOG BYPASS)

**• Details of DIAG menu**

With full-bit output specified in some modes, it is possible to execute 0dBFS output without including the head margin in each channel.

**1. DSP THROUGH**

Main DSP of YSS938 is selected for Front L/R output.

**ANALOG BYPASS**

- The signal for L/R is output as it is without passing through the DSP section.

```
1. ANALOG BYPASS
```

Reference data

INPUT: DVD ANALOG

SWFR: 50Hz, Others: 1kHz

| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |        |       | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|--------|-------|-------------------------|
|                  |         | FRONT L/R             | CENTER | SL/SR |                         |
| Both ch, -20 dBm | +6.0 dB | +11.5 dBm             | - ∞    | - ∞   | - ∞                     |

**DSP BYPASS**

- The signal for L/R is output as it is without passing through the DSP section.

```
1. DSP BYPASS
```

Reference data

INPUT: DVD ANALOG

SWFR: 50Hz, Others: 1kHz

| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |        |       | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|--------|-------|-------------------------|
|                  |         | FRONT L/R             | CENTER | SL/SR |                         |
| Both ch, -20 dBm | +6.0 dB | +11.5 dBm             | - ∞    | - ∞   | - ∞                     |

**YSS Presence 0dB**

- The Presence CH signal including the head margin is output at the Front CH.

Head margin:

FRONT L/R: -6dBFS, Center: 0dBFS,

SL/SR: 0dBFS, SWFR: Add L/R signal at 0dBFS.

```
1. YSS Presence0dB
```

Reference data

INPUT: DVD ANALOG

SWFR: 50Hz, Others: 1kHz

| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |        |       | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|--------|-------|-------------------------|
|                  |         | FRONT L/R             | CENTER | SL/SR |                         |
| Both ch, -20 dBm | +6.0 dB | - ∞                   | - ∞    | - ∞   | - ∞                     |

**YSS FULL BIT**

- The signal is output in digital full bit without including the head margin. The SWFR signal is output but not in digital full bit.

```
1. YSS FULL BIT
```

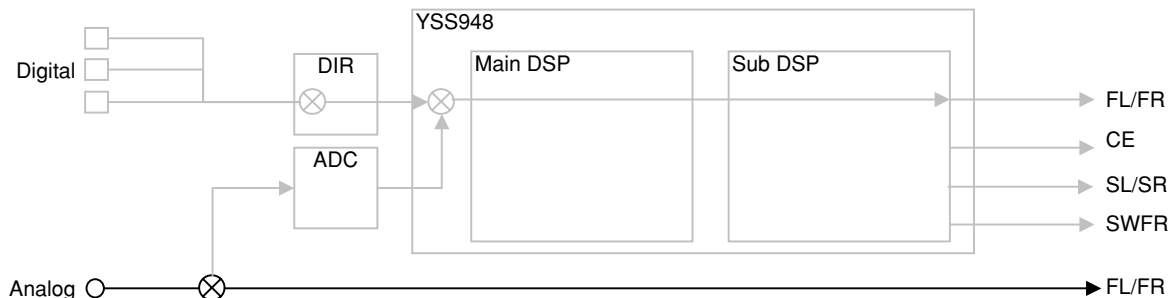
Reference data

INPUT: DVD ANALOG

SWFR: 50Hz, Others: 1kHz

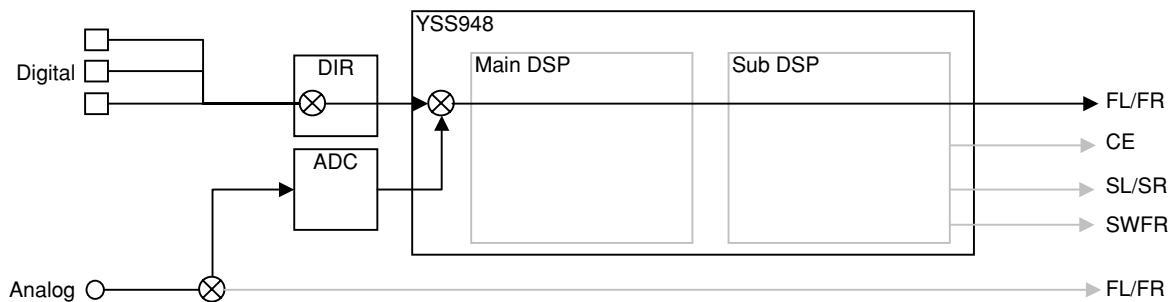
| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |           |           | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|-----------|-----------|-------------------------|
|                  |         | FRONT L/R             | CENTER    | SL/SR     |                         |
| Both ch, -20 dBm | +6.0 dB | +11.5 dBm             | +11.5 dBm | +11.5 dBm | -0.5 dBm                |

**ANALOG BYPASS**



(Shaded items not used in this example)

DSP BYPASS



(Shaded items not used in this example)

YSS FULL BIT P

- The Presence CH signal is output in digital full bit at the Front CH.

1. FULL BIT P

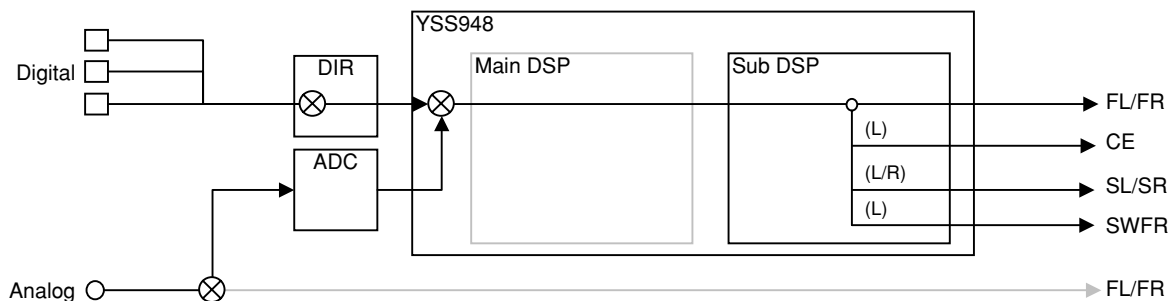
Reference data

INPUT: DVD ANALOG

SWFR: 50Hz, Others: 1kHz

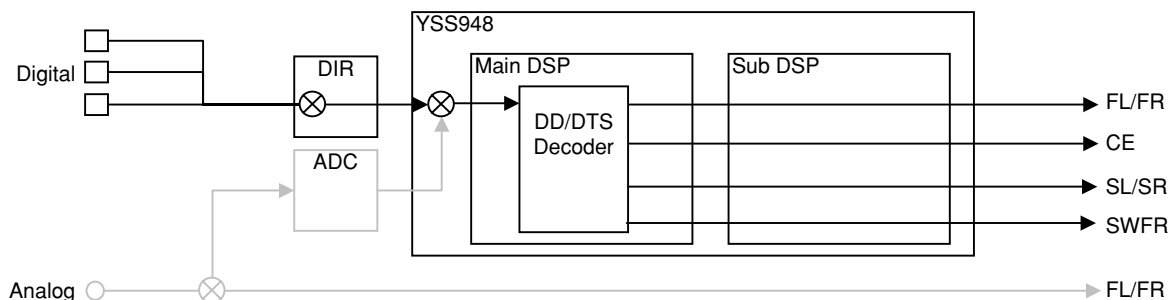
| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |        |       | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|--------|-------|-------------------------|
|                  |         | FRONT L/R             | CENTER | SL/SR |                         |
| Both ch, -20 dBm | +6.0 dB | - ∞                   | - ∞    | - ∞   | - ∞                     |

YSS FULL BIT (PCM/ANALOG)



(Shaded items not used in this example)

YSS FULL BIT (DD / DTS)



(Shaded items not used in this example)

RX-V359/HTR-5930

## 2. RAM THROUGH

This function is for YSS948 only.

Only the CT signal is output through the Sub DSP – DRAM.

Reference data

INPUT: DVD ANALOG

SWFR: 50Hz, Others: 1kHz

RAM FULL BIT

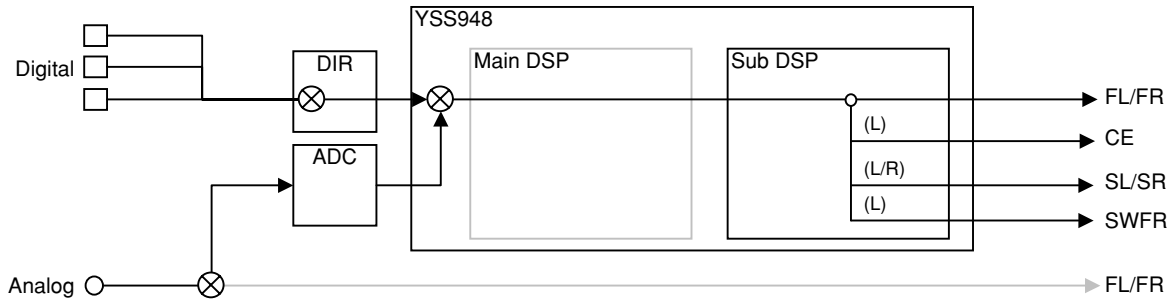
| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |          |          | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|----------|----------|-------------------------|
|                  |         | FRONT L/R             | CENTER   | SL/SR    |                         |
| Both ch, -20 dBm | +6.0 dB | +11.5 dB              | +11.5 dB | +11.5 dB | -0.5 dB                 |

RAM MARGIN

| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |          |          | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|----------|----------|-------------------------|
|                  |         | FRONT L/R             | CENTER   | SL/SR    |                         |
| Both ch, -20 dBm | +6.0 dB | +11.5 dB              | +11.5 dB | +11.5 dB | -0.5 dB                 |

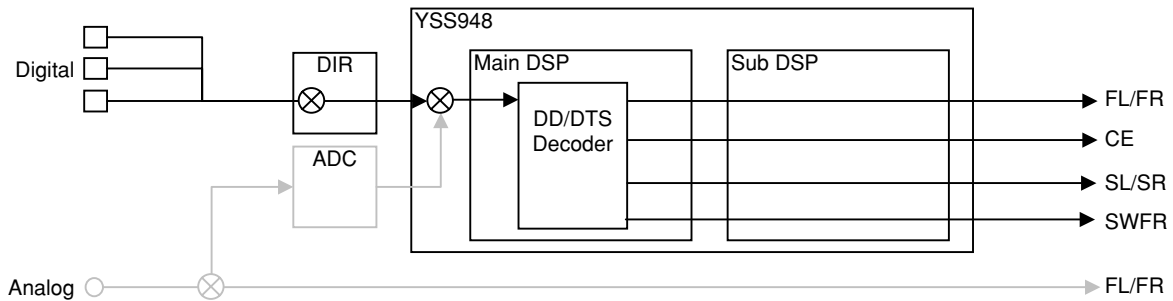
| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |          |       | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|----------|-------|-------------------------|
|                  |         | FRONT L/R             | CENTER   | SL/SR |                         |
| Both ch, -20 dBm | +6.0 dB | -∞                    | +5.5 dBm | -∞    | -∞                      |

RAM THROUGH (PCM / ANALOG)



(Shaded items not used in this example)

RAM THROUGH (DD / DTS)



(Shaded items not used in this example)

### 3. PRO LOGIC

#### PRO LOGIC I

3. PRO LOGIC I

Reference data

INPUT: DVD ANALOG

SWFR: 50Hz, Others: 1kHz

| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |           |       | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|-----------|-------|-------------------------|
|                  |         | FRONT L/R             | CENTER    | SL/SR |                         |
| Each ch, -20 dBm | +6.0 dB | +11.5 dBm             | - ∞       | - ∞   | - ∞                     |
| Both ch, -20 dBm | +6.0 dB | - ∞                   | +14.5 dBm | - ∞   | - ∞                     |

#### PRO LOGIC II

3. PRO LOGIC II

Reference data

INPUT: DVD ANALOG

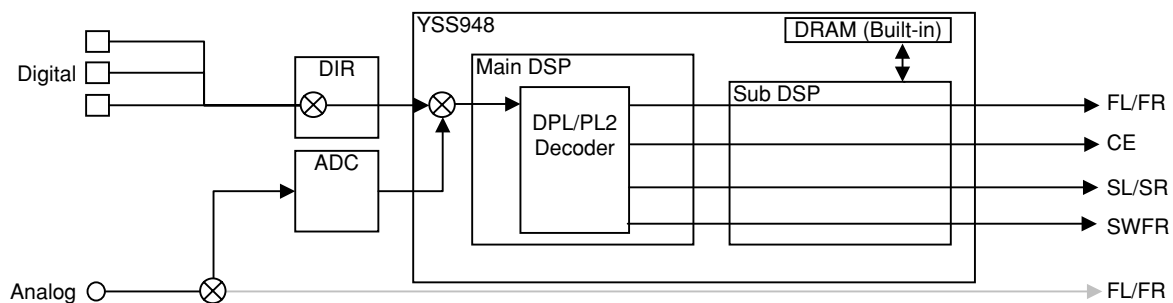
SWFR: 50Hz, Others: 1kHz

| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |           |       | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|-----------|-------|-------------------------|
|                  |         | FRONT L/R             | CENTER    | SL/SR |                         |
| Each ch, -20 dBm | +6.0 dB | +11.5 dBm             | - ∞       | - ∞   | - ∞                     |
| Both ch, -20 dBm | +6.0 dB | - ∞                   | +14.5 dBm | - ∞   | - ∞                     |

The L/C/R/SL/SR signals undergo the Pro-Logic processing and C/SL/SR signals are output through Sub DSP-DRAM. The Main DSP is selected for FRONT L/R output.

Using the sub-menu, it is possible to select PRO LOGIC I, II (Movie). The Auto Input Balance function is always off. When the Dolby Digital Multi input is used, the function is the same as in the Dolby Digital Normal mode. The LFE signal is not output when decoding in the PRO LOGIC I, II mode.

#### PRO LOGIC (PCM / Analog)



(Shaded items not used in this example)

#### Neo:6

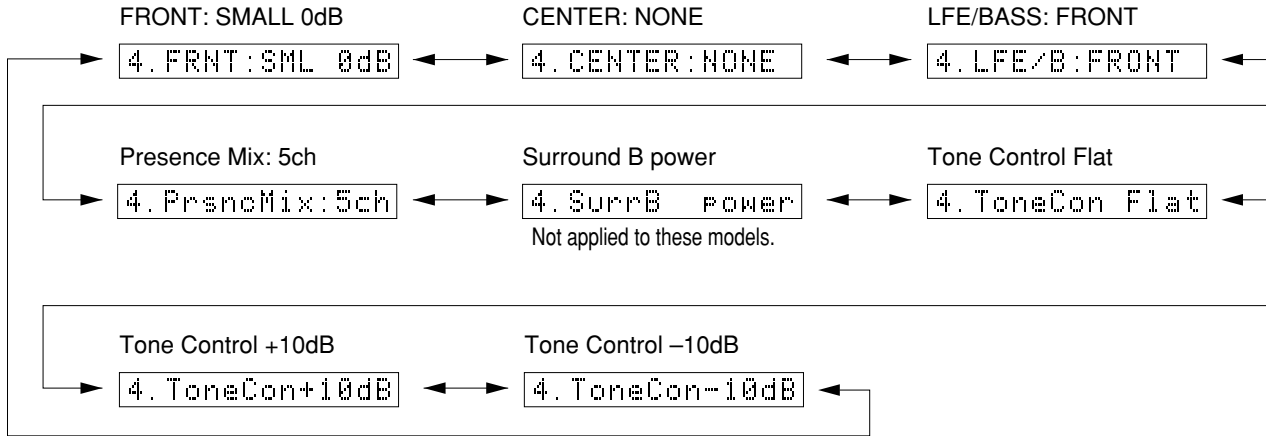
(Not applied to these models.)

3. Neo: 6

### 4. SPEAKERS SET

The input signal is automatically identified and switched in the priority order of dts → DOLBY DIGITAL → PCM AUDIO → Analog (A/D) according to the signal detection.

The signals output from the DSP block are the same as 1. DSP THROUGH: YSS 0dB.



The analog switch settings for each sub-menu are as shown in the table below.

| Sub-menu |   | CENTER SP | SURROUND SP | FRONT SP | FRONT LEVEL | LFE/BASS |
|----------|---|-----------|-------------|----------|-------------|----------|
| 1        | FRONT: SMALL 0dB                                    | LARGE     | LARGE       | SMALL    | 0dB         | SWFR     |
| 2        | CENTER: NONE<br>(Not applied to these models.)      | NONE      | LARGE       | LARGE    | 0dB         | SWFR     |
| 3        | LFE/BASS: FRONT<br>(Not applied to these models.)   | SMALL     | SMALL       | LARGE    | 0dB         | FRONT    |
| 4        | Presence Mix: 5CH<br>(Not applied to these models.) | -         | -           | -        | 0dB         | -        |

- LARGE:** This mode is used with a speaker having high bass reproduction performance (a large unit). Full bandwidth signals are output.
- SMALL:** This mode is used with a speaker having low bass reproduction performance (a small unit). The signals of 90Hz or less are mixed into the channel specified by LFE/BASS.
- NONE:** This mode is used with no center speaker. The center content is reduced by 3dB and distributed to FRONT L/R.

- FRONT:** LFE of 5.1ch signal or LFE/BASS lower than 90Hz is distributed to FRONT L/R.
- SWFR:** LFE of 5.1ch signal or LFE/BASS lower than 90Hz is output through SUBWOOFER OUT.

| Sub-menu |                    | Treble | Bass   |
|----------|--------------------|--------|--------|
| 6        | Tone Control Flat  | 0 dB   | 0 dB   |
| 7        | Tone Control +10dB | +10 dB | +10 dB |
| 8        | Tone Control -10dB | -10 dB | -10 dB |

Reference data

INPUT: DVD ANALOG (Both ch)

| Sub-menu  | Input level           | Volume  | SPEAKER OUTPUT (1kHz) |           |           | SUBWOOFER OUTPUT (50Hz) |
|---|-----------------------|---------|-----------------------|-----------|-----------|-------------------------|
|   |                       |         | FRONT L/R             | CENTER    | SL/SR     |                         |
| 1 FRONT: SMALL 0dB                                    | 1kHz Both ch, -20 dBm | +6.0 dB | +11.5 dBm             | - ∞       | - ∞       | - ∞                     |
| 2 CENTER: NONE<br>(Not applied to these models.)      | 1kHz Both ch, -20 dBm | +6.0 dB | +8.9 dBm              | - ∞       | - ∞       | - ∞                     |
| 3 LFE/BASS: FRONT<br>(Not applied to these models.)   | 50Hz Both ch, -20 dBm | +6.0 dB | - ∞                   | - ∞       | - ∞       | - ∞                     |
| 4 Presence Mix: 5ch<br>(Not applied to these models.) | 1kHz Both ch, -20 dBm | +6.0 dB | +11.5 dBm             | - ∞       | - ∞       | - ∞                     |
| 5 Surround B Power<br>(Not applied to these models.)  | 1kHz Both ch, -20 dBm | +6.0 dB | - ∞                   | - ∞       | - ∞       | - ∞                     |
| 6 Tone Control Flat                                   | 1kHz Both ch, -20 dBm | +6.0 dB | +11.5 dBm             | +11.5 dBm | +11.5 dBm | - ∞                     |
| 7 Tone Control +10dB                                  | 1kHz Both ch, -20 dBm | +6.0 dB | +13.4 dBm             | +11.5 dBm | +11.5 dBm | - ∞                     |
| 8 Tone Control -10dB                                  | 1kHz Both ch, -20 dBm | +6.0 dB | +9.6 dBm              | +11.5 dBm | +11.5 dBm | - ∞                     |



### 5. HP Test

The signal is output including the head margin.

#### FRONT 12dB MARGIN

5. FRONT12dB

Reference data

INPUT: DVD ANALOG

SWFR: 50Hz, Others: 1kHz

| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |        |       | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|--------|-------|-------------------------|
|                  |         | FRONT L/R             | CENTER | SL/SR |                         |
| Both ch, -20 dBm | +6.0 dB | +23.5 dBm             | - ∞    | - ∞   | - ∞                     |

#### FRONT 15dB MARGIN

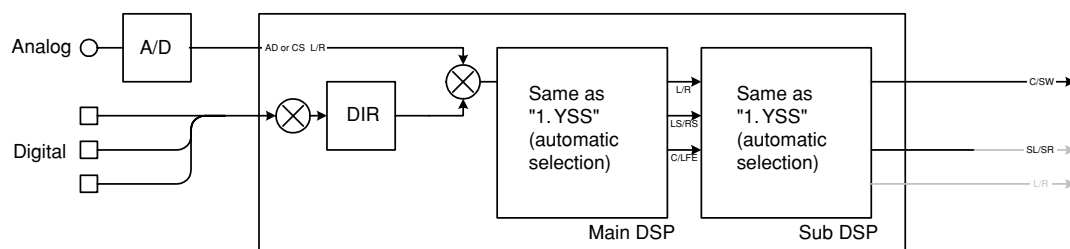
5. FRONT15dB

Reference data

INPUT: DVD ANALOG

SWFR: 50Hz, Others: 1kHz

| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |        |       | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|--------|-------|-------------------------|
|                  |         | FRONT L/R             | CENTER | SL/SR |                         |
| Both ch, -20 dBm | +6.0 dB | +23.5 dBm             | - ∞    | - ∞   | - ∞                     |



(Shaded items not used in this example)

### 6. XCH INPUT

The signal input through the MULTI CH INPUT terminals is output.

#### EXTERNAL DECODER

6. XCH INPUT

Reference data

INPUT: 6CH INPUT

SWFR: 50Hz, Others: 1kHz

| Input level      | Volume  | SPEAKER OUTPUT (1kHz) |           |           | SUBWOOFER OUTPUT (50Hz) |
|------------------|---------|-----------------------|-----------|-----------|-------------------------|
|                  |         | FRONT L/R             | CENTER    | SL/SR     |                         |
| Both ch, -20 dBm | +6.0 dB | +11.5 dBm             | +11.5 dBm | +11.5 dBm | -10.5 dBm               |

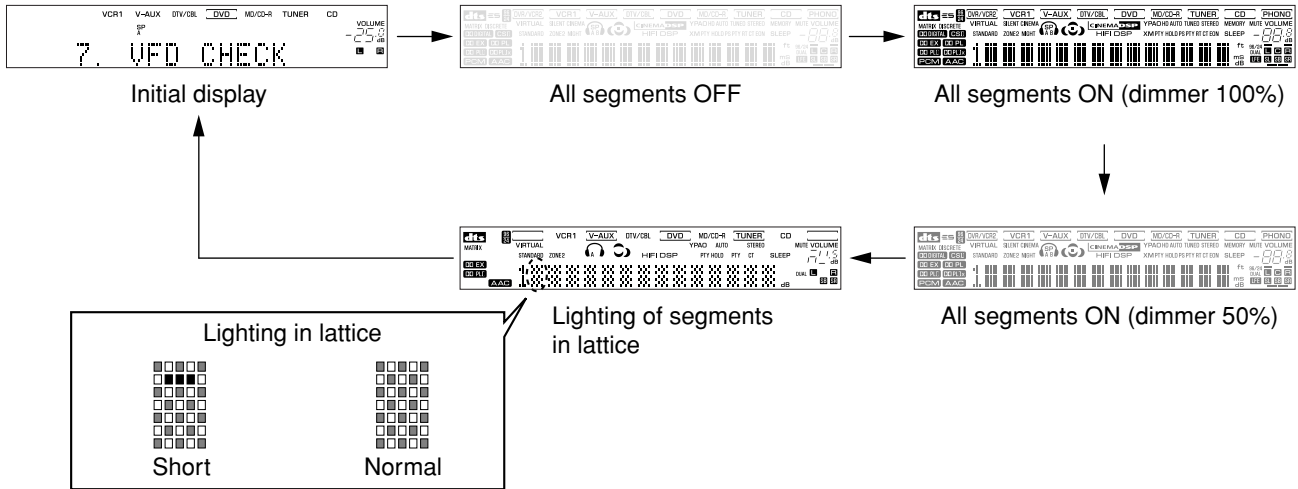
### 7. DISPLAY CHECK

This program is used to check the FL display section. The display condition varies as shown below according to the sub-menu operation. The signals are processed using EFFECT OFF (The L/R signal is output using ANALOG FRONT BYPASS.)

Regarding internal/external synchronization selection of the image signals by the microprocessor control, the internal synchronization is selected when the initial display is provided and when all FL's light up and the external synchronization at any other time.

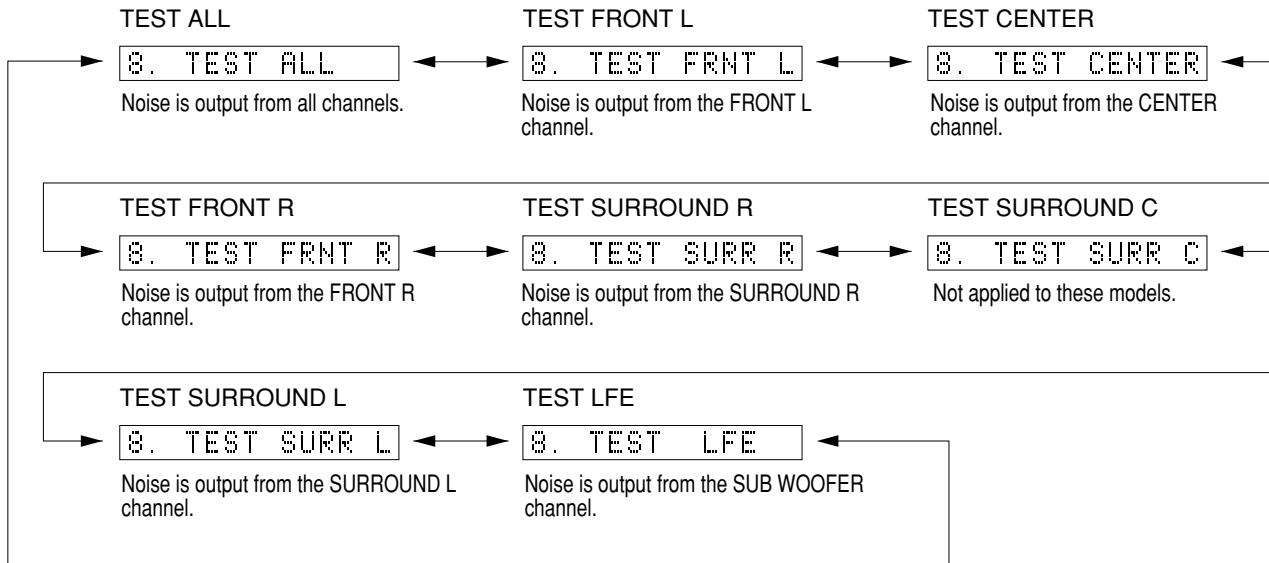
Also, except when the initial display is provided, 128 characters for confirmation of the OSD driver are displayed as the image output.

Segment conditions of the FL driver and the FL tube are checked by turning ON and OFF all segments. Next, the operation of the FL driver is checked by using the dimmer control. Then a short between segments next to each other is checked by turning ON and OFF all segments alternately (in lattice). (In the example below, the segments in the second row from the top are shorted.)



### 8. MANUAL TEST

The noise generator built into the DSP outputs the test noise through the channels specified by the sub-menu. The noise frequency for LFE is 35 to 250 Hz. Other than that, the center frequency is 800Hz.



RX-V359/HTR-5930

### 9. FACTORY PRESET

This menu is used to reserve and inhibit initialization of the back-up RAM. The signals are processed using EFFECT OFF. (The L/R signal is output using ANALOG FRONT BYPASS.)

9. PRESET INHI



9. PRESET RSRV

**PRESET INHIBIT** (Initialization inhibited)

RAM initialization is not executed. Select this sub-menu to protect the values set by the user. The production history is not erased using this sub-menu.

**PRESET RESERVED** (Initialization reserved)

Initialization of the back-up RAM is reserved. (Actually, initialization is executed the next time that the power is turned on.) Select this sub-menu to reset to the original factory settings or to reset the RAM. The production history is not erased using this sub-menu.

**CAUTION:** Before setting to the PRESET RESERVED, write down the existing preset memory content of the Tuner in a table as shown below. (This is because setting to the PRESET RESERVED will cause the user memory content to be erased.)

| Preset group | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 |
|--------------|----|----|----|----|----|----|----|----|
| A            |    |    |    |    |    |    |    |    |
| B            |    |    |    |    |    |    |    |    |
| C            |    |    |    |    |    |    |    |    |
| D            |    |    |    |    |    |    |    |    |
| E            |    |    |    |    |    |    |    |    |

• PRESET STATIONS

| STATION |     | FM FACTORY PRESET DATA (MHz) |                        |
|---------|-----|------------------------------|------------------------|
| PAGE    | NO. | U, C                         | R, T, K, A, B, G, L, E |
| A/C/E   | 1   | 87.5                         | 87.5                   |
|         | 2   | 90.1                         | 90.1                   |
|         | 3   | 95.1                         | 95.1                   |
|         | 4   | 98.1                         | 98.10                  |
|         | 5   | 107.9                        | 108.0                  |
|         | 6   | 88.1                         | 88.1                   |
|         | 7   | 106.1                        | 106.1                  |
|         | 8   | 107.9                        | 108.0                  |

| STATION |     | AM FACTORY PRESET DATA (kHz) |                     |
|---------|-----|------------------------------|---------------------|
| PAGE    | NO. | U, C, R                      | T, K, A, B, G, L, E |
| B/D     | 1   | 630                          | 630                 |
|         | 2   | 1080                         | 1080                |
|         | 3   | 1440                         | 1440                |
|         | 4   | 530                          | 531                 |
|         | 5   | 1710                         | 1611                |
|         | 6   | 900                          | 900                 |
|         | 7   | 1350                         | 1350                |
|         | 8   | 1400                         | 1404                |

RX-V359/HTR-5930

### 10. AD DATA CHECK/FAN TEST

This menu is used to display the A/D conversion value of the terminals which detects panel keys of the main unit and protection functions in % using the sub-menu. During signal processing, the condition before execution is maintained.

\* The figures in the diagram are given as reference only.

#### DC/PS (protection detection)

DC: DC protection value

Normal value: 17 to 29 (Reference: 5V=100%)

If DC is out of the normal value range, the protection function works to turn off the power.

PS: Power supply voltage protection value

Normal value: 12 to 26 (Reference: 5V=100%)

If PS is out of the normal value range, the protection function works to turn off the power.

DC: 23% PS: 16%

#### THM/Fan (temperature detection/fan drive level)

THM: Temperature detection value

Normal value: 30 to 147 (Reference: 5V=500%)

If THM is out of the normal value range, the protection function works to turn off the power.

Fan: Current fan drive level on the left and the past fan drive history on the right.

(Not applied to these models.)

THM 43% Fan L/\_

#### REC-OUT

Not applied to these models.

REC-OUT:

#### IMP SW/POWER LIMIT (Impedance/power limiter detection)

IMP: 8 or 6 ohms impedance switch setting (U, C models)

PL: Power limiter detection value (Reference: 5.0V=255%)

The voltage value of pin No. 91 of IC242 is displayed.

The port (pin No. 4 of IC242) output is controlled by using the input voltage.

value of pin No. 91 of IC242.

When higher than VthH, the port output is changed from H to L.

When lower than VthL, the port output is changed from L to H.

Note:

Vth=Threshold voltage

Detection level

| PORT   | VthL  | VthH  |                                       |
|--------|-------|-------|---------------------------------------|
| No. 91 | 2.41V | 2.90V | U, C models (8ohms)                   |
|        | 2.77V | 3.25V | U, C models (6ohms)                   |
|        | 2.77V | 3.25V | R, T, K, A, B, G, E, L models (6ohms) |

Output level

| PORT  | VthL  | VthH |                                       |
|-------|-------|------|---------------------------------------|
| No. 4 | 2.22V | 4.8V | U, C models (8ohms)                   |
|       | 2.0V  | 4.8V | U, C models (6ohms)                   |
|       | 2.0V  | 4.8V | R, T, K, A, B, G, E, L models (6ohms) |

IMP:8 PL:255%

#### K0/K1 (Panel key of main unit) (Reference: 5V=100%)

A/D of the key fails to function properly when the standard value is deviated. In this case, check the constant of partial pressure resistor, solder condition, etc. Refer to table 1.

K0:100%K1:100%

[Table 1]

U, C, R, T, K, A, L models

| Display (%) | K0                 | K1                |
|-------------|--------------------|-------------------|
| 0 - 6       | MULTI CH INPUT     | TUNING MODE       |
| 7 - 13      | INPUT SELECT RIGHT | MEMORY            |
| 14 - 21     | INPUT SELECT LEFT  | PRESET / TUNING > |
| 22 - 31     | INPUT MODE         | PRESET / < TUNING |
| 32 - 41     | PROGRAM >          | A/B/C/D/E         |
| 42 - 53     | < PROGRAM          | FM/AM             |
| 54 - 63     | BASS / TREBLE +    | PRESET / TUNING   |
| 64 - 72     | BASS / TREBLE -    | -                 |
| 73 - 80     | STRAIGHT           | -                 |
| 81 - 88     | TONE CONTROL       | -                 |
| 89 - 95     | SPEAKERS           | -                 |
| 96-100      | KEY OFF            | KEY OFF           |

B, G, E models

| Display (%) | K0                 | K1                |
|-------------|--------------------|-------------------|
| 0 - 6       | MULTI CH INPUT     | TUNING MODE       |
| 7 - 13      | INPUT SELECT RIGHT | MEMORY            |
| 14 - 21     | INPUT SELECT LEFT  | PRESET / TUNING > |
| 22 - 31     | INPUT MODE         | PRESET / < TUNING |
| 32 - 41     | PROGRAM >          | A/B/C/D/E         |
| 42 - 53     | < PROGRAM          | FM/AM             |
| 54 - 63     | BASS / TREBLE +    | PRESET / TUNING   |
| 64 - 72     | BASS / TREBLE -    | PTY SEEK MODE     |
| 73 - 80     | STRAIGHT           | PTY SEEK START    |
| 81 - 88     | TONE CONTROL       | EON               |
| 89 - 95     | SPEAKERS           | RDS MODE          |
| 96-100      | KEY OFF            | KEY OFF           |

When K0/K1 menu is selected, keys become non-operable due to detection of the values of all keys. However, it is possible to advance to the next sub-menu by turning the VOLUME of the main unit. When using this function, note that turning the VOLUME more than 2 clicks will cause the volume value to change.

#### FAN DRIVE TEST (Not applied to these models.)

HIGH

FAN TEST:HIGH

#### FAN DRIVE TEST (Not applied to these models.)

MID

FAN TEST:MID

#### FAN DRIVE TEST (Not applied to these models.)

LOW

FAN TEST:LOW

**11. XM STATUS (U, C models)**

The output check of XM Radio Antenna is executed.

**1k -1dB/44.1k**

The test tone (1kHz, -1dB/44.1kHz) is output.

```
1k - 1dB/44 x
```

**XM Tone/32k**

The XM tone (32kHz) is output.

```
XM Tone/32 x
```

**1k -61dB/44.1k**

The test tone (1kHz, -61dB/44.1kHz) is output.

```
1k -61dB/44 x
```

**ISO Tone/32k**

The ISO tone (32kHz) is output.

```
ISO Tone/32 x
```

**Mute /44.1k**

Nothing is output.

```
Mute /44 x
```

**XM/DT Bus Power: OFF**

The power of XM module is turned off.

```
Bus Power:OFF
```

**XM Tone/44.1k**

The XM tone (44.1kHz) is output.

```
XM Tone/44 x
```

**ISO Tone/44.1k**

The ISO tone (44.1kHz) is output.

```
ISO Tone/44 x
```

**1k -1dB/32k**

The test tone (1kHz, -1dB/32kHz) is output.

```
1k - 1dB/32 x
```

**1k -61dB/32k**

The test tone (1kHz, -61dB/32kHz) is output.

```
1k -61dB/32 x
```

**Mute /32k**

Nothing is output.

```
Mute /32 x
```

## 12. IF STATUS (Input function status)

(Not applied to these models.)

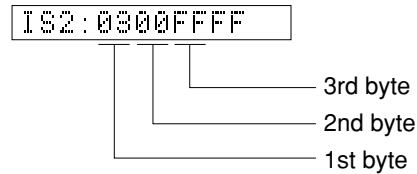
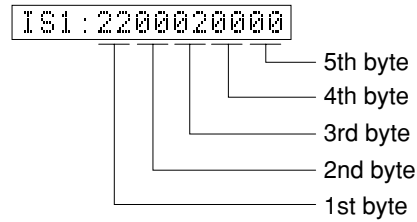
Using the sub-menu, the status data is displayed one after another in the hexadecimal notation.

During signal processing, the status before execution of this menu is maintained.

\* Numeric values in the figure example are for reference.

### IS1, 2 (Internal status):

Indicates the status information of the microprocessor.



<1st byte> Digital input/output setting value

Upper 4 bits: REC OUT selected /

lower 4 bits: INPUT selected

| Value | Choice | Preset name |
|-------|--------|-------------|
| 0     | NONE   |             |
| 1     | OPTA   |             |
| 2     | OPTB   | DTV/CBL     |
| 3     | OPTC   | DVD         |
| 4     | OPTD   |             |
| 6     | OPTF   |             |
| 8     | COAXA  | CD          |
| 9     | COAXB  |             |

<2nd byte> Fs information of reproduction signal

| Display  | 00     | 01 | 02   | 03 | 04 | 05   | 06 | 0A          | 0B          | 0C           | 0D          |
|----------|--------|----|------|----|----|------|----|-------------|-------------|--------------|-------------|
| Fs (kHz) | Analog | 32 | 44.1 | 48 | 64 | 88.2 | 96 | Unknown NRM | Unknown DBL | Unknown QUAD | Not defined |

<3rd byte> Audio code mode information of reproduction signal

| Display    | 00  | 01  | 02  | 03  | 04  | 05  | 06  | 07  | 08  | 09  | 0A       | 0B         | 0C        | 0D      |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|------------|-----------|---------|
| Audio Code | 1+1 | 1/0 | 2/0 | 3/0 | 2/1 | 3/1 | 2/2 | 3/2 | 2/3 | 3/3 | OVER 6.1 | MULTI MONO | MULTI PCE | Unknown |

<4th byte> Format information of reproduction signal

\*1: Analog processing used for digital reproduction is not possible because of a commercial bit or 4-ch audio reason.

| Display | Signal format      |
|---------|--------------------|
| 00      | Analog (Unlock)    |
| 01      | *1                 |
| 10      | PCM Audio          |
| 20      | Digital Data       |
| 21      | IEC1937 Data       |
| 22      | None PCM           |
| 23      | Unknown            |
| 50      | dts                |
| 51      | Red dts            |
| 54      | dts-ES MATRIX      |
| 58      | dts-ES DISCRETE    |
| 5C      | dts-ES (Both flag) |
| 60      | AAC                |
| C0      | Dolby Digital      |
| C1      | D.D. Karaoke       |
| C4      | D.D.6.1 (D.D.EX)   |

<5th byte> Signal processing status information

\*2: With digital signals other than 32kHz, 44.1kHz and 48kHz, through processing method is used for reproducable signals.

|      |                   |      |                       |
|------|-------------------|------|-----------------------|
| bit7 | MUTE request      | bit3 | –                     |
| bit6 | Red dts flashing  | bit2 | Through & bypass (*2) |
| bit5 | 6.1/EX processing | bit1 | –                     |
| bit4 | FULL MUTE (ON: 1) | bit0 | dts analog mute       |

**CS1-5:** Indicates channel status information of the input signal (IEC60958).

CS1:FFFFFFFF --- CS5:FFFFFFFF

**BY1-4:** Indicates information of the bit stream included in the DOLBY DIGITAL signal.

BY1:FFFFFFFF --- BY4:FFFFFFFF

**BS1-5:** Indicates information of the bit stream included in the dts signal.

BS1:FFFFFFFF --- BS5:1B

**YS1-3:** Indicates device status information of YSS938 (IC601).

\* The numeric value in the figure is an example for reference.

YS1:A382000069

| Byte No. | Function           |
|----------|--------------------|
| 1        | YSS MUTE Reg       |
| 2        | YSS MODE Reg       |
| 3        | YSS IPORT BIT 7-0  |
| 4        | YSS IPORT BIT 14-8 |
| 5        | YSS OPORT          |

YS2:0000000000

| Byte No. | Function             |
|----------|----------------------|
| 1        | IEC 1937 Preamble Pc |
| 2        | Data Stream Reg      |
| 3        | Status Reg           |
| 4        | YSS ZERO Reg         |
| 5        | MIREG                |

YS3:6006603D

| Byte No. | Function     |
|----------|--------------|
| 1        | DIR Status   |
| 2        | DIR fs       |
| 3        | DIR fs count |
| 4        | YSS ZERO BF  |

**SD:** CS49329 unsolicited messages (AUTODETECT\_RESPONSE)

SD :FFFFFFFF

**MTT:** Mute trigger

MTT:0018001800

| Byte No. | Function                             |
|----------|--------------------------------------|
| 1        | Mute condition                       |
| 2        | Factor of the last mute              |
| 3        | Error count of YSS938-FSCNT          |
| 4        | Mute count by YSS938-FSCNT           |
| 5        | Error factor of down load of CS49329 |

### 13. DSP RAM CHECK

(Not applied to these models.)

This menu is used to self-diagnose whether or not the bus connection for the YSS948 and the external RAM is made properly.

During signal processing, the status before execution of this menu is maintained.

The address bus and the data bus are checked and the connection condition is displayed.

When no error is detected, "NoEr" appears on display.

#### DSP Bus Check

DSP BUS:NoEr

| Display | Description                    |
|---------|--------------------------------|
| WAIT    | Bus is being checked.          |
| NoEr    | No error detected.             |
| DATA    | Data bus shorted or open.      |
| RSCS    | /RAS or /CAS shorted, or open. |
| ADDR    | Address bus shorted or open.   |

#### PLD / SRAM BUS CHECK

SD BUS:None

| Display | Description                              |
|---------|--|
| WAIT    | Bus is being checked.                    |
| None    | No error detected.                       |
| EDxx    | Data bus shorted or open. (XX: 00-07)    |
| EAXx    | Address bus shorted or open. (XX: 00-0E) |

**14. SD DL CODE**

(Not applied to these models.)

This menu is used to display the data version of the FLASH ROM, TOC information and sum calculated value for the second decoder.

**RDV**

Displays the data version.

```
RDV:XXXXXXXX
```

**TA 0-5**

Displays the TOC information.

```
TA0:FFFFFFFF
```

**SA 0-5**

Displays the sum calculated value.

```
SA0:FFFFFFFF
```

**15. SOFT SW**

This menu is used to switch the function settings on the P.C.B. through the software so as to activate the product. The protection function follows the P.C.B. settings. When connected to AC or in the maker preset state, the unit is initialized to the P.C. B. setting. Display of each function after initialization varies depending on settings on P.C.B. The operation mode can be changed by selecting the sub-menu and then using the EFFECT key. With SOF selected for the SW mode, the settings become effective.

**SW MODE:** PCB or SOFT can be selected.

```
15. SW : PCB
```

**MODEL SETTING:** V359 only.

```
15. MODEL: V359
```

**TUNER DESTINATION:** UC, AKGTE or RL can be selected.

```
15. DEST : UC
```

**TUNER:** NOT or EXIST can be selected.

```
15. TUNER: EXIST
```

**RDS:** NOT or EXIST can be selected.

```
15. RDS : NOT
```

**ZONE2:** NOT or EXIST can be selected.

```
15. ZONE2: NOT
```

**VIDEO FORMAT:** NTSC or PAL can be selected.  
(Not applied to these models.)

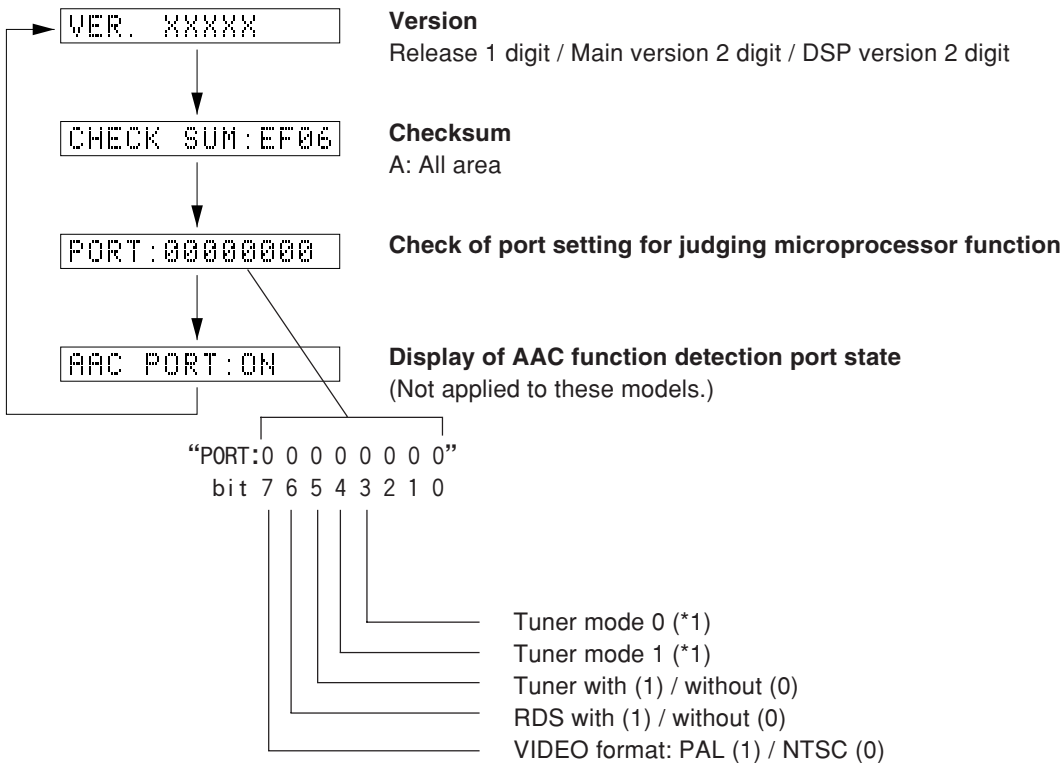
```
15. VIDEO: -----
```



### 16. MICROPROCESSOR INFORMATION

The version, checksum and the port specified by the microprocessor are displayed. The signal is processed using EFFECT OFF. The checksum is obtained by adding the data at every 8 bits for each program area and expressing the result as a 4-figure hexadecimal data.

\* Nomic values in the figure example are for reference.



\*1

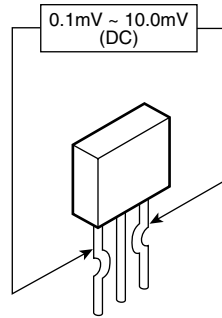
| Type | Tuner mode |   | Port 3<br>(type 2) | Frequency range        |                     |
|------|------------|---|--------------------|------------------------|---------------------|
|      | 1          | 0 |                    | FM                     | AM                  |
| 0    | 0          | 0 | —                  | 76.0-90.0MHz / 100kHz  | 531-1611kHz / 9kHz  |
| 1    | 1          | 0 | —                  | 87.5-108.0MHz / 50kHz  | 531-1611kHz / 9kHz  |
| 2    | 0          | 1 | —                  | 87.5-107.9MHz / 200kHz | 530-1710kHz / 10kHz |
| 3    | 1          | 1 | Low                | 87.5-108.0MHz / 100kHz | 530-1710kHz / 10kHz |
|      |            |   | High               | 87.5-108.0MHz / 50kHz  | 531-1611kHz / 9kHz  |

RX-V359/HTR-5930

## ■ CONFIRMATION OF IDLING CURRENT

### Confirmation of Idling Current of MAIN (1) P. C. B.

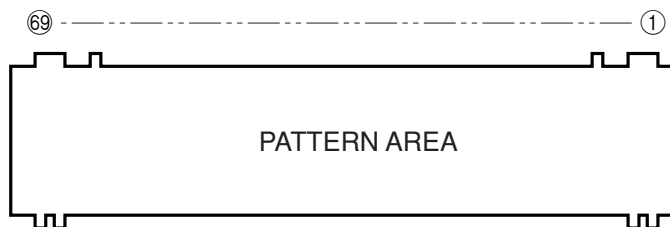
- Right after the power is turned on, confirm that the voltage across the terminals of R157 (FRONT Lch), R158 (FRONT Rch), R148 (CENTER), R156 (SURROUND Lch), R159 (SURROUND Rch) are between 0.1mV and 10.0mV.



R157 (FRONT Lch)  
R158 (FRONT Rch)  
R148 (CENTER)  
R156 (SURROUND Lch)  
R159 (SURROUND Rch)

# DISPLAY DATA

● V551 : 17-BT-24GNK (WE289300)



● PIN CONNECTION

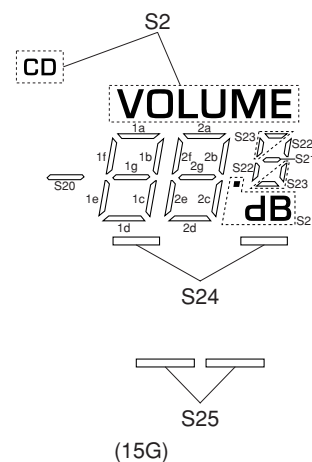
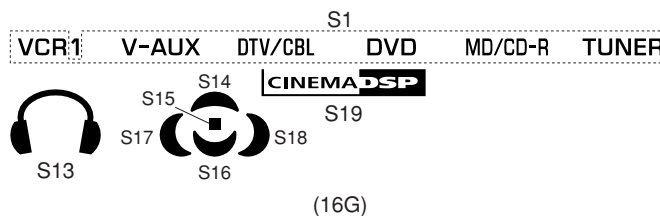
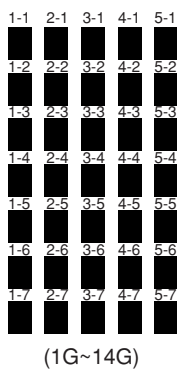
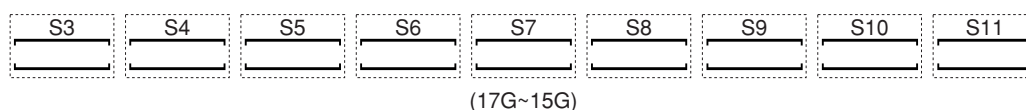
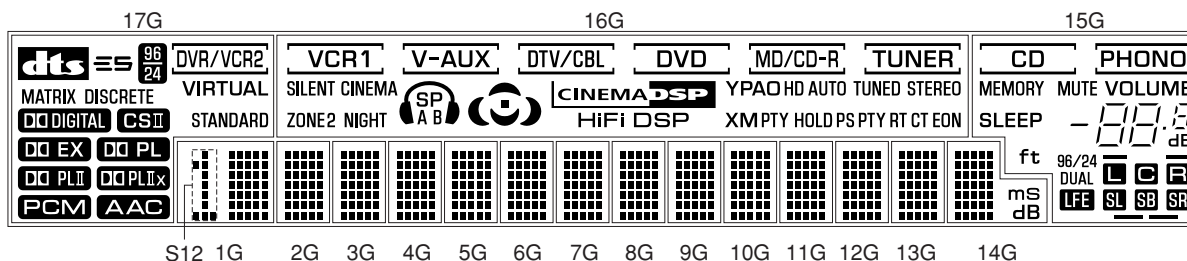
|            |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pin No.    | 69 | 68 | 67 | 66 | 65 | 64 | 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56  | 55  | 54  | 53  | 52  | 51  | 50  | 49  | 48  | 47  | 46  | 45  | 44  | 43  | 42  | 41  | 40  | 39  | 38  | 37  | 36  | 35  |
| Connection | F2 | NX | NP | NP | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10 | P11 | P12 | P13 | P14 | P15 | P16 | P17 | P18 | P19 | P20 | P21 | P22 | P23 | P24 | P25 | P26 | P27 | P28 | P29 | P30 | P31 |

|            |     |     |     |     |     |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Pin No.    | 34  | 33  | 32  | 31  | 30  | 29  | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21  | 20  | 19  | 18  | 17  | 16  | 15  | 14  | 13 | 12 | 11 | 10 | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 2  | 1  |
| Connection | P32 | P33 | P34 | P35 | P36 | P37 | NX | NX | NX | NX | NX | NX | NX | 17G | 16G | 15G | 14G | 13G | 12G | 11G | 10G | 9G | 8G | 7G | 6G | 5G | 4G | 3G | 2G | 1G | NP | NP | NX | F1 |

Note : 1) F1, F2 ..... Filament 2) NP ..... No pin 3) NX ..... No extened pin 4) DL ..... Datum line 5) 1G ~ 16G ..... Grid

● GRID ASSIGNMENT



RX-V359/HTR-5930

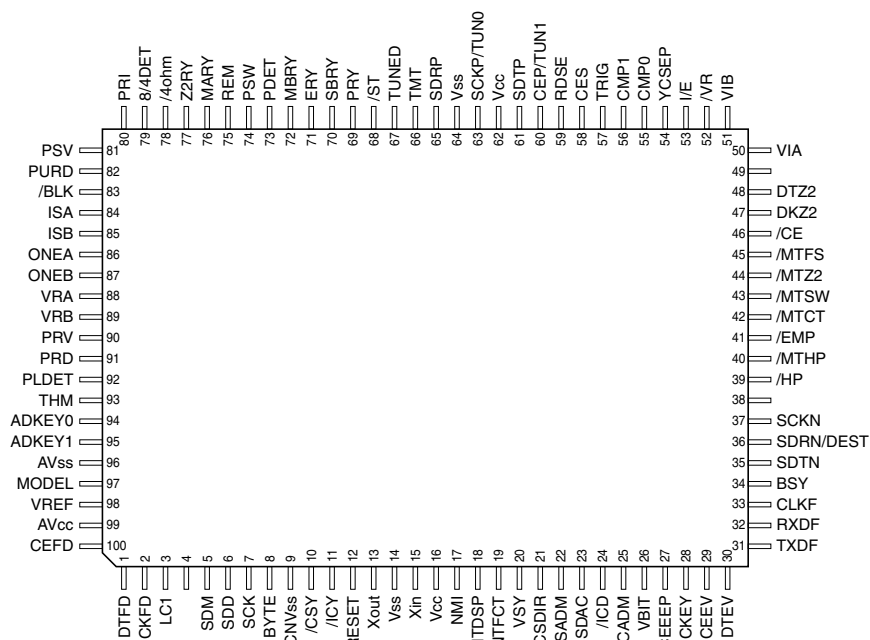
## ● ANODE CONNECTION

|     | 17G               | 16G           | 15G        | 14G | 13G~2G | 1G  |
|-----|-------------------|---------------|------------|-----|--------|-----|
| P1  | <b>dtS</b>        | EON           | SLEEP      | 1-1 | 1-1    | 1-1 |
| P2  | <b>ES</b>         | CT            | MEMORY     | 2-1 | 2-1    | 2-1 |
| P3  | MATRIX            | RT            | MUTE       | 3-1 | 3-1    | 3-1 |
| P4  | DISCRETE          | PTY           | S20        | 4-1 | 4-1    | 4-1 |
| P5  | <b>96<br/>24</b>  | PS            | 1a         | 5-1 | 5-1    | 5-1 |
| P6  | <b>DD DIGITAL</b> | PTY HOLD      | 1b         | 1-2 | 1-2    | 1-2 |
| P7  | <b>DD EX</b>      | XM            | 1c         | 2-2 | 2-2    | 2-2 |
| P8  | <b>DD PL</b>      | S14           | 1d         | 3-2 | 3-2    | 3-2 |
| P9  | <b>DD PL II</b>   | S15           | 1e         | 4-2 | 4-2    | 4-2 |
| P10 | <b>DD PL IIx</b>  | S16           | 1f         | 5-2 | 5-2    | 5-2 |
| P11 | <b>AAC</b>        | S17           | 1g         | 1-3 | 1-3    | 1-3 |
| P12 | <b>PCM</b>        | S18           | 2a         | 2-3 | 2-3    | 2-3 |
| P13 | STANDARD          | SILENT CINEMA | 2b         | 3-3 | 3-3    | 3-3 |
| P14 | <b>CSI</b>        | S13           | 2c         | 4-3 | 4-3    | 4-3 |
| P15 | VIRTUAL           | SP            | 2d         | 5-3 | 5-3    | 5-3 |
| P16 | DVR/VCR2          | A             | 2e         | 1-4 | 1-4    | 1-4 |
| P17 | S3                | B             | 2f         | 2-4 | 2-4    | 2-4 |
| P18 | —                 | ZONE2         | 2g         | 3-4 | 3-4    | 3-4 |
| P19 | —                 | NIGHT         | S2         | 4-4 | 4-4    | 4-4 |
| P20 | —                 | HiFi DSP      | S10        | 5-4 | 5-4    | 5-4 |
| P21 | —                 | S19           | S11        | 1-5 | 1-5    | 1-5 |
| P22 | —                 | YPAO          | PHONO      | 2-5 | 2-5    | 2-5 |
| P23 | —                 | HD            | S21        | 3-5 | 3-5    | 3-5 |
| P24 | —                 | AUTO          | S22        | 4-5 | 4-5    | 4-5 |
| P25 | —                 | TUNED         | S23        | 5-5 | 5-5    | 5-5 |
| P26 | —                 | STEREO        | ft         | 1-6 | 1-6    | 1-6 |
| P27 | —                 | S4            | S24        | 2-6 | 2-6    | 2-6 |
| P28 | —                 | S5            | 96/24      | 3-6 | 3-6    | 3-6 |
| P29 | —                 | S6            | DUAL       | 4-6 | 4-6    | 4-6 |
| P30 | —                 | S7            | <b>LFE</b> | 5-6 | 5-6    | 5-6 |
| P31 | —                 | S8            | <b>L</b>   | 1-7 | 1-7    | 1-7 |
| P32 | —                 | S9            | <b>C</b>   | 2-7 | 2-7    | 2-7 |
| P33 | —                 | <b>⋮</b>      | <b>R</b>   | 3-7 | 3-7    | 3-7 |
| P34 | —                 | S1            | <b>SL</b>  | 4-7 | 4-7    | 4-7 |
| P35 | —                 | —             | <b>SB</b>  | 5-7 | 5-7    | 5-7 |
| P36 | —                 | —             | <b>SR</b>  | ms  | —      | S12 |
| P37 | —                 | —             | S25        | dB  | —      | —   |

## ■ IC DATA

IC242: M30622MWP-A82FP (MAIN P.C.B.)

16-bit Microprocessor



| No. | Port Name                 | Terminal Name | I/O     |         |       | Function  |
|-----|---------------------------|---------------|---------|---------|-------|---|
|     |                           |               | PowerOn | Standby | Sleep |   |
| 1   | P96/ANEX1/SOUT4           | DTFD          | SO      | O       | O     | FL Driver TxD   |
| 2   | P95/ANEX0/CLK4            | CKFD          | SO      | O       | O     | FL Driver CLOCK   |
| 3   | P94/DA1/TB4in             | /BLK          | O       | O       | O     | FL Driver turning off   |
| 4   | P93/DA0/TB3in             | LIMA          | DA      | O       | O     | Limiter control output  |
| 5   | P92/TB2in/SOUT3           | SDM           | SO      | O       | O     | TxD to YSS948/LC89057W, Serial data output                            |
| 6   | P91/TB1in/SIN3            | SDD           | SI      | O       | O     | RxD from YSS948/LC89057W, Serial data input                           |
| 7   | P90/TB0in/CLK3            | SCK           | SO      | O       | O     | Clock supply to YSS948/LC89057W, Serial data clock output             |
| 8   | BYTE                      | BYTE          | MCU     | MCU     | MCU   | Vss : When single chip mode is used                                   |
| 9   | CNVss                     | CNVss         | MCU     | MCU     | MCU   | Vss : When single chip mode is used, Vcc : When flash writing is used |
| 10  | P87/Xcin                  | /CSADM        | O       | O       | O     | YSS948 chip select CE   |
| 11  | P86/Xcout                 | /ICDADM       | O       | O       | O     | Initial clear to YSS948   |
| 12  | /RESET                    | /RESET        | MCU     | MCU     | MCU   | Reset   |
| 13  | Xout                      | Xout          | MCU     | MCU     | MCU   | Oscillation output (oscillation stopped in Sleep mode)                |
| 14  | Vss                       | Vss           | MCU     | MCU     | MCU   | Ground for micro-processor  |
| 15  | Xin                       | Xin           | MCU     | MCU     | MCU   | Oscillation input   |
| 16  | Vcc1                      | Vcc           | MCU     | MCU     | MCU   | Power supply +5V for micro-processor                                  |
| 17  | P85/NMI                   | NMI           | MCU     | MCU     | MCU   | Unused, connected to Vcc  |
| 18  | P84/INT2                  | /INTADM       | IRQ     | O       | O     | Interrupt from YSS948   |
| 19  | P83/INT1                  | /INTDIR       | IRQ     | O       | O     | Interrupt from DIR LC89057W   |
| 20  | P82/INT0                  | REM           | IRQ     | IRQ     | O     | Interrupt from remote control input                                   |
| 21  | P81/TA4in/U               | /CSDIR        | O       | O       | O     | DIR LC89057W chip select  |
| 22  | P80/TA4out/U              | /ICDIR        | O       | O       | O     | DIR LC89057W reset  |
| 23  | P77/TA3in                 | /HP           | I+      | O       | O     | HEAD PHONE detection  |
| 24  | P76/TA3out                | VRA           | I+      | O       | O     | Volume Rotaly Encoder A   |
| 25  | P75/TA2in/W               | VRB           | I+      | O       | O     | Volume Rotaly Encoder A   |
| 26  | P74/TA2out/W              | -             | I       | O       | O     | Unconnected   |
| 27  | P73/CTS2/RTS2/TA1in/V     | /ICCDC        | O       | O       | O     | CODEC reset   |
| 28  | P72/CLK2/TA1out/V         | -             | O       | O       | O     | Unconnected   |
| 29  | P71/RXD2/SCL2/TA0in/TB5in | FSCXM         | TMR     | O       | O     | XM voice signal fs detection (32 k/44.1 k)                            |
| 30  | P70/TXD2/SDA2/TA0out      | -             | O       | O       | O     | Unconnected   |
| 31  | P67/TXD1                  | TXDF          | SO      | O       | O     | Serial light data transmission of Flash ROM TxD                       |
| 32  | P66/RXD1                  | RXDF          | SO      | O       | O     | Serial data reception of Flash ROM RxD                                |

IC242: M30622MWP-A82FP (MAIN P.C.B.)  
 16-bit Microprocessor

| No. | Port Name                | Terminal Name      | I/O     |         |       | Function  |
|-----|--------------------------|--------------------|---------|---------|-------|---|
|     |                          |                    | PowerOn | Standby | Sleep |   |
| 33  | P65/CLK1                 | CLKF               | SO      | O       | O     | Serial clock of Flash ROM clock   |
| 34  | P64/CTS1/RTS1/CTS0/CLKS1 | BSY                | O       | O       | O     | BUSY signal output of Flash ROM clock   |
| 35  | P63/TXD0/SDA0            | DTXM               | SO      | O       | O     | Serial data transmission for XM IC (UART0)  |
| 36  | P62/RXD0/SCL0            | DRXM               | SI      | O       | O     | Serial data reception for XM IC (UART0)   |
| 37  | P61/CLK0                 | /ICXM              | O       | O       | O     | Chip select for XM IC   |
| 38  | P60/CTS0/RTS0            | /CEEEP             | O       | O       | O     | Chip select for EEPROM writing  |
| 39  | P57/RDY/CLKout           | –                  | O       | O       | O     | Unconnected   |
| 40  | P56/ALE                  | –                  | O       | O       | O     | Unconnected   |
| 41  | P55/HOLD                 | /EMP               | I       | I       | I     | For FLASH writing (LO)  |
| 42  | P54/HLDA                 | –                  | O       | O       | O     | Unconnected   |
| 43  | P53/BCLK                 | BD_DATA            | O       | O       | O     | Data output of ROHM volume IC   |
| 44  | P52/RD                   | BD_CLK             | O       | O       | O     | Clock output of ROHM volume IC  |
| 45  | P51/WRH/BHE              | BD_MUTE            | O       | O       | O     | MUTE output of ROHM volume IC   |
| 46  | IOPORT0                  | SELXM              | O       | O       | O     | Control of logic IC for XM/DIR signal course change (H: XM input/L: DIR input or ADC input) |
| 47  | IOPORT1                  | –                  | O       | O       | O     | Unconnected   |
| 48  | –                        | –                  | –       | –       | –     | No used   |
| 49  | –                        | –                  | –       | –       | –     | No used   |
| 50  | –                        | –                  | –       | –       | –     |   |
| 51  | –                        | –                  | –       | –       | –     |   |
| 52  | IOPORT2                  | –                  | O       | O       | O     | Unconnected   |
| 53  | IOPORT3                  | –                  | I       | O       | O     | No used   |
| 54  | IOPORT4                  | –                  | I       | O       | O     | No used   |
| 55  | IOPORT5                  | DFS                | O       | O       | O     | Dual rate change for CODEC/H: Dual rate processing (Dual Rate)                              |
| 56  | P36/A14 / IOPORT6        | no connect / SMUTE | O       | O       | O     | Unconnected / MUTE control for CODEC/H: CODEC MUTE ON                                       |
| 57  | P35/A13 / IOPORT7        | –                  | O       | O       | O     | Unconnected   |
| 58  | P34/A12                  | –                  | O       | O       | O     | Unconnected   |
| 59  | P33/A11                  | –                  | O       | O       | O     | Unconnected   |
| 60  | P32/A10                  | VIA                | O       | O       | O     | Control output of VIDEO selector LA7956   |
| 61  | P31/A9                   | VIB                | O       | O       | O     | Control output of VIDEO selector LA7956   |
| 62  | Vcc2                     | Vcc                | MCU     | MCU     | MCU   | Power supply +5V for micro-processor  |
| 63  | P30/A8                   | XMPWR              | O       | O       | O     | Regulator control of power supply reset for XM antenna                                      |
| 64  | Vss                      | Vss                | MCU     | MCU     | MCU   | Ground for micro-processor  |
| 65  | P27/A7                   | VR1                | O       | O       | O     | VIDEO Rec Out Selector  |
| 66  | P26/A6                   | –                  | O       | O       | O     | Unconnected   |
| 67  | P25/A5                   | CMP0               | O       | O       | O     | Control output of component video switch  |
| 68  | P24/A4                   | CMP1               | O       | O       | O     | Control output of component video switch  |
| 69  | P23/A3                   | SDRR               | I       | O       | O     | Serial data reception for RDS IC  |
| 70  | P22/A2                   | SCKR               | O       | O       | O     | Clock for RDS IC  |
| 71  | P21/A1                   | SDTR               | O       | O       | O     | Serial data transmission for RDS IC   |
| 72  | P20/A0                   | RDSE               | O       | O       | O     | RDS Enable  |
|     |                          | RDSE               | I       | O       | O     | Presence judgment of RDS (H: RDS exists./L: RDS doesn't exist.)                             |
| 73  | P17/D15/INT5             | CEP                | O       | O       | O     | Chip select of TUNER PLL IC   |
|     |                          | TUN1               | I       | O       | O     | MODEL distinction 1   |
| 74  | P16/D14/INT4             | PDET               | IRQ     | IRQ     | O     | Detection of power down   |
| 75  | P15/D13/INT3             | PSW                | IRQ     | IRQ     | O     | Interruption of STANDBY/ON switch   |
| 76  | P14/D12                  | SCKP               | O       | O       | O     | Clock output of TUNER PLL IC  |
|     |                          | TUN0               | I       | O       | O     | MODEL distinction 0   |
| 77  | P13/D11                  | SDTP               | O       | O       | O     | Serial data transmission of TUNER PLL IC  |
| 78  | P12/D10                  | SDRP               | I+      | O       | O     | Serial data reception of TUNER PLL IC   |
| 79  | P11/D9                   | TUNED              | I+      | O       | O     | Detection state reception of TUNER  |
| 80  | P10/D8                   | /ST                | I+      | O       | O     | Stereo state reception of TUNER   |
| 81  | P07/D7                   | TMT                | O       | O       | O     | MUTE output of TUNER MUTE   |
| 82  | P06/D6                   | PRY                | O       | O       | O     | Control output of first power relay   |
| 83  | P05/D5                   | CSRY               | O       | O       | O     | Control output of CENTER/SURROUND channel relay   |
| 84  | P04/D4                   | FRRY_B             | O       | O       | O     | Control output of FRONT channel/Speaker B   |
| 85  | P03/D3                   | FRRY_A             | O       | O       | O     | Control output of FRONT channel/Speaker A   |
| 86  | P02/D2                   | PRI                | I       | O       | O     | Protection over current detection   |
| 87  | P01/D1                   | 5MSW               | O       | O       | O     | Control output of power supply +5V for micro-processor                                      |
| 88  | P00/D0                   | –                  | O       | O       | O     | Unconnected   |

## IC242: M30622MWP-A82FP (MAIN P.C.B.)

## 16-bit Microprocessor

| No. | Port Name      | Terminal Name | I/O     |         |       | Function  |
|-----|----------------|---------------|---------|---------|-------|---|
|     |                |               | PowerOn | Standby | Sleep |   |
| 89  | P107/AN7/KI3   | –             | O       | O       | O     | No used   |
| 90  | P106/AN6/KI2   | PRD           | AD      | O       | O     | AD protection DC detection                        |
| 91  | P105/AN5/KI1   | PLDET         | AD      | O       | O     | AD power limiter detection                        |
| 92  | P104/AN4/KI0   | THM           | AD      | O       | O     | AD temperature detection                          |
| 93  | P103/AN3       | IMP_6 ohms    | I       | O       | O     | Speaker impedance detection (H: 6 ohms/L: 8 ohms) |
| 94  | P102/AN2       | ADKEY0        | AD      | O       | O     | AD Key 0  |
| 95  | P101/AN1       | ADKEY1        | AD      | O       | O     | AD Key 1  |
| 96  | Avss           | Avss          | MCU     | MCU     | MCU   | Ground for AD                                     |
| 97  | P100/AN0       | PRD           | AD      | O       | O     | AD protection power supply voltage detection      |
| 98  | Vref           | Vref          | MCU     | MCU     | MCU   | Reference for AD                                  |
| 99  | Avcc           | Avcc          | MCU     | MCU     | MCU   | Power supply for AD                               |
| 100 | P97/Adtrg/Sin4 | CEFD          | O       | O       | O     | FL Driver CE                                      |

## Key Input (A-D) Pull-Up Resistance 10 k-ohms

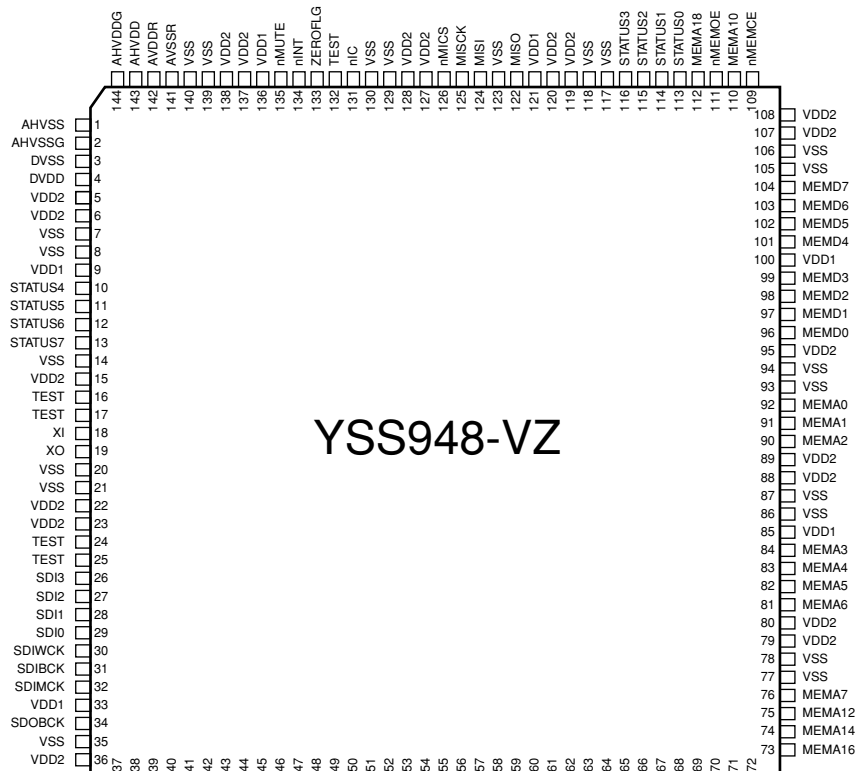
## U, C, R, T, K, A, L models

| Ohm                    | 0.0               | +1.0k      | +1.0k              | +1.5k              | +2.2k              | +3.3k        | +4.7k                  | +6.8k            | +10.0k            | +22.0k       | +47.0k              |
|------------------------|-------------------|------------|--------------------|--------------------|--------------------|--------------|------------------------|------------------|-------------------|--------------|---------------------|
| V                      | 0.0~0.3           | ~0.65      | ~1.05              | ~1.55              | ~2.05              | ~2.65        | ~3.15                  | ~3.6             | ~4.0              | ~4.4         | ~4.75               |
| ADKEY0<br>(94Pin, AN2) | MULTI CH<br>INPUT | INPUT<br>> | INPUT<br><         | INPUT<br>MODE      | PROGRAM<br>>       | PROGRAM<br>< | BASS/TREBLE<br>+       | BASS/TREBLE<br>– | STEREO/<br>EFFECT | TONE CONTROL | SPEAKERS<br>A/B/OFF |
| ADKEY1<br>(95Pin, AN1) | TUNING MODE       | MEMORY     | PRESET/TUNING<br>> | PRESET/TUNING<br>< | A/B/C/D/E<br>/NEXT | FM/AM        | PRESET/TUNING<br>/EDIT | –                | –                 | –            | –                   |

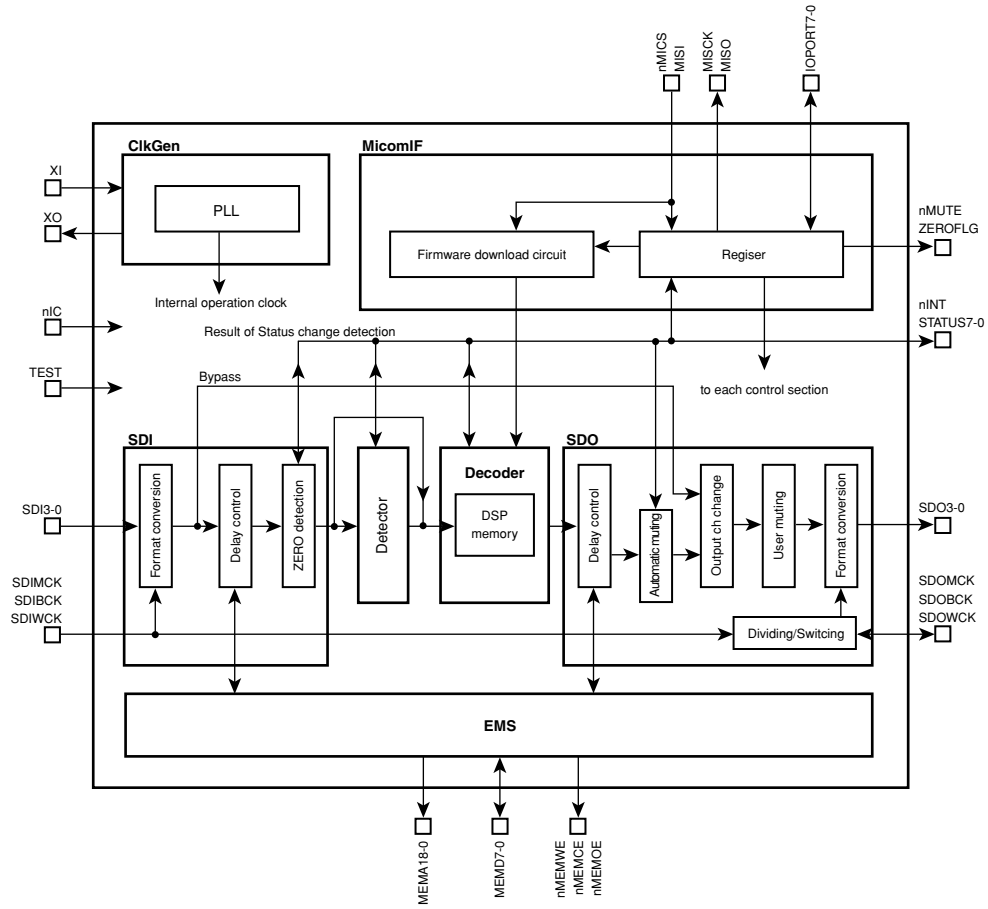
## B, G, E models

| Ohm                    | 0.0               | +1.0k      | +1.0k              | +1.5k              | +2.2k              | +3.3k        | +4.7k                  | +6.8k            | +10.0k            | +22.0k       | +47.0k              |
|------------------------|-------------------|------------|--------------------|--------------------|--------------------|--------------|------------------------|------------------|-------------------|--------------|---------------------|
| V                      | 0.0~0.3           | ~0.65      | ~1.05              | ~1.55              | ~2.05              | ~2.65        | ~3.15                  | ~3.6             | ~4.0              | ~4.4         | ~4.75               |
| ADKEY0<br>(94Pin, AN2) | MULTI CH<br>INPUT | INPUT<br>> | INPUT<br><         | INPUT<br>MODE      | PROGRAM<br>>       | PROGRAM<br>< | BASS/TREBLE<br>+       | BASS/TREBLE<br>– | STEREO/<br>EFFECT | TONE CONTROL | SPEAKERS<br>A/B/OFF |
| ADKEY1<br>(95Pin, AN1) | TUNING MODE       | MEMORY     | PRESET/TUNING<br>> | PRESET/TUNING<br>< | A/B/C/D/E<br>/NEXT | FM/AM        | PRESET/TUNING<br>/EDIT | PTY SEEK<br>MODE | PTY SEEK<br>START | EON          | RDS MODE/FREQ       |

IC811: YSS948-VZ (DSP P.C.B.)  
DSP



YSS948-VZ





## IC811: YSS948-VZ (DSP P.C.B.)

## DSP

| No. | Pin Name      | Classification     | Function   | I/O    | Port Set | Size | Connect         |
|-----|---------------|--------------------|--|--------|----------|------|-----------------|
| 1   | AHVSS         |                    | PLL section GND                                      | -      |          |      | DGND            |
| 2   | AHVSSG        |                    | PLL section GND                                      | -      |          |      | DGND            |
| 3   | DVSS          |                    | PLL section GND                                      | -      |          |      | DGND            |
| 4   | DVDD          | Power supply       | Internal power supply of PLL section (typ1.2V)       | -      |          |      | +1.2VPLL        |
| 5   | VDD2          |                    | Internal power supply (typ1.2V)                      | -      |          |      | +1.2V           |
| 6   | VDD2          |                    | Internal power supply (typ1.2V)                      | -      |          |      | +1.2V           |
| 7   | VSS           |                    | GND  | -      |          |      | DGND            |
| 8   | VSS           |                    | GND  | -      |          |      | DGND            |
| 9   | VDD1          | Power supply       | External power supply (typ3.3V)                      | -      |          |      | +3.3V           |
| 10  | STATUS4       | Status port        | Inside information output terminal 4                 | O      |          | 2mA  | NC              |
| 11  | STATUS5       |                    | Inside information output terminal 5                 | O      |          | 2mA  | NC              |
| 12  | STATUS6       |                    | Inside information output terminal 6                 | O      |          | 2mA  | NC              |
| 13  | STATUS7       |                    | Inside information output terminal 7                 | O      |          | 2mA  | NC              |
| 14  | VSS           |                    | GND  | -      |          |      | DGND            |
| 15  | VDD2          | Power supply       | Internal power supply (typ1.2V)                      | -      |          |      | +1.2            |
| 16  | TEST(nPLLSEL) | Test               | Terminal for a test / GND terminal                   | -      |          |      | DGND            |
| 17  | TSTSCAN       |                    | Terminal for a test / GND terminal                   | -      |          |      | DGND            |
| 18  | XI            | Clock              | Crystal oscillator connecting terminal / Clock input | I      |          | -    | 12MA            |
| 19  | XO            |                    | Crystal oscillator connecting terminal               | O      |          | -    | NC              |
| 20  | VSS           |                    | GND  | -      |          |      | DGND            |
| 21  | VSS           |                    | GND  | -      |          |      | DGND            |
| 22  | VDD2          | Power supply       | Internal power supply (typ1.2V)                      | -      |          |      | +1.2V           |
| 23  | VDD2          |                    | Internal power supply (typ1.2V)                      | -      |          |      | +1.2V           |
| 24  | TSTIDDQ       | Test               | Terminal for a test / GND terminal                   | -      |          |      | DGND            |
| 25  | TSTMEMCK      |                    | Terminal for a test / GND terminal                   | -      |          |      | DGND            |
| 26  | SDI3          | Audio IF           | Serial data output 3                                 | I      |          | -    | NC              |
| 27  | SDI2          |                    | Serial data output 2                                 | I      |          | -    | NC              |
| 28  | SDI1          |                    | Serial data output 1                                 | I      |          | -    | ADSDO           |
| 29  | SDI0          |                    | Serial data output 0                                 | I      |          | -    | DIRSDO          |
| 30  | SDIWCK        |                    | Input side WORD clock                                | I      |          | -    | RWCK            |
| 31  | SDIBCK        |                    | Input side bit clock                                 | Is     |          | -    | RBCK            |
| 32  | SDIMCK        |                    | Input side master clock                              | Is     |          | -    | RMCK            |
| 33  | VDD1          | Power supply       | External power supply (typ3.3V)                      | -      |          |      | +3.3.V          |
| 34  | SDOBCK        | Audio IF           | Output side bit clock                                | Is/O   |          | 4mA  | BCKO            |
| 35  | VSS           |                    | GND  | -      |          |      | DGND            |
| 36  | VDD2          | Power supply       | Internal power supply (typ1.2V)                      | -      |          |      | +1.2V           |
| 37  | SDOWCK        | Audio IF           | Output side WORD clock                               | I/O    |          | 4mA  | WCKO            |
| 38  | SDOMCK        |                    | Output side master clock                             | Ot     |          | 8mA  | MCKO            |
| 39  | SDO0          |                    | Serial data output 0                                 | O      |          | 4mA  | SDOA0           |
| 40  | SDO1          |                    | Serial data output 1                                 | O      |          | 4mA  | SDOA1           |
| 41  | VSS           |                    | GND  | -      |          |      | DGND            |
| 42  | VSS           |                    | GND  | -      |          |      | DGND            |
| 43  | SDO2          | Audio IF           | Serial data output 2                                 | O      |          | 4mA  | SDOA2           |
| 44  | SDO3          |                    | Serial data output 3                                 | O      |          | 4mA  | SDOA3           |
| 45  | VDD1          | Power supply       | External power supply (typ3.3V)                      | -      |          |      | +3.3V           |
| 46  | IOPORT0       | IO port            | General purpose I/O terminal 0                       | I(+)/O | I        | 2mA  | /MIC            |
| 47  | IOPORT1       |                    | General purpose I/O terminal 1                       | I(+)/O | O        | 2mA  | MICSEL          |
| 48  | VSS           |                    | GND  | -      |          |      | DGND            |
| 49  | VSS           |                    | GND  | -      |          |      | DGND            |
| 50  | VDD2          | Power supply       | Internal power supply (typ1.2V)                      | -      |          |      | +1.2V           |
| 51  | VDD2          |                    | Internal power supply (typ1.2V)                      | -      |          |      | +1.2V           |
| 52  | IOPORT2       | IO port            | General purpose I/O terminal 2                       | I(+)/O | I        | 2mA  | (CXDTA)         |
| 53  | IOPORT3       |                    | General purpose I/O terminal 3                       | I(+)/O | O        | 2mA  | 4.7k PD or OPEN |
| 54  | IOPORT4       |                    | General purpose I/O terminal 4                       | I(+)/O | O        | 2mA  | 4.7k PD or OPEN |
| 55  | IOPORT5       |                    | General purpose I/O terminal 5                       | I(+)/O | O        | 2mA  | NC              |
| 56  | IOPORT6       |                    | General purpose I/O terminal 6                       | I(+)/O | O        | 4mA  | NC              |
| 57  | IOPORT7       |                    | General purpose I/O terminal 7                       | I(+)/O | O        | 4mA  | NC              |
| 58  | MEMA17        | External memory IF | External memory access output terminal 17            | O      |          |      | EXMA17          |
| 59  | MEMA13        |                    | External memory access output terminal 13            | O      |          |      | EXMA13          |
| 60  | VDD1          | Power supply       | External power supply (typ3.3V)                      | -      |          |      | +3.3V           |

## IC811: YSS948-VZ (DSP P.C.B.)

## DSP

| No. | Pin Name | Classification     | Function                                      | I/O | Port Set | Size | Connect |
|-----|----------|--------------------|---|-----|----------|------|---------|
| 61  | VSS      |                    | GND   | -   |          |      | DGND    |
| 62  | VSS      |                    | GND   | -   |          |      | DGND    |
| 63  | VDD2     | Power supply       | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |
| 64  | VDD2     |                    | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |
| 65  | MEMA8    | External memory IF | External memory access output terminal 8      | O   |          | 4mA  | EXMA8   |
| 66  | MEMA9    |                    | External memory access output terminal 9      | O   |          | 4mA  | EXMA9   |
| 67  | MEMA11   |                    | External memory access output terminal 11     | O   |          | 4mA  | EXMA11  |
| 68  | nMEMWE   |                    | External memory light enable output terminal  | O   |          | 8mA  | /EXMEW  |
| 69  | VSS      |                    | GND   | -   |          |      | DGND    |
| 70  | VDD2     | Power supply       | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |
| 71  | VDD2     |                    | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |
| 72  | MEMA15   | External memory IF | External memory access output terminal 15     | O   |          | 4mA  | EXMA15  |
| 73  | MEMA16   |                    | External memory access output terminal 16     | O   |          | 4mA  | EXMA16  |
| 74  | MEMA14   |                    | External memory access output terminal 14     | O   |          | 4mA  | EXMA14  |
| 75  | MEMA12   |                    | External memory access output terminal 12     | O   |          | 4mA  | EXMA12  |
| 76  | MEMA7    |                    | External memory access output terminal 7      | O   |          | 4mA  | EXMA7   |
| 77  | VSS      |                    | GND   | -   |          |      | DGND    |
| 78  | VSS      |                    | GND   | -   |          |      | DGND    |
| 79  | VDD2     | Power supply       | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |
| 80  | VDD2     |                    | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |
| 81  | MEMA6    | External memory IF | External memory access output terminal 6      | O   |          | 4mA  | EXMA6   |
| 82  | MEMA5    |                    | External memory access output terminal 5      | O   |          | 4mA  | EXMA5   |
| 83  | MEMA4    |                    | External memory access output terminal 4      | O   |          | 4mA  | EXMA4   |
| 84  | MEMA3    |                    | External memory access output terminal 3      | O   |          | 4mA  | EXMA3   |
| 85  | VDD1     | Power supply       | External power supply (typ3.3V)               | -   |          |      | +3.3V   |
| 86  | VSS      |                    | GND   | -   |          |      | DGND    |
| 87  | VSS      |                    | GND   | -   |          |      | DGND    |
| 88  | VDD2     | Power supply       | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |
| 89  | VDD2     |                    | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |
| 90  | MEMA2    | External memory IF | External memory access output terminal 2      | O   |          | 4mA  | EXMA2   |
| 91  | MEMA1    |                    | External memory access output terminal 1      | O   |          | 4mA  | EXMA1   |
| 92  | MEMA0    |                    | External memory access output terminal 0      | O   |          | 4mA  | EXMA0   |
| 93  | VSS      |                    | GND   | -   |          |      | DGND    |
| 94  | VSS      |                    | GND   | -   |          |      | DGND    |
| 95  | VDD2     | Power supply       | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |
| 96  | MEMD0    | External memory IF | External memory data I/O terminal 0           | I/O |          | 4mA  | EXMD0   |
| 97  | MEMD1    |                    | External memory data I/O terminal 1           | I/O |          | 4mA  | EXMD1   |
| 98  | MEMD2    |                    | External memory data I/O terminal 2           | I/O |          | 4mA  | EXMD2   |
| 99  | MEMD3    |                    | External memory data I/O terminal 3           | I/O |          | 4mA  | EXMD3   |
| 100 | VDD1     |                    | External power supply (typ3.3V)               | -   |          |      | +3.3V   |
| 101 | MEMD4    |                    | External memory data I/O terminal 4           | I/O |          | 4mA  | EXMD4   |
| 102 | MEMD5    |                    | External memory data I/O terminal 5           | I/O |          | 4mA  | EXMD5   |
| 103 | MEMD6    |                    | External memory data I/O terminal 6           | I/O |          | 4mA  | EXMD6   |
| 104 | MEMD7    |                    | External memory data I/O terminal 7           | I/O |          | 4mA  | EXMD7   |
| 105 | VSS      |                    | GND   | -   |          |      | DGND    |
| 106 | VSS      |                    | GND   | -   |          |      | DGND    |
| 107 | VDD2     | Power supply       | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |
| 108 | VDD2     |                    | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |
| 109 | nMEMCE   | External memory IF | External memory chip select output terminal   | O   |          | 4mA  | /EXMCE  |
| 110 | MEMA10   |                    | External memory access output terminal 10     | O   |          | 4mA  | EXMA10  |
| 111 | nMEMOE   |                    | External memory output enable output terminal | O   |          | 4mA  | /EXMOE  |
| 112 | MEMA18   |                    | External memory access output terminal 18     | O   |          | 4mA  | EXMA18  |
| 113 | STATUS0  | Status port        | Inside information output terminal 0          | O   |          | 2mA  | NC      |
| 114 | STATUS1  |                    | Inside information output terminal 1          | O   |          | 2mA  | NC      |
| 115 | STATUS2  |                    | Inside information output terminal 2          | O   |          | 2mA  | NC      |
| 116 | STATUS3  |                    | Inside information output terminal 3          | O   |          | 2mA  | NC      |
| 117 | VSS      |                    | GND   | -   |          |      | DGND    |
| 118 | VSS      |                    | GND   | -   |          |      | DGND    |
| 119 | VDD2     | Power supply       | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |
| 120 | VDD2     |                    | Internal power supply (typ1.2V)               | -   |          |      | +1.2V   |

## IC811: YSS948-VZ (DSP P.C.B.)

## DSP

| No. | Pin Name   | Classification    | Function                           | I/O | Port Set | Size | Connect  |
|-----|------------|-------------------|------------------------------------|-----|----------|------|----------|
| 121 | VDD1       |                   | External power supply (typ3.3V)    | -   |          |      | +3.3V    |
| 122 | MISO       | Microprocessor IF | Data output                        | Ot  |          | 4mA  | SDD3     |
| 123 | VSS        |                   | GND                                | -   |          |      | DGND     |
| 124 | MISI       | Microprocessor IF | Data input                         | I   |          | -    | SDM3A    |
| 125 | MISCK      |                   | Serial clock                       | Is  |          | -    | SCK3A    |
| 126 | nMICS      |                   | Chip select                        | Is  |          | -    | /CSADM   |
| 127 | VDD2       | Power supply      | Internal power supply (typ1.2V)    | -   |          |      | +1.2V    |
| 128 | VDD2       |                   | Internal power supply (typ1.2V)    | -   |          |      | +1.2V    |
| 129 | VSS        |                   | GND                                | -   |          |      | DGND     |
| 130 | VSS        |                   | GND                                | -   |          |      | DGND     |
| 131 | nIC        | Reset             | Hardware/Reset input terminal      | Is  |          |      | /ICADM   |
| 132 | nTSTREGRST | Test              | Terminal for a test / GND terminal | -   |          |      | DGND     |
| 133 | ZEROFLG    |                   | Terminal for a test / GND terminal | -   |          |      | DGND     |
| 134 | nINT       | Status port       | Interrupt request output terminal  | O   |          | 2mA  | /INTADM  |
| 135 | nMUTE      |                   | MUTE output terminal               | O   |          | 2mA  | NC       |
| 136 | VDD1       | Power supply      | External power supply (typ3.3V)    | -   |          |      | +3.3V    |
| 137 | VDD2       |                   | Internal power supply (typ1.2V)    | -   |          |      | +1.2V    |
| 138 | VDD2       |                   | Internal power supply (typ1.2V)    | -   |          |      | +1.2V    |
| 139 | VSS        |                   | GND                                | -   |          |      | DGND     |
| 140 | VSS        |                   | GND                                | -   |          |      | DGND     |
| 141 | AVSSR      |                   | PLL section GND                    | -   |          |      | DGND     |
| 142 | AVDDR      | Power supply      | PLL section power supply (typ3.3V) | -   |          |      | +3.3VPLL |
| 143 | AHVDD      |                   | PLL section power supply (typ3.3V) | -   |          |      | +3.3VPLL |
| 144 | VHVDDG     |                   | PLL section power supply (typ3.3V) | -   |          |      | +3.3VPLL |

I/O ..... Is : Schmidt trigger input terminal  
Ot : 3-state digital output terminal  
I(+): Input terminal with pull-up resistor  
O : Digital output terminal

***MEMO***

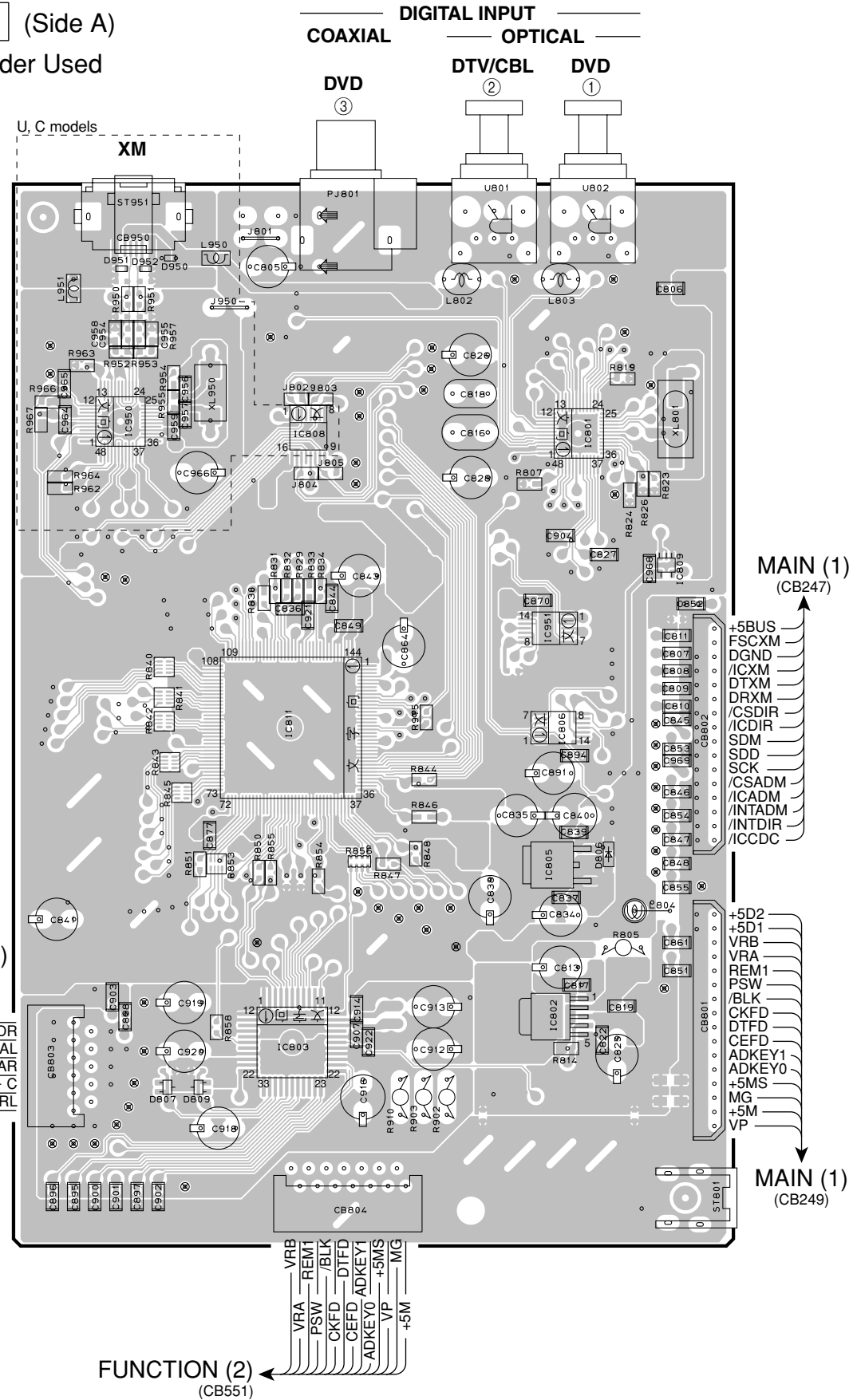


RX-V359/HTR-5930

PRINTED CIRCUIT BOARD

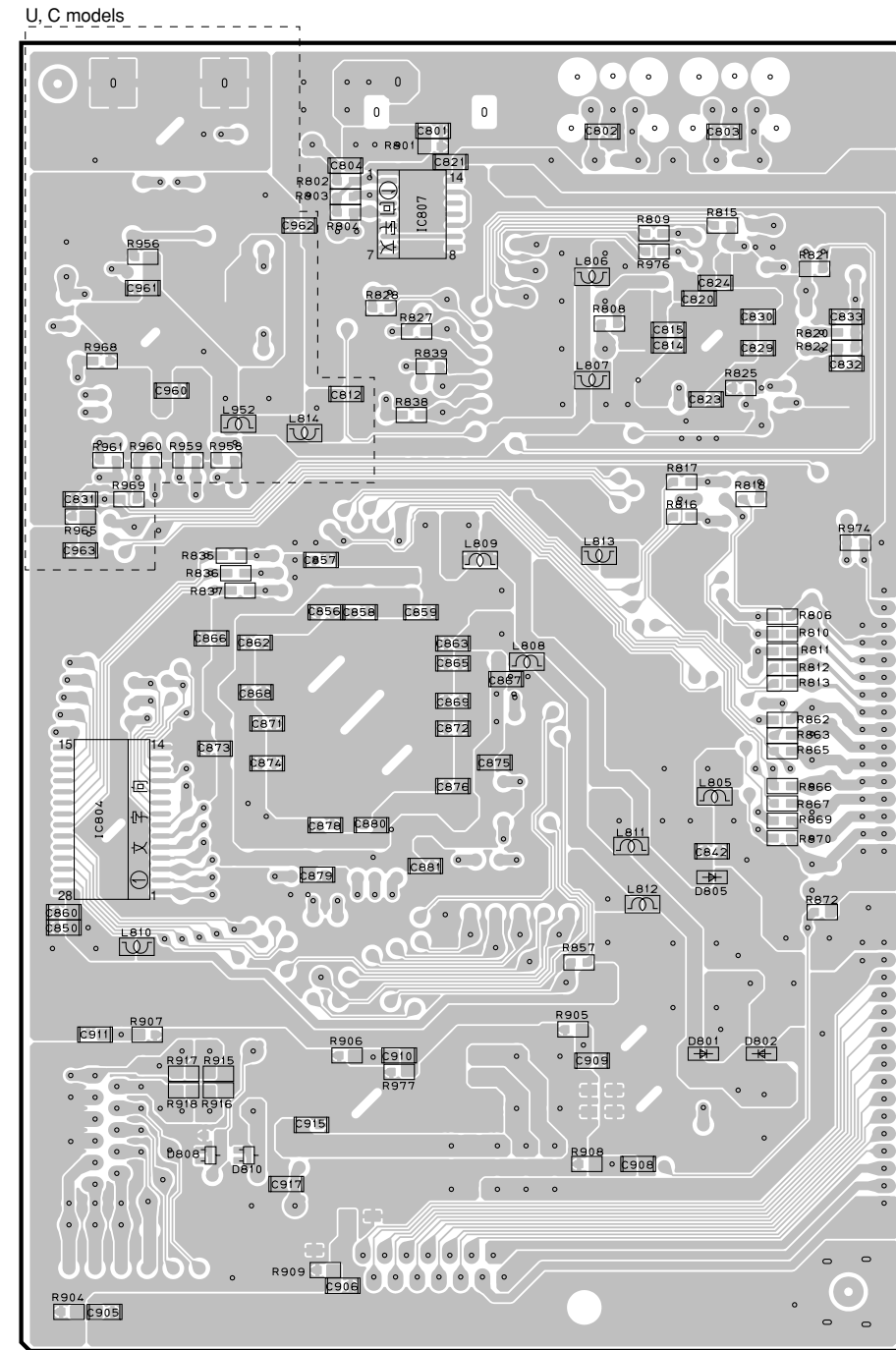
DSP P.C.B. (Side A)

Lead Free Solder Used



DSP P.C.B. (Side B)

Lead Free Solder Used



• Semiconductor Location

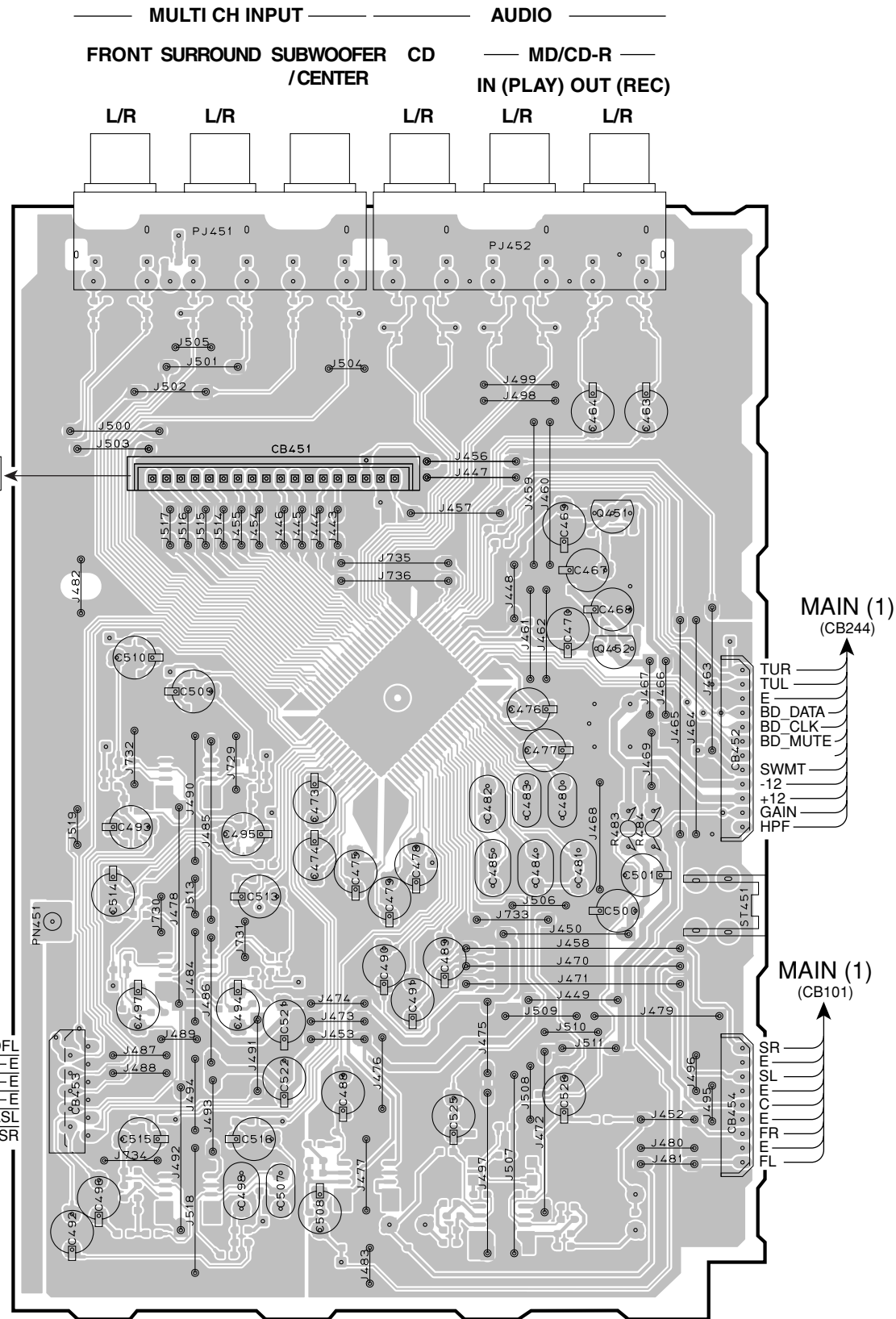
| Ref no. | Location |
|---------|----------|
| D801    | H6       |
| D802    | H6       |
| D805    | H5       |
| D806    | D5       |
| D807    | B6       |
| D808    | F6       |
| D809    | B6       |
| D810    | F6       |
| D950    | B2       |
| D951    | B2       |
| D952    | B2       |
| IC801   | D3       |
| IC802   | D6       |
| IC803   | C6       |
| IC804   | F5       |
| IC805   | D5       |
| IC806   | D4       |
| IC807   | G3       |
| IC808   | C3       |
| IC809   | D4       |
| IC811   | C4       |
| IC950   | B3       |
| IC951   | D4       |

| Circuit No. | U,C | R, T, K, A, B, G, L, E |
|-------------|-----|------------------------|
| IC809       | O   | X                      |
| J802- 805   | X   | O                      |

X: NOT USED  
O: USED/APPLICABLE

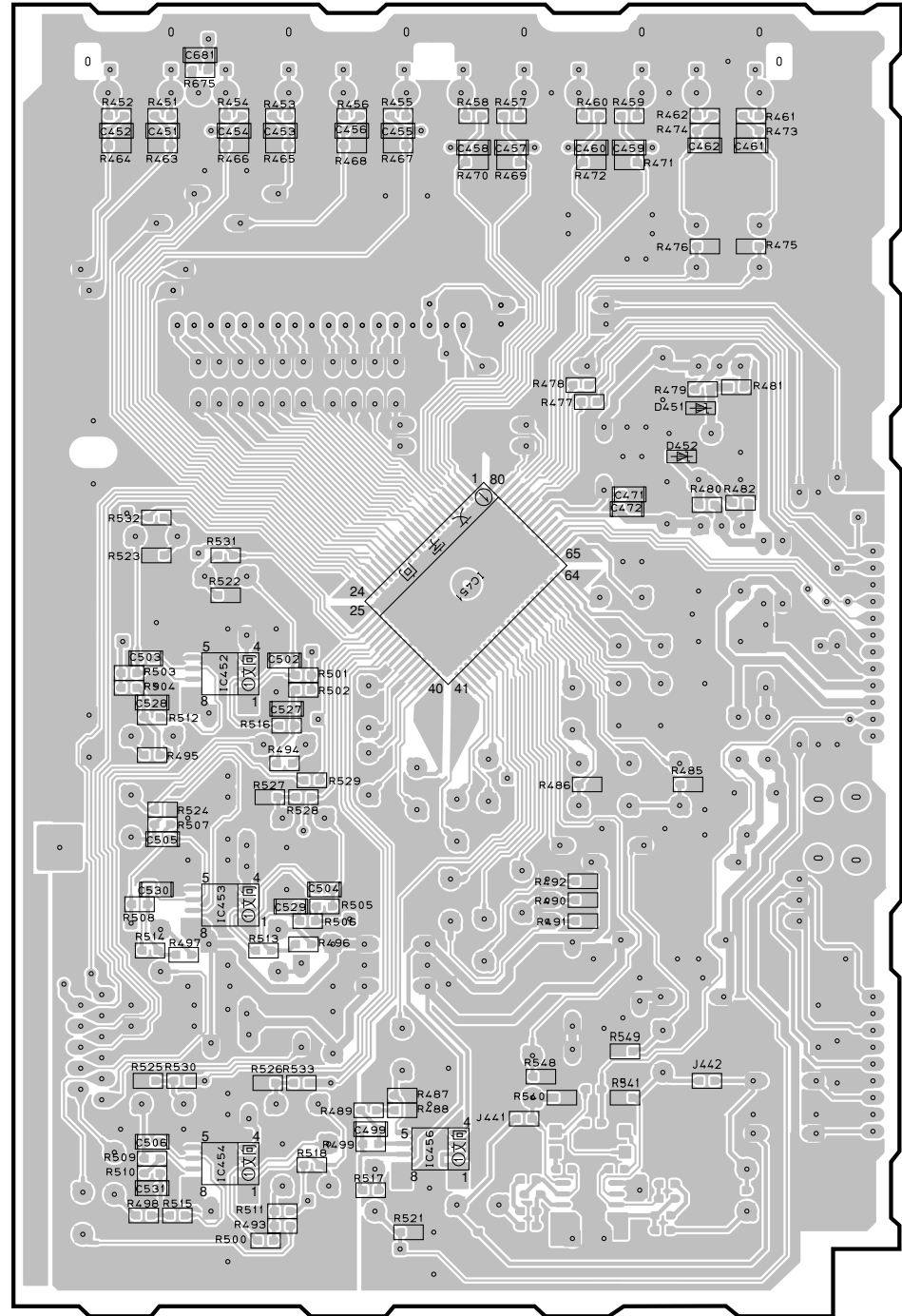
PRINTED CIRCUIT BOARD

FUNCTION (1) P.C.B. (Side A)



FUNCTION (1) P.C.B. (Side B)

Lead Free Solder Used

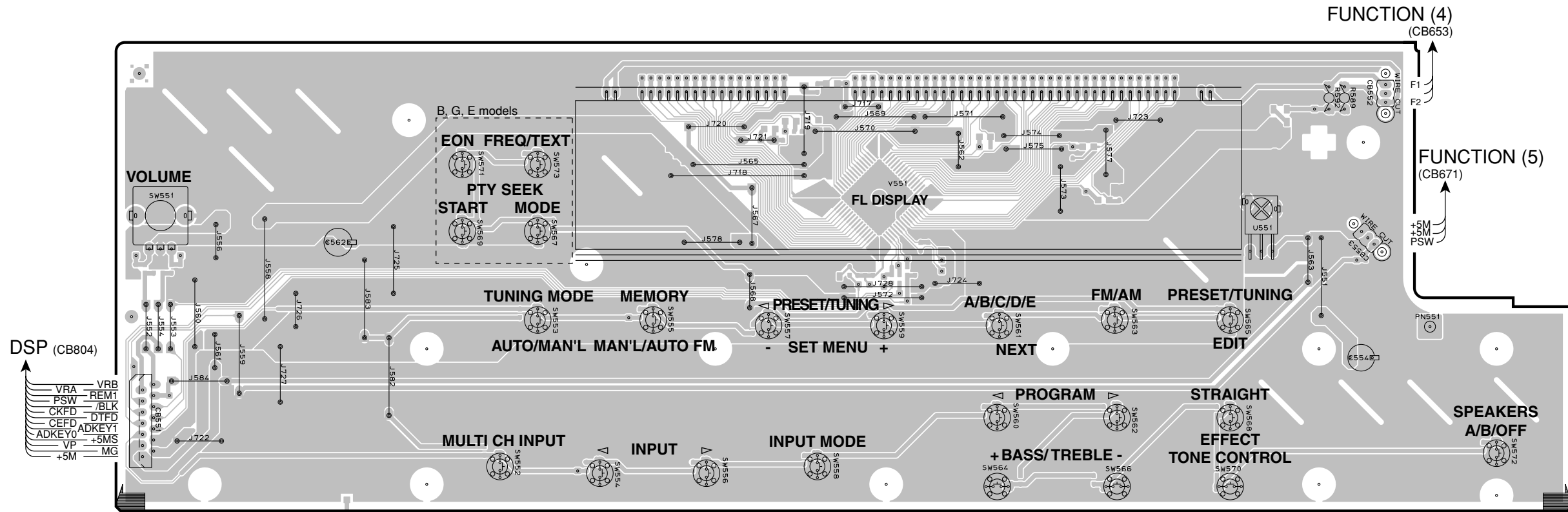


Semiconductor Location

| Ref no. | Location |
|---------|----------|
| D451    | I4       |
| D452    | I4       |
| IC451   | H4       |
| IC452   | G5       |
| IC453   | G5       |
| IC454   | G6       |
| IC456   | H6       |
| Q451    | E4       |
| Q452    | E4       |

1 ■ PRINTED CIRCUIT BOARD

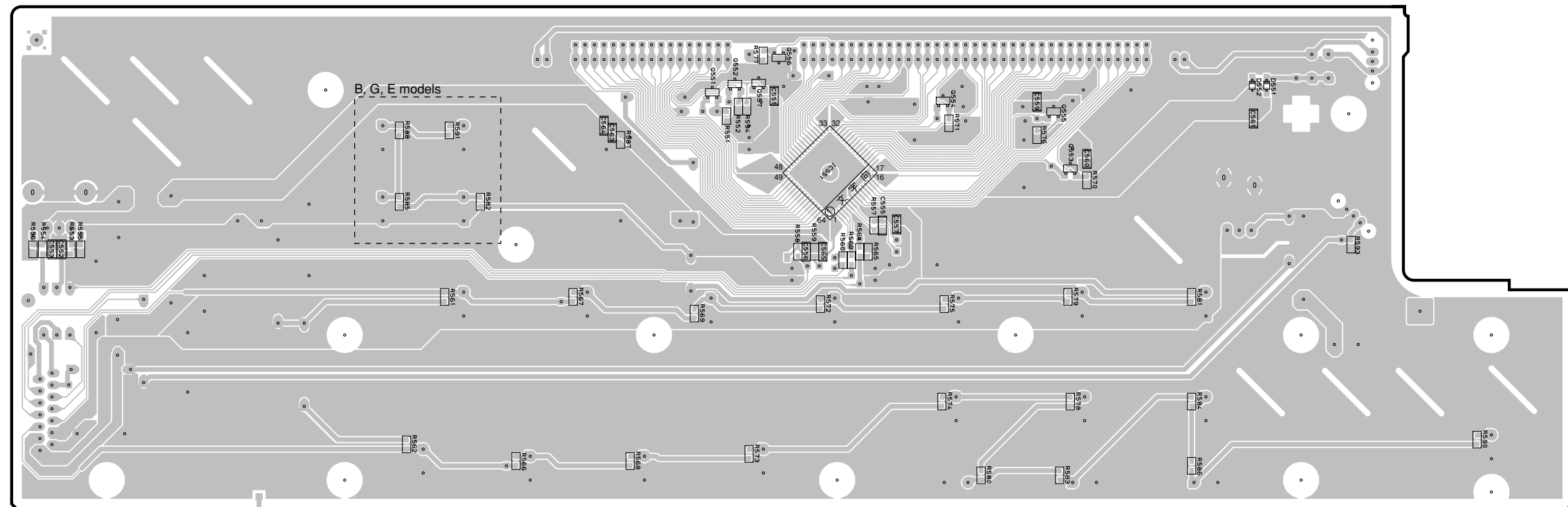
FUNCTION (2) P.C.B. (Side A)



• Semiconductor Location

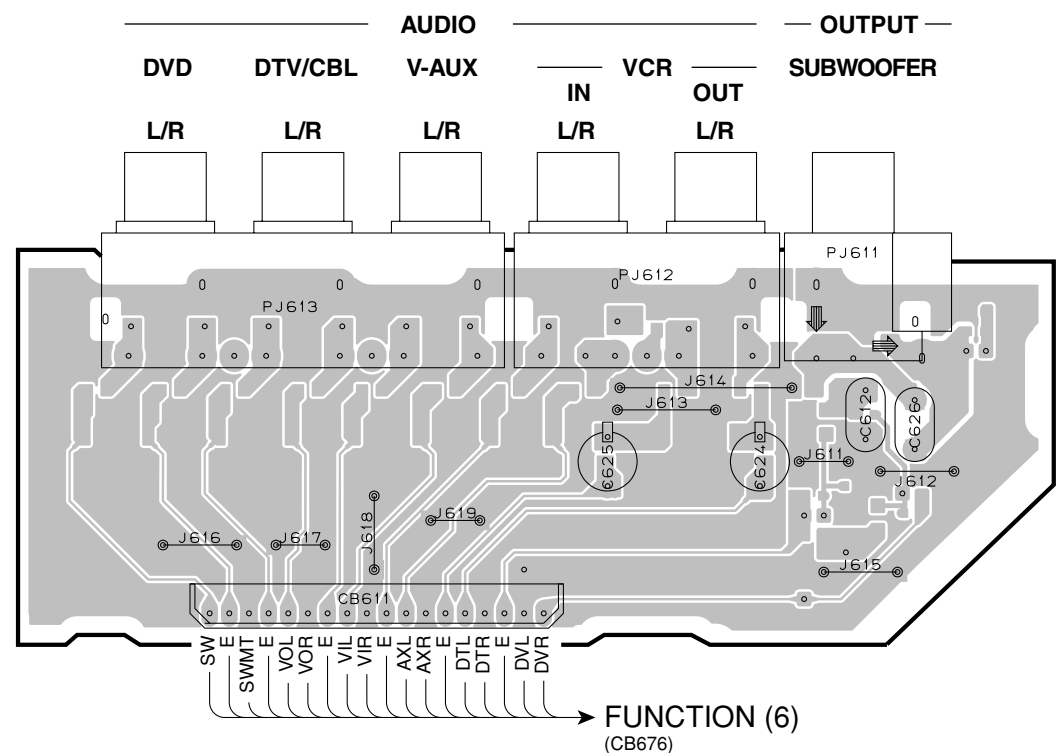
| Ref no. | Location |
|---------|----------|
| D551    | H5       |
| D552    | G5       |
| IC551   | E5       |
| Q551    | E5       |
| Q552    | E5       |
| Q553    | G5       |
| Q554    | F5       |
| Q555    | G5       |
| Q556    | E5       |
| Q557    | E5       |

FUNCTION (2) P.C.B. (Side B) Lead Free Solder Used



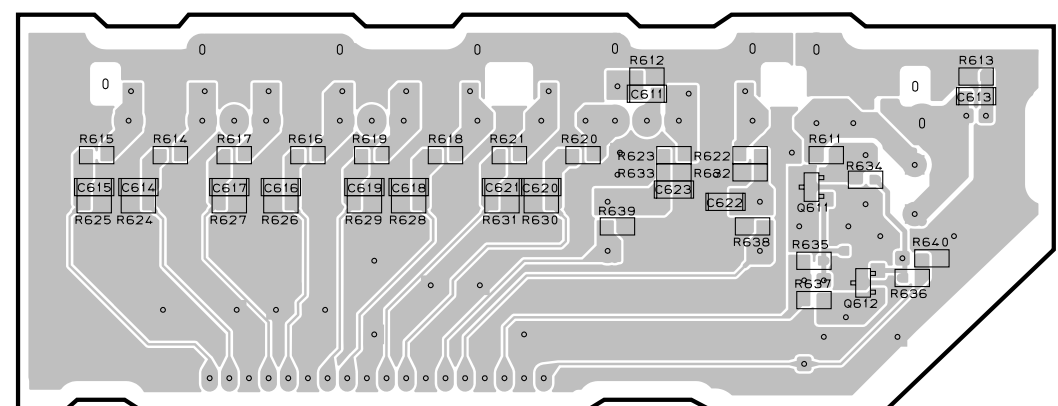
PRINTED CIRCUIT BOARD

FUNCTION (3) P.C.B. (Side A)



FUNCTION (3) P.C.B. (Side B)

Lead Free Solder Used



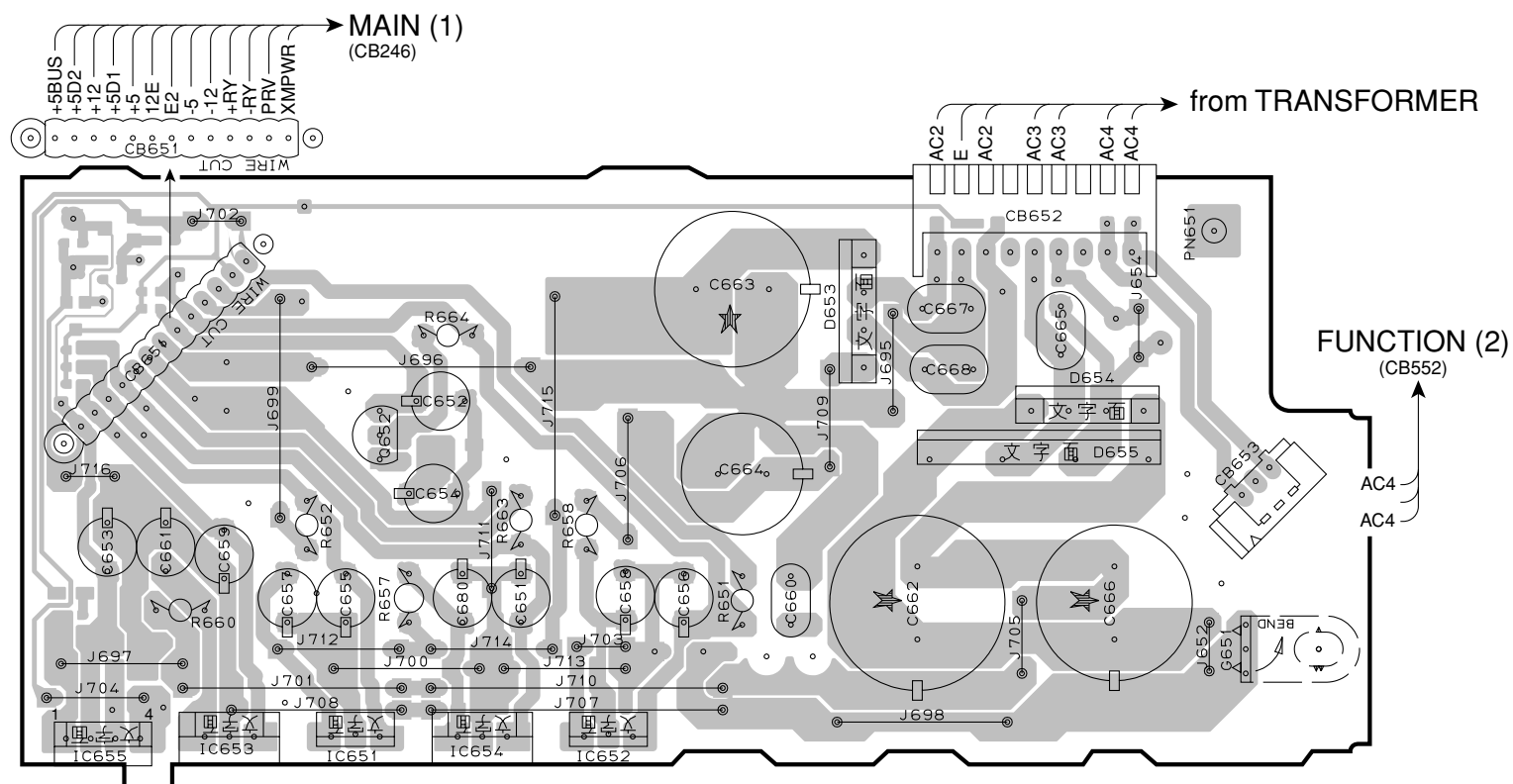
| Circuit No. | U, C | R, L | T, K, A, B, G, E |
|-------------|------|------|------------------|
| C653        | O    | X    | X                |
| C662        | O    | X    | X                |
| C669        | O    | X    | X                |
| D654        | X    | O    | O                |
| D655        | O    | X    | X                |
| D657        | O    | X    | X                |
| D658        | X    | O    | X                |
| IC655       | O    | X    | X                |
| R653        | O    | X    | X                |
| R674        | X    | O    | X                |

X: NOT USED  
O: USED/APPLICABLE

Semiconductor Location

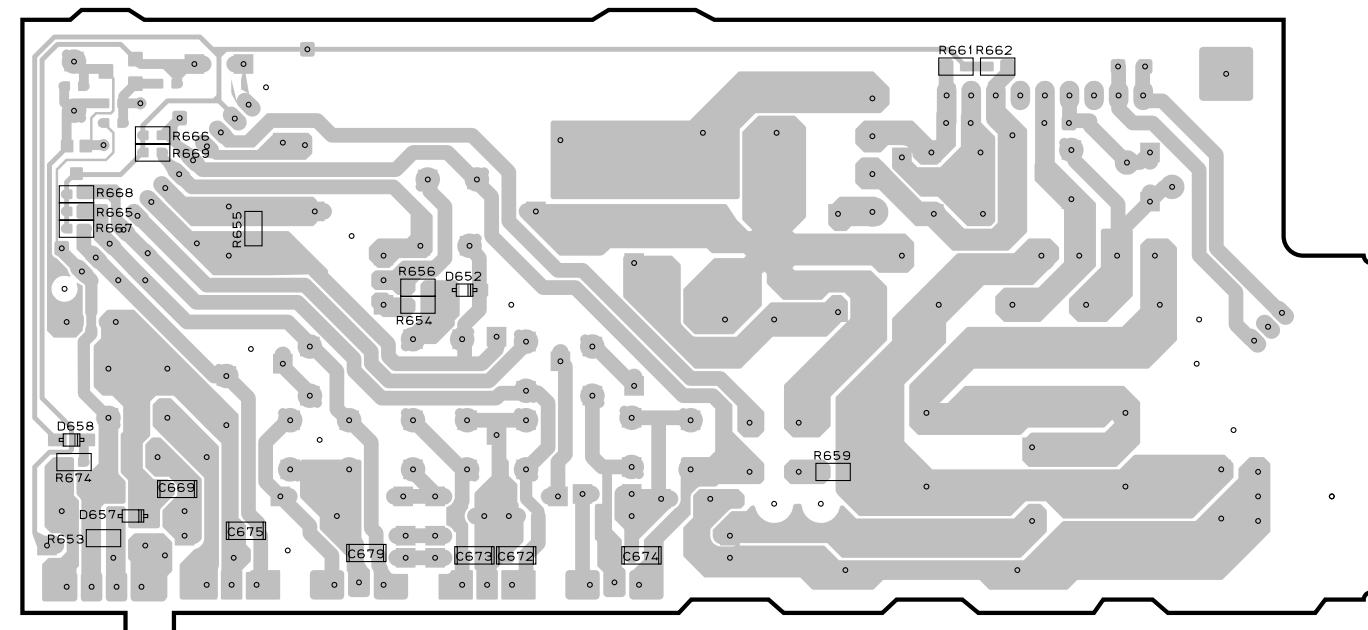
| Ref no. | Location | Ref no. | Location |
|---------|----------|---------|----------|
| D652    | G6       | IC652   | G4       |
| D653    | H3       | IC653   | F4       |
| D654    | I3       | IC654   | G4       |
| D655    | I3       | IC655   | F4       |
| D657    | F7       | Q611    | D5       |
| D658    | F6       | Q612    | D6       |
| IC651   | G4       | Q652    | G3       |

FUNCTION (4) P.C.B. (Side A)



FUNCTION (4) P.C.B. (Side B)

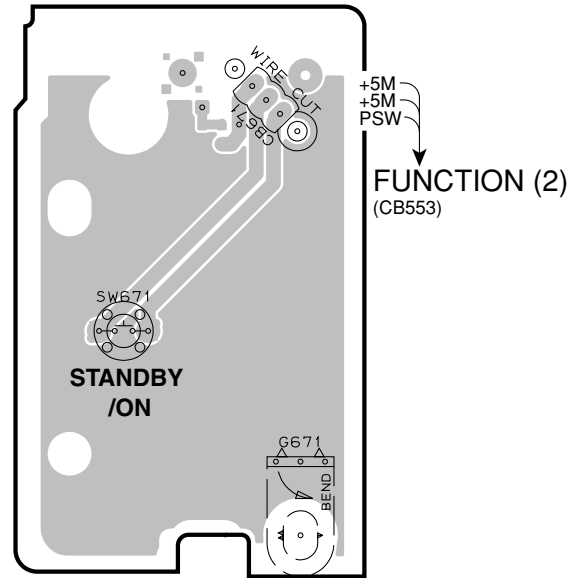
Lead Free Solder Used



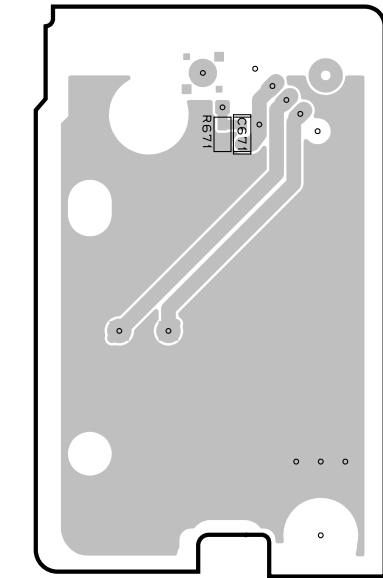


1 ■ PRINTED CIRCUIT BOARD

FUNCTION (5) P.C.B. (Side A)

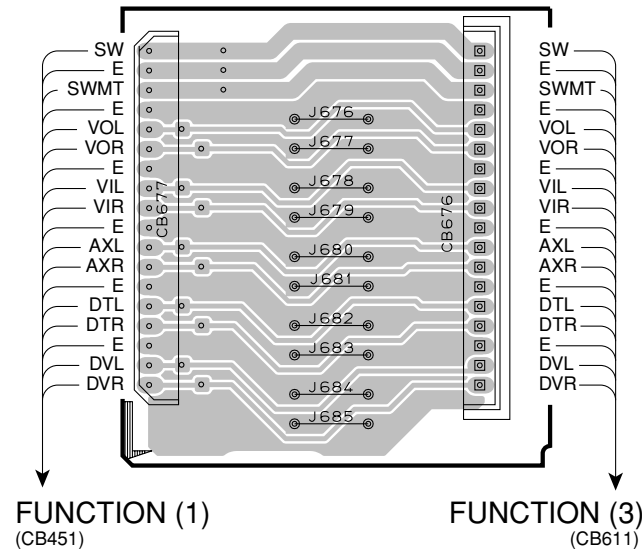


FUNCTION (5) P.C.B. (Side B)



Lead Free Solder Used

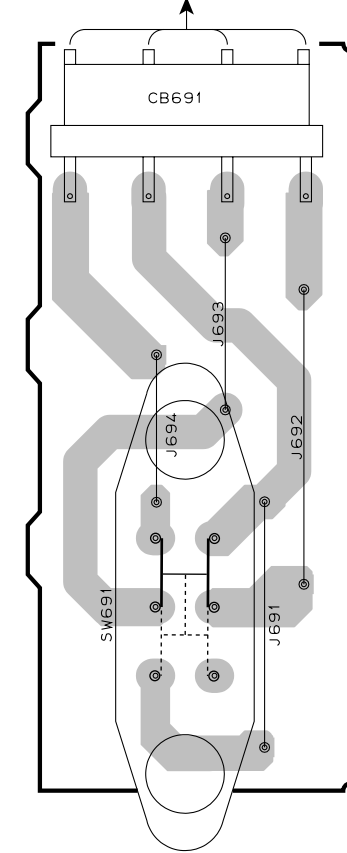
FUNCTION (6) P.C.B. (Side A)



FUNCTION (7) P.C.B. (Side A)

R, L models

from TRANSFORMER



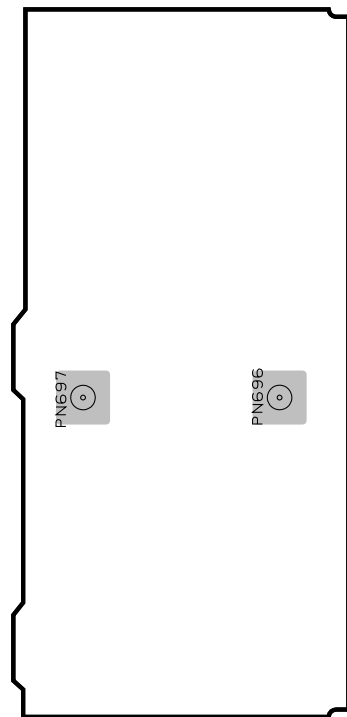
• Semiconductor Location

| Ref no. | Location |
|---------|----------|
| D431    | H5       |
| D432    | H6       |
| D433    | H6       |

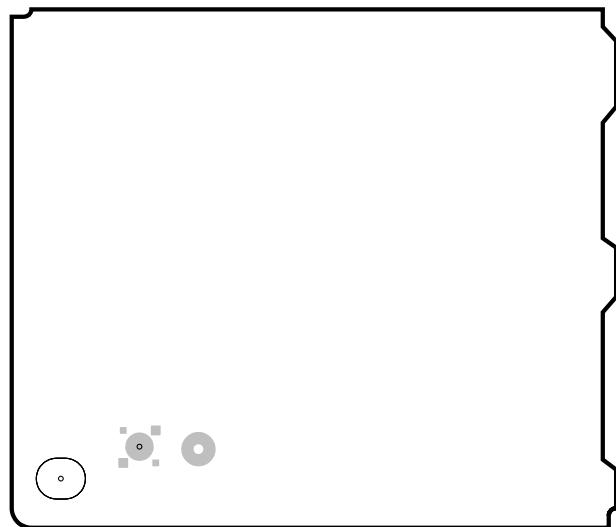
VOLTAGE SELECTOR

110V-120V  
|  
220V-240V

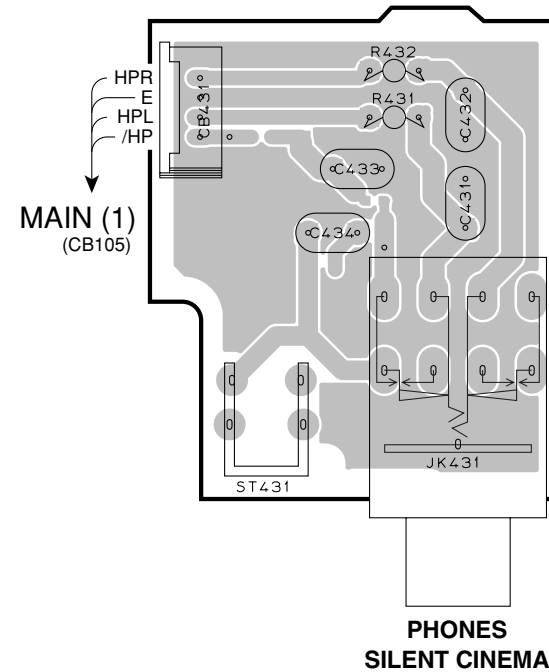
FUNCTION (8) P.C.B. (Side A)



FUNCTION (9) P.C.B. (Side A)

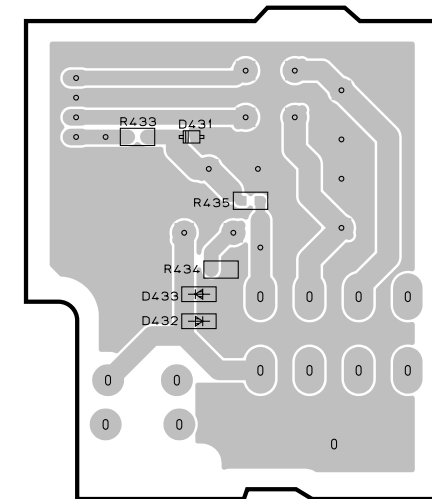


FUNCTION (10) P.C.B. (Side A)



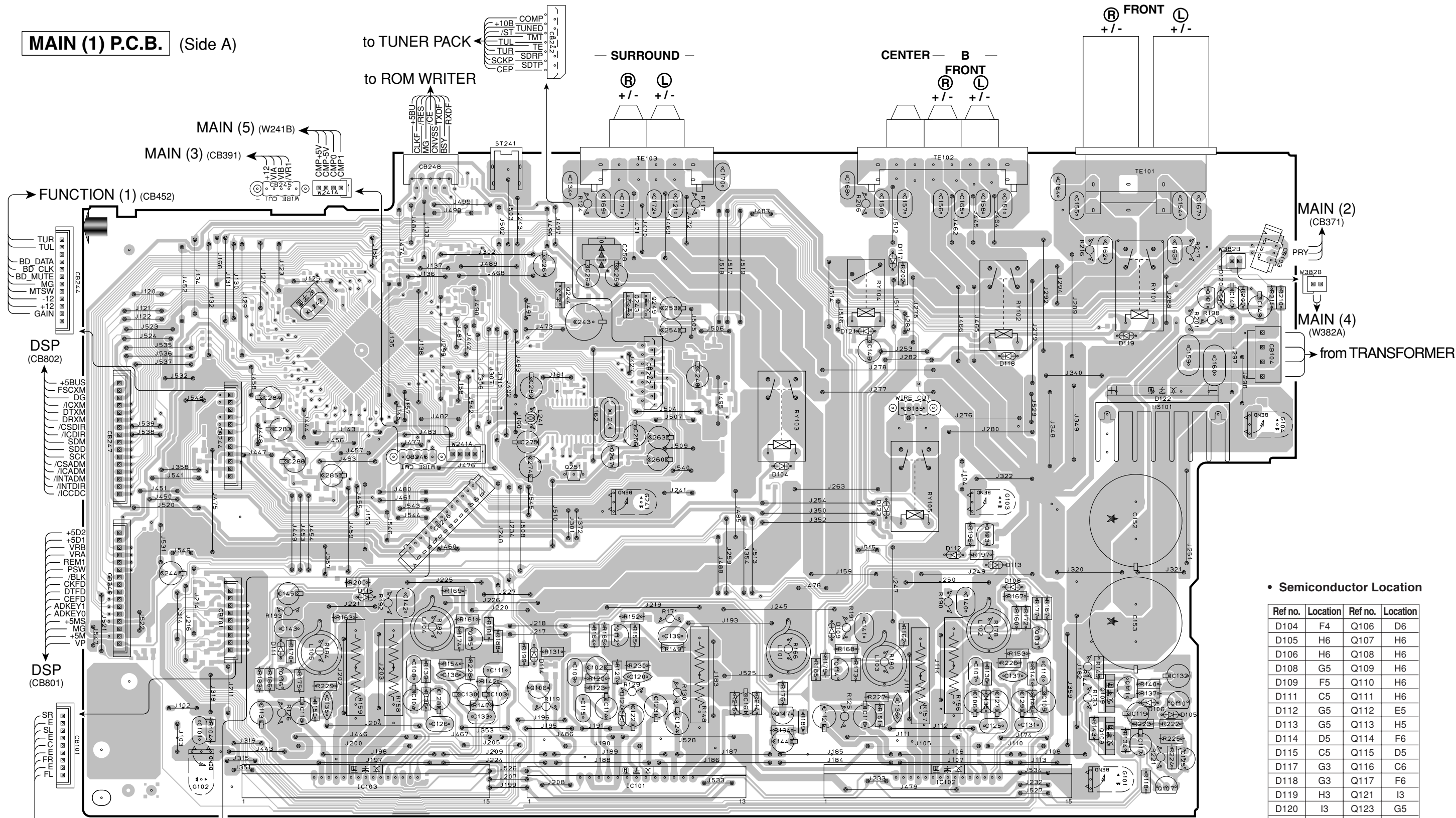
FUNCTION (10) P.C.B. (Side B)

Lead Free Solder Used



PRINTED CIRCUIT BOARD

MAIN (1) P.C.B. (Side A)



Semiconductor Location

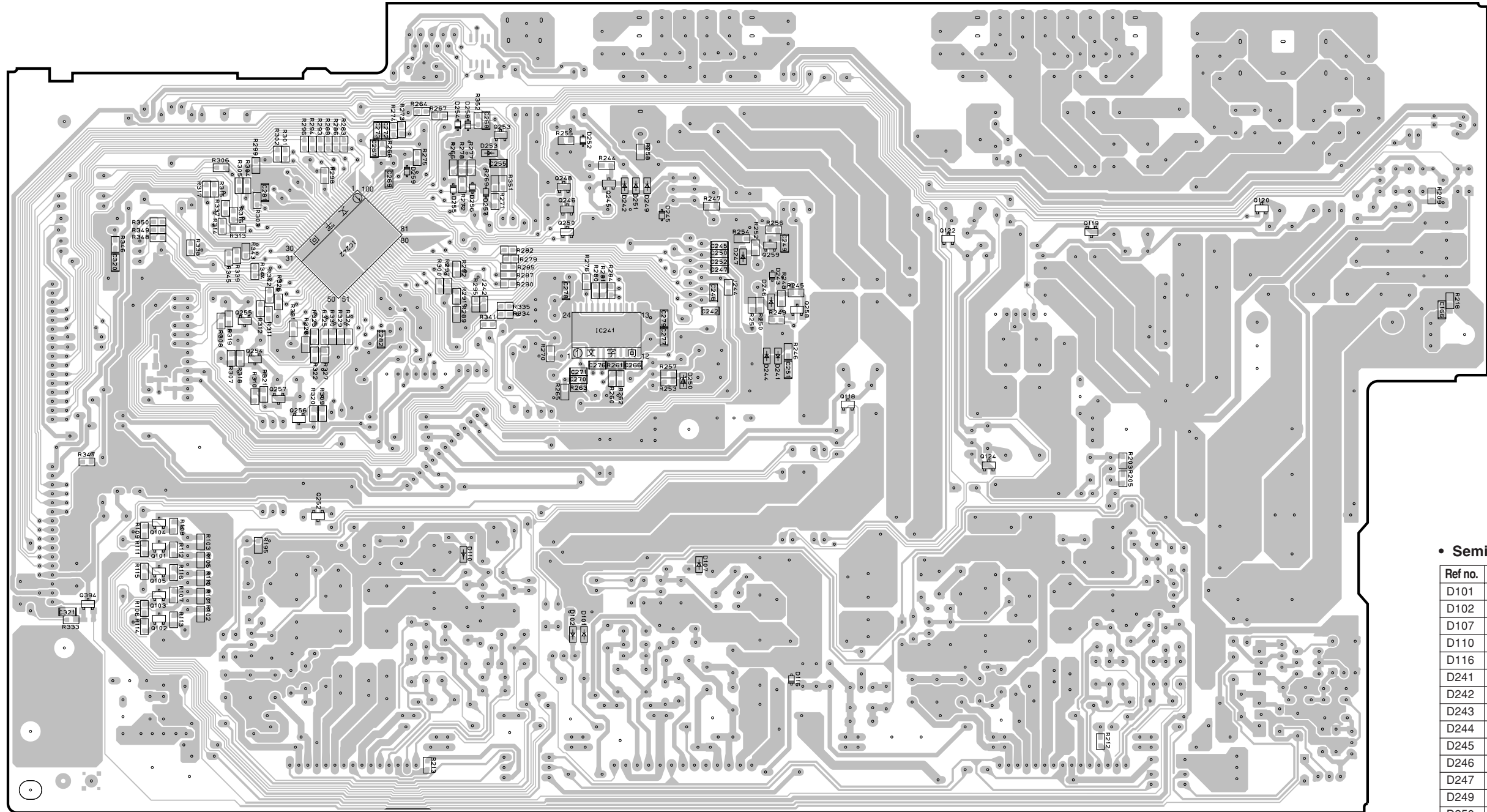
| Ref no. | Location | Ref no. | Location |
|---------|----------|---------|----------|
| D104    | F4       | Q106    | D6       |
| D105    | H6       | Q107    | H6       |
| D106    | H6       | Q108    | H6       |
| D108    | G5       | Q109    | H6       |
| D109    | F5       | Q110    | H6       |
| D111    | C5       | Q111    | H6       |
| D112    | G5       | Q112    | E5       |
| D113    | G5       | Q113    | H5       |
| D114    | D5       | Q114    | F6       |
| D115    | C5       | Q115    | D5       |
| D117    | G3       | Q116    | C6       |
| D118    | G3       | Q117    | F6       |
| D119    | H3       | Q121    | I3       |
| D120    | I3       | Q123    | G5       |
| D121    | F3       | Q125    | I6       |
| D122    | H4       | Q243    | E3       |
| D123    | G4       | Q244    | D3       |
| D124    | E6       | Q247    | E4       |
| IC101   | E6       | Q249    | E3       |
| IC102   | G6       | Q251    | E4       |
| IC103   | C6       |         |          |

| Circuit No.                                     | U, C | R, L | T, K, A | B, G, E | Circuit No.              | U, C | R, L | T, K, A | B, G, E |
|---|------|------|---------|---------|--------------------------|------|------|---------|---------|
| C121, 150, 162, 163, 169                        | X    | O    | O       | O       | Q249                     | X    | O    | X       | X       |
| C134, 151, 154-158, 164, 165, 167, 168, 170-172 | X    | O    | O       | O       | Q251                     | X    | X    | X       | O       |
| C274, 275, 280                                  | X    | X    | X       | O       | R117, 124, 206, 216, 217 | X    | O    | O       | O       |
| G104  | X    | O    | O       | O       | XL241                    | X    | X    | X       | O       |
| L241  | X    | X    | X       | O       |                          |      |      |         |         |

X : NOT USED  
O : USED / APPLICABLE

PRINTED CIRCUIT BOARD

MAIN (1) P.C.B. (Side B) Lead Free Solder Used



• Semiconductor Location

| Ref no. | Location | Ref no. | Location |
|---------|----------|---------|----------|
| D101    | E5       | IC242   | C3       |
| D102    | E5       | Q101    | B5       |
| D107    | E5       | Q102    | B5       |
| D110    | D5       | Q103    | B5       |
| D116    | F6       | Q104    | B5       |
| D241    | F4       | Q105    | B5       |
| D242    | E3       | Q118    | F4       |
| D243    | F3       | Q119    | G3       |
| D244    | F4       | Q120    | H3       |
| D245    | E3       | Q122    | G3       |
| D246    | F3       | Q124    | G4       |
| D247    | E3       | Q245    | E3       |
| D249    | E3       | Q246    | E3       |
| D250    | E4       | Q248    | E3       |
| D251    | E3       | Q250    | E3       |
| D252    | E3       | Q252    | C5       |
| D253    | D3       | Q253    | D3       |
| D254    | D3       | Q254    | C4       |
| D255    | D3       | Q255    | C4       |
| D256    | D3       | Q256    | C4       |
| D257    | D3       | Q257    | C4       |
| D258    | D3       | Q258    | F3       |
| D259    | D3       | Q259    | F3       |
| IC241   | E4       | Q394    | B5       |

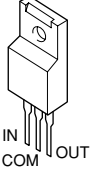
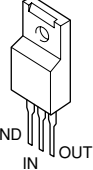
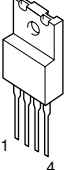
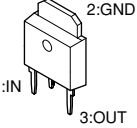
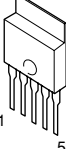

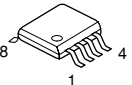
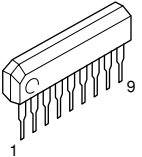
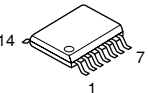
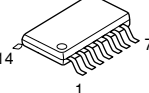
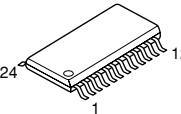
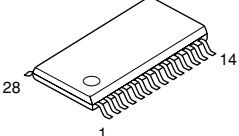
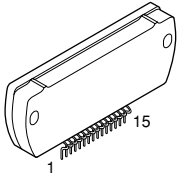
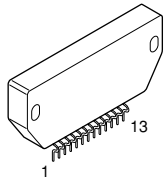
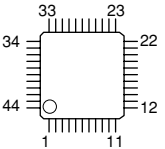
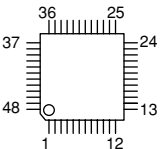
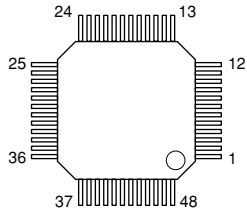
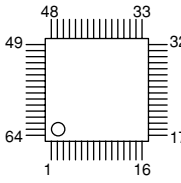
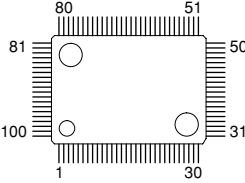
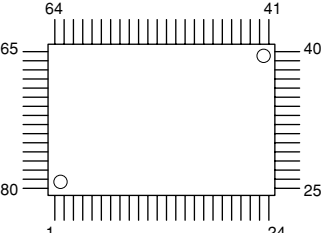
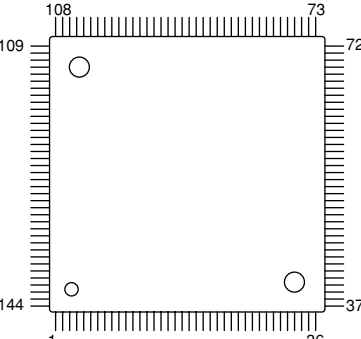
| Circuit No. | U, C | R, L | T, K, A | B, G, E | Circuit No.    | U, C | R, L | T, K, A | B, G, E | Circuit No. | U, C | R, L | T, K, A | B, G, E |
|-------------|------|------|---------|---------|----------------|------|------|---------|---------|-------------|------|------|---------|---------|
| C166        | X    | O    | O       | O       | J242           | O    | O    | O       | X       | R276, 280   | X    | X    | X       | O       |
| C255        | O    | X    | X       | X       | Q253           | O    | X    | X       | X       | R281, 284   | X    | X    | X       | O       |
| C266, 278   | X    | X    | X       | O       | R218           | X    | O    | O       | O       | R289        | O    | X    | X       | X       |
| C270, 271   | X    | X    | X       | O       | R260, 261, 300 | X    | X    | X       | O       | R291        | X    | O    | O       | O       |
| C276        | X    | X    | X       | O       | R262           | X    | X    | X       | O       | R295        | X    | X    | O       | O       |
| C277, 279   | X    | X    | X       | O       | R263           | X    | X    | X       | O       | R297        | O    | O    | X       | X       |
| D253        | O    | X    | X       | X       | R265           | X    | X    | X       | O       | R351        | O    | X    | X       | X       |
| IC241       | X    | X    | X       | O       | R270           | X    | X    | X       | O       |             |      |      |         |         |

X : NOT USED  
O : USED / APPLICABLE



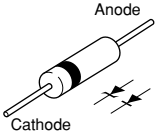
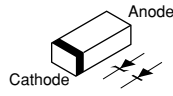
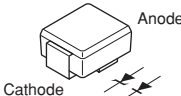
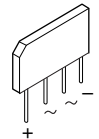
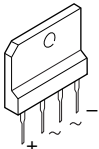

# PIN CONNECTION DIAGRAM

## • ICs

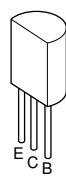
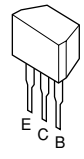
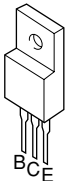

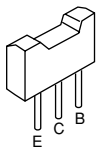
|  |  |   |  |  |   |
|--|--|---|--|--|---|
| <p>KIA7805API<br/>KIA7812API</p>  | <p>KIA7912PI</p>          | <p>NJM2388F05</p>                                        | <p>NJM2885DL1-33</p>       | <p>PQ012FZ01ZP</p>              | <p>SN74AHCT1G32DCKR</p>  |
| <p>NJM4565M</p>                   | <p>LA7956</p>             | <p>SN74AHC08PWR<br/>SN74AHCT08PWR<br/>SN74LV157APWR</p>  | <p>MM74HCU04SJX</p>        | <p>LC72722PM<br/>NJM2586AM</p>  |   |
| <p>BS62LV256SC-70</p>           | <p>STK433-130-E</p>      | <p>STK404-130Y</p>                                     | <p>AK4628AVQ</p>         |  |   |
| <p>F2602E-01</p>                | <p>LC89057W-VF4A-E</p>  | <p>M66003-0131FP</p>                                  | <p>M30622MWP-A82FP</p>  |  |   |
| <p>BD3816K1-C</p>               |  | <p>YSS948-VZ</p>                                      |  |  |   |

RX-V359/HTR-5930

• Diodes

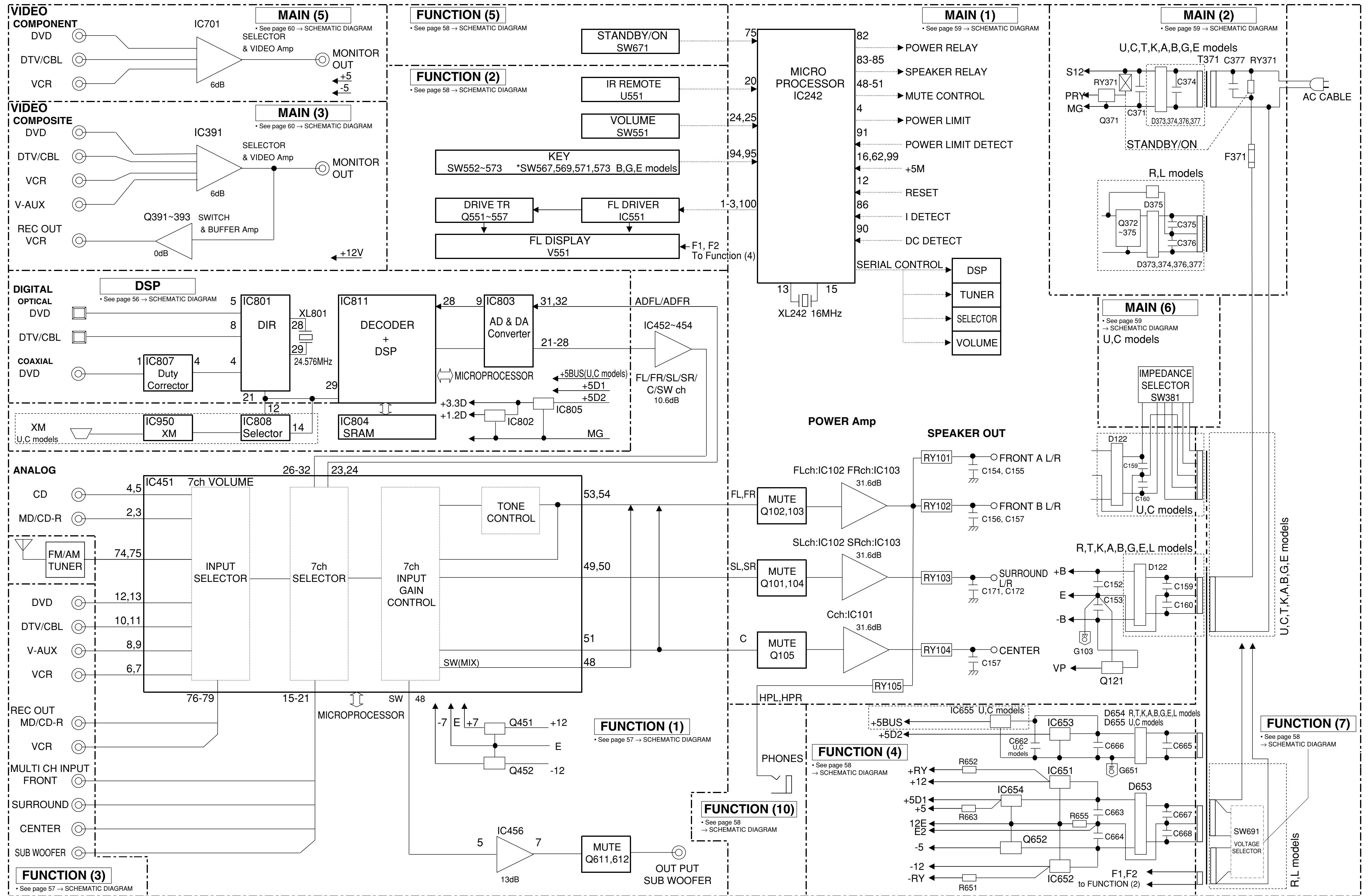
|   |  |   |   |
|---|--|---|---|
| <p>1SS133,176<br/>1SS270A<br/>1T2</p> <p>MTZJ12C<br/>MTZJ30A<br/>MTZJ4.7A</p>                       |                             | <p>1SS355<br/>KDS160-RTK<br/>MA8075-H<br/>MA8100-H<br/>UDZ3.6B<br/>UDZ5.1B<br/>UDZ6.8B<br/>UDZS16B<br/>UDZS5.6B<br/>UDZS6.2B<br/>UDZS9.1B</p> <p>RB500V-40<br/>1SS380</p>  |   |
| <p>1SR154-400</p>  | <p>KPB103G<br/>TS4B03G</p>  | <p>TS6P03G</p>   | <p>SB01-05Q</p>  |

• Transistors

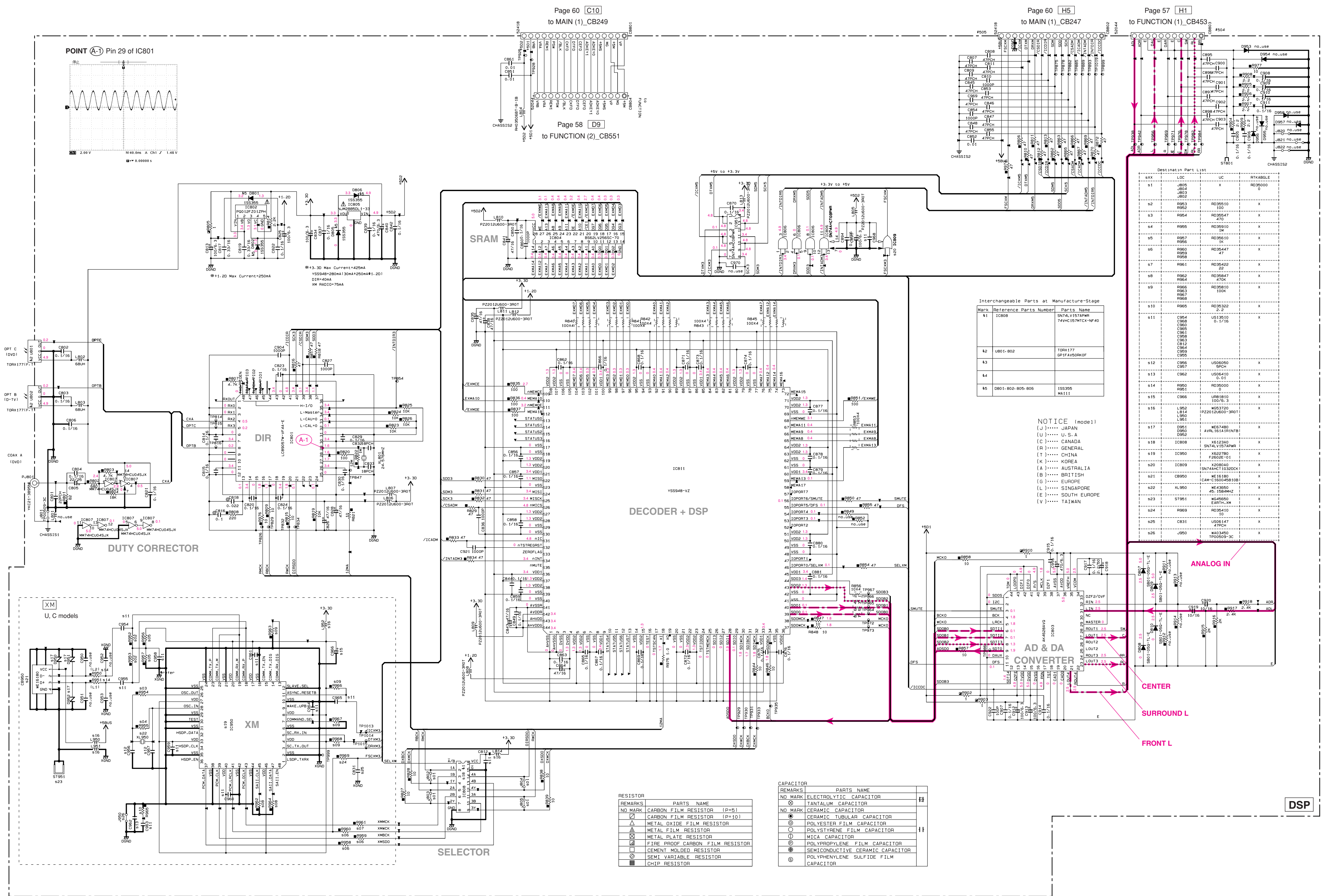
|   |   |   |
|---|---|---|
| <p>2N5401C-AT<br/>2SA1015<br/>2SA949<br/>2SC1815<br/>2SC2705</p>                                        | <p>2SC1740S<br/>KRC102M-AT</p>  | <p>2SB1274</p>  |
| <p>2SA1037K<br/>2SC2412K<br/>2SC3326<br/>2SD1938F<br/>KRA104S-RTK<br/>KRC102S-RTK<br/>KRC104S-RTK</p>  | <p>2SA1708<br/>2SC4488</p>     |   |

RX-V359/HTR-5930

■ BLOCK DIAGRAM



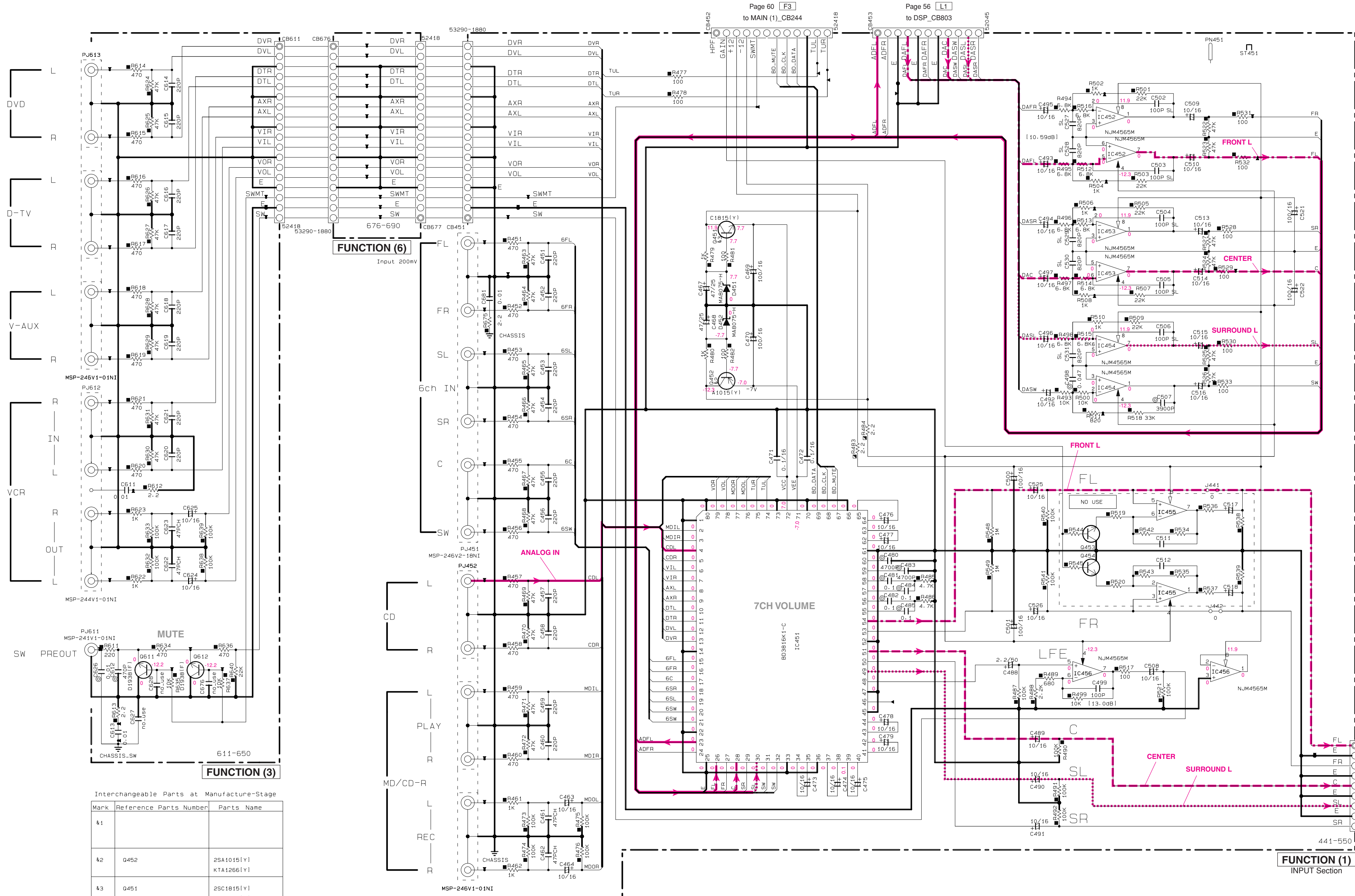
SCHEMATIC DIAGRAM (DSP)



\* All voltages are measured with a 10MΩ/V DC electronic volt meter.  
 \* Components having special characteristics are marked with a !, and must be replaced with parts having specifications equal to those originally installed.  
 \* Schematic diagram is subject to change without notice.



SCHEMATIC DIAGRAM (FUNCTION 1/2)



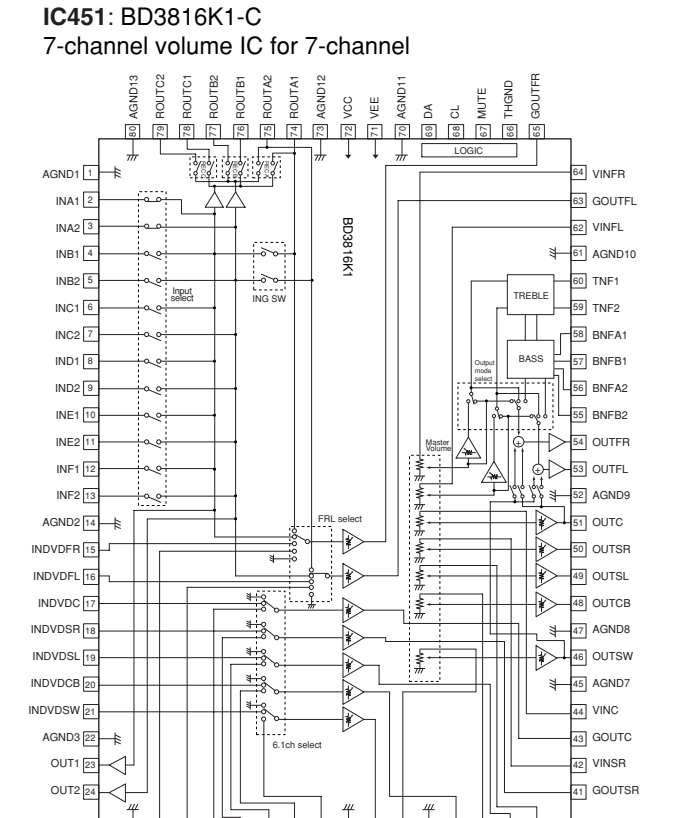
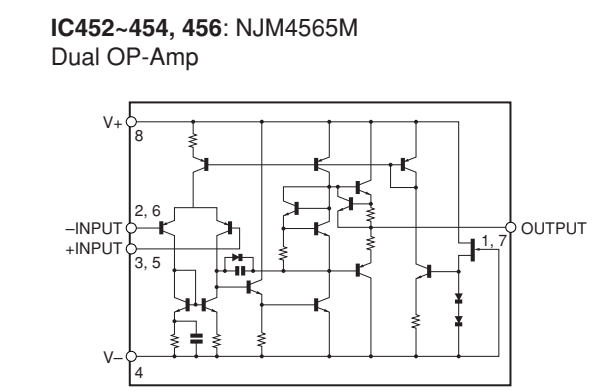
| REMARKS | PARTS NAME                      |
|---------|---------------------------------|
| NO MARK | CARBON FILM RESISTOR (P=5)      |
| ⊠       | CARBON FILM RESISTOR (P=10)     |
| △       | METAL OXIDE FILM RESISTOR       |
| ▴       | METAL FILM RESISTOR             |
| ⊞       | METAL PLATE RESISTOR            |
| ⊞       | FIRE PROOF CARBON FILM RESISTOR |
| ⊞       | CEMENT MOLDED RESISTOR          |
| ⊞       | SEMI VARIABLE RESISTOR          |
| ⊞       | CHIP RESISTOR                   |

| REMARKS | PARTS NAME                       |
|---------|----------------------------------|
| NO MARK | ELECTROLYTIC CAPACITOR           |
| ⊗       | TANTALUM CAPACITOR               |
| NO MARK | CAPACITOR                        |
| ⊙       | CERAMIC TUBULAR CAPACITOR        |
| ⊙       | POLYESTER FILM CAPACITOR         |
| ⊙       | POLYSTYRENE FILM CAPACITOR       |
| ⊙       | MICA CAPACITOR                   |
| ⊙       | POLYPROPYLENE FILM CAPACITOR     |
| ⊙       | SEMICONDUCTIVE CERAMIC CAPACITOR |

NOTICE (mode1)  
 (J)..... JAPAN  
 (U)..... U. S. A  
 (C)..... CANADA  
 (R)..... GENERAL  
 (T)..... CHINA  
 (K)..... KOREA  
 (A)..... AUSTRALIA  
 (B)..... BRITISH  
 (G)..... EUROPE  
 (L)..... SINGAPORE  
 (E)..... SOUTH EUROPE  
 (V)..... TAIWAN

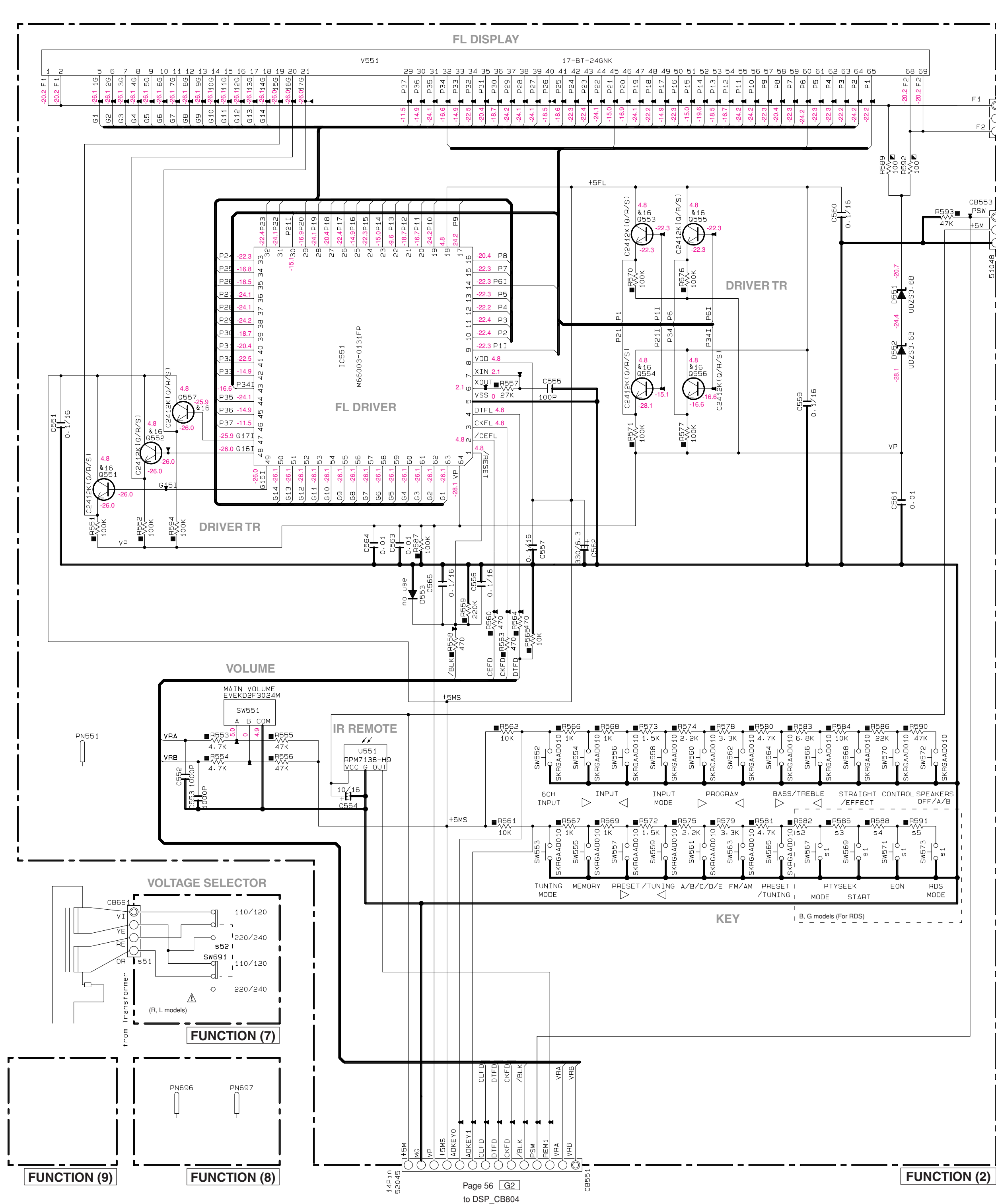
Interchangeable Parts at Manufacture-Stage

| Mark | Reference Parts Number | Parts Name               |
|------|------------------------|--------------------------|
| ⊠1   |                        |                          |
| ⊠2   | Q452                   | 2SA1015(Y)<br>KTA1266(Y) |
| ⊠3   | Q451                   | 2SC1815(Y)<br>KTC319B(Y) |

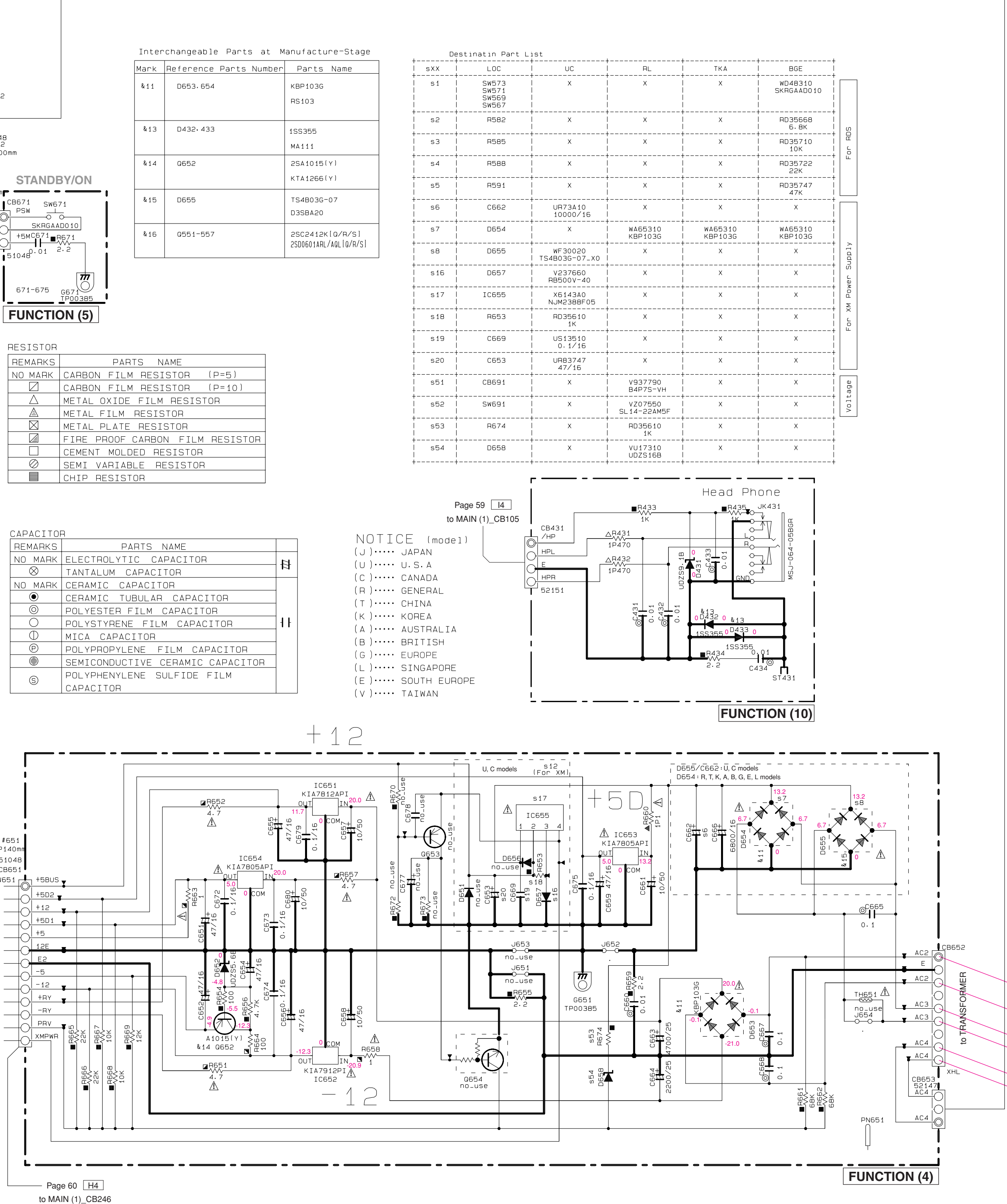


\* All voltages are measured with a 10MΩ/V DC electronic volt meter.  
 \* Components having special characteristics are marked ⊠, and must be replaced with parts having specifications equal to those originally installed.  
 \* Schematic diagram is subject to change without notice.

SCHEMATIC DIAGRAM (FUNCTION 2/2)



\* All voltages are measured with a 10MΩ/V DC electronic volt meter.  
 \* Components having special characteristics are marked 1, and must be replaced with parts having specifications equal to those originally installed.  
 \* Schematic diagram is subject to change without notice.



Interchangeable Parts at Manufacture-Stage

| Mark | Reference Parts Number | Parts Name                            |
|------|------------------------|---------------------------------------|
| k11  | D653-654               | KBP103G RS103                         |
| k13  | D432-433               | 1SS355 MA111                          |
| k14  | 0652                   | PSA1015(V) KTA1266(V)                 |
| k15  | D655                   | TS4B03G-07 D35BA20                    |
| k16  | 0551-557               | 2SC2412K(Q/R/S) 2SD0601AR(L)/Q(L)/R/S |

Destination Part List

| sxx | LOC                     | UC                 | RL                  | TKA             | BGE               |
|-----|-------------------------|--------------------|---------------------|-----------------|-------------------|
| s1  | SW673 SW571 SW569 SW567 | X                  | X                   | X               | WD48310 SKRGAD010 |
| s2  | R582                    | X                  | X                   | X               | RD35608 5-BK      |
| s3  | R585                    | X                  | X                   | X               | RD35710 10K       |
| s4  | R588                    | X                  | X                   | X               | RD35722 22K       |
| s5  | R591                    | X                  | X                   | X               | RD35747 47K       |
| s6  | C662                    | UR73A10 10000/16   | X                   | X               | X                 |
| s7  | D654                    | X                  | WA65310 KBP103G     | WA65310 KBP103G | WA65310 KBP103G   |
| s8  | D655                    | TS4B03G-07_X0      | X                   | X               | X                 |
| s16 | D657                    | V237660 RB800V-40  | X                   | X               | X                 |
| s17 | IC655                   | KS14340 NJM2388F05 | X                   | X               | X                 |
| s18 | R653                    | RD35610 1K         | X                   | X               | X                 |
| s19 | C659                    | US13510 0.1/16     | X                   | X               | X                 |
| s20 | C653                    | UR83747 47/16      | X                   | X               | X                 |
| s51 | CB691                   | X                  | V937790 B4P75-VH    | X               | X                 |
| s52 | SW691                   | X                  | V207950 SL14-22AM5F | X               | X                 |
| s53 | R674                    | X                  | RD35610 1K          | X               | X                 |
| s54 | D658                    | X                  | VU17310 UOZ516B     | X               | X                 |

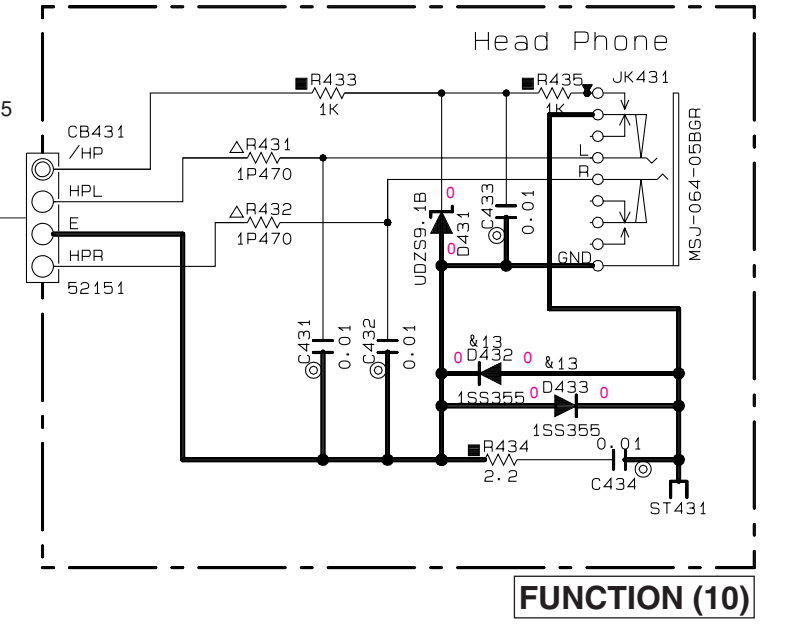
RESISTOR

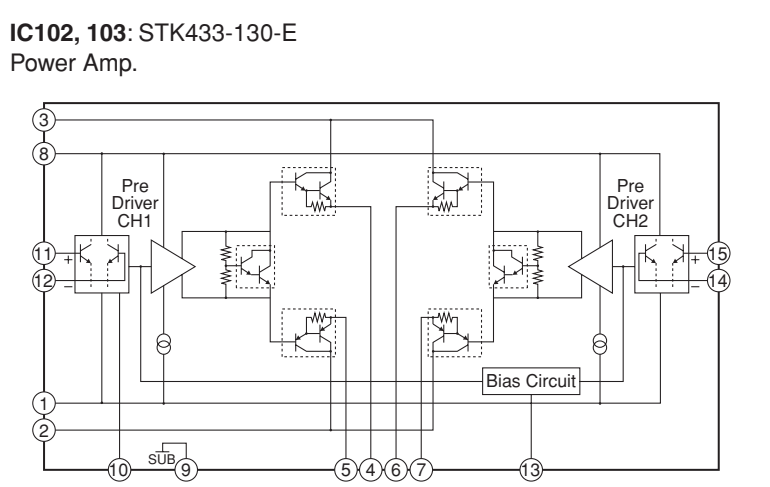
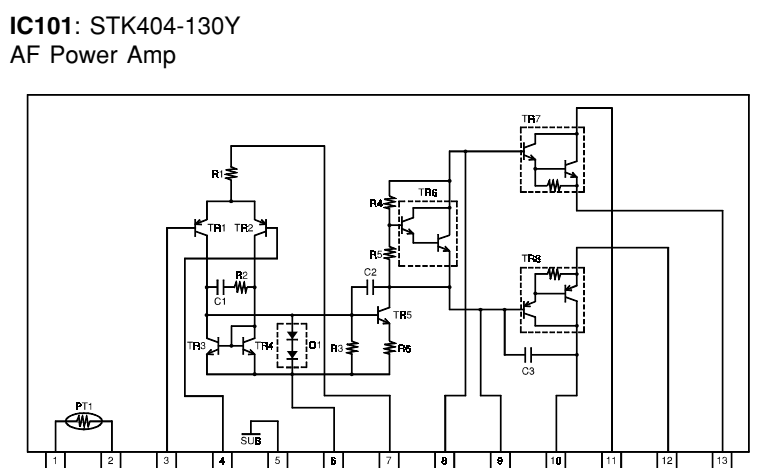
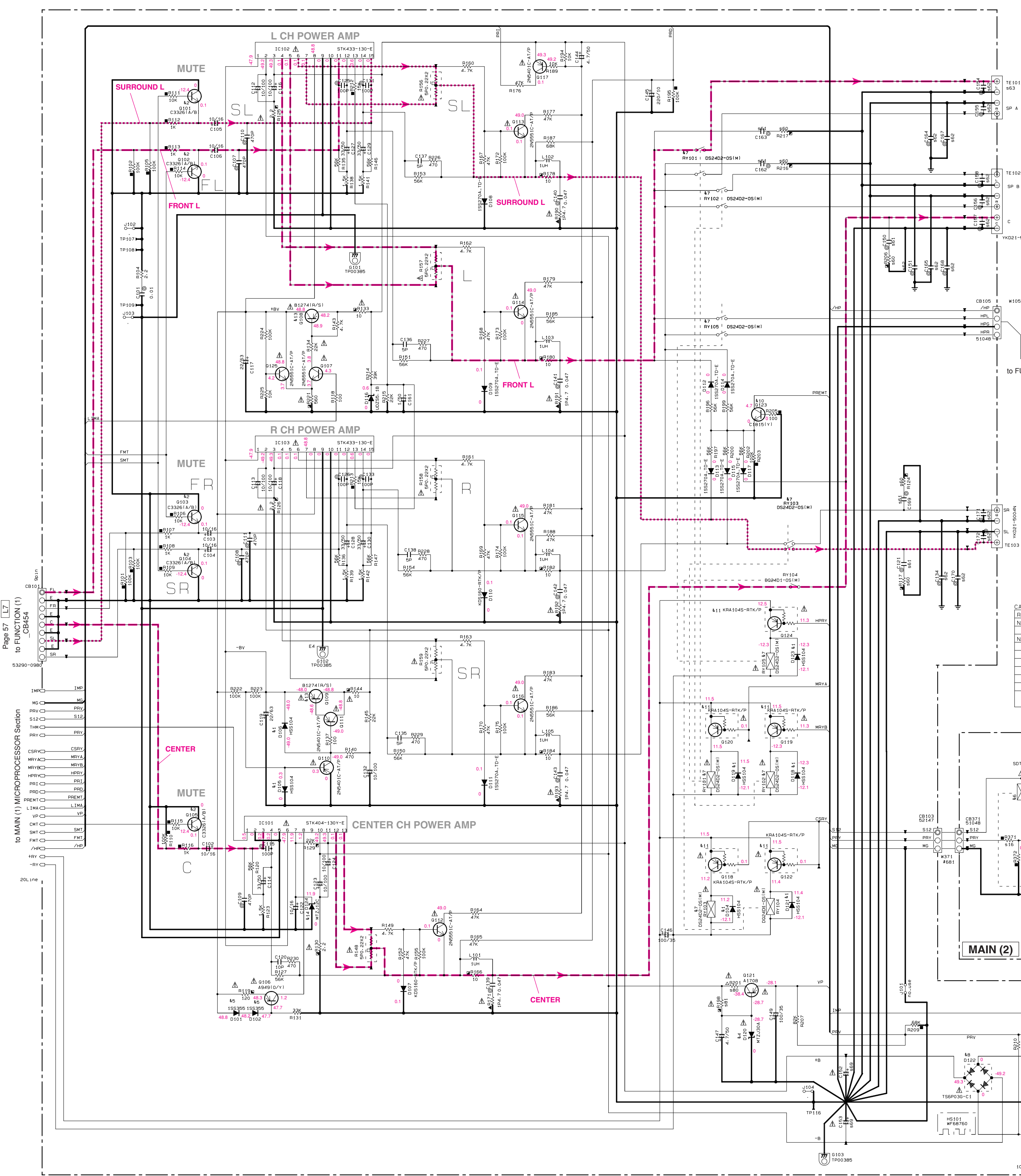
| REMARKS | PARTS NAME                      |
|---------|---------------------------------|
| NO MARK | CARBON FILM RESISTOR (P=5)      |
| ⊠       | CARBON FILM RESISTOR (P=10)     |
| ⊡       | METAL OXIDE FILM RESISTOR       |
| ⊢       | METAL FILM RESISTOR             |
| ⊣       | METAL PLATE RESISTOR            |
| ⊤       | FIRE PROOF CARBON FILM RESISTOR |
| ⊥       | CEMENT MOLDED RESISTOR          |
| ⊦       | SEMI VARIABLE RESISTOR          |
| ⊧       | CHIP RESISTOR                   |

CAPACITOR

| REMARKS | PARTS NAME                           |
|---------|--------------------------------------|
| NO MARK | ELECTROLYTIC CAPACITOR               |
| ⊗       | TANTALUM CAPACITOR                   |
| NO MARK | CERAMIC CAPACITOR                    |
| ⊙       | CERAMIC TUBULAR CAPACITOR            |
| ⊚       | POLYESTER FILM CAPACITOR             |
| ⊛       | POLYSTYRENE FILM CAPACITOR           |
| ⊜       | MICA CAPACITOR                       |
| ⊝       | POLYPROPYLENE FILM CAPACITOR         |
| ⊞       | SEMICONDUCTIVE CERAMIC CAPACITOR     |
| ⊟       | POLYPHENYLENE SULFIDE FILM CAPACITOR |

NOTICE (model)  
 (J)..... JAPAN  
 (U)..... U.S.A  
 (C)..... CANADA  
 (R)..... GENERAL  
 (T)..... CHINA  
 (K)..... KOREA  
 (A)..... AUSTRALIA  
 (B)..... BRITISH  
 (G)..... EUROPE  
 (L)..... SINGAPORE  
 (E)..... SOUTH EUROPE  
 (V)..... TAIWAN





RESISTOR

| REMARKS | PARTS NAME                      |
|---------|---------------------------------|
| NO MARK | CARBON FILM RESISTOR (P-5)      |
| △       | CARBON FILM RESISTOR (P-10)     |
| ▲       | METAL OXIDE FILM RESISTOR       |
| ⊠       | METAL FILM RESISTOR             |
| ⊡       | METAL PLATE RESISTOR            |
| ■       | FINE PROOF CARBON FILM RESISTOR |
| ⊞       | CEMENT MOLDED RESISTOR          |
| ⊚       | SEMI VARIABLE RESISTOR          |
| ⊛       | CHIP RESISTOR                   |

NOTICE (mode1)  
 (J)..... JAPAN  
 (U)..... U. S. A  
 (C)..... CANADA  
 (K)..... KOREA  
 (A)..... AUSTRALIA  
 (B)..... BRITISH  
 (L)..... EUROPE  
 (G)..... SINGAPORE  
 (E)..... SOUTH EUROPE  
 (V)..... TAIWAN

CAPACITOR

| REMARKS | PARTS NAME                           |
|---------|--------------------------------------|
| NO MARK | ELECTROLYTIC CAPACITOR               |
| ⊚       | TANTALUM CAPACITOR                   |
| ⊙       | CERAMIC CAPACITOR                    |
| ⊛       | CERAMIC TUBULAR CAPACITOR            |
| ⊞       | POLYESTER FILM CAPACITOR             |
| ⊚       | POLYETHYLENE FILM CAPACITOR          |
| ⊙       | MICA CAPACITOR                       |
| ⊞       | POLYPROPYLENE FILM CAPACITOR         |
| ⊚       | SEMICONDUCTIVE CERAMIC CAPACITOR     |
| ⊙       | POLYPHENYLENE SULFIDE FILM CAPACITOR |

Destination Part List

| NO  | LOC  | R       | PA      | X       | BBE     | L       |
|-----|------|---------|---------|---------|---------|---------|
| 81  | L371 | VNS0000 | X       | VNS0000 | VNS0000 | VNS0000 |
| 82  | R378 | X       | VC75790 | X       | X       | VC75790 |
| 83  | D375 | X       | VS99780 | X       | X       | VS99780 |
| 84  | C374 | UAG5410 | 0.01    | UAG5410 | UAG5410 | UAG5410 |
| 85  | C375 | X       | UAG5410 | 0.01    | X       | UAG5410 |
| 86  | C376 | X       | UAG5410 | 0.01    | X       | UAG5410 |
| 87  | D372 | X       | I410151 | X       | X       | I410151 |
| 88  | R377 | X       | R035747 | X       | X       | R035747 |
| 89  | D373 | X       | R035747 | X       | X       | R035747 |
| 90  | D374 | X       | R035747 | X       | X       | R035747 |
| 91  | D375 | X       | R035747 | X       | X       | R035747 |
| 92  | D376 | X       | R035747 | X       | X       | R035747 |
| 93  | D377 | X       | R035747 | X       | X       | R035747 |
| 94  | D378 | X       | R035747 | X       | X       | R035747 |
| 95  | D379 | X       | R035747 | X       | X       | R035747 |
| 96  | D380 | X       | R035747 | X       | X       | R035747 |
| 97  | D381 | X       | R035747 | X       | X       | R035747 |
| 98  | D382 | X       | R035747 | X       | X       | R035747 |
| 99  | D383 | X       | R035747 | X       | X       | R035747 |
| 100 | D384 | X       | R035747 | X       | X       | R035747 |

Interchangeable Parts at Manufacture-Stage

| Mark | Reference Part Number        | Parts Name   |
|------|------------------------------|--------------|
| 41   | D104-106-118-119-121-123-371 | HSS104       |
| 42   | D101-100                     | 2SC3381A/B   |
| 43   | D372                         | WTZJ4.7A     |
| 44   | D120                         | DDZJ4.7A     |
| 45   | D101-102                     | ISS395       |
| 46   | Rv371                        | SDT-S-112LNR |
| 47   | Rv101-102-103-105            | DS24D2-DS1M  |
| 48   | D122                         | TSP033-C1    |
| 49   | D372-374                     | 2SA10151V1   |
| 50   | D123                         | 2SC18151V1   |
| 51   | D118-120-122-124             | KA1045-RTK   |
| 52   | D375                         | KRC102M-AT   |
| 53   | D108-109                     | 2SB12741R/S1 |
| 54   | D124                         | WTZJ2C       |

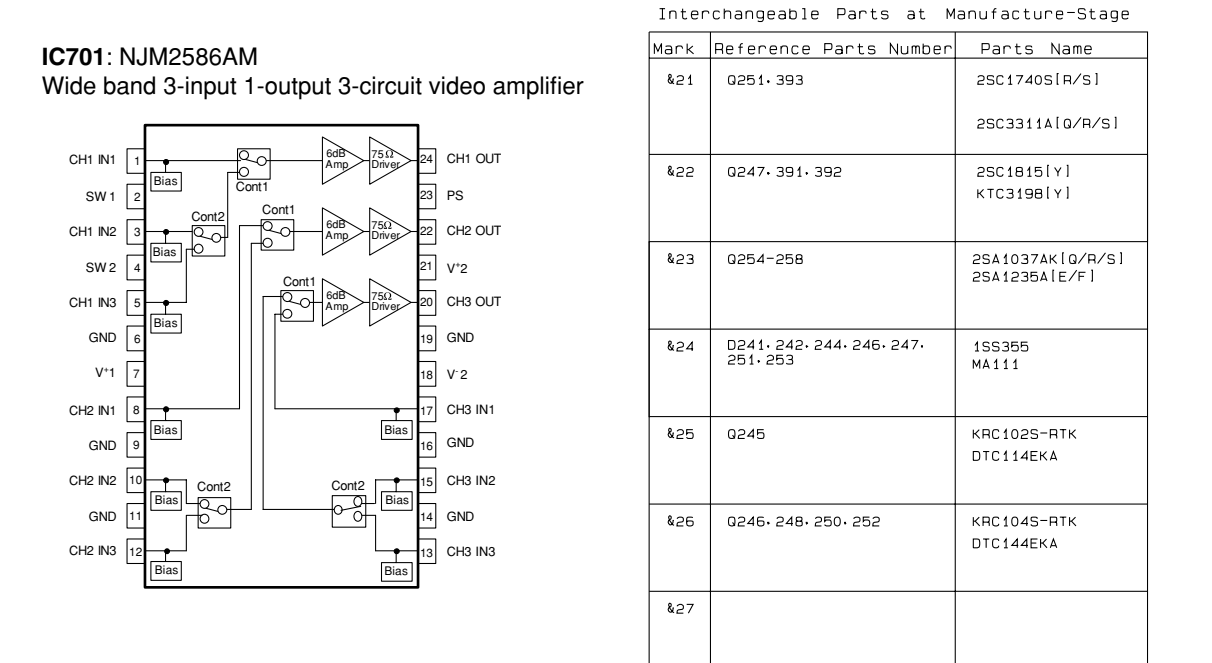
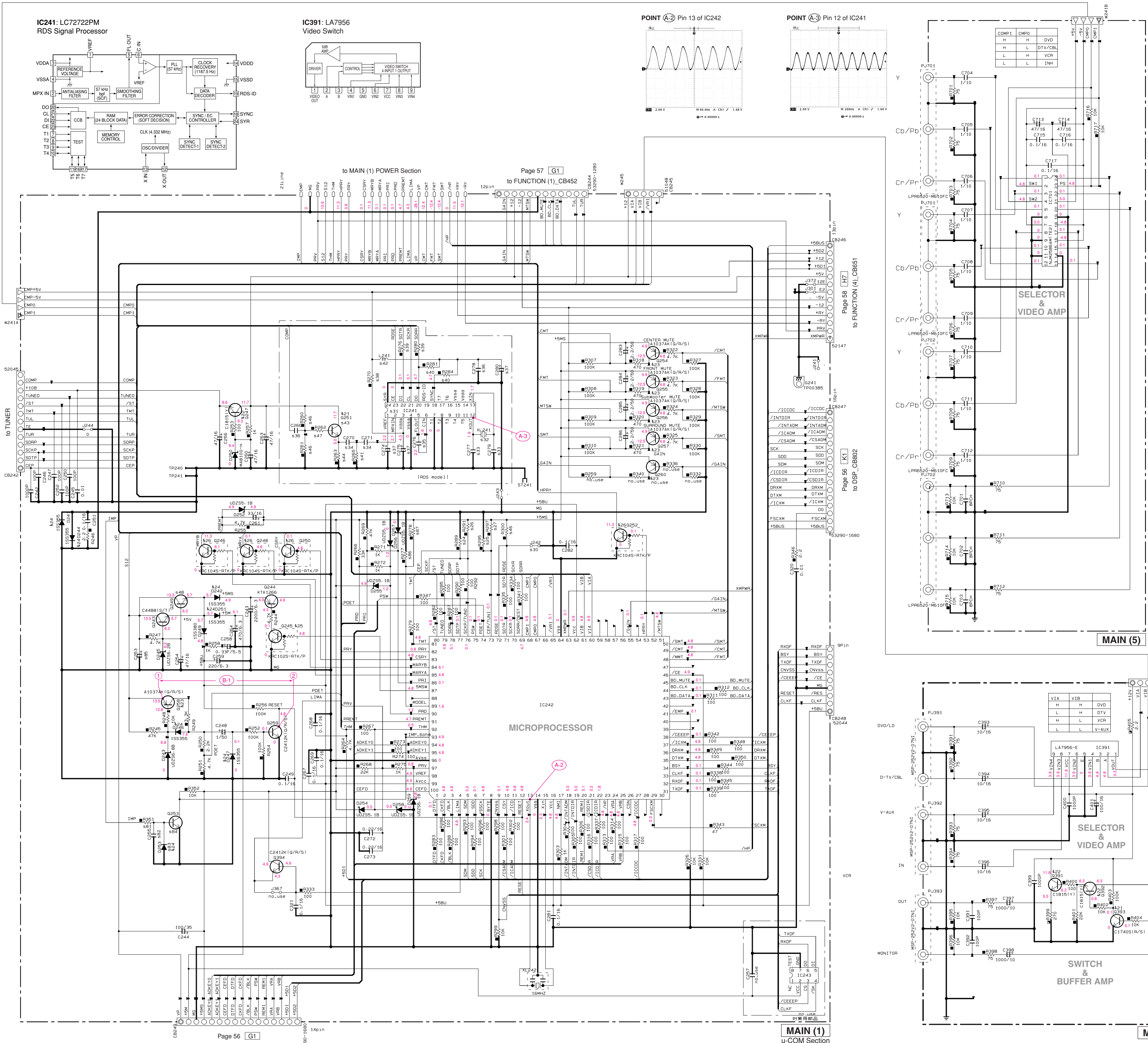
Page 57 L7 to FUNCTION (1) CB454

Page 58 KS to FUNCTION (10) CB431

TO MAIN (1) MICROPROCESSOR Section to FUNCTION (1) CB454

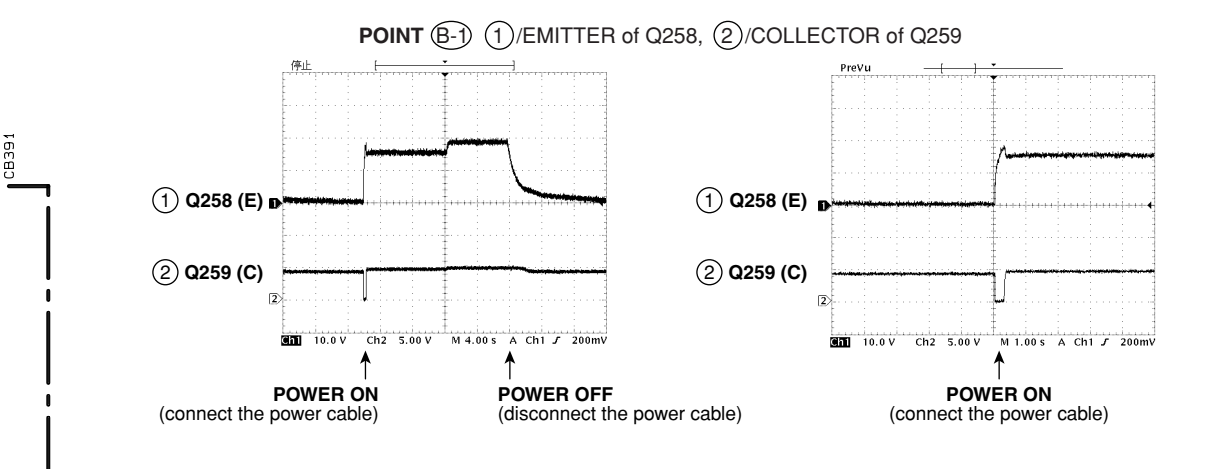
MAIN (1) POWER Section

\* All voltages are measured with a 10M $\Omega$ /V DC electronic volt meter.  
 \* Components having special characteristics are marked  $\nabla$  and must be replaced with parts having specifications equal to those originally installed.  
 \* Schematic diagram is subject to change without notice.



| Mark | Reference Parts Number       | Parts Name               |
|------|------------------------------|--------------------------|
| K21  | 0251-393                     | 25C174051R/S1            |
| K22  | 0247-391-392                 | 25C18151Y1<br>KTC31981Y1 |
| K23  | 0254-258                     | 25A1037AK(G/R/S1)        |
| K24  | 0241-242-244-246-247-251-253 | 15S395<br>MA111          |
| K25  | 0245                         | KRC1025-RTK<br>DTC114EKA |
| K26  | 0246-248-250-252             | KRC1045-RTK<br>DTC114EKA |
| K27  |                              |                          |

| sxx | LDC   | UC      | R | TA | K | BGE | L |
|-----|-------|---------|---|----|---|-----|---|
| 924 | R289  | RD35810 | X | X  | X | X   | X |
| 925 | R299  | RD35810 | X | X  | X | X   | X |
| 926 | R297  | RD35810 | X | X  | X | X   | X |
| 927 | R297  | RD35810 | X | X  | X | X   | X |
| 930 | R242  | RD35000 | X | X  | X | X   | X |
| 931 | IC241 |         | X | X  | X | X   | X |
| 932 | XL241 |         | X | X  | X | X   | X |
| 933 | C279  |         | X | X  | X | X   | X |
| 934 | C271  |         | X | X  | X | X   | X |
| 935 | C276  |         | X | X  | X | X   | X |
| 936 | C266  |         | X | X  | X | X   | X |
| 937 | C270  |         | X | X  | X | X   | X |
| 938 | R270  |         | X | X  | X | X   | X |
| 939 | R276  |         | X | X  | X | X   | X |
| 940 | R284  |         | X | X  | X | X   | X |
| 941 | R265  |         | X | X  | X | X   | X |
| 942 | L241  |         | X | X  | X | X   | X |
| 943 | Q251  |         | X | X  | X | X   | X |
| 944 | R263  |         | X | X  | X | X   | X |
| 946 | R260  |         | X | X  | X | X   | X |
| 947 | R262  |         | X | X  | X | X   | X |
| 948 | Q249  |         | X | X  | X | X   | X |
| 951 | R351  |         | X | X  | X | X   | X |
| 952 | C255  |         | X | X  | X | X   | X |
| 953 | Q253  |         | X | X  | X | X   | X |
| 954 | Q253  |         | X | X  | X | X   | X |
| 955 | C253  |         | X | X  | X | X   | X |
| 956 | R277  |         | X | X  | X | X   | X |
| 957 | R278  |         | X | X  | X | X   | X |



| REMARKS | PARTS NAME                       |
|---------|----------------------------------|
| NO MARK | ELECTROLYTIC CAPACITOR           |
| ⊗       | TANTALUM CAPACITOR               |
| NO MARK | CERAMIC CAPACITOR                |
| ⊙       | CERAMIC TUBULAR CAPACITOR        |
| ⊕       | POLYESTER FILM CAPACITOR         |
| ○       | POLYSTYRENE FILM CAPACITOR       |
| ⊖       | MICA CAPACITOR                   |
| ⊗       | POLYPROPYLENE FILM CAPACITOR     |
| ⊙       | SEMICONDUCTIVE CERAMIC CAPACITOR |

| REMARKS | PARTS NAME                      |
|---------|---------------------------------|
| NO MARK | CARBON FILM RESISTOR (P=5)      |
| ⊕       | CARBON FILM RESISTOR (P=10)     |
| ⊖       | METAL OXIDE FILM RESISTOR       |
| ⊗       | METAL FILM RESISTOR             |
| ⊙       | METAL PLATE RESISTOR            |
| ⊕       | FIRE PROOF CARBON FILM RESISTOR |
| ⊖       | CEMENT MOLDED RESISTOR          |
| ⊗       | SEMI VARIABLE RESISTOR          |
| ⊙       | CHIP RESISTOR                   |

NOTICE (model)  
 (J)..... JAPAN  
 (U)..... U.S.A  
 (C)..... CANADA  
 (R)..... GENERAL  
 (T)..... CHINA  
 (K)..... KOREA  
 (A)..... AUSTRALIA  
 (B)..... BRITISH  
 (G)..... EUROPE  
 (L)..... SINGAPORE  
 (E)..... SOUTH EUROPE  
 (V)..... TAIWAN

\* All voltages are measured with a 10MΩ/2V DC electronic volt meter.  
 \* Components having special characteristics are marked ⊕ and must be replaced with parts having specifications equal to those originally installed.  
 \* Schematic diagram is subject to change without notice.

## ■ REPLACEMENT PARTS LIST

### • ELECTRICAL REPLACEMENT PARTS LIST

#### WARNING

Components having special characteristics are marked  $\triangle$  and must be replaced with parts having specifications equal to those originally installed.

#### ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

|            |                               |            |                                |
|------------|-------------------------------|------------|--------------------------------|
| C.A.EL.CHP | : CHIP ALUMI.ELECTROLYTIC CAP | L.EMIT     | : LIGHT EMITTING MODULE        |
| C.CE       | : CERAMIC CAP                 | LED.DSPLY  | : LED DISPLAY                  |
| C.CE.ARRAY | : CERAMIC CAP ARRAY           | LED.INFRD  | : LED,INFRARED                 |
| C.CE.CHP   | : CHIP CERAMIC CAP            | MODUL.RF   | : MODULATOR,RF                 |
| C.CE.ML    | : MULTILAYER CERAMIC CAP      | PHOT.CPL   | : PHOTO COUPLER                |
| C.CE.M.CHP | : CHIP MULTILAYER CERAMIC CAP | PHOT.INTR  | : PHOTO INTERRUPTER            |
| C.CE.SAFTY | : RECOGNIZED CERAMIC CAP      | PHOT.RFLCT | : PHOTO REFLECTOR              |
| C.CE.TUBLR | : CERAMIC TUBULAR CAP         | PIN.TEST   | : PIN,TEST POINT               |
| C.CE.SMI   | : SEMI CONDUCTIVE CERAMIC CAP | PLST.RIVET | : PLASTIC RIVET                |
| C.EL       | : ELECTROLYTIC CAP            | R.ARRAY    | : RESISTOR ARRAY               |
| C.MICA     | : MICA CAP                    | R.CAR.     | : CARBON RESISTOR              |
| C.ML.FLM   | : MULTILAYER FILM CAP         | R.CAR.CHP  | : CHIP RESISTOR                |
| C.MP       | : METALLIZED PAPER CAP        | R.CAR.FP   | : FLAME PROOF CARBON RESISTOR  |
| C.MYLAR    | : MYLAR FILM CAP              | R.FUS      | : FUSABLE RESISTOR             |
| C.MYLAR.ML | : MULTILAYER MYLAR FILM CAP   | R.MTL.CHP  | : CHIP METAL FILM RESISTOR     |
| C.PAPER    | : PAPER CAPACITOR             | R.MTL.FLM  | : METAL FILM RESISTOR          |
| C.PLS      | : POLYSTYRENE FILM CAP        | R.MTL.OXD  | : METAL OXIDE FILM RESISTOR    |
| C.POL      | : POLYESTER FILM CAP          | R.MTL.PLAT | : METAL PLATE RESISTOR         |
| C.POLY     | : POLYETHYLENE FILM CAP       | RSNR.CE    | : CERAMIC RESONATOR            |
| C.PP       | : POLYPROPYLENE FILM CAP      | RSNR.CRYS  | : CRYSTAL RESONATOR            |
| C.TNTL     | : TANTALUM CAP                | R.TW.CEM   | : TWIN CEMENT FIXED RESISTOR   |
| C.TNTL.CHP | : CHIP TANTALUM CAP           | R.CEMENT   | : CEMENT RESISTOR              |
| C.TRIM     | : TRIMMER CAP                 | SCR.BND.HD | : BIND HEAD B-TITE SCREW       |
| CN         | : CONNECTOR                   | SCR.BW.HD  | : BW HEAD TAPPING SCREW        |
| CN.BS.PIN  | : CONNECTOR,BASE PIN          | SCR.CUP    | : CUP TITE SCREW               |
| CN.CANNON  | : CONNECTOR,CANNON            | SCR.TERM   | : SCREW TERMINAL               |
| CN.DIN     | : CONNECTOR,DIN               | SCR.TR     | : SCREW,TRANSISTOR             |
| CN.FLAT    | : CONNECTOR,FLAT CABLE        | SUPRT.PCB  | : SUPPORT,P.C.B.               |
| CN.POST    | : CONNECTOR,BASE POST         | SURG.PRTCT | : SURGE PROTECTOR              |
| COIL.MX.AM | : COIL,AM MIX                 | SW.TACT    | : TACT SWITCH                  |
| COIL.AT.FM | : COIL,FM ANTENNA             | SW.LEAF    | : LEAF SWITCH                  |
| COIL.DT.FM | : COIL,FM DETECT              | SW.LEVER   | : LEVER SWITCH                 |
| COIL.MX.FM | : COIL,FM MIX                 | SW.MICRO   | : MICRO SWITCH                 |
| COIL.OUTPT | : OUTPUT COIL                 | SW.PUSH    | : PUSH SWITCH                  |
| DIOD.ARRAY | : DIODE ARRAY                 | SW.RT.ENC  | : ROTARY ENCODER               |
| DIODE.BRG  | : DIODE BRIDGE                | SW.RT.MTR  | : ROTARY SWITCH WITH MOTOR     |
| DIODE.CHP  | : CHIP DIODE                  | SW.RT      | : ROTARY SWITCH                |
| DIODE.VAR  | : VARACTOR DIODE              | SW.SLIDE   | : SLIDE SWITCH                 |
| DIOD.Z.CHP | : CHIP ZENER DIODE            | TERM.SP    | : SPEAKER TERMINAL             |
| DIODE.ZENR | : ZENER DIODE                 | TERM.WRAP  | : WRAPPING TERMINAL            |
| DSCR.CE    | : CERAMIC DISCRIMINATOR       | THRMST.CHP | : CHIP THERMISTOR              |
| FER.BEAD   | : FERRITE BEADS               | TR.CHP     | : CHIP TRANSISTOR              |
| FER.CORE   | : FERRITE CORE                | TR.DGT     | : DIGITAL TRANSISTOR           |
| FET.CHP    | : CHIP FET                    | TR.DGT.CHP | : CHIP DIGITAL TRANSISTOR      |
| FL.DSPLY   | : FLUORESCENT DISPLAY         | TRANS      | : TRANSFORMER                  |
| FLTR.CE    | : CERAMIC FILTER              | TRANS.PULS | : PULSE TRANSFORMER            |
| FLTR.COMB  | : COMB FILTER MODULE          | TRANS.PWR  | : POWER TRANSFORMER ASS'Y      |
| FLTR.LC.RF | : LC FILTER,EMI               | TUNER.AM   | : TUNER PACK,AM                |
| GND.MTL    | : GROUND PLATE                | TUNER.FM   | : TUNER PACK,FM                |
| GND.TERM   | : GROUND TERMINAL             | TUNER.PK   | : FRONT-ENDTUNER PACK          |
| HOLDER.FUS | : FUSE HOLDER                 | VR         | : ROTARY POTENTIOMETER         |
| IC.PRTCT   | : IC PROTECTOR                | VR.MTR     | : POTENTIOMETER WITH MOTOR     |
| JUMPER.CN  | : JUMPER CONNECTOR            | VR.SW      | : POTENTIOMETER WITH ROTARY SW |
| JUMPER.TST | : JUMPER,TEST POINT           | VR.SLIDE   | : SLIDE POTENTIOMETER          |
| L.DTCT     | : LIGHT DETECTING MODULE      | VR.TRIM    | : TRIMMER POTENTIOMETER        |

P.C.B. DSP

P.C.B. DSP

| Ref. No.  | Part No. | Description | Markets       |
|-----------|----------|-------------|---------------|
|           | WG674000 | P. C. B.    | UC            |
|           | WG674100 | P. C. B.    | RTKABGEL      |
| CB801-802 | VQ961900 | CN          |               |
| CB803     | VQ044500 | CN. BS. PIN |               |
| CB804     | VF982200 | CN. BS. PIN |               |
| CB950     | WE161800 | CN. BS. PIN | UC            |
| C801      | US061220 | C. CE. CHP  | 22pF 50V B    |
| C802-804  | US135100 | C. CE. CHP  | 0.1uF 16V     |
| C805      | UR847220 | C. EL       | 22uF 25V      |
| C806      | US135100 | C. CE. CHP  | 0.1uF 16V     |
| C807-809  | US061470 | C. CE. CHP  | 47pF 50V B    |
| C810      | US063100 | C. CE. CHP  | 1000pF 50V B  |
| C811      | US061470 | C. CE. CHP  | 47pF 50V B    |
| C812      | US135100 | C. CE. CHP  | 0.1uF 16V UC  |
| C813      | UR818100 | C. EL       | 100uF 6.3V    |
| C814-815  | US135100 | C. CE. CHP  | 0.1uF 16V     |
| C816      | VE326000 | C. MYLAR    | 0.1uF 50V     |
| C817      | US135330 | C. CE. CHP  | 0.33uF 16V    |
| C818      | VE325200 | C. MYLAR    | 0.022uF 50V   |
| C819      | US135330 | C. CE. CHP  | 0.33uF 16V    |
| C820-824  | US135100 | C. CE. CHP  | 0.1uF 16V     |
| C825      | UR818100 | C. EL       | 100uF 6.3V    |
| C826      | UR837470 | C. EL       | 47uF 16V      |
| C827      | US063100 | C. CE. CHP  | 1000pF 50V B  |
| C828      | UR837470 | C. EL       | 47uF 16V      |
| C829-830  | US135100 | C. CE. CHP  | 0.1uF 16V     |
| C831      | US061470 | C. CE. CHP  | 47pF 50V B UC |
| C832-833  | US061180 | C. CE. CHP  | 18pF 50V B    |
| C834      | UR818100 | C. EL       | 100uF 6.3V    |
| C835      | UR837470 | C. EL       | 47uF 16V      |
| C836      | US063100 | C. CE. CHP  | 1000pF 50V B  |
| C837      | US135100 | C. CE. CHP  | 0.1uF 16V     |
| C838      | UR837470 | C. EL       | 47uF 16V      |
| C839      | US135100 | C. CE. CHP  | 0.1uF 16V     |
| C840      | UR818470 | C. EL       | 470uF 6.3V    |
| C841      | UR837470 | C. EL       | 47uF 16V      |
| C842      | US135100 | C. CE. CHP  | 0.1uF 16V     |
| C843      | UR837470 | C. EL       | 47uF 16V      |
| C844      | US135100 | C. CE. CHP  | 0.1uF 16V     |
| C845-848  | US061470 | C. CE. CHP  | 47pF 50V B    |
| C849-850  | US135100 | C. CE. CHP  | 0.1uF 16V     |
| C851-852  | US064100 | C. CE. CHP  | 0.01uF 50V B  |
| C853      | US061470 | C. CE. CHP  | 47pF 50V B    |
| C854      | US063100 | C. CE. CHP  | 1000pF 50V B  |
| C855      | US061470 | C. CE. CHP  | 47pF 50V B    |
| C856-859  | US135100 | C. CE. CHP  | 0.1uF 16V     |
| C860      | US063100 | C. CE. CHP  | 1000pF 50V B  |
| C861      | US064100 | C. CE. CHP  | 0.01uF 50V B  |
| C862-863  | US135100 | C. CE. CHP  | 0.1uF 16V     |
| C864      | UR837470 | C. EL       | 47uF 16V      |
| C865-881  | US135100 | C. CE. CHP  | 0.1uF 16V     |

\* New Parts

| Ref. No. | Part No. | Description | Markets             |
|----------|----------|-------------|---------------------|
| C891     | UR818100 | C. EL       | 100uF 6.3V          |
| C894     | US135100 | C. CE. CHP  | 0.1uF 16V           |
| C895-898 | US061470 | C. CE. CHP  | 47pF 50V B          |
| C900-903 | US061470 | C. CE. CHP  | 47pF 50V B          |
| C904     | US063100 | C. CE. CHP  | 1000pF 50V B        |
| C905-911 | US135100 | C. CE. CHP  | 0.1uF 16V           |
| C912-913 | UR818100 | C. EL       | 100uF 6.3V          |
| C914-915 | US135100 | C. CE. CHP  | 0.1uF 16V           |
| C916     | UR818470 | C. EL       | 470uF 6.3V          |
| C917     | US135100 | C. CE. CHP  | 0.1uF 16V           |
| C918     | UR866220 | C. EL       | 2.2uF 50V           |
| C919-920 | UR837100 | C. EL       | 10uF 16V            |
| C921-922 | US063100 | C. CE. CHP  | 1000pF 50V B        |
| C954-955 | US135100 | C. CE. CHP  | 0.1uF 16V UC        |
| C956-957 | US060500 | C. CE. CHP  | 5pF 50V B UC        |
| C958-961 | US135100 | C. CE. CHP  | 0.1uF 16V UC        |
| C962     | US064100 | C. CE. CHP  | 0.01uF 50V B UC     |
| C963-965 | US135100 | C. CE. CHP  | 0.1uF 16V UC        |
| C966     | UR818100 | C. EL       | 100uF 6.3V UC       |
| C968     | US135100 | C. CE. CHP  | 0.1uF 16V UC        |
| C969     | US061470 | C. CE. CHP  | 47pF 50V B          |
| D801-802 | VT332900 | DIODE       | 1SS355              |
| D805-806 | VT332900 | DIODE       | 1SS355              |
| D807-810 | WB081800 | DIODE       | SB01-05Q            |
| D950-952 | WE674800 | DIODE       | AVRL161A1R1NTB UC   |
| IC801    | X6989A00 | IC          | LC89057W-VF4A-E     |
| IC802    | X5945A00 | IC          | PO012FZ01ZPH        |
| IC803    | X6156A00 | IC          | AK4628AVQ           |
| IC804    | X3859A00 | IC          | BS62LV256SC-70 SRA  |
| IC805    | X6869A00 | IC          | NJM2885DL1-33       |
| IC806    | X3824A00 | IC          | SN74AHCT08PWR       |
| IC807    | XY070A00 | IC          | MM74HCU04SJX INVER  |
| IC808    | X6123A00 | IC          | SN74LV157APWR UC    |
| IC809    | X2080A00 | IC          | SN74AHCT1G32DCKR UC |
| IC811    | X4570A00 | IC          | YSS948-VZ           |
| IC950    | X6227B00 | IC          | F2602E-01 UC        |
| IC951    | X2713A00 | IC          | SN74AHC08PWR        |
| J802     |          | R. CHP      | 0Ω 1/16W J RTKABGEL |
| J803     |          | R. CHP      | 0Ω 1/16W J RTKABGEL |
| J804     |          | R. CHP      | 0Ω 1/16W J RTKABGEL |
| J805     |          | R. CHP      | 0Ω 1/16W J RTKABGEL |
| PJ801    | V4483900 | JACK. PIN   | 1P YKC21-3895N      |
| R805     | HV753100 | R. CAR. FP  | 1Ω 1/4W             |
| R902-903 | HV753100 | R. CAR. FP  | 1Ω 1/4W             |
| R910     | HV753100 | R. CAR. FP  | 1Ω 1/4W             |
| R950-951 |          | R. CHP      | 0Ω 1/16W J UC       |
| R952-953 |          | R. CHP      | 100Ω 1/16W J UC     |
| R954     |          | R. CHP      | 470Ω 1/16W J UC     |
| R955     |          | R. CHP      | 1MΩ 1/16W J UC      |
| R956-957 |          | R. CHP      | 1KΩ 1/16W J UC      |
| R958-960 |          | R. CHP      | 47Ω 1/16W J UC      |

\* New Parts

RX-V359/HTR-5930

**P.C.B. DSP & P.C.B. FUNCTION**

| Ref. No.   | Part No. | Description              | Markets |
|------------|----------|--------------------------|---------|
| R961       |          | R. CHP 22Ω 1/16W J       | UC      |
| R962       |          | R. CHP 470KΩ 1/16W J     | UC      |
| R963       |          | R. CHP 100KΩ 1/16W J     | UC      |
| R964       |          | R. CHP 470KΩ 1/16W J     | UC      |
| R965       |          | R. CHP 2.2Ω 1/16W J      | UC      |
| R966-968   |          | R. CHP 100KΩ 1/16W J     | UC      |
| R969       |          | R. CHP 10Ω 1/16W J       | UC      |
| ST801      | WA789600 | SCR. TERM M3             |         |
| * U801-802 | WE715700 | L. DTCT 1P TORX177(F, T) |         |
| * XL801    | V3625700 | RSNR. CRY5 24.576MHz     |         |
| * XL950    | WE436500 | RSNR. CRY5 45.1584MHz    | UC      |
|            | WG673600 | P. C. B. FUNCTION        | UC      |
|            | WG673700 | P. C. B. FUNCTION        | RL      |
|            | WG673800 | P. C. B. FUNCTION        | TKA     |
|            | WG673900 | P. C. B. FUNCTION        | BGE     |
| CB431      | VK026300 | CN. BS. PIN 4P           |         |
| CB451      | VQ963900 | CN. BS. PIN 18P          |         |
| CB452      | VQ961500 | CN. BS. PIN 12P          |         |
| CB453      | VM859500 | CN. BS. PIN 11P          |         |
| CB454      | VQ961200 | CN. BS. PIN 9P           |         |
| CB551      | VN394900 | CN. BS. PIN 14P          |         |
| CB611      | VQ962100 | CN. BS. PIN 18P          |         |
| CB652      | LB919090 | CN. BS. PIN 9P           |         |
| CB653      | VK024700 | CN. BS. PIN 3P           |         |
| CB676      | VQ963900 | CN. BS. PIN 18P          |         |
| CB677      | VQ962100 | CN. BS. PIN 18P          |         |
| * CB691    | V9377900 | CN. BS. PIN 4P           | RL      |
| C431-434   | UA654100 | C. MYLAR 0.01uF 50V J    |         |
| C451-460   | US062220 | C. CE. CHP 220pF 50V B   |         |
| C461-462   | US061470 | C. CE. CHP 47pF 50V B    |         |
| C463-464   | UR837100 | C. EL 10uF 16V           |         |
| C467-468   | UR847470 | C. EL 47uF 25V           |         |
| C469-470   | UR838100 | C. EL 100uF 16V          |         |
| C471-472   | US135100 | C. CE. CHP 0.1uF 16V     |         |
| C473-479   | UR837100 | C. EL 10uF 16V           |         |
| C480       | UA653470 | C. MYLAR 4700pF 50V J    |         |
| C481-482   | VE326000 | C. MYLAR 0.1uF 50V       |         |
| C483       | UA653470 | C. MYLAR 4700pF 50V J    |         |
| C484-485   | VE326000 | C. MYLAR 0.1uF 50V       |         |
| C488       | UR866220 | C. EL 2.2uF 50V          |         |
| C489-497   | UR837100 | C. EL 10uF 16V           |         |
| C498       | UA654470 | C. MYLAR 0.047uF 50V J   |         |
| C499       | US062100 | C. CE. CHP 100pF 50V B   |         |
| C500-501   | UR838100 | C. EL 100uF 16V          |         |
| C502-506   | US062100 | C. CE. CHP 100pF 50V B   |         |
| C507       | UA653390 | C. MYLAR 3900pF 50V J    |         |
| C508-510   | UR837100 | C. EL 10uF 16V           |         |
| C513-516   | UR837100 | C. EL 10uF 16V           |         |

\* New Parts

**P.C.B. FUNCTION**

| Ref. No.    | Part No. | Description                    | Markets  |
|-------------|----------|--------------------------------|----------|
| C521-522    | UR838100 | C. EL 100uF 16V                |          |
| C525-526    | UR837100 | C. EL 10uF 16V                 |          |
| * C527-531  | US162820 | C. CE 820pF 50V J              |          |
| C551        | US135100 | C. CE. CHP 0.1uF 16V           |          |
| C552-553    | US063100 | C. CE. CHP 1000pF 50V B        |          |
| C554        | UR837100 | C. EL 10uF 16V                 |          |
| C555        | US062100 | C. CE. CHP 100pF 50V B         |          |
| C556-557    | US135100 | C. CE. CHP 0.1uF 16V           |          |
| C559-560    | US135100 | C. CE. CHP 0.1uF 16V           |          |
| C561        | US064100 | C. CE. CHP 0.01uF 50V B        |          |
| C562        | UR818330 | C. EL 330uF 6.3V               |          |
| C563-564    | US064100 | C. CE. CHP 0.01uF 50V B        |          |
| C565        | US135100 | C. CE. CHP 0.1uF 16V           |          |
| C611        | US064100 | C. CE. CHP 0.01uF 50V B        |          |
| C612        | UA652470 | C. MYLAR 470pF 50V J           |          |
| C613        | US064100 | C. CE. CHP 0.01uF 50V B        |          |
| C614-621    | US062220 | C. CE. CHP 220pF 50V B         |          |
| C622-623    | US061470 | C. CE. CHP 47pF 50V B          |          |
| C624-625    | UR837100 | C. EL 10uF 16V                 |          |
| C626        | UA654100 | C. MYLAR 0.01uF 50V J          |          |
| C651-652    | UR837470 | C. EL 47uF 16V                 | UC       |
| C653        | UR837470 | C. EL 47uF 16V                 |          |
| C654-656    | UR837470 | C. EL 47uF 16V                 |          |
| C657-658    | UR867100 | C. EL 10uF 50V                 |          |
| C659        | UR837470 | C. EL 47uF 16V                 |          |
| C660        | UA654100 | C. MYLAR 0.01uF 50V J          |          |
| C661        | UR867100 | C. EL 10uF 50V                 |          |
| C662        | UR73A100 | C. EL 10000uF 16V              | UC       |
| C663        | UR749470 | C. EL 4700uF 25V               |          |
| C664        | UR749220 | C. EL 2200uF 25V               |          |
| C665        | VE326000 | C. MYLAR 0.1uF 50V             |          |
| C666        | UR739680 | C. EL 6800uF 16V               |          |
| C667-668    | VE326000 | C. MYLAR 0.1uF 50V             |          |
| C669        | US135100 | C. CE. CHP 0.1uF 16V           | UC       |
| C671        | US064100 | C. CE. CHP 0.01uF 50V B        |          |
| C672-675    | US135100 | C. CE. CHP 0.1uF 16V B         |          |
| C679        | US135100 | C. CE. CHP 0.1uF 16V B         |          |
| C680        | UR867100 | C. EL 10uF 50V                 |          |
| C681        | US064100 | C. CE. CHP 0.01uF 50V B        |          |
| D431        | VU172500 | DIODE. ZENR UDZS9.1B           |          |
| D432-433    | VT332900 | DIODE 1SS355                   |          |
| D451-452    | VU994300 | DIODE. ZENR MA8075-H 7.7V      |          |
| D551-552    | VU171500 | DIODE. ZENR UDZ 3.6BTE-17 3.6V |          |
| D652        | VU172000 | DIODE. ZENR UDZS5.6BTE-17 5.6V |          |
| ⚠ D653-654  | WA653100 | DIODE. BRG KBP103G 1.0A 200V   |          |
| ⚠ D654      | WA653100 | DIODE. BRG KBP103G 1.0A 200V   | RTKABGEL |
| * ⚠ D655    | WF300200 | DIODE. BRG TS4B03G C2          | UC       |
| D657        | V2376600 | DIODE. SHOT RB500V-40          | UC       |
| * D658      | VU173100 | DIODE. ZENR UDZS16B TE-17 16V  | RL       |
| * IC451     | X6299A00 | IC BD3816K1-C                  |          |
| * IC452-454 | X7378A00 | IC NJM4565M (TE1)              |          |

\* New Parts

RX-V359/HTR-5930

**P.C.B. FUNCTION**

**P.C.B. FUNCTION & P.C.B. MAIN**

| Ref. No.    | Part No. | Description                | Markets |
|-------------|----------|----------------------------|---------|
| * IC456     | X7378A00 | IC NJM4565M(Te1)           |         |
| IC551       | X6386A00 | IC M66003-0131FP           |         |
| ⚠ IC651     | X4153A00 | IC KIA7812API              |         |
| ⚠ IC652     | X4154A00 | IC KIA7912PI               |         |
| ⚠ IC653-654 | X4928A00 | IC KIA7805AP1 5V           |         |
| * ⚠ IC655   | X6143A00 | IC NJM2388F05 5V           | UC      |
| JK431       | V9408200 | JACK. PHONE MSJ-064-05B GR |         |
| PJ451       | V7190400 | JACK. PIN 6P               |         |
| * PJ452     | WD195400 | JACK. PIN 6P               |         |
| * PJ611     | WD195600 | JACK. PIN 1P               |         |
| * PJ612     | WD195200 | JACK. PIN 4P               |         |
| * PJ613     | WD195400 | JACK. PIN 6P               |         |
| PN451       | WB213200 | PIN L=70 WB21320           |         |
| PN551       | WB213200 | PIN L=70 WB21320           |         |
| PN651       | WB213200 | PIN L=70 WB21320           |         |
| PN696-697   | WB213200 | PIN L=70 WB21320           |         |
| Q451        | iC181510 | TR 2SC1815 Y               |         |
| Q452        | iA101510 | TR 2SA1015 Y               |         |
| Q551-557    | VV556400 | TR 2SC2412K O, R, S        |         |
| Q611-612    | VZ725900 | TR 2SD1938F S, T           |         |
| Q652        | iA101510 | TR 2SA1015 Y               |         |
| R431-432    | VP940800 | R. MTL. OXD 470Ω 1W        |         |
| R483-484    | HV753220 | R. CAR. FP 2.2Ω 1/4W       |         |
| R582        |          | R. CHP 6.8KΩ 1/16W J       | BGE     |
| R585        |          | R. CHP 10KΩ 1/16W J        | BGE     |
| R588        |          | R. CHP 22KΩ 1/16W J        | BGE     |
| R589        | HV755100 | R. CAR. FP 100Ω 1/4W       |         |
| R591        |          | R. CHP 47KΩ 1/16W J        | BGE     |
| R592        | HV755100 | R. CAR. FP 100Ω 1/4W       |         |
| ⚠ R651-652  | HV753470 | R. CAR. FP 4.7Ω 1/4W       |         |
| R653        |          | R. CHP 1KΩ 1/16W J         | UC      |
| ⚠ R657      | HV753470 | R. CAR. FP 4.7Ω 1/4W       |         |
| ⚠ R658      | HV753100 | R. CAR. FP 1Ω 1/4W         |         |
| ⚠ R660      | VP939500 | R. MTL. FLM 1Ω 1W          |         |
| ⚠ R663      | HV753100 | R. CAR. FP 1Ω 1/4W         |         |
| R664        | HV755100 | R. CAR. FP 100Ω 1/4W       |         |
| R674        |          | R. CHP 1KΩ 1/16W J         | RL      |
| * ST431     | WA789700 | SCR. TERM                  |         |
| ST451       | WA789600 | SCR. TERM M3               |         |
| SW551       | V9281300 | SW. RT. ENC EVEKD2F3024B   |         |
| SW552-566   | WD483100 | SW. TACT SKRGAAD010        |         |
| SW567       | WD483100 | SW. TACT SKRGAAD010        | BGE     |
| SW568       | WD483100 | SW. TACT SKRGAAD010        |         |
| SW569       | WD483100 | SW. TACT SKRGAAD010        | BGE     |
| SW570       | WD483100 | SW. TACT SKRGAAD010        |         |
| SW571       | WD483100 | SW. TACT SKRGAAD010        | BGE     |
| SW572       | WD483100 | SW. TACT SKRGAAD010        |         |
| SW573       | WD483100 | SW. TACT SKRGAAD010        | BGE     |
| SW671       | WD483100 | SW. TACT SKRGAAD010        |         |
| ⚠ SW691     | VZ075500 | SW. SLIDE SL14-22AM5F      | RL      |
| U551        | WC746300 | L. DTCT RPM7138-H9         |         |

\* New Parts






| Ref. No.   | Part No. | Description            | Markets  |
|------------|----------|------------------------|----------|
| V551       | WE289300 | FL. DSPLY 17-BT-24GNK  |          |
|            | WA790800 | SHEET                  |          |
|            | WA790900 | SPACER 4.6/10/32       |          |
| * ⚠        | WG673000 | P. C. B.               | MAIN UC  |
| * ⚠        | WG673100 | P. C. B.               | MAIN R   |
| * ⚠        | WG673200 | P. C. B.               | MAIN TA  |
| * ⚠        | WG673300 | P. C. B.               | MAIN K   |
| * ⚠        | WG673400 | P. C. B.               | MAIN BGE |
| * ⚠        | WG797800 | P. C. B.               | MAIN L   |
| CB101      | VQ963000 | CN. BS. PIN 9P         |          |
| CB103      | VK024700 | CN. BS. PIN 3P         |          |
| CB104      | LB932040 | CN. BS. PIN 4P         |          |
| CB242      | VM923600 | CN. BS. PIN 13P        |          |
| CB244      | VQ963300 | CN. BS. PIN 12P        |          |
| CB246      | VK025700 | CN. BS. PIN 13P        |          |
| CB247      | VQ963700 | CN. BS. PIN 16P        |          |
| CB248      | VQ044400 | CN. BS. PIN 9P         |          |
| CB249      | VQ963700 | CN. BS. PIN 16P        |          |
| CB372-373  | WC050700 | CLIP. FUSE EYF-52BCY   |          |
| CB374-375  | VG879900 | CN. BS. PIN 2P         |          |
| CB381      | LB933050 | CN. BS. PIN 5P         | UC       |
| C101       | UA654100 | C. MYLAR 0.01uF 50V J  |          |
| C102-106   | UR837100 | C. EL 10uF 16V         |          |
| C107-111   | UA652470 | C. MYLAR 470pF 50V J   |          |
| C112-113   | UR897100 | C. EL 10uF 100V        |          |
| C114       | UR867330 | C. EL 33uF 50V         |          |
| C115       | UA652100 | C. MYLAR 100pF 50V J   |          |
| C116       | UR897100 | C. EL 10uF 100V        |          |
| C117       | UR877220 | C. EL 22uF 63V         |          |
| C118       | UR897100 | C. EL 10uF 100V        |          |
| C119       | UR877220 | C. EL 22uF 63V         |          |
| C120       | FG651100 | C. CE 10pF 50V         |          |
| C121       | UA654220 | C. MYLAR 0.022uF 50V J | RTKABGEL |
| C121       | UA654220 | C. MYLAR 0.022uF 50V J |          |
| C122       | UR837100 | C. EL 10uF 16V         |          |
| C123-124   | UR897100 | C. EL 10uF 100V        |          |
| C125-126   | UA652100 | C. MYLAR 100pF 50V J   |          |
| C127-130   | UR867330 | C. EL 33uF 50V         |          |
| C131       | UA652100 | C. MYLAR 100pF 50V J   |          |
| C132       | UR897100 | C. EL 10uF 100V        |          |
| C133       | UA652100 | C. MYLAR 100pF 50V J   |          |
| C134       | UA654100 | C. MYLAR 0.01uF 50V J  |          |
| C134       | UA654100 | C. MYLAR 0.01uF 50V J  | RTKABGEL |
| * C135-138 | FG650500 | C. CE 5pF 50V          |          |
| C139-143   | UA654470 | C. MYLAR 0.047uF 50V J |          |
| C144       | UR866470 | C. EL 4.7uF 50V        |          |
| C145       | UR828220 | C. EL 220uF 10V        |          |
| C146       | UR858100 | C. EL 100uF 35V        |          |

\* New Parts

RX-V359/HTR-5930





## P.C.B. MAIN

| Ref. No.   | Part No. | Description             | Markets  |
|--|----------|-------------------------|--|
| C147   | UR866470 | C. EL 4.7uF 50V         |  |
| C149   | UR858100 | C. EL 100uF 35V         |  |
| C150   | UA654220 | C. MYLAR 0.022uF 50V J  | RTKABGEL   |
| C150   | UA654220 | C. MYLAR 0.022uF 50V J  |  |
| C151   | UA654100 | C. MYLAR 0.01uF 50V J   | RTKABGEL   |
| C151   | UA654100 | C. MYLAR 0.01uF 50V J   |  |
| *  C152 | WE514200 | C. EL 6800uF 63V        | UCRTKAL  |
| *  C152 | WG674200 | C. EL 6800uF 63V        | BGE  |
| *  C153 | WE514200 | C. EL 6800uF 63V        | UCRTKAL  |
| *  C153 | WG674200 | C. EL 6800uF 63V        | BGE  |
| C154   | UA654100 | C. MYLAR 0.01uF 50V J   |  |
| C154-155   | UA654100 | C. MYLAR 0.01uF 50V J   | RTKABGEL   |
| C155   | UA654100 | C. MYLAR 0.01uF 50V J   |  |
| C156   | UA654100 | C. MYLAR 0.01uF 50V J   | RTKABGEL   |
| C156   | UA654100 | C. MYLAR 0.01uF 50V J   |  |
| C157   | UA654100 | C. MYLAR 0.01uF 50V J   | RTKABGEL   |
| C157-158   | UA654100 | C. MYLAR 0.01uF 50V J   |  |
| C158   | UA654100 | C. MYLAR 0.01uF 50V J   | RTKABGEL   |
| C159-160   | VR324900 | C. MYLAR 0.1uF 100V     |  |
| C161   | UR866100 | C. EL 1uF 50V           |  |
| C162   | UA654220 | C. MYLAR 0.022uF 50V J  |  |
| C162-163   | UA654220 | C. MYLAR 0.022uF 50V J  | RTKABGEL   |
| C163   | UA654220 | C. MYLAR 0.022uF 50V J  |  |
| C164   | UA654100 | C. MYLAR 0.01uF 50V J   | RTKABGEL   |
| C164   | UA654100 | C. MYLAR 0.01uF 50V J   |  |
| C165   | UA654100 | C. MYLAR 0.01uF 50V J   | RTKABGEL   |
| C165   | UA654100 | C. MYLAR 0.01uF 50V J   |  |
| C166   | US064100 | C. CE. CHP 0.01uF 50V B | RTKABGEL   |
| C167   | UA654100 | C. MYLAR 0.01uF 50V J   | RTKABGEL  |
| C167   | UA654100 | C. MYLAR 0.01uF 50V J   |  |
| C168   | UA654100 | C. MYLAR 0.01uF 50V J   | RTKABGEL   |
| C168   | UA654100 | C. MYLAR 0.01uF 50V J   |  |
| C169   | UA654220 | C. MYLAR 0.022uF 50V J  | RTKABGEL   |
| C169   | UA654220 | C. MYLAR 0.022uF 50V J  |  |
| C170   | UA654100 | C. MYLAR 0.01uF 50V J   | RTKABGEL   |
| C170   | UA654100 | C. MYLAR 0.01uF 50V J   |  |
| C171   | UA654100 | C. MYLAR 0.01uF 50V J   | RTKABGEL   |
| C171   | UA654100 | C. MYLAR 0.01uF 50V J   |  |
| C172   | UA654100 | C. MYLAR 0.01uF 50V J   | RTKABGEL   |
| C172   | UA654100 | C. MYLAR 0.01uF 50V J   |  |
| C242   | US063100 | C. CE. CHP 1000pF 50V B |  |
| C243   | UR819220 | C. EL 2200uF 6.3V       |  |
| C244   | UR858100 | C. EL 100uF 35V         |  |
| C245   | US064100 | C. CE. CHP 0.01uF 50V B |  |
| C246-247   | US062100 | C. CE. CHP 100pF 50V B  |  |
| C248   | UR866100 | C. EL 1uF 50V           |  |
| C249   | US135100 | C. CE. CHP 0.1uF 16V    |  |
| C250   | US062100 | C. CE. CHP 100pF 50V B  |  |
| C251   | US135100 | C. CE. CHP 0.1uF 16V    |  |
| C252   | US062100 | C. CE. CHP 100pF 50V B  |  |
| C253   | UR837470 | C. EL 47uF 16V          | UCTKABGE   |

\* New Parts

## P.C.B. MAIN

| Ref. No.   | Part No. | Description              | Markets  |
|--|----------|--------------------------|----------|
| C254   | UR877470 | C. EL 47uF 63V           | RL       |
| C255   | US064100 | C. CE. CHP 0.01uF 50V B  | UC       |
| C256   | UR837470 | C. EL 47uF 16V           |          |
| C258   | WB165500 | C. EL 0.33F 5.5V         |          |
| C259   | UR818220 | C. EL 220uF 6.3V         |          |
| C260   | UR837470 | C. EL 47uF 16V           |          |
| C261   | UR837330 | C. EL 33uF 16V           |          |
| C263   | UR837470 | C. EL 47uF 16V           |          |
| C264   | UR818470 | C. EL 470uF 6.3V         |          |
| C266   | US135100 | C. CE. CHP 0.1uF 16V     | BGE      |
| C267-269   | US135100 | C. CE. CHP 0.1uF 16V     |          |
| C270-271   | US062330 | C. CE. CHP 330pF 50V B   | BGE      |
| C272-273   | US135220 | C. CE. CHP 0.22uF 16V    |          |
| C274-275   | UR837470 | C. EL 47uF 16V           | BGE      |
| C276   | US062560 | C. CE. CHP 560pF 50V B   | BGE      |
| C277   | US061270 | C. CE. CHP 27pF 50V B    | BGE      |
| C278   | US135100 | C. CE. CHP 0.1uF 16V     | BGE      |
| C279   | US061270 | C. CE. CHP 27pF 50V B    | BGE      |
| C280   | UR837470 | C. EL 47uF 16V           | BGE      |
| C281-282   | US135100 | C. CE. CHP 0.1uF 16V     |          |
| C283-286   | UR866220 | C. EL 2.2uF 50V          |          |
| C320   | US064100 | C. CE. CHP 0.01uF 50V B  |          |
| C321   | US135100 | C. CE. CHP 0.1uF 16V     |          |
| C371   | UR858470 | C. EL 470uF 35V          |          |
| C372   | UA654100 | C. MYLAR 0.01uF 50V J    |          |
| C373   | UR897100 | C. EL 10uF 100V          | RL       |
| C374   | UA654100 | C. MYLAR 0.01uF 50V J    | UCTKABGE |
| C375-376   | UA654100 | C. MYLAR 0.01uF 50V J    | RL       |
|  C377 | WB121400 | C. CE. SAFTY 0.01uF 295V |          |
| C381-382   | UR897100 | C. EL 10uF 100V          | UC       |
| C391-392   | US062100 | C. CE. CHP 100pF 50V B   |          |
| C393-396   | UR837100 | C. EL 10uF 16V           |          |
| C397-398   | UR829100 | C. EL 1000uF 10V         |          |
| C399   | US063100 | C. CE. CHP 1000pF 50V B  |          |
| C400   | US063100 | C. CE. CHP 1000pF 50V B  |          |
| C401   | UR838100 | C. EL 100uF 16V          |          |
| C701-703   | US060800 | C. CE. CHP 8pF 50V B     |          |
| * C704-712   | WE773800 | C. CE. M. CHP 1uF 10V B  |          |
| C713-714   | UR837470 | C. EL 47uF 16V           |          |
| C715-717   | US135100 | C. CE. CHP 0.1uF 16V     |          |
| D101-102   | VT332900 | DIODE 1SS355             |          |
| D104-106   | VD631600 | DIODE 1SS133, 176        |          |
| D107   | WC398800 | DIODE KDS160-RTK         |          |
| D108-109   | VN008700 | DIODE 1SS270A            |          |
| D110   | WC398800 | DIODE KDS160-RTK         |          |
| D111-115   | VN008700 | DIODE 1SS270A            |          |
| D116   | VU171900 | DIODE. ZENR UD25.1B 5.1V |          |
| D117   | VN008700 | DIODE 1SS270A            |          |
| D118-119   | VD631600 | DIODE 1SS133, 176        |          |
|  D120 | VG443200 | DIODE. ZENR MTZJ30A 30V  |          |
| D121   | VD631600 | DIODE 1SS133, 176        |          |

\* New Parts

**P.C.B. MAIN**

**P.C.B. MAIN**

| Ref. No.      | Part No. | Description                  | Markets    |
|---------------|----------|------------------------------|------------|
| ⚠ D122        | WA653200 | D10DE. BRG TS6P03G 6.0A 200V |            |
| D123          | VD631600 | D10DE 1SS133, 176            |            |
| D124          | VG440300 | D10DE. ZENR MTZJ12C 12V      |            |
| D241-242      | VT332900 | D10DE 1SS355                 |            |
| D243          | VU172200 | D10DE. ZENR UDZ6. 8B 6. 8V   |            |
| D244          | VT332900 | D10DE 1SS355                 |            |
| D245          | VU172100 | D10DE. ZENR UDZS6. 2B 6. 2V  |            |
| D246-247      | VT332900 | D10DE 1SS355                 |            |
| D249          | VV833200 | D10DE 1SS380                 |            |
| D250          | VU995500 | D10DE. ZENR MA8100-H 10. 3V  |            |
| D251          | VT332900 | D10DE 1SS355                 |            |
| D252          | VU171900 | D10DE. ZENR UDZ5. 1B 5. 1V   |            |
| D253          | VT332900 | D10DE 1SS355                 | UC         |
| D254-259      | VU171900 | D10DE. ZENR UDZ5. 1B 5. 1V   |            |
| D371          | VD631600 | D10DE 1SS133, 176            |            |
| ⚠ D372        | VG437000 | D10DE. ZENR MTZJ4. 7A 4. 7V  | RL         |
| ⚠ D373-374    | VS997800 | D10DE 1T2                    |            |
| ⚠ D375        | VS997800 | D10DE 1T2                    | RL         |
| ⚠ D376-377    | VS997800 | D10DE 1T2                    |            |
| ⚠ D381-382    | VT532500 | D10DE 1SR154-400             | UC         |
| * ⚠ F371      | WB221200 | FUSE T6A 125V                | UCRL       |
| ⚠ F371        | VV071700 | FUSE 3. 15A 250V             | TKABGE     |
| * ⚠ IC101     | X5064A00 | IC STK404-130Y 130W          |            |
| * ⚠ IC102-103 | X7427A00 | IC STK433-130-E              |            |
| IC241         | X0082A00 | IC LC72722PM                 | BGE        |
| IC242         | X7438A00 | IC. CPU M30622MWP-A82FP      | (MASK ROM) |
| IC391         | XH436A00 | IC LA7956                    |            |
| * IC701       | X7362A00 | IC NJM2586AM (TE2)           |            |
| J242          |          | R. CHP 0 Ω 1/16W J           | UCRTKAL    |
| PJ391-393     | V7190000 | JACK. PIN 2P                 |            |
| PJ701-702     | WD442700 | JACK. PIN 6P LPR6520-M610FC  |            |
| Q101-105      | VD303700 | TR 2SC3326 A, B              |            |
| ⚠ Q106        | V3966800 | TR 2SA949 O, Y               |            |
| ⚠ Q107        | WC398400 | TR 2N5551C-AT                |            |
| ⚠ Q108-109    | VC614000 | TR 2SB1274 O, R, S           |            |
| ⚠ Q110-111    | WC397700 | TR 2N5401C-AT                |            |
| ⚠ Q112-116    | WC398400 | TR 2N5551C-AT                |            |
| ⚠ Q117        | WC397700 | TR 2N5401C-AT                |            |
| ⚠ Q118-120    | WC434900 | TR. DGT KRA104S-RTK          |            |
| ⚠ Q121        | VP872600 | TR 2SA1708 S, T              |            |
| ⚠ Q122        | WC434900 | TR. DGT KRA104S-RTK          |            |
| ⚠ Q123        | iC181510 | TR 2SC1815 Y                 |            |
| ⚠ Q124        | WC434900 | TR. DGT KRA104S-RTK          |            |
| ⚠ Q125        | WC398400 | TR 2N5551C-AT                |            |
| Q243          | VP872700 | TR 2SC4488 S, T              |            |
| Q244          | iA101510 | TR 2SA1015 Y                 |            |
| Q245          | WC435000 | TR. DGT KRC102S-RTK          |            |
| Q246          | WC435100 | TR. DGT KRC104S-RTK          |            |
| Q247          | iC181510 | TR 2SC1815 Y                 |            |
| Q248          | WC435100 | TR. DGT KRC104S-RTK          |            |
| Q249          | VP872700 | TR 2SC4488 S, T              | RL         |

\* New Parts

| Ref. No.   | Part No. | Description                  | Markets   |
|------------|----------|------------------------------|-----------|
| Q250       | WC435100 | TR. DGT KRC104S-RTK          |           |
| Q251       | iC174020 | TR 2SC1740S QRS              | BGE       |
| Q252       | WC435100 | TR. DGT KRC104S-RTK          |           |
| Q253       | VV556400 | TR 2SC2412K Q, R, S          | UC        |
| Q254-258   | VV556500 | TR 2SA1037K Q, R, S          |           |
| Q259       | VV556400 | TR 2SC2412K Q, R, S          |           |
| ⚠ Q371     | VE198800 | TR 2SC2705 O, Y              |           |
| ⚠ Q372     | iA101510 | TR 2SA1015 Y                 | RL        |
| ⚠ Q373     | VP872600 | TR 2SA1708 S, T              | RL        |
| ⚠ Q374     | iA101510 | TR 2SA1015 Y                 | RL        |
| * ⚠ Q375   | WC529200 | TR. DGT KRC102M-AT           | RL        |
| Q391-392   | iC181510 | TR 2SC1815 Y                 |           |
| Q393       | iC174020 | TR 2SC1740S QRS              |           |
| Q394       | VV556400 | TR 2SC2412K Q, R, S          |           |
| R117       | HV753470 | R. CAR. FP 4. 7 Ω 1/4W       | RTKABGEL  |
| ⚠ R119     | HV755120 | R. CAR. FP 120 Ω 1/4W        |           |
| R124       | HV753470 | R. CAR. FP 4. 7 Ω 1/4W       |           |
| R124       | HV753470 | R. CAR. FP 4. 7 Ω 1/4W       | RTKABGEL  |
| ⚠ R125-126 | HV753220 | R. CAR. FP 2. 2 Ω 1/4W       |           |
| * R129     | HV757220 | R. CAR. FP 22K Ω 1/4W        |           |
| ⚠ R130     | HV753220 | R. CAR. FP 2. 2 Ω 1/4W       |           |
| ⚠ R133     | HV754100 | R. CAR. FP 10 Ω 1/4W         |           |
| ⚠ R144     | HV754100 | R. CAR. FP 10 Ω 1/4W         |           |
| ⚠ R148     | WB279900 | R. CEMENT RGC55C 0. 22+0. 22 |           |
| ⚠ R156-159 | WB279900 | R. CEMENT RGC55C 0. 22+0. 22 |           |
| R166       | HV754100 | R. CAR. FP 10 Ω 1/4W         |           |
| ⚠ R171     | VP939700 | R. MTL. FLM 4. 7 Ω 1W        |           |
| R178       | HV754100 | R. CAR. FP 10 Ω 1/4W         |           |
| R180       | HV754100 | R. CAR. FP 10 Ω 1/4W         |           |
| R182       | HV754100 | R. CAR. FP 10 Ω 1/4W         |           |
| R184       | HV754100 | R. CAR. FP 10 Ω 1/4W         |           |
| ⚠ R190-193 | VP939700 | R. MTL. FLM 4. 7 Ω 1W        |           |
| ⚠ R198     | HV757220 | R. CAR. FP 22K Ω 1/4W        | UC        |
| ⚠ R198     | HV756470 | R. CAR. FP 4. 7K Ω 1/4W      | RTKABGEL  |
| ⚠ R201     | V9199400 | R. MTL. OXD 1. 2K Ω 1W       | UC        |
| * ⚠ R201   | VR402600 | R. MTL. OXD 820 Ω 1W         | RTKABGEL  |
| R206       | HV753470 | R. CAR. FP 4. 7 Ω 1/4W       |           |
| R206       | HV753470 | R. CAR. FP 4. 7 Ω 1/4W       | RTKABGEL  |
| R216       | HV753470 | R. CAR. FP 4. 7 Ω 1/4W       |           |
| R216       | HV753470 | R. CAR. FP 4. 7 Ω 1/4W       | RTKABGEL  |
| R217       | HV753470 | R. CAR. FP 4. 7 Ω 1/4W       |           |
| R217       | HV753470 | R. CAR. FP 4. 7 Ω 1/4W       | RTKABGEL  |
| R218       |          | R. CHP 2. 2 Ω 1/16W J        | RTKABGEL  |
| ⚠ R221     | HV755560 | R. CAR. FP 560 Ω 1/4W        |           |
| R260-261   |          | R. CHP 100K Ω 1/16W J        | BGE       |
| R262       |          | R. CHP 1K Ω 1/16W J          | BGE       |
| R263       |          | R. CHP 3. 3K Ω 1/16W J       | BGE       |
| R265       |          | R. CHP 22K Ω 1/16W J         | BGE       |
| R270       |          | R. CHP 100 Ω 1/16W J         | BGE       |
| R276       |          | R. CHP 470 Ω 1/16W J         | BGE       |
| R277       |          | R. CHP 100K Ω 1/16W J        | UCRTKABGE |

\* New Parts

RX-V359/HTR-5930

**P.C.B. MAIN**

**Chip Resistors**

# Replacement Parts List for Carbon Resistors

| Ref. No.    | Part No. | Description               | Markets  |
|-------------|----------|---------------------------|----------|
| R278        |          | R. CHP 100KΩ 1/16W J      | L        |
| R280        |          | R. CHP 470Ω 1/16W J       | BGE      |
| R281        |          | R. CHP 10KΩ 1/16W J       | BGE      |
| R284        |          | R. CHP 10KΩ 1/16W J       | BGE      |
| R289        |          | R. CHP 100KΩ 1/16W J      | UC       |
| R291        |          | R. CHP 100KΩ 1/16W J      | RTKABGEL |
| R295        |          | R. CHP 100KΩ 1/16W J      | TKABGE   |
| R297        |          | R. CHP 100KΩ 1/16W J      | UCRL     |
| R300        |          | R. CHP 100KΩ 1/16W J      | BGE      |
| R351        |          | R. CHP 10KΩ 1/16W J       | UC       |
| △ R371      |          | R. CHP 4.7KΩ 1/16W J      | UCTKABGE |
| △ R371      |          | R. CHP 1.8KΩ 1/16W J      | RL       |
| R372        |          | R. CHP 100KΩ 1/16W J      | UCTKABGE |
| R372        |          | R. CHP 560Ω 1/16W J       | R        |
| R373        |          | R. CHP 0Ω 1/16W J         | UCTKABGE |
| R373        |          | R. CHP 15Ω 1/16W J        | RL       |
| R374        |          | R. CHP 1KΩ 1/16W J        | RL       |
| R375        |          | R. CHP 33KΩ 1/16W J       | RL       |
| R376        |          | R. CHP 5.6KΩ 1/16W J      | RL       |
| R377        |          | R. CHP 47KΩ 1/16W J       | RL       |
| R378        | VC757900 | R. MTL. OXD 47Ω 2W        | RL       |
| R379        |          | R. CHP 100KΩ 1/16W J      | RL       |
| R380        | V6730000 | R. CAR. 2.2MΩ 1/2W        | UC       |
| △ R381-382  | HV753100 | R. CAR. FP 1Ω 1/4W        | UC       |
| R383-384    |          | R. CHP 100KΩ 1/16W J      | UC       |
| R399        | HV755270 | R. CAR. FP 270Ω 1/4W      |          |
| R405        | HV753220 | R. CAR. FP 2.2Ω 1/4W      |          |
| △ RY101-103 | V5966300 | RELAY DS24D2-0S(M)        |          |
| △ RY104     | V5178900 | RELAY DC DQ24D1-0S(M)     |          |
| △ RY105     | V5966300 | RELAY DS24D2-0S(M)        |          |
| △ RY371     | V2712300 | RELAY DC SDT-S-112LMR     |          |
| ST241       | WA789600 | SCR. TERM M3              |          |
| ST371       | WA789600 | SCR. TERM M3              |          |
| △ SW381     | VZ075500 | SW. SLIDE SL14-22AM5F     | UC       |
| * △ T371    | XW606A00 | TRANS. PWR                | UC       |
| * △ T371    | X7426A00 | TRANS. PWR                | RL       |
| * △ T371    | XW608A00 | TRANS. PWR                | TKABGE   |
| TE101       | VY696300 | TERM. SP 4P               | UCRTA    |
| TE101       | VY696400 | TERM. SP 4P               | KBGEL    |
| TE102       | WB054000 | TERM. SP YKD21-5002N      |          |
| TE103       | WB054100 | TERM. SP YKD21-5004N      |          |
| XL241       | V3930900 | RSNR. CRYST 4.332MHz      | BGE      |
| XL242       | WB213000 | RSNR. CE 16.0MHz          |          |
|             | WE774200 | SCR. BND. HD 3x10 MFZN2W3 |          |

\* New Parts

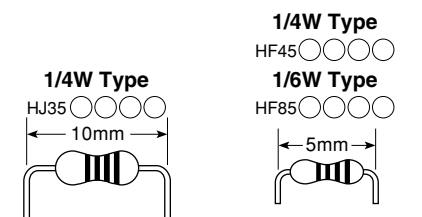
● The chip resistor is not supplied as a replacement part.  
 \* When a chip resistor is necessary, use the following part.  
 AAX60720: CHIP RESISTOR SAMPLE BOOK

| Ref. No. | Part No. | Description          | Markets |
|----------|----------|----------------------|---------|
|          |          | R. CHP 0Ω 1/16W J    |         |
|          |          | R. CHP 1Ω 1/16W J    |         |
|          |          | R. CHP 2.2Ω 1/16W J  |         |
|          |          | R. CHP 10Ω 1/16W J   |         |
|          |          | R. CHP 15Ω 1/16W J   |         |
|          |          | R. CHP 22Ω 1/16W J   |         |
|          |          | R. CHP 47Ω 1/16W J   |         |
|          |          | R. CHP 75Ω 1/16W J   |         |
|          |          | R. CHP 82Ω 1/16W J   |         |
|          |          | R. CHP 100Ω 1/16W J  |         |
|          |          | R. CHP 220Ω 1/16W J  |         |
|          |          | R. CHP 470Ω 1/16W J  |         |
|          |          | R. CHP 560Ω 1/16W J  |         |
|          |          | R. CHP 680Ω 1/16W J  |         |
|          |          | R. CHP 820Ω 1/16W J  |         |
|          |          | R. CHP 1KΩ 1/16W J   |         |
|          |          | R. CHP 1.5KΩ 1/16W J |         |
|          |          | R. CHP 1.8KΩ 1/16W J |         |
|          |          | R. CHP 2KΩ 1/16W J   |         |
|          |          | R. CHP 2.2KΩ 1/16W J |         |
|          |          | R. CHP 2.4KΩ 1/16W J |         |
|          |          | R. CHP 3.3KΩ 1/16W J |         |
|          |          | R. CHP 4.7KΩ 1/16W J |         |
|          |          | R. CHP 5.6KΩ 1/16W J |         |
|          |          | R. CHP 6.8KΩ 1/16W J |         |
|          |          | R. CHP 10KΩ 1/16W J  |         |
|          |          | R. CHP 12KΩ 1/16W J  |         |
|          |          | R. CHP 15KΩ 1/16W J  |         |
|          |          | R. CHP 18KΩ 1/16W J  |         |
|          |          | R. CHP 22KΩ 1/16W J  |         |
|          |          | R. CHP 27KΩ 1/16W J  |         |
|          |          | R. CHP 33KΩ 1/16W J  |         |
|          |          | R. CHP 47KΩ 1/16W J  |         |
|          |          | R. CHP 68KΩ 1/16W J  |         |
|          |          | R. CHP 100KΩ 1/16W J |         |
|          |          | R. CHP 220KΩ 1/16W J |         |
|          |          | R. CHP 470KΩ 1/16W J |         |
|          |          | R. CHP 1MΩ 1/16W J   |         |

\* New Parts

| Value  | 1/4W Type Part No. | 1/6W Type Part No. | Value  | 1/4W Type Part No. | 1/6W Type Part No. |
|--------|--------------------|--------------------|--------|--------------------|--------------------|
| 1.0 Ω  | HJ35 3100          | HF85 3100          | 10 kΩ  | HF45 7100          | HF45 7100          |
| 1.8 Ω  | HJ35 3180          | *                  | 11 kΩ  | HF45 7110          | HF45 7110          |
| 2.2 Ω  | HJ35 3220          | HF85 3220          | 12 kΩ  | HJ35 7120          | HF85 7120          |
| 3.3 Ω  | HJ35 3330          | HF85 3330          | 13 kΩ  | HF45 7130          | HF45 7130          |
| 4.7 Ω  | HJ35 3470          | HF85 3470          | 15 kΩ  | HF45 7150          | HF45 7150          |
| 5.6 Ω  | HJ35 3560          | HF85 3560          | 18 kΩ  | HF45 7180          | HF45 7180          |
| 10 Ω   | HF45 4100          | HF45 4100          | 22 kΩ  | HF45 7220          | HF45 7220          |
| 15 Ω   | HJ35 4150          | HF85 4150          | 24 kΩ  | HF45 7240          | HF45 7240          |
| 22 Ω   | HF45 4220          | HF45 4220          | 27 kΩ  | HJ35 7270          | HF85 7270          |
| 27 Ω   | HJ35 4270          | HF85 4270          | 30 kΩ  | HF45 7300          | HF45 7300          |
| 33 Ω   | HF45 4330          | HF45 4330          | 33 kΩ  | HF45 7330          | HF45 7330          |
| 39 Ω   | HJ35 4470          | HF85 4390          | 36 kΩ  | HF45 7360          | HF45 7360          |
| 47 Ω   | HF45 4470          | HF45 4470          | 39 kΩ  | HF45 7390          | HF45 7390          |
| 56 Ω   | HF45 4560          | HF45 4560          | 47 kΩ  | HF45 7470          | HF45 7470          |
| 68 Ω   | HF45 4680          | HF45 4680          | 51 kΩ  | HF45 7510          | HF45 7510          |
| 75 Ω   | HF45 4750          | HF45 4750          | 56 kΩ  | HF45 7560          | HF45 7560          |
| 82 Ω   | HF45 4820          | HF45 4820          | 62 kΩ  | HF45 7620          | HF45 7620          |
| 91 Ω   | HF45 4910          | HF45 4910          | 68 kΩ  | HF45 7680          | HF45 7680          |
| 100 Ω  | HF45 5100          | HF45 5100          | 82 kΩ  | HF45 7820          | HF45 7820          |
| 110 Ω  | HJ35 5110          | HF85 5110          | 91 kΩ  | HF45 7910          | HF45 7910          |
| 120 Ω  | HF45 5120          | HF45 5120          | 100 kΩ | HF45 8100          | HF45 8100          |
| 150 Ω  | HF45 5150          | HF45 5150          | 110 kΩ | HF45 8110          | HF45 8110          |
| 160 Ω  | HJ35 5160          | *                  | 120 kΩ | HF45 8120          | HF45 8120          |
| 180 Ω  | HF45 5180          | HF45 5180          | 150 kΩ | HF45 8150          | HF45 8150          |
| 200 Ω  | HF45 5200          | HF45 5200          | 180 kΩ | HF45 8180          | HF45 8180          |
| 220 Ω  | HF45 5220          | HF45 5220          | 220 kΩ | HJ35 8220          | HF85 8220          |
| 270 Ω  | HF45 5270          | HF45 5270          | 270 kΩ | HF45 8270          | HF45 8270          |
| 330 Ω  | HF45 5330          | HF45 5330          | 300 kΩ | HF45 8300          | HF45 8300          |
| 390 Ω  | HF45 5390          | HF45 5390          | 330 kΩ | HF45 8330          | HF45 8330          |
| 430 Ω  | HF45 5430          | HF45 5430          | 390 kΩ | HJ35 8390          | HF85 8390          |
| 470 Ω  | HF45 5470          | HF45 5470          | 470 kΩ | HF45 8470          | HF45 8470          |
| 510 Ω  | HF45 5510          | HF45 5510          | 560 kΩ | HJ35 8560          | HF85 8560          |
| 560 Ω  | HF45 5560          | HF45 5560          | 680 kΩ | HJ35 8680          | HF85 8680          |
| 680 Ω  | HF45 5680          | HF45 5680          | 820 kΩ | HJ35 8820          | HF85 8820          |
| 820 Ω  | HF45 5820          | HF45 5820          | 1.0 MΩ | HF45 9100          | HF45 9100          |
| 910 Ω  | HF45 5910          | HF45 5910          | 1.2 MΩ | HJ35 9120          | *                  |
| 1.0 kΩ | HF45 6100          | HF45 6100          | 1.5 MΩ | HJ35 9150          | HF85 9150          |
| 1.2 kΩ | HF45 6120          | HF45 6120          | 1.8 MΩ | HJ35 9180          | HF85 9180          |
| 1.5 kΩ | HF45 6150          | HF45 6150          | 2.2 MΩ | HJ35 9220          | HF85 9220          |
| 1.8 kΩ | HF45 6180          | HF45 6180          | 3.3 MΩ | HJ35 9330          | HF85 9330          |
| 2.0 kΩ | HJ35 6200          | HF85 6200          | 3.9 MΩ | HJ35 9390          | *                  |
| 2.2 kΩ | HF45 6220          | HF45 6220          | 4.7 MΩ | HJ35 9470          | HF85 9470          |
| 2.4 kΩ | HJ35 6240          | HF85 6240          |        |                    |                    |
| 2.7 kΩ | HF45 6270          | HF45 6270          |        |                    |                    |
| 3.0 kΩ | HF45 6300          | HF45 6300          |        |                    |                    |
| 3.3 kΩ | HF45 6330          | HF45 6330          |        |                    |                    |
| 3.6 kΩ | HJ35 6360          | HF85 6360          |        |                    |                    |
| 3.9 kΩ | HF45 6390          | HF45 6390          |        |                    |                    |
| 4.7 kΩ | HF45 6470          | HF45 6470          |        |                    |                    |
| 5.1 kΩ | HF45 6510          | HF45 6510          |        |                    |                    |
| 5.6 kΩ | HF45 6560          | HF45 6560          |        |                    |                    |
| 6.8 kΩ | HF45 6680          | HF45 6680          |        |                    |                    |
| 8.2 kΩ | HF45 6820          | HF45 6820          |        |                    |                    |
| 9.1 kΩ | HF45 6910          | HF45 6910          |        |                    |                    |

\* : Not available





• REPLACEMENT PARTS LIST

| Ref. No. | Part No. | Description | Remarks                 | Markets          |          |
|----------|----------|-------------|-------------------------|------------------|----------|
| *        | 1-1      | WG673600    | P. C. B. ASS'Y          | FUNCTION         | C        |
| *        | 1-1      | WG673700    | P. C. B. ASS'Y          | FUNCTION         | RL       |
| *        | 1-1      | WG673800    | P. C. B. ASS'Y          | FUNCTION         | TKA      |
| *        | 1-1      | WG673900    | P. C. B. ASS'Y          | FUNCTION         | BGE      |
| *        | 1-2      | MF114180    | FLEXIBLE FLAT CABLE     | 14P 180mm P=1.25 |          |
| *        | 1-4      | WG362800    | FRONT PANEL             | V359GD           |          |
| *        | 1-4      | WG362400    | FRONT PANEL             | V359BL           |          |
| *        | 1-4      | WG363100    | FRONT PANEL             | V359TI           |          |
| *        | 1-4      | WG450300    | FRONT PANEL             | V359SI           | C        |
| *        | 1-4      | WG363400    | FRONT PANEL             | V359SI           | RKBGE    |
| *        | 1-4      | WG362900    | FRONT PANEL             | 5930GD           |          |
| *        | 1-4      | WG449700    | FRONT PANEL             | 5930BL           | UC       |
| *        | 1-4      | WG362700    | FRONT PANEL             | 5930BL           | R        |
| *        | 1-4      | WG363500    | FRONT PANEL             | 5930SI           | UC       |
| *        | 1-4      | WG363600    | FRONT PANEL             | 5930SI           | RTKA     |
| *        | 1-4      | WG363700    | FRONT PANEL             | 5930SI           | GE       |
| *        | 1-5      | WC411600    | BUTTONCASE 350          | GD               |          |
| *        | 1-5      | WC411500    | BUTTONCASE 350          | V359BL           |          |
| *        | 1-5      | WC411800    | BUTTONCASE 350          | 5930BL           |          |
| *        | 1-5      | WG466200    | BUTTONCASE 359          | TI               |          |
| *        | 1-5      | WC411700    | BUTTONCASE 350          | SI               |          |
| *        | 1-6      | WC411900    | BUTTON RDS 350          |                  | BGE      |
| *        | 1-7      | MF111070    | FLEXIBLE FLAT CABLE     | 11P 70mm P=1.25  |          |
| *        | 1-13     | WG364100    | SHEET WINDOW            | V359SI, 5930SI   | UC       |
| *        | 1-13     | WG364200    | SHEET WINDOW            | 5930BL           | UC       |
| *        | 1-13     | WC412800    | SHEET WINDOW            |                  | RTKAL    |
| *        | 1-13     | WE813800    | SHEET WINDOW            |                  | BGE      |
| *        | 1-25     | WE774800    | BIND HEAD P-TIGHT SCREW | 3x8 MFZN2W3      |          |
| *        | 2-1      | WG674000    | P. C. B. ASS'Y          | DSP              | C        |
| *        | 2-1      | WG674100    | P. C. B. ASS'Y          | DSP              | RTKABGEL |
| *        | 2-7      | MF111070    | FLEXIBLE FLAT CABLE     | 11P 70mm P=1.25  |          |
| *        | 2-20     | WG451000    | SUPPORT TR-5            |                  |          |
| *        | 2-103    | WE774600    | SCREW IC                | 3x18 MFZN2W3     |          |
| *        | 2-104    | WF002600    | PW HEAD B-TIGHT SCREW   | 3x8 MFZN2W3      |          |
| *        | 5        | WG673000    | P. C. B. ASS'Y          | MAIN             | UC       |
| *        | 5        | WG673100    | P. C. B. ASS'Y          | MAIN             | R        |
| *        | 5        | WG673200    | P. C. B. ASS'Y          | MAIN             | TA       |
| *        | 5        | WG673300    | P. C. B. ASS'Y          | MAIN             | K        |
| *        | 5        | WG673400    | P. C. B. ASS'Y          | MAIN             | BGE      |
| *        | 5        | WG797800    | P. C. B. ASS'Y          | MAIN             | L        |
| *        | 12       | WB424000    | AM/FM TUNER             | ENG06709Q        | UCRL     |
| *        | 12       | WB877300    | AM/FM TUNER             | FAE381-A07F      | T        |
| *        | 12       | WB424100    | AM/FM TUNER             | ENG07711QF       | KABGE    |
| *        | 15       | X6311B00    | POWER TRANSFORMER       |                  | UC       |
| *        | 15       | X5278C00    | POWER TRANSFORMER       |                  | RL       |
| *        | 15       | X5279C00    | POWER TRANSFORMER       |                  | TK       |
| *        | 15       | X5280C00    | POWER TRANSFORMER       |                  | A        |
| *        | 15       | X6312B00    | POWER TRANSFORMER       |                  | BGE      |
| *        | 16       | WB120500    | POWER CABLE             | 2m               | UC       |
| *        | 16       | WC992700    | POWER CABLE             | 2m               | R        |
| *        | 16       | WB120600    | POWER CABLE             | 2m               | T        |
| *        | 16       | WC753000    | POWER CABLE             | 2m               | K        |

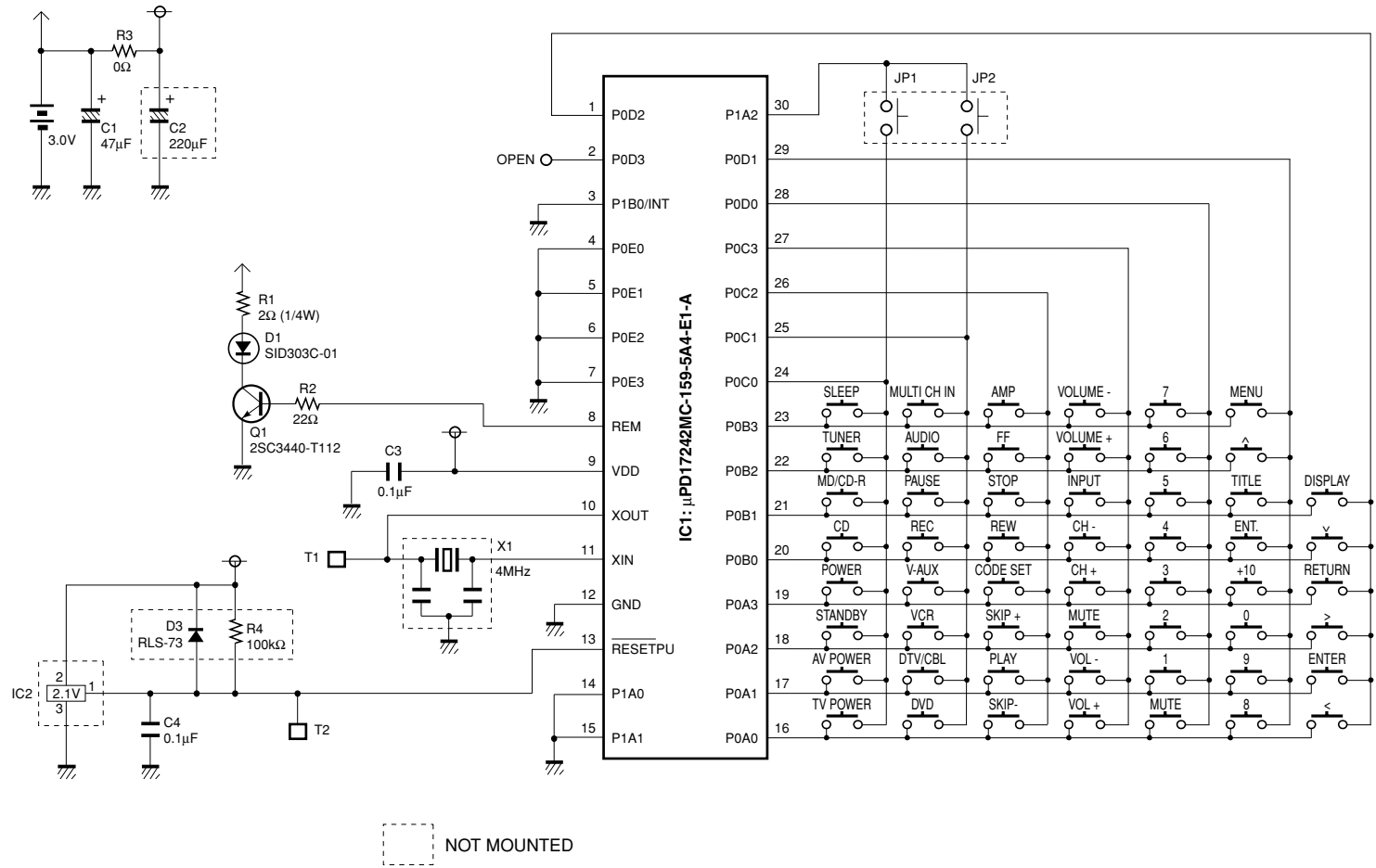
\* New Parts

| Ref. No. | Part No. | Description | Remarks                      | Markets          |                |         |
|----------|----------|-------------|------------------------------|------------------|----------------|---------|
| ⚠        | 16       | WC743700    | POWER CABLE                  | 2m               | A              |         |
| ⚠        | 16       | WB212200    | POWER CABLE                  | 2m               | B              |         |
| ⚠        | 16       | WB212300    | POWER CABLE                  | 2m               | GEL            |         |
|          | 17       | V2438700    | CORD STOPPER                 | 10P1             |                |         |
|          | 23       | MF113120    | FLEXIBLE FLAT CABLE          | 13P 120mm P=1.25 |                |         |
|          | 101      | WE065200    | TOP COVER                    |                  | GD             |         |
|          | 101      | WE065000    | TOP COVER                    |                  | BL             |         |
|          | 101      | WE065100    | TOP COVER                    |                  | TI             |         |
| *        | 101      | WG481900    | TOP COVER                    |                  | SI             |         |
| *        | 103      | WG360400    | REAR PANEL                   |                  | V359           | C       |
| *        | 103      | WG360500    | REAR PANEL                   |                  | V359           | R       |
| *        | 103      | WG360600    | REAR PANEL                   |                  | V359           | TK      |
| *        | 103      | WG360700    | REAR PANEL                   |                  | V359           | A       |
| *        | 103      | WG360800    | REAR PANEL                   |                  | V359           | BGE     |
| *        | 103      | WG360900    | REAR PANEL                   |                  | V359           | L       |
| *        | 103      | WG361000    | REAR PANEL                   |                  | 5930           | UC      |
| *        | 103      | WG361100    | REAR PANEL                   |                  | 5930           | R       |
| *        | 103      | WG361200    | REAR PANEL                   |                  | 5930           | TK      |
| *        | 103      | WG361300    | REAR PANEL                   |                  | 5930           | A       |
| *        | 103      | WG361400    | REAR PANEL                   |                  | 5930           | GE      |
|          | 109      | WA796100    | SUPPORT PCB                  |                  |                |         |
|          | 120      | WA790600    | LEG                          | D60/H21          | GD             |         |
|          | 120      | WA790500    | LEG                          | D60/H21          | V359BL, TI, SI |         |
|          | 120      | WA790700    | LEG                          | D60/H21          | 5930BL         |         |
| *        | 121      | WG362100    | KNOB D48                     |                  | GD             |         |
| *        | 121      | WG362000    | KNOB D48                     |                  | BL             |         |
| *        | 121      | WG466100    | KNOB D48                     |                  | TI             |         |
| *        | 121      | WG362200    | KNOB D48                     |                  | SI             |         |
|          | 150      | WB408000    | BINDING TIE                  | GT-100M          |                |         |
|          | 151      | WB408400    | DAMPER SIDE                  |                  |                |         |
|          | 152      | WB484700    | DAMPER                       |                  |                |         |
|          | 160      | WE774100    | BIND HEAD BONDING B-T. SCREW | 3x8 MFZN2B3      |                |         |
|          | 163      | WE774300    | BIND HEAD B-TIGHT SCREW      | 3x8 MFZN2W3      |                |         |
|          | 164      | WE774000    | BIND HEAD SCREW              | 3x6 MFZN2W3      | UCRL           |         |
| *        | 167      | WF002600    | PW HEAD B-TIGHT SCREW        | 3x8 MFZN2W3      |                |         |
|          | 168      | WE774600    | SCREW IC                     | 3x18 MFZN2W3     |                |         |
|          | 170      | WE774700    | BIND HEAD S-TIGHT SCREW      | 4x10 MFZN2W3     |                |         |
|          | 171      | VD069600    | PW HEAD S-TIGHT SCREW        | 4x8-10 MFN133    | GD, TI, SI     |         |
|          | 171      | VH313200    | PW HEAD S-TIGHT SCREW        | 4x8-10 MFN13BL   | BL             |         |
|          | 172      | WE200400    | DISH HEAD B-TIGHT SCREW      | 3x6 MFN133       | GD, TI, SI     |         |
|          | 172      | WE200500    | DISH HEAD B-TIGHT SCREW      | 3x6 MFN13BL      | BL             |         |
|          |          |             | ACCESSORIES                  |                  |                |         |
| *        | 200      | WG503100    | REMOTE CONTROL               | RAV309           |                | UCRTKAL |
|          | 200-1    | AAX46580    | BATTERY COVER                |                  | 103RRC-244-01G | UCRTKAL |
| *        | 201      | WG707200    | REMOTE CONTROL               | RAV22            |                | BGE     |
|          | 201-1    | AAX49660    | BATTERY COVER                |                  | 3139 224 22451 | BGE     |
|          | 202      | WB212500    | INDOOR FM ANTENNA            | 1.4m 1pc         |                | UCRTL   |
|          | 202      | WB212400    | INDOOR FM ANTENNA            | 1.4m 1pc         |                | KABGE   |
| *        | 203      | WG950500    | AM LOOP ANTENNA              | 1P 1.2m 1pc      |                |         |
|          |          |             | BATTERY MANGANESE DRY        | R6CP 2pcs        |                |         |

\* New Parts

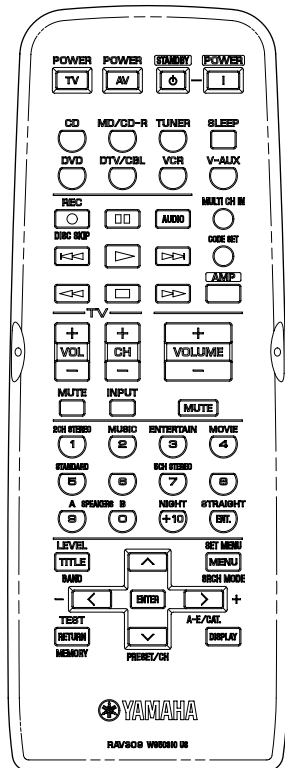
# REMOTE CONTROL RAV309 (U, C, R, T, K, A, L models)

## SCHEMATIC DIAGRAM

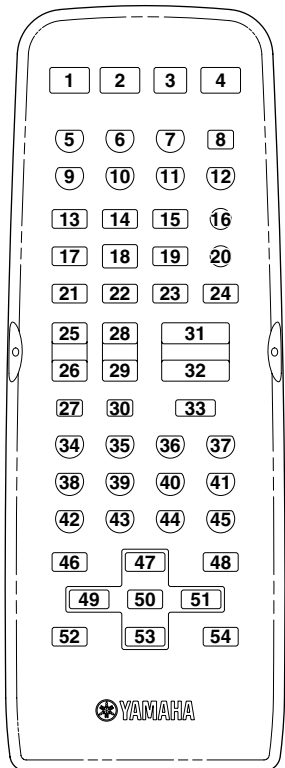


NOT MOUNTED

## PANEL



## KEY LAYOUT



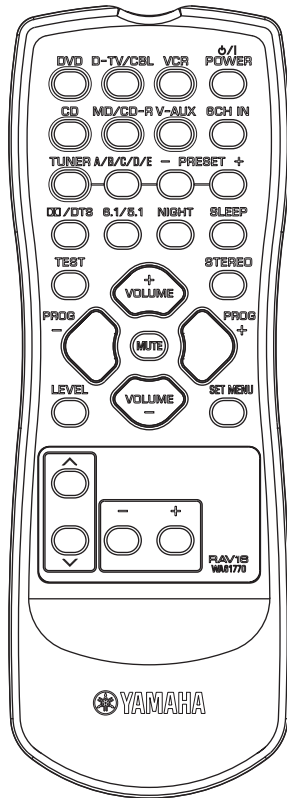
## KEY CODE TABLE

| Key No. | Function       | CODE  |       |       |       |       |         |         |         |           |
|---------|----------------|-------|-------|-------|-------|-------|---------|---------|---------|-----------|
|         |                | AMP   | CD    | MD    | CD-R  | TUNER | DVD (P) | DVD (Y) | DVD (M) | DVD-R (P) |
| 1       | TV POWER       | -     | -     | -     | -     | -     | -       | -       | -       | -         |
| 2       | AV POWER       | -     | -     | -     | 7F-80 | -     | A5-AA   | 7C-80   | 3D-8D   | A5-AA     |
| 3       | STANDBY        | 7A-1E | -     | -     | -     | -     | -       | -       | -       | -         |
| 4       | POWER          | 7A-1D | -     | -     | -     | -     | -       | -       | -       | -         |
| 5       | CD             | 7A-15 | -     | -     | -     | -     | -       | -       | -       | -         |
| 6       | MD/CD-R        | 7A-C9 | -     | -     | -     | -     | -       | -       | -       | -         |
| 7       | TUNER          | 7A-16 | -     | -     | -     | -     | -       | -       | -       | -         |
| 8       | SLEEP          | 7A-57 | -     | -     | -     | -     | -       | -       | -       | -         |
| 9       | DVD            | 7A-C1 | -     | -     | -     | -     | -       | -       | -       | -         |
| 10      | DTV/CBL        | 7A-54 | -     | -     | -     | -     | -       | -       | -       | -         |
| 11      | VCR            | 7A-0F | -     | -     | -     | -     | -       | -       | -       | -         |
| 12      | V-AUX          | 7A-55 | -     | -     | -     | -     | -       | -       | -       | -         |
| 13      | REC, DISC SKIP | -     | 7A-4F | 79-AF | -     | -     | 55-56   | 7C-8B   | -       | 56-5A     |
| 14      | PAUSE          | -     | 7A-09 | 79-A9 | 7F-83 | -     | AA-5A   | 7C-83   | 06-B6   | AA-5A     |
| 15      | AUDIO          | -     | -     | -     | -     | -     | 95-A6   | 7C-AD   | 33-83   | 95-A6     |
| 16      | MULTI CH IN    | 7A-87 | -     | -     | -     | -     | -       | -       | -       | -         |
| 17      | SKIP -         | -     | 7A-0B | 79-AB | 7F-86 | 7A-A4 | 6A-9A   | 7CB9    | 49-F9   | 6A-9A     |
| 18      | PLAY           | -     | 7A-08 | 79-A8 | 7F-82 | -     | A5-9A   | 7C-82   | 0A-BA   | A5-9A     |
| 19      | SKIP +         | -     | 7A-0A | 79-AE | 7F-87 | 7A-A5 | AA-9A   | 7C-BA   | 4A-FA   | AA-9A     |
| 20      | CODE SET       | -     | -     | -     | -     | -     | -       | -       | -       | -         |
| 21      | REW            | -     | 7A-0D | 79-AC | 7F-88 | 7A-A6 | 69-9A   | 7C-86   | 04-B4   | 69-9A     |
| 22      | STOP           | -     | 7A-09 | 79-AA | 7F-84 | -     | 6A-5A   | 7C-85   | 00-B0   | 6A-5A     |
| 23      | FF             | -     | 7A-0C | 79-AD | 7F-89 | 7A-A7 | A9-9A   | 7C-87   | 05-B5   | A9-9A     |
| 24      | AMP            | 7A-9C | -     | -     | -     | -     | -       | -       | -       | -         |
| 25      | TV VOL +       | -     | -     | -     | -     | -     | -       | -       | -       | -         |
| 26      | TV VOL -       | -     | -     | -     | -     | -     | -       | -       | -       | -         |
| 27      | TV MUTE        | -     | -     | -     | -     | -     | -       | -       | -       | -         |
| 28      | TV CH +        | -     | -     | -     | -     | -     | -       | -       | -       | -         |
| 29      | TV CH -        | -     | -     | -     | -     | -     | -       | -       | -       | -         |
| 30      | TV INPUT       | -     | -     | -     | -     | -     | -       | -       | -       | -         |
| 31      | VOLUME +       | 7A-1A | -     | -     | -     | -     | -       | -       | -       | -         |
| 32      | VOLUME -       | 7A-1B | -     | -     | -     | -     | -       | -       | -       | -         |
| 33      | MUTE           | 7A-1C | -     | -     | -     | -     | -       | -       | -       | -         |
| 34      | 1              | 7A-88 | 79-11 | 79-85 | 7F-91 | 7A-E5 | 6A-AA   | 7C-94   | 10-A0   | 6A-AA     |
| 35      | 2              | 7A-89 | 79-12 | 79-86 | 7F-92 | 7A-E6 | 9A-AA   | 7C-95   | 11-A1   | 9A-AA     |
| 36      | 3              | 7A-8A | 79-13 | 79-87 | 7F-93 | 7A-E7 | 5A-AA   | 7C-96   | 12-A2   | 5A-AA     |
| 37      | 4              | 7A-8B | 79-14 | 79-88 | 7F-94 | 7A-E8 | A6-AA   | 7C-97   | 13-A3   | A6-AA     |
| 38      | 5              | 7A-8D | 79-15 | 79-89 | 7F-95 | 7A-E9 | 66-AA   | 7C-98   | 14-A4   | 66-AA     |
| 39      | 6              | 7A-96 | 79-16 | 79-8A | 7F-96 | 7A-EA | 96-AA   | 7C-99   | 15-A5   | 96-AA     |
| 40      | 7              | 7A-97 | 79-17 | 79-8B | 7F-97 | 7A-EB | 56-AA   | 7C-9A   | 16-A6   | 56-AA     |
| 41      | 8              | 7A-DD | 79-18 | 79-8C | 7F-98 | 7A-EC | A9-AA   | 7C-9B   | 17-A7   | A9-AA     |
| 42      | 9              | 7A-9A | 79-19 | 79-8D | 7F-99 | 7A-B1 | 69-AA   | 7C-9C   | 18-A8   | 69-AA     |
| 43      | 0              | 7A-9B | 79-10 | 79-8E | 7F-90 | 7A-B2 | AA-AA   | 7C-93   | 19-A9   | AA-AA     |
| 44      | +10            | 7A-95 | 79-1A | 79-8F | 7F-9A | -     | A9-56   | 7C-9D   | 89-39   | A9-56     |
| 45      | ENT.           | 7A-56 | 79-0B | -     | 7F-8A | 7A-B3 | A9-A5   | 7C-9E   | -       | A9-A5     |
| 46      | TITLE          | 7A-86 | -     | -     | -     | 7A-AE | 6A-56   | 7C-B1   | 9B-2B   | 6A-56     |
| 47      | ^              | 7A-98 | -     | -     | -     | 7A-10 | A9-66   | 7C-B4   | 85-35   | A9-66     |
| 48      | MENU           | 7A-9C | -     | -     | -     | 7A-AB | A6-66   | 7C-B2   | 80-30   | A6-66     |
| 49      | <              | 7A-53 | -     | -     | -     | 7A-A0 | 99-66   | 7C-B5   | 87-37   | 99-66     |
| 50      | ENTER          | 7A-DE | -     | -     | -     | 7A-AD | A5-66   | 7C-B8   | 82-32   | A5-66     |
| 51      | >              | 7A-52 | -     | -     | -     | 7A-12 | 59-66   | 7C-B6   | 88-38   | 59-66     |
| 52      | RETURN         | 7A-AA | -     | -     | -     | 7A-AF | 5A-A9   | 7C-B7   | 81-31   | 5A-A9     |
| 53      | v              | 7A-99 | -     | -     | -     | 7A-11 | 69-66   | 7C-B3   | 86-36   | 69-66     |
| 54      | DISPLAY        | -     | 79-0A | 79-A5 | 7F-9E | 7A-00 | 55-AA   | 7C-A6   | 92-22   | 55-AA     |

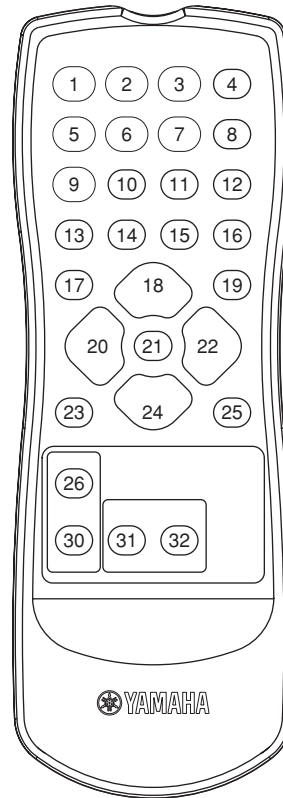
# 1 ■ REMOTE CONTROL RAV22 (B, G, E models)

The schematic diagram is not available.

• PANEL



• KEY LAYOUT



• CUSTOM CODE: 7A

| Key No. | Key Name  | Data Code |
|---------|-----------|-----------|
| 1       | DVD       | C1        |
| 2       | D-TV/CBL  | 54        |
| 3       | VCR       | 0F        |
| 4       | POWER     | 1F        |
| 5       | CD        | 15        |
| 6       | MD/CD-R   | C9        |
| 7       | V-AUX     | 55        |
| 8       | 6CH INPUT | 87        |
| 9       | TUNER     | 16        |
| 10      | A/B/C/D/E | 12        |
| 11      | PRESET -  | 11        |
| 12      | PRESET +  | 10        |
| 13      | DD / DTS  | 90        |
| 14      | 6.1 / 5.1 | 97        |
| 15      | NIGHT     | 95        |
| 16      | SLEEP     | 57        |
| 17      | TEST      | 85        |
| 18      | VOLUME +  | 1A        |
| 19      | STEREO    | 56        |
| 20      | PROG -    | 59        |
| 21      | MUTE      | 1C        |
| 22      | PROG +    | 58        |
| 23      | LEVEL     | 86        |
| 24      | VOLUME -  | 1B        |
| 25      | SET MENU  | 9C        |
| 26      | ^         | 98        |
| 27      | —         | —         |
| 28      | —         | —         |
| 29      | —         | —         |
| 30      | v         | 99        |
| 31      | -         | 53        |
| 32      | +         | 52        |
| 33      | —         | —         |

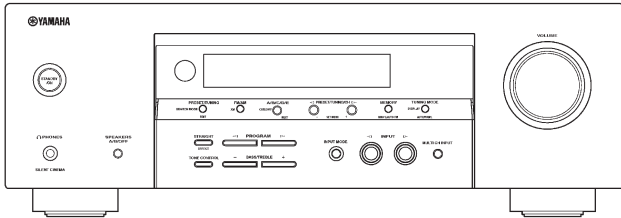
# ADVANCED SETUP

The advanced setup menu offers additional operations to adjust and customize the way this unit operates. Change the initial settings (indicated in bold under each parameter) to reflect the needs of your listening environment.

**Notes**

- The settings you make are reflected next time you press **STANDBY/ON** on the front panel (or **POWER** on the remote control) to turn on this unit.
- Only **STANDBY/ON**, **STRAIGHT** and **PROGRAM** </> are effective while you are using the advanced setup menu.
- All the other operations cannot be made while you are using the advanced setup menu.
- During the advanced setup procedure, audio output is muted.
- The advanced setup menu is only available in the front panel display.

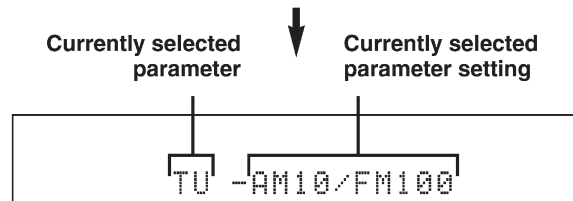
(U.S.A. model)



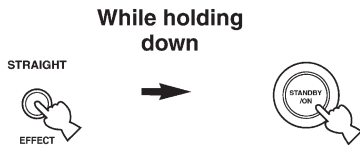
**3 (Asia and General models only)**  
 Press **PROGRAM** </> on the front panel to select the parameter you want to adjust.  
 The name of the selected parameter appears in the front panel display.



**1 Press STANDBY/ON on the front panel to set this unit to the standby mode.**



**2 Press and hold STRAIGHT on the front panel and then press STANDBY/ON to turn on this unit.**  
 The advanced setup menu appears in the front panel display.



**4 Press STRAIGHT on the front panel repeatedly to change the selected parameter setting.**



**5 Press STANDBY/ON on the front panel to save the new setting and to set this unit to the standby mode.**



The settings you made are reflected next time you turn on this unit.



**ADVANCED SETUP****■ Factory presets** PRESET

Use this feature to reset all the parameters of this unit to the initial factory settings.

Choices: **CANCEL**, RESET

- Select “CANCEL” not to reset any parameters of this unit.
- Select “RESET” to reset the parameters of this unit.

**Notes**

- This setting completely resets all the parameters of this unit including the “SET MENU” parameters. However, the advanced setup menu parameters will not be initialized.
- The initial factory settings are activated next time you turn on this unit.

**■ Tuner frequency step** TU  
**(Asia and General models only)**

Use this feature to set the tuner frequency step according to the frequency spacing in your area.

Choices: **AM10/FM100**, AM9/FM50

- Select “AM10/FM100” for North, Central and South America.
- Select “AM9/FM50” for all other areas.

# RX-V359/HTR-5930

---

