

# AV RECEIVER

# RX-V477/HTR-4067

## SERVICE MANUAL

### Note:

When the DIGITAL P.C.B. or IC22 on DIGITAL P.C.B. is replaced, this unit will display "Internal Error" and will not operate properly. The model name MUST be written to the backup IC (EEPROM: IC22 on DIGITAL P.C.B.) to have proper operation. (For details, refer to "S5. SOFT SWITCH" menu of the self-diagnostic function.)

### 注意：

DIGITAL P.C.B. または DIGITAL P.C.B. の IC22 を交換すると、"Internal Error" が表示されて本機が正常に動作しくなります。正常に動作させるために、モデル名をバックアップ IC (EEPROM: DIGITAL P.C.B. の IC22) へ書き込む必要があります。(詳細は、ダイアグの "S5. SOFT SWITCH" メニューを参照してください。)

### 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     |
| FRONT PANELS .....                                | 3     |
| REAR PANELS .....                                 | 4-8   |
| REMOTE CONTROL PANEL .....                        | 9     |
| SPECIFICATIONS / 参考仕様 .....                       | 10-15 |
| INTERNAL VIEW .....                               | 16    |
| SERVICE PRECAUTIONS / サービス時の注意事項 ....             | 16    |
| DISASSEMBLY PROCEDURES / 分解手順 .....               | 17-20 |
| UPDATING FIRMWARE /<br>ファームウェアのアップデート .....       | 21-23 |
| SELF-DIAGNOSTIC FUNCTION /<br>ダイアグ (自己診断機能) ..... | 24-59 |
| POWER AMPLIFIER ADJUSTMENT /<br>パワーアンプ調整 .....    | 60    |

|                                       |         |
|---------------------------------------|---------|
| DISPLAY DATA .....                    | 61-62   |
| IC DATA .....                         | 63-84   |
| PIN CONNECTION DIAGRAMS .....         | 85      |
| BLOCK DIAGRAMS .....                  | 86-87   |
| WIRING DIAGRAMS .....                 | 88-89   |
| PRINTED CIRCUIT BOARDS .....          | 90-104  |
| SCHEMATIC DIAGRAMS .....              | 105-115 |
| REPLACEMENT PARTS LIST .....          | 117-131 |
| REMOTE CONTROL .....                  | 132-133 |
| CONFIGURING THE SYSTEM SETTINGS ..... | 134     |
| システム設定を変更する .....                     | 135     |
| FIRMWARE UPDATING PROCEDURE .....     | 136-139 |
| ファームウェア更新手順 .....                     | 140-143 |

## ■ TO SERVICE PERSONNEL

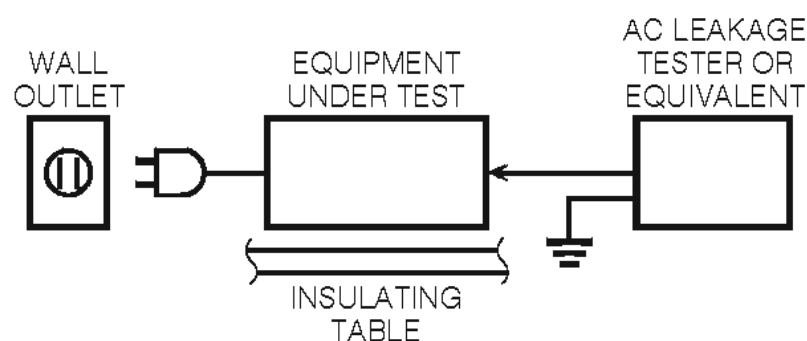
### 1. Critical Components Information

Components having special characteristics are marked  $\Delta$  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 0.15  $\mu$ F.



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



#### For U model

##### “CAUTION”

“F5401: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 2A, 250V FUSE.”

“F5402: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 6A, 125V FUSE.”

#### For G model

##### CAUTION

F5401: REPLACE WITH SAME TYPE 2A, 250V FUSE.

F5402: REPLACE WITH SAME TYPE 6A, 125V FUSE.

##### ATTENTION

F5401: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 2A, 250V.

F5402: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 6A, 125V.

## WARNING: CHEMICAL CONTENT NOTICE!

This product contains chemicals known to the State of California to cause cancer, 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 / 無鉛ハンダについて

All of the P.C.B.s installed in this unit and solder joints are soldered using the 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:

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.

本機に搭載されているすべての基板およびハンダ付けによる接合部は無鉛ハンダでハンダ付けされています。

無鉛ハンダにはいくつかの種類がありますが、修理時には下記のような無鉛ハンダの使用を推奨します。

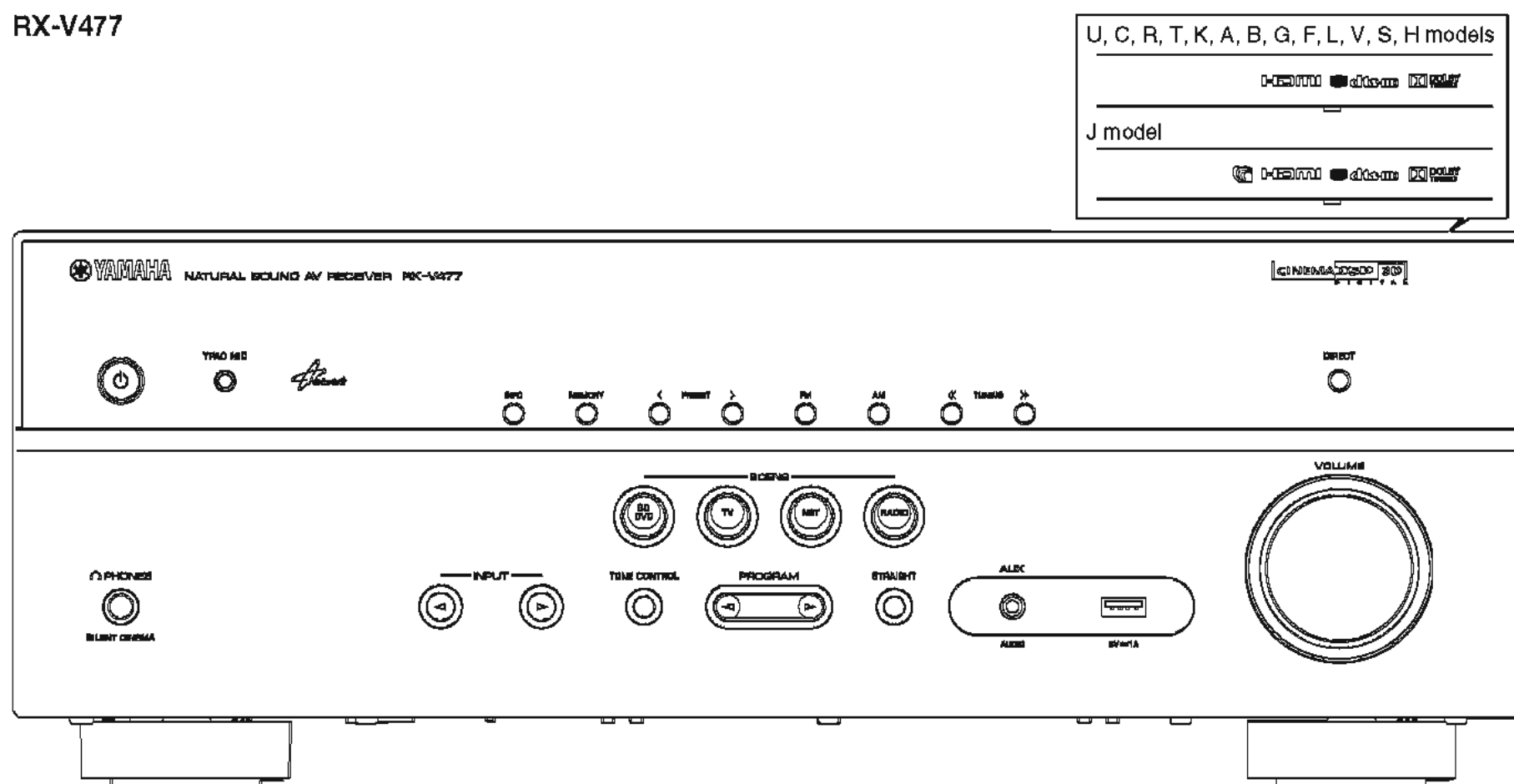
- Sn+Ag+Cu (錫 + 銀 + 銅)
- Sn+Cu (錫 + 銅)
- Sn+Zn+Bi (錫 + 亜鉛 + ビスマス)

#### 注意：

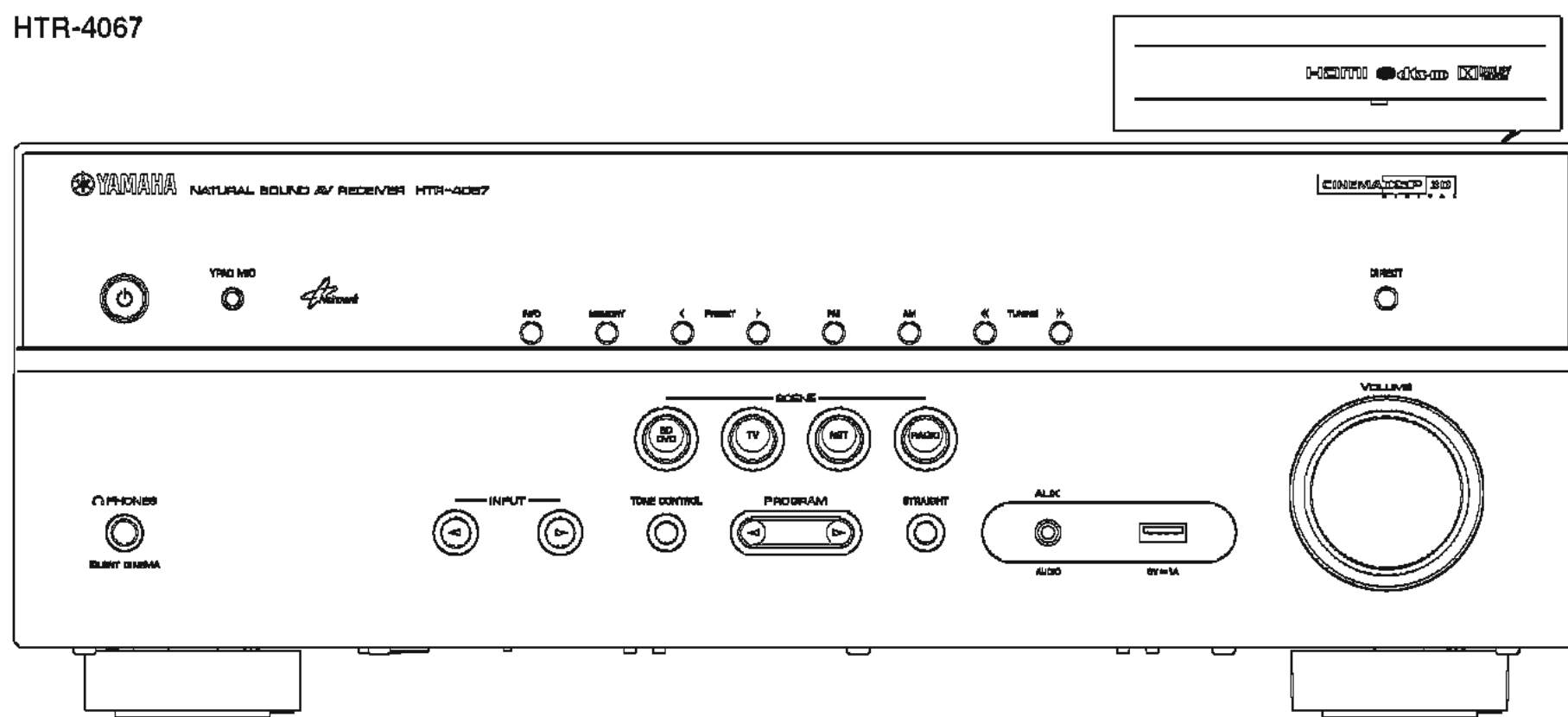
無鉛ハンダの融点温度は通常の鉛入りハンダに比べ 30 ～ 40℃程度高くなっていますので、それぞれのハンダに合ったハンダごてをご使用ください。

## FRONT PANELS

### RX-V477

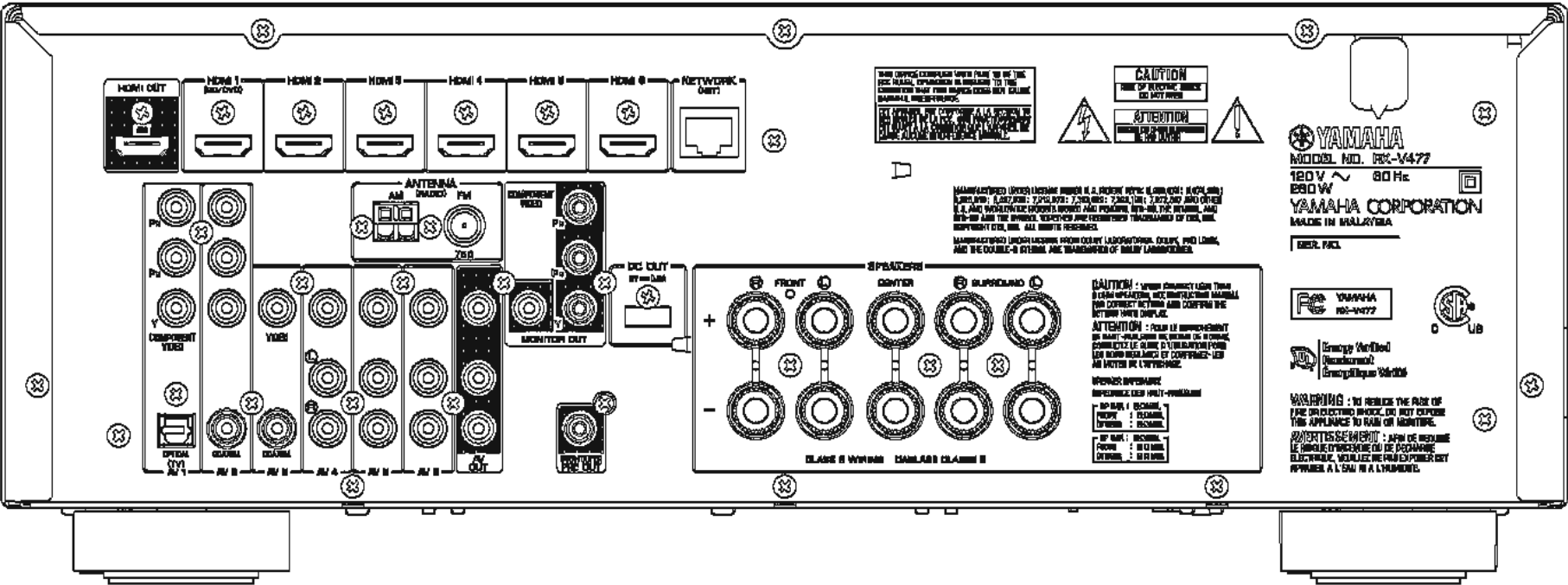


### HTR-4067

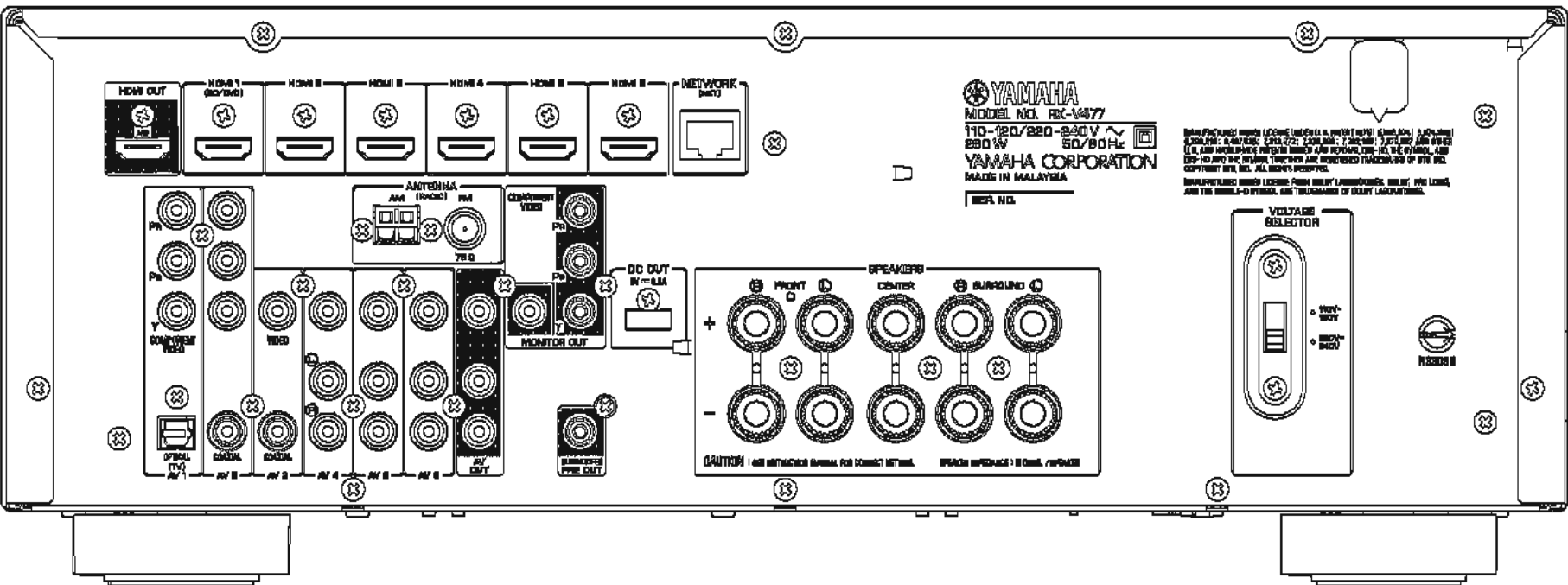


REAR PANELS

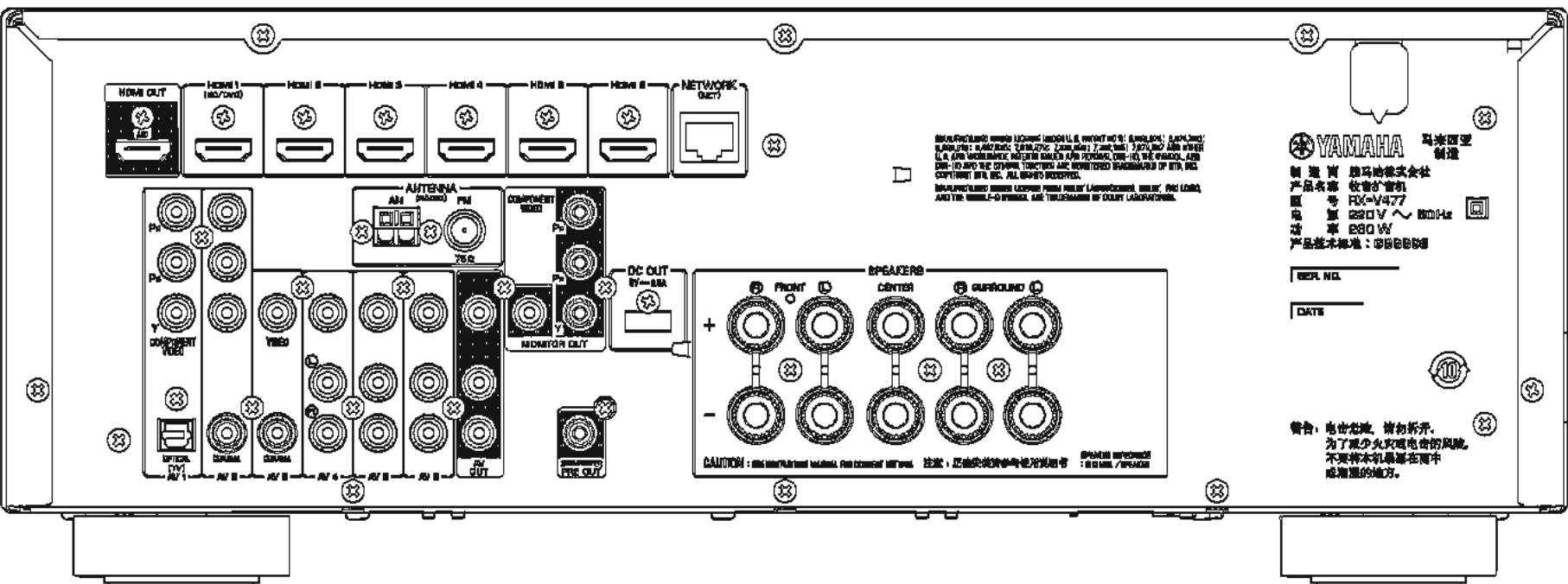
RX-V477 (U, C models)



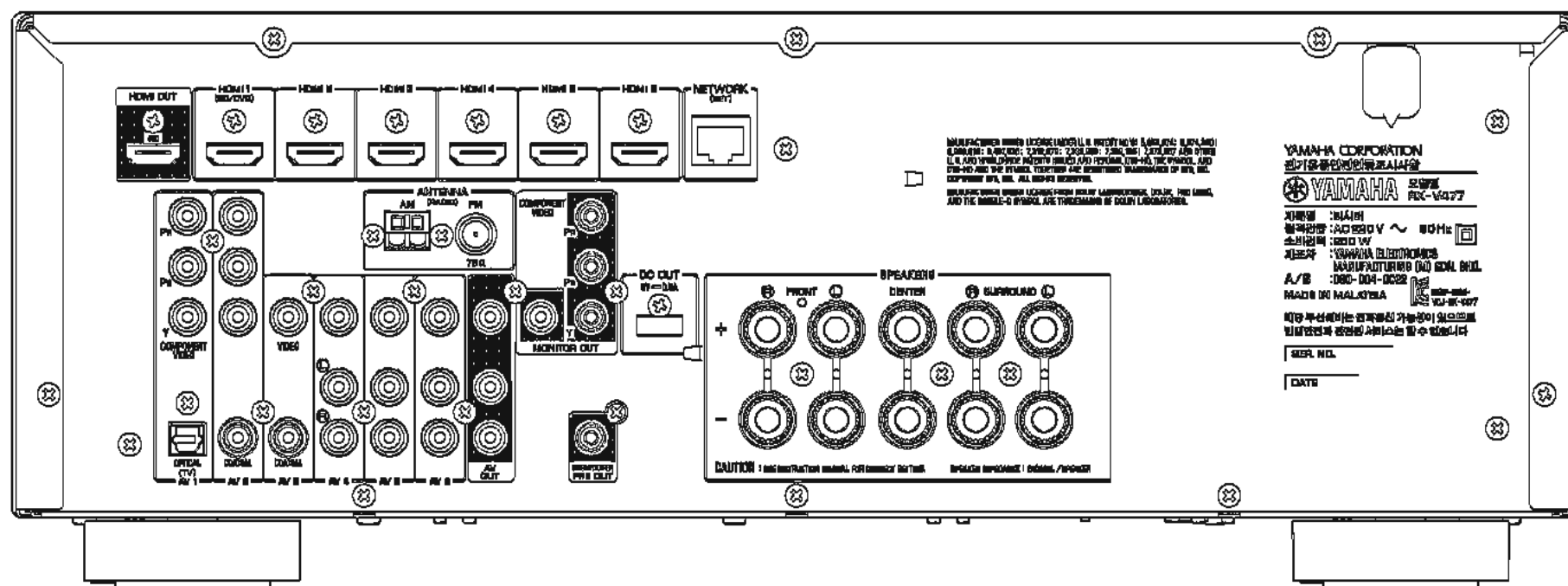
RX-V477 (R, V, S models)



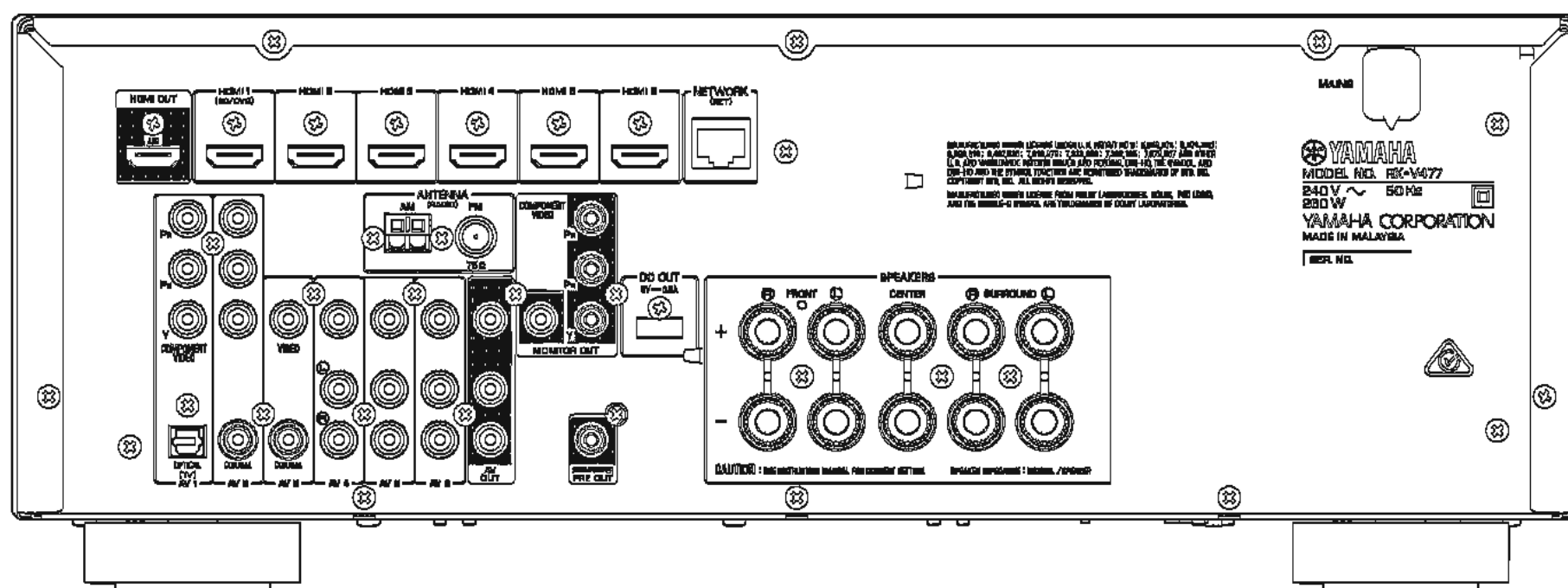
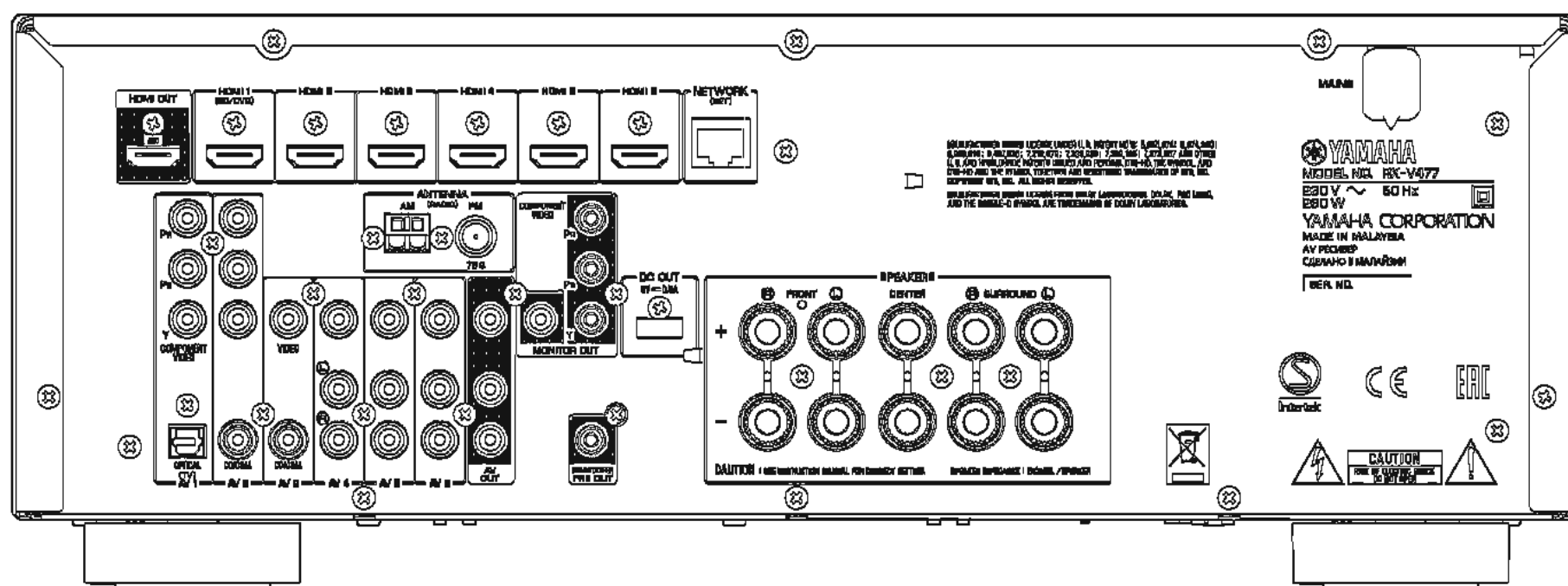
RX-V477 (T model)



## RX-V477 (K model)

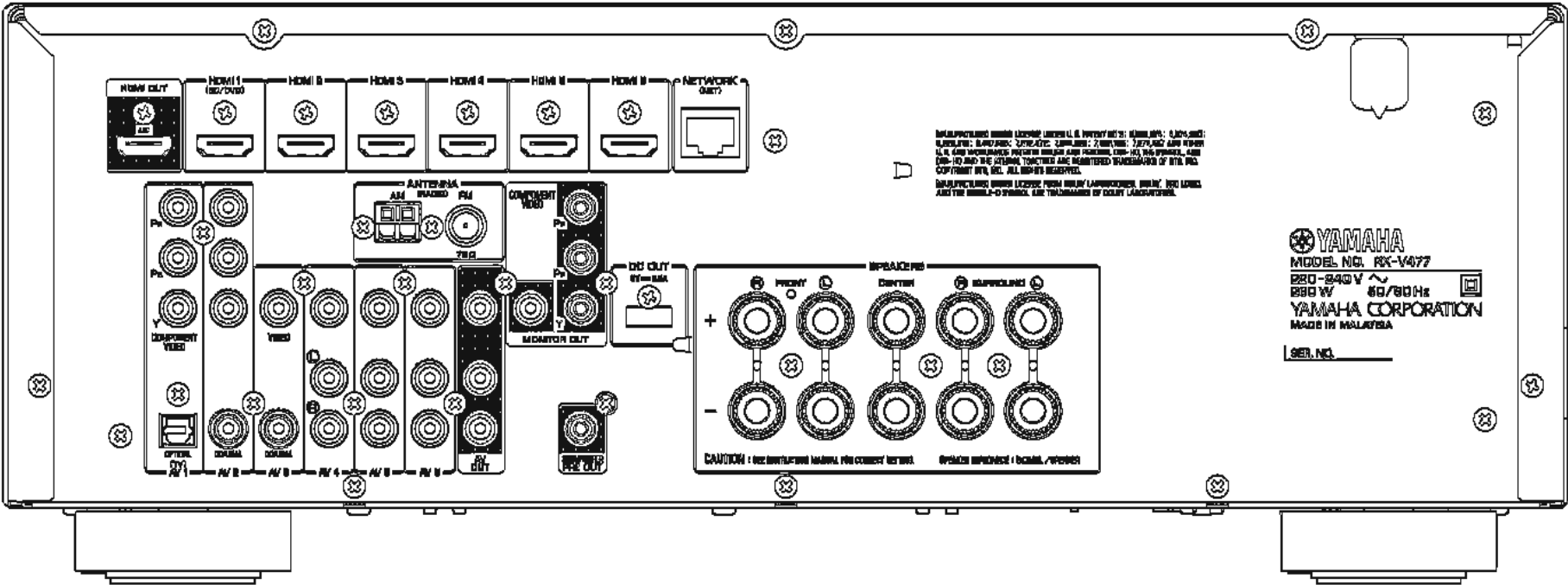


## RX-V477 (A model)

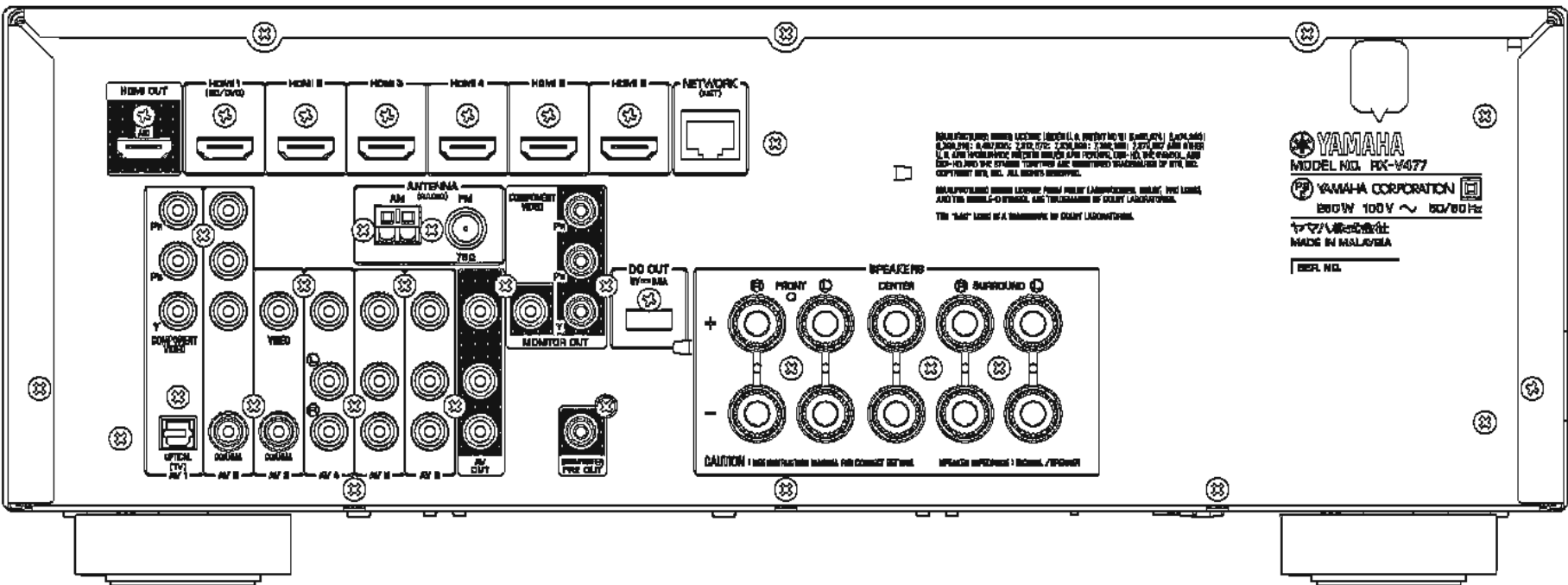
**RX-V477 (B, G, F models)**

RX-V477/HTR-4067

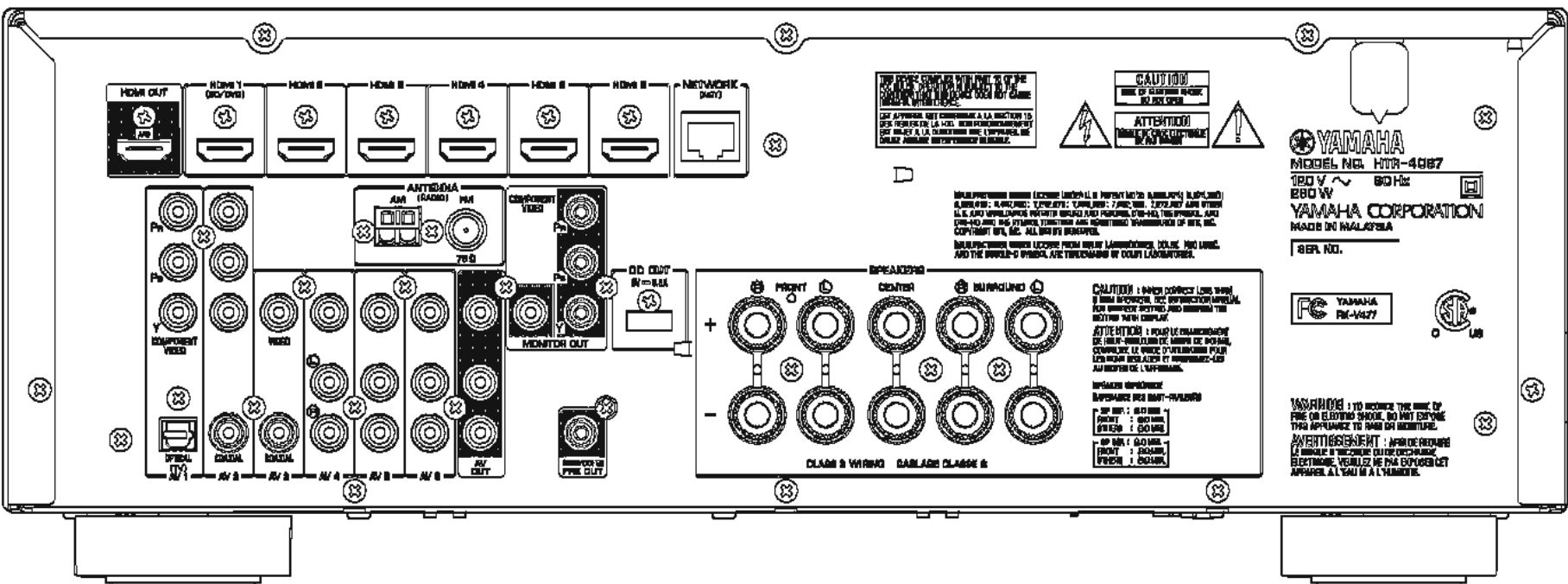
RX-V477 (L, H models)



RX-V477 (J model)

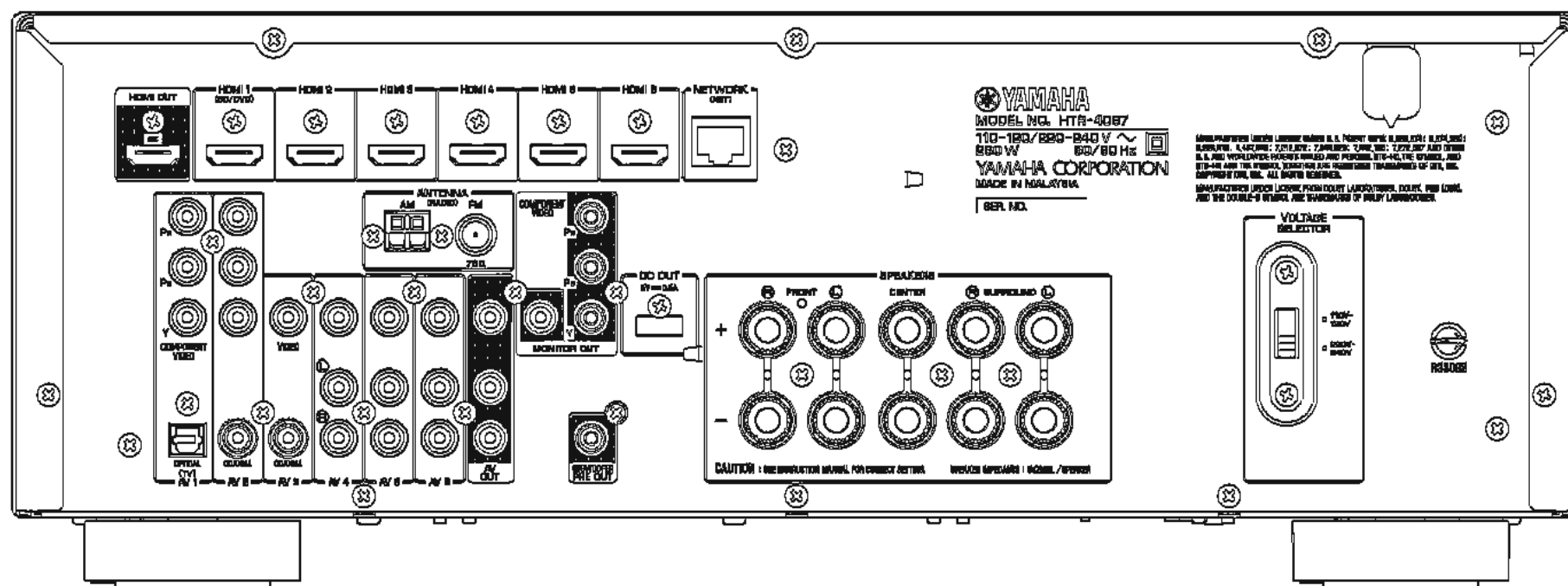


HTR-4067 (U model)

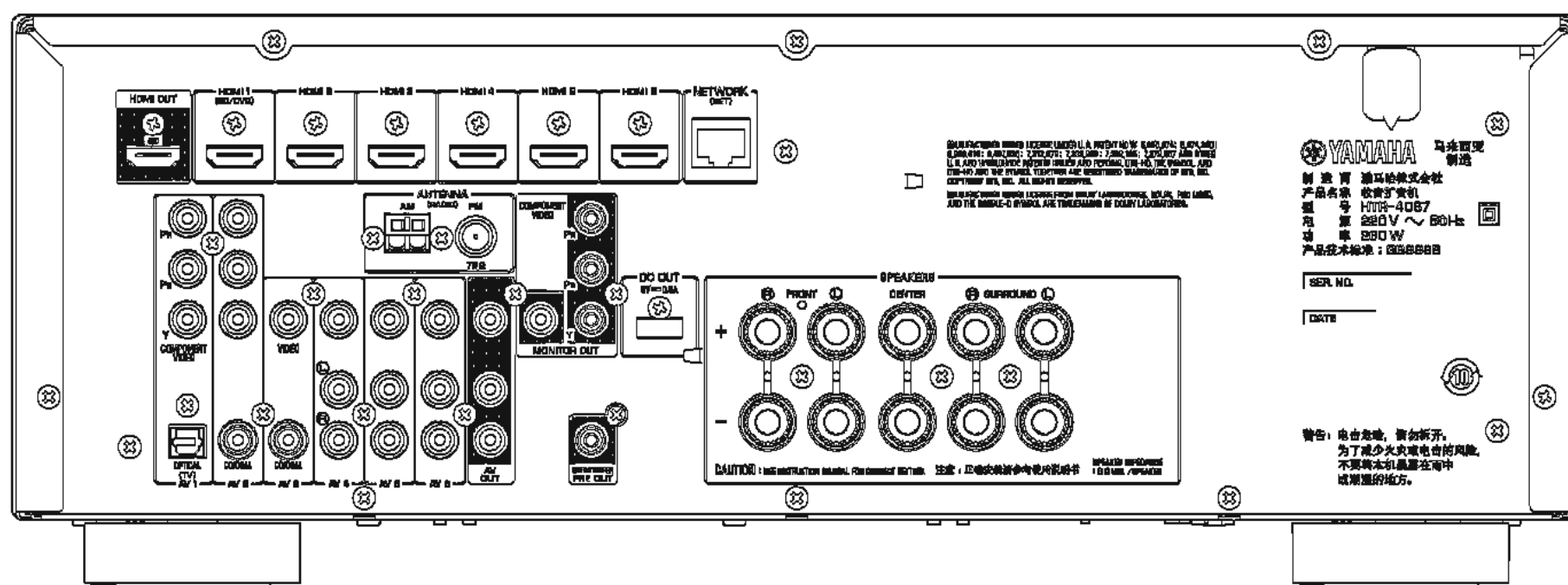




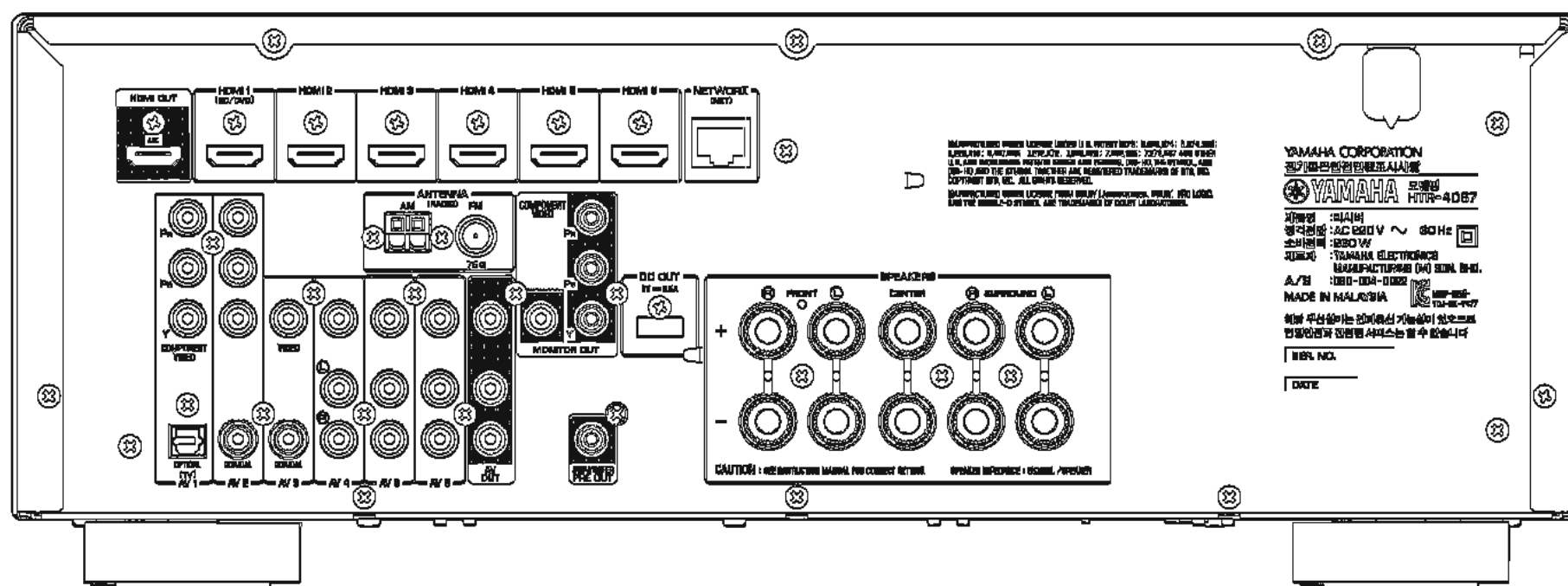
## HTR-4067 (R model)



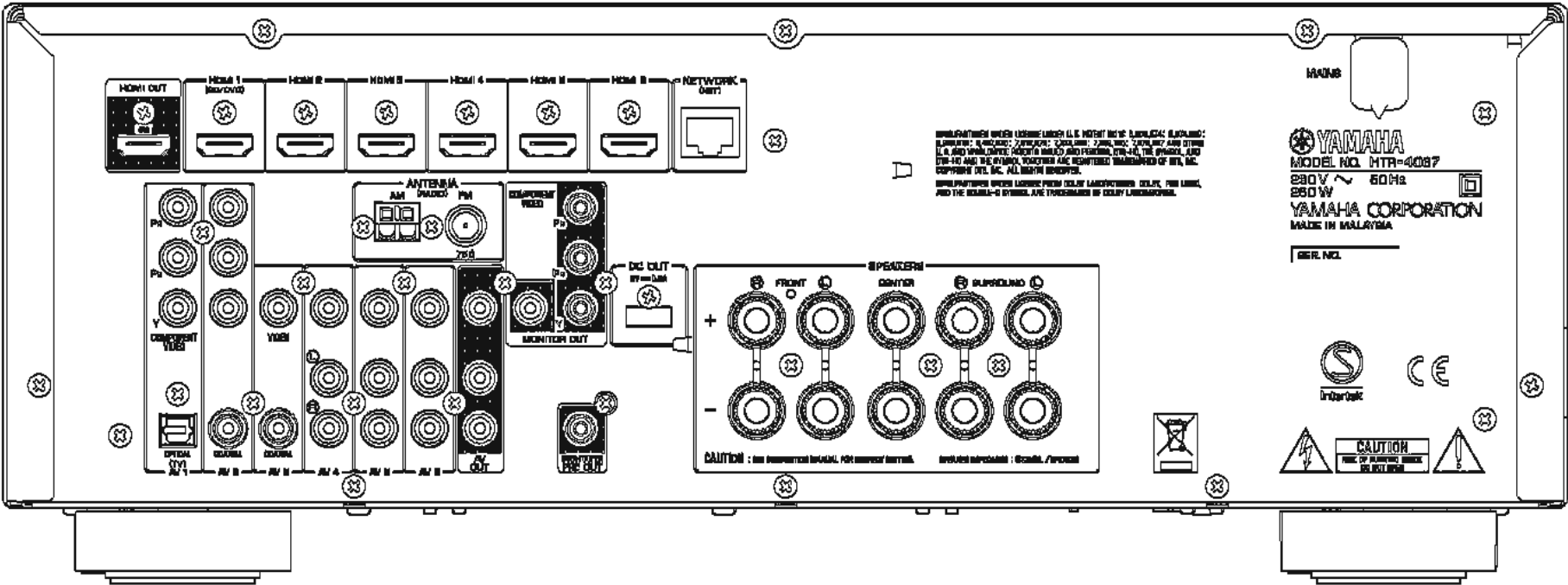
## HTR-4067 (T model)



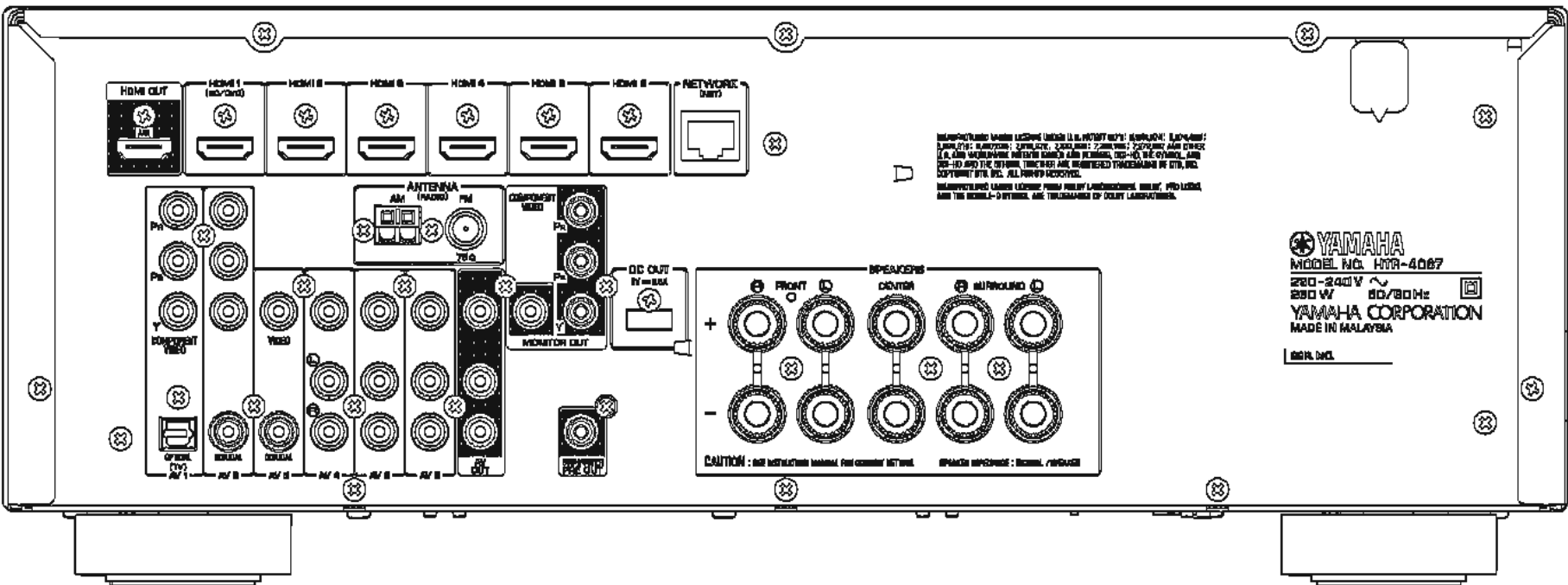
**HTR-4067 (K model)**



HTR-4067 (G model)



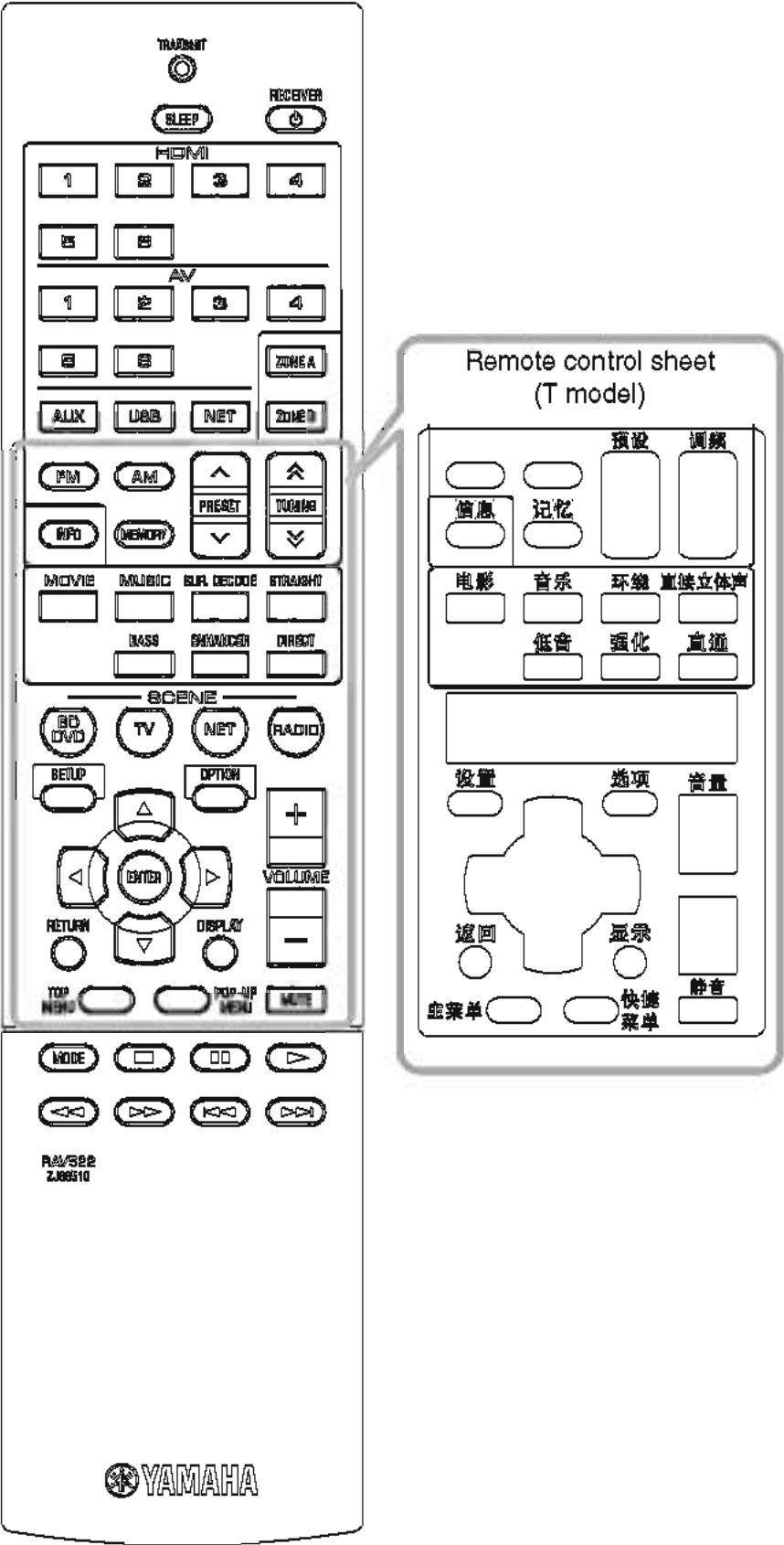
HTR-4067 (L model)





■ REMOTE CONTROL PANEL

RAV522



SPECIFICATIONS / 参考仕様

Audio Section / オーディオ部

Rated Output Power (Power Amp. Section) / 定格出力 (パワーアンプ部)

(1 kHz, 0.9 % THD)

|                                                    |             |
|----------------------------------------------------|-------------|
| - 1 channel driven -                               |             |
| U, C models (8 ohms)                               |             |
| FRONT L/R                                          | 115 W/ch    |
| CENTER                                             | 115 W       |
| SURROUND L/R                                       | 115 W/ch    |
| R, T, K, A, B, G, F, L, V, S, H, J models (6 ohms) |             |
| FRONT L/R                                          | 115 W/ch    |
| CENTER                                             | 115 W       |
| SURROUND L/R                                       | 115 W/ch    |
| - 2 channels driven simultaneously -               |             |
| U, C models (8 ohms)                               |             |
| FRONT L/R                                          | 95 W + 95 W |
| CENTER                                             | 95 W        |
| SURROUND L/R                                       | 95 W + 95 W |

(20 Hz to 20 kHz, 0.09 % THD)

|                                                    |             |
|----------------------------------------------------|-------------|
| - 2 channels driven simultaneously -               |             |
| U, C models (8 ohms)                               |             |
| FRONT L/R                                          | 80 W + 80 W |
| R, T, K, A, B, G, F, L, V, S, H, J models (6 ohms) |             |
| FRONT L/R                                          | 80 W + 80 W |

Maximum Effective Output Power / 実用最大出力 (JEITA)

(1 kHz, 10 % THD, 6 ohms / 1 channel driven)

[R, T, K, L, V, S, H, J models]

|              |          |
|--------------|----------|
| FRONT L/R    | 135 W/ch |
| CENTER       | 135 W    |
| SURROUND L/R | 135 W/ch |

Dynamic Power Per Channel / ダイナミックパワー (IHF)

FRONT L/R (1 channel driven)

|                                           |                         |
|-------------------------------------------|-------------------------|
| U, C models                               |                         |
| (8 / 6 / 4 / 2 ohms)                      | 110 / 130 / 160 / 180 W |
| R, T, K, A, B, G, F, L, V, S, H, J models |                         |
| (6 / 4 / 2 ohms)                          | 110 / 130 / 160 W       |

Damping Factor / ダンピングファクタ (20 Hz to 20 kHz, 8 ohms)

|                        |             |
|------------------------|-------------|
| FRONT L/R to SPEAKER-A | 120 or more |
|------------------------|-------------|

Input Sensitivity/Input Impedance / 入力感度／入力インピーダンス

(1 kHz, 100 W/8 ohms)

|          |                    |
|----------|--------------------|
| AV4 etc. | 200 mV / 47 k-ohms |
|----------|--------------------|

Maximum Input Signal / 最大許容入力 (1 kHz, 0.5 % THD)

|                      |       |
|----------------------|-------|
| AV4 etc. (EFFECT ON) | 2.3 V |
|----------------------|-------|

Output Level/Output Impedance / 出力電圧／出力インピーダンス

|                                             |                     |
|---------------------------------------------|---------------------|
| AV OUT                                      | 200 mV / 1.2 k-ohms |
| SUBWOOFER (2 ch stereo and FRONT SP: small) |                     |
|                                             | 1 V / 1.2 k-ohms    |

Headphone Jack Rated Output/Output Impedance /

ヘッドホン出力／出力インピーダンス (1 kHz, 50 mV, 8 ohms)

|                |                   |
|----------------|-------------------|
| AV4 etc. input | 100 mV / 470 ohms |
|----------------|-------------------|

Frequency Response / 再生周波数帯域 (10 Hz to 100 kHz)

|                 |           |
|-----------------|-----------|
| AV4 etc., FRONT | 0 / -3 dB |
|-----------------|-----------|

Signal to Noise Ratio / 信号対雑音比 (IHF-A network)

|                                                     |                |
|-----------------------------------------------------|----------------|
| AV4 etc. (DIRECT) to SP OUT (Input 1 k-ohm shorted) | 110 dB or more |
|-----------------------------------------------------|----------------|

Residual Noise / 残留ノイズ (IHF-A network)

|                     |                     |
|---------------------|---------------------|
| FRONT L/R to SP OUT | 150 $\mu$ V or less |
|---------------------|---------------------|

Channel Separation / チャンネルセパレーション

|                                  |                               |
|----------------------------------|-------------------------------|
| AV4 etc. (Input 1 k-ohm shorted) |                               |
| 1 kHz / 10 kHz                   | 70 dB or more / 50 dB or more |

Volume Control/Step / 音量可変範囲／ステップ

|  |                                         |
|--|-----------------------------------------|
|  | MUTE / -80 dB to +16.5 dB / 0.5 dB step |
|--|-----------------------------------------|

Tone Control Characteristics / トーンコントロール特性

|                    |                                     |
|--------------------|-------------------------------------|
| FRONT L/R          |                                     |
| Bass               |                                     |
| Boost/Cut          | $\pm$ 6 dB / 0.5 dB step, at 50 Hz  |
| Turnover frequency | 350 Hz                              |
| Treble             |                                     |
| Boost/Cut          | $\pm$ 6 dB / 0.5 dB step, at 20 kHz |
| Turnover frequency | 3.5 kHz                             |

Filter Characteristics / フィルタ特性

|                                        |                                                   |
|----------------------------------------|---------------------------------------------------|
| FRONT, CENTER, SURROUND small (H.P.F.) |                                                   |
|                                        | fc=40/60/80/90/100/110/120/160/200 Hz, 12 dB/oct. |
| SUBWOOFER small (L.P.F.)               |                                                   |
|                                        | fc=40/60/80/90/100/110/120/160/200 Hz, 24 dB/oct. |

Optical Jack, Coaxial Jack Support Frequencies / Optical 端子、Coaxial 端子 対応 fs

|  |                  |
|--|------------------|
|  | 32 kHz to 96 kHz |
|--|------------------|

Video Section / ビデオ部

Video Signal Type / ビデオ信号方式

|                            |      |
|----------------------------|------|
| U, C, R, K, V, S, J models | NTSC |
| T, A, B, G, F, L, H models | PAL  |

Composite Video Signal Level / コンポジットビデオ信号

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

Component Video Signal Level / コンポーネントビデオ信号

|       |                    |
|-------|--------------------|
| Y     | 1 Vp-p / 75 ohms   |
| Pb/Pr | 0.7 Vp-p / 75 ohms |

Video Maximum Input Level / ビデオ最大許容入力 (VIDEO Conversion Off)

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

Video Signal to Noise Ratio / ビデオ信号対雑音比

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

Monitor Out Frequency Response / モニター出力周波数帯域 (VIDEO Conversion Off)

Component video signal level / コンポーネントビデオ信号

|  |                       |
|--|-----------------------|
|  | 5 Hz to 60 MHz, -3 dB |
|--|-----------------------|

## ■ FM Tuner Section / FM チューナー部

### Tuning Range / 受信周波数範囲

|                         |                                                 |
|-------------------------|-------------------------------------------------|
| U, C models             | 87.5 MHz to 107.9 MHz                           |
| R, L, V, S, H models    | 87.5 MHz to 108.0 MHz / 87.50 MHz to 108.00 MHz |
| T, K, A, B, G, F models | 87.50 MHz to 108.00 MHz                         |
| J model                 | 76.0 MHz to 90.0 MHz                            |

### 50 dB Quieting Sensitivity / 50 dB SN 感度 (IHF)

(1 kHz, 100 % MOD.)

|      |                 |
|------|-----------------|
| Mono | 3 µV (20.8 dBf) |
|------|-----------------|

### Signal to Noise Ratio / 信号対雑音比 (IHF)

|        |       |
|--------|-------|
| Mono   | 71 dB |
| Stereo | 70 dB |

### Harmonic Distortion / 歪率 (1 kHz)

|        |       |
|--------|-------|
| Mono   | 0.5 % |
| Stereo | 0.6 % |

### Antenna Input / アンテナ入力

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

## ■ AM Tuner Section / AM チューナー部

### Tuning Range / 受信周波数範囲

|                            |                                     |
|----------------------------|-------------------------------------|
| U, C models                | 530 to 1,710 kHz                    |
| R, L, V, S, H models       | 530 to 1,710 kHz / 531 to 1,611 kHz |
| T, K, A, B, G, F, J models | 531 to 1,611 kHz                    |

### Antenna / アンテナ

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

## ■ General / 総合

### Power Supply / 電源電圧

|                |                                |
|----------------|--------------------------------|
| U, C models    | AC 120 V, 60 Hz                |
| R, V, S 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, F models | AC 230 V, 50 Hz                |
| L, H models    | AC 220–240 V, 50/60 Hz         |
| J model        | AC 100 V, 50/60 Hz             |

### Power Consumption / 消費電力

|  |       |
|--|-------|
|  | 260 W |
|--|-------|

### Standby Power Consumption (reference data) /

#### 待機時消費電力 (参考値)

|                                           |                 |
|-------------------------------------------|-----------------|
| HDMI control: OFF / Standby through: OFF  | 0.1 W or less   |
| CEC Standby INPUT: HDMI1 (HDMI no signal) | 0.3 W (typical) |
| HDMI control: ON / Standby through: ON    |                 |
| INPUT: HDMI1 (HDMI no signal)             | 1.0 W (typical) |
| Network standby: ON                       | 2.0 W (typical) |

### Maximum Power Consumption [R, V, S models]

|  |       |
|--|-------|
|  | 600 W |
|--|-------|

### Dimensions (W x H x D) / 寸法 (幅×高さ×奥行き)

|  |                                                 |
|--|-------------------------------------------------|
|  | 435 x 161 x 315 mm (17-1/8" x 6-3/8" x 12-3/8") |
|--|-------------------------------------------------|

### Weight / 質量

|  |                    |
|--|--------------------|
|  | 8.1 kg (17.9 lbs.) |
|--|--------------------|

### Finish / 仕上げ

[RX-V477]

|                                                 |                |
|-------------------------------------------------|----------------|
| T model                                         | Gold color     |
| U, C, R, T, K, A, B, G, F, L, V, S, H, J models | Black color    |
| A, B, G, F, L models                            | Titanium color |

[HTR-4067]

|                         |             |
|-------------------------|-------------|
| T model                 | Gold color  |
| U, R, T, K, G, L models | Black color |

### Accessories / 付属品

|                                |     |
|--------------------------------|-----|
| Remote control                 | x 1 |
| Battery (R03, AAA, UM-4)       | x 2 |
| FM antenna (1.4 m)             | x 1 |
| AM antenna (1.3 m)             | x 1 |
| YPAO microphone (6 m)          | x 1 |
| Remote control sheet (T model) | x 1 |
| Antenna isolator (T model)     | x 1 |
| Conversion plug (T model)      | x 1 |

\* Specifications are subject to change without notice.

※ 参考仕様および外観は、製品の改良のため予告なく変更することがあります。

|   |                  |   |                 |
|---|------------------|---|-----------------|
| U | U.S.A. model     | G | European model  |
| C | Canadian model   | F | Russian model   |
| R | General model    | L | Singapore model |
| T | Chinese model    | V | Taiwan model    |
| K | Korean model     | S | Brazilian model |
| A | Australian model | H | Thai model      |
| B | British model    | J | Japanese model  |



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#### Fraunhofer Institut Integrierte Schaltungen

MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson.

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This receiver supports network connections.  
本機はネットワーク接続に対応しています。



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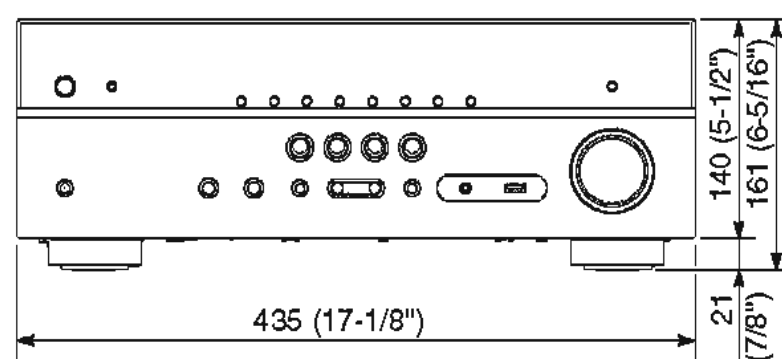
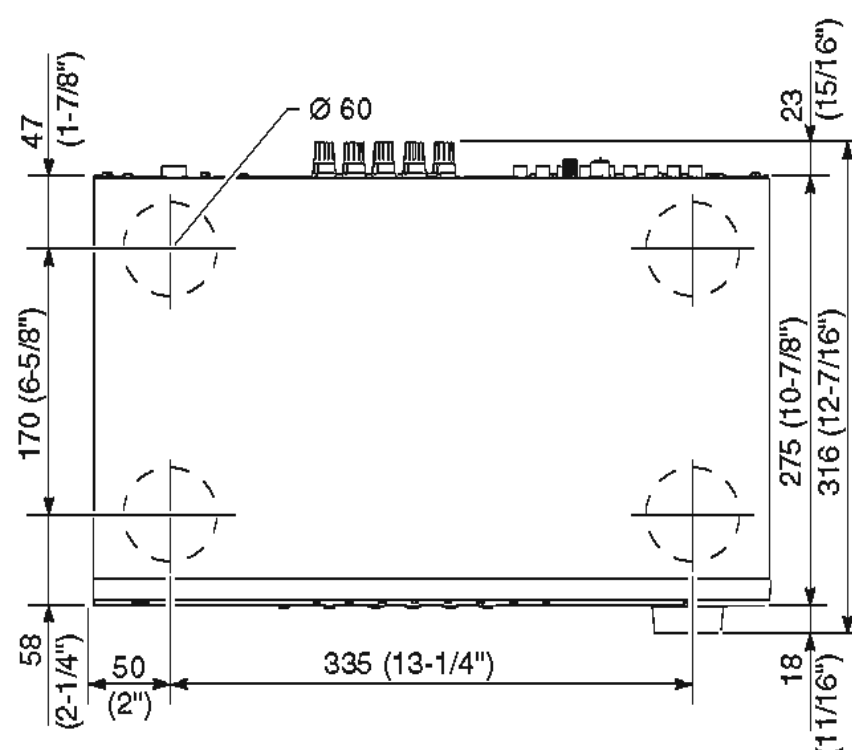
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#### • DIMENSIONS



Unit: mm (inch)  
単位: mm (インチ)

## • SET MENU TABLE

| MAIN MENU | SUB-MENU      | PARAMETER            |            |         | VALUE [INITIAL VALUE]                                                                                          |                                      |
|-----------|---------------|----------------------|------------|---------|----------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Speaker   | Configuration | Subwoofer            |            |         | [Use] / None                                                                                                   |                                      |
|           |               | Front                |            |         | [Small] / Large                                                                                                |                                      |
|           |               | Center               |            |         | [Small] / Large / None                                                                                         |                                      |
|           |               | Surround             |            |         | [Small] / Large / None                                                                                         |                                      |
|           |               | Crossover            |            |         | 40 Hz / 60 Hz / [80 Hz] / 90 Hz / 100Hz / 110 Hz / 120 Hz / 160 Hz / 200 Hz                                    |                                      |
|           |               | Subwoofer Phase      |            |         | [Normal] / Reverse                                                                                             |                                      |
|           |               | Extra Bass           |            |         | [Off] / On                                                                                                     |                                      |
|           |               | Virtual CINEMA FRONT |            |         | [Off] / On<br>* This setting is not available when “Surround” is set to “None”.<br>“Surround が None” の場合、設定不可能 |                                      |
|           | Distance      | Unit                 |            |         | Meter / Feet                                                                                                   |                                      |
|           |               | Front L              |            |         | 0.30 to 24.00 m, [3.00 m], 0.05 m step                                                                         |                                      |
|           |               | Front R              |            |         | 1.0 to 80.0 ft, [10.0 ft], 0.2 ft step                                                                         |                                      |
|           |               | Center               |            |         | 0.30 to 24.00 m, [2.60 m], 0.05 m step<br>1.0 to 80.0 ft, [8.6 ft], 0.2 ft step                                |                                      |
|           |               | Surround L           |            |         | 0.30 to 24.00 m, [2.40 m], 0.05 m step                                                                         |                                      |
|           |               | Surround R           |            |         | 1.0 to 80.0 ft, [8.0 ft], 0.2 ft step                                                                          |                                      |
|           |               | Subwoofer            |            |         | 0.30 to 24.00 m, [3.00 m], 0.05 m step<br>1.0 to 80.0 ft, [10.0 ft], 0.2 ft step                               |                                      |
|           | Level         | Front L              |            |         | -10.0 to +10.0 dB, [0.0 dB], 0.5 dB step                                                                       |                                      |
|           |               | Front R              |            |         |                                                                                                                |                                      |
|           |               | Center               |            |         | -10.0 to +10.0 dB, [-1.0 dB], 0.5 dB step                                                                      |                                      |
|           |               | Surround L           |            |         |                                                                                                                |                                      |
|           |               | Surround R           |            |         |                                                                                                                |                                      |
|           |               | Subwoofer            |            |         | -10.0 to +10.0 dB, [0.0 dB], 0.5 dB step                                                                       |                                      |
|           | Equalizer     | EQ Select            |            |         | PEQ / [GEQ] / Off<br>* “PEQ” is available only when the YPAO has been performed<br>“PEQ” は自動測定（YPAO）実行後のみ選択可能  |                                      |
|           |               | GEQ Edit             | Front L    | 63 Hz   | .....  .....                                                                                                   | -6.0 to +6.0 dB, [0 dB], 0.5 dB step |
|           |               |                      | Front R    | 160 Hz  | .....  .....                                                                                                   |                                      |
|           |               |                      | Center     | 400 Hz  | .....  .....                                                                                                   |                                      |
|           |               |                      | Surround L | 1 kHz   | .....  .....                                                                                                   |                                      |
|           |               |                      | Surround R | 2.5 kHz | .....  .....                                                                                                   |                                      |
|           |               |                      |            | 6.3 kHz | .....  .....                                                                                                   |                                      |
|           |               |                      |            | 16 kHz  | .....  .....                                                                                                   |                                      |
|           |               | Test Tone            |            |         | [Off] / On                                                                                                     |                                      |

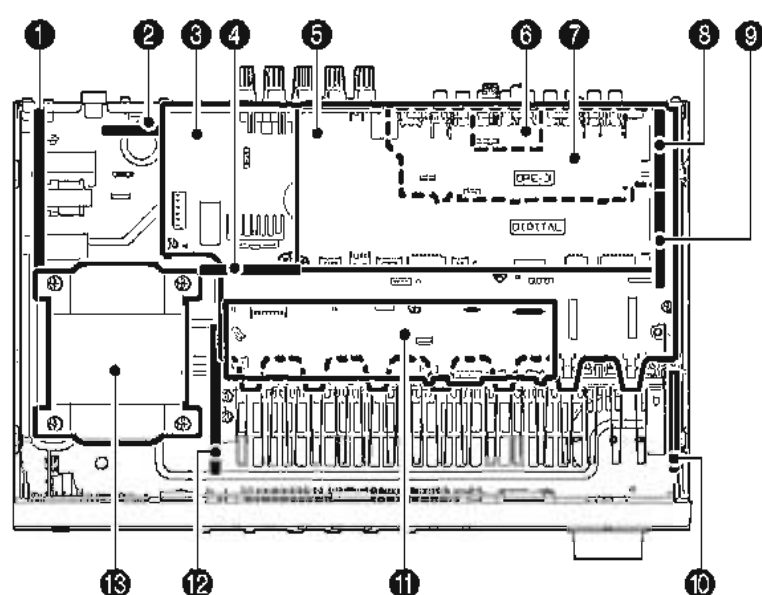
| MAIN MENU | SUB-MENU      | PARAMETER                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                             | VALUE [INITIAL VALUE]                                                                                                                          |                                                                                                                                                                                      |
|-----------|---------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HDMI      | Configuration | HDMI Control                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                             | [Off] / On (U, C, R, T, K, A, B, G, F, L, V, S, H models)<br>Off / [On] (J model)                                                              |                                                                                                                                                                                      |
|           |               | Audio Output                                                                                              | Amp                                                                                                                                                                                                                                                                                                                                                                                                                         | Off / [On]                                                                                                                                     |                                                                                                                                                                                      |
|           |               |                                                                                                           | HDMI OUT (TV)                                                                                                                                                                                                                                                                                                                                                                                                               | [Off] / On                                                                                                                                     |                                                                                                                                                                                      |
|           |               | * This setting is available only when "HDMI Control" is set to "Off".<br>"HDMI Control" が "Off" の場合のみ設定可能 |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                |                                                                                                                                                                                      |
|           |               | Standby Through                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                             | Off / [Auto] / On<br>* This setting is available only when "HDMI Control" is set to "Off".<br>"HDMI Control" が "Off" の場合のみ設定可能                 |                                                                                                                                                                                      |
|           |               | TV Audio Input                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                             | AV1 / AV2 / AV3 / [AV4] / AV5 / AV6<br>* This setting is available only when "HDMI Control" is set to "On".<br>"HDMI Control" が "On" の場合のみ設定可能 |                                                                                                                                                                                      |
|           |               | Standby Sync                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                             | Off / On / [Auto]<br>* This setting is available only when "HDMI Control" is set to "On".<br>"HDMI Control" が "On" の場合のみ設定可能                   |                                                                                                                                                                                      |
|           |               | ARC                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                             | Off / [On]<br>* This setting is available only when "HDMI Control" is set to "On".<br>"HDMI Control" が "On" の場合のみ設定可能                          |                                                                                                                                                                                      |
|           |               | SCENE                                                                                                     | BD / DVD                                                                                                                                                                                                                                                                                                                                                                                                                    | Off / [On]                                                                                                                                     |                                                                                                                                                                                      |
|           |               |                                                                                                           | TV                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                |                                                                                                                                                                                      |
|           |               |                                                                                                           | NET                                                                                                                                                                                                                                                                                                                                                                                                                         | [Off] / On                                                                                                                                     |                                                                                                                                                                                      |
|           |               |                                                                                                           | RADIO                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                |                                                                                                                                                                                      |
|           |               | * This setting is available only when "HDMI Control" is set to "On".<br>"HDMI Control" が "On" の場合のみ設定可能   |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                |                                                                                                                                                                                      |
| Sound     | DSP Parameter | CINEMA DSP 3D Mode                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                             | Off / [On]                                                                                                                                     |                                                                                                                                                                                      |
|           |               | Panorama                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                             | [Off] / On                                                                                                                                     |                                                                                                                                                                                      |
|           |               | Center Width                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                             | 0 to 7, [3]                                                                                                                                    |                                                                                                                                                                                      |
|           |               | Dimension                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                             | -3 to +3, [0]                                                                                                                                  |                                                                                                                                                                                      |
|           |               | Center Image                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.0 to 1.0, [0.3]                                                                                                                              |                                                                                                                                                                                      |
|           | Lipsync       | Select                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                             | Manual / [Auto]                                                                                                                                |                                                                                                                                                                                      |
|           |               | Adjustment                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                             | 0 to 500 ms, [0 ms], 1 ms step                                                                                                                 |                                                                                                                                                                                      |
|           | Volume        | Scale                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                             | [dB] / 0 to 97                                                                                                                                 |                                                                                                                                                                                      |
|           |               | Dynamic Range                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                             | [Maximum] / Standard / Min/Auto                                                                                                                |                                                                                                                                                                                      |
|           |               | Max Volume                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                             | -30.0 to +15.0 dB / +16.5 dB (Maximum volume), [+16.5 dB], 5.0 dB step                                                                         |                                                                                                                                                                                      |
|           |               | Initial Volume                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                             | [Off] / Mute / -80.0 to +16.5 dB, 0.5 dB step                                                                                                  |                                                                                                                                                                                      |
|           | ECO           | Auto Power Standby                                                                                        | Power Mode                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                | U, C, R, T, K, A, F, L, V, S, H, J models:<br>[Off] 20 minutes / 2 hours / 4 hours / 8 hours / 12 hours<br>B, G models:<br>Off [20 minutes] / 2 Hours / 4 Hours / 8 Hours / 12 Hours |
| ECO Mode  |               | [Off] / On                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                |                                                                                                                                                                                      |
| Function  | Input Rename  |                                                                                                           | Input sources: HDMI1 / HDMI2 / HDMI3 / HDMI4 / HDMI5 / HDMI6 /<br>AV1 / AV2 / AV3 / AV4 / AV5 / AV6 / USB / AUX<br>Input is possible to 9 characters<br>Input possible Character type<br>Capital: A to Z<br>Small: a to z<br>Figure: 0 to 9<br>Symbols: / ( ) = + , - etc.<br>Space<br>Preset name select: Blu-ray / DVD / SetTopBox / Game / TV / DVR /<br>CD / CD-R / Satellite / VCR / Tape / MD / PC /<br>iPod / HD DVD |                                                                                                                                                |                                                                                                                                                                                      |
|           | Dimmer        |                                                                                                           | -4 to 0 (higher to brighten), [0]                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                |                                                                                                                                                                                      |
|           | Memory Guard  |                                                                                                           | [Off] / On                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                |                                                                                                                                                                                      |
|           | DC OUT        | Power Mode                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                             | [Continuous] / Power Sync.                                                                                                                     |                                                                                                                                                                                      |



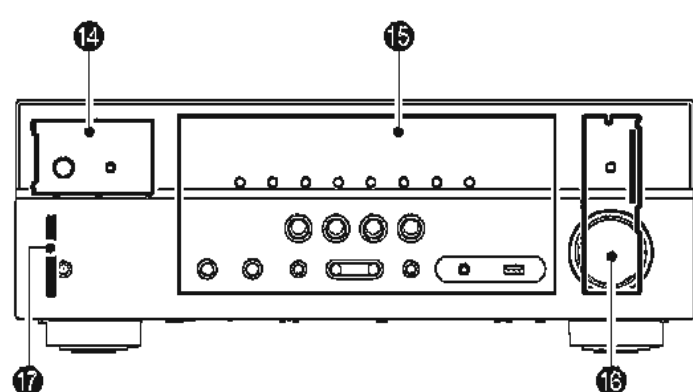
| MAIN MENU                                                  | SUB-MENU           | PARAMETER                                                                                              |                                    | VALUE [INITIAL VALUE]                                                                                                                                       |
|------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network                                                    | Information        | Status                                                                                                 |                                    | Disconnect / Connect (status of the NETWORK jack)                                                                                                           |
|                                                            |                    | MAC Address                                                                                            |                                    | xx:xx:xx:xx:xx:xx                                                                                                                                           |
|                                                            |                    | IP Address                                                                                             |                                    | xxx.xxx.xxx. x                                                                                                                                              |
|                                                            |                    | Subnet Mask                                                                                            |                                    | xxx.xxx.xxx. x                                                                                                                                              |
|                                                            |                    | Default Gateway                                                                                        |                                    | xxx.xxx.xxx. x                                                                                                                                              |
|                                                            |                    | DNS Server                                                                                             | (Primary)                          | xxx.xxx.xxx. x                                                                                                                                              |
|                                                            |                    |                                                                                                        | (Secondary)                        | xxx.xxx.xxx. x                                                                                                                                              |
|                                                            |                    | vTuner (Internet radio) ID                                                                             |                                    | xxxxxxxxxxxx                                                                                                                                                |
|                                                            | IP Address         | DHCP                                                                                                   |                                    | Off / [On]                                                                                                                                                  |
|                                                            |                    | * The following setting is available only when "DHCP" is set to "Off".<br>以下は "DHCP" が "Off" の場合のみ設定可能 |                                    |                                                                                                                                                             |
|                                                            |                    | IP Address                                                                                             |                                    | xxx.xxx.xxx. x                                                                                                                                              |
|                                                            |                    | Subnet Mask                                                                                            |                                    | xxx.xxx.xxx. x                                                                                                                                              |
|                                                            |                    | Default Gateway                                                                                        |                                    | xxx.xxx.xxx. x                                                                                                                                              |
|                                                            |                    | DNS Server                                                                                             | (Primary)                          | xxx.xxx.xxx. x                                                                                                                                              |
|                                                            |                    |                                                                                                        | (Secondary)                        | xxx.xxx.xxx. x                                                                                                                                              |
|                                                            | MAC Address Filter |                                                                                                        | [Off] / On                         |                                                                                                                                                             |
|                                                            |                    | MAC Address 1-10                                                                                       |                                    | xx:xx:xx:xx:xx:xx<br>* This setting is available only when "MAC Address Filter" is set to "On".<br>"MAC Address Filter" が "On" の場合のみ設定可能                    |
|                                                            | DMC Control        |                                                                                                        | Disable / [Enable]                 |                                                                                                                                                             |
|                                                            | Network Standby    |                                                                                                        | [Off] / On                         |                                                                                                                                                             |
|                                                            | Network Name       |                                                                                                        | Input is possible to 15 characters |                                                                                                                                                             |
|                                                            | Network Update     | Perform Update                                                                                         |                                    |                                                                                                                                                             |
|                                                            |                    | Firmware Version                                                                                       |                                    | x.xx                                                                                                                                                        |
|                                                            |                    | System ID                                                                                              |                                    | xxxxxxxx                                                                                                                                                    |
| Language<br>(U, C, R, T, K, A, B, G, F, L, V, S, H models) |                    |                                                                                                        |                                    | English (English) / 日本語 (Japanese) / Français (French) /<br>Deutsch (German) / Español (Spanish) / Русский (Russian) /<br>Italiano (Italian) / 中文 (Chinese) |

## INTERNAL VIEW

Top view



Front view



- ① OPERATION (2) P.C.B.
- ② MAIN (4) P.C.B. (R, V, S models)
- ③ MAIN (1) P.C.B.
- ④ OPERATION (8)
- ⑤ DIGITAL P.C.B.
- ⑥ AM/FM TUNER
- ⑦ OPERATION (3) P.C.B.
- ⑧ MAIN (3) P.C.B.
- ⑨ MAIN (2) P.C.B.
- ⑩ MAIN (5) P.C.B.
- ⑪ OPERATION (4) P.C.B.
- ⑫ MAIN (6) P.C.B.
- ⑬ POWER TRANSFORMER
- ⑭ OPERATION (5) P.C.B.
- ⑮ OPERATION (1) P.C.B.
- ⑯ OPERATION (6) P.C.B.
- ⑰ OPERATION (7) P.C.B.

## SERVICE PRECAUTIONS / サービス時の注意事項

### Safety measures

- Some internal parts in this product contain high voltages and are dangerous.

Be sure to take safety measures during servicing, such as wearing insulating gloves.

- Note that the capacitors indicated below are dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there.

Before starting any repair work, connect a discharging resistor (5 k-ohms/10 W) to the terminals of each capacitor indicated below to discharge electricity.

The time required for discharging is about 30 seconds per each.

C2185 and C2186 on MAIN (1) P.C.B.

C5419 on OPERATION (2) P.C.B.

For details, refer to "PRINTED CIRCUIT BOARDS".

### 安全対策

- この製品の内部には高電圧部分があり危険です。修理の際は、絶縁性の手袋を使用するなどの安全対策を行ってください。

- 下記のコンデンサには電源を OFF にした後も電荷が残り、高電圧が維持されており危険です。

修理作業前に放電用抵抗 (5 k  $\Omega$  /10 W) を下記の各コンデンサの端子間に接続して放電してください。

放電所用時間は各々約 30 秒間です。

MAIN (1) P.C.B. の C2185、C2186

OPERATION (2) P.C.B. の C5419

詳しくは "PRINTED CIRCUIT BOARDS" を参照してください。



## ■ DISASSEMBLY PROCEDURES / 分解手順

(Remove parts in the order as numbered.)

Disconnect the power cable from the AC outlet.

(番号順に部品を外してください。)

AC 電源コンセントから、電源コードを抜いてください。

### 1. Removal of Top Cover

- Remove 4 screws (①) and 5 screws (②). (Fig. 1)
- Lift the rear of the top cover to remove it. (Fig. 1)

### 1. トップカバーの外し方

- ① のネジ 4 本、② のネジ 5 本を外します。(Fig. 1)
- トップカバーの後部を持ち上げ、外します。(Fig. 1)

### 2. Removal of Front Panel Unit

- Remove 7 screws (③), and remove W4501 and W4761. (Fig. 1)
- Remove CB21, CB351, CB477 and CB953. (Fig. 1)
- Unlock and remove CB525. (Fig. 1)
- Release 2 hooks on both ends and remove the front panel unit. (Fig. 1)

### 2. フロントパネルユニットの外し方

- ③ のネジ 7 本を外し、W4501、W4761 を外します。(Fig. 1)
- CB21、CB351、CB477、CB953 を外します。(Fig. 1)
- ロックを外し、CB525 を外します。(Fig. 1)
- フック 2 箇所を外し、フロントパネルユニットを外します。(Fig. 1)

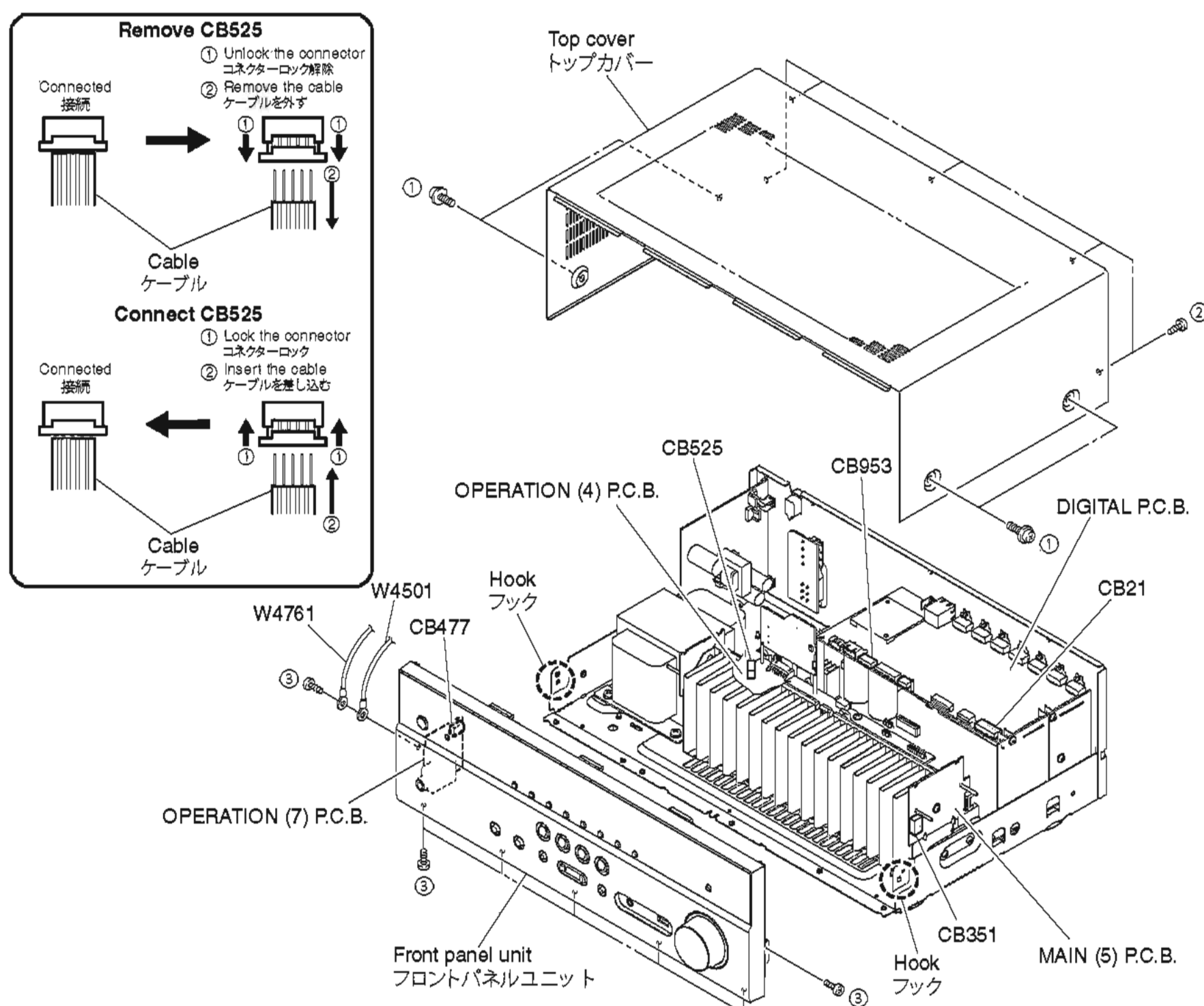


Fig. 1

### 3. Removal of DIGITAL P.C.B.

- Remove 1 screw (④) and 7 screws (⑤). (Fig. 3)
- Remove 3 screws (⑥). (Fig. 2)
- Remove CB22, CB23, CB26, CB954 and CB955. (Fig. 2)
- Unlock and remove CB25. (Fig. 2)
- Remove the DIGITAL P.C.B. which is connected directly to the MAIN (2) P.C.B. and MAIN (3) P.C.B. with board-to-board connectors. (Fig. 2)

### 4. Removal of AMP Unit

- Remove 3 screws (⑦), 4 screws (⑧) and 2 screws (⑨). (Fig. 2)
- Remove 3 screws (⑩). (Fig. 3)
- Remove the amp unit. (Fig. 2)

### 3. DIGITAL P.C.B. の外し方

- ④ のネジ 1 本、⑤ のネジ 7 本を外します。 (Fig. 3)
- ⑥ のネジ 3 本を外します。 (Fig. 2)
- CB22、CB23、CB26、CB954、CB955 を外します。 (Fig. 2)
- ロックを外し、CB25 を外します。 (Fig. 2)
- DIGITAL P.C.B. を外します。ただし、DIGITAL P.C.B. は MAIN (2) P.C.B.、MAIN (3) P.C.B. に基板対基板コネクタで直接接続されています。 (Fig. 2)

### 4. アンプユニットの外し方

- ⑦ のネジ 3 本、⑧ のネジ 4 本、⑨ のネジ 2 本を外します。 (Fig. 2)
- ⑩ のネジ 3 本を外します。 (Fig. 3)
- アンプユニットを外します。 (Fig. 2)

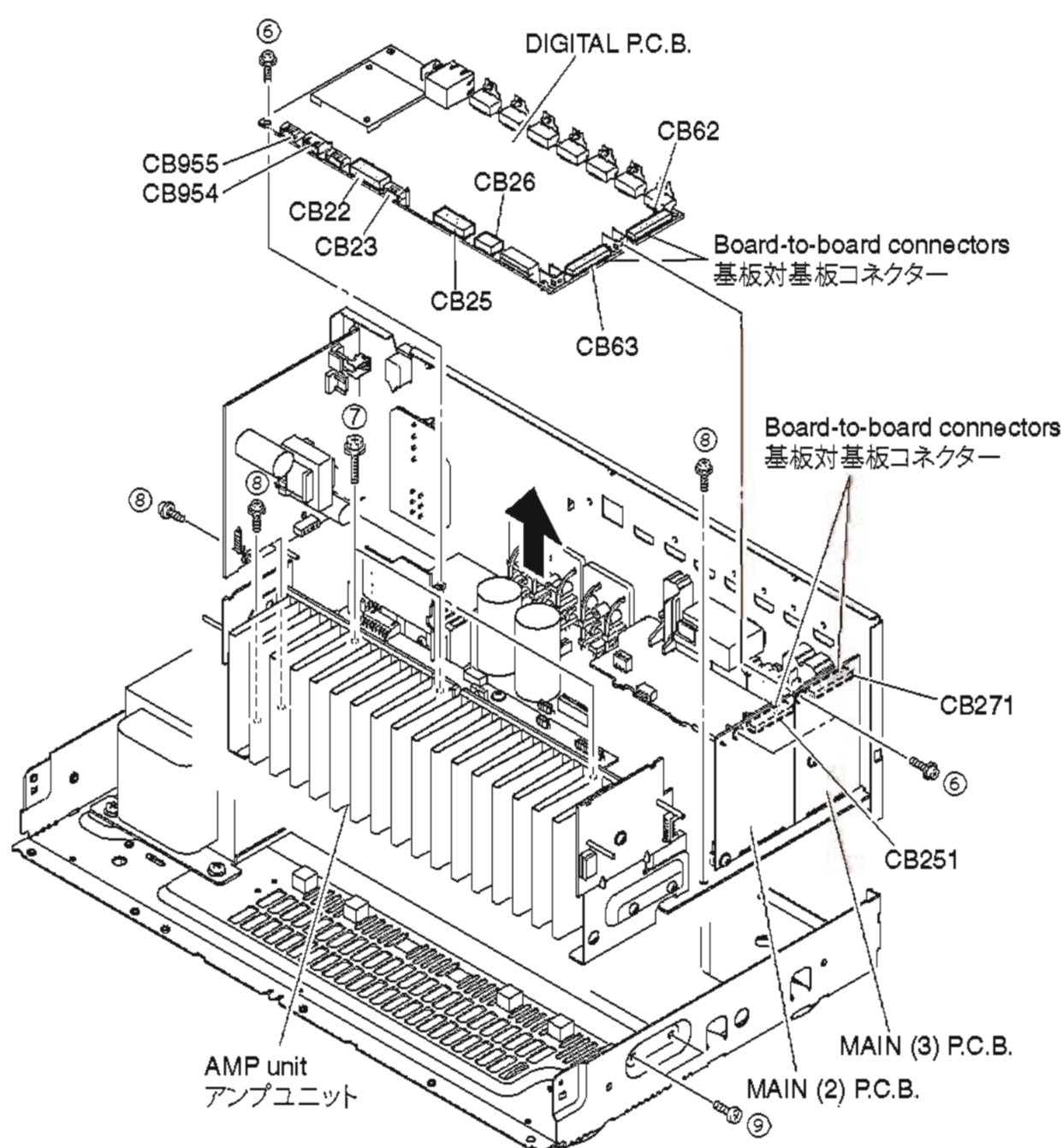
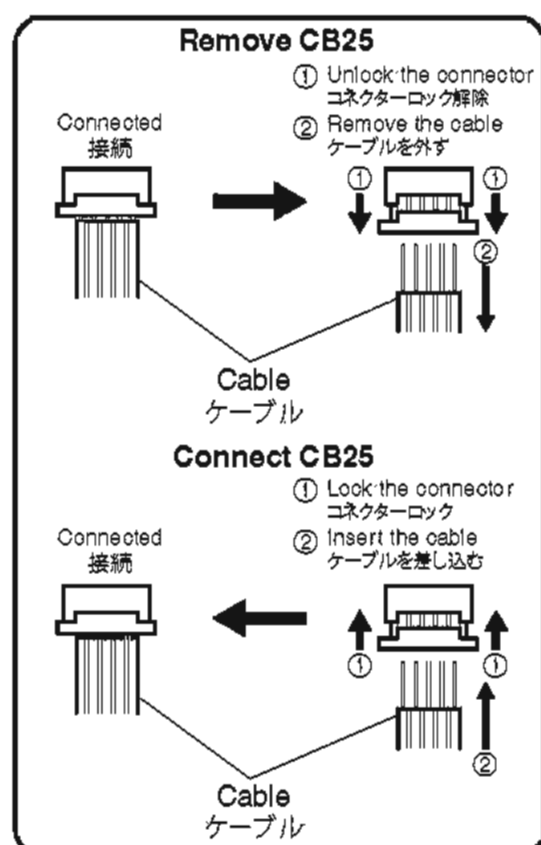


Fig. 2

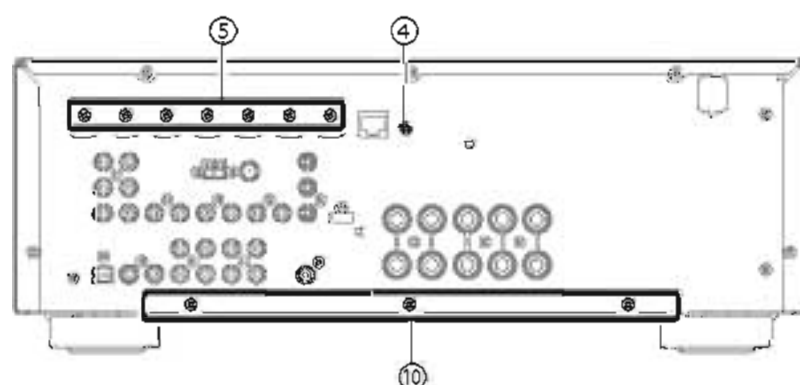


Fig. 3

**When checking the MAIN (1) P.C.B.:**

- Place the P.C.B.s (with rear panel) upright. (Fig. 4)
- Connect the heatsink and rear panel to the chassis with a ground lead or the like. (Fig. 4)
- Reconnect all cables (connectors) that have been disconnected.
- When connecting the flexible flat cable, be careful with polarity.

**MAIN (1) P.C.B. をチェックする場合には：**

- リアパネルと一緒に P.C.B. を立ち上げて置きます。(Fig. 4)
- ヒートシンク、リアパネルをリード線等でシャーシに接続してください。(Fig. 4)
- 外したケーブル（コネクター）をすべて接続します。
- フラットケーブルを接続する際、極性に注意してください。

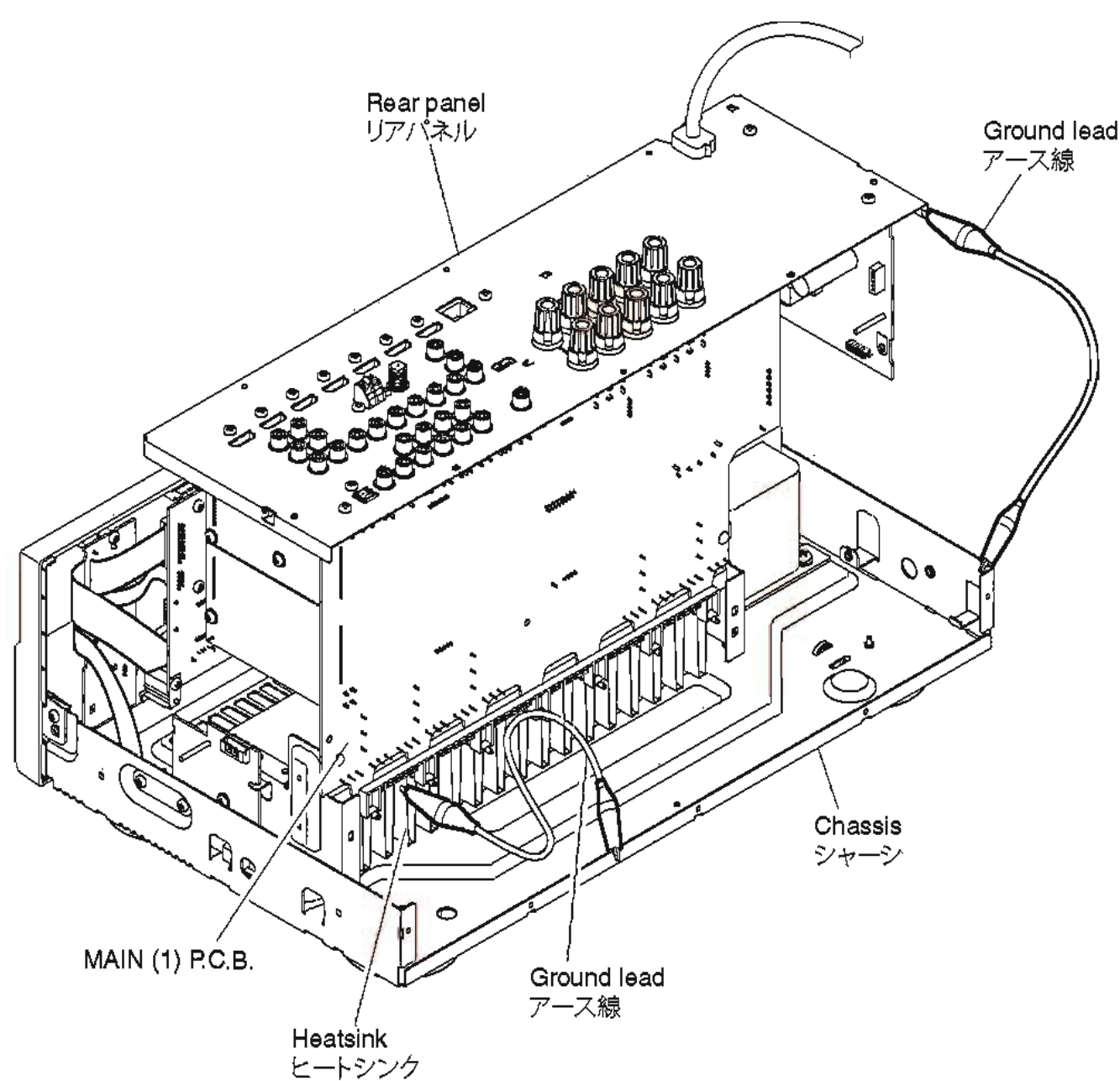


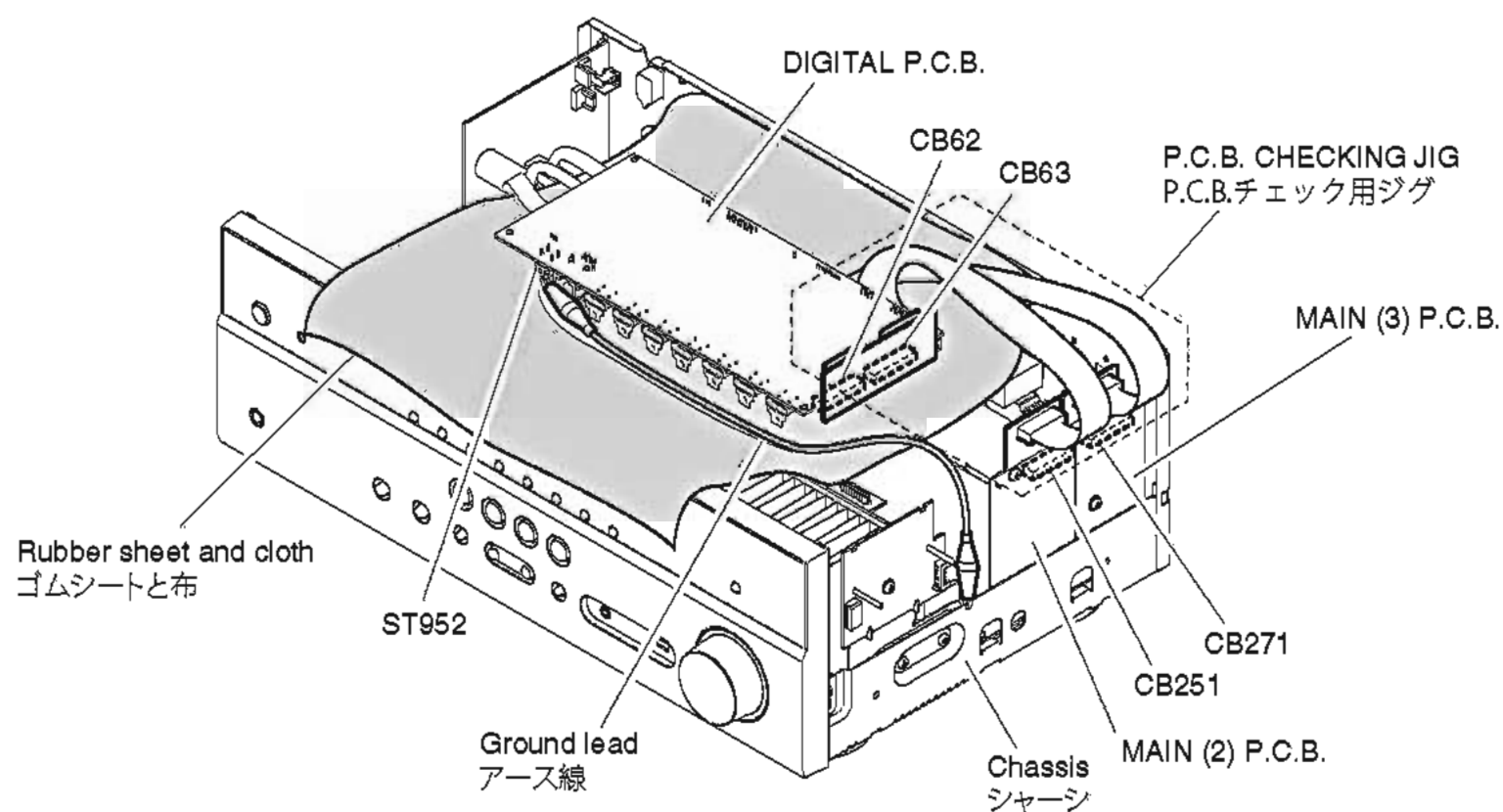
Fig. 4

**When checking the DIGITAL P.C.B.:**

- Put the rubber sheet and cloth over this unit, and place the DIGITAL P.C.B. on them. (Fig. 5)
- Connect ST952 on DIGITAL P.C.B. to the chassis with a ground lead. (Fig. 5)
- Reconnect all cables (connectors) that have been disconnected. Be sure to use the P.C.B. CHECKING JIG (Part No. ZG780000) to connect between the following connectors.
  - CB62 on DIGITAL P.C.B. – CB271 on MAIN (3) P.C.B.
  - CB63 on DIGITAL P.C.B. – CB251 on MAIN (2) P.C.B.
- When connecting the flexible flat cable, be careful with polarity.

**DIGITAL P.C.B. をチェックする場合には：**

- 本機の上にゴムシートと布を敷き、その上に DIGITAL P.C.B. を置きます。(Fig. 5)
- DIGITAL P.C.B. の ST952 のアースをリード線でシャーシに接続してください。(Fig. 5)
- 外したケーブル（コネクタ）をすべて接続します。ただし下記のコネクター間を接続するには P.C.B. チェック用ジグ（部品番号：ZG780000）を使用してください。
  - DIGITAL P.C.B. の CB62 – MAIN (3) P.C.B. の CB271
  - DIGITAL P.C.B. の CB63 – MAIN (2) P.C.B. の CB251
- フラットケーブルを接続する際、極性に注意してください。

**Fig. 5**

## ■ UPDATING FIRMWARE / ファームウェアのアップデート

When the following parts are replaced, the firmware must be updated to the latest version.

DIGITAL P.C.B.  
IC2 on DIGITAL P.C.B.  
IC42 on DIGITAL P.C.B.  
IC953 on DIGITAL P.C.B.

下記の部品を交換した場合、ファームウェアを最新バージョンにアップデートする必要があります。

DIGITAL P.C.B.  
DIGITAL P.C.B. の IC2  
DIGITAL P.C.B. の IC42  
DIGITAL P.C.B. の IC953

### ● Confirmation of firmware version

Before and after updating the firmware, check the firmware version by using the self-diagnostic function menu.

Start up the self-diagnostic function and select "S4. ROM VERSION/CHECKSUM" menu.

Using the sub-menu, have the firmware version displayed, and note them down.

(For details, refer to "SELF-DIAGNOSTIC FUNCTION")

\* When the firmware version is different from written one after updating, perform the updating procedure again from the beginning.

### ● ファームウェアのバージョンの確認

ファームウェアのアップデートの前後に、ファームウェアのバージョンをダイアグで確認します。

ダイアグを起動し、"S4. ROM VERSION/CHECKSUM" メニューを選択します。

サブメニューでファームウェアのバージョンを表示し、それらを書きとめます。

(詳細は "ダイアグ" を参照してください。)

※ アップデート後、ファームウェアのバージョンが書き込まれたものと異なる場合、アップデートの操作を最初からやり直してください。

### ● Initializing the back-up IC (EEPROM: IC22 on DIGITAL P.C.B.)

After updating the firmware, the back-up IC MUST be initialized by the following procedure store the setting information (soundfield parameters, system memory and tuner presetting, etc.) properly.

Start up the self-diagnostic function and select "S3. FACTORY PRESET" menu.

(For details, refer to "SELF-DIAGNOSTIC FUNCTION")

Select "PRESET RSRV", press the "⏻" (Power) key to turn off the power once and turn on the power again. Then the back-up IC is initialized.

### ● バックアップ IC の初期化 (EEPROM : DIGITAL P.C.B. の IC22)

ファームウェアのアップデート後、設定情報（音場プログラムのパラメーターやシステムメモリー、チューナープリセット等）を正常に保存するために、下記の方法でバックアップ IC を初期化する必要があります。

本機のダイアグを起動し、"S3. FACTORY PRESET" メニューを選択します。

(詳細は "ダイアグ" を参照してください。)

"PRESET RSRV" を選択し、"⏻"（電源）キーを押して電源を一度きってから、もう一度電源を入れるとバックアップ IC が初期化されます。

### ● Required Tools

- USB storage device
- Firmware .....R0352-xxxx.bin

### ● 必要なツール

- USB フラッシュメモリー
- ファームウェア .....R0352-xxxx.bin

### ● Preparation

1. Download the latest firmware from the specified download source to the folder of the PC.
2. Copy the latest firmware from the PC to the root folder of the USB storage device.

**Note:** When the latest firmware is copied to a subfolder of the USB storage device, the update will not proceed.

### ● 準備

1. 指定のダウンロード先から、最新のファームウェアを PC のフォルダへダウンロードしてください。
2. PC から USB フラッシュメモリーのルートフォルダへ最新のファームウェアをコピーします。

**注意:** 最新のファームウェアをサブフォルダにコピーした場合、書き込みはできません。



● Operation Procedures

- 1. Disconnect the power cable from the AC outlet.
- 2. Insert the USB storage device to the USB Jack. (Fig. 1)
- 3. While pressing the "INFO" key, connect the power cable to the AC outlet. (Fig. 1)

● 操作手順

- 1. 電源コードを AC コンセントから抜きます。
- 2. USB 端子に USB フラッシュメモリーを差し込みます。(Fig. 1)
- 3. "INFO" キーを押しながら、電源コードを AC コンセントに接続します。(Fig. 1)

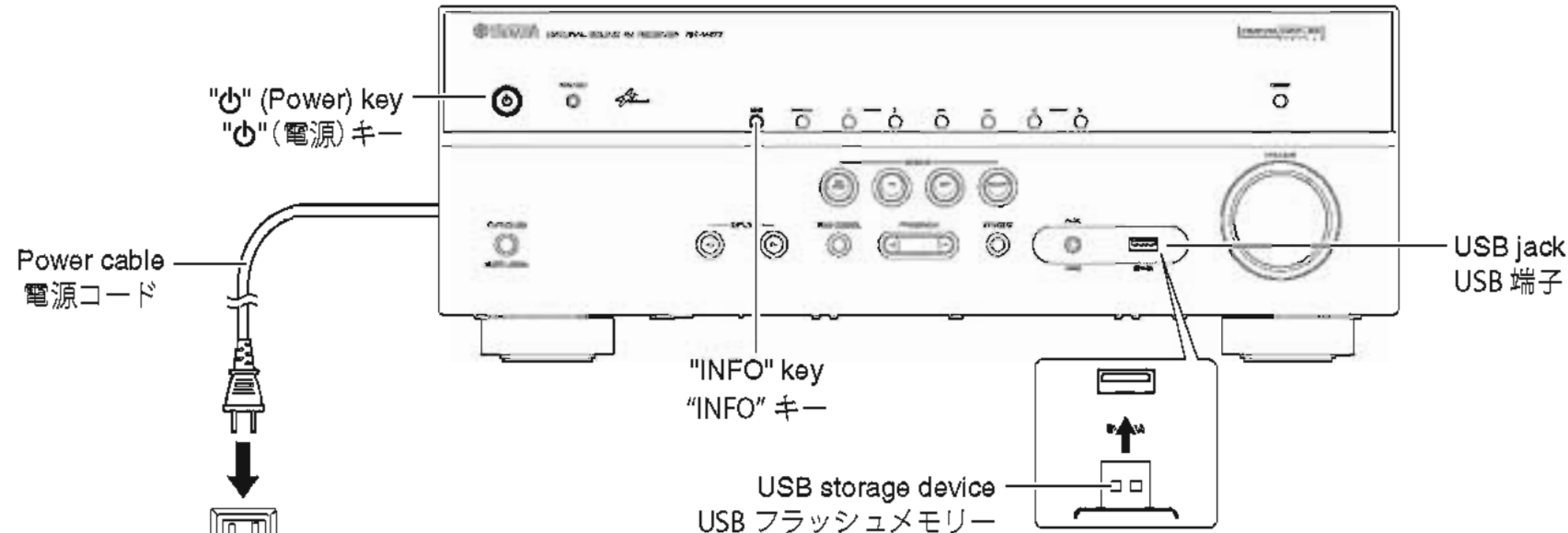


Fig. 1

- 4. The USB UPDATE mode is activated and "USB Update" is displayed. Writing of the firmware starts automatically. (Fig. 2)

- 4. USB UPDATE モードが起動し、"USB Update" が表示されて、ファームウェアの書き込みが自動的に開始されます。(Fig. 2)

Writing is started. / 書き込み開始

Writing being executed. / 書き込み中

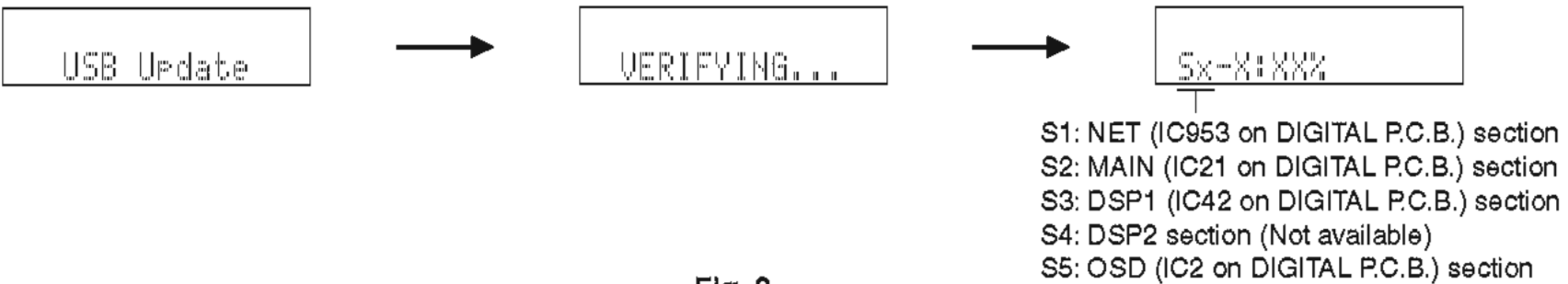


Fig. 2

- \* If "ERROR! xxxx" is displayed during writing of the firmware, refer to "List of Error Messages" to determine the cause and perform the updating procedure again from the beginning.

- ※ ファームウェアの書き込みの途中で "ERROR! xxxx" が表示された場合、"エラーメッセージ一覧" で原因を参照し、アップデートの操作を最初からやり直してください。

- 5. When writing of the firmware is completed, "Update Success", "Please..." and "PowerOff!" are displayed repeatedly. (Fig. 3)

- 5. ファームウェアの書き込み完了後、"Update Success"、"Please..."、"PowerOff!" が繰り返し表示されます。(Fig. 3)

Writing is completed. / 書き込み完了



Fig. 3

6. Press the "⏻" (Power) key to turn off the power. (Fig. 1)
7. Remove the USB storage device from the USB jack. (Fig. 1)
8. Start up the self-diagnostic function and check that the firmware version is the same as written one.  
(For details, refer to "Confirmation of firmware version")

6. "⏻"(電源)キーを押して電源を切ります。(Fig. 1)
7. USB 端子から USB フラッシュメモリーを抜きます。(Fig. 1)
8. ダイアグを起動し、ファームウェアのバージョンが、書き込まれたものと同じであることを確認します。  
(詳細は "ファームウェアのバージョンの確認" を参照してください。)

## List of Error Messages / エラーメッセージ一覧

Display / 表示

ERROR! xxxx

— Error number / エラー番号

| Error Number<br>エラー番号 | Error Message<br>エラーメッセージ                                 | Cause<br>原因                                                                                                     |
|-----------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| 0001                  | Microprocessor clearing error / マイコン消去エラー                 | Microprocessor failure<br>マイコン不良                                                                                |
| 0002                  | Microprocessor writing error / マイコン書き込みエラー                |                                                                                                                 |
| 0004                  | Microprocessor checksum error<br>マイコンチェックサムエラー            | Microprocessor failure / Disagreement to checksum<br>マイコン不良／チェックサムの不一致                                          |
| 0008                  | DSP1 status port error / DSP1 ステータスポートエラー                 | DSP1 failure /<br>Malfunction of communication with microprocessor<br>DSP1 不良／マイコンとの通信異常                        |
| 0010                  | DSP1 checksum error / DSP1 チェックサムエラー                      |                                                                                                                 |
| 0020                  | DSP1 data reception time out<br>DSP1 データ受信タイムアウト          |                                                                                                                 |
| 0040                  | DSP1 checksum calculation time out<br>DSP1 チェックサム計算タイムアウト |                                                                                                                 |
| 0080                  | DSP2 status port error / DSP2 ステータスポートエラー                 | DSP2 failure /<br>Malfunction of communication with microprocessor<br>DSP2 不良／マイコンとの通信異常<br><br>(Not available) |
| 0100                  | DSP2 checksum error / DSP2 チェックサムエラー                      |                                                                                                                 |
| 0200                  | DSP2 data reception time out<br>DSP2 データ受信タイムアウト          |                                                                                                                 |
| 0400                  | DSP2 checksum calculation time out<br>DSP2 チェックサム計算タイムアウト |                                                                                                                 |
| 0800                  | OSD Flash ROM clearing error<br>OSD Flash ROM 消去エラー       | OSD Flash ROM failure /<br>Malfunction of communication with microprocessor<br>OSD Flash ROM 不良／マイコンとの通信異常      |
| 1000                  | OSD Flash ROM writing error<br>OSD Flash ROM 書き込みエラー      |                                                                                                                 |
| 2000                  | OSD Flash ROM checksum error<br>OSD Flash ROM チェックサムエラー   |                                                                                                                 |
| 4000                  | Destination judging error<br>仕向け先判定エラー                    | No destination is written on EEPROM.<br>EEPROM に仕向け先が書かれていない                                                    |

\* The error number is displayed in the 4-digit hexadecimal notation.  
エラー番号は 4 桁の 16 進数で表示されます。

\* The error numbers are added when a multiple number of errors occur at the same time.  
エラー番号は同時に複数のエラーが発生すると、加算されます。

Example / 例 If errors by the error number "0002" and "0008" occur at the same time, the error number will be displayed as "000A".  
エラー番号の "0002" と "0008" のエラーが同時に発生すると、エラー番号は "000A" と表示されます。

## ■ SELF-DIAGNOSTIC FUNCTION / ダイアグ（自己診断機能）

This unit has self-diagnostic functions that are intended for inspection, measurement and location of faulty point.

There are 28 main menu items, each of which has submenu items.

Listed in the table below are main menu items and submenu items.

**Note:** Some of the menu items listed below may not apply to the models covered in this service manual.

本機には、検査、測定、不良個所の発見を目的にしたダイアグ（自己診断機能）があります。

ダイアグには 28 個のメインメニューがあり、そのそれぞれにサブメニューがあります。

下表はダイアグメニュー一覧です。

**注意：**以下のメニュー項目の一部は、このサービスマニュアルに記載されているモデルに適用されない場合があります。

| No.                         | Main menu                                        | No. | Sub-menu                                                |
|-----------------------------|--------------------------------------------------|-----|---------------------------------------------------------|
| A: Audio system / オーディオ系    |                                                  |     |                                                         |
| A1                          | DSP AUDIO                                        | 1   | DSP MARGIN                                              |
|                             |                                                  | 2   | DSP NON MARGIN                                          |
|                             |                                                  | 3   | DSP FULL CENTER                                         |
|                             |                                                  | 4   | DSP FULL SURROUND                                       |
|                             |                                                  | 5   | DSP FULL SURROUND BACK (Not for service / サービスでは使用しません) |
|                             |                                                  | 6   | DSP FULL SUBWOOFER                                      |
| A2                          | DIRECT AUDIO                                     | 1   | ANALOG DIRECT                                           |
|                             |                                                  | 2   | NET DIRECT (Not for service / サービスでは使用しません)             |
| A3                          | HDMI AUDIO                                       | 1   | HDMI AUTO                                               |
|                             |                                                  | 2   | ARC                                                     |
| A4                          | SPEAKERS SET                                     | 1   | FULL MUTE                                               |
|                             |                                                  | 2   | BI-AMP (Not for service / サービスでは使用しません)                 |
|                             |                                                  | 3   | AC_B : HIGH (Not for service / サービスでは使用しません)            |
|                             |                                                  | 4   | AC_B : LOW (Not for service / サービスでは使用しません)             |
| A5                          | MIC CHECK                                        | 1   | MIC ROUTE CHECK                                         |
| A6                          | INVALID ITEM<br>(Not for service / サービスでは使用しません) | 1   | INVALID ITEM                                            |
|                             |                                                  | 2   | INVALID ITEM                                            |
|                             |                                                  | 3   | INVALID ITEM                                            |
| A7                          | DIR PLL                                          | 1   | DIR PLL                                                 |
| A8                          | MANUAL TEST                                      | 1   | TEST ALL                                                |
| H: HDMI / HDMI              |                                                  |     |                                                         |
| H1                          | INVALID ITEM<br>(Not for service / サービスでは使用しません) | 1   | INVALID ITEM                                            |
|                             |                                                  | 2   | INVALID ITEM                                            |
| D: Display system / 表示系     |                                                  |     |                                                         |
| D1                          | FL CHECK                                         | 1   | FL CHECK                                                |
|                             |                                                  | 2   | ALL SEGMENT OFF                                         |
|                             |                                                  | 3   | ALL SEGMENT ON                                          |
|                             |                                                  | 4   | CHECK PATTERN 1                                         |
|                             |                                                  | 5   | CHECK PATTERN 2                                         |
| U: Universal system / 特殊端子系 |                                                  |     |                                                         |
| U1                          | USB                                              | 1   | USB FRONT 1 TRACK                                       |
|                             |                                                  | 2   | USB BOOT (Not for service / サービスでは使用しません)               |
|                             |                                                  | 3   | USB_VBUS HIGH POWER (Not for service / サービスでは使用しません)    |
|                             |                                                  | 4   | INVALID ITEM                                            |



| No.                                                 | Main menu                                        | No. | Sub-menu                                             |
|-----------------------------------------------------|--------------------------------------------------|-----|------------------------------------------------------|
| N: Network system / ネットワーク系                         |                                                  |     |                                                      |
| N1                                                  | NETWORK                                          | 1   | IP ADDRESS CHECK                                     |
|                                                     |                                                  | 2   | MAC ADDRESS CHECK                                    |
|                                                     |                                                  | 3   | LINE NOISE 100 MDI (Not for service / サービスでは使用しません)  |
|                                                     |                                                  | 4   | LINE NOISE 100 MDIX (Not for service / サービスでは使用しません) |
|                                                     |                                                  | 5   | LINE NOISE 10 MDI (Not for service / サービスでは使用しません)   |
|                                                     |                                                  | 6   | LINE NOISE 10 MDIX (Not for service / サービスでは使用しません)  |
|                                                     |                                                  | 7   | LINK CHECK                                           |
|                                                     |                                                  | 8   | EXT TEST                                             |
|                                                     |                                                  | 10  | PING (Not for service / サービスでは使用しません)                |
| N2                                                  | WIFI<br>(Not for service / サービスでは使用しません)         | 1   | WIFI ON JIG01                                        |
|                                                     |                                                  | 2   | WIFI ON JIG02                                        |
|                                                     |                                                  | 3   | WIFI ON JIG03                                        |
|                                                     |                                                  | 4   | WIFI ON JIG04                                        |
|                                                     |                                                  | 5   | WIFI ON JIG05                                        |
|                                                     |                                                  | 6   | WIFI ON JIG06                                        |
|                                                     |                                                  | 7   | WIFI ON JIG07                                        |
|                                                     |                                                  | 8   | WIFI ON JIG08                                        |
|                                                     |                                                  | 9   | WIFI ON JIG09                                        |
|                                                     |                                                  | 10  | WIFI ON JIG10                                        |
|                                                     |                                                  | 11  | WIFI OFF                                             |
| C: Communication system / 通信・バスライン系                 |                                                  |     |                                                      |
| C1                                                  | ACCESS CHECK                                     | 1   | ALL                                                  |
|                                                     |                                                  | 2   | MCPU OSD                                             |
|                                                     |                                                  | 3   | OSD HDMI                                             |
|                                                     |                                                  | 4   | VIDEO I/F                                            |
|                                                     |                                                  | 5   | DIR BUS                                              |
|                                                     |                                                  | 6   | DSP BUS                                              |
|                                                     |                                                  | 7   | EEPROM                                               |
|                                                     |                                                  | 8   | TUNER                                                |
| C2                                                  | HDMI INFO                                        | 1   | HDMI MODEL NAME                                      |
|                                                     |                                                  | 2   | HDMI PRODUCT ID (Not for service / サービスでは使用しません)     |
| C3                                                  | NET CPU CHECK                                    | 1   | ALL                                                  |
|                                                     |                                                  | 2   | NET RAM                                              |
|                                                     |                                                  | 3   | PHY TEST                                             |
|                                                     |                                                  | 4   | APL ID                                               |
| V: Video system / ビデオ系                              |                                                  |     |                                                      |
| V1                                                  | ANALOG VIDEO CHECK                               | 1   | ANALOG BYPASS                                        |
|                                                     |                                                  | 2   | MUTE CHECK                                           |
| V2                                                  | DIGITAL VIDEO CHECK                              | 1   | HDMI REPEAT                                          |
|                                                     |                                                  | 2   | OSD-VIDEO OUT                                        |
| R: Radio system / TUNER・衛星放送系                       |                                                  |     |                                                      |
| R1                                                  | INVALID ITEM<br>(Not for service / サービスでは使用しません) | 1   | INVALID ITEM                                         |
|                                                     |                                                  | 2   | INVALID ITEM                                         |
| P: Power supply and protection system / 電源・プロテクション系 |                                                  |     |                                                      |

| No.                                             | Main menu                    | No. | Sub-menu                                                   |
|-------------------------------------------------|------------------------------|-----|------------------------------------------------------------|
| P1                                              | AD DATA CHECK                | 1   | DC                                                         |
|                                                 |                              | 2   | PS                                                         |
|                                                 |                              | 3   | TMP                                                        |
|                                                 |                              | 4   | OUTPUT LEVEL                                               |
|                                                 |                              | 5   | LIMITER CONTROL                                            |
|                                                 |                              | 6   | USB / DC                                                   |
|                                                 |                              | 7   | KEY                                                        |
| P2                                              | PROTECTION HISTORY           | 1   | 1. HISTORY 1                                               |
|                                                 |                              | 2   | 1. POWER PORT                                              |
|                                                 |                              | 3   | 1. LAST INPUT                                              |
|                                                 |                              | 4   | 1. LAST VOLUME                                             |
|                                                 |                              | 5   | 2. HISTORY 2                                               |
|                                                 |                              | 6   | 2. POWER PORT                                              |
|                                                 |                              | 7   | 2. LAST INPUT                                              |
|                                                 |                              | 8   | 2. LAST VOLUME                                             |
|                                                 |                              | 9   | 3. HISTORY 3                                               |
|                                                 |                              | 10  | 3. POWER PORT                                              |
|                                                 |                              | 11  | 3. LAST INPUT                                              |
|                                                 |                              | 12  | 3. LAST VOLUME                                             |
|                                                 |                              | 13  | 4. HISTORY 4                                               |
|                                                 |                              | 14  | 4. POWER PORT                                              |
|                                                 |                              | 15  | 4. LAST INPUT                                              |
|                                                 |                              | 16  | 4. LAST VOLUME                                             |
| T: Troubleshooting Information / サービス・設計用故障解析情報 |                              |     |                                                            |
| T1                                              | TROUBLE SHOOTING INFORMATION | 1   | OPERATING TIME                                             |
|                                                 |                              | 2   | POWER-RELAY ON                                             |
|                                                 |                              | 3   | POWER AMP B                                                |
|                                                 |                              | 4   | OUTPUT LEVEL                                               |
|                                                 |                              | 5   | NRC (Net Restart Counter) (Not for service / サービスでは使用しません) |
| S: System and version system / システム・バージョン系      |                              |     |                                                            |
| S1                                              | FIRMWARE UPDATE              | 1   | DSP FIRMWARE UPDATE (Not for service / サービスでは使用しません)       |
| S2                                              | MODEL/DESTINATION            | 1   | INITIAL DISPLAY                                            |
|                                                 |                              | 2   | MODEL/DESTINATION                                          |
| S3                                              | FACTORY PRESET               | 1   | PRESET INHIBIT                                             |
|                                                 |                              | 2   | PRESET RESERVED                                            |
| S4                                              | ROM VERSION/CHECKSUM         | 1   | SYSTEM VERSION                                             |
|                                                 |                              | 2   | MICROPROCESSOR VERSION                                     |
|                                                 |                              | 3   | MICROPROCESSOR CHECKSUM                                    |
|                                                 |                              | 4   | DSP VERSION                                                |
|                                                 |                              | 5   | DSP CHECKSUM                                               |
|                                                 |                              | 6   | OSD VERISON                                                |
|                                                 |                              | 7   | OSD CHECKSUM                                               |
|                                                 |                              | 8   | NETWORK VERSION                                            |
|                                                 |                              | 9   | NETWORK CHECKSUM                                           |
|                                                 |                              | 10  | USB CONTROLLER VERSION (Not for service / サービスでは使用しません)    |
|                                                 |                              | 11  | USB CONTROLLER CHECKSUM (Not for service / サービスでは使用しません)   |
| S5                                              | SOFT SWITCH                  | 1   | SWITCH MODE                                                |
|                                                 |                              | 2   | MODEL NAME                                                 |
| S6                                              | SYSTEM INFORMATION           | 1   | MODEL/DESTINATION                                          |
|                                                 |                              | 2   | VERIFY (Not for service / サービスでは使用しません)                    |

## ● Starting Self-Diagnostic Function

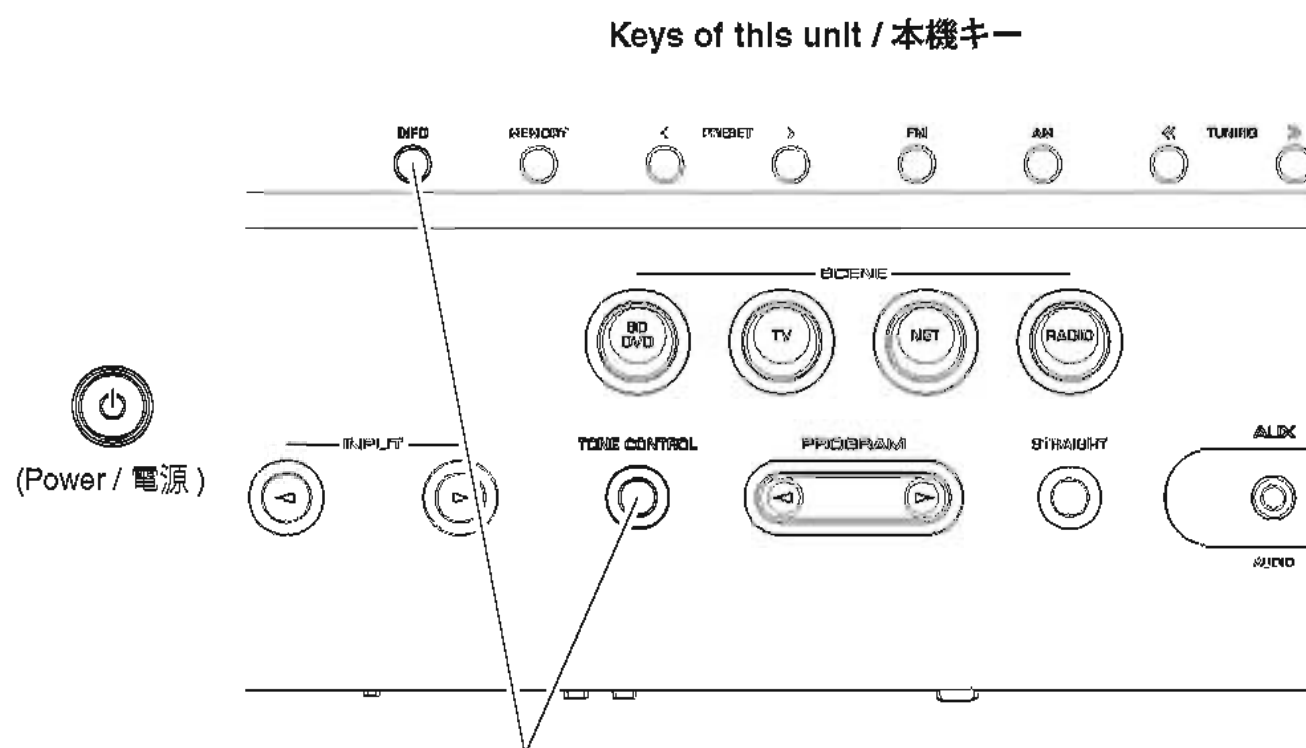
While pressing the "TONE CONTROL" and "INFO" keys, press the "⏻" (Power) key to turn on the power, and release those 2 keys.

The self-diagnostic function mode is activated.

## ● ダイアグの起動

"TONE CONTROL" と "INFO" キーを押しながら "⏻" (電源) キーを押して電源を入れた後、2つのキーを放します。

ダイアグが起動します。



While pressing these keys, turn on the power.  
これらのキーを押しながら、電源を入れます。

## ● Starting Self-Diagnostic Function in the protection cancel mode

If the protection function works and causes hindrance to troubleshooting, cancel the protection function by the procedure below, and it will be possible to enter the selfdiagnostic function mode. (The protection functions other than the excess current detect function will be disabled.)

While pressing the "TONE CONTROL" and "INFO" keys, press the "⏻" (Power) key to turn on the power and keep pressing those 2 keys and "⏻" (Power) key for 3 seconds or longer.

The self-diagnostic function mode is activated with the protection functions disabled.

In this mode, the "SLEEP" segment of the FL display flashes to indicate that the mode is self-diagnostic function mode with the protection functions disabled.

## ● プロテクション解除モードでの起動

プロテクションが動作することにより、故障箇所の診断に支障をきたすような場合は、次の方法によりプロテクションを解除した状態でダイアグモードに入ることができます。(過電流検出以外のプロテクション動作を解除する)

"TONE CONTROL" と "INFO" キーを押しながら "⏻" (電源) キーを押して電源を入れ、2つのキーと "⏻" (電源) キーを3秒以上押し続けます。

プロテクション解除モードでダイアグが起動します。

このモードではFLの"SLEEP"セグメントが点滅し、プロテクションを解除した状態でのダイアグモードであることを知らせます。

### CAUTION!

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

### 注意！

プロテクションを解除した状態でのダイアグモードは、危険な状態でもプロテクションが作動しないため、動作させると、本機を破壊することがあります。このモードを使用する場合は十分注意してください。

## ● Canceling Self-Diagnostic Function

1. Before canceling self-diagnostic function, execute setting for "S3. FACTORY PRESET" menu. (Memory initialization inhibited or Memory initialized).  
\* In order to keep the user memory preserved, be sure to select PRESET INHIBIT (Memory initialization inhibited).
2. Press the "⏻" (Power) key to turn off the power.

## ● Display provided when Self-Diagnostic Function started

The display is as described below depending on the situation when the power to this unit is turned off.

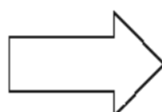
### 1. When the power is turned off by usual operation:

"NO PROTECT" is displayed. Then "A1-1. DSP MARGIN" is displayed in a few seconds.

Opening message / オープニング表示

NO PROTECT

After a few seconds / 数秒後



A1-1  
DSP MARGIN

Main menu display / メインメニュー表示

## ● ダイアグの解除

1. ダイアグを解除する前に、"S3. FACTORY PRESET" メニュー（メモリーの初期化禁止／またはメモリーの初期化）の設定をします。  
※ ユーザーメモリーを保持したい場合は、必ず PRESET INHIBIT（メモリー初期化禁止）を選択してください。
2. "⏻"（電源）キーを押して電源を切ります。

## ● ダイアグ起動時の表示

本機の電源が切れたときの状況により、下記のように表示されます。

### 1. 通常の操作で電源を切った場合：

"NO PROTECT" が表示されます。数秒後、"A1-1. DSP MARGIN" が表示されます。

## 2. When the protection function worked to turn off the power:

The information of protection function which worked at that time is displayed. Then "A1-1. DSP MARGIN" is displayed in a few seconds.

**Note:** At that time if you restart the self-diagnostic function after turning off the power once, "NO PROTECT" will be displayed. That is because that situation is equal to "1. When the power is turned off by usual operation:".

However history of the protection function is stored in memory as backup data. For details, refer to "P2. PROTECTION HISTORY" menu.

### 2-1. When there is a history of protection function due to excess current.

I PROTECT

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

**Supplementary Information:** As current of the power amplifier 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.

#### Notes:

- Applying the power to this unit without correcting the abnormality can be dangerous and cause additional circuit damage. To avoid this, if "I PROTECT" protection function works 1 time, the power will not turn on even when the "⏻" (Power) key is pressed. In order to turn on the power again, start up the self-diagnostic function.
- The output transistors in each amplifier channel should be checked for damage before applying power to this unit.
- Amplifier current should be monitored by measuring DC voltage across the emitter resistors for each channel.

## 2. プロテクションが働いて電源が切れた場合:

そのときに働いたプロテクションの情報が表示されます。数秒後、"A1-1. DSP MARGIN" が表示されます。

**注意:** このとき、一旦電源を切った後にダイアグを再起動すると、"NO PROTECT" が表示されます。それは、その状況が「1. 通常の操作で電源を切った場合:」と同じだからです。

ただし、プロテクションの履歴はバックアップデータとしてメモリーに保存されます。詳細は、"P2. PROTECTION HISTORY" メニューを参照してください。

### 2-1. 過電流によるプロテクション履歴がある場合

**原因:** パワーアンプに過電流が流れた。

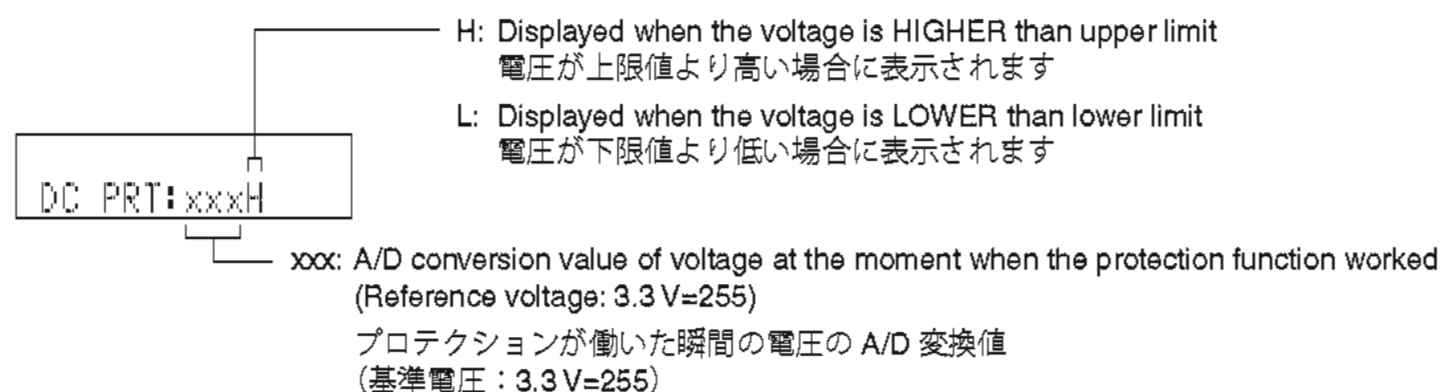
**補足:** パワーアンプの電流を検出していますので、電流検出トランジスタをチェックすれば異常チャンネルが特定できます。

異常状態のまま電源を入れると、瞬時にプロテクションが働き、すぐに電源が切れます。

#### 注意:

- 異常状態のまま本機の電源を入れると、危険な状態になり、さらに回路が損傷を受ける原因になります。それを避けるために、「I PROTECT」が1回働いた場合、それ以降「⏻」(電源)キーを押しても電源が入らなくなります。再度電源を入れる場合、ダイアグを起動してください。
- 本機の電源を入れる前に、各パワーアンプの出力トランジスタに損傷がないかチェックしてください。
- パワーアンプの電流は、各チャンネルのエミッターの抵抗器間 DC 電圧を測定することによりモニターしてください。

## 2-2. When the protection function worked due to abnormal DC output.



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

**Supplementary Information:** The protection function worked due to a DC voltage appearing at the speaker terminal. A cause could be a defect in the amplifier.

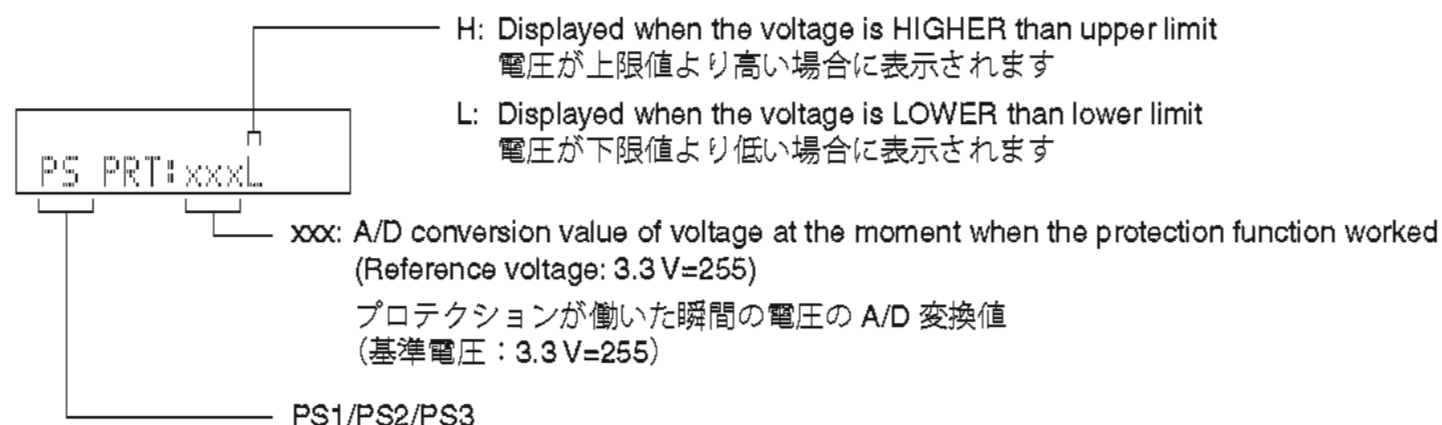
Turning on the power without correcting the abnormality will cause the protection function to work in 5 seconds and the power supply will be shut off.

**原因:** パワーアンプの DC 出力が異常。

**補足:** アンプの故障でスピーカー端子に直流電圧が掛かるなどが原因で、プロテクションが働いたことを示します。

異常状態のまま電源を入れると、5 秒後にプロテクションが働き、電源が切れます。

## 2-3. When the protection function worked due to abnormal voltage in the power supply section.



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

**Supplementary Information:** The protection function worked due to a defect or overload in the power supply.

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

**原因:** 電源部の電圧が異常。

**補足:** 電源電圧による原因で、プロテクションが働いたことを示します。

異常状態のまま電源を入れると、1 秒後にプロテクションが働き、電源が切れます。

### Notes:

- Applying the power to this unit without correcting the abnormality can be dangerous and cause additional circuit damage. To avoid this, if "PS" and "DC" protection function works 3 times consecutively, the power will not turn on even when the "⏻" (Power) key is pressed. In order to turn on the power again, start up the self-diagnostic function.
- The output transistors in each amplifier channel should be checked for damage before applying power to this unit.
- Amplifier current should be monitored by measuring DC voltage across the emitter resistors for each channel.

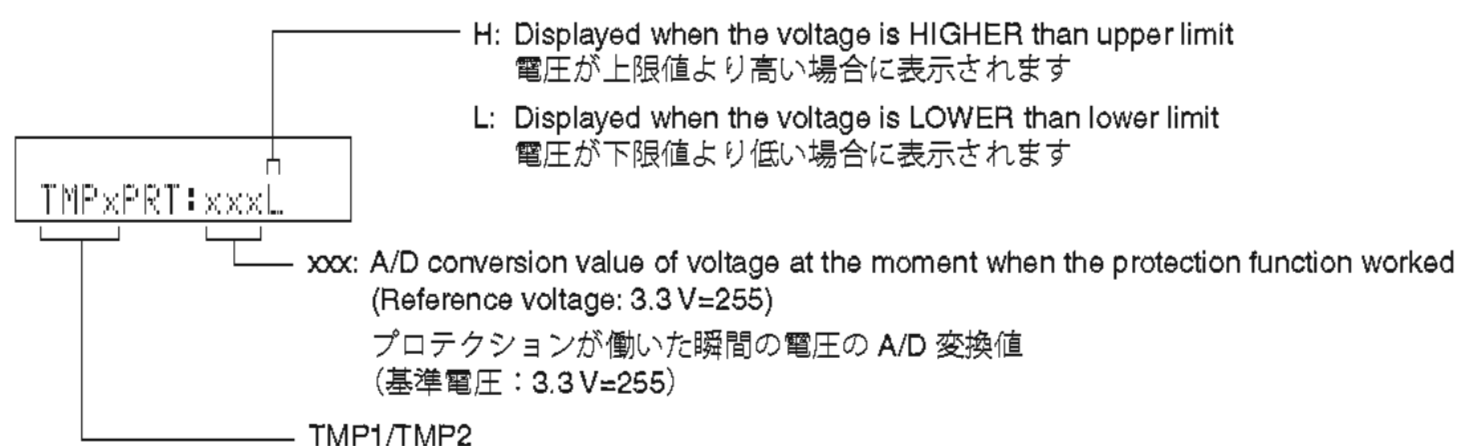
### 注意:

- 異常状態のまま本機の電源を入れると、危険な状態になり、さらに回路が損傷を受ける原因になります。それを避けるために、「DC」、「PS」プロテクションが連続して3回目働いた場合、それ以降「⏻」(電源)キーを押しても電源が入らなくなります。再度電源を入れる場合、ダイアグを起動してください。
- 本機の電源を入れる前に、各パワーアンプの出力トランジスタに損傷がないかチェックしてください。
- パワーアンプの電流は、各チャンネルのエミッターの抵抗器間 DC 電圧を測定することによりモニターしてください。



## 2-4. When the protection function worked due to excessive heatsink temperature.

## 2-4. ヒートシンクの異常温度によりプロテクションが働いた場合



**Cause:** The temperature of the heatsink is excessive.

**Supplementary Information:** The protection function worked due to the temperature limit being exceeded. Causes could be poor ventilation or a defect related to the thermal sensor.

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

**原因:** ヒートシンクの温度が異常。

**補足:** 温度制限を越えた原因で、プロテクションが働いたことを示します。

異常状態のまま電源を入れると、1 秒後にプロテクションが働き、電源が切れます。

### ● History of protection function

When the protection function has worked, its history is stored in memory as backup data.

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.

For details, refer to "P2. PROTECTION HISTORY" menu.

### ● プロテクションの履歴

プロテクションが働いた場合、その履歴はバックアップデータとしてメモリーに保存されます。

修理のときに異常が認められなくても、バックアップデータが残っていれば、お客様のところで起きた異常を区別できます。

詳細は、"P2. PROTECTION HISTORY" メニューを参照してください。

## ● Operation procedure of Main menu and Sub-menu

There are 28 main menu items, each of which has sub-menu items.

### Main menu selection

Select the main menu using "SCENE TV" (forward) and "SCENE BD/DVD" (reverse) keys.

### Sub-menu selection

Select the sub-menu using "SCENE RADIO" (forward) and "SCENE NET" (reverse) keys.

## ● メインメニューとサブメニューの操作

ダイアグには 28 個のメインメニューがあり、そのそれぞれにサブメニューがあります。

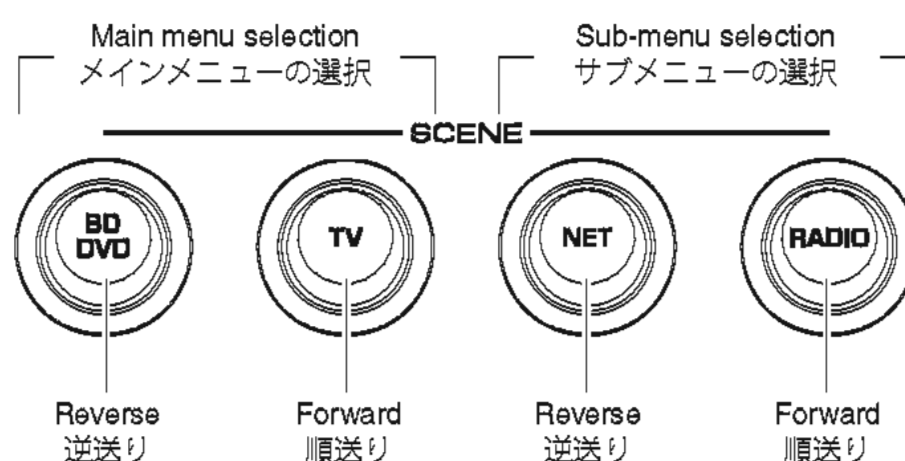
### メインメニューの選択

"SCENE TV" (順送り)、"SCENE BD/DVD" (逆送り) キーで選択します。

### サブメニューの選択

"SCENE RADIO" (順送り)、"SCENE NET" (逆送り) キーで選択します。

Keys of this unit / 本機キー



## ● Functions in Self-Diagnostic Function mode

In addition to the self-diagnostic function menu items, functions listed below are available.

- Power ON/OFF
- Master volume
- Muting
- Input selection

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

## ● ダイアグ中の機能

ダイアグメニューの他に、以下の機能が動作します。

- 電源 オン/オフ
- マスターボリューム
- ミュート
- インプットセレクト

※ チューナー関連、セットメニュー関連は機能しません。

## ● Initial settings when Self-Diagnostic Function started

The following initial settings are used when self-diagnostic function is started.

When self-diagnostic function is canceled, these settings are restored to those before starting self-diagnostic function.

- Master volume: -20 dB
- Input: AV4
- Speaker setting: LARGE, Bass out to SWFR (All channels)
- HDMI Control: Off

## ● ダイアグ開始時の初期設定

ダイアグ開始時に以下のような設定になります。

ダイアグ解除時にはダイアグ開始前の状態に戻ります。

- マスターボリューム: -20 dB
- インプット: AV4
- スピーカー設定: LARGE、Bass out to SWFR (すべてのチャンネル)
- HDMI コントロール: OFF



## ● Details of Self-Diagnostic Function menu

### A1. DSP AUDIO

This menu is used to check audio signal route via DSP.

#### A1-1. DSP MARGIN

The audio signal is output including the head margin via DSP.

\* When input source is stereo, signal is assigned as below.

Front L: Front L, Center, Surround L

Front R: Front R, Surround R

Front L +10 dB: Subwoofer

A1-1  
DSP MARGIN

#### A1-2. DSP NON MARGIN

The SUBWOOFER signal is output including the head margin via DSP.

The audio signal other than SUBWOOFER is output without including the head margin via DSP.

A1-2  
DSP NON MARGIN

#### A1-3. DSP FULL CENTER

The audio signal is output to only CENTER channel in digital full bit without including the head margin.

A1-3  
DSP FULL C

#### A1-4. DSP FULL SURROUND

The audio signal is output to only SURROUND L/R channels in digital full bit without including the head margin.

A1-4  
DSP FULL SUR

## ● ダイアグメニュー詳細

### A1. DSP AUDIO

DSP を経由する音声信号の経路をチェックします。

#### A1-1. DSP MARGIN

音声信号が DSP を経由してヘッドマージンを含んで出力されます。

※ 2ch 信号入力時、以下のように信号が振り分けられて出力されます。

Front L : Front L、Center、Surround L

Front R : Front R、Surround R

Front L +10 dB : Subwoofer

#### A1-2. DSP NON MARGIN

サブウーファースの音声信号が DSP を経由してヘッドマージンを含んで出力されます。

サブウーファー以外の音声信号は DSP を経由してヘッドマージンを含まず出力されます。

#### A1-3. DSP FULL CENTER

音声信号がヘッドマージンを含まず、デジタルフルビットで CENTER チャンネルのみへ出力されます。

#### A1-4. DSP FULL SURROUND

音声信号がヘッドマージンを含まず、デジタルフルビットで SURROUND L/R チャンネルのみへ出力されます。

**A1-5. DSP FULL SURROUND BACK**

Not for service.

A1-5  
DSP FULL SB

**A1-5. DSP FULL SURROUND BACK**

サービスでは使用しません。

**A1-6. DSP FULL SUBWOOFER**

The audio signal is output to only SUBWOOFER channel in digital full bit without including the head margin.

A1-6  
DSP FULL SW

**A1-6. DSP FULL SUBWOOFER**

音声信号がヘッドマージンを含まず、デジタルフルビットで SUBWOOFER チャンネルのみへ出力されます。

**A2. DIRECT AUDIO**

This menu is used to check audio signal route of DIRECT mode.

**A2. DIRECT AUDIO**

DIRECT モードの音声信号の経路をチェックします。

**A2-1. ANALOG DIRECT**

The analog input audio signal is output to FRONT L and FRONT R channels in DIRECT mode.

A2-1  
ANALOG DIRECT

**A2-1. ANALOG DIRECT**

アナログ入力の音声信号が DIRECT モードで FRONT L、FRONT R チャンネルへ出力されます。

**A2-2. NET DIRECT**

Not for service.

A2-2  
NET DIRECT

**A2-2. NET DIRECT**

サービスでは使用しません。

**A3. HDMI AUDIO**

This menu is used to check the route of audio signal input to HDMI IN/OUT jack.

- \* Before check using "A3-2. ARC" menu, be sure to connect a TV monitor equipped with Audio Return Channel function to this unit in advance.

A3-1  
HDMI AUTO



A3-2  
ARC

**A3-1. HDMI AUTO**

The audio signal input to selected HDMI IN jack is output.  
選択された HDMI IN 端子へ入力された音声信号が出力されます。

**A3-2. ARC (Audio Return Channel function)**

The audio signal input to HDMI OUT jack is output.  
HDMI OUT 端子へ入力された音声信号が出力されます。

**A3. HDMI AUDIO**

HDMI IN/OUT 端子へ入力された音声信号の経路をチェックします。

- ※ "A3-2. ARC" メニューでのチェックの前に、あらかじめ必ず Audio Return Channel 機能に対応しているテレビを接続してください。

**A4. SPEAKERS SET**

This menu is used to check the speaker output.

A4-1  
FULL MUTE



A4-2  
BI-AMP



A4-3  
AC\_B:Hi



A4-4  
AC\_B:Lo

**A4-1. FULL MUTE**

The audio signals are muted at all channels.  
音声信号がすべてのチャンネルでミュートされます。

**A4-2. BI-AMP**

Not for service.  
サービスでは使用しません。

**A4-3. AC B HIGH**

Not for service.  
サービスでは使用しません。

**A4-4. AC B LOW**

Not for service.  
サービスでは使用しません。

**A4. SPEAKERS SET**

スピーカー出力をチェックします。

A5.MIC CHECK

A5-1. MIC ROUTE CHECK

The audio signal input to the YPAO MIC jack is output to FRONT L channel via A/D-D/A.

A5-1  
MIC ROUTE ON

ON: Connected / 接続されている  
OFF: Unconnected / 接続されていない

A6.INVALID ITEM

Not for service.

A6-1  
Invalidity

.....

A6-3  
Invalidity

A6.INVALID ITEM

サービスでは使用しません。

A7. DIR PLL (Phase Lock Loop)

This menu is used to check the route of digital audio signal input to AV1/AV2/AV3/AV4 jack.

A7-1  
DIR PLL:---

Lock: Lock / 同期  
Unlock: Unlock / 非同期  
---: Unconnected / 接続されていない

A7. DIR PLL (Phase Lock Loop)

AV1/AV2/AV3/AV4 端子へ入力されたデジタル音声信号の経路をチェックします。

A8. MANUAL TEST

The test noise generated by built-in noise generator in DSP is output to the channels specified by the sub-menu.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
|                                         | Test noise / テストノイズ                    |
| for SUBWOOFER / SUBWOOFER 用             | 30 Hz to 80 Hz<br>pink noise / ピンクノイズ  |
| for other than SUBWOOFER / SUBWOOFER 以外 | 500 Hz to 2 kHz<br>pink noise / ピンクノイズ |

A8-1. TEST ALL

The test noise is output to all channels.

|                  |
|------------------|
| A8-1<br>TEST ALL |
|------------------|

A8. MANUAL TEST

DSP に内蔵されたノイズジェネレータによって生成されたテストノイズが、サブメニューで指定したチャンネルへ出力されます。

A8-1. TEST ALL

テストノイズが全てのチャンネルへ出力されます。

H1. INVALID ITEM

Not for service.

|                    |
|--------------------|
| H1-1<br>Invalidity |
|--------------------|

.....

|                    |
|--------------------|
| H1-2<br>Invalidity |
|--------------------|

H1. INVALID ITEM

サービスでは使用しません。

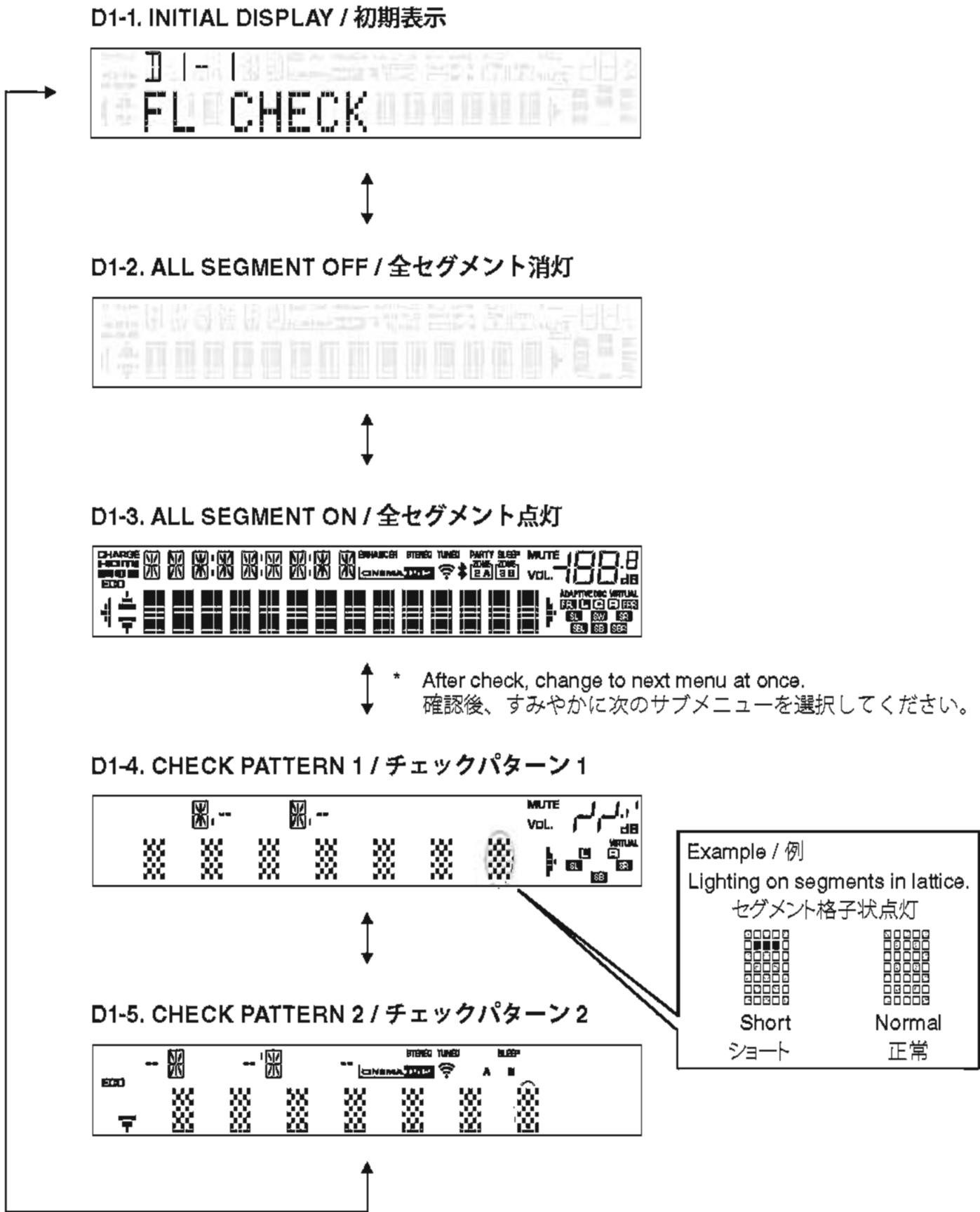
D1. FL CHECK

This menu is used to check operation of the FL display.

D1. FL CHECK

FL 表示の動作をチェックします。

FL display / FL 表示



Segment conditions of the FL tube is checked by turning ON and OFF all segments.

Next, a short between segments next to each other is checked by turning ON and OFF all segments alternately (in lattice).

(In the above example, the segments in the second row from the top are shorted.)

全セグメント消灯・全セグメント点灯により FL 管のセグメントの不良を確認します。

次に、全セグメントを交互（格子状）に点灯／消灯することで、隣り合うセグメントのショートをチェックします。

（上記の例は、上から 2 列目のセグメントがショートしています。）



**U1. USB**

This menu is used to check the audio signal route from USB storage device.

**U1-1. USB FRONT 1 TRACK**

The 1st music file stored in the USB storage device connected to the USB jack is reproduced.

- \* Copy 2 or more music files from PC to the root folder of the USB storage device in advance.

```
U1-1
USB_F 1 TRACK
```

**U1-2. USB BOOT**

Not for service.

```
U1-2
USB BOOT:---
```

**U1-3. USB\_VBUS HIGH POWER**

Not for service.

```
U1-3
USB_VBUS_HPWR
```

**U1-4. INVALID ITEM**

Not for service.

```
U1-4
Invalidity
```

**U1. USB**

USB フラッシュメモリーからの音声信号の経路をチェックします。

**U1-1. USB FRONT 1 TRACK**

USB 端子に接続された USB フラッシュメモリーに保存された音楽ファイルの 1 曲目が再生されます。

- ※ あらかじめ PC から USB フラッシュメモリーのルートフォルダに音楽ファイルを 2 曲以上コピーしてください。

**U1-2. USB BOOT**

サービスでは使用しません。

**U1-3. USB\_VBUS HIGH POWER**

サービスでは使用しません。

**U1-4. INVALID ITEM**

サービスでは使用しません。

N1. NETWORK

This menu is used to check functions related to NETWORK.  
Connect between LAN port of broadband router and NETWORK jack of this unit with a network cable.  
\* When the network condition varies while sub-menu is displayed (e.g., the network is deactivated once), the correct result will not be displayed. In that case, once turn off the power to this unit, then start up the self-diagnostic function again and select this menu.

N1-1. IP ADDRESS CHECK

This menu is used to check that IP address can be obtained.

N1-1  
IP AD CHK:OK

- OK: Connected (IP address obtained)  
接続 (IP アドレス取得完了)
- NG: No traffic / Disconnected  
通信不能 / 接続が切れている

N1-2. MAC ADDRESS CHECK

This menu is used to check that MAC address is written.

N1-2  
MAC AD CHK:OK

- OK: Normal / 正常
- NG: Unwritten / 書き込まれていない

N1-3. LINE NOISE 100 MDI

Not for service.

N1-3  
LN MDI 100

N1-4. LINE NOISE 100 MDIX

Not for service.

N1-4  
LN MDIX 100

N1-5. LINE NOISE 10 MDI

Not for service.

N1-5  
LN MDI 10

N1. NETWORK

ネットワークに関連する機能をチェックします。  
ブロードバンドルーターのLANポートと本機のNETWORK端子をネットワークケーブルで接続します。  
\* サブメニュー表示中にネットワークの状態が変わると (たとえばネットワークが一時切れるなど) 正しい結果が表示されません。その場合、一度本機の電源を切り、ダイアグを再起動して本メニューを選択します。

N1-1. IP ADDRESS CHECK

IPアドレスが取得されていることをチェックします。

N1-2. MAC ADDRESS CHECK

MACアドレスが書き込まれていることをチェックします。

N1-3. LINE NOISE 100 MDI

サービスでは使用しません。

N1-4. LINE NOISE 100 MDIX

サービスでは使用しません。

N1-5. LINE NOISE 10 MDI

サービスでは使用しません。



**N1-6. LINE NOISE 10 MDIX**

Not for service.

```
N1-6
LN MDIX 10
```

**N1-6. LINE NOISE 10 MDIX**

サービスでは使用しません。

**N1-7. LINK CHECK**

This menu is used to check that the broadband router is connected correctly.

```
N1-7
LINK CHK:OK
```

**N1-7. LINK CHECK**

ブロードバンドルーターが正しく接続されていることをチェックします。

OK: Connected / 接続  
NG: No traffic / Disconnected  
通信不能 / 接続が切れている

**N1-8. EXT TEST**

Transmission/reception of the NETWORK port is checked.

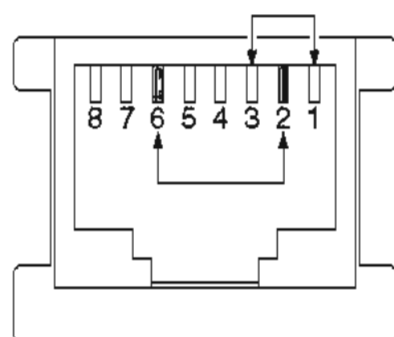
With the power turned off, short the pins of the NETWORK jack as shown in the figure below.

Start up the self-diagnostic function and select this menu.

Transmission/reception test is executed and its result is displayed.

**Note:**

Be sure to return the shorted pins to their original condition after executing this test.



NETWORK Jack

**N1-8. EXT TEST**

NETWORK ポートの送受信テストを行います。

電源を切った状態で、下図のように NETWORK 端子のピンをショートさせます。

ダイヤグを起動して本メニューを選択します。

送受信テストを行い、その結果が表示されます。

**注意：**

検査後、ショートしたピンを必ず元の状態に戻してください。

```
N1-8
EXT TEST:OK
```

OK: Normal / 正常  
NG: Abnormal / 異常  
--: Checking / チェック中

**N1-10.PING**

Not for service.

```
N1-10
PING:OK
```

**N1-10.PING**

サービスでは使用しません。

N2. WIFI

Not for service.

N2-1. WIFI ON JIG01

Not for service.

N2-2. WIFI ON JIG02

Not for service.

N2-3. WIFI ON JIG03

Not for service.

N2-4. WIFI ON JIG04

Not for service.

N2-5. WIFI ON JIG05

Not for service.

N2-6. WIFI ON JIG06

Not for service.

N2-7. WIFI ON JIG07

Not for service.

N2-8. WIFI ON JIG08

Not for service.

N2. WIFI

サービスでは使用しません。

N2-1. WIFI ON JIG01

サービスでは使用しません。

N2-1  
WIFI ON JIG01

N2-2. WIFI ON JIG02

サービスでは使用しません。

N2-2  
WIFI ON JIG02

N2-3. WIFI ON JIG03

サービスでは使用しません。

N2-3  
WIFI ON JIG03

N2-4. WIFI ON JIG04

サービスでは使用しません。

N2-4  
WIFI ON JIG04

N2-5. WIFI ON JIG05

サービスでは使用しません。

N2-5  
WIFI ON JIG05

N2-6. WIFI ON JIG06

サービスでは使用しません。

N2-6  
WIFI ON JIG06

N2-7. WIFI ON JIG07

サービスでは使用しません。

N2-7  
WIFI ON JIG07

N2-8. WIFI ON JIG08

サービスでは使用しません。

N2-8  
WIFI ON JIG08

**N2-9. WIFI ON JIG09**

Not for service.

**N2-9. WIFI ON JIG09**

サービスでは使用しません。

|                       |
|-----------------------|
| N2-9<br>WIFI ON JIG09 |
|-----------------------|

**N2-10. WIFI ON JIG10**

Not for service.

**N2-10. WIFI ON JIG10**

サービスでは使用しません。

|                        |
|------------------------|
| N2-10<br>WIFI ON JIG10 |
|------------------------|

**N2-11.WIFI OFF**

Not for service.

**N2-11.WIFI OFF**

サービスでは使用しません。

|                        |
|------------------------|
| N2-11<br>WIFI ON JIG11 |
|------------------------|

C1. ACCESS CHECK

This menu is used to check the communication and bus line connection between devices on DIGITAL P.C.B.

C1-1. ALL

The total detection result of sub-menus from C1-2 to C1-8 is displayed.



OK: No error detected / 不良検出なし  
NG: An error is detected / 不良検出あり  
--: Checking / チェック中

C1-2. MCPU OSD

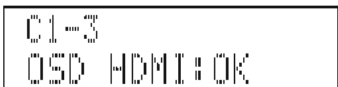
Reading/writing function of Microprocessor (IC21) to OSD FLASH ROM (IC2) are checked.



OK: No error detected / 不良検出なし  
NG: An error is detected / 不良検出あり

C1-3. OSD HDMI

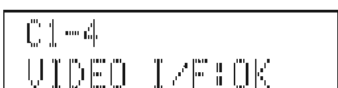
Reading/writing function of HDMI IC (IC1) to OSD FLASH ROM (IC2) are checked.



OK: No error detected / 不良検出なし  
NG: An error is detected / 不良検出あり

C1-4. VIDEO I/F

Communication and bus line connection between microprocessor (IC21) and Video Selector (IC502) are checked.



OK: No error detected / 不良検出なし  
NG: An error is detected / 不良検出あり  
--: Checking / チェック中

C1. ACCESS CHECK

DIGITAL P.C.B. 上の各デバイス間の通信とバスライン接続をチェックします。

C1-1. ALL

サブメニュー C1-2 ～ C1-8 の総合判定結果が表示されます。

C1-2. MCPU OSD

マイコン (IC21) と OSD FLASH ROM (IC2) の読み出し／書き込みをチェックします。

C1-3. OSD HDMI

HDMI IC (IC1) と OSD FLASH ROM (IC2) の読み出し／書き込みをチェックします。

C1-4. VIDEO I/F

マイコン (IC21) と Video Selector (IC502) 間の通信とバスライン接続をチェックします。

**C1-5. DIR BUS**

Communication and bus line connection between microprocessor (IC21) and DIR (IC61) are checked.

**C1-5. DIR BUS**

マイコン (IC21) と DIR (IC61) 間の通信とバスライン接続をチェックします。

C1-5  
DIR BUS:OK

OK: No error detected / 不良検出なし  
NG: An error is detected / 不良検出あり  
--: Checking / チェック中

**C1-6. DSP BUS**

Communication and bus line connection between microprocessor (IC21) and DSP (IC41) are checked.

**C1-6. DSP BUS**

マイコン (IC21) と DSP (IC41) 間の通信とバスライン接続をチェックします。

C1-6  
DSP BUS:OK

OK: No error detected / 不良検出なし  
NG: An error is detected / 不良検出あり  
--: Checking / チェック中

**C1-7. EEPROM**

EEPROM (IC22)'s reading is checked.

**C1-7. EEPROM**

EEPROM (IC22) の読み出しをチェックします。

C1-7  
EEPROM:OK

OK: No error detected / 不良検出なし  
NG: An error is detected / 不良検出あり  
--: Checking / チェック中

**C1-8. TUNER**

The AM/FM TUNER I2C (Inter integrated circuit) bus line connection is checked.

**C1-8. TUNER**

AM/FM TUNER の I2C (Inter integrated circuit) バスライン接続をチェックします。

C1-8  
TUNER:OK

OK: No error detected / 不良検出なし  
NG: An error is detected / 不良検出あり  
--: Checking / チェック中

C2. HDMI INFORMATION

This menu is used to display information about HDMI.

C2-1. HDMI MODEL NAME

The model name written to HDMI IC is displayed.

C2-1  
HMN:RX-V477

RX-V477  
HTR-4067

C2-2. HDMI PRODUCT ID

Not for service.

C2-2  
HID:31A8

C2. HDMI INFORMATION

HDMI に関する情報が表示されます。

C2-1. HDMI MODEL NAME

HDMI IC に書き込まれているモデル名が表示されます。

C2-2. HDMI PRODUCT ID

サービスでは使用しません。



**C3.NET CPU CHECK**

This menu is used to check the communication and bus line connection between devices related to network.

**C3-1. ALL**

The total detection result of sub-menus from C3-2 to C3-4 is displayed.

```
C3-1
All:OK
```

OK: No error detected / 不良検出なし  
NG: An error is detected / 不良検出あり  
--: Checking / チェック中

**C3-2. NET RAM**

Communication and bus line connection between network microprocessor (IC951) and SDRAM (IC952) are checked.

```
C3-2
NET RAM:OK
```

OK: No error detected / 不良検出なし  
NG: An error is detected / 不良検出あり  
--: Checking / チェック中

**C3-3. PHY (Ethernet PHYcelver) TEST**

The perform a loopback test in PHY (IC955).

```
C3-3
PHY TEST:OK
```

OK: No error detected / 不良検出なし  
NG: An error is detected / 不良検出あり  
--: Checking / チェック中

**C3-4. APL (Apple) ID CHECK**

Apple authentication IC (IC954) device ID is checked.

```
C3-4
APL ID:OK
```

OK: No error detected / 不良検出なし  
NG: An error is detected / 不良検出あり  
--: Checking / チェック中

**C3.NET CPU CHECK**

ネットワークに関連する各デバイス間の通信とバスラインの接続をチェックします。

**C3-1. ALL**

サブメニュー C3-2 ～ C3-4 の総合判定結果が表示されます。

**C3-2. NET RAM**

ネットワークマイコン (IC951) と SDRAM (IC952) の通信とバスラインの接続をチェックします。

**C3-3. PHY (Ethernet PHYcelver) TEST**

PHY (IC955) 内でループバックテストを行います。

**C3-4. APL (Apple) ID CHECK**

Apple 認証 IC (IC954) のデバイス ID をチェックします。

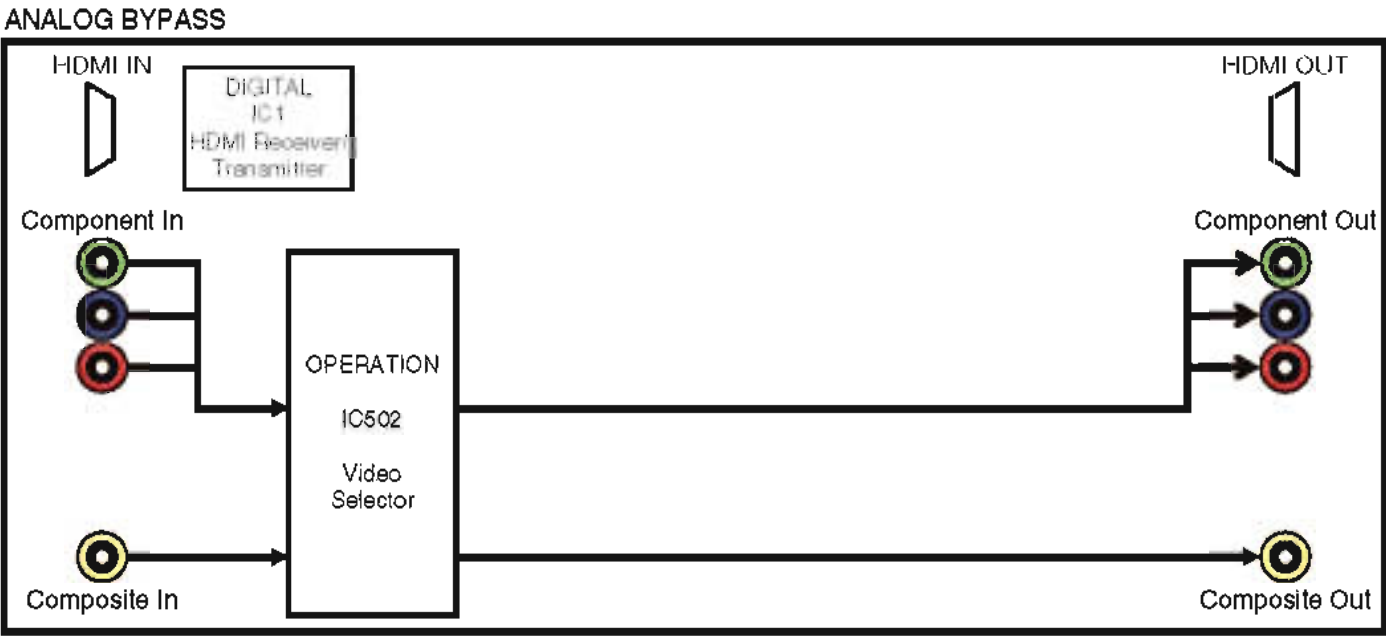
V1. ANALOG VIDEO CHECK

This menu is used to check the analog video signal route.

V1-1. ANALOG BYPASS

The video signal is converted and output as shown below.

V1-1  
ANALOG BYPASS



V1. ANALOG VIDEO CHECK

アナログ映像信号の経路をチェックします。

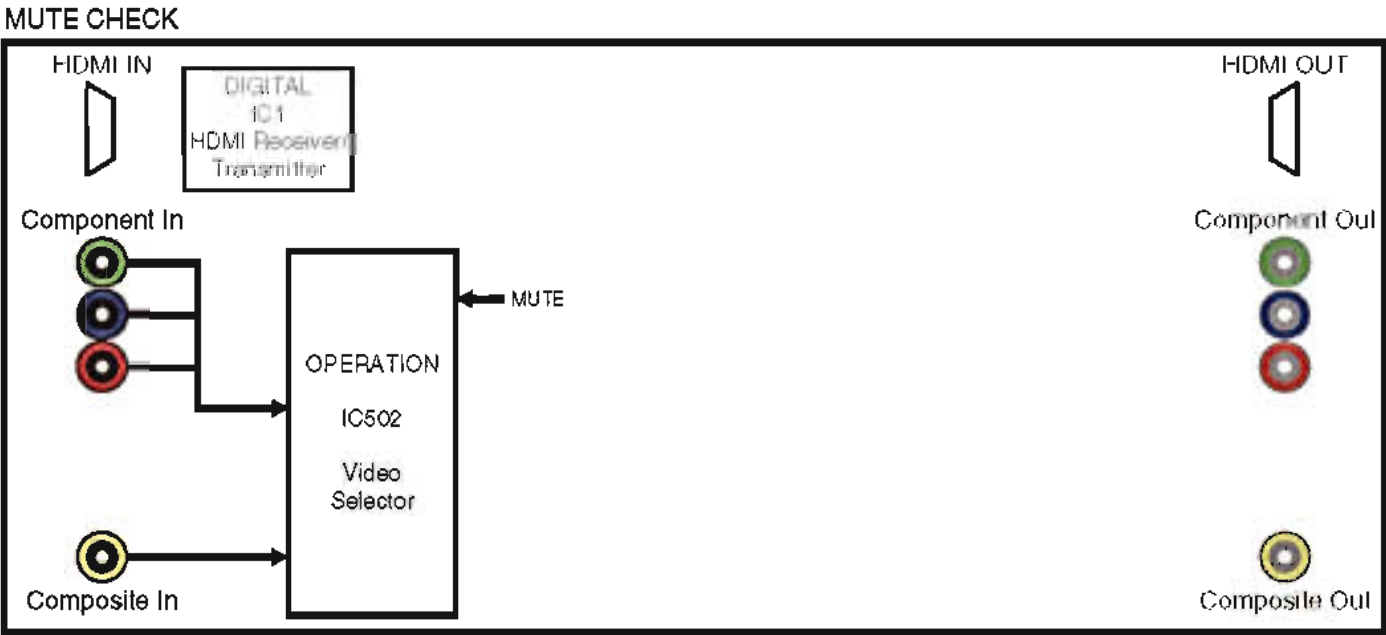
V1-1. ANALOG BYPASS

映像信号が以下のように変換され、出力されます。

V1-2. MUTE CHECK

The video signal is muted.

V1-2  
MUTE CHECK



V1-2. MUTE CHECK

映像信号がミュートされます。



**V2. DIGITAL VIDEO CHECK**

This menu is used to check the digital video signal route.

**V2-1. HDMI REPEAT**

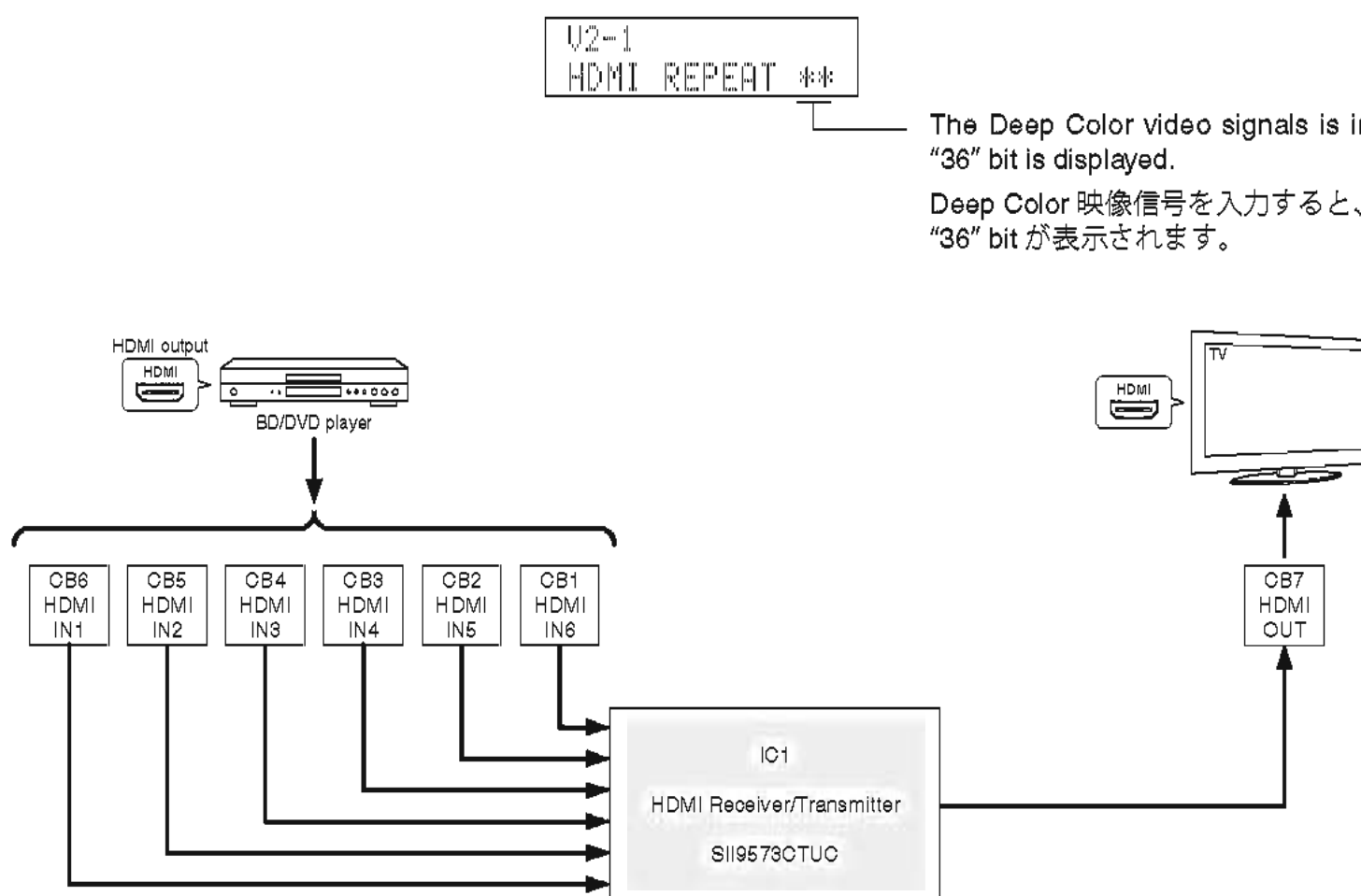
The video/audio signals input to HDMI IN jack are output to HDMI OUT jack.

**V2. DIGITAL VIDEO CHECK**

デジタル映像信号の経路をチェックします。

**V2-1. HDMI REPEAT**

HDMI IN 端子へ入力された映像信号と音声信号が HDMI OUT 端子へ出力されます。

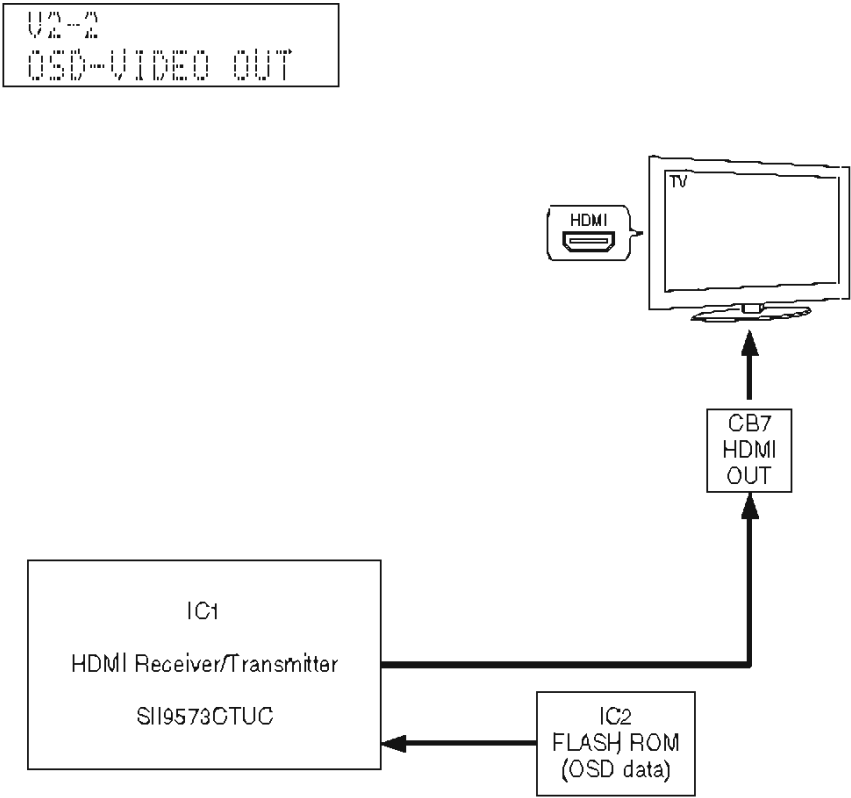


V2-2. OSD (On-Screen Display) VIDEO OUT

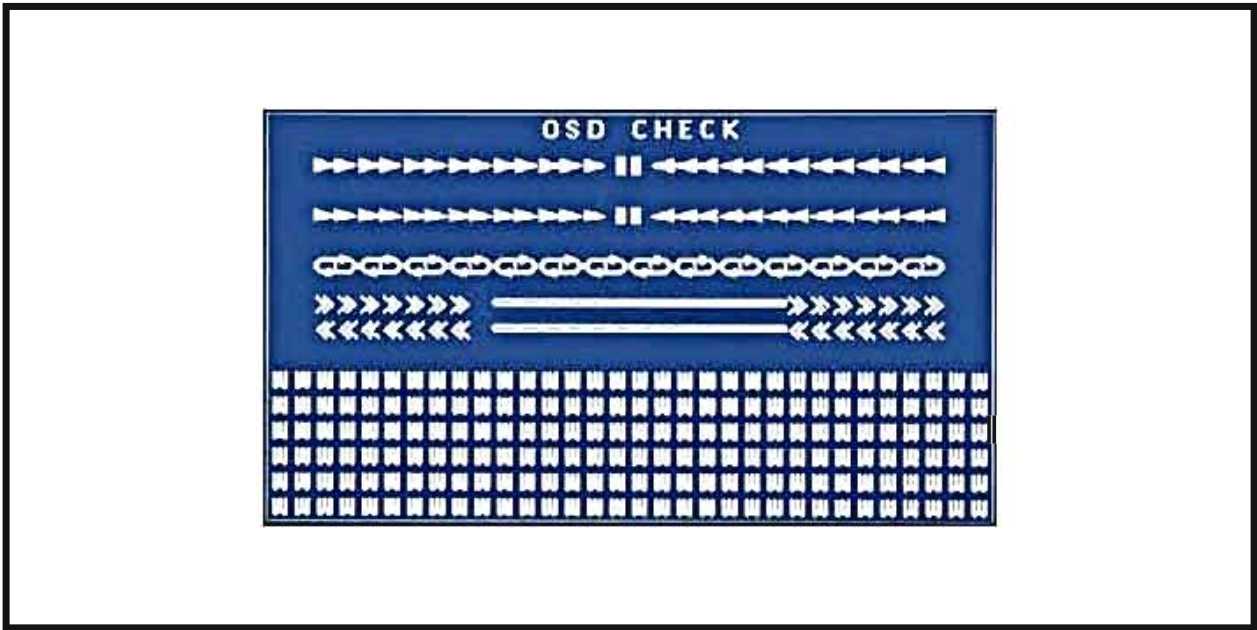
The "OSD CHECK" screen is output to HDMI OUT jack..

V2-2. OSD (On-Screen Display) VIDEO OUT

"OSD CHECK" 画面が HDMI OUT 端子へ出力されます。



TV screen display / TV 画面表示



OSD CHECK screen  
OSD CHECK 画面

**R1. INVALID ITEM**

Not for service.

|                    |
|--------------------|
| R1-1<br>Invalidity |
|--------------------|

.....

|                    |
|--------------------|
| R1-2<br>Invalidity |
|--------------------|

**R1. INVALID ITEM**

サービスでは使用しません。

**P1. AD DATA CHECK**

This menu is used to display the A/D conversion value of the microprocessor which detects panel keys and protection functions by using the sub-menu.

When "P1-7. KEY1/KEY2" sub-menu is selected, keys become inoperable due to detection of the values of all keys. However, it is possible to advance to the next menu by turning the VOLUME knob.

\* Numeric values in the figure are given as reference only.

**P1-1. DC**

Power amplifier DC (DC voltage) output is detected.

The voltage at 141 pin (DC\_PRT) of IC21 is displayed.

Normal value: 27 to 89

(Reference voltage: 3.3 V=255)

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

|                 |
|-----------------|
| P1-1<br>DC: 057 |
|-----------------|

**P1. AD DATA CHECK**

パネルキー、プロテクションなどを検出しているマイコンの A/D 変換値を、サブメニューで表示します。

サブメニュー "P1-7. KEY1/KEY2" にすると、全キーの値を検出するためキー操作はできなくなりますが、VOLUME ツマミを回すことにより、次のメニューに進めることができます。

※ 図中の数値は参考例です。

**P1-1. DC**

パワーアンプ DC (直流電圧) 出力の検出

IC21 の 141 ピン (DC\_PRT) の電圧が表示されます。

正常値: 27 ~ 89

(基準電圧: 3.3 V=255)

※ DC が正常値を外れるとプロテクションが働き、電源が切れます。

**P1-2. PS**

Power supply voltage (PS) protection detection.

The voltage at 138 pin (PS1\_PRT)/139 pin (PS2\_PRT)/140 pin (PS3\_PRT) of IC21 are displayed.

Voltage detects

**PS1:** AC\_BL, AC\_V, AC\_12,  $\pm 7A$ , +3.3S

**PS2:**  $\pm 12A$ , +5A, +5T,  $\pm 3.3V$ , +40F

**PS3:** +5.5V

Normal value

**PS1:** 12 to 100

**PS2:** 89 to 166

**PS3:** 132 to 168

(Reference voltage: 3.3 V=255)

\* If PS1, PS2 or PS3 becomes out of the normal value range, the protection function works to turn off the power.

|                         |
|-------------------------|
| P1-2<br>PS: 048/129/152 |
|-------------------------|

PS3  
PS2  
PS1

**P1-2. PS**

電源電圧 (PS) プロテクションの検出

IC21 の 138 ピン (PS1\_PRT) / 139 ピン (PS2\_PRT) / 140 ピン (PS3\_PRT) の電圧が表示されます。

検出電圧

**PS1 :** AC\_BL、AC\_V、AC\_12、 $\pm 7A$ 、+3.3S

**PS2 :**  $\pm 12A$ 、+5A、+5T、 $\pm 3.3V$ 、+40F

**PS3 :** +5.5V

正常値

**PS1 :** 12 ~ 100

**PS2 :** 89 ~ 166

**PS3 :** 132 ~ 168

(基準電圧: 3.3 V=255)

※ PS1、PS2 または PS3 が正常値を外れるとプロテクションが働き、電源が切れます。

**P1-3. TMP**

Temperature of the heatsink (THM) is detected.

The voltage at 136 pin (THM1\_PRT)/137 pin (THM2\_PRT) of IC21 is displayed.

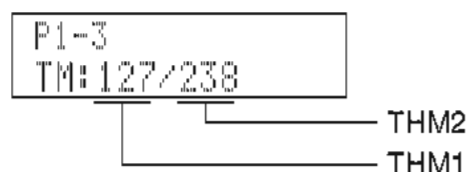
Normal value

**THM1:** 42 to 255

**THM2:** 135 to 255 (U, C models)

(Reference voltage: 3.3 V=255)

\* If THM1 or THM2 becomes out of the normal value range, the protection function works to turn off the power.

**P1-3. TMP**

ヒートシンク温度 (THM) の検出

IC21 の 136 ピン (THM1\_PRT) / 137 ピン (THM2\_PRT) の電圧が表示されます。

正常値

**THM1:** 42 ~ 255

**THM2:** (サービスでは使用しません。)

(基準電圧: 3.3 V=255)

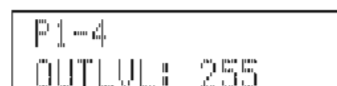
※ THM1 または THM2 が正常値を外れるとプロテクションが働き、電源が切れます。

**P1-4. OUTPUT LEVEL**

Output level of speaker output is detected.

The voltage at 142 pin (AMP\_OLV) of IC21 is displayed.

(Reference voltage: 3.3 V=255)

**P1-4. OUTPUT LEVEL**

スピーカー出力の出力レベルの検出

IC21 の 142 ピン (AMP\_OLV) の電圧が表示されます。

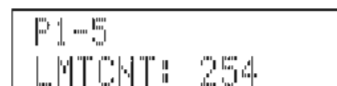
(基準電圧: 3.3 V=255)

**P1-5. LIMITER CONTROL**

Power limiter control is detected.

The voltage at 39 pin (AMP\_LMT) of IC21 is displayed.

(Reference voltage: 3.3 V=255)

**P1-5. LIMITER CONTROL**

電源リミッター制御の検出

IC21 の 39 ピン (AMP\_LMT) の電圧が表示されます。

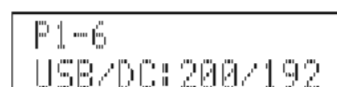
(基準電圧: 3.3 V=255)

**P1-6. USB DC**

Power supply voltage of USB jack is detected.

The voltage at 143 pin (USB\_VBUS\_PRT) of IC21 and 144 pin (+5EX\_PRT) of DC OUT is detected.

(Reference voltage: 3.3 V=255)

**P1-6. USB DC**

USB 端子の電源電圧の検出

IC21 の 143 ピン (USB\_VBUS\_PRT) と DC OUT の 144 ピン (+5EX\_PRT) の電圧が表示されます。

(基準電圧: 3.3 V=255)

**P1-7. KEY**

Panel key is detected.

When the A/D conversion value of the panel key becomes out of the specified range, normal operation will not be available.

In that case, check the constant of voltage dividing resistor, solder condition, etc. Refer to table.

- \* When "P1-7. KEY1/KEY2" menu is selected, keys become inoperable due to detection of the values of all keys. However, it is possible to advance to the next menu by turning the VOLUME knob.

(Reference voltage: 3.3 V=255)

**P1-7. KEY**

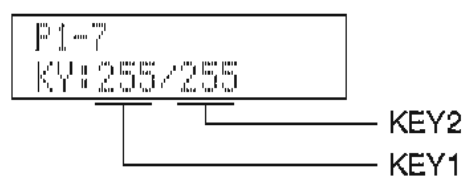
パネルキーの検出

パネルキーの A/D 値が規定範囲から外れると、正常な動きをしません。

下表をご覧になり、各キーの分圧抵抗の定数、ハンダ不良等の確認をしてください。

- ※ "P1-7. KEY1/KEY2" メニューにすると、全キーの値を検出するためキー操作はできなくなりますが、VOLUME ツマミを回すことにより、次のメニューに進めることができます。

(基準電圧：3.3 V=255)



| Display / 表示 | KEY1               |
|--------------|--------------------|
| 0 - 11       | RADIO<br>(SCENE4)  |
| 12 - 32      | NET<br>(SCENE3)    |
| 33 - 54      | TV<br>(SCENE2)     |
| 55 - 75      | BD/DVD<br>(SCENE1) |
| 76 - 96      | -                  |
| 97 - 119     | -                  |
| 120 - 142    | INPUT<br>>         |
| 143 - 163    | INPUT<br><         |
| 182 - 197    | ⏻<br>(Power)       |
| 198 - 229    | TONE<br>CONTROL    |
| 255          | Key off            |

| Display / 表示 | KEY2         |
|--------------|--------------|
| 0 - 11       | DIRECT       |
| 12 - 32      | TUNING<br>>> |
| 33 - 54      | TUNING<br><< |
| 55 - 77      | AM           |
| 78 - 99      | FM           |
| 100 - 121    | PRESET<br>>  |
| 122 - 144    | PRESET<br><  |
| 145 - 166    | MEMORY       |
| 167 - 186    | INFO         |
| 187 - 205    | STRAIGHT     |
| 206 - 226    | PROGRAM<br>> |
| 227 - 246    | PROGRAM<br>< |
| 255          | Key off      |

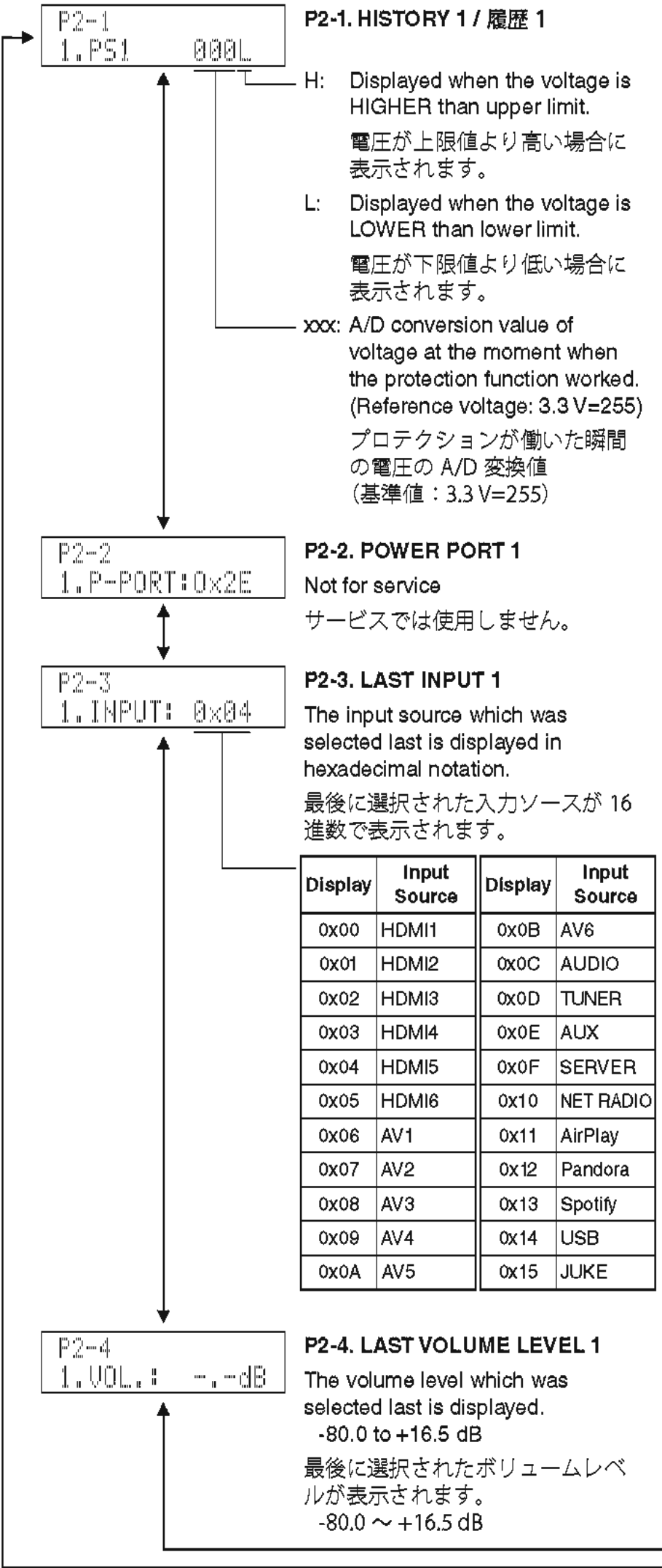
P2. PROTECTION HISTORY

This menu is used to display the history of protection function.

In the history 1 to 4, the setting information for operation of each protection function will be stored.

All history of protection function and setting information will be erased by pressing the "STRAIGHT" key.

\* Numeric values in the figure are given as reference only.



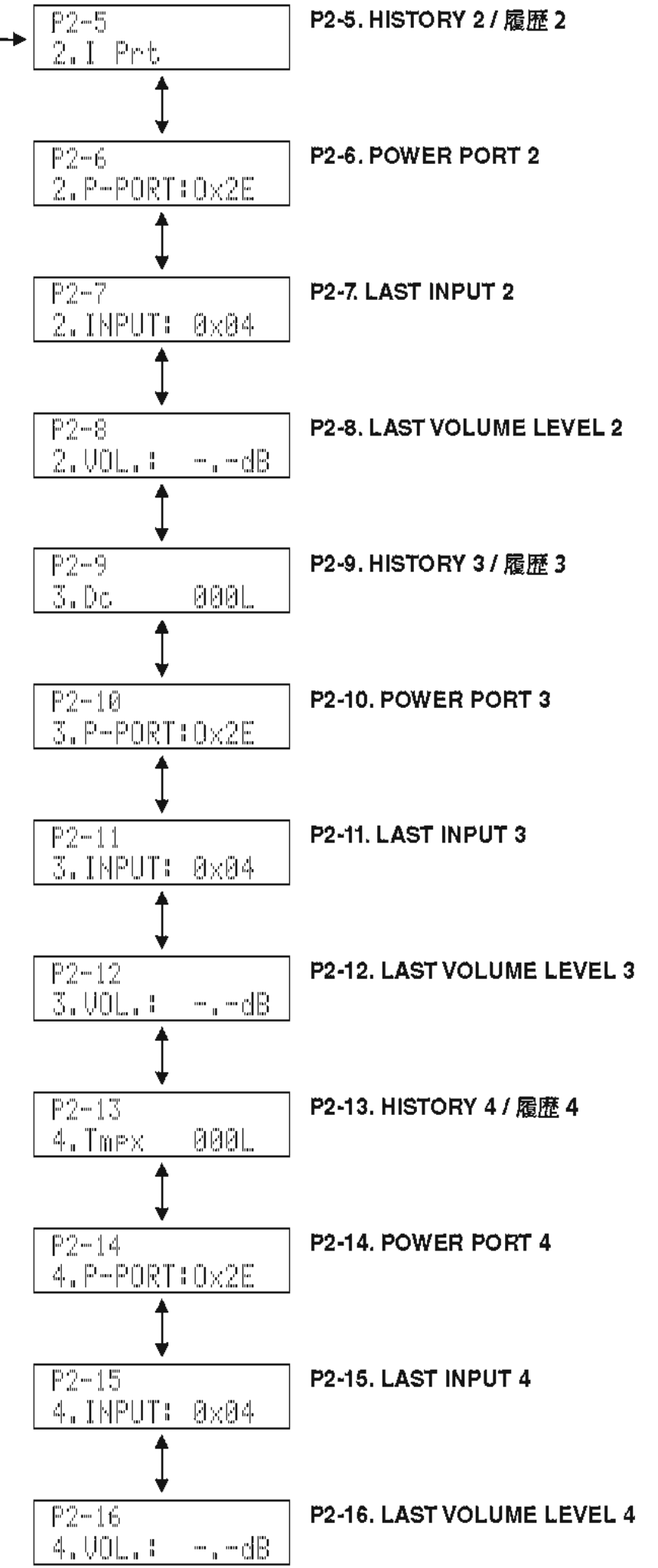
P2. PROTECTION HISTORY

プロテクション履歴が表示されます。

履歴 1 ~ 4 には、そのそれぞれにプロテクション動  
作時の設定情報が保存されます。

"STRAIGHT" キーを押すと、すべてのプロテクション  
履歴と、設定情報が消去されます。

※ 図中の数値は参考例です。





## T1. TROUBLE SHOOTING INFORMATION

This menu is used to display the operating time and operation frequency of this unit.

- \* The operating time and operation frequency during the self-diagnostic function mode will not be stored.

### T1-1. OPERATING TIME

The operating time of this unit is displayed.

The operating time will be erased by pressing the "STRAIGHT" key.

T1-1  
00000 00H 00M

Minute (0M to 59M) / 分 (0M ~ 59M)  
Hour (0H to 23H) / 時間 (0H ~ 23H)  
Day (0D to 9999D) / 日数 (0D ~ 9999D)

### T1-2. POWER-RELAY ON

The operation frequency of the power relay (RY541) is displayed in hexadecimal notation.

The operation frequency will be erased by pressing the "STRAIGHT" key.

T1-2  
PR-ON Num:0000

Operation frequency / 0 to FFFF (up to 65,535 times)  
動作回数 / 0 ~ FFFF (最大 65,535 回)

### T1-3. POWER AMP B

The operation frequency of the POWER AMP B relay (RY226) is displayed in hexadecimal notation.

The operation frequency will be erased by pressing the "STRAIGHT" key.

T1-3  
P-AMP B Num:00

Operation frequency / 0 to FF (up to 255 times)  
動作回数 / 0 ~ FF (最大 255 回)

### T1-4. OUTPUT LEVEL

The maximum value of the speaker output level is displayed in hexadecimal notation.

The maximum value will be erased by pressing the "STRAIGHT" key.

T1-4  
OUTLVL MAX:00

Maximum value / 0 to FF  
最大値 / 0 ~ FF

### T1-5. NRC (Net Restart Counter)

Not for service.

T1-5  
NRC: 0

## T1. TROUBLE SHOOTING INFORMATION

本機の動作時間、動作回数が表示されます。

※ ダイアグ中の動作時間、動作回数は保存されません。

### T1-1. OPERATING TIME

本機の動作時間が表示されます。

"STRAIGHT" キーを押すと動作時間が消去されます。

### T1-2. POWER-RELAY ON

電源リレー (RY541) の動作回数が 16 進数で表示されます。

"STRAIGHT" キーを押すと動作回数が消去されます。

### T1-3. POWER AMP B

POWER AMP B リレー (RY226) の動作回数が 16 進数で表示されます。

"STRAIGHT" キーを押すと動作回数が消去されます。

### T1-4. OUTPUT LEVEL

スピーカー出力レベルの最大値が 16 進数で表示されます。

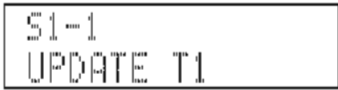
"STRAIGHT" キーを押すと最大値が消去されます。

### T1-5. NRC (Net Restart Counter)

サービスでは使用しません。

S1. FIRMWARE UPDATE

Not for service.



S1. FIRMWARE UPDATE

サービスでは使用しません。

S2. MODEL / DESTINATION

This menu is used to display the model name and destination.

S2-1. INITIAL DISPLAY



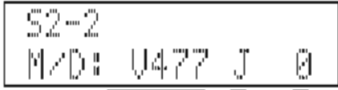
S2. MODEL / DESTINATION

モデル名、仕向け先が表示されます。

S2-1. INITIAL DISPLAY

S2-2. MODEL/DESTINATION

The model name and destination are displayed.



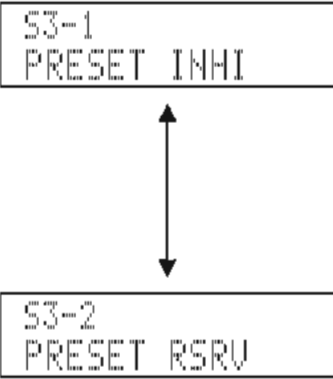
S2-2. MODEL/DESTINATION

モデル名、仕向け先が表示されます。

Not for service / サービスでは使用しません  
Destination / 仕向け先  
U / C / R (R, V, S) / T / K / A / G (B, G, F) / L (L, H) / J  
Model name / モデル名  
V477 : RX-V477  
H4067 : HTR-4067

S3. FACTORY PRESET

This menu is used to reserve/inhibit initialization of the back-up IC (EEPROM: IC22 on DIGITAL P.C.B.).



**S3-1. PRESET INHIBIT** (Initialization inhibited) / **PRESET INHIBIT** (初期化禁止)  
Initialization of the back-up IC is not executed. Select this sub-menu to protect the values set by the user.  
バックアップ用 IC の初期化は行われません。ユーザーの設定値を保護するときは、こちらを選択してください。

**S3-2. PRESET RESERVED** (Initialization reserved) / **PRESET RESERVED** (初期化予約)  
Initialization of the back-up IC is reserved. (Actual initialization is executed when the power is turned on next.) To reset to the original factory settings or to reset the backup IC, select this sub-menu and press the "⏻" (Power) key to turn off the power.  
ユーザーメモリーの初期化が予約されます。(実際に初期化されるのは、次回の電源投入時です。) 工場出荷時やユーザーメモリーをリセットしたいときは、こちらを選択してから "⏻" (電源) キーを押して電源を切ってください。

**CAUTION:** Before setting to the PRESET RESERVED, write down the existing preset memory content of the tuner. (This is because setting to the PRESET RESERVED will cause the user memory content to be erased.)

**注意：** PRESET RESERVED を選んで初期化をする前に、チューナーのユーザーメモリーの内容を書き写してください。(初期化をすると、チューナーのユーザーメモリーの内容は消えてしまいます。)



## S4. ROM VERSION/CHECKSUM

The firmware version and checksum values are displayed.

The checksum is obtained by adding the data at every 8-bit and expressing the result as a hexadecimal notation.

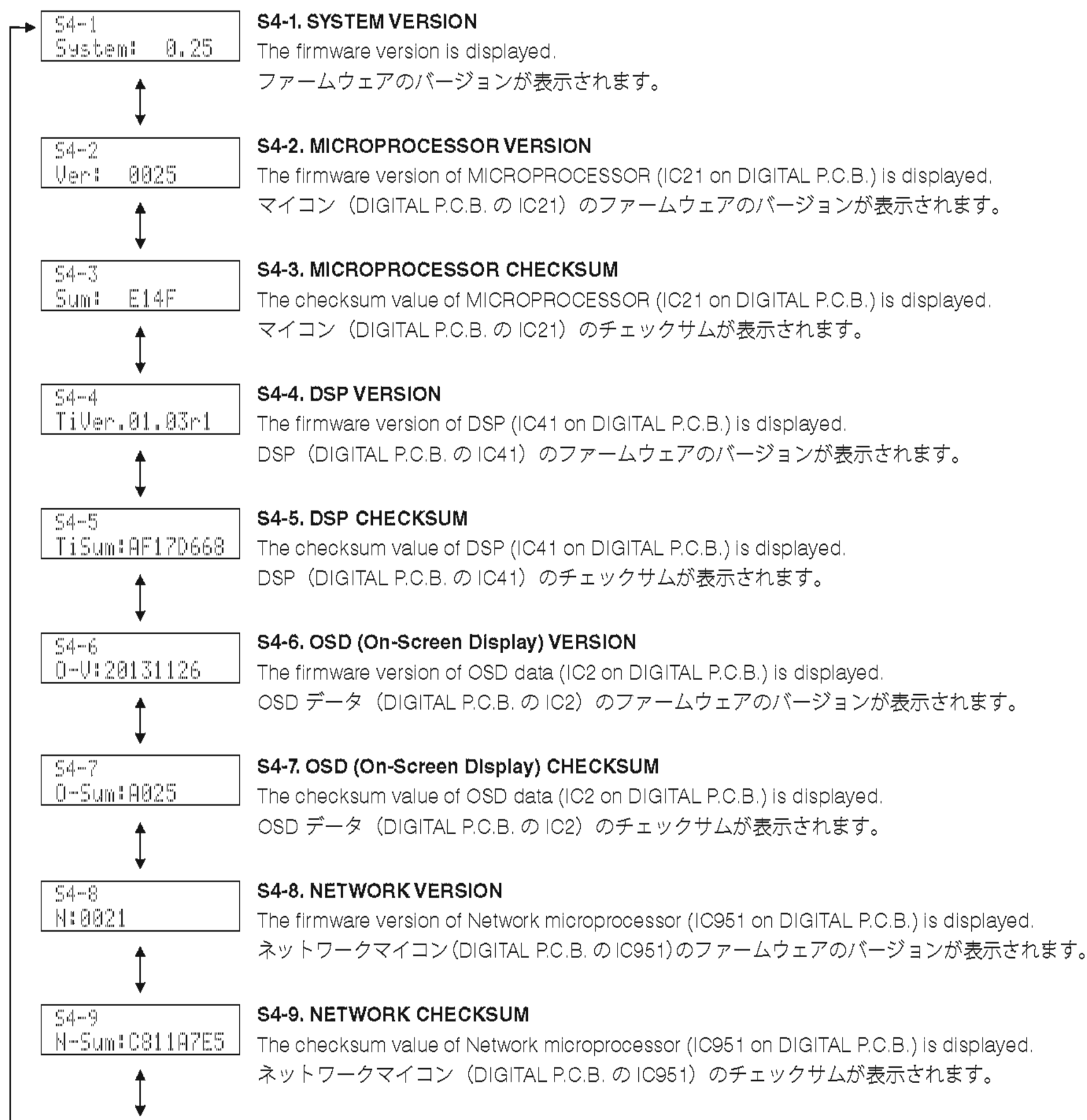
\* Numeric values in the figure are given as reference only.

## S4. ROM VERSION/CHECKSUM

ファームウェアのバージョン、チェックサムが表示されます。

チェックサムは、データを8ビットごとに加算していき、16進数で表記したものです。

※ 図中の数値は参考例です。





S5. SOFT SWITCH

This menu is used to write the model name to the back-up IC (EEPROM: IC22 on DIGITAL P.C.B.).

When the following parts are replaced, the model name MUST be written by using this menu to have proper operation.

DIGITAL P.C.B.  
EEPROM: IC22 on DIGITAL P.C.B.

To write the model name, first switch to the write mode by using the "S5-1. SWITCH MODE" menu and then select the desired model name by using "S5-2. MODEL NAME" menu.

S5-1. SWITCH MODE

Pressing the "STRAIGHT" key will change the display alternately as shown below. When "S5-1. SW: MODEL" is displayed, this unit is in the write mode.

S5. SOFT SWITCH

モデル名をバックアップ IC (EEPROM : DIGITAL P.C.B. の IC22) に書き込みます。

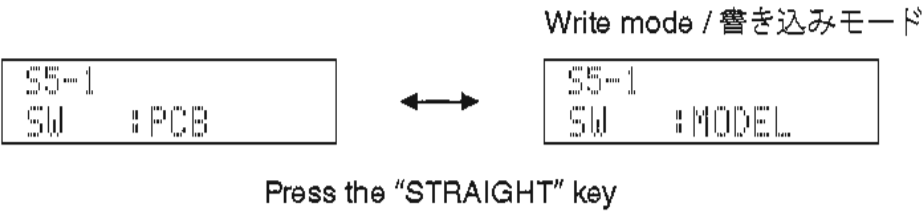
下記の部品を交換した場合、正常動作のために本メニューでモデル名と仕向け先を書き込む必要があります。

DIGITAL P.C.B.  
EEPROM : DIGITAL P.C.B. の IC22

モデル名を書き込むには、まず最初に "S5-1. SWITCH MODE" メニューで書き込みモードに切り替えて、それから "S5-2. MODEL NAME" メニューで目的のモデル名を選択します。

S5-1. SWITCH MODE

"STRAIGHT" キーを押すと表示が下記のように交互に切り替わります。"S5-1. SW: MODEL" が表示されているときに本機は書き込みモードになっています。



**Note:** After writing of the model name is completed, be sure to change to "S5-1. SW: PCB".

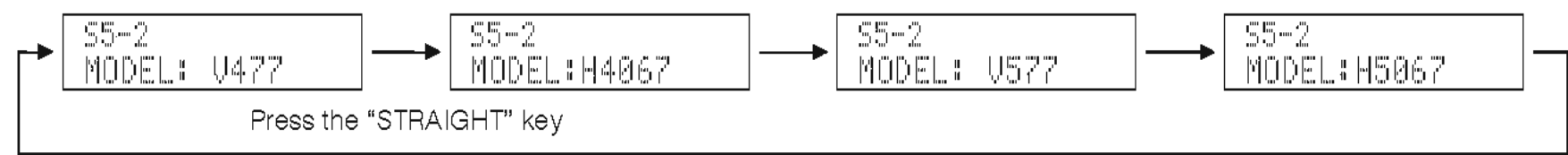
**注意：** モデル名の書き込みを完了した後、必ず "S5-1. SW: PCB" に切り替えてください。

S5-2. MODEL NAME

Select the desired model name by pressing the "STRAIGHT" key. Then the selected model name is written automatically.

S5-2. MODEL NAME

"STRAIGHT" キーを押して目的のモデル名を選択します。選択されたモデル名が自動的に書き込まれます。



S6. SYSTEM INFORMATION

This menu is used to display the model name and destination.

S6. SYSTEM INFORMATION

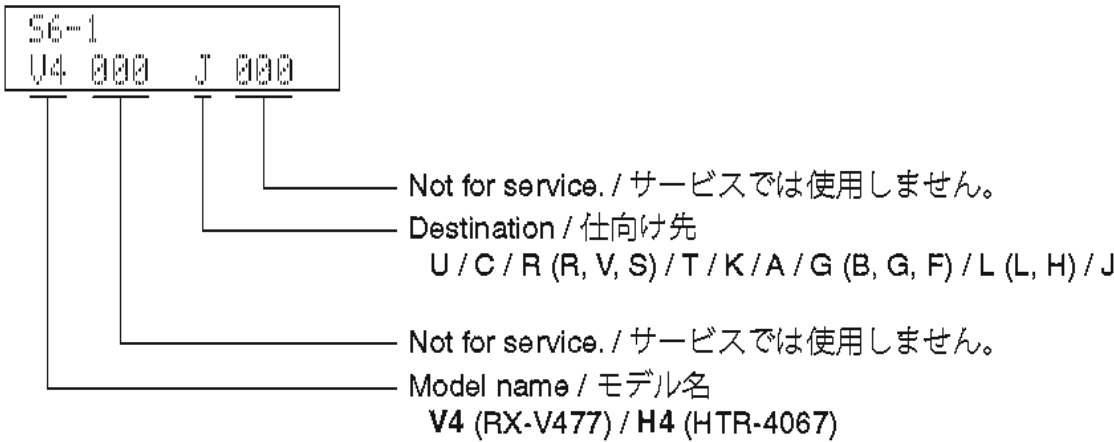
モデル名、仕向け先が表示されます。

S6-1. MODEL

The model name and destination are displayed.

S6-1. MODEL

モデル名、仕向け先が表示されます。



S6-2. VERIFY

Not for service.

S6-2. VERIFY

サービスでは使用しません。



## ■ POWER AMPLIFIER ADJUSTMENT / パワーアンプ調整

1. Right after power is turned on, confirm that the voltage across the terminals of R2252 (SURROUND Rch), R2249 (FRONT Rch), R2251 (CENTER), R2250 (FRONT Lch) and R2253 (SURROUND Lch) are within the confines of 0.1 mV to 10 mV.

2. If measured voltage exceeds 10 mV, remove R2210 (SURROUND Rch), R2207 (FRONT Rch), R2209 (CENTER), R2208 (FRONT Lch) and R2211 (SURROUND Lch), and then reconfirm the voltage.

### Attention

If the measured voltage exceeds 10 mV after repairing the power amplifier, check other parts again for any possible defect before removing the resistor.

3. Confirm that the voltage is within the confines of 0.2 mV to 15 mV after 60 minutes.

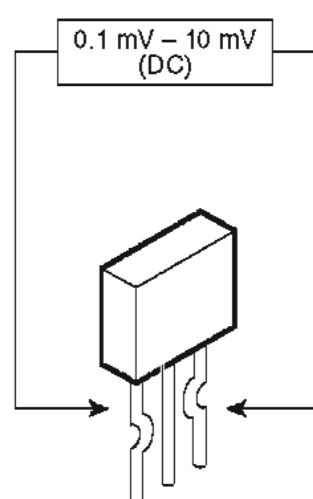
1. 電源投入直後、R2252 (SURROUND Rch)、R2249 (FRONT Rch)、R2251 (CENTER)、R2250 (FRONT Lch)、R2253 (SURROUND Lch) の端子間電圧を測定し、0.1 mV から 10 mV の間であることを確認してください。

2. 電圧が 10 mV を超えている場合は、R2210 (SURROUND Rch)、R2207 (FRONT Rch)、R2209 (CENTER)、R2208 (FRONT Lch)、R2211 (SURROUND Lch) を外し、電圧を再確認してください。

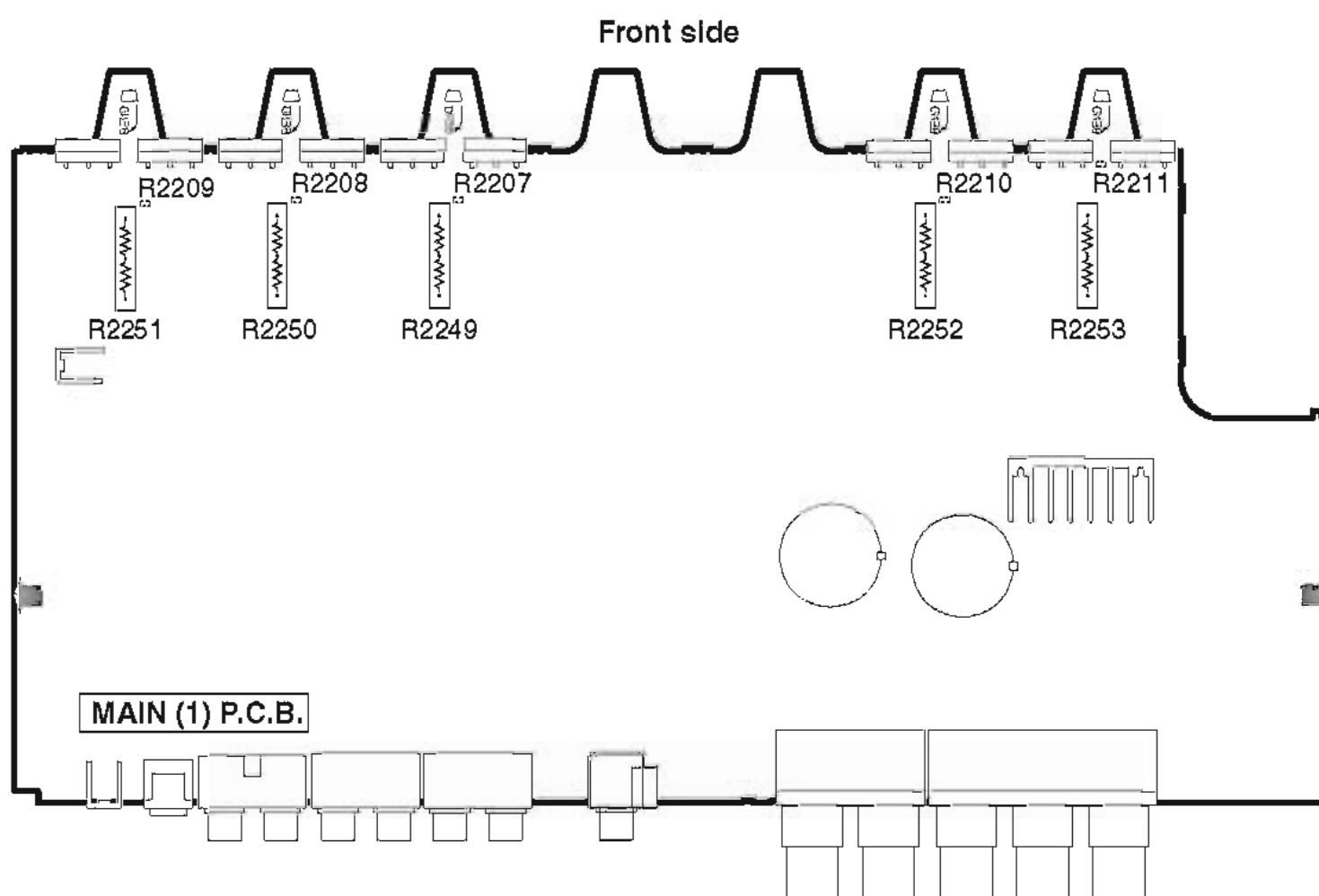
### 注意

パワーアンプ修理後に 10 mV を超えている場合は、抵抗を外す前に故障箇所を調べてください。

3. 60 分後、電圧が 0.2 mV ～ 15 mV であることを確認してください。

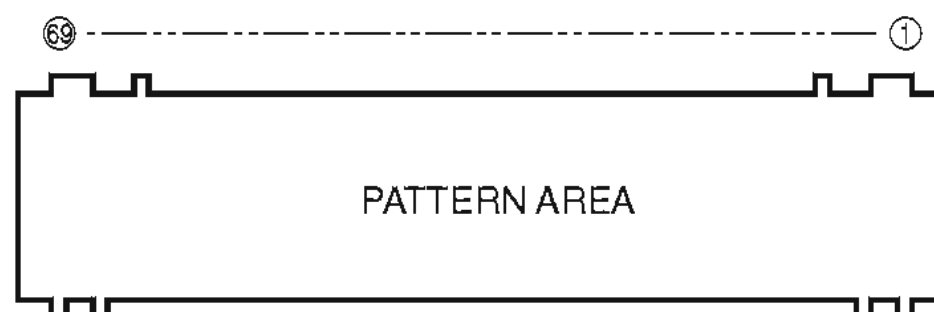


R2252 (SURROUND Rch)  
R2249 (FRONT Rch)  
R2251 (CENTER)  
R2250 (FRONT Lch)  
R2253 (SURROUND Lch)



## ■ DISPLAY DATA

### ● V4001 : 020-MT-008GNK (OPERATION P.C.B.)



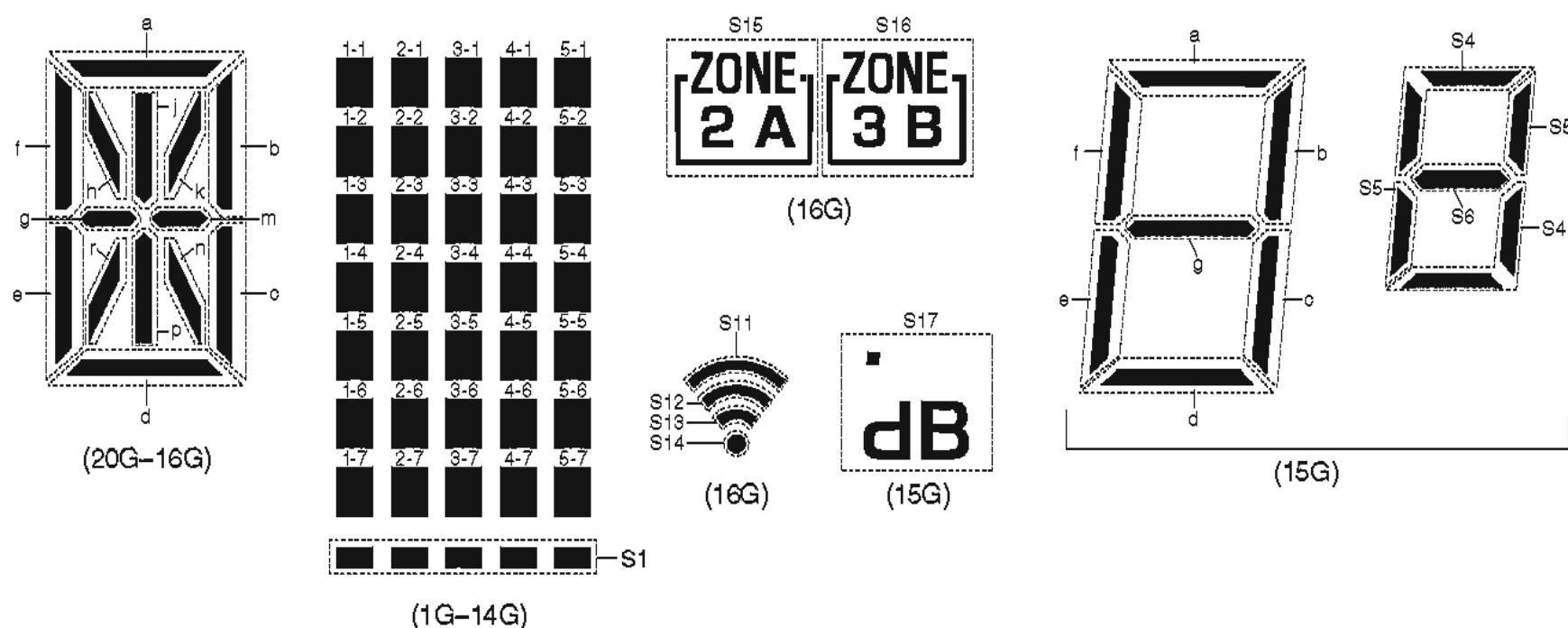
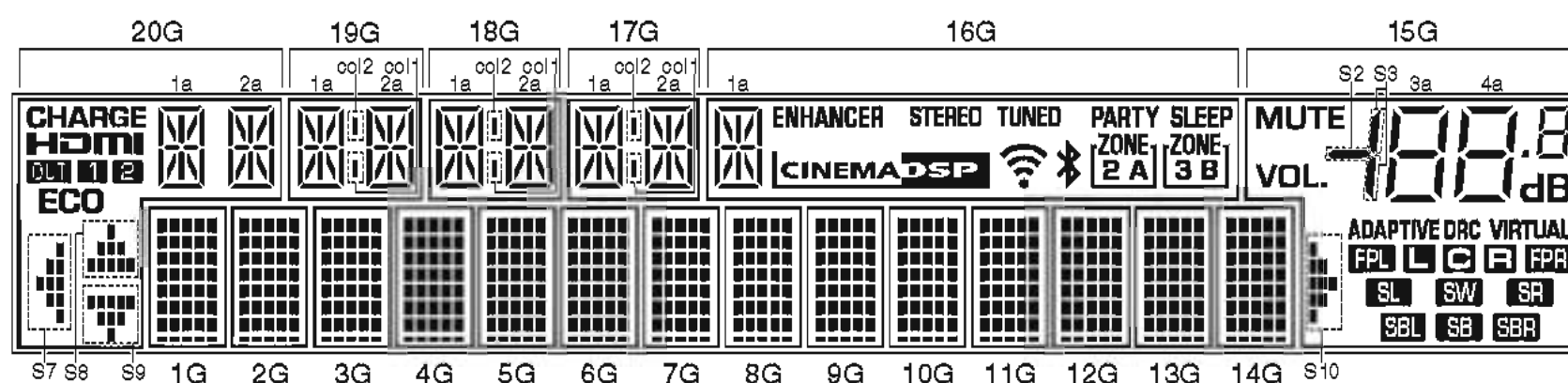
### ● PIN CONNECTION

|            |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pin No.    | 69 | 68 | 67 | 66 | 65 | 67 | 65 | 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 | 20G | 19G | 18G | 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 pin    2) NP ..... No pin    3) NX ..... No extend pin    4) 1G-20G ..... Grid pin

### ● GRID ASSIGNMENT



# ● ANODE CONNECTION

|     | 20G           | 19G  | 18G  | 17G  | 16G                                                                                   | 15G                 | 1G-14G |
|-----|---------------|------|------|------|---------------------------------------------------------------------------------------|---------------------|--------|
| P1  | 1d            | 1d   | 1d   | 1d   | 1d                                                                                    | <b>VOL.</b>         | 1-1    |
| P2  | 2d            | 2d   | 2d   | 2d   | <b>CINEMA DSP</b>                                                                     | S2                  | 2-1    |
| P3  | 1e            | 1e   | 1e   | 1e   | 1e                                                                                    | S3                  | 3-1    |
| P4  | 2e            | 2e   | 2e   | 2e   | S14                                                                                   | 3d                  | 4-1    |
| P5  | 1r            | 1r   | 1r   | 1r   | 1r                                                                                    | 3e                  | 5-1    |
| P6  | 2r            | 2r   | 2r   | 2r   | S13                                                                                   | 3c                  | 1-2    |
| P7  | 1p            | 1p   | 1p   | 1p   | 1p                                                                                    | 3g                  | 2-2    |
| P8  | 2p            | 2p   | 2p   | 2p   | S12                                                                                   | 3f                  | 3-2    |
| P9  | 1n            | 1n   | 1n   | 1n   | 1n                                                                                    | 3b                  | 4-2    |
| P10 | 2n            | 2n   | 2n   | 2n   | S11                                                                                   | 3a                  | 5-2    |
| P11 | 1c            | 1c   | 1c   | 1c   | 1c                                                                                    | <b>MUTE</b>         | 1-3    |
| P12 | 2c            | 2c   | 2c   | 2c   |  | 4d                  | 2-3    |
| P13 | <b>HDMI</b>   | col1 | col1 | col1 | S15                                                                                   | 4e                  | 3-3    |
| P14 | 1g            | 1g   | 1g   | 1g   | 1g                                                                                    | 4c                  | 4-3    |
| P15 | 2g            | 2g   | 2g   | 2g   | S16                                                                                   | 4g                  | 5-3    |
| P16 | 1m            | 1m   | 1m   | 1m   | 1m                                                                                    | 4f                  | 1-4    |
| P17 | 2m            | 2m   | 2m   | 2m   | <b>2</b>                                                                              | 4b                  | 2-4    |
| P18 | <b>CHARGE</b> | col2 | col2 | col2 | <b>3</b>                                                                              | 4a                  | 3-4    |
| P19 | 1f            | 1f   | 1f   | 1f   | 1f                                                                                    | S17                 | 4-4    |
| P20 | 2f            | 2f   | 2f   | 2f   | <b>A</b>                                                                              | S4                  | 5-4    |
| P21 | 1h            | 1h   | 1h   | 1h   | 1h                                                                                    | S5                  | 1-5    |
| P22 | 2h            | 2h   | 2h   | 2h   | <b>B</b>                                                                              | S6                  | 2-5    |
| P23 | 1j            | 1j   | 1j   | 1j   | 1j                                                                                    | S10                 | 3-5    |
| P24 | 2j            | 2j   | 2j   | 2j   | <b>SLEEP</b>                                                                          | <b>ADAPTIVE DRC</b> | 4-5    |
| P25 | 1k            | 1k   | 1k   | 1k   | 1k                                                                                    | <b>VIRTUAL</b>      | 5-5    |
| P26 | 2k            | 2k   | 2k   | 2k   | <b>PARTY</b>                                                                          | <b>FPL</b>          | 1-6    |
| P27 | 1b            | 1b   | 1b   | 1b   | 1b                                                                                    | <b>L</b>            | 2-6    |
| P28 | 2b            | 2b   | 2b   | 2b   | <b>TUNED</b>                                                                          | <b>C</b>            | 3-6    |
| P29 | 1a            | 1a   | 1a   | 1a   | 1a                                                                                    | <b>R</b>            | 4-6    |
| P30 | 2a            | 2a   | 2a   | 2a   | <b>STEREO</b>                                                                         | <b>FPR</b>          | 5-6    |
| P31 | <b>2</b>      | –    | –    | –    | <b>ENHANCER</b>                                                                       | <b>SL</b>           | 1-7    |
| P32 | <b>1</b>      | –    | –    | –    | –                                                                                     | <b>SW</b>           | 2-7    |
| P33 | <b>OUT</b>    | –    | –    | –    | –                                                                                     | <b>SR</b>           | 3-7    |
| P34 | <b>ECO</b>    | –    | –    | –    | –                                                                                     | <b>SBL</b>          | 4-7    |
| P35 | S8            | –    | –    | –    | –                                                                                     | <b>SB</b>           | 5-7    |
| P36 | S9            | –    | –    | –    | –                                                                                     | <b>SBR</b>          | S1     |
| P37 | S7            | –    | –    | –    | –                                                                                     | –                   | –      |

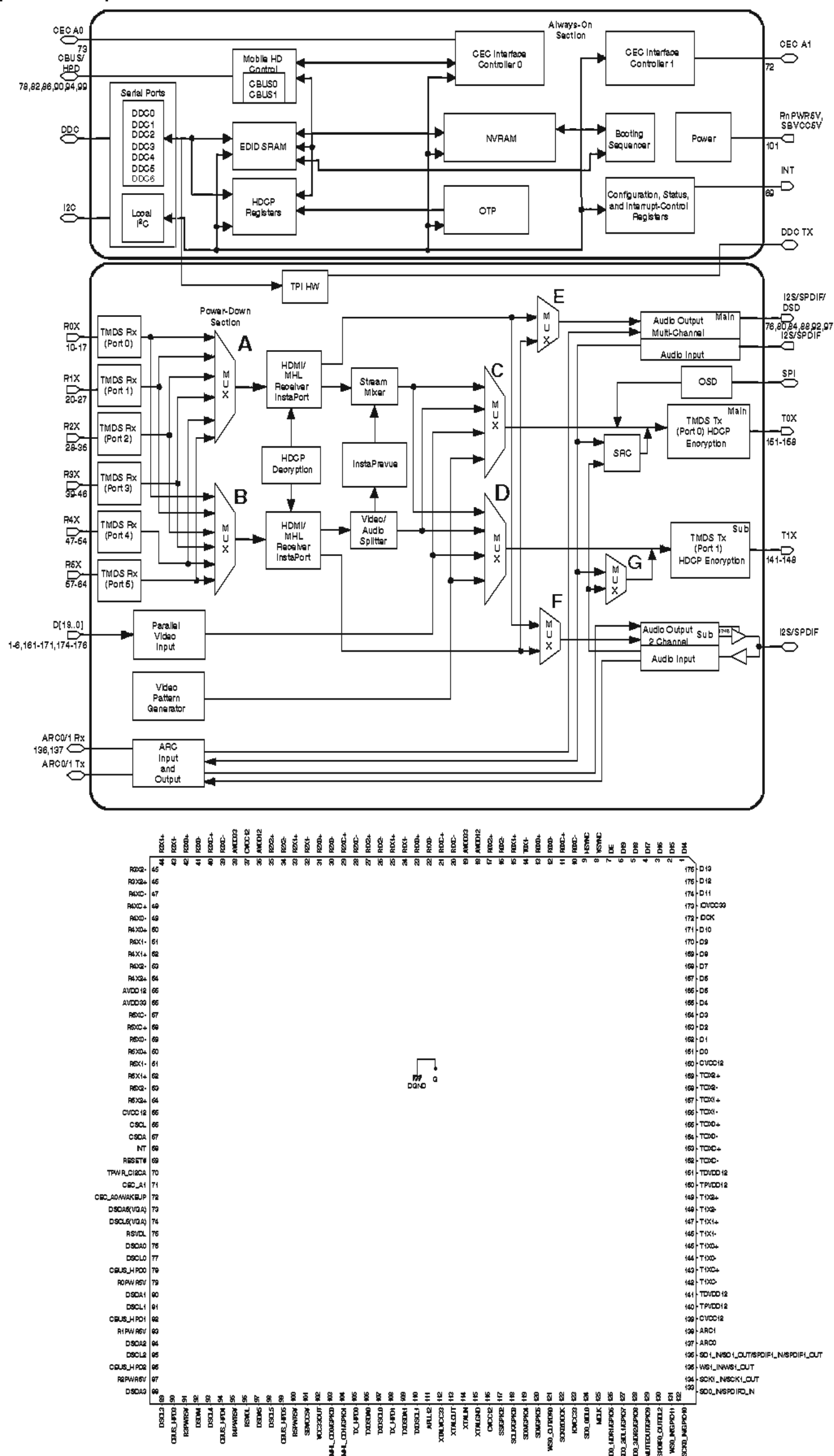


## ■ IC DATA

IC1: SII9573CTUC (DIGITAL P.C.B.)

HDMI port processors

\* No replacement part available. / サービス部品供給なし



## HDMI Receiver Port Pins

| Pin No. | Function Name | Type | I/O   | Detail of Function                          |
|---------|---------------|------|-------|---------------------------------------------|
| 12      | R0X0-         | TMDS | Input | HDMI receiver Port 0 TMDS Input data pairs. |
| 13      | R0X0+         |      |       |                                             |
| 14      | R0X1-         |      |       |                                             |
| 15      | R0X1+         |      |       |                                             |
| 16      | R0X2-         |      |       |                                             |
| 17      | R0X2+         |      |       |                                             |
| 10      | R0XC          | TMDS | Input | HDMI receiver Port 0 TMDS Input clock pair. |
| 11      | R0XC+         |      |       |                                             |
| 22      | R1X0-         | TMDS | Input | HDMI receiver Port 1 TMDS Input data pairs. |
| 23      | R1X0+         |      |       |                                             |
| 24      | R1X1-         |      |       |                                             |
| 25      | R1X1+         |      |       |                                             |
| 26      | R1X2-         |      |       |                                             |
| 27      | R1X2+         |      |       |                                             |
| 20      | R1XC          | TMDS | Input | HDMI receiver Port 1 TMDS Input clock pair. |
| 21      | R1XC+         |      |       |                                             |
| 30      | R2X0-         | TMDS | Input | HDMI receiver Port 2 TMDS Input data pairs. |
| 31      | R2X0+         |      |       |                                             |
| 32      | R2X1-         |      |       |                                             |
| 33      | R2X1+         |      |       |                                             |
| 34      | R2X2-         |      |       |                                             |
| 35      | R2X2+         |      |       |                                             |
| 28      | R2XC          | TMDS | Input | HDMI receiver Port 2 TMDS Input clock pair. |
| 29      | R2XC+         |      |       |                                             |
| 41      | R3X0-         | TMDS | Input | HDMI receiver Port 3 TMDS Input data pairs. |
| 42      | R3X0+         |      |       |                                             |
| 43      | R3X1-         |      |       |                                             |
| 44      | R3X1+         |      |       |                                             |
| 45      | R3X2-         |      |       |                                             |
| 46      | R3X2+         |      |       |                                             |
| 39      | R3XC          | TMDS | Input | HDMI receiver Port 3 TMDS Input clock pair. |
| 40      | R3XC+         |      |       |                                             |
| 49      | R4X0-         | TMDS | Input | HDMI receiver Port 4 TMDS Input data pairs. |
| 50      | R4X0+         |      |       |                                             |
| 51      | R4X1-         |      |       |                                             |
| 52      | R4X1+         |      |       |                                             |
| 53      | R4X2-         |      |       |                                             |
| 54      | R4X2+         |      |       |                                             |
| 47      | R4XC          | TMDS | Input | HDMI receiver Port 4 TMDS Input clock pair. |
| 48      | R4XC+         |      |       |                                             |
| 59      | R5X0-         | TMDS | Input | HDMI receiver Port 5 TMDS Input data pairs. |
| 60      | R5X0+         |      |       |                                             |
| 61      | R5X1-         |      |       |                                             |
| 62      | R5X1+         |      |       |                                             |
| 63      | R5X2-         |      |       |                                             |
| 64      | R5X2+         |      |       |                                             |
| 57      | R5XC          | TMDS | Input | HDMI receiver Port 5 TMDS Input clock pair. |
| 58      | R5XC+         |      |       |                                             |

## HDMI Transmitter Port Pins

| Pin No. | Function Name | Type | I/O    | Detail of Function                                                                                    |
|---------|---------------|------|--------|-------------------------------------------------------------------------------------------------------|
| 154     | T0X0-         | TMDS | Output | HDMI transmitter Port 0 TMDS output data pairs.<br>Main HDMI transmitter output Port TMDS data pairs. |
| 155     | T0X0+         |      |        |                                                                                                       |
| 156     | T0X1-         |      |        |                                                                                                       |
| 157     | T0X1+         |      |        |                                                                                                       |
| 158     | T0X2-         |      |        |                                                                                                       |
| 159     | T0X2+         |      |        |                                                                                                       |
| 152     | T0XC-         | TMDS | Output | HDMI transmitter Port 0 TMDS output clock pair.<br>Main HDMI transmitter output Port TMDS clock pair. |
| 153     | T0XC+         |      |        |                                                                                                       |
| 144     | T1X0-         | TMDS | Output | HDMI transmitter Port 1 TMDS output data pairs.<br>Sub HDMI transmitter output Port TMDS data pairs.  |
| 145     | T1X0+         |      |        |                                                                                                       |
| 146     | T1X1-         |      |        |                                                                                                       |
| 147     | T1X1+         |      |        |                                                                                                       |
| 148     | T1X2-         |      |        |                                                                                                       |
| 149     | T1X2+         |      |        |                                                                                                       |
| 142     | T1XC-         | TMDS | Output | HDMI transmitter Port 1 TMDS output clock pair.<br>Sub HDMI transmitter output Port TMDS clock pair.  |
| 143     | T1XC+         |      |        |                                                                                                       |

## Audio Return Channel Pins

| Pin No. | Function Name | Type   | I/O          | Detail of Function                                                                                                                                                                                                                                                                                                                 |
|---------|---------------|--------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 137     | ARC0          | Analog | Input/Output | Audio Return Channels 0 and 1. These pins are used to transmit or receive an IEC60958-1 audio stream. In ARC transmitter mode, received on the SPDIFn_IN Input pin, this pin transmits an S/PDIF signal to an ARC receiver-capable source (such as HTIB) or a repeater (such as AVR) devices, using single-mode ARC.               |
| 138     | ARC1          |        |              | In ARC receiver mode, transmitted through the SPDIFn_OUT pin, this pin receives an S/PDIF signal from an ARC transmitter-capable sink (such as DTV) device, using single-mode ARC. In combination with external components, common-mode ARC can be received. Each channel can either be an ARC Input or an ARC output at one time. |



## Audio Pins

| Pin No. | Function Name                                       | Type             | I/O              | Detail of Function                                                                          |
|---------|-----------------------------------------------------|------------------|------------------|---------------------------------------------------------------------------------------------|
| 121     | WS0_OUT/<br>DR0                                     | LVTTL            | Output           | Main port I2S word select output/<br>DSD data right bit 0.                                  |
| 122     | SCK0/<br>DDCK                                       | LVTTL            | Output           | Main port I2S serial clock output/<br>DSD clock output.                                     |
| 124     | SDO_0/DL0                                           | LVTTL            | Output           | Main port I2S serial data 0 output/<br>DSD data left bit 0 output.                          |
| 125     | MCLK                                                | LVTTL            | Output           | Master clock output.                                                                        |
| 126     | SDO_1/<br>DR1/GPIO6                                 | LVTTL            | Output           | Main port I2S serial data 1 output/<br>DSD data right bit 1 output/<br>programmable GPIO 6. |
| 127     | SDO_2/<br>DL1/GPIO7                                 | LVTTL            | Output           | Main port I2S serial data 2<br>output/DSD data left bit 1 output/<br>programmable GPIO 7.   |
| 128     | SDO_3/<br>DR2/GPIO8                                 | LVTTL            | Output           | Main port I2S serial data 3<br>output/DSD data right bit 2/<br>programmable GPIO 8.         |
| 129     | MUTEOUT/<br>GPIO9                                   | LVTTL            | Input/<br>Output | Mute audio output/programmable<br>GPIO 9.                                                   |
| 130     | SPDIF0_<br>OUT/DL2                                  | Analog/<br>LVTTL | Output           | Main port S/PDIF output/DSD data<br>left bit 2.                                             |
| 131     | WS0_IN/<br>GPIO11                                   | LVTTL            | Input/<br>Output | Main port I2S word select Input/<br>programmable GPIO 11.                                   |
| 132     | SCK0_IN/<br>GPIO10                                  | LVTTL            | Input/<br>Output | Main port I2S serial clock Input/<br>programmable GPIO 10.                                  |
| 133     | SD0_IN/<br>SPDIF0_IN                                | Analog/<br>LVTTL | Input            | Main port I2S serial data Input/S/<br>PDIF Input.                                           |
| 134     | SCK1_IN/<br>SCK1_OUT                                | LVTTL            | Input/<br>Output | Sub port I2S serial clock1 Input/<br>I2S serial bit clock output.                           |
| 135     | WS1_IN/<br>WS1_OUT                                  | LVTTL            | Input/<br>Output | Sub port I2S word select Input/I2S<br>word select output.                                   |
| 136     | SD1_IN/<br>SD1_OUT/<br>SPDIF1_IN/<br>SPDIF1_<br>OUT | LVTTL            | Input/<br>Output | Sub port I2S serial data Input/I2S<br>serial data1 output/ SPDIF Input//<br>SPDIF output.   |

## Crystal Pins

| Pin No. | Function Name | Type                     | I/O    | Detail of Function    |
|---------|---------------|--------------------------|--------|-----------------------|
| 113     | XTALOUT       | LVTTL<br>5 V<br>tolerant | Output | Crystal clock output. |
| 114     | XTALIN        | LVTTL<br>5 V<br>tolerant | Input  | Crystal clock Input.  |

## SPI Interface Pins

| Pin No. | Function Name  | Type                               | I/O              | Detail of Function                                              |
|---------|----------------|------------------------------------|------------------|-----------------------------------------------------------------|
| 117     | SS/GPIO2       | LVTTL                              | Input/<br>Output | SPI slave select/programmable<br>GPIO 2.                        |
| 118     | SCLK/<br>GPIO3 | LVTTL<br>Schmitt<br>Open<br>drain  | Input/<br>Output | SPI clock/programmable GPIO 3.                                  |
| 119     | SDO/GPIO4      | LVTTL<br>Schmitt<br>Open<br>drain  | Input/<br>Output | SPI slave data output/master data<br>Input/programmable GPIO 4. |
| 120     | SDI/GPIO5      | LVTTL<br>Schmitt<br>Open<br>drain/ | Input/<br>Output | SPI slave data Input/master data<br>output/programmable GPIO 5. |

## Parallel Video Bus

| Pin No. | Function Name | Type  | I/O   | Detail of Function                                                                                                                                                                               |
|---------|---------------|-------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | D14           | LVTTL | Input | Video data Inputs.<br><br>The video data Inputs can be<br>configured to support a wide<br>variety of Input formats, including<br>multiple RGB and YCbCr bus<br>formats, using register settings. |
| 2       | D15           |       |       |                                                                                                                                                                                                  |
| 3       | D16           |       |       |                                                                                                                                                                                                  |
| 4       | D17           |       |       |                                                                                                                                                                                                  |
| 5       | D18           |       |       |                                                                                                                                                                                                  |
| 6       | D19           |       |       |                                                                                                                                                                                                  |
| 161     | D0            |       |       |                                                                                                                                                                                                  |
| 162     | D1            |       |       |                                                                                                                                                                                                  |
| 163     | D2            |       |       |                                                                                                                                                                                                  |
| 164     | D3            |       |       |                                                                                                                                                                                                  |
| 165     | D4            |       |       |                                                                                                                                                                                                  |
| 166     | D5            |       |       |                                                                                                                                                                                                  |
| 167     | D6            |       |       |                                                                                                                                                                                                  |
| 168     | D7            |       |       |                                                                                                                                                                                                  |
| 169     | D8            |       |       |                                                                                                                                                                                                  |
| 170     | D9            |       |       |                                                                                                                                                                                                  |
| 171     | D10           |       |       |                                                                                                                                                                                                  |
| 174     | D11           |       |       |                                                                                                                                                                                                  |
| 175     | D12           |       |       |                                                                                                                                                                                                  |
| 176     | D13           |       |       |                                                                                                                                                                                                  |
| 7       | DE            | LVTTL | Input | Data enable Input.                                                                                                                                                                               |
| 9       | HSYNC         | LVTTL | Input | Horizontal sync Input.                                                                                                                                                                           |
| 8       | VSYNC         | LVTTL | Input | Vertical sync Input.                                                                                                                                                                             |
| 172     | IDCK          | LVTTL | Input | Input data clock.                                                                                                                                                                                |

## System Switching Pins

| Pin No. | Function Name | Type                                  | I/O          | Detail of Function                                                                                                                                                                                                                               |
|---------|---------------|---------------------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 76      | DSDA0         | LVTTL Schmitt Open drain 5 V tolerant | Input/Output | DDC I2C data for respective HDMI receiver port.<br><br>These signals are true open drain, and do not pull to ground when power is not applied to the device. These pins require an external pull-up resistor.                                    |
| 80      | DSDA1         |                                       |              |                                                                                                                                                                                                                                                  |
| 84      | DSDA2         |                                       |              |                                                                                                                                                                                                                                                  |
| 88      | DSDA3         |                                       |              |                                                                                                                                                                                                                                                  |
| 92      | DSDA4         |                                       |              |                                                                                                                                                                                                                                                  |
| 97      | DSDA5         |                                       |              |                                                                                                                                                                                                                                                  |
| 73      | DSDA6(VGA)    | LVTTL Schmitt Open drain 5 V tolerant | Input/Output | DDC I2C data for VGA port.<br><br>This signal is true open drain, and does not pull to ground when power is not applied to the device. This pin requires an external pull-up resistor.                                                           |
| 77      | DSCL0         | LVTTL Schmitt Open drain 5 V tolerant | Input        | DDC I2C clock for respective HDMI receiver port.<br><br>These signals are true open drain, and do not pull to ground when power is not applied to the device. These pins require an external pull-up resistor.                                   |
| 81      | DSCL1         |                                       |              |                                                                                                                                                                                                                                                  |
| 85      | DSCL2         |                                       |              |                                                                                                                                                                                                                                                  |
| 89      | DSCL3         |                                       |              |                                                                                                                                                                                                                                                  |
| 93      | DSCL4         |                                       |              |                                                                                                                                                                                                                                                  |
| 98      | DSCL5         |                                       |              |                                                                                                                                                                                                                                                  |
| 74      | DSCL6(VGA)    | LVTTL Schmitt Open drain 5 V tolerant | Input        | DDC I2C clock for VGA port.<br><br>This signal is true open drain, and does not pull to ground when power is not applied to the device. This pin requires an external pull-up resistor.                                                          |
| 106     | TXDSDA0       | LVTTL Schmitt Open drain 5 V tolerant | Input/Output | DDC master I2C data for HDMI transmitter Port 0.<br><br>This signal is true open drain, and does not pull to ground when power is not applied to the device. This pin requires an external pull-up resistor.                                     |
| 109     | TXDSDA1       | LVTTL Schmitt Open drain 5 V tolerant | Input/Output | DDC master I2C data for HDMI transmitter Port 1.<br><br>This signal is true open drain, and does not pull to ground when power is not applied to the device. This pin requires an external pull-up resistor.                                     |
| 107     | TXDSCL0       | LVTTL Schmitt Open drain 5 V tolerant | Input/Output | DDC master I2C clock for HDMI transmitter Port 0.<br><br>This signal is true open drain, and does not pull to ground when power is not applied to the device. This pin requires an external pull-up resistor.                                    |
| 110     | TXDSCL1       | LVTTL Schmitt Open drain 5 V tolerant | Input/Output | DDC master I2C clock for HDMI transmitter Port 1.<br><br>This signal is true open drain, and does not pull to ground when power is not applied to the device. This pin requires an external pull-up resistor.                                    |
| 79      | R0PWR5V       | Power                                 | Input        | 5 V port detection Input for respective HDMI receiver port.<br><br>Connect to 5 V signal from HDMI Input connector. These pins require a 10 ohms series resistor, a 5.1 k-ohms pull down resistor, and at least a 1 $\mu$ F capacitor to ground. |
| 83      | R1PWR5V       |                                       |              |                                                                                                                                                                                                                                                  |
| 87      | R2PWR5V       |                                       |              |                                                                                                                                                                                                                                                  |
| 91      | R3PWR5V       |                                       |              |                                                                                                                                                                                                                                                  |
| 95      | R4PWR5V       |                                       |              |                                                                                                                                                                                                                                                  |
| 100     | R5PWR5V       |                                       |              |                                                                                                                                                                                                                                                  |
| 78      | CBUS_HPD0     | LVTTL 1.5 mA 5 V tolerant Analog      | Input/Output | Hot plug detect output for the respective HDMI receiver port.<br>In MHL mode, these pins serve as the respective CTRL bus.                                                                                                                       |
| 82      | CBUS_HPD1     |                                       |              |                                                                                                                                                                                                                                                  |
| 86      | CBUS_HPD2     |                                       |              |                                                                                                                                                                                                                                                  |
| 90      | CBUS_HPD3     |                                       |              |                                                                                                                                                                                                                                                  |
| 94      | CBUS_HPD4     |                                       |              |                                                                                                                                                                                                                                                  |
| 99      | CBUS_HPD5     |                                       |              |                                                                                                                                                                                                                                                  |
| 105     | TX_HPD0       | LVTTL 5 V tolerant                    | Input        | Hot plug detect Input for HDMI transmitter Port 0.                                                                                                                                                                                               |
| 108     | TX_HPD1       | LVTTL 5 V tolerant                    | Input        | Hot plug detect Input for HDMI transmitter Port 1.                                                                                                                                                                                               |
| 103     | MHL_CD0/GPIO0 | LVTTL                                 | Input/Output | MHL cable detect 0/programmable GPIO 0.                                                                                                                                                                                                          |
| 104     | MHL_CD1/GPIO1 | LVTTL                                 | Input/Output | MHL cable detect 1/programmable GPIO 1.                                                                                                                                                                                                          |

## Control Pins

| Pin No. | Function Name | Type                                     | I/O          | Detail of Function                                                                                                                                                                                                                                                                                                     |
|---------|---------------|------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 66      | CSCL          | Schmitt Open drain<br>5 V tolerant       | Input        | Local configuration/status I2C clock.<br>Chip configuration/status is accessed via this I2C port. This pin is true open drain, so it does not pull to ground if power is not applied.                                                                                                                                  |
| 67      | CSDA          | LVTTL Schmitt Open drain<br>5 V tolerant | Input/Output | Local configuration/status I2C data.<br>Chip configuration/status is accessed via this I2C port. This pin is true open drain, so it does not pull to ground if power is not applied.                                                                                                                                   |
| 69      | RESET#        | Schmitt                                  | Input        | External reset.<br>Active LOW. Must be pulled up to VCC33OUT. When main power is not provided to the system, the microprocessor must present a high impedance of at least 100 k-ohms to RESET#. If this condition is not met, a circuit to block the leakage from VCC33OUT to the microprocessor GPIO may be required. |

## Configuration Pins

| Pin No. | Function Name | Type                                      | I/O          | Detail of Function                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------|---------------|-------------------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 70      | TPWR_OI2CA    | LVTTL                                     | Input/Output | I2C slave address Input / Transmit power sense output.<br>During power-on-reset (POR), this pin is used as an Input to latch the I2C subaddress. The level on this pin is latched when the POR transitions from the asserted state to the de-asserted state.<br>After completion of POR, this pin is used as the TPWR output. A register setting can change this pin to show if the active port is receiving a TMDS clock. |
| 68      | INT           | Schmitt Open drain<br>8 mA 3.3 V tolerant | Output       | Interrupt output.<br>This is an open-drain output and requires an external pull-up resistor.                                                                                                                                                                                                                                                                                                                               |

## CEC Pins

| Pin No. | Function Name | Type                                                 | I/O          | Detail of Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------|---------------|------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 72      | CEC_A0        | CEC Compliant 5 V tolerant, Schmitt triggered, LVTTL | Input/Output | Primary CEC I/O used for interfacing to CEC devices. This signal is electrically compliant with the CEC specification.<br>As an Input, this pin acts as an LVTTL schmitt triggered Input and is 5 V tolerant.<br>As an output, the pin acts as an NMOS driver with resistive pull-up.<br>This pin has an internal pull-up resistor.<br>This signal should be connected to the CEC signal of all HDMI Input and output ports if the system supports just one CEC line.<br>OR<br>In a system designed to have separate CEC connectivity for the HDMI Input and output ports, this signal should be connected to the CEC signal of all the Input ports supported in the system.<br>This signal and CEC_A1 each connect to a separate CEC controller within the port processor and are independent of each other.                                                                                                                                    |
| 71      | CEC_A1        | CEC Compliant 5 V tolerant, Schmitt triggered, LVTTL | Input/Output | Secondary CEC I/O used for interfacing to CEC devices.<br>This signal is electrically compliant with the CEC specification. As an Input, this pin acts as an LVTTL schmitt triggered Input and is 5 V tolerant. As an output, the pin acts as an NMOS driver with resistive pull-up. This pin has an internal pull-up resistor.<br>This is an optional CEC signal provided for system designers who want to implement a system with two independent CEC lines, such as a system that supports a separate CEC line for the HDMI Input ports and the HDMI output ports. In the example of a DTV that provides a second HDMI output using the SI1957n port processor; this signal can be connected to the CEC signal of the output port while the CEC_A1 signal is connected to the CEC signal of the Input ports.<br>This signal and CEC_A1 each connect to a separate CEC controller within the port processor and are independent of each other. |

Power and Ground Pins

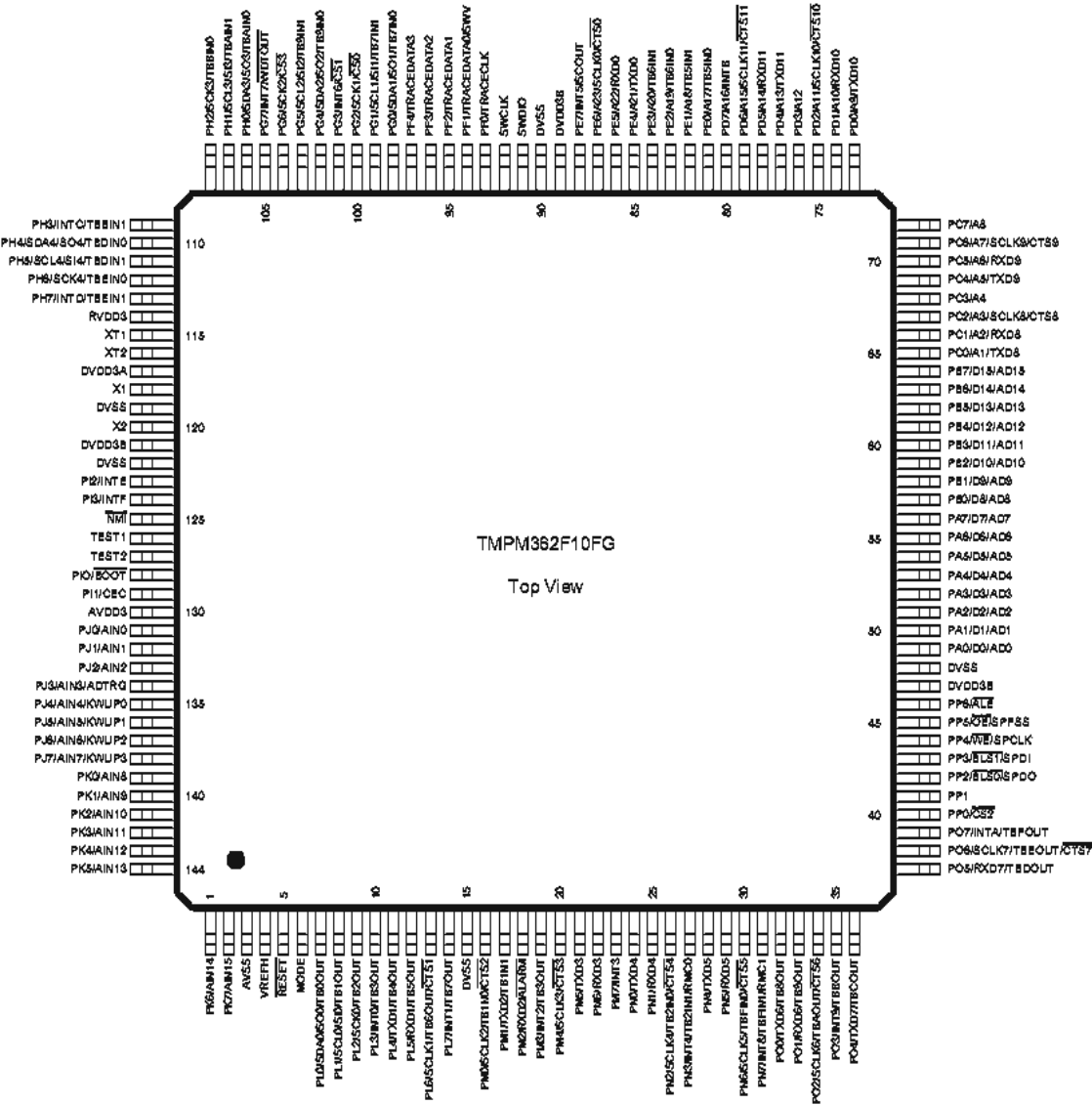
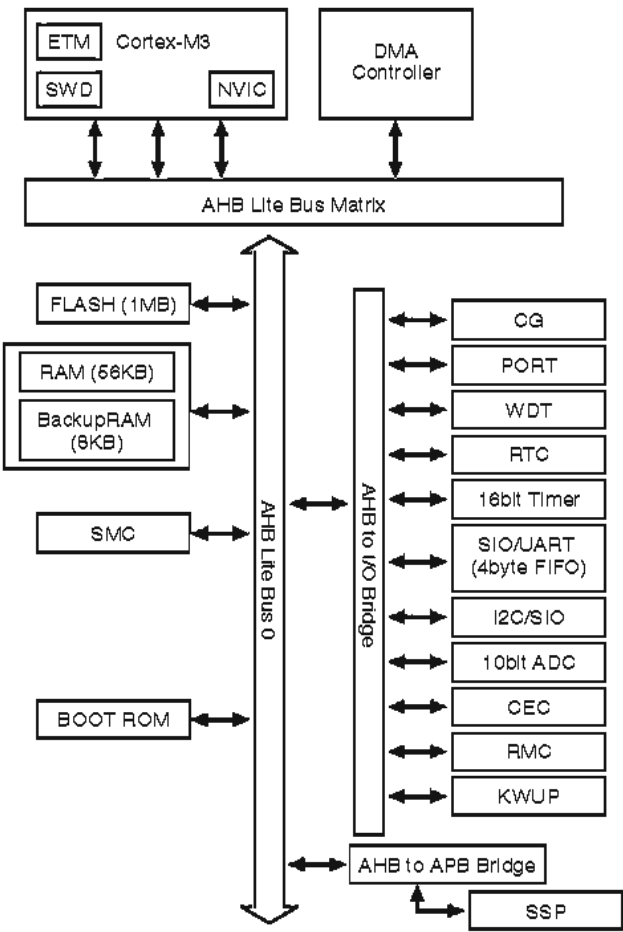
| Pin No. | Function Name | Type   | I/O   | Detail of Function                                                                         |
|---------|---------------|--------|-------|--------------------------------------------------------------------------------------------|
| 19      | AVDD33        | Power  | 3.3 V | TMDS core VDD.                                                                             |
| 38      |               |        |       |                                                                                            |
| 56      |               |        |       |                                                                                            |
| 123     | IOVCC33       | Power  | 3.3 V | I/O VCC.                                                                                   |
| 173     |               |        |       |                                                                                            |
| 101     | SBVCC5        | Power  | 5.0 V | Local power from system.<br>This pin requires a 10 ohms series resistor.                   |
| 18      | AVDD13        | Power  | 1.3 V | TMDS receiver core VDD.                                                                    |
| 36      |               |        |       |                                                                                            |
| 55      |               |        |       |                                                                                            |
| 37      | CVCC13        | Power  | 1.3 V | Digital core VCC.                                                                          |
| 65      |               |        |       |                                                                                            |
| 116     |               |        |       |                                                                                            |
| 139     |               |        |       |                                                                                            |
| 160     |               |        |       |                                                                                            |
| 111     | APLL13        | Power  | 1.3 V | PLL analog VCC.                                                                            |
| 102     | VCC33OUT      | Power  | 3.3 V | Internal regulator 3.3 V output.                                                           |
| 140     | TPVDD13       | Power  | 1.3 V | Analog power for TMDS Tx core.                                                             |
| 150     |               |        |       |                                                                                            |
| 141     | TDVDD13       | Power  | 1.3 V | Digital power for TMDS Tx core.                                                            |
| 151     |               |        |       |                                                                                            |
| 112     | XTALVCC33     | Power  | 3.3 V | PLL crystal oscillator power.                                                              |
| 115     | XTALGND       | Ground | GND   | PLL crystal oscillator ground.                                                             |
| ePad    | GND           | Ground | GND   | The ePad must be soldered to ground, as this is the only ground connection for the device. |

Configuration Pins

| Pin No. | Function Name | I/O      | Detail of Function                |
|---------|---------------|----------|-----------------------------------|
| 75      | RSVDL         | Reserved | Reserved, must be tied to ground. |
| 96      |               |          |                                   |

IC21: TMPM362F10FG (DIGITAL P.C.B.)  
Microprocessor

\* No replacement part available. / サービス部品供給なし



| Pin No. | Port Name              | Function Name (P.C.B.) | I/O     |           |           |        | Detail of Function                                                           |
|---------|------------------------|------------------------|---------|-----------|-----------|--------|------------------------------------------------------------------------------|
|         |                        |                        | Full on | Power off | MCU sleep | AC off |                                                                              |
| 1       | PK6/AIN14              | N_FCT                  | AD      | I         | I         | I      | FCT detection                                                                |
| 2       | PK7/AIN15              | (no_use)               |         |           |           |        |                                                                              |
| 3       | AVSS                   | AVSS                   | MCU     | MCU       | MCU       | MCU    | Microprocessor ground                                                        |
| 4       | VREFH                  | VREFH                  | MCU     | MCU       | MCU       | MCU    | Microprocessor power supply                                                  |
| 5       | /RESET                 | CPU_N_RST              | MCU     | MCU       | MCU       | MCU    | Reset input                                                                  |
| 6       | MODE                   | MODE                   | MCU     | MCU       | MCU       | MCU    | Mode terminal (GND)                                                          |
| 7       | PL0/SDA0/SO0/TB0OUT    | HDMI_SDA               | SIO     | O         | O         | O      | HDMI Rx/Tx 12C SDA input and output                                          |
| 8       | PL1/SCL0/SI0/TB1OUT    | HDMI_SCL               | SO      | O         | O         | O      | HDMI Rx/Tx 12C SCL output                                                    |
| 9       | PL2/SCK0/TB2OUT        | HDMI_N_RST             | O       | O         | O         | O      | HDMI RxTx reset                                                              |
| 10      | PL3/INT0/TB3OUT        | HDMI_N_INT             | IRQ     | I         | I         | I      | Interrupt input from HDMI RxTx                                               |
| 11      | PL4/TXD1/TB4OUT        | DSP_MOSI               | SO      | O         | O         | O      | DSP, DIR, DAC synchronization data output                                    |
| 12      | PL5/RXD1/TB5OUT        | DSP_MISO               | SI      | I-        | I-        | I-     | DSP, DIR synchronization data input                                          |
| 13      | PL6/SCLK1/TB6OUT//CTS1 | DSP_SCK                | SO      | O         | O         | O      | DSP, DIR, DAC synchronization clock output                                   |
| 14      | PL7/INT1/TB7OUT        | DSP_N_INT              | IRQ     | IRQ       | IRQ       | O      | Interrupt input from DSP                                                     |
| 15      | DVSS                   | DVSS                   | MCU     | MCU       | MCU       | MCU    | Microprocessor ground                                                        |
| 16      | PM0/SCLK2/TB1N0//CTS2  | DIR_N_CS               | O       | O         | O         | O      | DIR chip select                                                              |
| 17      | PM1/TXD2/TB1N1         | DIR_N_RST              | O       | O         | HiZ       | O      | DIR reset                                                                    |
| 18      | PM2/RXD2//ALARM        | DSP_N_CS               | O       | O         | O         | O      | DSP chip select                                                              |
| 19      | PM3/INT2/TB3OUT        | DIR_N_INT              | IRQ     | IRQ       | IRQ       | O      | DIR interrupt input                                                          |
| 20      | PM4/SCLK3//CTS3        | DSP_N_RST              | O       | O         | O         | O      | DSP reset                                                                    |
| 21      | PM5/TXD3               | DSP_N_RDY              | I+      | I+        | O         | I+     | DSP Ready input                                                              |
| 22      | PM6/RXD3               | DSP_FMT                | O       | O         | O         | O      | DSP Full Mute output                                                         |
| 23      | PM7/INT3               | DAC_N_CS               | O       | O         | O         | O      | DAC chip select                                                              |
| 24      | PN0/TXD4               | FLASH_TXD              | SO      | HiZ       | HiZ       | HiZ    | Serial port for F/W writing                                                  |
| 25      | PN1/RXD4               | FLASH_RXD              | SI      | I+        | I+        | I+     | Serial port for F/W writing                                                  |
| 26      | PN2/SCLK4/TB2IN0//CTS4 | 232C_N_CTS             | I       | I+        | I+        | I+     | Serial port for F/W writing                                                  |
| 27      | PN3/INT4/TB2IN1/RMC0   | 232C_INT               | I       | O         | O         | O      | Serial port for F/W writing interrupt                                        |
| 28      | PN4/TXD5               | 232C_RTS               | O       | O         | O         | O      | Serial port for F/W writing                                                  |
| 29      | PN5/RXD5               | NCPU_SPI_REQ           | I       | I         | I         | I      | NET SPI request                                                              |
| 30      | PN6/SCLK5/TBFIN0//CTS5 | NCPU_SPI_RDY           | I       | I         | I         | I      | NET SPI Ready                                                                |
| 31      | PN7/INT8/TBFIN1/RMC1   | NCPU_AMUTE             | I       | I         | I         | I      | NET audio mute request                                                       |
| 32      | PO0/TXD6/TB8OUT        | NCPU_SPI_MOSI          | SO      | HiZ       | HiZ       | O      | NET SPI data output                                                          |
| 33      | PO1/RXD6/TB9OUT        | NCPU_SPI_MISO          | SI      | I         | I         | I      | NET SPI data input                                                           |
| 34      | PO2/SCLK6/TBAOUT//CTS6 | NCPU_SPI_SCK           | SO      | O         | O         | O      | NET SPI clock output                                                         |
| 35      | PO3/INT9/TBBOUT        | NCPU_SPI_N_CS          | O       | O         | O         | O      | NET SPI chip select output                                                   |
| 36      | PO4/TXD7/TBCOUT        | NCPU_N_RST             | O       | O         | O         | O      | NET CPU reset output                                                         |
| 37      | PO5/RXD7/TBDOUT        | NCPU_MODE              | I+      | I+        | I+        | I+     | +3.3V: Normal operation / 0V: MAC address writing permission                 |
| 38      | PO6/SCLK7/TBEOUT//CTS7 | NDAC_N_MT              | O       | O         | O         | O      | Mute control                                                                 |
| 39      | PO7/INTA/TBFOUT        | AMP_LMT                | DA(PWM) | O         | O         | O      | Limiter control output                                                       |
| 40      | PP0//CS2               | DIR_SDO                | I       | I         | O         | I      | DIR, SDO input for CDDA writing                                              |
| 41      | PP1                    | DIR_WCK                | I       | I         | O         | I      | DIR, WCK input for CDDA writing                                              |
| 42      | PP2//BLS0/SPDO         | OSDFS_MOSI             | SO      | SO        | HiZ       | O      | OSD Flash synchronization data output                                        |
| 43      | PP3//BLS1/SPDI         | OSDFS_MISO             | SI      | SI        | I         | I      | OSD Flash synchronization data input                                         |
| 44      | PP4//WE/SPCLK          | OSDFS_SCK              | SO      | SO        | O         | O      | OSD Flash synchronization clock output                                       |
| 45      | PP5//OE/SPFSS          | OSDFS_N_CS             | O       | O         | O         | O      | OSD Flash chip select control from Microprocessor                            |
| 46      | PP6//ALE               | OSDFS_BUS_SEL          | O       | O         | HiZ       | O      | Connection switching of Microprocessor SPI and HDMI OSD SPI to OSD Flash SPI |
| 47      | DVDD3B                 | DVDD3B                 | MCU     | MCU       | MCU       | MCU    | Microprocessor power supply                                                  |
| 48      | DVSS                   | DVSS                   | MCU     | MCU       | MCU       | MCU    | Microprocessor ground                                                        |



| Pin No. | Port Name             | Function Name (P.C.B.) | I/O     |           |           |        | Detail of Function                                                   |
|---------|-----------------------|------------------------|---------|-----------|-----------|--------|----------------------------------------------------------------------|
|         |                       |                        | Full on | Power off | MCU sleep | AC off |                                                                      |
| 49      | PA0/D0/AD0            | PRY                    | O       | O         | O         | O      | Power relay control                                                  |
| 50      | PA1/D1/AD1            | TRANS_RY               | O       | O         | HiZ       | O      | Switching transformer winding                                        |
| 51      | PA2/D2/AD2            | HPRY                   | O       | O         | HiZ       | O      | Headphone relay control                                              |
| 52      | PA3/D3/AD3            | SPRY_5CH               | O       | O         | HiZ       | O      | Speaker relay control (Front/Center/Surround)                        |
| 53      | PA4/D4/AD4            | SPRY_SB_BA             | O       | O         | HiZ       | O      | Speaker relay control (Surround back & Bi-Amp)                       |
| 54      | PA5/D5/AD5            | DIAG_FCT               | O       | O         | O         | O      | Diag OK: output High                                                 |
| 55      | PA6/D6/AD6            | MT_N_5CH               | O       | O         | HiZ       | O      | Mute control (Front/Center/Surround)                                 |
| 56      | PA7/D7/AD7            | MT_N_SB                | O       | O         | HiZ       | O      | Mute control (Surround back)                                         |
| 57      | PB0/D8/AD8            | MT_N_SW                | O       | O         | HiZ       | O      | Mute control (Subwoofer)                                             |
| 58      | PB1/D9/AD9            | (no_use)               | O       | O         | O         | O      | L: Bco output / H: no input                                          |
| 59      | PB2/D10/AD10          | +3.3S_PON              | O       | O         | O         | O      |                                                                      |
| 60      | PB3/D11/AD11          | HDMI_PON               | O       | O         | HiZ       |        |                                                                      |
| 61      | PB4/D12/AD12          | DCDC_PON               | O       | O         | O         | O      |                                                                      |
| 62      | PB5/D13/AD13          | DSP_PON                | O       | O         | HiZ       | O      |                                                                      |
| 63      | PB6/D14/AD14          | NCPU_PON               | O       | O         | HiZ       | O      |                                                                      |
| 64      | PB7/D15/AD15          | VID_PON                | O       | O         | HiZ       | O      |                                                                      |
| 65      | PC0/A1/TXD8           | (no_use)               | O       | O         | O         | O      |                                                                      |
| 66      | PC1/A2/RXD8           | +5EX_PON               | O       | O         | O         | O      |                                                                      |
| 67      | PC2/A3/SCLK8//CTS8    | NCPU_VBUSDRV           | I-      | I-        | HiZ       | I-     | USB power supply output request from NET microprocessor              |
| 68      | PC3/A4                | USB_VBUS_PON           | O       | O         | HiZ       | O      | USB power supply output control                                      |
| 69      | PC4/A5/TXD9           | +5EX_N_OC              | O       | O         | O         | O      | USB power supply overcurrent detection input L: abnormality detected |
| 70      | PC5/A6/RXD9           | VOL_SCK                | O       | O         | O         | O      | Electronic volume flip-flop synchronization clock output             |
| 71      | PC6/A7/SCLK9//CTS9    | VOL_MOSI               | O       | O         | O         | O      | Electronic volume flip-flop synchronization data output              |
| 72      | PC7/A8                | EED_SPI_N_CS           | O       | O         | HiZ       | O      | EEPROM chip select                                                   |
| 73      | PD0/A9/TXD10          | EED_SPI_MOSI           | SO      | SO        | SO        | SO     | EEPROM synchronization data output                                   |
| 74      | PD1/A10/RXD10         | EED_SPI_MISO           | SI      | SI        | SI        | SI     | EEPROM synchronization data input                                    |
| 75      | PD2/A11/SCLK10//CTS10 | EED_SPI_SCK            | O       | O         | O         | O      | EEPROM synchronization clock output                                  |
| 76      | PD3/A12               |                        | O       | O         | O         | O      | Video SW                                                             |
| 77      | PD4/A13/TXD11         |                        | O       | O         | O         | O      | Video SW                                                             |
| 78      | PD5/A14/RXD11         | (no_use)               | O       | O         | O         | O      |                                                                      |
| 79      | PD6/A15/SCLK11//CTS11 | (no_use)               | O       | O         | O         | O      |                                                                      |
| 80      | PD7/A16/INTB          | REM_IN                 | IRQ     | IRQ       | IRQ       | I      | Remote control pulse input                                           |
| 81      | PE0/A17/TB5IN0        | (no_use)               | O       | O         | O         | O      |                                                                      |
| 82      | PE1/A18/TB5IN1        | VIDI2C_ON              | O       | O         | HiZ       | O      | Vdec and Avideo selector I2C line control                            |
| 83      | PE2/A19/TB6IN0        | FLD_N_RST              | O       | O         | HiZ       | O      | FL driver reset                                                      |
| 84      | PE3/A20/TB6IN1        | FLD_N_CS               | O       | O         | HiZ       | O      | FL driver chip select                                                |
| 85      | PE4/A21/TXD0          | FLD_MOSI               | SO      | SO        | O         | SO     | FL driver synchronization data output                                |
| 86      | PE5/A22/RXD0          | FL_PON                 | O       | O         | HiZ       | O      | FL driver +VP control output                                         |
| 87      | PE6/A23/SCLK0//CTS0   | FLD_SCK                | SO      | SO        | O         | SO     | FL driver synchronization clock output                               |
| 88      | PE7/INT5/SCOUT        | PSW_N_DET              | IRQ     | IRQ       | IRQ       | I      | Power system switch (Power, Scene) detection                         |
| 89      | DVDD3B                | DVDD3B                 | MCU     | MCU       | MCU       | MCU    | Microprocessor power supply                                          |
| 90      | DVSS                  | DVSS                   | MCU     | MCU       | MCU       | MCU    | Microprocessor ground                                                |
| 91      | SWDIO                 | SWD_IO                 | MCU     | MCU       | MCU       | MCU    | Terminal for debugging                                               |
| 92      | SWCLK                 | SWD_SCK                | MCU     | MCU       | MCU       | MCU    | Terminal for debugging                                               |
| 93      | PF0/TRACECLK          | (reserved)             |         |           |           |        |                                                                      |
| 94      | PF1/TRACEDATA0/SWV    | SWD_SWV                | MCU     | MCU       | MCU       | MCU    | Terminal for debugging                                               |
| 95      | PF2/TRACEDATA1        | (no_use)               | O       | O         | O         | O      | Remote control code output (spare)                                   |
| 96      | PF3/TRACEDATA2        | (no_use)               | O       | O         | O         | O      |                                                                      |

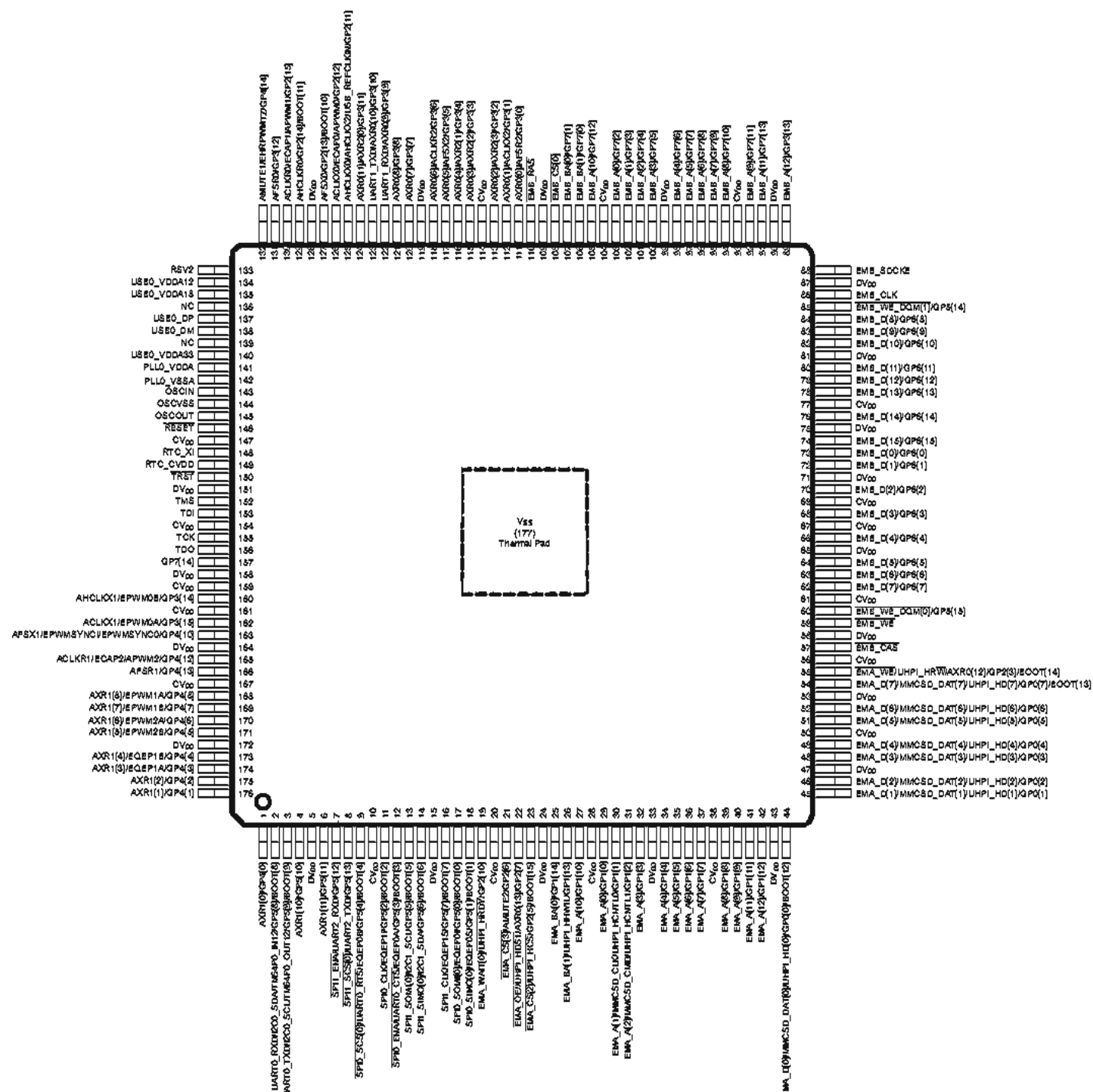
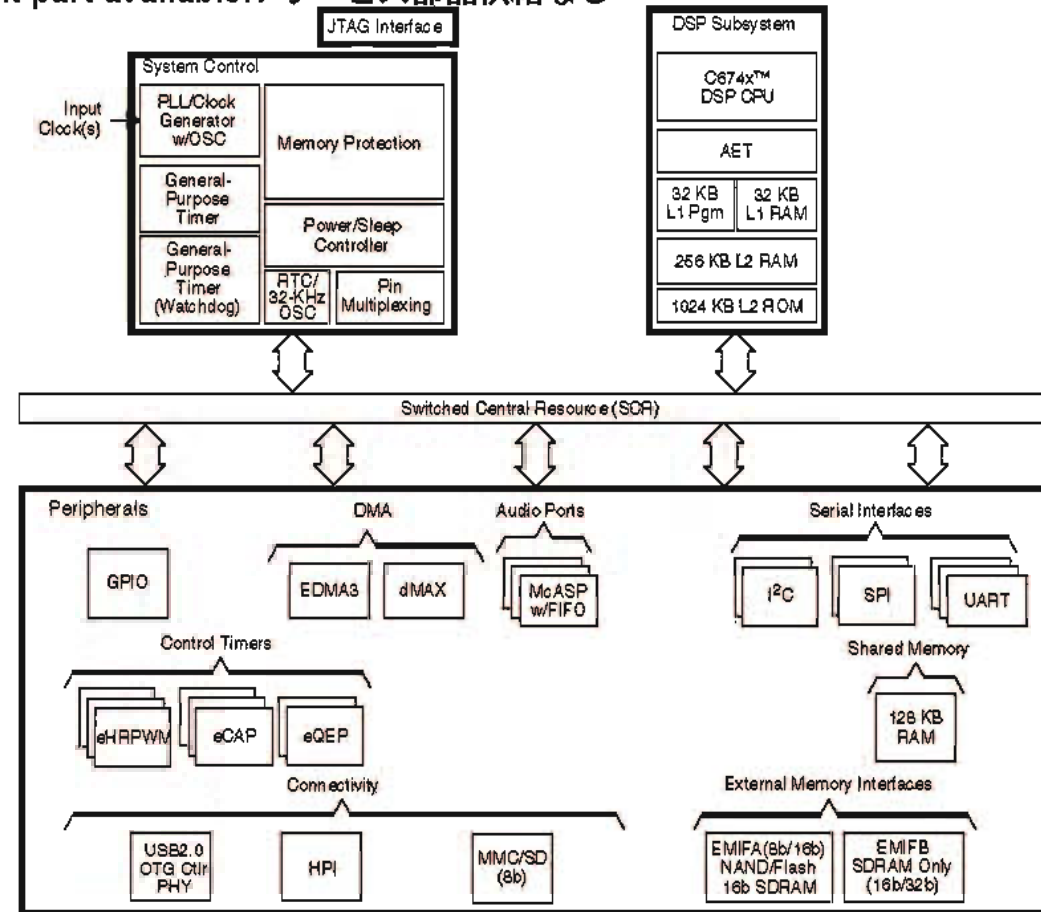
| Pin No. | Port Name           | Function Name (P.C.B.) | I/O     |           |           |        | Detail of Function                               |
|---------|---------------------|------------------------|---------|-----------|-----------|--------|--------------------------------------------------|
|         |                     |                        | Full on | Power off | MCU sleep | AC off |                                                  |
| 97      | PF4/TRACEDATA3      | (no_use)               | O       | O         | O         | O      | (Reserved) switching I2C to Tuner                |
| 98      | PG0/SDA1/SO1/TB7IN0 | TUN_SDA                | SIO     | HiZ       | HiZ       | HiZ    | Tuner I2C synchronization data input and output  |
| 99      | PG1/SCL1/SI1/TB7IN1 | TUN_SCL                | SO      | HiZ       | HiZ       | O      | Tuner I2C synchronization clock output           |
| 100     | PG2/SCK1//CS0       | TUN_N_RST              | O       | O         | O         | O      | Tuner reset                                      |
| 101     | PG3/INT6//CS1       | TUN_N_INT              | IRQ     | I         | I         | I      | Tuner GPIO2 input                                |
| 102     | PG4/SDA2/SO2/TB9IN0 | (no_use)               | O       | O         | O         | O      | USB I2C synchronization data input and output    |
| 103     | PG5/SCL2/SI2/TB9IN1 | (no_use)               | O       | O         | O         | O      | USB I2C synchronization clock output             |
| 104     | PG6/SCK2//CS3       | VOL_RA                 | I+      | I+        | I+        | I+     | Volume rotary encoder A                          |
| 105     | PG7/INT7//WDTOUT    | VOL_RB                 | I+      | I+        | I+        | I+     | Volume rotary encoder B                          |
| 106     | PH0/SDA3/SO3/TBAIN0 | AVID_SDA               | SIO     | O         | O         | O      | Video IC I2C data input and output               |
| 107     | PH1/SCL3/SI3/TBAIN1 | AVID_SCL               | SO      | O         | O         | O      | Video IC I2C clock input and output              |
| 108     | PH2/SCK3/TBBIN0     | HP_N_DET               | I+      | I+        | I+        | I+     | Headphone detection                              |
| 109     | PH3/INTC/TBBIN1     | MIC_N_DET              | I+      | I+        | I+        | I+     | MIC detection                                    |
| 110     | PH4/SDA4/SO4/TBDIN0 | STBY_LED               | O       | O         | O         | O      | Standby through LED, H: LED lighting             |
| 111     | PH5/SCL4/SI4/TBDIN1 | (no_use)               | O       | O         | O         | O      |                                                  |
| 112     | PH6/SCK4/TBEIN0     | (no_use)               | O       | O         | O         | O      |                                                  |
| 113     | PH7/INTD/TBEIN1     | HDMI_MUTE              | IRQ     | I-        | I-        | I-     | HDMI MUTE input                                  |
| 114     | RVDD3               | RVDD3                  | MCU     | MCU       | MCU       | MCU    | Microprocessor power supply                      |
| 115     | XT1                 | XT1                    | MCU     | MCU       | MCU       | MCU    | Low frequency oscillation circuit input          |
| 116     | XT2                 | XT2                    | MCU     | MCU       | MCU       | MCU    | Low frequency oscillation circuit output         |
| 117     | DVDD3A              | DVDD3A                 | MCU     | MCU       | MCU       | MCU    | Microprocessor power supply                      |
| 118     | X1                  | X1                     | MCU     | MCU       | MCU       | MCU    | High frequency oscillation circuit input         |
| 119     | DVSS                | DVSS                   | MCU     | MCU       | MCU       | MCU    | Microprocessor ground                            |
| 120     | X2                  | X2                     | MCU     | MCU       | MCU       | MCU    | High frequency oscillation circuit output        |
| 121     | DVDD3B              | DVDD3B                 | MCU     | MCU       | MCU       | MCU    | Microprocessor power supply                      |
| 122     | DVSS                | DVSS                   | MCU     | MCU       | MCU       | MCU    | Microprocessor ground                            |
| 123     | PI2/INTE            | ACPWR_DET              | IRQ     | IRQ       | IRQ       | IRQ    | AC power detection                               |
| 124     | PI3/INTF            |                        |         |           |           |        | Reserved                                         |
| 125     | /NMI                | NMI_N_INT              | IRQ     | IRQ       | IRQ       | I      | Non-maskable interrupt                           |
| 126     | TEST1               | TEST1                  |         |           |           |        | Do not connect.                                  |
| 127     | TEST2               | TEST2                  |         |           |           |        | Do not connect.                                  |
| 128     | PI0//BOOT           | FLASH_N_BOOT           | I       | I         | HiZ       | I      | L: Single boot mode (boot from built-in MaskROM) |
| 129     | PI1/CEC             | HDMI_CEC               | IO      | IO        | IO        | IO     | Microprocessor CEC control                       |
| 130     | AVDD3               | AVDD3                  | MCU     | MCU       | MCU       | MCU    | Microprocessor power supply                      |
| 131     | PJ0/AIN0            | L_PRT                  | AD      | I         | I         | I      | Overcurrent protection detection                 |
| 132     | PJ1/AIN1            | DEST                   | AD      | I         | I         | I      | Destination discrimination                       |
| 133     | PJ2/AIN2            | KEY1                   | AD      | I         | I         | I      | KEY AD value uptake 1                            |
| 134     | PJ3/AIN3//ADTRG     | KEY2                   | AD      | I         | I         | I      | KEY AD value uptake 2                            |
| 135     | PJ4/AIN4/KWUP0      | (no_use)               | O       | I         | I         | I      | KEY AD value uptake 3 (spare)                    |
| 136     | PJ5/AIN5/KWUP1      | THM1_PRT               | AD      | I         | I         | I      | Temperature detection 1                          |
| 137     | PJ6/AIN6/KWUP2      | THM2_PRT               | AD      | I         | I         | I      | Temperature detection 2                          |
| 138     | PJ7/AIN7/KWUP3      | PS1_PRT                | AD      | I         | I         | I      | PS protection detection 1                        |
| 139     | PK0/AIN8            | PS2_PRT                | AD      | I         | I         | I      | PS protection detection 2                        |
| 140     | PK1/AIN9            | PS3_PRT                | AD      | I         | I         | I      | PS protection detection 3                        |
| 141     | PK2/AIN10           | DC_PRT                 | AD      | I         | I         | I      | Power amp DC detection                           |
| 142     | PK3/AIN11           | AMP_OLV                | AD      | I         | I         | I      | Power amp output level detection                 |
| 143     | PK4/AIN12           | USB_VBUS_PRT           | AD      | I         | I         | I      | USB power supply voltage detection               |
| 144     | PK5/AIN13           | +5EX_PRT               | AD      | I         | I         | I      | DC_OUT power supply voltage detection            |



IC41: D80YK113DPTP4000 (DIGITAL P.C.B.)

Decoder/Post processor

\* No replacement part available. / サービス部品供給なし



| No. | Function Name<br>(P.C.B.)                      | I/O | Detail of Function                    |
|-----|------------------------------------------------|-----|---------------------------------------|
| 1   | AXR1[0]/GP4[0]                                 | I/O | McASP1 serial data                    |
| 2   | UART0_RXD/I2C0_SDA/TM64P0_IN12/GP5[8]/BOOT[8]  | I   | UART0 receive data                    |
|     |                                                | I/O | I2C0 serial data                      |
|     |                                                | I   | Timer0 lower input                    |
|     |                                                | I   | BOOT[8]                               |
| 3   | UART0_TXD/I2C0_SCL/TM64P0_OUT12/GP5[9]/BOOT[9] | O   | UART0 transmit data                   |
|     |                                                | I/O | I2C0 serial clock                     |
|     |                                                | I   | Timer0 lower output                   |
|     |                                                | I   | BOOT[9]                               |
| 4   | AXR1[10]/GP5[10]                               | I/O | McASP1 serial data                    |
| 5   | DVDD                                           |     |                                       |
| 6   | AXR1[11]/GP5[11]                               | I/O | McASP1 serial data                    |
| 7   | SPI1_ENA/UART2_RXD/GP5[12]                     | I/O | SPI1 enable                           |
|     |                                                | I   | UART2 receive data                    |
| 8   | SPI1_SCS[0]/UART2_TXD/GP5[13]                  | I/O | SPI1 chip select                      |
|     |                                                | O   | UART2 transmit data                   |
| 9   | SPI0_SCS[0]/UART0_RTS/EQEP0B/GP5[4]/BOOT[4]    | I/O | SPI0 chip select                      |
|     |                                                | O   | UART0 ready-to-send output            |
|     |                                                | I   | eQEP0B quadrature input               |
|     |                                                | I   | BOOT[4]                               |
| 10  | CVDD                                           |     |                                       |
| 11  | SPI0_CLK/EQEP1I/GP5[2]/BOOT[2]                 | I/O | SPI0 clock                            |
|     |                                                | I   | eQEP1 index                           |
|     |                                                | I   | BOOT[2]                               |
| 12  | SPI0_ENA/UART0_CTS/EQEP0A/GP5[3]/BOOT[3]       | I/O | SPI0 enable                           |
|     |                                                | I   | UART0 clear-to-send input             |
|     |                                                | I   | eQEP0A quadrature input               |
|     |                                                | I   | BOOT[3]                               |
| 13  | SPI1_SOMI[0]/I2C1_SCL/GP5[5]/BOOT[5]           | I/O | SPI1 data slave-out-master-in         |
|     |                                                | I/O | I2C1 serial clock                     |
|     |                                                | I   | BOOT[5]                               |
| 14  | SPI1_SIMO[0]/I2C1_SDA/GP5[6]/BOOT[6]           | I/O | SPI1 data slave-in-master-out         |
|     |                                                | I/O | I2C1 serial data                      |
|     |                                                | I   | BOOT[6]                               |
| 15  | DVDD                                           |     |                                       |
| 16  | SPI1_CLK/EQEP1S/GP5[7]/BOOT[7]                 | I/O | SPI1 clock                            |
|     |                                                | I   | eQEP1 strobe                          |
|     |                                                | I   | BOOT[7]                               |
| 17  | SPI0_SOMI[0]/EQEP0I/GP5[0]/BOOT[0]             | I/O | SPI0 data slave-out-master-in         |
|     |                                                | I   | eQEP0 index                           |
|     |                                                | I   | BOOT[0]                               |
| 18  | SPI0_SIMO[0]/EQEP0S/GP5[1]/BOOT[1]             | I/O | SPI0 data slave-in-master-out         |
|     |                                                | I   | eQEP0 strobe                          |
|     |                                                | I   | BOOT[1]                               |
| 19  | EMA_WAIT[0]/UHPI_HRDY/GP2[10]                  | I   | EMIFA wait input/interrupt            |
|     |                                                | I/O | UHPI ready                            |
| 20  | CVDD                                           |     |                                       |
| 21  | EMA_CS[3]/AMUTE2/GP2[6]                        | O   | EMIFA Async chip select               |
|     |                                                | I/O | McASP2 mute output                    |
| 22  | EMA_OE/UHPI_HDS1/AXR0[13]/GP2[7]               | O   | EMIFA output enable                   |
|     |                                                | I/O | UHPI data strobe                      |
|     |                                                | I/O | McASP0 serial data                    |
|     |                                                |     |                                       |
| 23  | EMA_CS[2]/UHPI_HCS/GP2[5]/BOOT[15]             | O   | EMIFA Async chip select               |
|     |                                                | I/O | UHPI chip select                      |
|     |                                                | I   | BOOT[15]                              |
| 24  | DVDD                                           |     |                                       |
| 25  | EMA_BA[0]/GP1[14]                              | O   | EMIFA bank address                    |
| 26  | EMA_BA[1]/UHPI_HHWIL/GP1[13]                   | O   | EMIFA bank address                    |
|     |                                                | I/O | UHPI half-word identification control |
| 27  | EMA_A[10]/GP1[10]                              | O   | EMIFA address bus                     |
| 28  | CVDD                                           |     |                                       |
| 29  | EMA_A[0]/GP1[0]                                | O   | EMIFA address bus                     |
| 30  | EMA_A[1]/MMCSD_CLK/UHPI_HCNTL0/GP1[1]          | O   | EMIFA address bus                     |
|     |                                                | O   | MMCSD_CLK                             |
|     |                                                | I/O | UHPI access control                   |

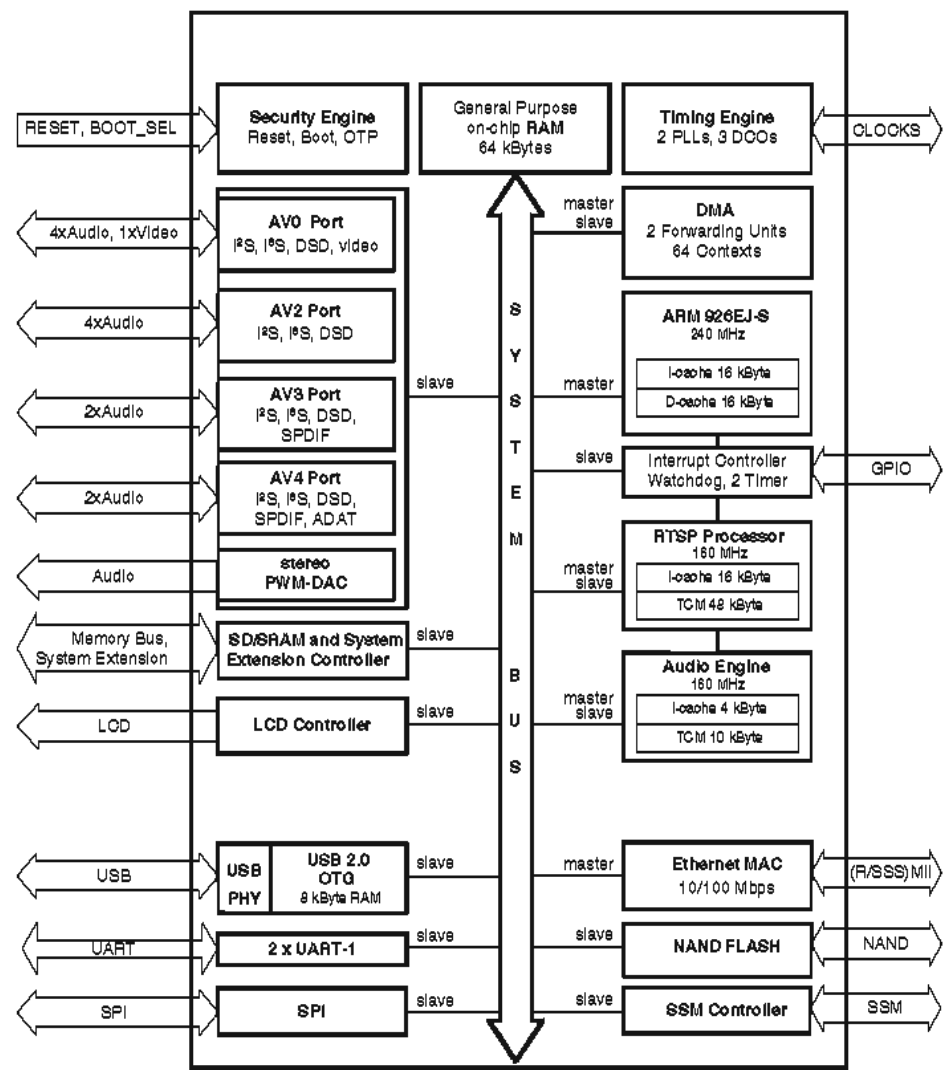
| No. | Function Name<br>(P.C.B.)                                | I/O | Detail of Function                     |
|-----|----------------------------------------------------------|-----|----------------------------------------|
| 31  | EMA_A[2] / MMCSD_CMD / UHPI_HCNTL1 / GP1[2]              | O   | EMIFA address bus                      |
|     |                                                          | I/O | MMCSD_CMD                              |
|     |                                                          | I/O | UHPI access control                    |
| 32  | EMA_A[3] / GP1[3]                                        | O   | EMIFA address bus                      |
| 33  | DVDD                                                     |     |                                        |
| 34  | EMA_A[4] / GP1[4]                                        | O   | EMIFA address bus                      |
| 35  | EMA_A[5] / GP1[5]                                        | O   | EMIFA address bus                      |
| 36  | EMA_A[6] / GP1[6]                                        | O   | EMIFA address bus                      |
| 37  | EMA_A[7] / GP1[7]                                        | O   | EMIFA address bus                      |
| 38  | CVDD                                                     |     |                                        |
| 39  | EMA_A[8] / GP1[8]                                        | O   | EMIFA address bus                      |
| 40  | EMA_A[9] / GP1[9]                                        | O   | EMIFA address bus                      |
| 41  | EMA_A[11] / GP1[11]                                      | O   | EMIFA address bus                      |
| 42  | EMA_A[12] / GP1[12]                                      | O   | EMIFA address bus                      |
| 43  | DVDD                                                     |     |                                        |
| 44  | EMA_D[0] / MMCSD_DAT[0] / UHPI_HD[0] / GP0[0] / BOOT[12] | I/O | EMIFA data bus                         |
|     |                                                          | I/O | MMC/SD data                            |
|     |                                                          | I/O | UHPI data bus                          |
| 45  | EMA_D[1] / MMCSD_DAT[1] / UHPI_HD[1] / GP0[1]            | I/O | EMIFA data bus                         |
|     |                                                          | I/O | MMC/SD data                            |
|     |                                                          | I/O | UHPI data bus                          |
| 46  | EMA_D[2] / MMCSD_DAT[2] / UHPI_HD[2] / GP0[2]            | I/O | EMIFA data bus                         |
|     |                                                          | I/O | MMC/SD data                            |
|     |                                                          | I/O | UHPI data bus                          |
| 47  | DVDD                                                     |     |                                        |
| 48  | EMA_D[3] / MMCSD_DAT[3] / UHPI_HD[3] / GP0[3]            | I/O | EMIFA data bus                         |
|     |                                                          | I/O | MMC/SD data                            |
|     |                                                          | I/O | UHPI data bus                          |
| 49  | EMA_D[4] / MMCSD_DAT[4] / UHPI_HD[4] / GP0[4]            | I/O | EMIFA data bus                         |
|     |                                                          | I/O | MMC/SD data                            |
|     |                                                          | I/O | UHPI data bus                          |
| 50  | CVDD                                                     |     |                                        |
| 51  | EMA_D[5] / MMCSD_DAT[5] / UHPI_HD[5] / GP0[5]            | I/O | EMIFA data bus                         |
|     |                                                          | I/O | MMC/SD data                            |
|     |                                                          | I/O | UHPI data bus                          |
| 52  | EMA_D[6] / MMCSD_DAT[6] / UHPI_HD[6] / GP0[6]            | I/O | EMIFA data bus                         |
|     |                                                          | I/O | MMC/SD data                            |
|     |                                                          | I/O | UHPI data bus                          |
| 53  | DVDD                                                     |     |                                        |
| 54  | EMA_D[7] / MMCSD_DAT[7] / UHPI_HD[7] / GP0[7] / BOOT[13] | I/O | EMIFA data bus                         |
|     |                                                          | I/O | MMC/SD data                            |
|     |                                                          | I/O | UHPI data bus                          |
| 55  | EMA_WE / UHPI_HRW / AXR0[12] / GP2[3] / BOOT[14]         | O   | EMIFA SDRAM write enable               |
|     |                                                          | I/O | UHPI read/write                        |
|     |                                                          | I/O | McASP0 serial data                     |
| 56  | CVDD                                                     |     |                                        |
| 57  | EMB_CAS                                                  | O   | EMIFB column address strobe            |
| 58  | DVDD                                                     |     |                                        |
| 59  | EMB_WE                                                   | O   | EMIFB write enable                     |
| 60  | EMB_WE_DQM[0] / GP5[15]                                  | O   | EMIFB write enable/data mask for EMB_D |
| 61  | CVDD                                                     |     |                                        |
| 62  | EMB_D[7] / GP6[7]                                        | I/O | EMIFB SDRAM data bus                   |
| 63  | EMB_D[6] / GP6[6]                                        | I/O | EMIFB SDRAM data bus                   |
| 64  | EMB_D[5] / GP6[5]                                        | I/O | EMIFB SDRAM data bus                   |
| 65  | DVDD                                                     |     |                                        |
| 66  | EMB_D[4] / GP6[4]                                        | I/O | EMIFB SDRAM data bus                   |
| 67  | CVDD                                                     |     |                                        |
| 68  | EMB_D[3] / GP6[3]                                        | I/O | EMIFB SDRAM data bus                   |
| 69  | CVDD                                                     |     |                                        |
| 70  | EMB_D[2] / GP6[2]                                        | I/O | EMIFB SDRAM data bus                   |
| 71  | DVDD                                                     |     |                                        |
| 72  | EMB_D[1] / GP6[1]                                        | I/O | EMIFB SDRAM data bus                   |
| 73  | EMB_D[0] / GP6[0]                                        | I/O | EMIFB SDRAM data bus                   |
| 74  | EMB_D[15] / GP6[15]                                      | I/O | EMIFB SDRAM data bus                   |
| 75  | DVDD                                                     |     |                                        |

| No. | Function Name<br>(P.C.B.)            | I/O | Detail of Function                                 |
|-----|--------------------------------------|-----|----------------------------------------------------|
| 76  | EMB_D[14] / GP6[14]                  | I/O | EMIFB SDRAM data bus                               |
| 77  | CVDD                                 |     |                                                    |
| 78  | EMB_D[13] / GP6[13]                  | I/O | EMIFB SDRAM data bus                               |
| 79  | EMB_D[12] / GP6[12]                  | I/O | EMIFB SDRAM data bus                               |
| 80  | EMB_D[11] / GP6[11]                  | I/O | EMIFB SDRAM data bus                               |
| 81  | DVDD                                 |     |                                                    |
| 82  | EMB_D[10] / GP6[10]                  | I/O | EMIFB SDRAM data bus                               |
| 83  | EMB_D[9] / GP6[9]                    | I/O | EMIFB SDRAM data bus                               |
| 84  | EMB_D[8] / GP6[8]                    | I/O | EMIFB SDRAM data bus                               |
| 85  | EMB_WE_DQM[1] / GP5[14]              | O   | EMIFB write enable/data mask for EMB_D             |
| 86  | EMB_CLK                              | O   | EMIF SDRAM clock                                   |
| 87  | DVDD                                 |     |                                                    |
| 88  | EMB_SDCKE                            | O   | EMIFB SDRAM clock enable                           |
| 89  | EMB_A[12] / GP3[13]                  | O   | EMIFB SDRAM row/column address bus                 |
| 89  | EMB_A[12] / GP3[13]                  | O   | EMIFB SDRAM row/column address bus                 |
| 90  | DVDD                                 |     |                                                    |
| 91  | EMB_A[11] / GP7[13]                  | O   | EMIFB SDRAM row/column address bus                 |
| 92  | EMB_A[9] / GP7[11]                   | O   | EMIFB SDRAM row/column address bus                 |
| 93  | CVDD                                 |     |                                                    |
| 94  | EMB_A[8] / GP7[10]                   | O   | EMIFB SDRAM row/column address bus                 |
| 95  | EMB_A[7] / GP7[9]                    | O   | EMIFB SDRAM row/column address bus                 |
| 96  | EMB_A[6] / GP7[8]                    | O   | EMIFB SDRAM row/column address bus                 |
| 97  | EMB_A[5] / GP7[7]                    | O   | EMIFB SDRAM row/column address bus                 |
| 98  | EMB_A[4] / GP7[6]                    | O   | EMIFB SDRAM row/column address                     |
| 99  | DVDD                                 |     |                                                    |
| 100 | EMB_A[3] / GP7[5]                    | O   | EMIFB SDRAM row/column address                     |
| 101 | EMB_A[2] / GP7[4]                    | O   | EMIFB SDRAM row/column address                     |
| 102 | EMB_A[1] / GP7[3]                    | O   | EMIFB SDRAM row/column address                     |
| 103 | EMB_A[0] / GP7[2]                    | O   | EMIFB SDRAM row/column address                     |
| 104 | CVDD                                 |     |                                                    |
| 105 | EMB_A[10] / GP7[12]                  | O   | EMIFB SDRAM row/column address bus                 |
| 106 | EMB_BA[1] / GP7[0]                   | O   | EMIFB SDRAM bank address                           |
| 107 | EMB_BA[0] / GP7[1]                   | O   | EMIFB SDRAM bank address                           |
| 108 | EMB_CS[0]                            | O   | EMIFB SDRAM chip select 0                          |
| 109 | DVDD                                 |     |                                                    |
| 110 | EMB_RAS                              | O   | EMIFB SDRAM row address strobe                     |
| 111 | AXR0[0]/AFSR2/GP3[0]                 | I/O | McASP0 serial data                                 |
|     |                                      | I/O | McASP2 serial data                                 |
| 112 | AXR0[1]/ ACLKX2/GP3[1]               | I/O | McASP0 serial data                                 |
|     |                                      | I/O | McASP2 transmit bit clock                          |
| 113 | AXR0[2]/ AXR2[3]/GP3[2]              | I/O | McASP0 serial data                                 |
|     |                                      | I/O | McASP2 serial data                                 |
| 114 | CVDD                                 |     |                                                    |
| 115 | AXR0[3]/ AXR2[2]/GP3[3]              | I/O | McASP0 serial data                                 |
|     |                                      | I/O | McASP2 serial data                                 |
| 116 | AXR0[4]/ AXR2[1]/GP3[4]              | I/O | McASP0 serial data                                 |
|     |                                      | I/O | McASP2 serial data                                 |
| 117 | AXR0[5]/ AFSX2/GP3[5]                | I/O | McASP0 serial data                                 |
|     |                                      | I/O | McASP2 transmit frame sync                         |
| 118 | AXR0[6]/ ACLKX2/GP3[6]               |     | McASP0 serial data                                 |
| 119 | DVDD                                 |     |                                                    |
| 120 | AXR0[7]/GP3[7]                       | I/O | McASP0 serial data                                 |
| 121 | AXR0[8]/GP3[8]                       | I/O | McASP0 serial data                                 |
| 122 | UART1_RXD/AXR0[9]/GP3[9]             | I   | UART1 receive data                                 |
|     |                                      | I/O | McASP0 serial data                                 |
| 123 | UART1_TXD/AXR0[10]/GP3[10]           | O   | UART1 transmit data                                |
|     |                                      | I/O | McASP0 serial data                                 |
| 124 | AXR0[11]/ AXR2[0]/GP3[11]            | I/O | McASP0 serial data                                 |
|     |                                      | I/O | McASP2 serial data                                 |
| 125 | AHCLKX0/AHCLKX2/USB_REFCLKIN/GP2[11] | I/O | McASP0 transmit master clock                       |
|     |                                      | I/O | McASP2 transmit master clock                       |
|     |                                      | I   | USB_REFCLKIN. Optional 48 MHz clock input          |
| 126 | ACLKX0/ECAP0/APWM0/GP2[12]           | I/O | McASP0 transmit bit clock                          |
|     |                                      | I/O | Enhanced capture 0 input or auxiliary PWM 0 output |
| 127 | AFSX0/GP2[13]/BOOT[10]               | I/O | McASP0 transmit frame sync                         |
|     |                                      | I   | BOOT[10]                                           |

| No. | Function Name<br>(P.C.B.)         | I/O | Detail of Function                                                                                                                  |
|-----|-----------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------|
| 128 | DVDD                              |     |                                                                                                                                     |
| 129 | AHCLKR0/GP2[14]/BOOT[11]          | I/O | McASP0 receive master clock                                                                                                         |
|     |                                   | I   | BOOT[11]                                                                                                                            |
| 130 | ACLKR0/ECAP1/APWM1/GP2[15]        | I/O | McASP0 receive blt clock                                                                                                            |
|     |                                   | I/O | Enhanced capture 1 Input or auxillary PWM 1 output                                                                                  |
| 131 | AFSR0/GP3[12]                     | I/O | McASP0 receive frame sync                                                                                                           |
| 132 | AMUTE1/EPWMTZ/GP4[14]             | I/O | McASP1 mute output                                                                                                                  |
|     |                                   | I/O | eHRPWM0 trip zone Input                                                                                                             |
|     |                                   | I/O | eHRPWM1 trip zone Input                                                                                                             |
|     |                                   | I/O | eHRPWM2 trip zone Input                                                                                                             |
| 133 | RSV2                              | PWR | Reserved. For proper device operation, this pin must be tied directly to CVDD or left unconnected (do not connect to ground (VSS)). |
| 134 | USB0_VDDA12                       | PWR | USB0 PHY 1.2-V LDO output for bypass cap                                                                                            |
| 135 | USB0_VDDA18                       | PWR | USB0 PHY 1.8-V supply Input                                                                                                         |
| 136 | NC                                | -   | -                                                                                                                                   |
| 137 | USB0_DP                           | A   | USB0 PHY data plus                                                                                                                  |
| 138 | USB0_DM                           | A   | USB0 PHY data minus                                                                                                                 |
| 139 | NC                                | -   | -                                                                                                                                   |
| 140 | USB0_VDDA33                       | PWR | USB0 PHY 3.3-V supply                                                                                                               |
| 141 | PLLO_VDDA                         | PWR | PLL analog VDD (1.2-V filtered supply)                                                                                              |
| 142 | PLLO_VSSA                         | GND | PLL analog VSS (for filter)                                                                                                         |
| 143 | OSCIN                             | I   | Oscillator Input                                                                                                                    |
| 144 | OSCVSS                            | GND | Oscillator ground (for filter only)                                                                                                 |
| 145 | OSCOUT                            | O   | Oscillator output                                                                                                                   |
| 146 | RESET                             | I   | Device reset Input                                                                                                                  |
| 147 | CVDD                              |     |                                                                                                                                     |
| 148 | RTC_XI                            | I   | Low-frequency (32-kHz) oscillator receiver for real-time clock                                                                      |
| 149 | RTC_CVDD                          | PWR | RTC module core power ( Isolated from rest of chip CVDD)                                                                            |
| 150 | TRST                              | I   | JTAG test reset                                                                                                                     |
| 151 | DVDD                              |     |                                                                                                                                     |
| 152 | TMS                               | I   | JTAG test mode select                                                                                                               |
| 153 | TDI                               | I   | JTAG test data Input                                                                                                                |
| 154 | CVDD                              |     |                                                                                                                                     |
| 155 | TCK                               | I   | JTAG test clock                                                                                                                     |
| 156 | TDO                               | O   | JTAG test data output                                                                                                               |
| 157 | GP7[14]                           | I/O | General-Purpose IO signal                                                                                                           |
| 158 | DVDD                              |     |                                                                                                                                     |
| 159 | CVDD                              |     |                                                                                                                                     |
| 160 | AHCLKX1/EPWM0B/GP3[14]            | I/O | McASP1transmit master clock                                                                                                         |
|     |                                   | I/O | eHRPWM0 B output                                                                                                                    |
| 161 | CVDD                              |     |                                                                                                                                     |
| 162 | ACLKX1/EPWM0A/GP3[15]             | I/O | McASP1transmit blt clock                                                                                                            |
|     |                                   | I/O | eHRPWM0 A output                                                                                                                    |
| 163 | AFSX1/EPWMSYNCl/EPWMSYNCO/GP4[10] | I/O | McASP1transmit frame sync                                                                                                           |
|     |                                   | I/O | Sync Input to eHRPWM0 module or sync output to external PWM                                                                         |
| 164 | DVDD                              |     |                                                                                                                                     |
| 165 | ACLKR1/ECAP2/APWM2/GP4[12]        | I/O | McASP1receive blt clock                                                                                                             |
|     |                                   | I/O | Enhanced capture 2 Input or auxillary PWM 2 output                                                                                  |
| 166 | AFSR1/GP4[13]                     | I/O | McASP1receive frame sync                                                                                                            |
| 167 | CVDD                              |     |                                                                                                                                     |
| 168 | AXR1[8]/EPWM1A/GP4[8]             | I/O | McASP1 serial data                                                                                                                  |
|     |                                   | I/O | eHRPWM1 A output (with high-resolution)                                                                                             |
| 169 | AXR1[7]/EPWM1B/GP4[7]             | I/O | McASP1 serial data                                                                                                                  |
|     |                                   | I/O | eHRPWM1 B output                                                                                                                    |
| 170 | AXR1[6]/EPWM2A/GP4[6]             | I/O | McASP1 serial data                                                                                                                  |
|     |                                   | I/O | eHRPWM2 A output (with high-resolution)                                                                                             |
| 171 | AXR1[5]/EPWM2B/GP4[5]             | I/O | McASP1 serial data                                                                                                                  |
|     |                                   | I/O | eHRPWM2 B output                                                                                                                    |
| 172 | DVDD                              |     |                                                                                                                                     |
| 173 | AXR1[4]/EQEP1B/GP4[4]             | I/O | McASP1 serial data                                                                                                                  |
|     |                                   | I   | eQEP1B quadrature Input                                                                                                             |
| 174 | AXR1[3]/EQEP1A/GP4[3]             | I/O | McASP1 serial data                                                                                                                  |
|     |                                   | I   | eQEP1A quadrature Input                                                                                                             |
| 175 | AXR1[2]/GP4[2]                    | I/O | McASP1 serial data                                                                                                                  |
| 176 | AXR1[1]/GP4[1]                    | I/O | McASP1 serial data                                                                                                                  |

IC951: DM860A (DIGITAL P.C.B.)  
Network microprocessor

\* No replacement part available. / サービス部品供給なし



|   | 1         | 2          | 3           | 4          | 5          | 6          | 7          | 8          | 9          | 10         | 11         | 12         | 13         | 14         | 15         | 16        | 17      | 18      |   |
|---|-----------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|---------|---------|---|
| A | USBDN     | VDD33 USB0 | VSS33 USB0  | n.c.       | n.c.       | VDD33      | RFCLKP     | RFRXQP     | RFRXIP     | HIGHZ      | SSMD0      | SSMD4      | SSMCMD     | RXD1       | TDO        | TDI       | A0      | A1      | A |
| B | USBDP     | VDD33 USB1 | VSS33 USB1  | n.c.       | n.c.       | VSS        | RFCLKN     | RFRXQN     | RFRXIN     | TEST1      | SSMD1      | SSMD5      | TXD1       | RXD0       | TMS        | SPICLK    | SPINCS1 | A2      | B |
| C | VSS12 USB | USBEXT     | USBXO       | USBXI      | NRES12 OUT | VSS        | RREF       | n.c.       | n.c.       | SSMCLK     | SSMD2      | SSMD6      | TXD0       | TCK        | SPINCS0    | A3        | A4      | A5      | C |
| D | VDD12 USB | USBVBUS    | USBATST     | NRES33 OUT | NRES33 REF | NRES12 REF | VDD33      | VDD12      | SSMWP      | SSMOP      | SSMD3      | SSMD7      | NRESET     | SPIDI      | SPIDO      | A6        | A7      | A8      | D |
| E | VSS33 RTC | USBD       | USBV8 USDRV | NC         |            | VDD12 CORE | VDD12 CORE | VDD33IO    | VDD33IO    | VDD12 CORE | VDD12 CORE | VDD33IO    | VDD33IO    |            | A9         | A10       | A11     | A12     | E |
| F | VDD33 RTC | RTXIN      | VDD33 PLL   | NC         | VDD33IO    | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VDD12 CORE | A13_RAS    | A14_CAS   | A15_BA0 | A16_BA1 | F |
| G | VDD12 DCO | RTXOUT     | VSS33 PLL   | NC         | VDD33IO    | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VDD12 CORE | A17_DQ M0  | A18_DQ M1 | A19     | A20     | G |
| H | VSS12 DCO | VSS12 PLL  | VDD12 PLL   | NC         | VDD12 CORE | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VDD33IO    | A21        | A22       | A23     | NCS3    | H |
| J | PDOUT1    | VCO1       | XTALO       | NC         | VDD12 CORE | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VDD33IO    | NCS0       | NCS1      | NCS2    | MEMCKE  | J |
| K | PDOUT0    | VCO0       | XTALI       | AOUTLP     | VDD33IO    | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VDD12 CORE | MEMCLK     | NWE       | NOE     | NWAIT   | K |
| L | AV0CLK    | AOUTLN     | AOUTRN      | AOUTRP     | VDD33IO    | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VDD12 CORE | D3         | D2        | D1      | D0      | L |
| M | AV0 CTRL0 | AV0 CTRL1  | AV0 CTRL2   | AV0 DATA3  | VDD12 CORE | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VDD33IO    | D7         | D6        | D5      | D4      | M |
| N | AV0 DATA2 | AV0 DATA1  | AV0 DATA0   | AV1 DATA3  | VDD12 CORE | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VSS        | VDD33IO    | D11        | D10       | D9      | D8      | N |
| P | AV1 DATA2 | AV1 DATA1  | AV1 DATA0   | AV2 DATA3  |            | VDD33IO    | VDD33IO    | VDD12 CORE | VDD12 CORE | VDD33IO    | VDD33IO    | VDD12 CORE | VDD12 CORE |            | FD0        | FD1       | D13     | D12     | P |
| R | AV2CLK    | AV2 CTRL1  | AV2 DATA2   | AV3CLK     | AV3 DATA1  | LCDD11     | LCDD7      | LCDD3      | LCDD CTRL0 | VPP        | MIITXEN    | MIITXCLK   | MIIRXER    | MIIRCS     | FD2        | FD3       | FD4     | D14     | R |
| T | AV2 CTRL0 | AV2 DATA1  | AV3 CTRL1   | AV3 DATA0  | LCDD14     | LCDD10     | LCDD6      | LCDD2      | LCDD CTRL1 | LCDDCLK    | MIITXER    | MIIRXCLK   | MIICOL     | MIIRXDV    | FD5        | FD6       | FD7     | D15     | T |
| U | AV2 DATA0 | AV3 CTRL0  | AV4 DATA1   | LCDD16     | LCDD13     | LCDD9      | LCDD5      | LCDD1      | LCDD CTRL2 | MIITXD0    | MIITXD2    | MIIRXD0    | MIIRXD2    | MIIMDIO    | NFCE0      | FCLE      | NFWE    | NFRB    | U |
| V | NC        | AV4 DATA0  | LCDD17      | LCDD15     | LCDD12     | LCDD8      | LCDD4      | LCDD0      | LCDD CTRL3 | MIITXD1    | MIITXD3    | MIIRXD1    | MIIRXD3    | MIIMDC     | MIIPHY CLK | NFWP      | NFRE    | FALE    | V |
|   | 1         | 2          | 3           | 4          | 5          | 6          | 7          | 8          | 9          | 10         | 11         | 12         | 13         | 14         | 15         | 16        | 17      | 18      |   |



**AV-Port 0**

| Pin No. | Function Name | I/O | Detail of Function                                                                                                                                          |
|---------|---------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M4      | AV0DATA[3:0]  | I/O | Audio/video data.<br>Several formats are supported.                                                                                                         |
| N1      |               |     |                                                                                                                                                             |
| N2      |               |     |                                                                                                                                                             |
| N3      |               |     |                                                                                                                                                             |
| N4      | AV1DATA[3:0]  | I/O | Video data, together with AV0DATA[3:0]:<br>AV0DATA[3:0] = video[3:0]<br>AV1DATA[3:0] = video[7:4]                                                           |
| P1      |               |     |                                                                                                                                                             |
| P2      |               |     |                                                                                                                                                             |
| P3      |               |     |                                                                                                                                                             |
| L1      | AV0CLK        | I/O | Data clock. Depending on the AV-Port 0 configuration, this clock is a bit- or byte-clock which is used to transmit or receive the AV0DATA[*] synchronously. |
| M1      | AV0CTRL0      | I/O | Configurable sync signal:<br>• Serial audio formats: LRCK Input or output.<br>• Video formats: PSYNC Input or output.                                       |
| M2      | AV0CTRL1      | I/O | Configurable sync signal:<br>• Serial audio formats: Master clock output.<br>• Video formats: DVALID Input or output.                                       |
| M3      | AV0CTRL2      | I/O | Configurable sync signal:<br>• Video formats: FSYNC Input or output.                                                                                        |

**AV-Port 2**

| Pin No. | Function Name | I/O | Detail of Function                                                                                                                                |
|---------|---------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------|
| P4      | AV2DATA[3:0]  | I/O | Audio data.<br>Several formats are supported.                                                                                                     |
| R3      |               |     |                                                                                                                                                   |
| T2      |               |     |                                                                                                                                                   |
| U1      |               |     |                                                                                                                                                   |
| R1      | AV2CLK        | I/O | Data clock. Depending on the AV-Port 2 configuration this clock is a bit-clock which is used to transmit or receive the AV2DATA[*] synchronously. |
| T1      | AV2CTRL0      | I/O | Configurable sync signal:<br>Serial audio formats: LRCK Input or output.                                                                          |
| R2      | AV2CTRL1      | I/O | Configurable sync signal:<br>Serial audio formats: Master clock output.                                                                           |

**AV-Port 3**

| Pin No. | Function Name | I/O | Detail of Function                                                                                                                                |
|---------|---------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------|
| R5      | AV3DATA[1:0]  | I/O | Audio data.<br>Several formats are supported.                                                                                                     |
| T4      |               |     |                                                                                                                                                   |
| R4      | AV3CLK        | I/O | Data clock. Depending on the AV-Port 3 configuration this clock is a bit-clock which is used to transmit or receive the AV3DATA[*] synchronously. |
| U2      | AV3CTRL0      | I/O | Configurable sync signal:<br>Serial audio formats: LRCK Input or output.                                                                          |
| T3      | AV3CTRL1      | I/O | Configurable sync signal:<br>Serial audio formats: Master clock output.                                                                           |

**AV-Port 4**

| Pin No. | Function Name | I/O | Detail of Function                            |
|---------|---------------|-----|-----------------------------------------------|
| U3      | AV4DATA[1:0]  | I/O | Audio data.<br>Several formats are supported. |
| V2      |               |     |                                               |

**PWM-DAC**

| Pin No. | Function Name | I/O | Detail of Function                   |
|---------|---------------|-----|--------------------------------------|
| K4      | AOUTLP        | O   | Left channel PWM output (positive).  |
| L2      | AOUTLN        | O   | Left channel PWM output (negative).  |
| L4      | AOUTRP        | O   | Right channel PWM output (positive). |
| L3      | AOUTRN        | O   | Right channel PWM output (negative). |

**UART Interface**

| Pin No. | Function Name | I/O | Detail of Function      |
|---------|---------------|-----|-------------------------|
| B14     | RXD0          | I   | UART-0 receive signal.  |
| C13     | TXD0          | O   | UART-0 transmit signal. |
| A14     | RXD1          | I   | UART-1 receive signal.  |
| B13     | TXD1          | O   | UART-1 transmit signal. |

Serial Peripheral Interface (SPI)

| Pin No. | Function Name | I/O | Detail of Function                                                                                                                               |
|---------|---------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------|
| D14     | SPIDIN        | I   | SPI data receive.                                                                                                                                |
| D15     | SPIDOUT       | O   | SPI data transmit.                                                                                                                               |
| B16     | SPICLK        | I/O | SPI clock.                                                                                                                                       |
| C15     | SPINCS0       | I/O | Multi-master mode: Chip-select input (used to detect bus conflict).<br>Master only mode: Chip-select 1 output.<br>Slave mode: Chip-select input. |
| B17     | SPINCS1       | I/O | Multi-master mode: Chip-select 2 output.<br>Master only mode: Chip-select 2 output.<br>Slave mode: Not used.                                     |

External Memory Interface

| Pin No. | Function Name | I/O | Detail of Function                                     |
|---------|---------------|-----|--------------------------------------------------------|
| T18     | D[15:0]       | I/O | Data bus for external memory and peripheral access.    |
| R18     |               |     |                                                        |
| P17     |               |     |                                                        |
| P18     |               |     |                                                        |
| N15     |               |     |                                                        |
| N16     |               |     |                                                        |
| N17     |               |     |                                                        |
| N18     |               |     |                                                        |
| M15     |               |     |                                                        |
| M16     |               |     |                                                        |
| M17     |               |     |                                                        |
| M18     |               |     |                                                        |
| L15     |               |     |                                                        |
| L16     |               |     |                                                        |
| L17     |               |     |                                                        |
| L18     |               |     |                                                        |
| E18     | A[12:0]       | O   | Address bus for external memory and peripheral access. |
| E17     |               |     |                                                        |
| E16     |               |     |                                                        |
| E15     |               |     |                                                        |
| D18     |               |     |                                                        |
| D17     |               |     |                                                        |
| D16     |               |     |                                                        |
| C18     |               |     |                                                        |
| C17     |               |     |                                                        |
| C16     |               |     |                                                        |
| B18     |               |     |                                                        |
| A18     |               |     |                                                        |
| A17     |               |     |                                                        |
| F15     | A13_RAS       | O   | SRAM: Address output<br>SDRAM: Row access strobe       |
| F16     | A14_CAS       | O   | SRAM: Address output<br>SDRAM: Column access strobe    |
| F17     | A15_BA0       | O   | SRAM: Address output<br>SDRAM: Bank select             |
| F18     | A16_BA1       | O   | SRAM: Address output<br>SDRAM: Bank select             |
| G15     | A17_DQM0      | O   | SRAM: Address output<br>SDRAM: Data mask               |
| G16     | A18_DQM1      | O   | SRAM: Address output<br>SDRAM: Data mask               |
| H17     | A[23:19]      | O   | Address bus for external memory and peripheral access. |
| H16     |               |     |                                                        |
| H15     |               |     |                                                        |
| G18     |               |     |                                                        |
| G17     |               |     |                                                        |



| Pin No. | Function Name | I/O | Detail of Function                                                                                                                                                                                                                                                                                     |
|---------|---------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| H18     | NCS[3:0]      | O   | Chip select signals. The active memory range for NCS[n] (active low) can be configured. <ul style="list-style-type: none"> <li>• NCS[0] supports SRAM, can be used for booting.</li> <li>• NCS[1] supports SDRAM or SRAM.</li> <li>• NCS[2] supports SRAM.</li> <li>• NCS[3] supports SRAM.</li> </ul> |
| J17     |               |     |                                                                                                                                                                                                                                                                                                        |
| J16     |               |     |                                                                                                                                                                                                                                                                                                        |
| J15     |               |     |                                                                                                                                                                                                                                                                                                        |
| K17     | NOE           | O   | Output enable, asserted (low) for read operations.                                                                                                                                                                                                                                                     |
| K16     | NWE           | O   | Write enable, asserted (low) for write operations.                                                                                                                                                                                                                                                     |
| K18     | NWAIT         | I   | External wait line. If NWAIT is asserted, memory access will be stalled. Can be configured as either low-active (default) or high-active.                                                                                                                                                              |
| K15     | MEMCLK        | O   | SDRAM system clock.                                                                                                                                                                                                                                                                                    |
| J18     | MEMCKE        | O   | SDRAM clock enable.                                                                                                                                                                                                                                                                                    |

### NAND-Flash Interface

| Pin No. | Function Name | I/O | Detail of Function                                    |
|---------|---------------|-----|-------------------------------------------------------|
| T17     | FD[7:0]       | I/O | Bi-directional data bus.                              |
| T16     |               |     |                                                       |
| T15     |               |     |                                                       |
| R17     |               |     |                                                       |
| R16     |               |     |                                                       |
| R15     |               |     |                                                       |
| P16     |               |     |                                                       |
| P15     |               |     |                                                       |
| V18     | FALE          | O   | Address latch enable; pull-up/down defines boot mode. |
| U16     | FCLE          | O   | Command latch enable; pull-up/down defines boot mode. |
| U15     | NFCE0         | O   | Chip-enable, low-active.                              |
| U18     | NFRB          | I   | Ready/busy. NAND flash is busy when NFRB is low.      |
| V17     | NFRE          | O   | Read enable, low-active.                              |
| U17     | NFWE          | O   | Write enable, low-active.                             |
| V16     | NFWP          | O   | Write protect, low-active.                            |

### Ethernet MAC-Phy Interface (MII)

| Pin No. | Function Name | I/O | MII                    | RMII                     | SMII              |
|---------|---------------|-----|------------------------|--------------------------|-------------------|
| U14     | MIIDIO        | I/O | Management data        | Management data          |                   |
| V14     | MIIMDC        | O   | Management clock       | Management clock         |                   |
| V13     | MIIRXD[3]     | I   | RxD 3                  | RxD 1                    |                   |
| U13     | MIIRXD[2]     | I   | RxD 2                  | RxD 0                    |                   |
| V12     | MIIRXD[1]     | I   | RxD 1                  |                          | Rx-Sync           |
| U12     | MIIRXD[0]     | I   | RxD 0                  |                          | RxD               |
| T12     | MIIRXCLK      | I   | Receive clock          |                          | Receive clock     |
| R13     | MIIRXER       | I   | Receive error          | Receive error            |                   |
| T14     | MIIRXDV       | I   | Receive data valid     | Carrier sense/data valid |                   |
| V11     | MIITXD[3]     | O   | TxD 3                  | TxD 1                    |                   |
| U11     | MIITXD[2]     | O   | TxD 2                  | TxD 0                    |                   |
| V10     | MIITXD[1]     | O   | TxD 1                  |                          | Tx-Sync           |
| U10     | MIITXD[0]     | O   | TxD 0                  |                          | TxD               |
| R12     | MIITXCLK      | I   | Transmit clock         |                          | Transmit clock    |
| T11     | MIITXER       | O   | Transmit error         |                          |                   |
| R11     | MIITXEN       | O   | Transmit data enable   | Transmit data enable     |                   |
| T13     | MIICOL        | I   | MII ethernet collision |                          |                   |
| R14     | MIICRS        | I   | MII carrier sense      |                          |                   |
| V15     | MIIPHYCLK     | O   | 25.000 MHz clock       | 50.000 MHz clock         | 125.000 MHz clock |

## USB 2.0 OTG

| Pin No. | Function Name | I/O | Detail of Function                                                                                               |
|---------|---------------|-----|------------------------------------------------------------------------------------------------------------------|
| B1      | USBD+         | I/O | Positive data line that is connected to the serial USB cable.                                                    |
| A1      | USBD-         | I/O | Negative data line that is connected to the serial USB cable.                                                    |
| E2      | USBID         | I   | USB ID pin of mini-AB receptacle.                                                                                |
| C2      | USBREXT       | I   | External bias resistor (2K7, 1%); connect resistor to VSSUSB.                                                    |
| D2      | USBVBUS       | I   | VBUS voltage sense.                                                                                              |
| E3      | USBVBUSDRV    | O   | Control signal to control VBUS 5V voltage source.                                                                |
| C4      | USBXTALI      | I   | Oscillator circuit input for a 24.000 MHz crystal (optional).<br>Without external crystal, pull this pin to GND. |
| C3      | USBXTALO      | O   | Oscillator circuit output for a 24.000 MHz crystal (optional).<br>Without external crystal, leave this pin open. |
| D3      | USBATST       | -   | Do not connect.                                                                                                  |

## Power-on Reset Pins

| Pin No. | Function Name | I/O | Detail of Function                                                                   |
|---------|---------------|-----|--------------------------------------------------------------------------------------|
| D6      | NRES12REF     | I   | Voltage reference input. NRES12OUT is release when this input voltage exceeds VTH12. |
| C5      | NRES12OUT     | O   | Open-drain reset (active low) for 1.2V core power supply.                            |
| D5      | NRES33REF     | I   | Voltage reference input. NRES33OUT is release when this input voltage exceeds VTH33. |
| D4      | NRES33OUT     | O   | Open-drain reset (active low) for 3.3V core power supply.                            |

## Real-Time Clock (RTC) Pins (RTC Is Not Supported)

| Pin No. | Function Name | I/O   | Detail of Function                          |
|---------|---------------|-------|---------------------------------------------|
| F2      | RTCXIN        | I     | No connection. Leave this pin open circuit. |
| G2      | RTCXOUT       | O     | No connection. Leave this pin open circuit. |
| F1      | VDD33RTC      | Power | No connection. Leave this pin open circuit. |
| E1      | VSS33RTC      | Power | Ground (0 V) for RTC.                       |

## LCD Interface

| Pin No. | Function Name | I/O | TFT Mode    | LCD STN monochr. | LCD STN monochr.<br>(double) | LCD STN color | LCD STN color<br>(bias) |
|---------|---------------|-----|-------------|------------------|------------------------------|---------------|-------------------------|
| V3      | LCDD[17]      | O   | RED5        |                  |                              |               |                         |
| U4      | LCDD[16]      | O   | RED4        |                  |                              |               |                         |
| V4      | LCDD[15]      | O   | RED3        |                  |                              |               |                         |
| T5      | LCDD[14]      | O   | RED2        |                  |                              |               |                         |
| U5      | LCDD[13]      | O   | RED1        |                  |                              |               |                         |
| V5      | LCDD[12]      | O   | (RED0)      |                  |                              |               |                         |
| R6      | LCDD[11]      | O   | GREEN5      |                  |                              |               |                         |
| T6      | LCDD[10]      | O   | GREEN4      |                  |                              |               |                         |
| U6      | LCDD[9]       | O   | GREEN3      |                  |                              |               |                         |
| V6      | LCDD[8]       | O   | GREEN2      |                  |                              |               |                         |
| R7      | LCDD[7]       | O   | GREEN1      |                  | DATAHIGH3                    | DATA7         | DATA7                   |
| T7      | LCDD[6]       | O   | GREEN0      |                  | DATAHIGH2                    | DATA6         | DATA6                   |
| U7      | LCDD[5]       | O   | BLUE5       |                  | DATAHIGH1                    | DATA5         | DATA5                   |
| V7      | LCDD[4]       | O   | BLUE4       |                  | DATAHIGH0                    | DATA4         | DATA4                   |
| R8      | LCDD[3]       | O   | BLUE3       | DATA3            | DATALOW3                     | DATA3         | DATA3                   |
| T8      | LCDD[2]       | O   | BLUE2       | DATA2            | DATALOW2                     | DATA2         | DATA2                   |
| U8      | LCDD[1]       | O   | BLUE1       | DATA1            | DATALOW1                     | DATA1         | DATA1                   |
| V8      | LCDD[0]       | O   | (BLUE0)     | DATA0            | DATALOW0                     | DATA0         | DATA0                   |
| T10     | LCDCCLK       | O   | Byte clock  | CL2              | CL2                          | CL2           | CL2                     |
| V9      | LCDCTRL[3]    | O   | Display off | Display off      | Display off                  | Display off   | Display off             |
| U9      | LCDCTRL[2]    | O   | Vsync       | FLM              | FLM                          | FLM           | FLM                     |
| T9      | LCDCTRL[1]    | O   | HSync       | CL1              | CL1                          | CL1           | CL1                     |
| R9      | LCDCTRL[0]    | O   | DVALID      |                  |                              |               | M/Bias                  |

**SSM Interface**

| Pin No. | Function Name | I/O | Detail of Function                   |
|---------|---------------|-----|--------------------------------------|
| D12     | SSMD[7:0]     | I/O | Data lines.                          |
| C12     |               |     |                                      |
| B12     |               |     |                                      |
| A12     |               |     |                                      |
| D11     |               |     |                                      |
| C11     |               |     |                                      |
| B11     |               |     |                                      |
| A11     |               |     |                                      |
| C10     | SSMCLK        | O   | Clock output.                        |
| A13     | SSMCMD        | O   | Command output.                      |
| D10     | SSMCP         | I   | Card power Input (high = off).       |
| D9      | SSMWP         | I   | Write protect Input (low = protect). |

**External PLL Pins**

| Pin No. | Function Name | I/O | Detail of Function                                                                                                                                                                      |
|---------|---------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| J2      | VCO[1:0]      | I   | External oscillator inputs, typically coming from an external VCO. Together with the external loop-filter and the internal clock dividers, each PDOUT/VCO pair can form a complete PLL. |
| K2      |               |     |                                                                                                                                                                                         |
| J1      | PDOUT[1:0]    | O   | Phase discriminator outputs. These signals are charge-pump type outputs. Each of them can be used to feed the loop-filter of a PLL structure.                                           |
| K1      |               |     |                                                                                                                                                                                         |

**Global Pins**

| Pin No. | Function Name | I/O | Detail of Function                                                                                                                                                                                                                                                                                          |
|---------|---------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D13     | NRESET        | I   | Reset (active low). When asserted, the chip is placed in the reset state and the peripheral pins are configured as inputs. After deassertion of NRESET, the chip is clocked by XTALI and starts booting from the port configured by the FCLE, FALE pins. The NRESET signal must be asserted after power-up. |
| K3      | XTALI         | I   | Oscillator circuit input. Internal system clock will be derived from XTALI (internal clock multiplier).                                                                                                                                                                                                     |
| J3      | XTALO         | O   | Oscillator circuit output.                                                                                                                                                                                                                                                                                  |
| C7      | RREF          | I   | Reference current. Connect a 3.0 k-ohms $\pm$ 1% resistor to GND.                                                                                                                                                                                                                                           |
| B10     | TEST1         | I   | Reserved. Connect to VDD for normal operation.                                                                                                                                                                                                                                                              |
| A10     | HIGHZ         | I   | Reserved. Connect to VDD for normal operation.                                                                                                                                                                                                                                                              |
| E4      | n.c.          | -   | Pins must be left unconnected (18x).                                                                                                                                                                                                                                                                        |
| F4      |               |     |                                                                                                                                                                                                                                                                                                             |
| G4      |               |     |                                                                                                                                                                                                                                                                                                             |
| H4      |               |     |                                                                                                                                                                                                                                                                                                             |
| J4      |               |     |                                                                                                                                                                                                                                                                                                             |
| V1      |               |     |                                                                                                                                                                                                                                                                                                             |
| A4      |               |     |                                                                                                                                                                                                                                                                                                             |
| A5      |               |     |                                                                                                                                                                                                                                                                                                             |
| B4      |               |     |                                                                                                                                                                                                                                                                                                             |
| B5      |               |     |                                                                                                                                                                                                                                                                                                             |
| C8      |               |     |                                                                                                                                                                                                                                                                                                             |
| C9      |               |     |                                                                                                                                                                                                                                                                                                             |

**JTAG Interface**

| Pin No. | Function Name | I/O | Detail of Function       |
|---------|---------------|-----|--------------------------|
| B15     | TMS           | I   | JTAG mode select.        |
| C14     | TCK           | I   | JTAG clock.              |
| A16     | TDI           | I   | JTAG serial data input.  |
| A15     | TDO           | O   | JTAG serial data output. |

Power Supply Pins

| Pin No. | Function Name | Detail of Function         |
|---------|---------------|----------------------------|
| A6      | VDD33         | I/O power supply (+3.3 V). |
| E8      |               |                            |
| E9      |               |                            |
| E12     |               |                            |
| E13     |               |                            |
| F5      |               |                            |
| G5      |               |                            |
| H14     |               |                            |
| J14     |               |                            |
| K5      |               |                            |
| L5      |               |                            |
| M14     |               |                            |
| N14     |               |                            |
| P6      |               |                            |
| P7      |               |                            |
| P10     |               |                            |
| P11     |               |                            |
| D7      |               |                            |
| F6      | VSS           | Ground (0 V).              |
| F7      |               |                            |
| F8      |               |                            |
| F9      |               |                            |
| F10     |               |                            |
| F11     |               |                            |
| F12     |               |                            |
| F13     |               |                            |
| G6      |               |                            |
| G7      |               |                            |
| G8      |               |                            |
| G9      |               |                            |
| G10     |               |                            |
| G11     |               |                            |
| G12     |               |                            |
| G13     |               |                            |
| H6      |               |                            |
| H7      |               |                            |
| H8      |               |                            |
| H9      |               |                            |
| H10     |               |                            |
| H11     |               |                            |
| H12     |               |                            |
| H13     |               |                            |
| J6      |               |                            |
| J7      |               |                            |
| J8      |               |                            |
| J9      |               |                            |
| J10     |               |                            |
| J11     |               |                            |
| J12     |               |                            |
| J13     |               |                            |
| K6      |               |                            |
| K7      |               |                            |
| K8      |               |                            |
| K9      |               |                            |
| K10     |               |                            |
| K11     |               |                            |
| K12     |               |                            |

| Pin No. | Function Name | Detail of Function                                        |
|---------|---------------|-----------------------------------------------------------|
| K13     | VSS           | Ground (0 V).                                             |
| L6      |               |                                                           |
| L7      |               |                                                           |
| L8      |               |                                                           |
| L9      |               |                                                           |
| L10     |               |                                                           |
| L11     |               |                                                           |
| L12     |               |                                                           |
| L13     |               |                                                           |
| M6      |               |                                                           |
| M7      |               |                                                           |
| M8      |               |                                                           |
| M9      |               |                                                           |
| M10     |               |                                                           |
| M11     |               |                                                           |
| M12     |               |                                                           |
| M13     |               |                                                           |
| N6      |               |                                                           |
| N7      |               |                                                           |
| N8      |               |                                                           |
| N9      |               |                                                           |
| N10     |               |                                                           |
| N11     |               |                                                           |
| N12     |               |                                                           |
| N13     |               |                                                           |
| B6      |               |                                                           |
| C6      |               |                                                           |
| R10     | VPP           |                                                           |
| A2      | VDD33USB      | Power supply (+3.3 V) for USB Interface.<br>Ground (0 V). |
| B2      |               |                                                           |
| A3      | VSS33USB      |                                                           |
| B3      |               |                                                           |
| F3      | VDD33PLL      | Power supply (+3.3V) for PLL.                             |
| G3      | VSS33PLL      | Ground (0 V).                                             |
| E6      | VDD12         | Power supply (+1.2V).                                     |
| E7      |               |                                                           |
| E10     |               |                                                           |
| E11     |               |                                                           |
| F14     |               |                                                           |
| G14     |               |                                                           |
| H5      |               |                                                           |
| J5      |               |                                                           |
| K14     |               |                                                           |
| L14     |               |                                                           |
| M5      |               |                                                           |
| N5      |               |                                                           |
| P8      |               |                                                           |
| P9      |               |                                                           |
| P12     |               |                                                           |
| P13     |               |                                                           |
| D8      |               |                                                           |
| D1      | VDD12USB      | Power supply (+1.2V) for USB Interface.                   |
| C1      | VSS12USB      | Ground (0 V).                                             |
| H3      | VDD12PLL      | Power supply (+1.2V) for PLL.                             |
| H2      | VSS12PLL      | Ground (0 V).                                             |
| G1      | VDD12DCO      | Power supply (+1.2V) for DCO.                             |
| H1      | VSS12DCO      | Ground (0 V).                                             |









## OPERATION

4

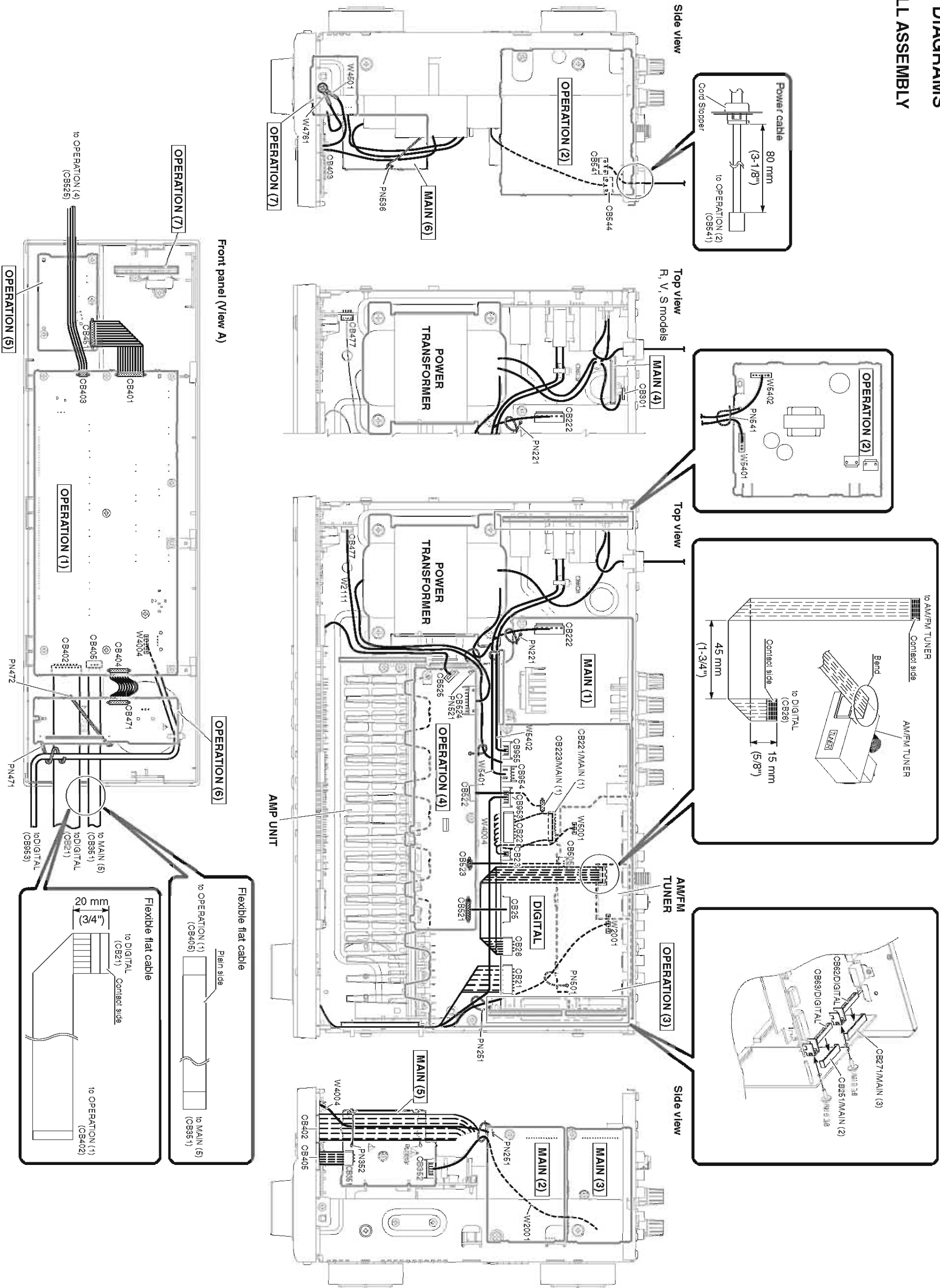


## OPERATION

87

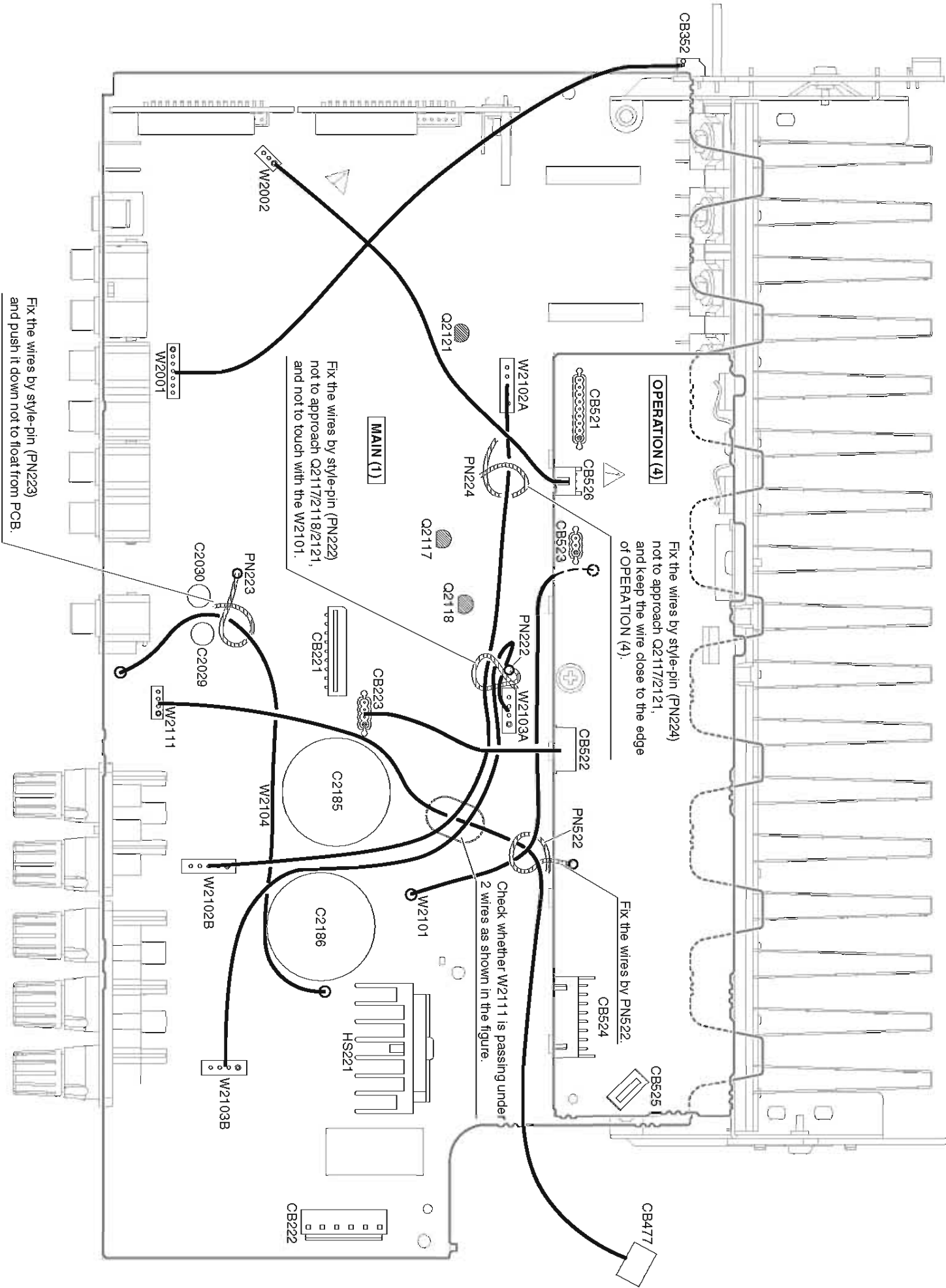
■ WIRING DIAGRAMS

• OVERALL ASSEMBLY





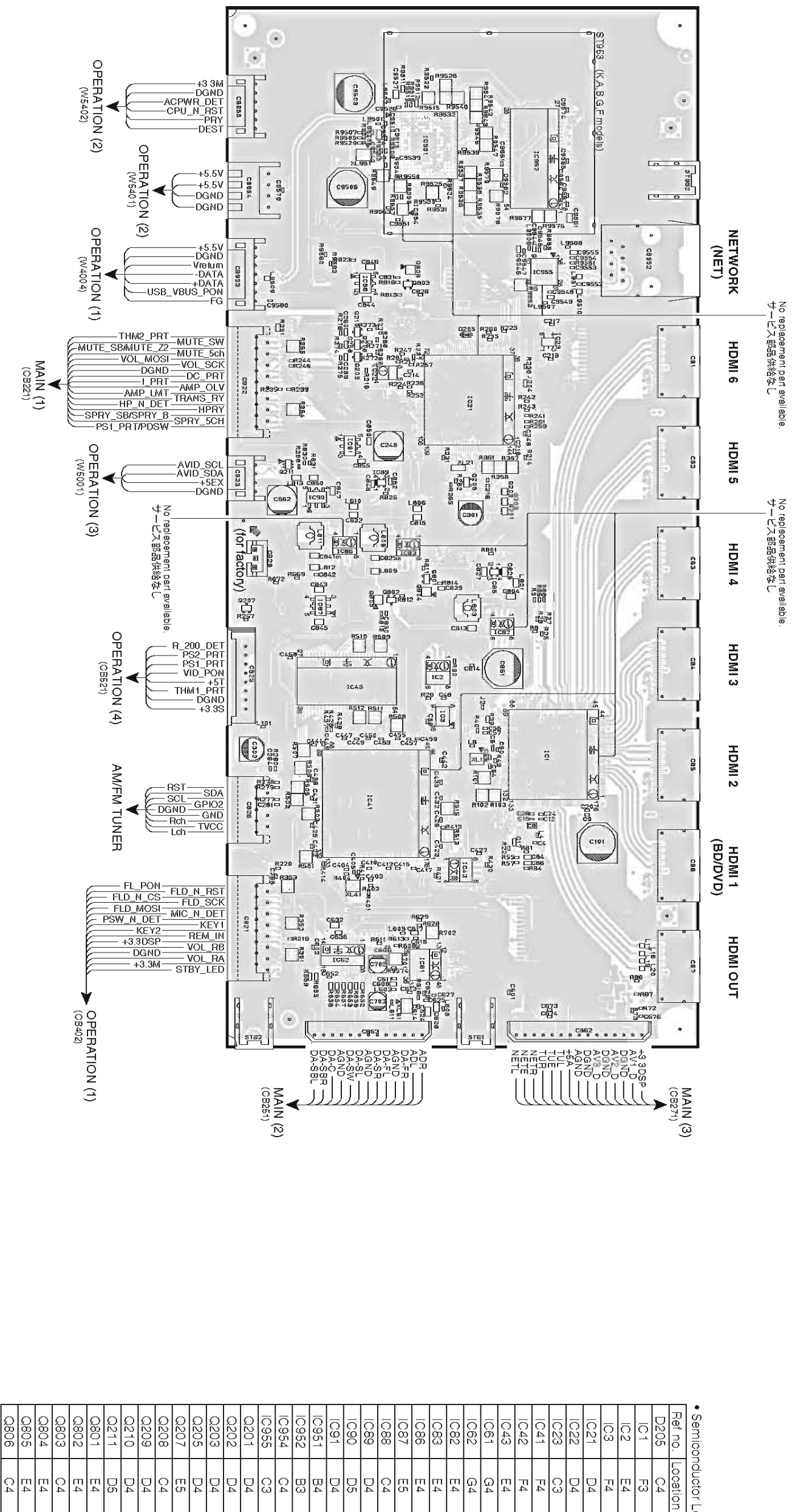
• AMP UNIT



## ■ PRINTED CIRCUIT BOARDS

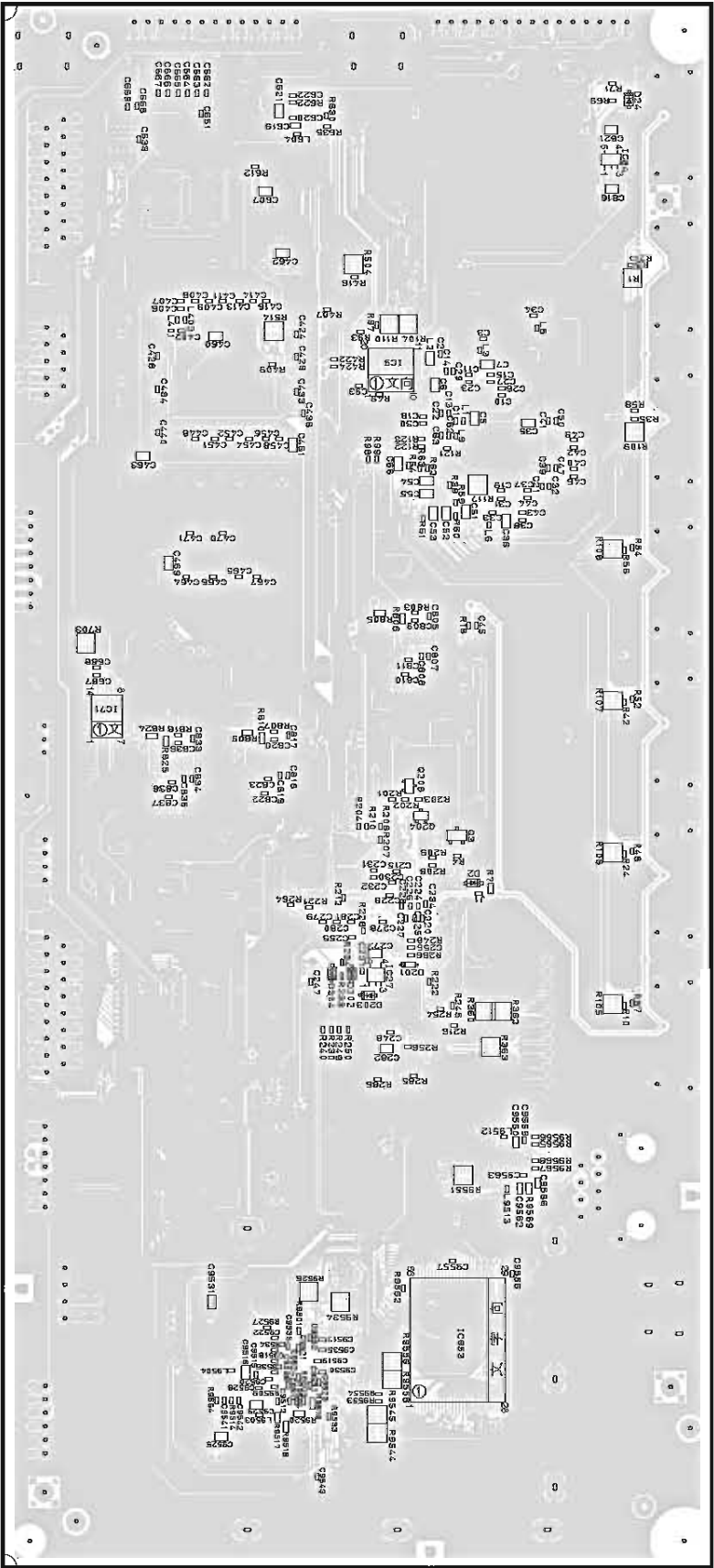
# DIGITAL

## (Side A)



A B C D E F G H I J

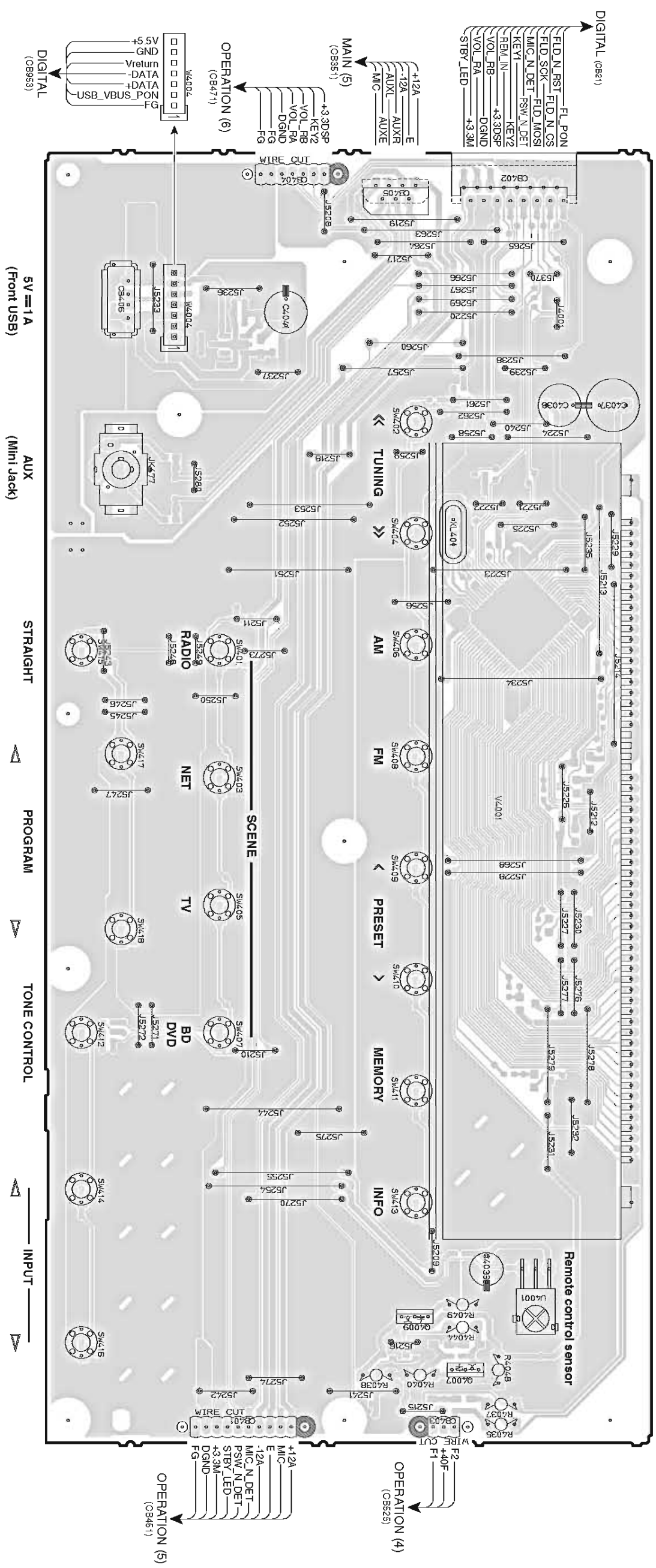
DIGITAL (Side B)



• Semiconductor Location

| Ref no. | Location |
|---------|----------|
| C5      | E4       |
| D2      | E3       |
| D24     | B3       |
| E5      | E4       |
| E56     | E4       |
| F5      | E4       |
| IC9     | C4       |
| IC27    | E4       |
| IC71    | D5       |
| IC84    | B3       |
| IC953   | G3       |
| Q3      | E3       |
| Q204    | E4       |
| Q206    | E4       |

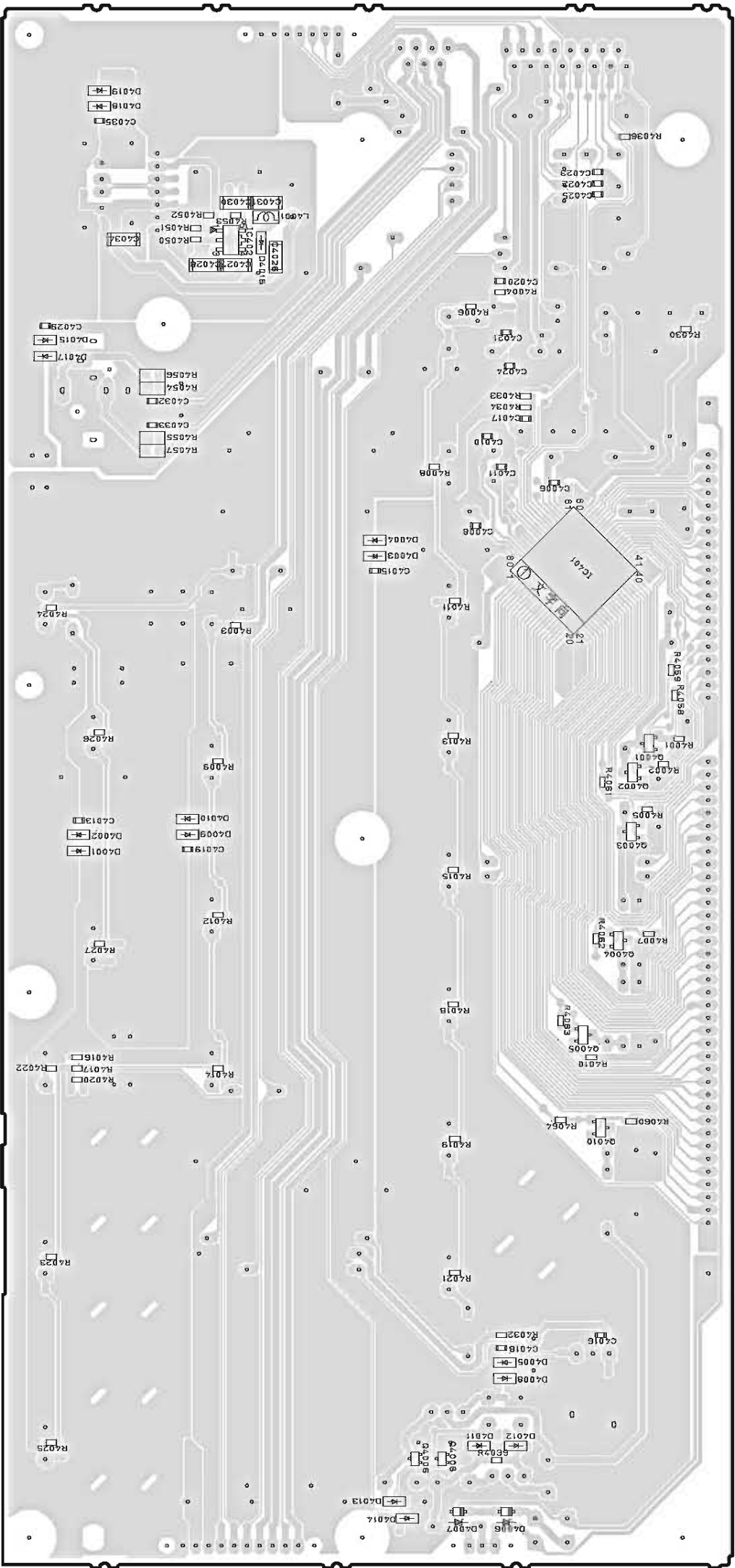
### OPERATION (1) (Side A)



- Semiconductor Location

| Ref no. | Location |
|---------|----------|
| Q4007   | 13       |
| Q4009   | 14       |

OPERATION (1) (Side B)



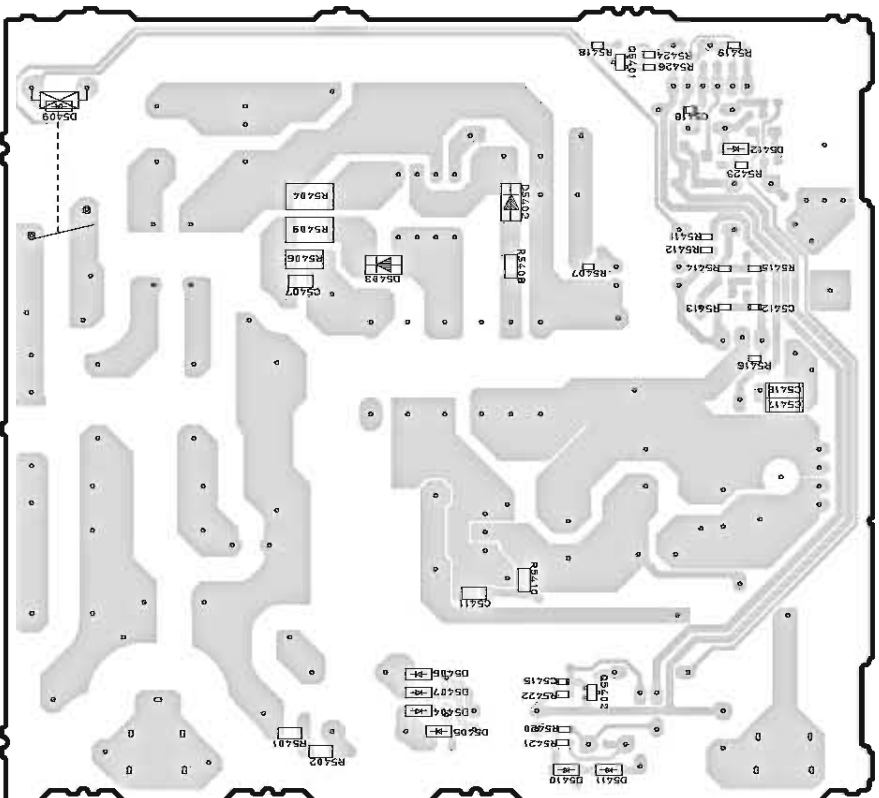
• Semiconductor Location

| Ref no. | Location | Ref no. | Location | Ref no. | Location |
|---------|----------|---------|----------|---------|----------|
| D4001   | F5       | D4011   | I3       | IC402   | C5       |
| D4002   | F5       | D4012   | I3       | Q4001   | F3       |
| D4003   | E4       | D4013   | I4       | Q4002   | F3       |
| D4004   | E4       | D4014   | I4       | Q4003   | F3       |
| D4005   | H3       | D4015   | D5       | Q4004   | F3       |
| D4006   | I3       | D4016   | C4       | Q4005   | G3       |
| D4007   | I3       | D4017   | D5       | Q4006   | I4       |
| D4008   | H3       | D4018   | C5       | Q4008   | I4       |
| D4009   | F5       | D4019   | B5       | Q4010   | G3       |
| D4010   | F5       | IC401   | E3       |         |          |

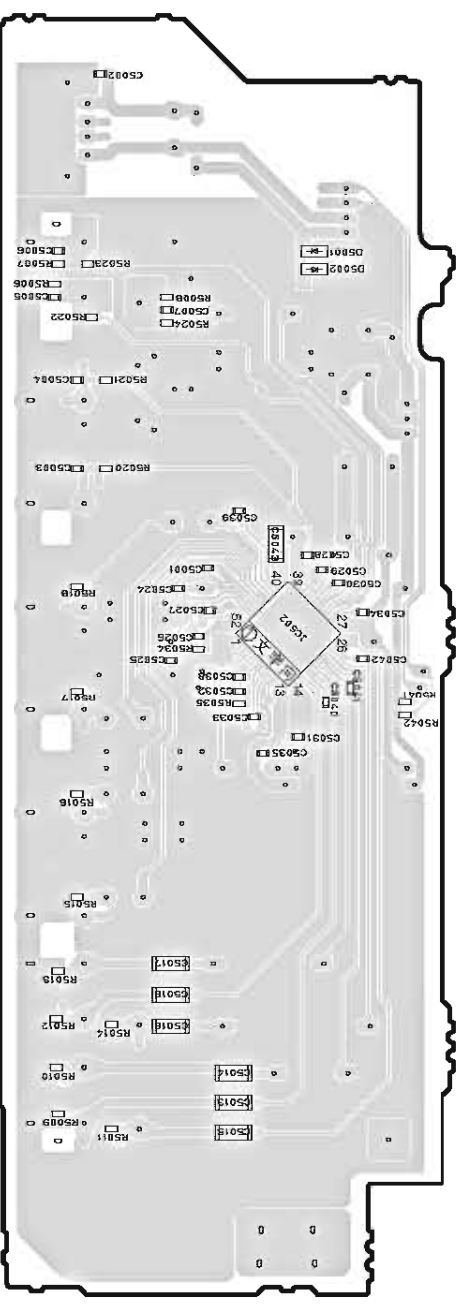




**OPERATION (2)** (Side B)



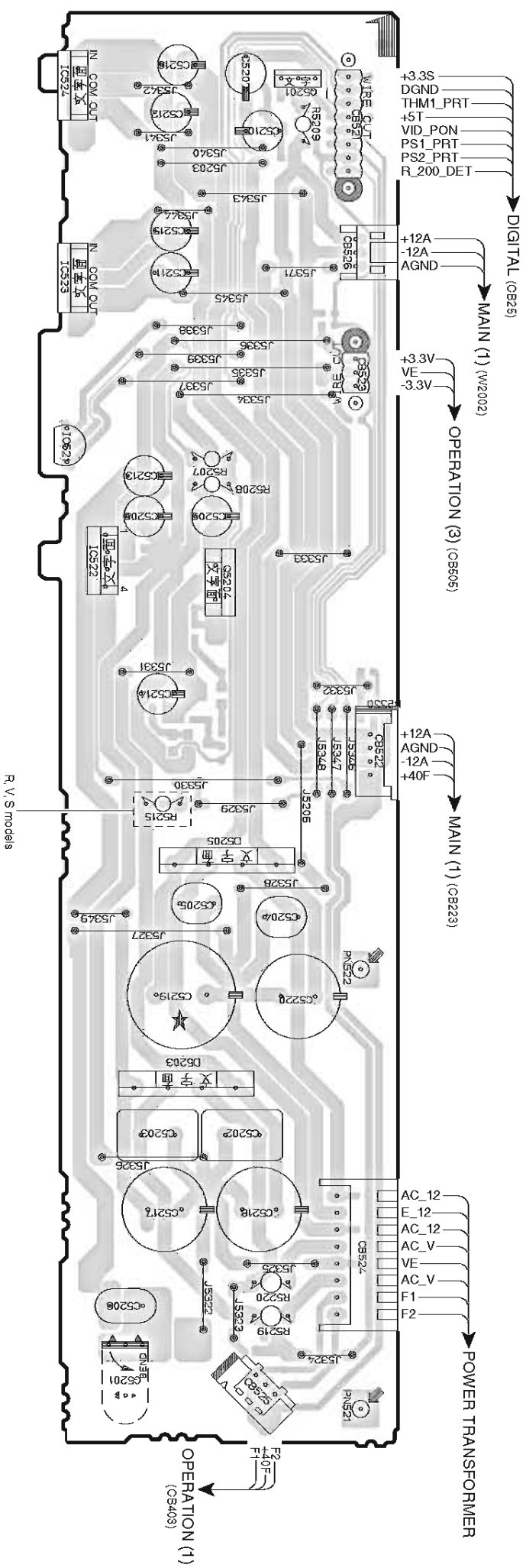
**OPERATION (3)**  
 (Side B)



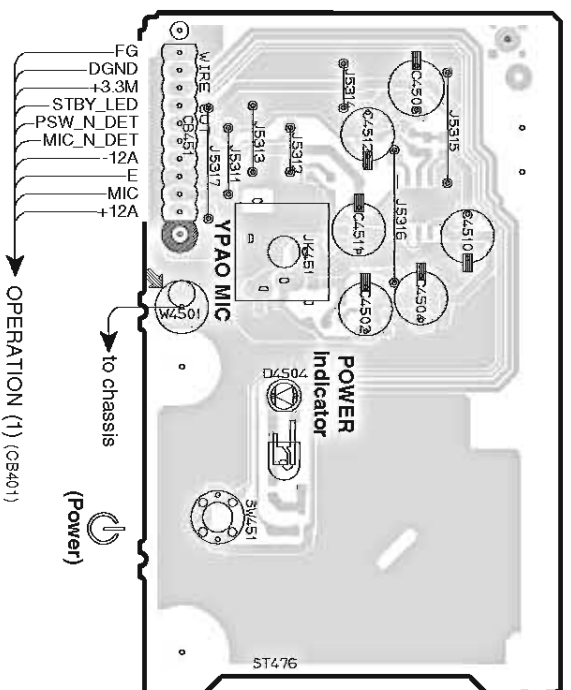
| Ref. no. | Location |
|----------|----------|
| D5001    | F3       |
| D5002    | F3       |
| D5402    | B4       |
| D5403    | C4       |
| D5404    | D4       |
| D5405    | D4       |
| D5406    | D4       |
| D5407    | D4       |
| D5410    | D3       |
| D5411    | D3       |
| D5412    | B3       |
| IC502    | H3       |
| Q5401    | B3       |
| Q5402    | D3       |



**OPERATION (4)** (Side A)



OPERATION (5) (Side A)

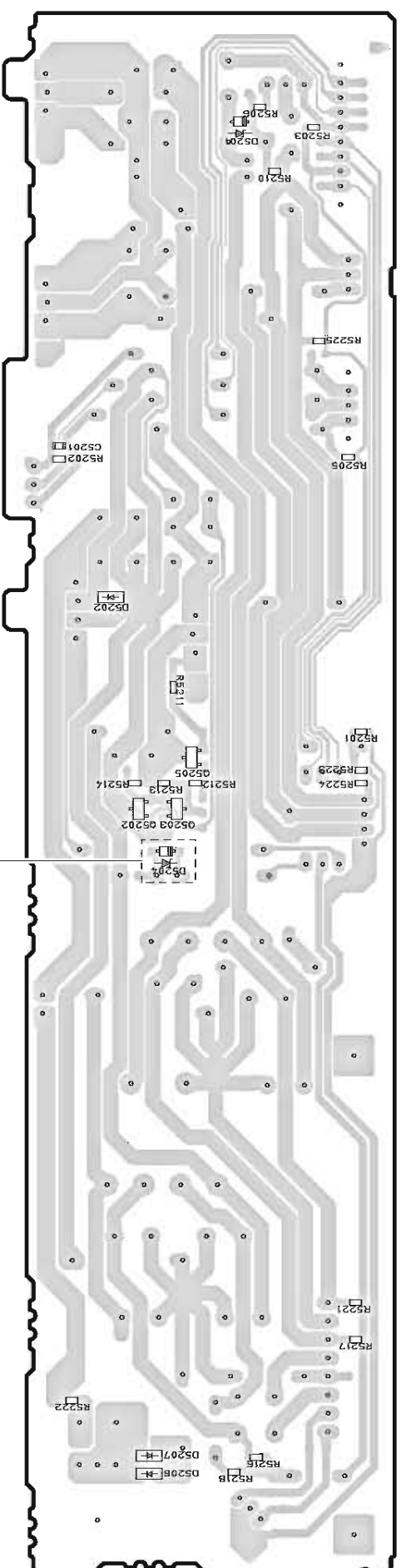


- Semiconductor Location

| Ref no. | Location |
|---------|----------|
| D4504   | E6       |
| D5203   | F3       |
| D5205   | E3       |
| IC521   | C3       |
| IC522   | D3       |
| IC523   | C3       |
| IC524   | B3       |
| Q5201   | B2       |
| Q5204   | D3       |

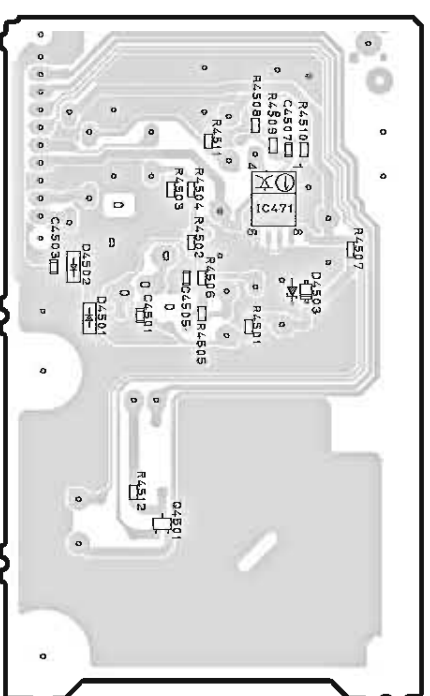


**OPERATION (4)** (Side B)



R, V, S models

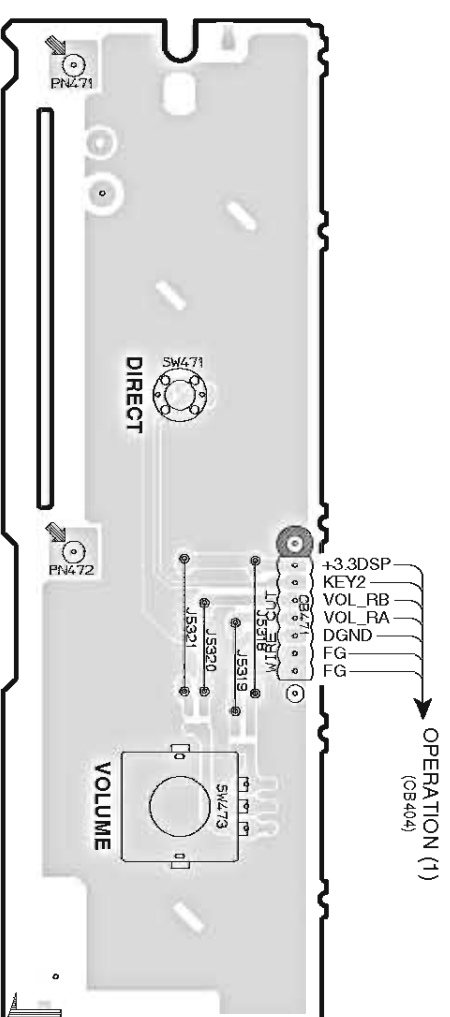
**OPERATION (5)**  
 (Side B)



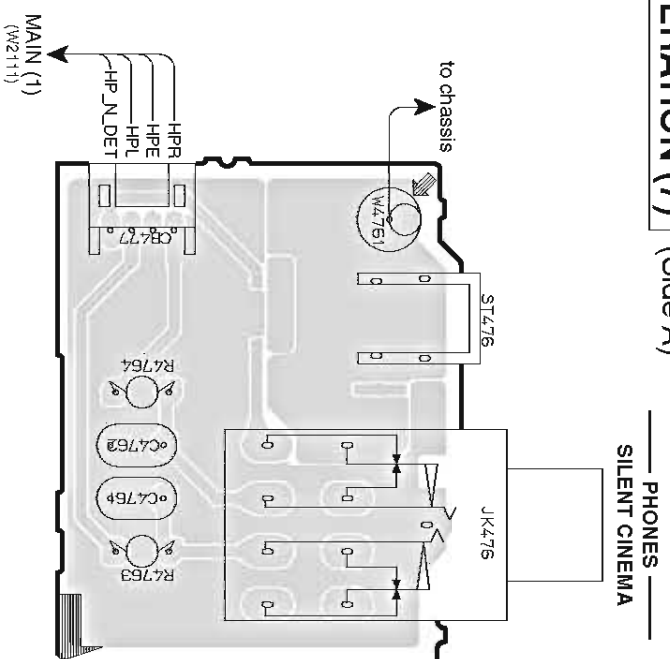
- Semiconductor Location

| Ref no. | Location |
|---------|----------|
| D4501   | E6       |
| D4502   | E6       |
| D4503   | E5       |
| D5201   | B3       |
| D5202   | D3       |
| D5204   | E3       |
| D5206   | H3       |
| D5207   | G3       |
| IC471   | E5       |
| QA501   | F6       |
| QA502   | E3       |
| QA5203  | E3       |
| QA5205  | E3       |

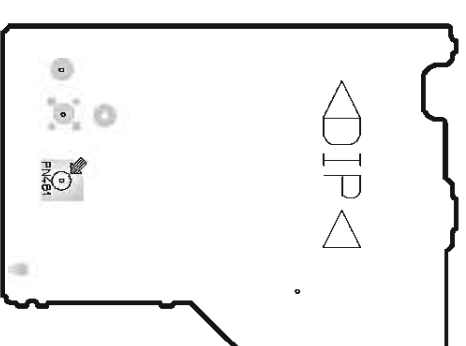
## OPERATION (6) (Side A)



## OPERATION (7) (Side A)



**OPERATION (8)** (Side A)

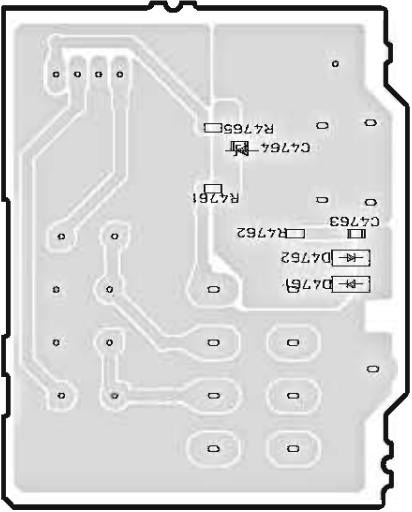


|   | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 |   |   |   |   |   |   |   |   |   |   |
| 2 |   |   |   |   |   |   |   |   |   |   |
| 3 |   |   |   |   |   |   |   |   |   |   |
| 4 |   |   |   |   |   |   |   |   |   |   |
| 5 |   |   |   |   |   |   |   |   |   |   |
| 6 |   |   |   |   |   |   |   |   |   |   |
| 7 |   |   |   |   |   |   |   |   |   |   |

OPERATION (6) (Side B)



OPERATION (7) (Side B)



OPERATION (8) (Side B)



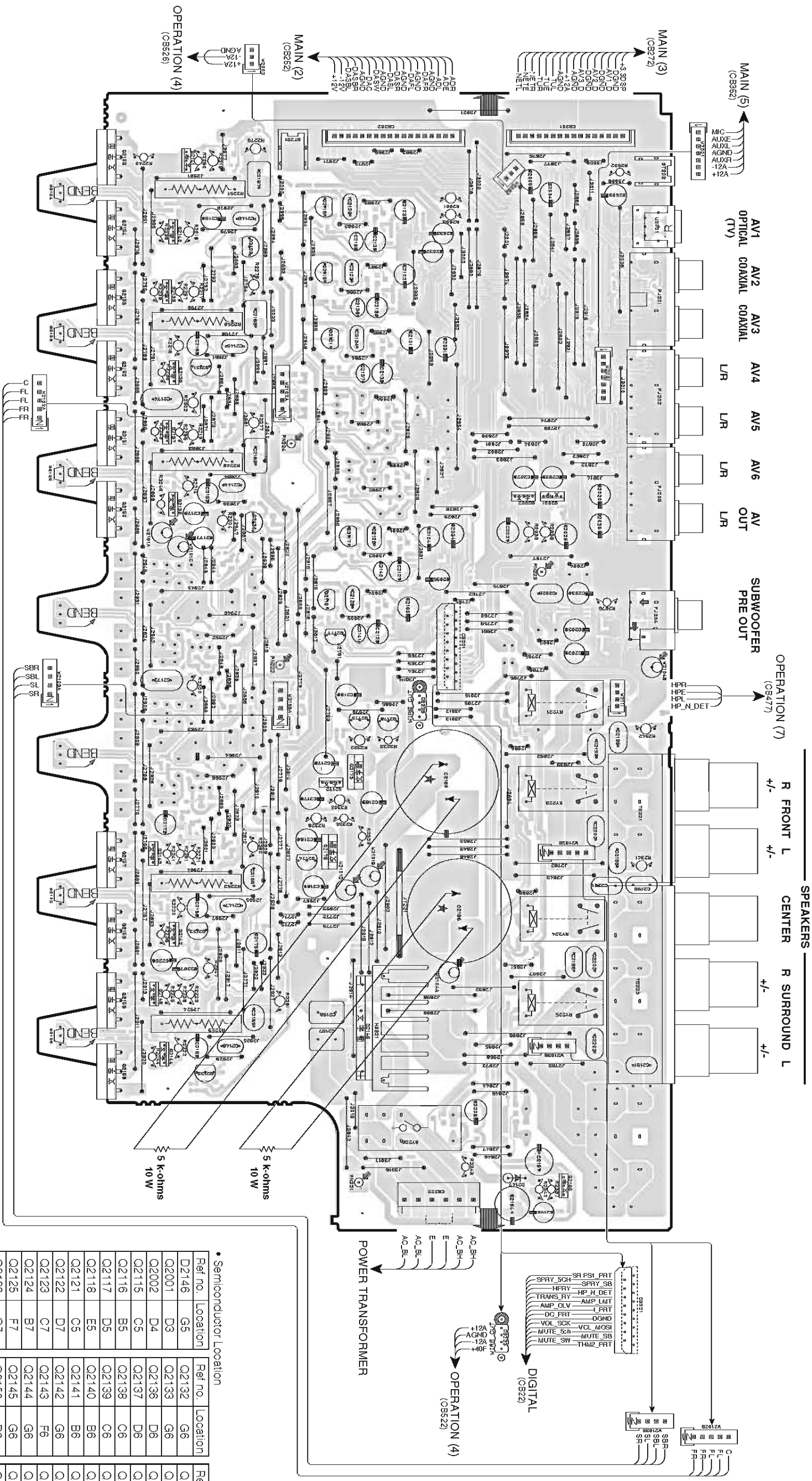
• Semiconductor Location

| Ref. no. | Location |
|----------|----------|
| D4761    | E6       |
| D4762    | E6       |

MAIN (1) (Side A)

- Safety measures**
- Some internal parts in this product contain high voltages and are dangerous. Be sure to take safety measures during servicing, such as wearing insulating gloves.
  - Note that the capacitors indicated below are dangerous even after the power is turned off because an electric charge remains and a high voltage continues to exist there. Before starting any repair work, connect a discharging resistor (5 k-ohms/10 W) to the terminals of each capacitor indicated below to discharge electricity. The time required for discharging is about 30 seconds per each.
- C2084, C2085 on MAIN (1) P.C.B.

- 安全対策**
- この製品の内部には高電圧部分があり危険です。修理の際は、絶縁性の手袋を使用するなどの安全対策を行ってください。
  - 下記のコンデンサには電流を OFF した後も電荷が残り、高電圧が維持されており危険です。修理作業前に放電用抵抗 (5 k Ω /10 W) を下記の各コンデンサの端子間に接続して放電してください。放電所要時間は各々約 30 秒間です。
- MAIN (1) P.C.B. の C2084、C2085



A

B

C

D

E

F

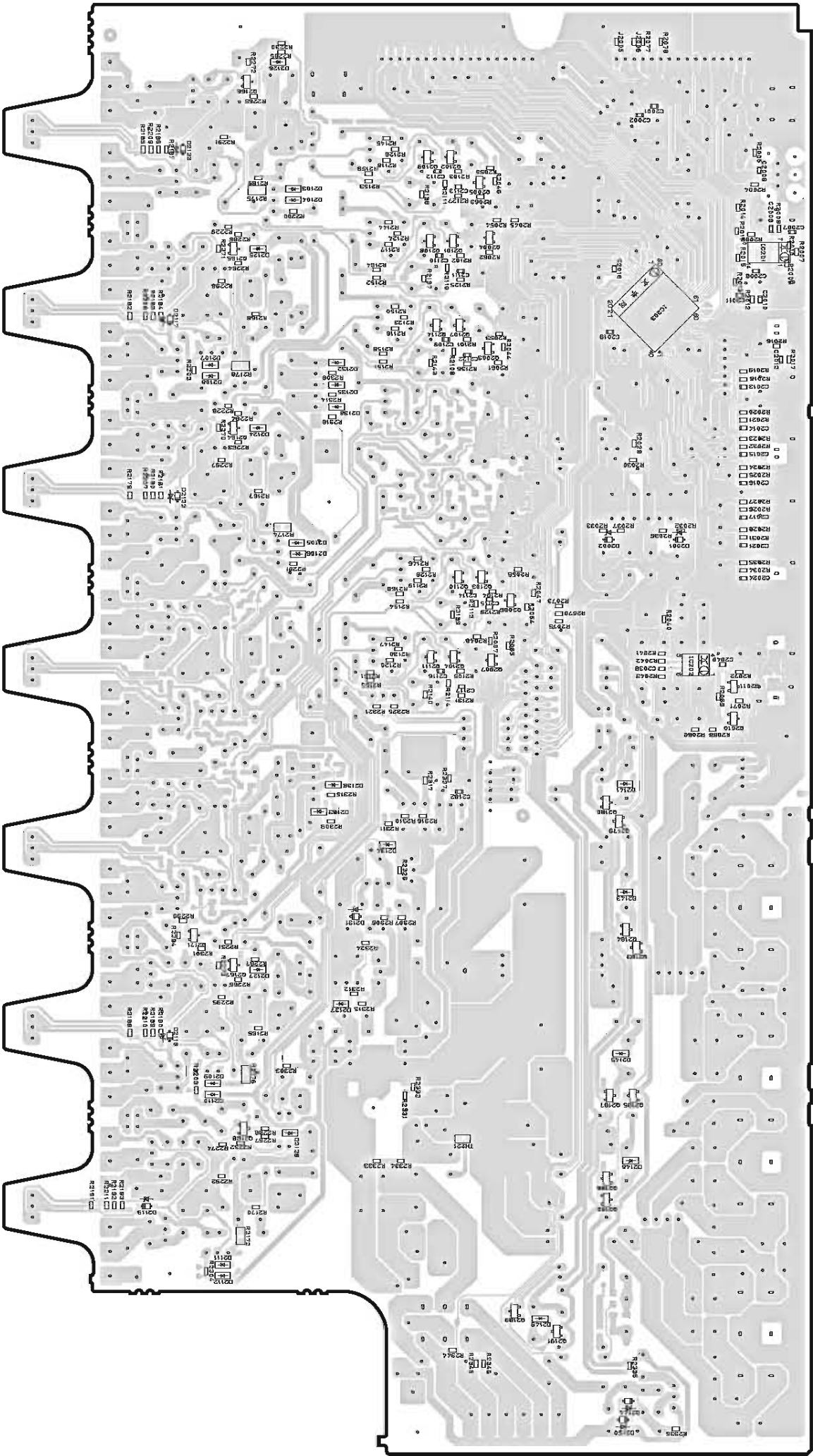
G

H

I

J

MAIN (1) (Side B)



● Semiconductor Location

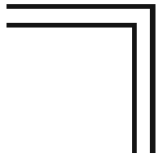
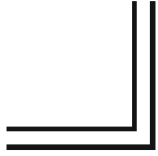
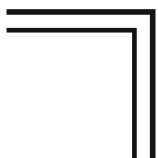
| Ref no. | Location | Ref no. | Location |
|---------|----------|---------|----------|
| D2001   | D3       | IC201   | C3       |
| D2002   | D4       | IC202   | E3       |
| D2103   | B5       | IC203   | C3       |
| D2104   | B5       | Q2003   | C4       |
| D2105   | D5       | Q2004   | C4       |
| D2106   | D5       | Q2005   | C4       |
| D2107   | C6       | Q2006   | D4       |
| D2108   | C6       | Q2007   | E4       |
| D2109   | G6       | Q2010   | E3       |
| D2110   | G6       | Q2011   | E3       |
| D2111   | H6       | Q2101   | C4       |
| D2112   | H6       | Q2102   | C4       |
| D2117   | C6       | Q2103   | D4       |
| D2118   | F6       | Q2104   | E4       |
| D2119   | G6       | Q2107   | C4       |
| D2122   | D6       | Q2108   | C5       |
| D2123   | B6       | Q2109   | C5       |
| D2124   | D5       | Q2110   | D4       |
| D2125   | C5       | Q2111   | E5       |
| D2126   | B5       | Q2114   | C5       |
| D2127   | F5       | Q2164   | D6       |
| D2128   | G5       | Q2165   | C6       |
| D2131   | F5       | Q2166   | B5       |
| D2132   | C5       | Q2167   | F6       |
| D2133   | E5       | Q2168   | G5       |
| D2134   | F5       | Q2171   | F6       |
| D2135   | C5       | Q2179   | E4       |
| D2136   | E5       | Q2180   | E4       |
| D2137   | F5       | Q2183   | F4       |
| D2138   | C5       | Q2184   | F4       |
| D2141   | E4       | Q2185   | G4       |
| D2143   | F4       | Q2187   | G4       |
| D2144   | H4       | Q2188   | G4       |
| D2145   | G4       | Q2189   | H4       |
| D2148   | G4       | Q2190   | G4       |
| D2149   | H4       | Q2191   | H4       |
| D2150   | H4       |         |          |



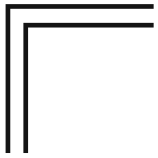
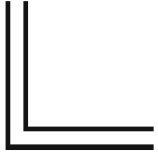
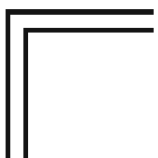
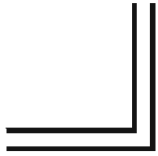




MEMO

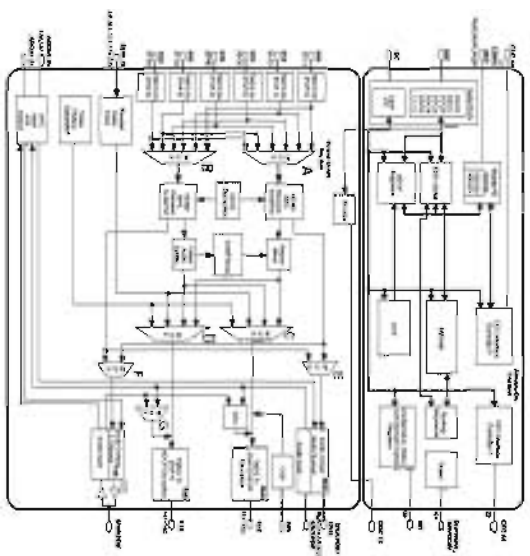


MEMO





I



サービス部品供給なし

- Power supply (+)
- Power supply (-)
- Signal detected
- Clock
- Protection detected
- Reset signal
- Panel key input

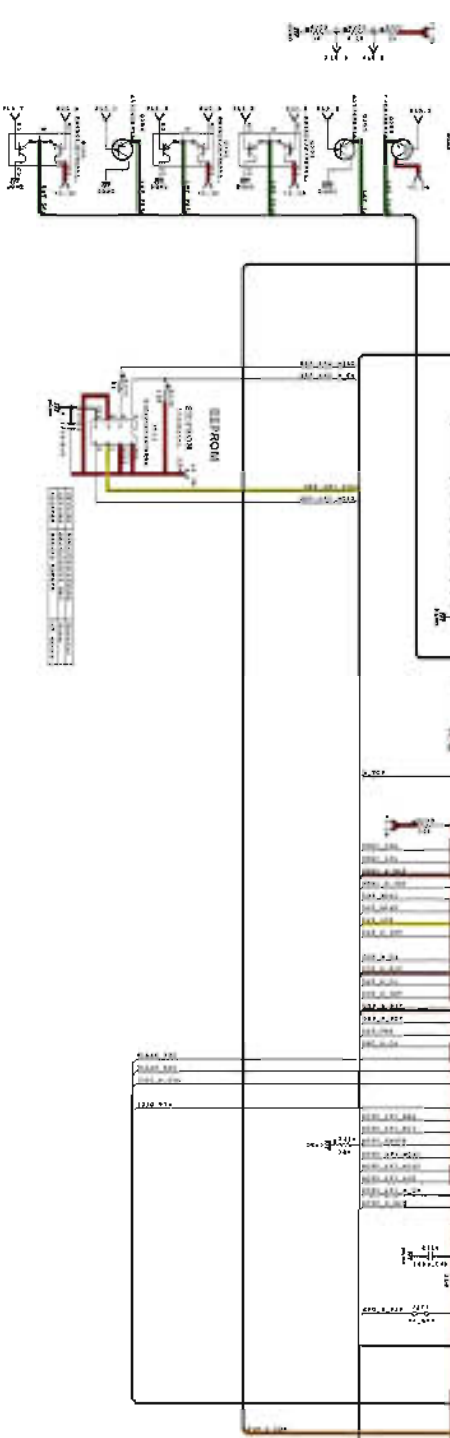
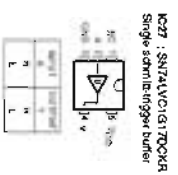
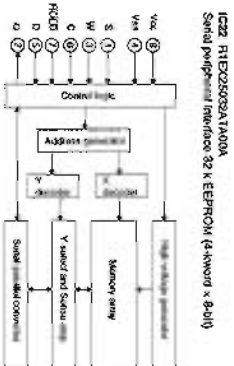
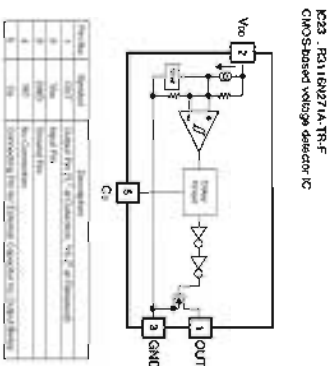
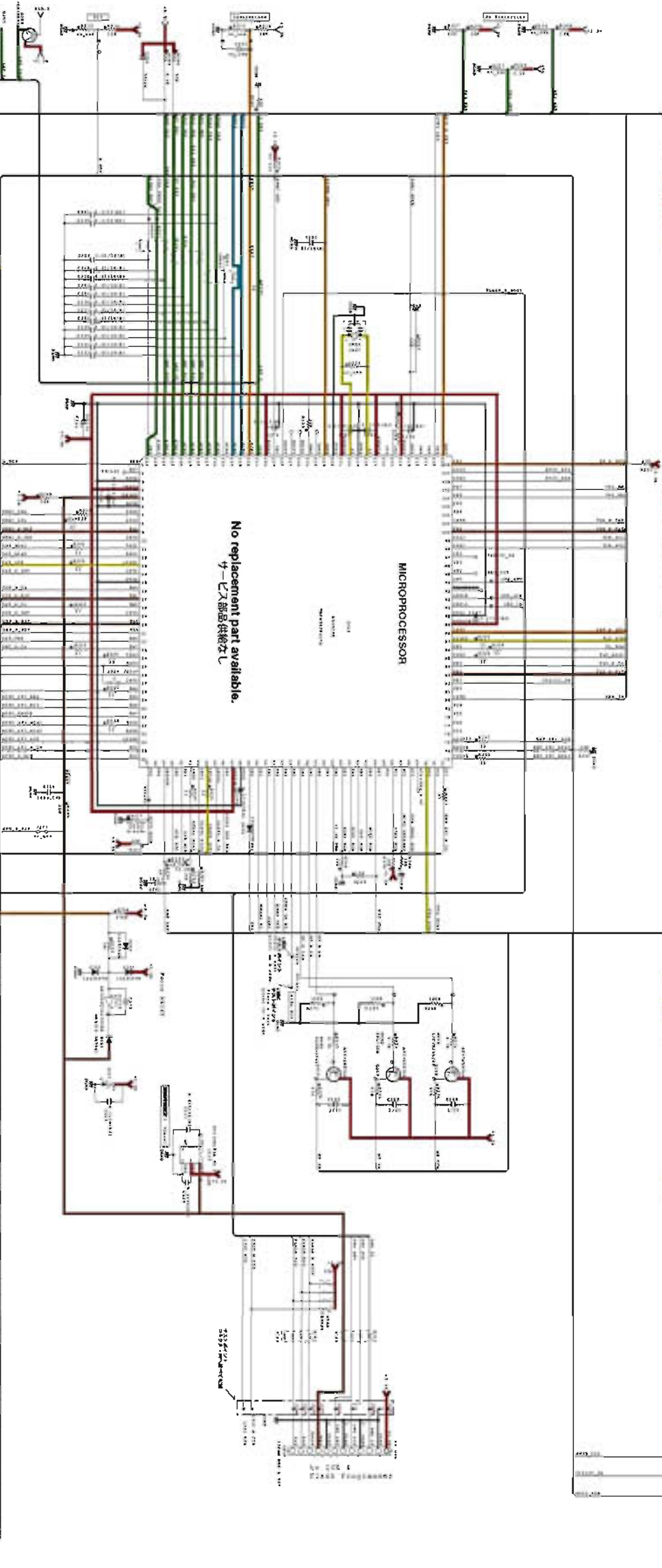
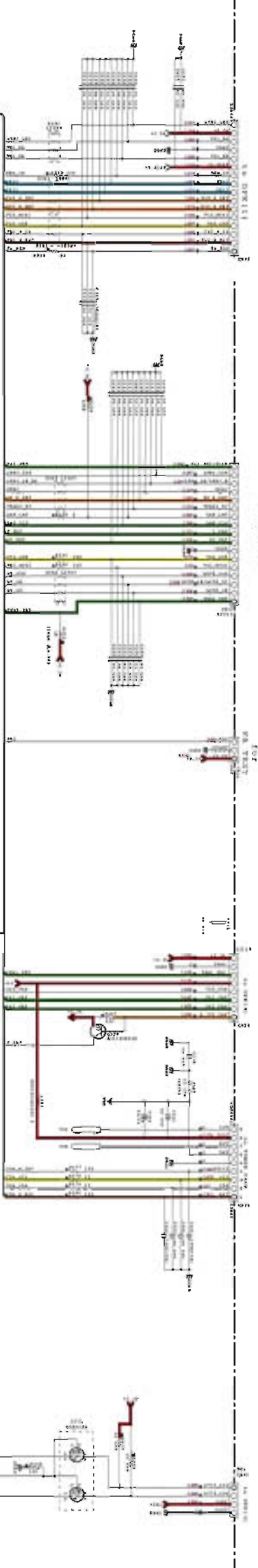
- 現在は、内部組織に100%の株式を所有している。
- 本邦の主要部品は、全て自社生産品を占めている。部品への海外依存度は極めて低い。パナソニックは製造されている部品を売却して、売金している。
- 本邦製品は競争力がある。海外に売るよりも高く売れるようにしている。

LOW VOLTAGE 00231 BUS TRANSCEIVER  
KCB; IC74LCX245FT(EL.K)

Low-voltage signal was delivered with 5-V identical inputs and outputs

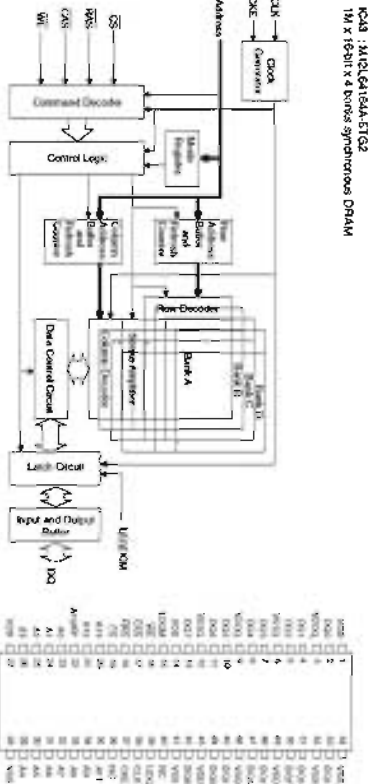
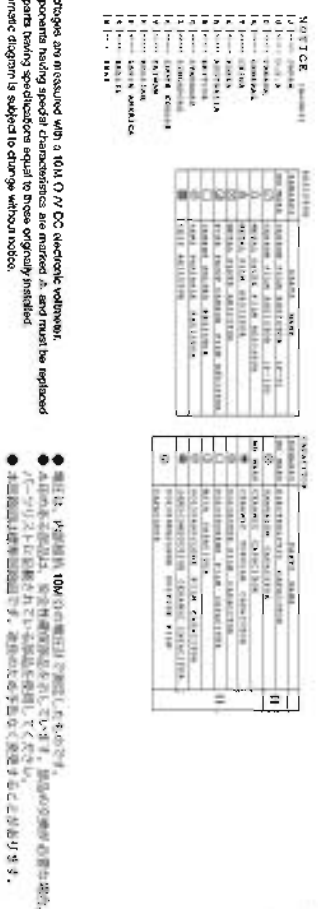
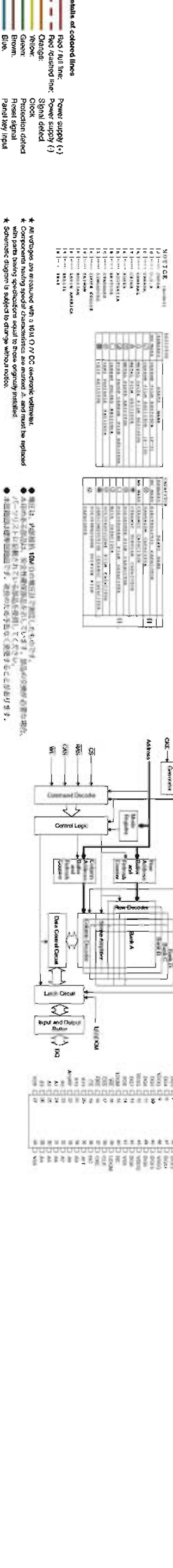
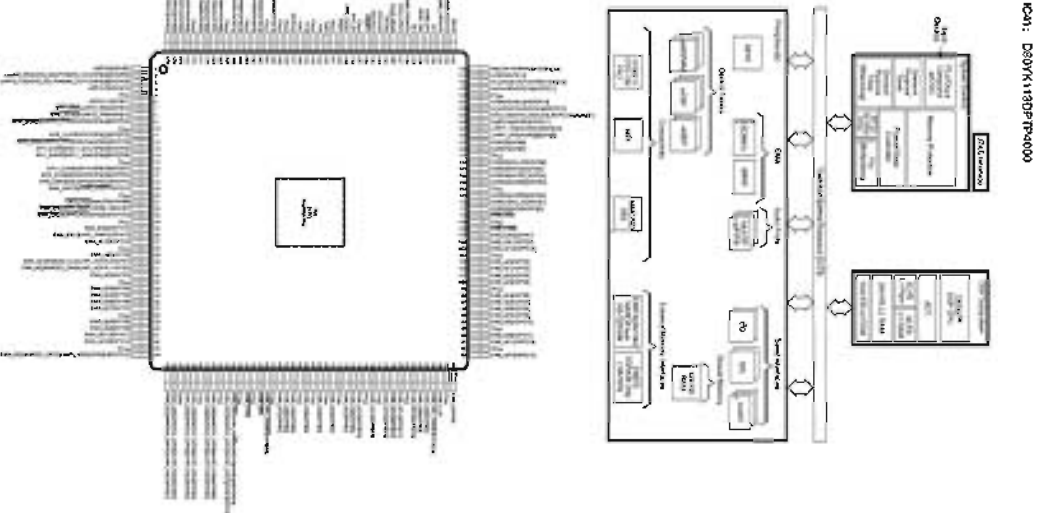
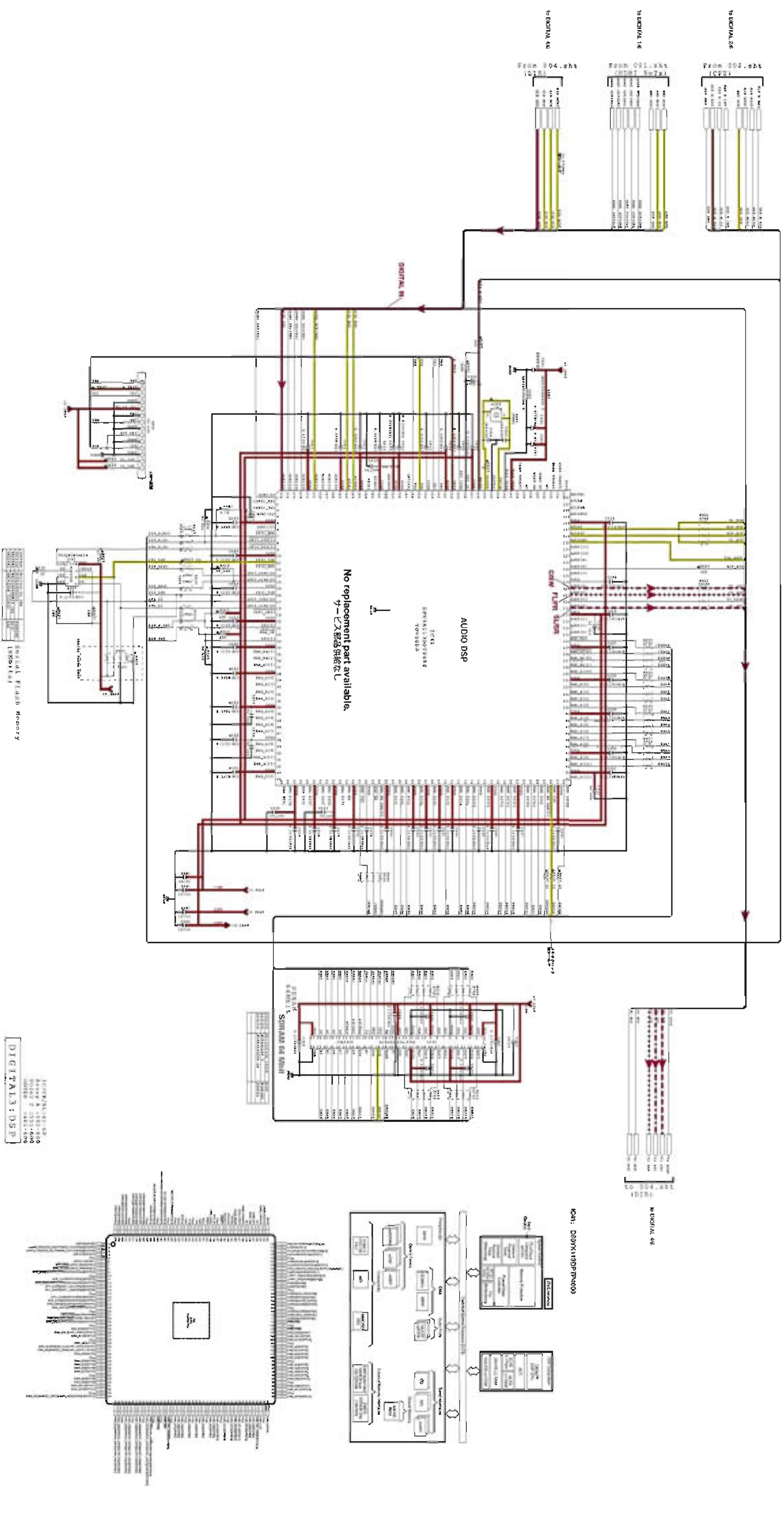
2000

400

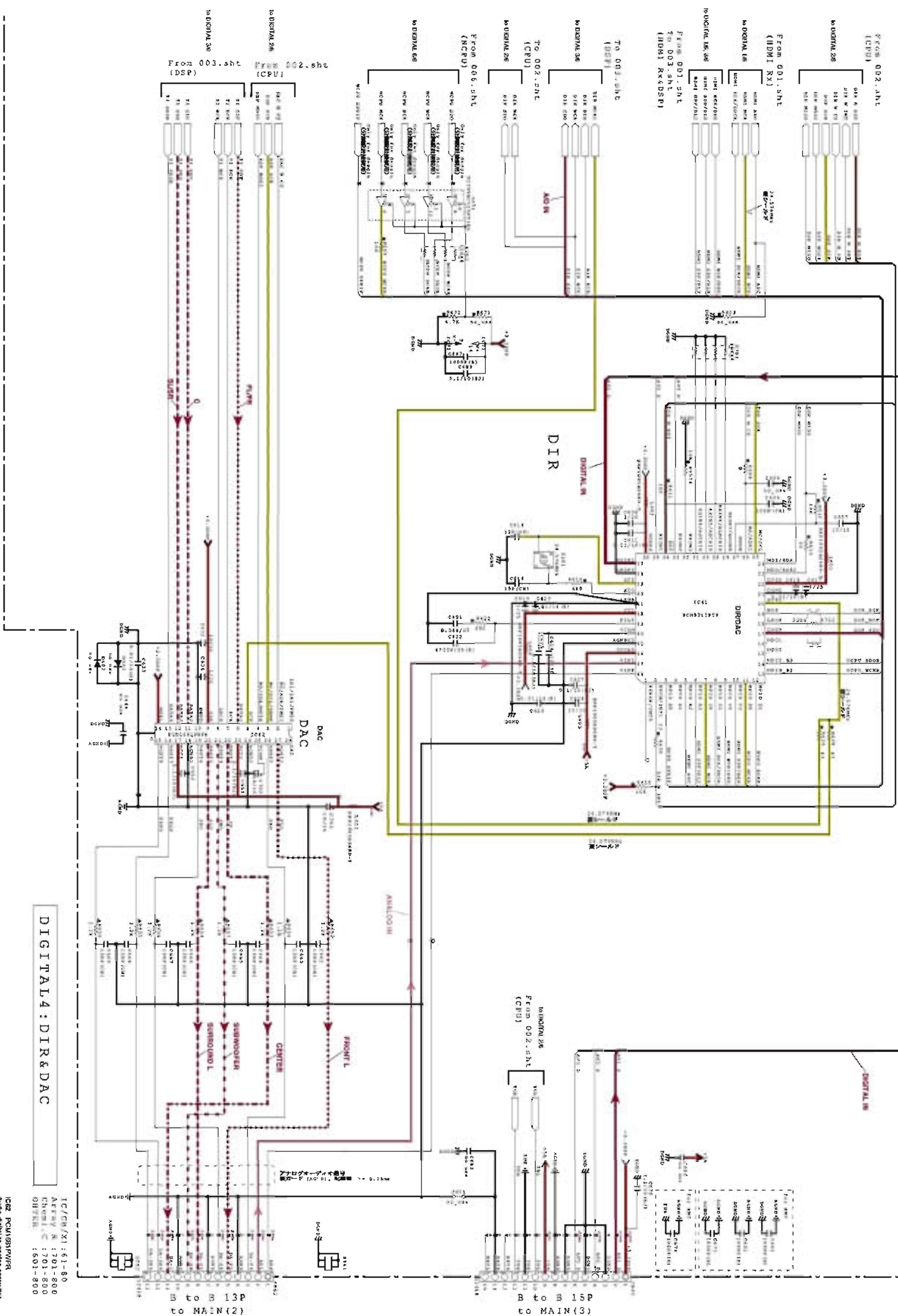
[illegible]

| Database of colored lines                                                         |                   |
|-----------------------------------------------------------------------------------|-------------------|
|  | Red / full line   |
|  | Red / dashed line |
|  | Orange            |
|  | Yellow            |
|  | Green             |
|  | Brown             |
|  | Blue              |

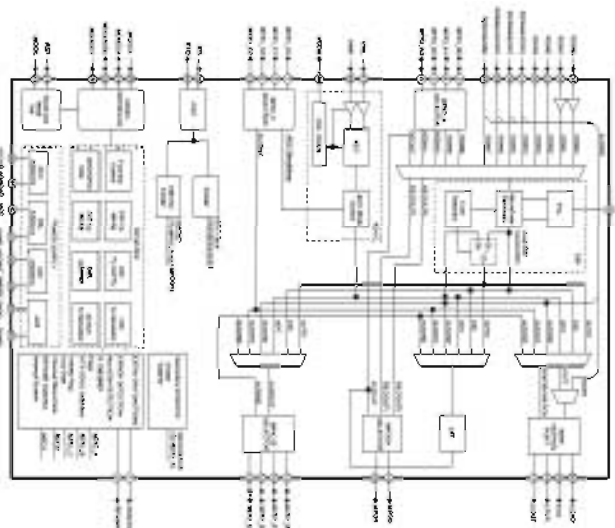




DIGITAL 4/6

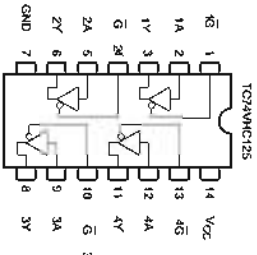


IC61 : PCM0211PTR  
21-bit digital audio transceiver (DAX) with stereo ADC and routing



Page 116 [2]  
to MAIN (9) CORE7

IC71 : TC5AHC125FTELX  
CMOS Digital Integrated Circuit Silicon Monolithic

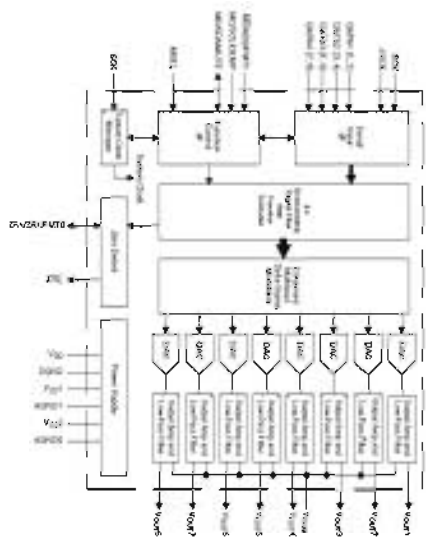


Page 116 [2]  
to MAIN (9) CORE5

DIGITAL4:DIR&DAC

IC/CH/X1: 61-80  
AFRRY N: 1701-800  
CHERR C: 1701-800  
CHERR C: 1701-800

IC62 : PCM1871PVR  
Audio digital-to-analog converter



| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | VCC    | 17  | VCC    |
| 2   | VCC    | 18  | VCC    |
| 3   | VCC    | 19  | VCC    |
| 4   | VCC    | 20  | VCC    |
| 5   | VCC    | 21  | VCC    |
| 6   | VCC    | 22  | VCC    |
| 7   | VCC    | 23  | VCC    |
| 8   | VCC    | 24  | VCC    |
| 9   | VCC    | 25  | VCC    |
| 10  | VCC    | 26  | VCC    |
| 11  | VCC    | 27  | VCC    |
| 12  | VCC    | 28  | VCC    |
| 13  | VCC    | 29  | VCC    |
| 14  | VCC    | 30  | VCC    |
| 15  | VCC    | 31  | VCC    |
| 16  | VCC    | 32  | VCC    |

Details of colored lines

- Red / Red line
- Red / Red line
- Orange
- Yellow
- Green
- Brown
- Blue

Power supply (+)  
Power supply (-)  
Signal detect  
Clock  
Protection detect  
Reset signal  
Panel key input

NOTICE

- All voltages are measured with a 10M  $\Omega$  V.D. electronic voltmeter.
- Components having special characteristics are marked with a star and must be replaced with parts having special characteristics equal to those originally installed.
- Schematic diagrams are subject to change without notice.



# DIGITAL S/6

to DIGITAL 6/6  
From 005.001  
(N.C. 005.001)

## POWER SOURCE

to DIGITAL 2/6  
From 005.001  
(N.C. 005.001)

## HDMI POWER

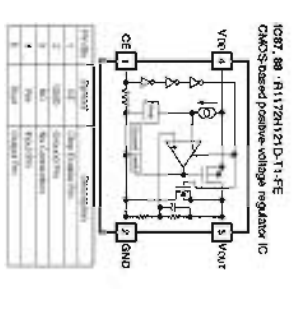
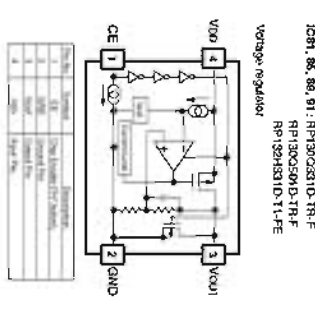
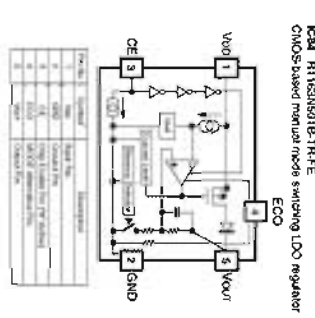
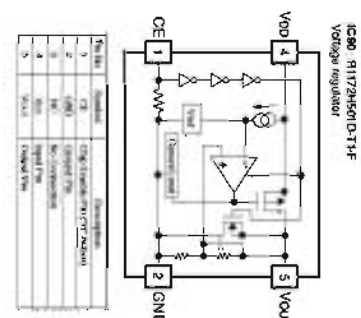
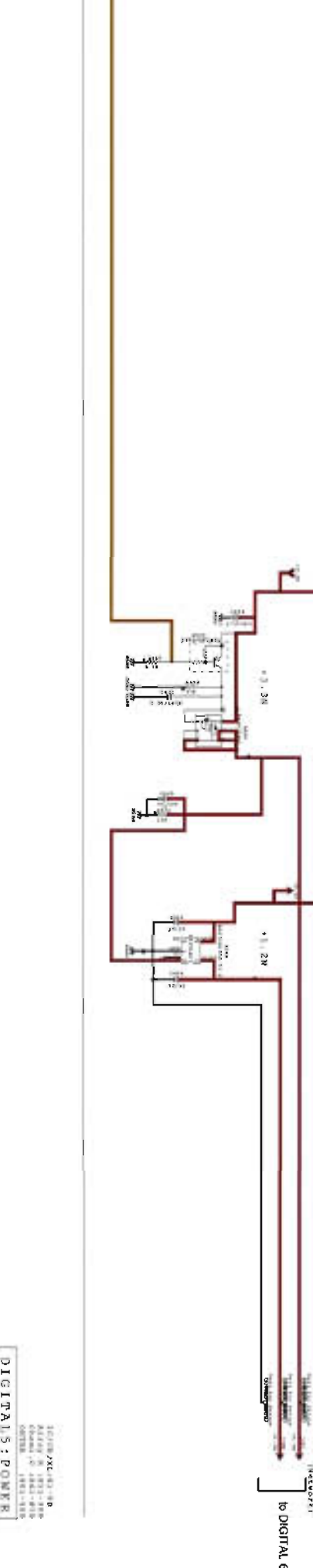
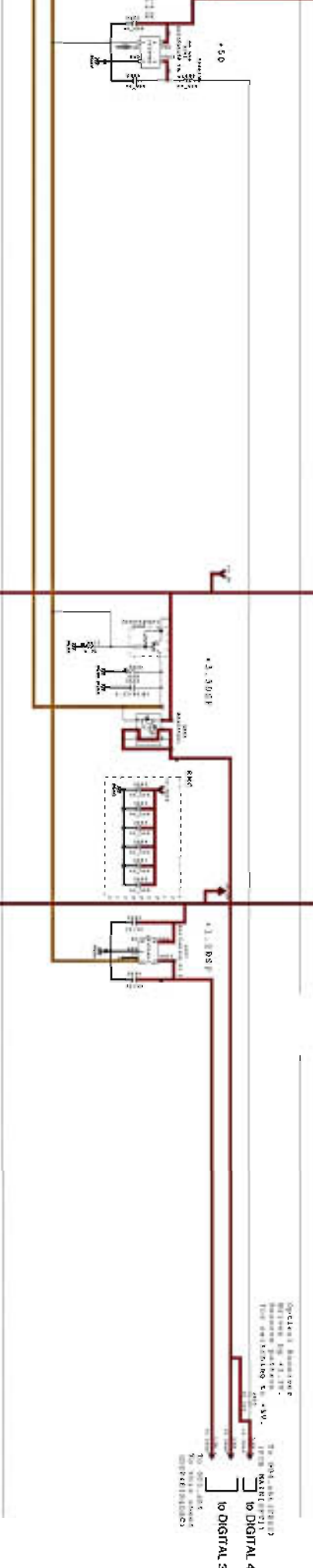
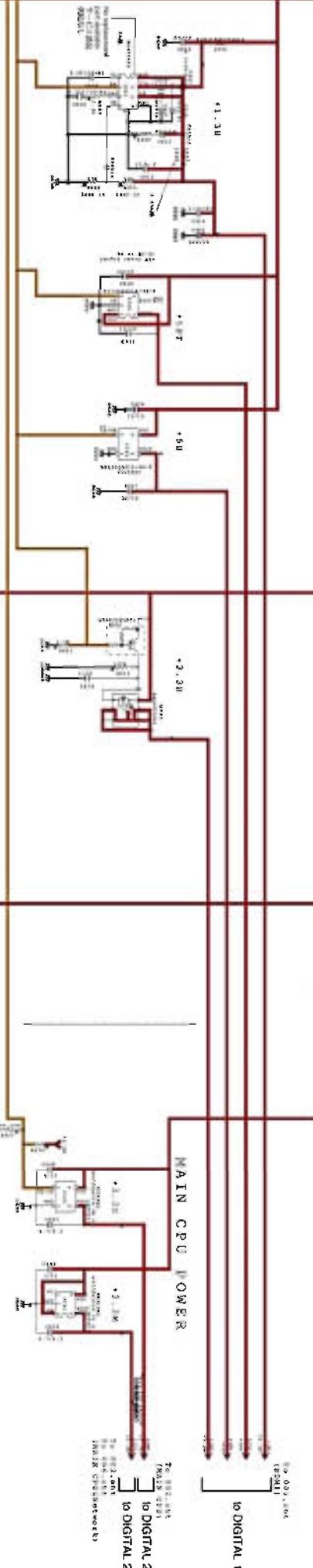
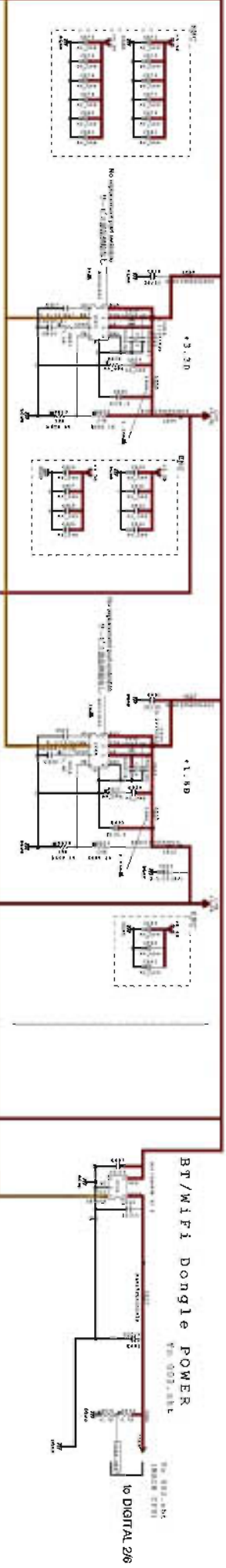
to DIGITAL 2/6  
From 005.001  
(N.C. 005.001)

## DSP POWER

to DIGITAL 2/6  
From 005.001  
(N.C. 005.001)

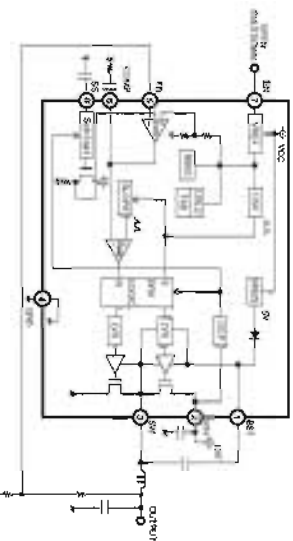
## NET POWER

to DIGITAL 2/6  
From 005.001  
(N.C. 005.001)



DIGITAL S/6 POWER

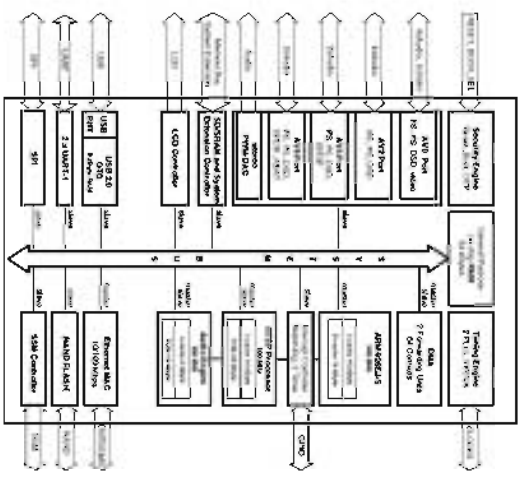
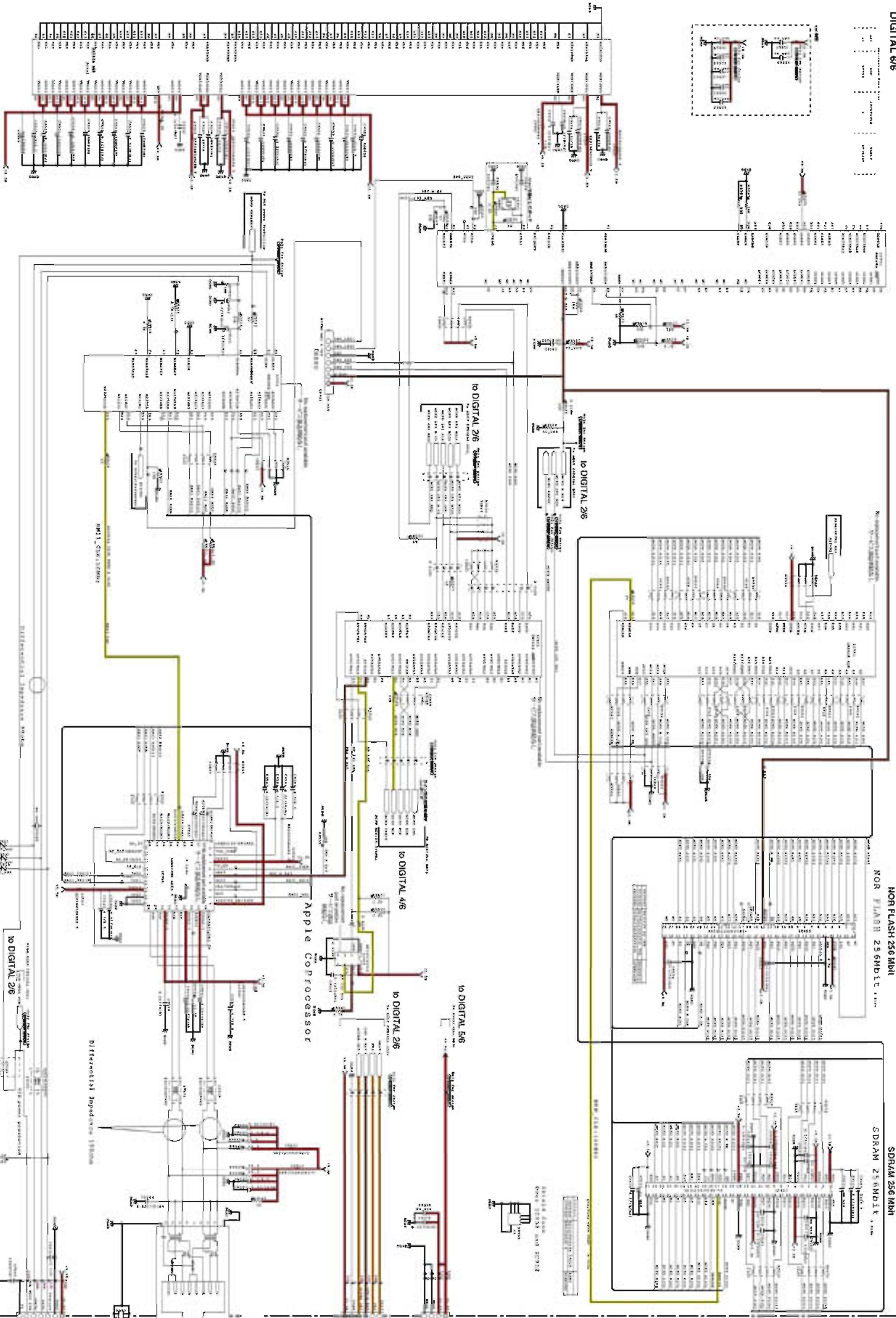
IC80, 81, 86: R130H50D11-F



- Details of colored lines
- Red / Full line: Power supply (+)
  - Red dashed line: Power supply (-)
  - Green: Signal
  - Yellow: Protection diode
  - Blue: Reset signal
  - Black: Panel key input

- \* All voltages are measured with a 10k  $\Omega$  or DC electronic voltmeter.
- \* Components having special characteristics are marked with a star and must be replaced with parts having special characteristics equal to those originally specified.
- \* Schematic diagrams are subject to change without notice.

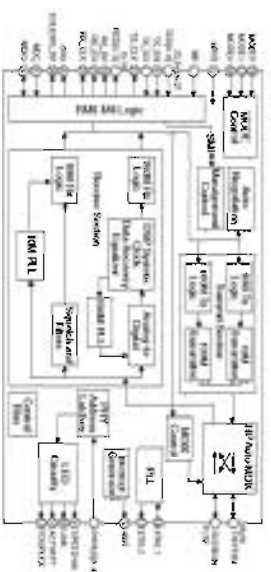
DIGITAL 6/6



DIGITAL: NETWORK

IC802: M1335815154-5102A Synchronous DRAM

IC805: LAM7700-AE20-TR BD decoder IC



Details of colored lines

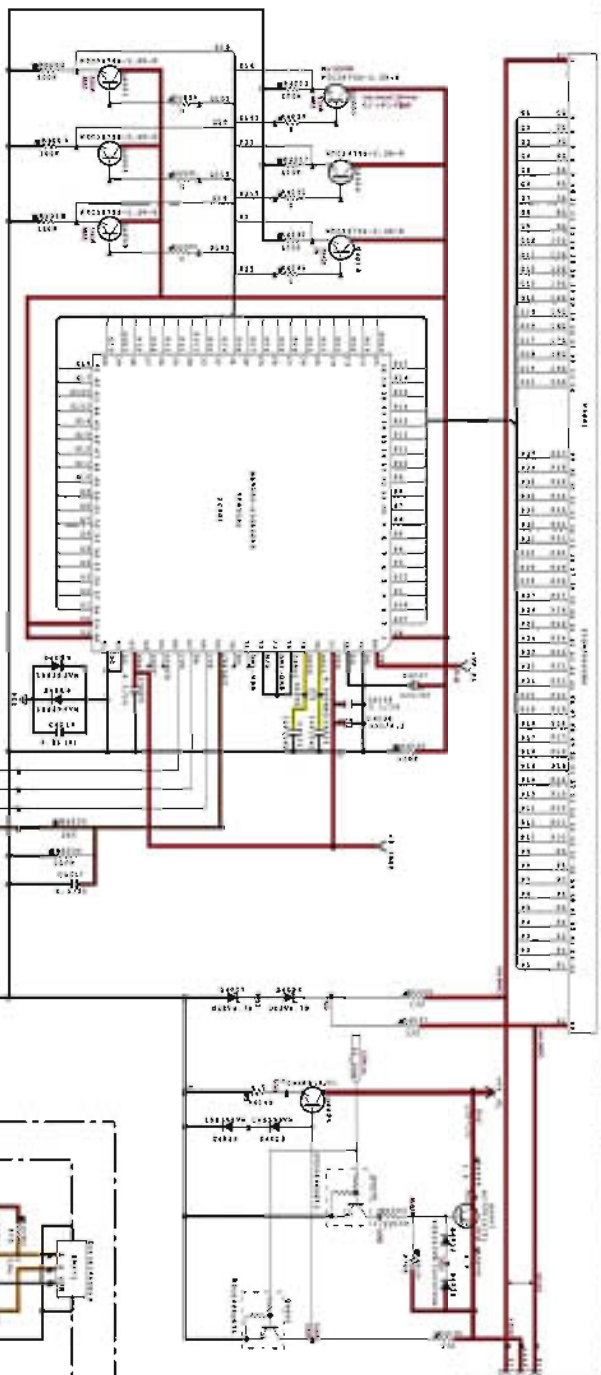
- Red / Blue line: Power supply (+)
- Red / Blue line: Power supply (-)
- Orange: Signal detect
- Yellow: Clock
- Green: Protection detect
- Blue: Reset input

\* All voltages are measured with a 10M  $\Omega$  V DC electronic voltmeter.  
\* Components having special characteristics are marked with a star and must be replaced with parts having special characteristics equal to those originally installed.  
\* Schematic diagrams are subject to change without notice.



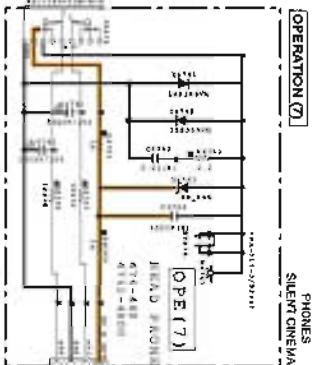
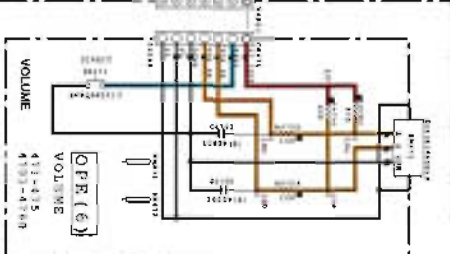
OPERATION 1/2

OPR (1) PL  
411-413  
4130-4300

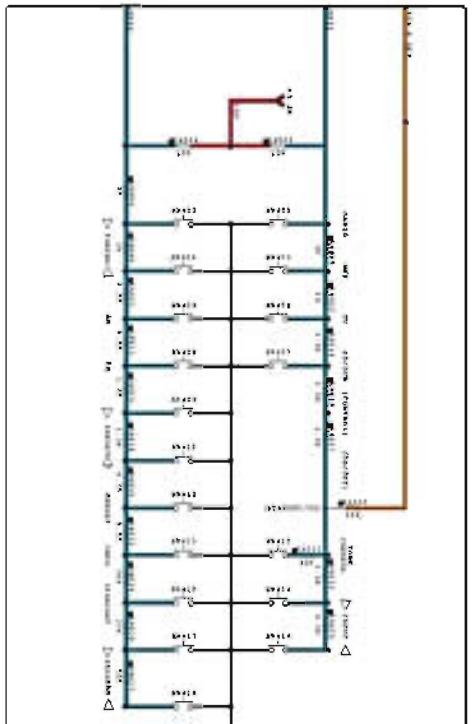


Page 112 [C]  
to OPERATION (6), CDS25

OPERATION (6)



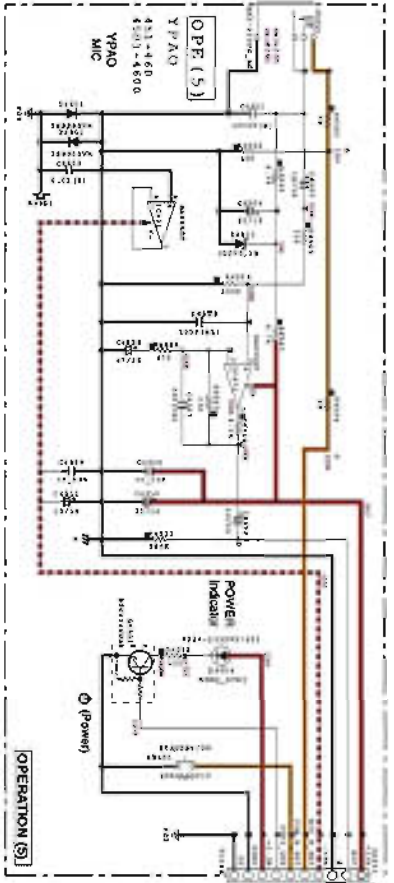
Page 114 [C]  
to MAIN (1), VPT11



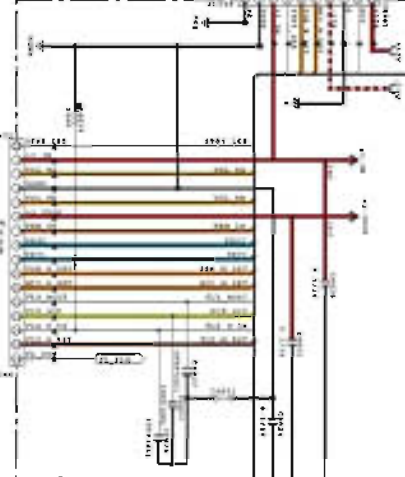
OPERATION (1)



OPR (8)



OPERATION (5)



Page 108 [C]  
to DIGITAL, CDS3

Page 116 [C]  
to MAIN (6), CDS51

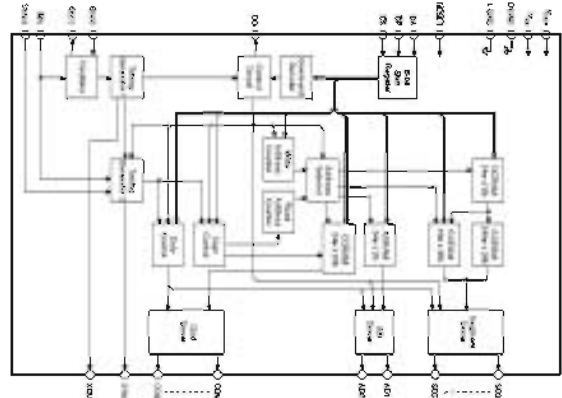
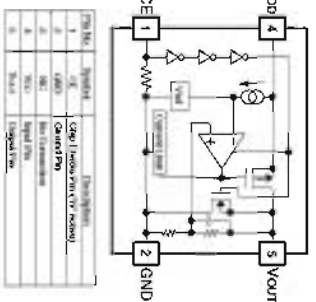
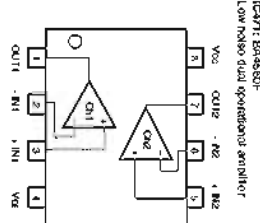
Table with 2 columns: Component, Value. It lists various electronic components and their specified values.

Table with 2 columns: Component, Value. It lists various electronic components and their specified values.

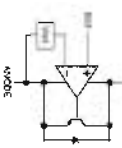
- Details of colored lines
- Red / Full line: Power supply (+)
  - Red dashed line: Power supply (-)
  - Yellow: Signal
  - Green: Protection deflected
  - Brown: Protection deflected
  - Blue: Panel key input

\* All voltages are measured with a 10k  $\Omega$  or DC electronic voltmeter.  
\* Components having special characteristics are marked with a star, and must be replaced with parts having special characteristics equal to those originally installed.  
\* Schematic diagrams are subject to change without notice.

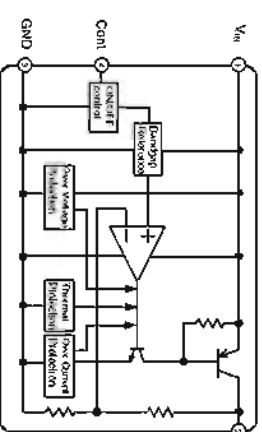
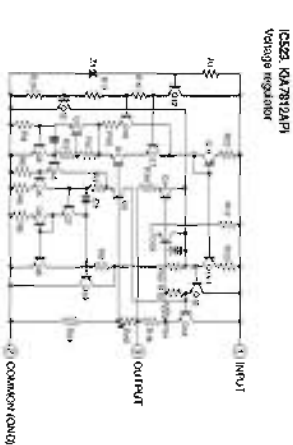
Table with 4 columns: Item, Value, Unit, and Remarks. It provides detailed specifications for various components and their tolerances.





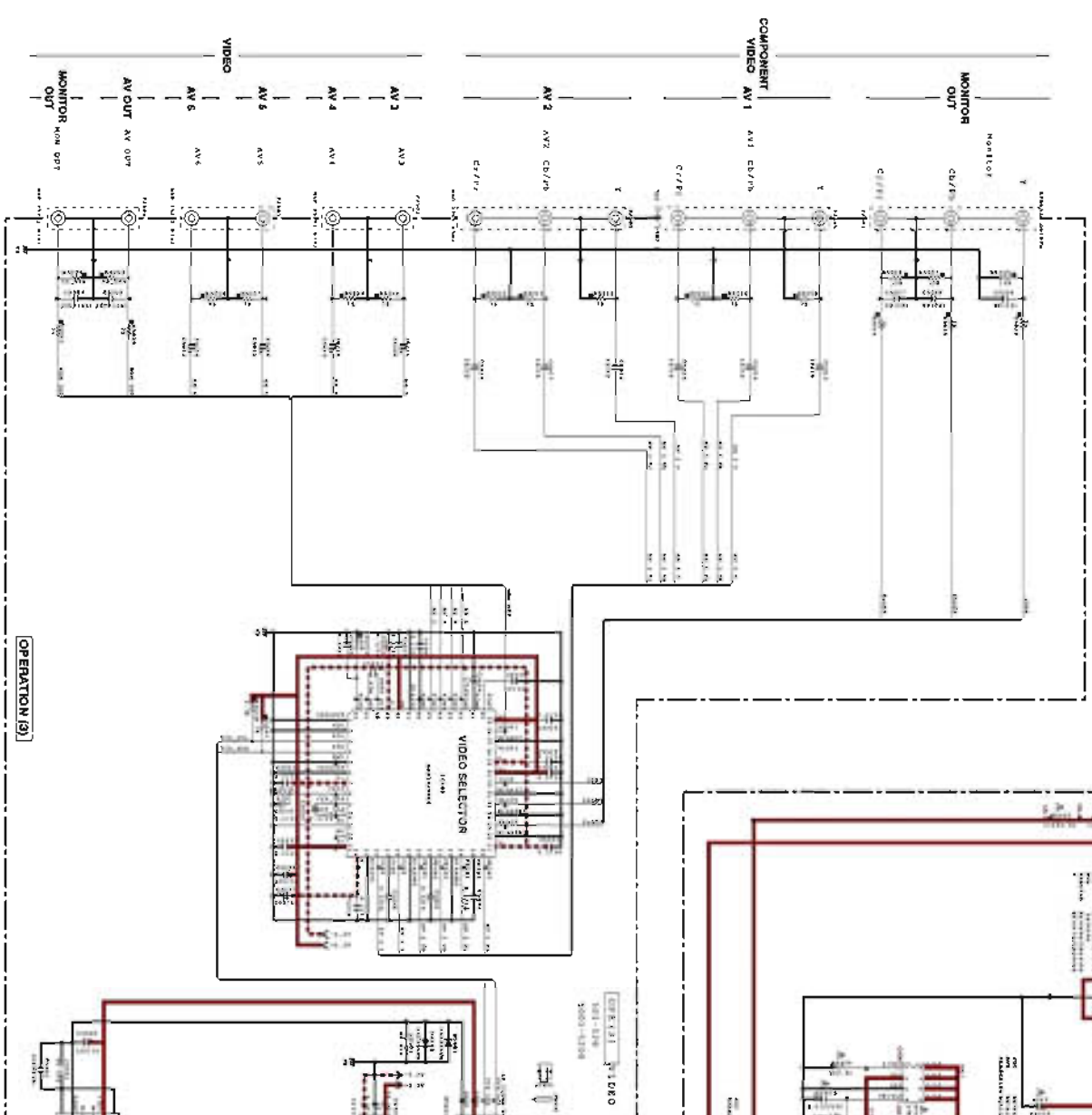
[illegible]

1. Anode  
2. Cathode  
3. Barrier  
4. Collector

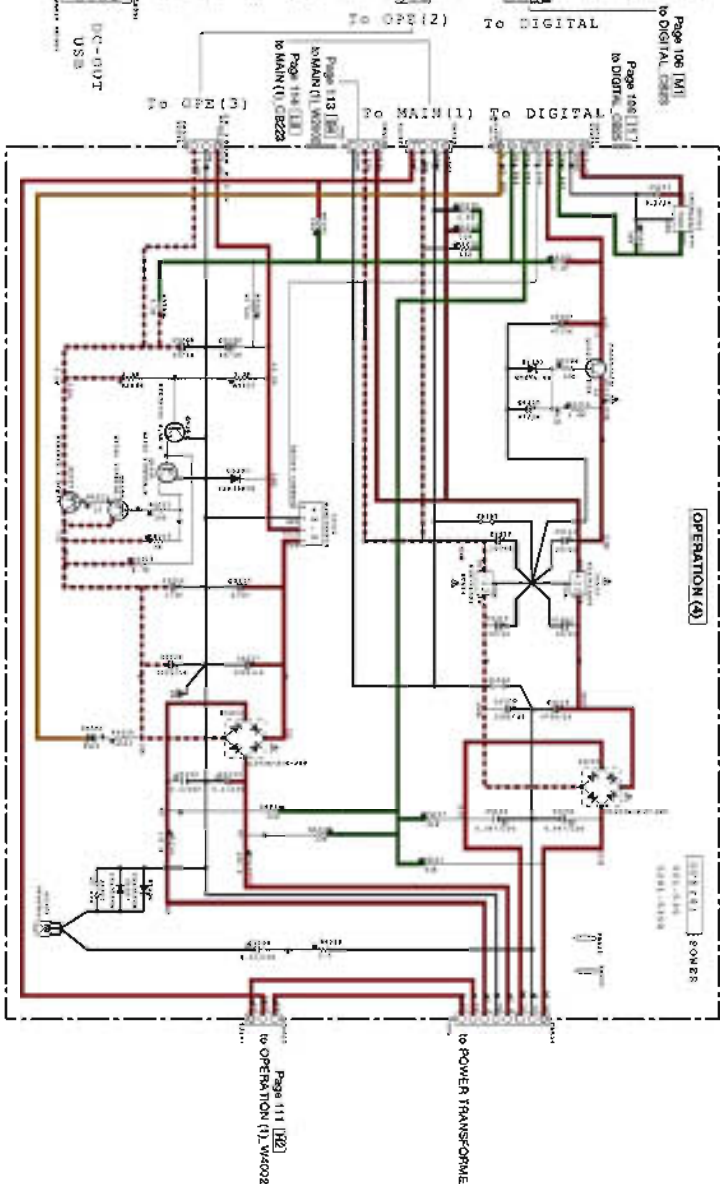


- Some of the main parts of the process are:
  - **Identify the problem** – What is the problem?
  - **Define the problem** – What is the problem?
  - **Identify the causes** – What are the causes of the problem?
  - **Identify the effects** – What are the effects of the problem?
  - **Identify the stakeholders** – Who are the stakeholders?
  - **Identify the resources** – What resources are available?
  - **Identify the constraints** – What are the constraints?
  - **Identify the risks** – What are the risks?
  - **Identify the opportunities** – What are the opportunities?
  - **Identify the solutions** – What are the solutions?
  - **Identify the implementation plan** – What is the implementation plan?
  - **Identify the monitoring and evaluation plan** – What is the monitoring and evaluation plan?
  - **Identify the communication plan** – What is the communication plan?
  - **Identify the reporting plan** – What is the reporting plan?
  - **Identify the feedback plan** – What is the feedback plan?
  - **Identify the exit plan** – What is the exit plan?

・この製品は、日本ではまだ行われていない。海外では、調剤師の指導のもと、患者さんご自身の責任で行っている。下投のコンドームは、妊娠を予防し、しかも性病を防ぐ。最近では、日本でもお見舞い。海外では、使用期間が、50、70、90、120日と、4つのコンドームのタイプがあり、選べる。海外では、使用期間が、50、70、90、120日と、4つのコンドームのタイプがあり、選べる。



**OPERATION (3)**



#### OPERATION (4)

$$2\text{MgO} \cdot \left[ \text{SiO}_3 \right]_n$$

| PREPARED BY | DATE | NO. |
|-------------|------|-----|
| REVIEWED BY | DATE | NO. |
| APPROVED BY | DATE | NO. |
| REVIEWED BY | DATE | NO. |
| APPROVED BY | DATE | NO. |
| REVIEWED BY | DATE | NO. |
| APPROVED BY | DATE | NO. |
| REVIEWED BY | DATE | NO. |
| APPROVED BY | DATE | NO. |
| REVIEWED BY | DATE | NO. |
| APPROVED BY | DATE | NO. |

| No. of items          |     | Diff. Score | Item                      | Mean | SD  |
|-----------------------|-----|-------------|---------------------------|------|-----|
| <input type="radio"/> | 1   | 1           | Information on the test   | 5.0  | 1.0 |
| <input type="radio"/> | 2   | 2           | Items on the test         | 5.0  | 1.0 |
| <input type="radio"/> | 3   | 3           | Clarity of items          | 5.0  | 1.0 |
| <input type="radio"/> | 4   | 4           | Order of items            | 5.0  | 1.0 |
| <input type="radio"/> | 5   | 5           | Relevance of items        | 5.0  | 1.0 |
| <input type="radio"/> | 6   | 6           | Clarity of instructions   | 5.0  | 1.0 |
| <input type="radio"/> | 7   | 7           | Relevance of instructions | 5.0  | 1.0 |
| <input type="radio"/> | 8   | 8           | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 9   | 9           | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 10  | 10          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 11  | 11          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 12  | 12          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 13  | 13          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 14  | 14          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 15  | 15          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 16  | 16          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 17  | 17          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 18  | 18          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 19  | 19          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 20  | 20          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 21  | 21          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 22  | 22          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 23  | 23          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 24  | 24          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 25  | 25          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 26  | 26          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 27  | 27          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 28  | 28          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 29  | 29          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 30  | 30          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 31  | 31          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 32  | 32          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 33  | 33          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 34  | 34          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 35  | 35          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 36  | 36          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 37  | 37          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 38  | 38          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 39  | 39          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 40  | 40          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 41  | 41          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 42  | 42          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 43  | 43          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 44  | 44          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 45  | 45          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 46  | 46          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 47  | 47          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 48  | 48          | Clarity of the test       | 5.0  | 1.0 |
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| <input type="radio"/> | 52  | 52          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 53  | 53          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 54  | 54          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 55  | 55          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 56  | 56          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 57  | 57          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 58  | 58          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 59  | 59          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 60  | 60          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 61  | 61          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 62  | 62          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 63  | 63          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 64  | 64          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 65  | 65          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 66  | 66          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 67  | 67          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 68  | 68          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 69  | 69          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 70  | 70          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 71  | 71          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 72  | 72          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 73  | 73          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 74  | 74          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 75  | 75          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 76  | 76          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 77  | 77          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 78  | 78          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 79  | 79          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 80  | 80          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 81  | 81          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 82  | 82          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 83  | 83          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 84  | 84          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 85  | 85          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 86  | 86          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 87  | 87          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 88  | 88          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 89  | 89          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 90  | 90          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 91  | 91          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 92  | 92          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 93  | 93          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 94  | 94          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 95  | 95          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 96  | 96          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 97  | 97          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 98  | 98          | Clarity of the test       | 5.0  | 1.0 |
| <input type="radio"/> | 99  | 99          | Relevance of the test     | 5.0  | 1.0 |
| <input type="radio"/> | 100 | 100         | Clarity of the test       | 5.0  | 1.0 |

|                                                                                   |                    |                   |
|-----------------------------------------------------------------------------------|--------------------|-------------------|
|  | Red / fail line    | Power supply (+)  |
|  | Red / charged line | Power supply (-)  |
|  | Orange:            | Signal detect     |
|  | Yellow:            | Clock             |
|  | Green:             | Protection detect |
|  | Brown:             | Reset signal      |
|  | Blue:              | Panel key input   |

- ★ All voltages are measured with a 10M  $\Omega$  V DC electronic voltmeter.
- ★ Components having special characteristics are marked  $\Delta$ , and must be replaced with parts having specifications equal to those originally installed.
- ★ Schematic diagram is subject to change without notice.

- 株式会社 西武百貨店 1000 万株を以て譲渡したもので、
- 2000 年 6 月 1 日、東武百貨店株式を譲渡して、1000 万株の譲渡が完了した。つまり、東武百貨店株式を譲渡して、1000 万株の譲渡が完了した。
- 2000 年 6 月 1 日、東武百貨店株式を譲渡して、1000 万株の譲渡が完了した。



## MAIN 1/3

— AV 1 — — AV 2 — — AV 3 —  
OPTICAL COAXIAL COAXIAL

— AV 4 — — AV 5 —  
5-AV 5-AV

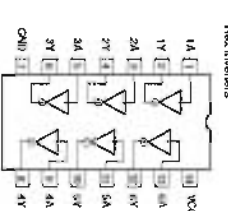
— AV 6 —  
5-AV

— AV OUT —  
5-AV

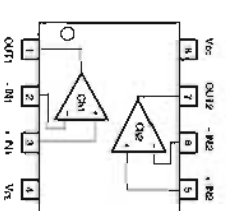
— SUBWOOFER —  
PRE OUT

LOCATION  
\* 201 - \* 220  
\* 201 - \* 2100  
TP1-200

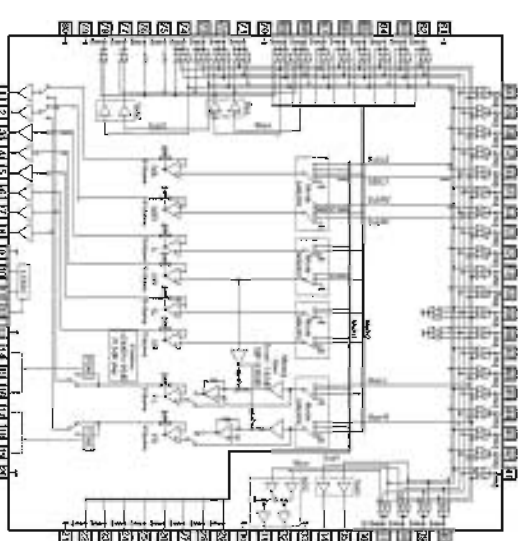
IC201: TC74VHC14UFT  
Hex inverters



IC208: BA4560F  
Low noise dual operational amplifier



IC209: BD047K52  
7.1 channel sound processor with built-in mode and input selectors



MAIN (1)

Page 115 [15]  
to MAIN (6), CS852

Page 116 [16]  
to MAIN (2), CS872

Page 117 [17]  
to MAIN (2), CS852

Page 118 [18]  
to MAIN (2), CS852

Page 119 [19]  
to MAIN (2), CS852

Page 120 [20]  
to MAIN (2), CS852

Page 121 [21]  
to MAIN (2), CS852

Page 122 [22]  
to MAIN (2), CS852

Page 123 [23]  
to MAIN (2), CS852

Page 124 [24]  
to MAIN (2), CS852

Page 125 [25]  
to MAIN (2), CS852

Page 126 [26]  
to MAIN (2), CS852

Page 127 [27]  
to MAIN (2), CS852

Page 128 [28]  
to MAIN (2), CS852

Page 129 [29]  
to MAIN (2), CS852

Page 130 [30]  
to MAIN (2), CS852

Page 131 [31]  
to MAIN (2), CS852

Page 132 [32]  
to MAIN (2), CS852

Page 133 [33]  
to MAIN (2), CS852

Page 134 [34]  
to MAIN (2), CS852

Page 135 [35]  
to MAIN (2), CS852

Page 136 [36]  
to MAIN (2), CS852

Page 137 [37]  
to MAIN (2), CS852

Page 138 [38]  
to MAIN (2), CS852

Page 139 [39]  
to MAIN (2), CS852

Page 140 [40]  
to MAIN (2), CS852

Page 141 [41]  
to MAIN (2), CS852

Page 142 [42]  
to MAIN (2), CS852

Page 143 [43]  
to MAIN (2), CS852

Page 144 [44]  
to MAIN (2), CS852

Page 145 [45]  
to MAIN (2), CS852

Page 146 [46]  
to MAIN (2), CS852

Page 147 [47]  
to MAIN (2), CS852

Page 148 [48]  
to MAIN (2), CS852

Page 149 [49]  
to MAIN (2), CS852

Page 150 [50]  
to MAIN (2), CS852

Page 151 [51]  
to MAIN (2), CS852

Page 152 [52]  
to MAIN (2), CS852

Page 153 [53]  
to MAIN (2), CS852

Page 154 [54]  
to MAIN (2), CS852

Page 155 [55]  
to MAIN (2), CS852

Page 156 [56]  
to MAIN (2), CS852

Page 157 [57]  
to MAIN (2), CS852

Page 158 [58]  
to MAIN (2), CS852

Page 159 [59]  
to MAIN (2), CS852

Page 160 [60]  
to MAIN (2), CS852

Page 161 [61]  
to MAIN (2), CS852

Page 162 [62]  
to MAIN (2), CS852

Page 163 [63]  
to MAIN (2), CS852

Page 164 [64]  
to MAIN (2), CS852

Page 165 [65]  
to MAIN (2), CS852

Page 166 [66]  
to MAIN (2), CS852

Page 167 [67]  
to MAIN (2), CS852

Page 168 [68]  
to MAIN (2), CS852

Page 169 [69]  
to MAIN (2), CS852

Page 170 [70]  
to MAIN (2), CS852

Page 171 [71]  
to MAIN (2), CS852

Page 172 [72]  
to MAIN (2), CS852

Page 173 [73]  
to MAIN (2), CS852

Page 174 [74]  
to MAIN (2), CS852

Page 175 [75]  
to MAIN (2), CS852

Page 176 [76]  
to MAIN (2), CS852

Page 177 [77]  
to MAIN (2), CS852

Page 178 [78]  
to MAIN (2), CS852

Page 179 [79]  
to MAIN (2), CS852

Page 180 [80]  
to MAIN (2), CS852

Page 181 [81]  
to MAIN (2), CS852

Page 182 [82]  
to MAIN (2), CS852

Page 183 [83]  
to MAIN (2), CS852

Page 184 [84]  
to MAIN (2), CS852

Page 185 [85]  
to MAIN (2), CS852

Page 186 [86]  
to MAIN (2), CS852

Page 187 [87]  
to MAIN (2), CS852

Page 188 [88]  
to MAIN (2), CS852

Page 189 [89]  
to MAIN (2), CS852

Page 190 [90]  
to MAIN (2), CS852

Page 191 [91]  
to MAIN (2), CS852

Page 192 [92]  
to MAIN (2), CS852

Page 193 [93]  
to MAIN (2), CS852

Page 194 [94]  
to MAIN (2), CS852

Page 195 [95]  
to MAIN (2), CS852

Page 196 [96]  
to MAIN (2), CS852

Page 197 [97]  
to MAIN (2), CS852

Page 198 [98]  
to MAIN (2), CS852

Page 199 [99]  
to MAIN (2), CS852

Page 200 [100]  
to MAIN (2), CS852

Page 201 [101]  
to MAIN (2), CS852

Page 202 [102]  
to MAIN (2), CS852

Page 203 [103]  
to MAIN (2), CS852

Page 204 [104]  
to MAIN (2), CS852

Page 205 [105]  
to MAIN (2), CS852

Page 206 [106]  
to MAIN (2), CS852

Page 207 [107]  
to MAIN (2), CS852

Page 208 [108]  
to MAIN (2), CS852

Page 209 [109]  
to MAIN (2), CS852

Page 210 [110]  
to MAIN (2), CS852

Page 211 [111]  
to MAIN (2), CS852

Page 212 [112]  
to MAIN (2), CS852

Page 213 [113]  
to MAIN (2), CS852

Page 214 [114]  
to MAIN (2), CS852

Page 215 [115]  
to MAIN (2), CS852

Page 216 [116]  
to MAIN (2), CS852

Page 217 [117]  
to MAIN (2), CS852

Page 218 [118]  
to MAIN (2), CS852

Page 219 [119]  
to MAIN (2), CS852

Page 220 [120]  
to MAIN (2), CS852

Page 221 [121]  
to MAIN (2), CS852

Page 222 [122]  
to MAIN (2), CS852

Page 223 [123]  
to MAIN (2), CS852

Page 224 [124]  
to MAIN (2), CS852

Page 225 [125]  
to MAIN (2), CS852

Page 226 [126]  
to MAIN (2), CS852

Page 227 [127]  
to MAIN (2), CS852

Page 228 [128]  
to MAIN (2), CS852

Page 229 [129]  
to MAIN (2), CS852

Page 230 [130]  
to MAIN (2), CS852

Page 231 [131]  
to MAIN (2), CS852

Page 232 [132]  
to MAIN (2), CS852

Page 233 [133]  
to MAIN (2), CS852

Page 234 [134]  
to MAIN (2), CS852

Page 235 [135]  
to MAIN (2), CS852

Page 236 [136]  
to MAIN (2), CS852

Page 237 [137]  
to MAIN (2), CS852

Page 238 [138]  
to MAIN (2), CS852

Page 239 [139]  
to MAIN (2), CS852

Page 240 [140]  
to MAIN (2), CS852

Page 241 [141]  
to MAIN (2), CS852

Page 242 [142]  
to MAIN (2), CS852

Page 243 [143]  
to MAIN (2), CS852

Page 244 [144]  
to MAIN (2), CS852

Page 245 [145]  
to MAIN (2), CS852

Page 246 [146]  
to MAIN (2), CS852

Page 247 [147]  
to MAIN (2), CS852

Page 248 [148]  
to MAIN (2), CS852

Page 249 [149]  
to MAIN (2), CS852

Page 250 [150]  
to MAIN (2), CS852

Page 251 [151]  
to MAIN (2), CS852

Page 252 [152]  
to MAIN (2), CS852

Page 253 [153]  
to MAIN (2), CS852

Page 254 [154]  
to MAIN (2), CS852

Page 255 [155]  
to MAIN (2), CS852

Page 256 [156]  
to MAIN (2), CS852

Page 257 [157]  
to MAIN (2), CS852

Page 258 [158]  
to MAIN (2), CS852

Page 259 [159]  
to MAIN (2), CS852

Page 260 [160]  
to MAIN (2), CS852

Page 261 [161]  
to MAIN (2), CS852

Page 262 [162]  
to MAIN (2), CS852

Page 263 [163]  
to MAIN (2), CS852

Page 264 [164]  
to MAIN (2), CS852

Page 265 [165]  
to MAIN (2), CS852

Page 266 [166]  
to MAIN (2), CS852

Page 267 [167]  
to MAIN (2), CS852

Page 268 [168]  
to MAIN (2), CS852

Page 269 [169]  
to MAIN (2), CS852

Page 270 [170]  
to MAIN (2), CS852

Page 271 [171]  
to MAIN (2), CS852

Page 272 [172]  
to MAIN (2), CS852

Page 273 [173]  
to MAIN (2), CS852

Page 274 [174]  
to MAIN (2), CS852

Page 275 [175]  
to MAIN (2), CS852

Page 276 [176]  
to MAIN (2), CS852

Page 277 [177]  
to MAIN (2), CS852

Page 278 [178]  
to MAIN (2), CS852

Page 279 [179]  
to MAIN (2), CS852

Page 280 [180]  
to MAIN (2), CS852

Page 281 [181]  
to MAIN (2), CS852

Page 282 [182]  
to MAIN (2), CS852

Page 283 [183]  
to MAIN (2), CS852

Page 284 [184]  
to MAIN (2), CS852

Page 285 [185]  
to MAIN (2), CS852

Page 286 [186]  
to MAIN (2), CS852

Page 287 [187]  
to MAIN (2), CS852

Page 288 [188]  
to MAIN (2), CS852

Page 289 [189]  
to MAIN (2), CS852

Page 290 [190]  
to MAIN (2), CS852

Page 291 [191]  
to MAIN (2), CS852

Page 292 [192]  
to MAIN (2), CS852

Page 293 [193]  
to MAIN (2), CS852

Page 294 [194]  
to MAIN (2), CS852

Page 295 [195]  
to MAIN (2), CS852

Page 296 [196]  
to MAIN (2), CS852

Page 297 [197]  
to MAIN (2), CS852

Page 298 [198]  
to MAIN (2), CS852

Page 299 [199]  
to MAIN (2), CS852

Page 300 [200]  
to MAIN (2), CS852

Page 301 [201]  
to MAIN (2), CS852

Page 302 [202]  
to MAIN (2), CS852

Page 303 [203]  
to MAIN (2), CS852

Page 304 [204]  
to MAIN (2), CS852

Page 305 [205]  
to MAIN (2), CS852

Page 306 [206]  
to MAIN (2), CS852

Page 307 [207]  
to MAIN (2), CS852

Page 308 [208]  
to MAIN (2), CS852

Page 309 [209]  
to MAIN (2), CS852

Page 310 [210]  
to MAIN (2), CS852

Page 311 [211]  
to MAIN (2), CS852

Page 312 [212]  
to MAIN (2), CS852

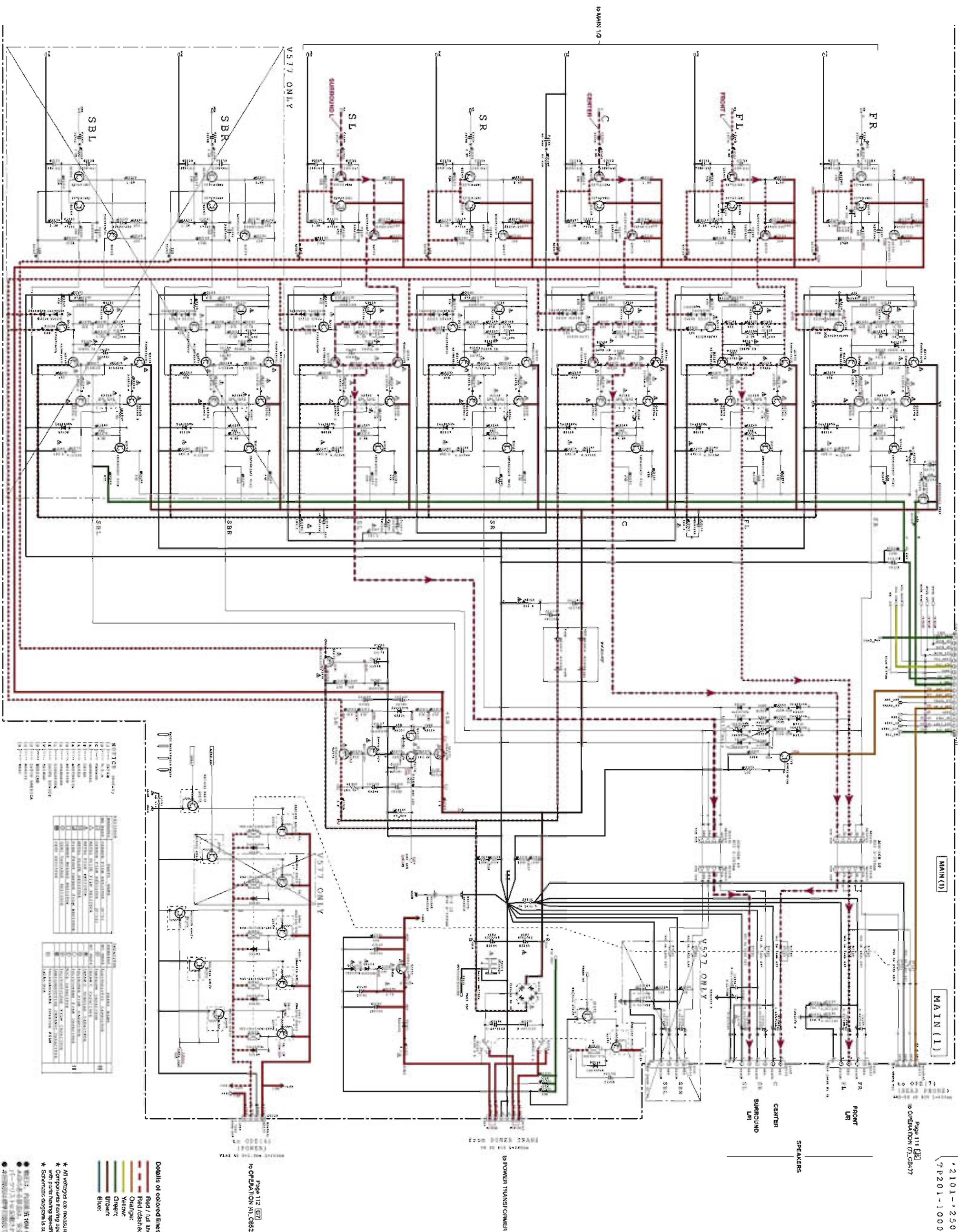
Page 313 [213]  
to MAIN (2), CS852

Page 314 [214]  
to MAIN (2), CS852

Page 315 [215]  
to



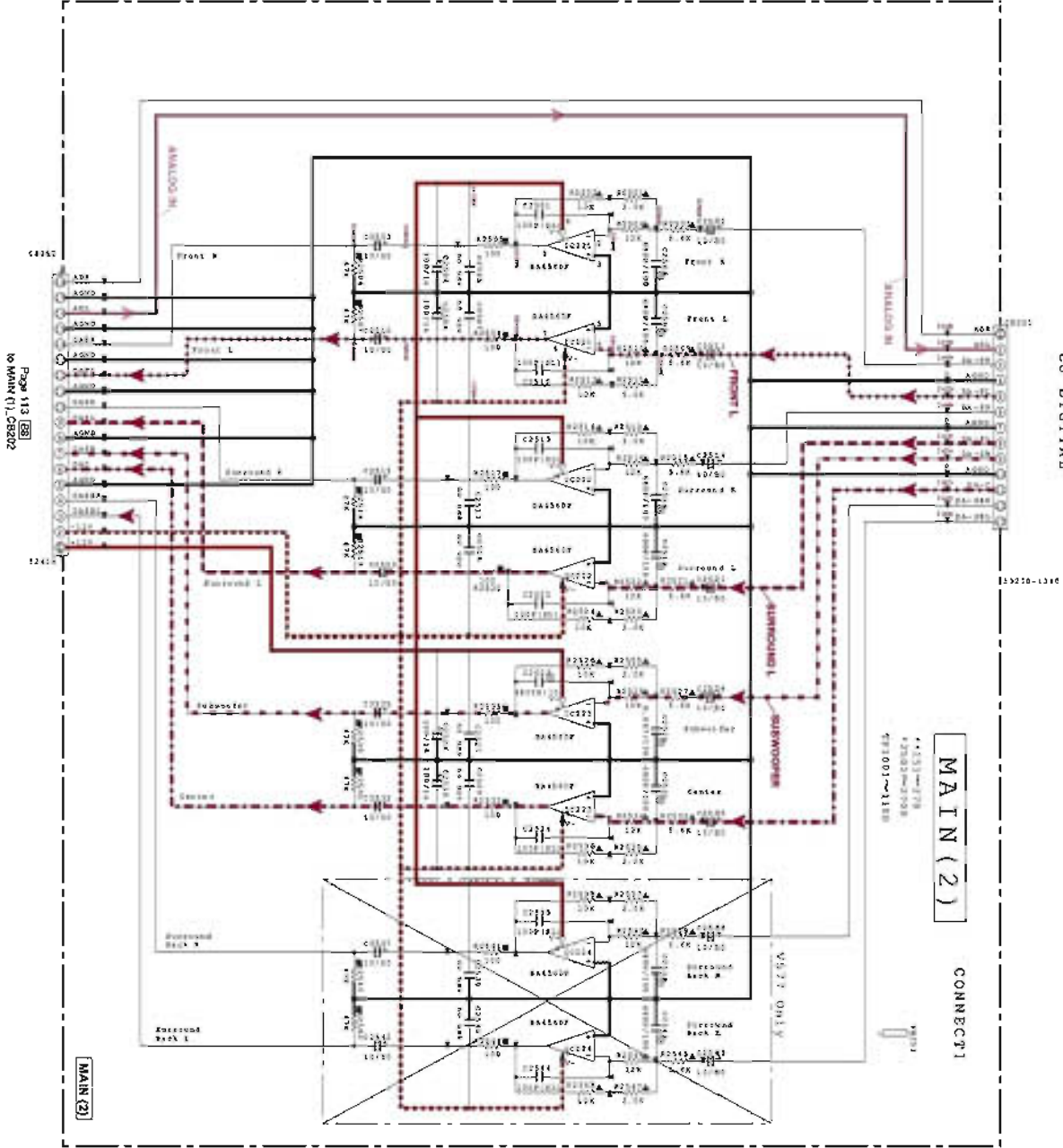
Location  
44221-11250  
2101-12500  
7P201-1000





MAIN 3/3

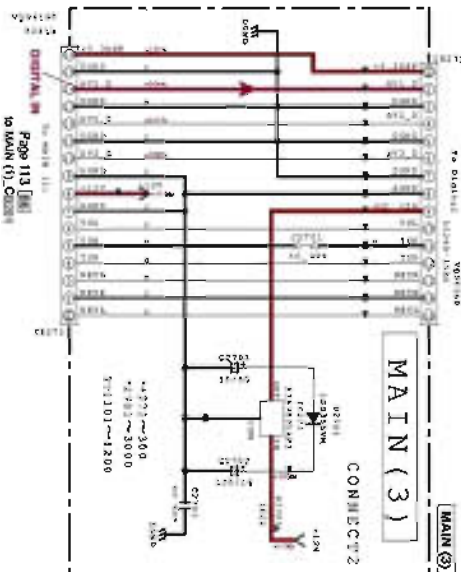
Page 108 [R]  
to DIGITAL C883  
to DIGITAL C882



MAIN (2)

CONNECT 1

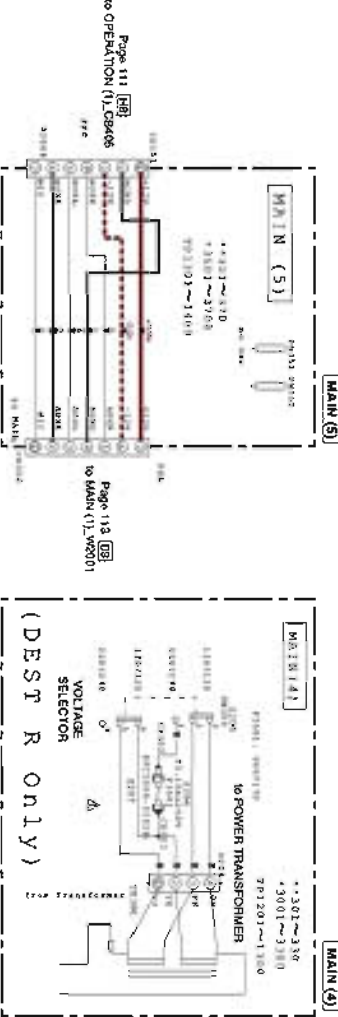
10001~1100



MAIN (3)

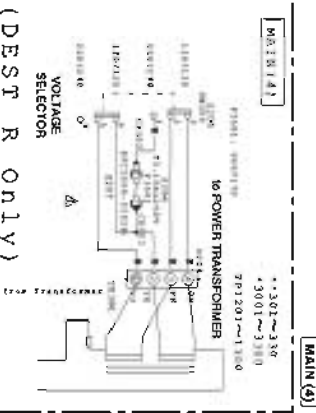
CONNECT 2

10001~1200



MAIN (5)

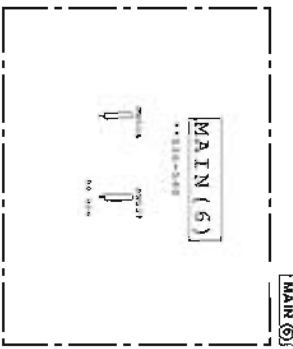
CONNECT 3



MAIN (4)

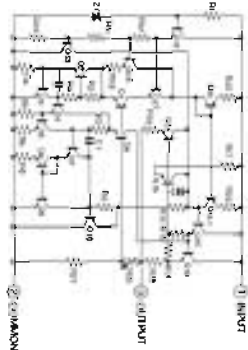
CONNECT 4

(DEST R only)

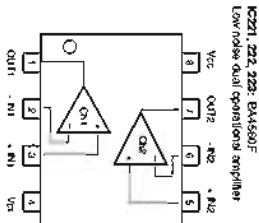


MAIN (6)

| NO. | ITEM     | QTY | UNIT | REMARKS |
|-----|----------|-----|------|---------|
| 1   | RESISTOR | 1   | PC   | 100K    |
| 2   | RESISTOR | 1   | PC   | 100K    |
| 3   | RESISTOR | 1   | PC   | 100K    |
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| 98  | RESISTOR | 1   | PC   | 100K    |
| 99  | RESISTOR | 1   | PC   | 100K    |
| 100 | RESISTOR | 1   | PC   | 100K    |



IC271: V477MTR-4067  
Voltage regulator



IC271: V477MTR-4067  
Voltage regulator

Details of colored lines  
Red / full line: Power supply (+)  
Red / dashed line: Power supply (-)  
Green: Signal  
Yellow: Signal  
Blue: Signal  
Brown: Signal  
Black: Signal

\* All voltages are measured with a 10k  $\Omega$  DC electronic voltmeter.  
\* Components having special characteristics are marked with a star and must be replaced with parts having special characteristics equal to those originally specified.  
\* Schematic diagram is subject to change without notice.

● 電圧は、10k $\Omega$ の直流電圧計で測定した値を示す。  
● 特殊な特性を有する部品は、星印を付し、必ず同等の特性を有する部品で交換する。  
● 回路図は、予告なく変更される可能性がある。

## ■ REPLACEMENT PARTS LIST

### • ELECTRICAL COMPONENT PARTS

#### WARNING

- Components having special characteristics are marked  $\Delta$  and must be replaced with parts having specifications equal to those originally installed.
- $\Delta$ 印のある部分は、安全確保部品を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- 部品価格ランクは、予告なく変更することがあります。

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

|             |                                  |              |                                               |
|-------------|----------------------------------|--------------|-----------------------------------------------|
| C.A.EL.CHP  | : CHIP ALUMI.ELECTROLYTIC CAP    | LED.CHP      | : CHIP LED                                    |
| C.CE        | : CERAMIC CAP                    | LED.DSPLY    | : LED DISPLAY                                 |
| C.CE.ARRAY  | : CERAMIC CAP ARRAY              | LED.INFRD    | : LED,INFRARED                                |
| C.CE.CHP    | : CHIP 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            | PHOT.TR      | : PHOTO TRANSISTOR                            |
| C.CE.SMI    | : SEMI CONDUCTIVE CERAMIC CAP    | PIN.TEST     | : PIN,TEST POINT                              |
| C.EL        | : ELECTROLYTIC CAP               | PTC.THERM    | : POSITIVE TEMPERATURE COEFFICIENT THERMISTOR |
| C.EL.BP     | : BIPOLAR ELECTROLYTIC CAP       | R.ANTI.SURGE | : FIXED ANTI SURGE RESISTOR                   |
| C.EL.CHP    | : CHIP 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 POLYESTER FILM CAP  | R.CAR.FP     | : FLAME PROOF CARBON RESISTOR                 |
| C.MYLAR     | : MYLAR FILM CAP                 | R.CEMENT     | : CEMENT RESISTOR                             |
| C.MYLAR.ML  | : MULTILAYER MYLAR FILM CAP      | R.CHP        | : CHIP RESISTOR                               |
| C.NIOB.OXD  | : NIOBIUM OXIDE CAP              | R.FUS        | : FUSIBLE RESISTOR                            |
| C.PAPER     | : PAPER CAPACITOR                | R.MTL.CHP    | : CHIP METAL FILM RESISTOR                    |
| C.PLS       | : POLYSTYRENE FILM CAP           | R.MTL.FLM    | : METAL FILM RESISTOR                         |
| C.POL       | : POLYESTER FILM CAP             | R.MTL.OXD    | : METAL OXIDE FILM RESISTOR                   |
| C.PP        | : POLYPROPYLENE FILM CAP         | R.MTL.PLAT   | : METAL PLATE RESISTOR                        |
| C.PP.CHP    | : CHIP POLYPROPYLENE FILM CAP    | RSNR.CE      | : CERAMIC RESONATOR                           |
| C.TNTL      | : TANTALIUM CAP                  | RSNR.CRYS    | : CRYSTAL RESONATOR                           |
| C.TNTL.CHP  | : CHIP TANTALIUM CAP             | SCR.BND.HD   | : BIND HEAD B-TIGHT SCREW                     |
| C.TRIM      | : TRIMMER CAP                    | SCR.TERM     | : SCREW TERMINAL                              |
| CN          | : CONNECTOR                      | SCR.TR       | : SCREW,TRANSISTOR                            |
| CN.BS.PIN   | : CONNECTOR,BASE PIN             | SURG.PRTCT   | : SURGE PROTECTOR                             |
| CN.CANNON   | : CONNECTOR,CANNON               | SUPRT.PCB    | : P.C.B. SUPPORT                              |
| CN.DIN      | : CONNECTOR,DIN                  | SW.LEVER     | : LEVER SWITCH                                |
| CN.FLAT     | : CONNECTOR,FLAT CABLE           | SW.MICRO     | : MICRO SWITCH                                |
| CN.FFC      | : CONNECTOR,FLEXIBLE FLAT CABLE  | SW.LEAF      | : LEAF SWITCH                                 |
| CN.HDMI     | : HDMI CONNECTOR                 | SW.PUSH      | : PUSH SWITCH                                 |
| CN.PHOTO.R  | : PHOTO FIBER SENSOR,RECEIVED    | SW.RT        | : ROTARY SWITCH                               |
| CN.PHOTO.T  | : PHOTO FIBER SENSOR,TRANSMITTED | SW.RT.ENC    | : ROTARY ENCODER                              |
| D.SCHOTTKY  | : SCHOTTKY BARRIER DIODE         | SW.RT.MTR    | : ROTARY SWITCH WITH MOTOR                    |
| DIODE.ARRAY | : DIODE ARRAY                    | SW.SLIDE     | : SLIDE SWITCH                                |
| DIODE.BRG   | : DIODE BRIDGE                   | SW.TACT      | : TACT SWITCH                                 |
| DIODE.CHP   | : CHIP DIODE                     | TERM.SP      | : SPEAKER TERMINAL                            |
| DIODE.VAR   | : VARACTOR DIODE                 | TERM.WRAP    | : WRAPPING TERMINAL                           |
| DIODE.ZENR  | : ZENER DIODE                    | THRMST.CHP   | : CHIP THERMISTOR                             |
| DIODE.Z.CHP | : CHIP ZENER DIODE               | TR           | : TRANSISTOR                                  |
| DIODE.PHOT  | : PHOTO DIODE                    | TR.CHP       | : CHIP TRANSISTOR                             |
| FER.BEAD    | : FERRITE BEADS                  | TR.DGT       | : DIGITAL TRANSISTOR                          |
| FER.CORE    | : FERRITE CORE                   | TR.DGT.CHP   | : CHIP DIGITAL TRANSISTOR                     |
| FET.CHP     | : CHIP FET                       | TR.PAIR      | : PAIR TRANSISTOR                             |
| FL.DSPLY    | : FLUORESCENT DISPLAY            | TRANS        | : TRANSFORMER                                 |
| FLTR.CE     | : CERAMIC FILTER                 | TRANS.PULS   | : PULSE TRANSFORMER                           |
| FLTR.COMB   | : COMB FILTER MODULE             | TRANS.PWR    | : POWER TRANSFORMER                           |
| FLTR.LC.RF  | : LC FILTER,EMI                  | VARISTOR.C   | : CHIP VARISTOR                               |
| FUSE.CHP    | : CHIP FUSE                      | VOLT.SELCT   | : VOLTAGE SELECTOR                            |
| GND.MTL     | : GROUND PLATE                   | VR           | : ROTARY POTENTIOMETER                        |
| GND.TERM    | : GROUND TERMINAL                | VR.MTR       | : POTENTIOMETER WITH MOTOR                    |
| JUMPER.CN   | : JUMPER CONNECTOR               | VR.SLIDE     | : SLIDE POTENTIOMETER                         |
| JUMPER.TST  | : JUMPER,TEST POINT              | VR.SW        | : POTENTIOMETER WITH SWITCH                   |
| L.DTCT      | : LIGHT DETECTING MODULE         | VR.TRIM      | : TRIMMER POTENTIOMETER                       |

## DIGITAL

| Ref No.  | Part No. | Description | Remarks      | Markets    | 部品名                 |
|----------|----------|-------------|--------------|------------|---------------------|
| *        | ZK108900 | P. C. B.    | DIGITAL      | JUCRTL VSH | P C B D I G I T A L |
| *        | ZK109000 | P. C. B.    | DIGITAL      | KABGF      | P C B D I G I T A L |
| CB1-7    | ZD534300 | CN. HDMI    | 19P SE       |            | HDMI コネクター          |
| CB21     | VQ044700 | CN. BS. PIN | 16P          |            | コネクター               |
| CB22     | VF982300 | CN. BS. PIN | 17P          |            | コネクター               |
| CB23     | VB858300 | CN. BS. PIN | 4P           |            | コネクター               |
| CB25     | VK026700 | CN. BS. PIN | 8P           |            | コネクター               |
| CB26     | VQ044400 | CN. BS. PIN | 9P           |            | コネクター               |
| CB29     | VB389900 | CN. BS. PIN | 3P           |            | コネクター               |
| CB62     | VQ961800 | CN. BS. PIN | 15P          |            | コネクター               |
| CB63     | VQ961600 | HOUSING     | 13P          |            | ハウジング               |
| CB952    | ZF286600 | CN. LAN     | 8P HR903125C |            | モジュラーコネクター          |
| CB953    | VB858600 | CN. BS. PIN | 7P           |            | コネクター               |
| CB954    | LB919040 | CN. BS. PIN | 4P           |            | コネクター               |
| CB955    | VB858500 | CN. BS. PIN | 6P           |            | コネクター               |
| C1-4     | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C5-8     | WD758300 | C. CE. CHP  | 10uF 10V     |            | チップセラコン             |
| C9-16    | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C17      | US126100 | C. CE. CHP  | 1uF 10V      |            | チップセラコン             |
| C18-19   | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C20      | US663100 | C. CE. CHP  | 1000pF 50V   |            | チップセラコン             |
| C21      | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C22-24   | US663100 | C. CE. CHP  | 1000pF 50V   |            | チップセラコン             |
| C26-32   | US663100 | C. CE. CHP  | 1000pF 50V   |            | チップセラコン             |
| C33-34   | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C35-36   | WD758300 | C. CE. CHP  | 10uF 10V     |            | チップセラコン             |
| C37-42   | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C43-44   | US663100 | C. CE. CHP  | 1000pF 50V   |            | チップセラコン             |
| C45      | US662100 | C. CE. CHP  | 100pF 50V    |            | チップセラコン             |
| C46-47   | US663100 | C. CE. CHP  | 1000pF 50V   |            | チップセラコン             |
| C48      | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C49-50   | US663100 | C. CE. CHP  | 1000pF 50V   |            | チップセラコン             |
| C51-55   | WD758300 | C. CE. CHP  | 10uF 10V     |            | チップセラコン             |
| C56      | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C57      | US663100 | C. CE. CHP  | 1000pF 50V   |            | チップセラコン             |
| C58      | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C59      | US660800 | C. CE. CHP  | 8pF 50V      |            | チップセラコン             |
| C60      | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C61      | US663100 | C. CE. CHP  | 1000pF 50V   |            | チップセラコン             |
| C62      | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C63      | US663100 | C. CE. CHP  | 1000pF 50V   |            | チップセラコン             |
| C64      | US660800 | C. CE. CHP  | 8pF 50V      |            | チップセラコン             |
| C66      | WD758300 | C. CE. CHP  | 10uF 10V     |            | チップセラコン             |
| C84      | US126100 | C. CE. CHP  | 1uF 10V      |            | チップセラコン             |
| C86      | US126100 | C. CE. CHP  | 1uF 10V      |            | チップセラコン             |
| C93      | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C101     | UF138220 | C. EL. CHP  | 220uF 16V    |            | チップケミコン             |
| C214-216 | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C217     | US634150 | C. CE. CHP  | 0.015uF 16V  |            | チップセラコン             |
| C218     | US634100 | C. CE. CHP  | 0.01uF 16V   |            | チップセラコン             |
| C219     | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C220     | US634100 | C. CE. CHP  | 0.01uF 16V   |            | チップセラコン             |
| C221     | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C224-232 | US634100 | C. CE. CHP  | 0.01uF 16V   |            | チップセラコン             |
| C234     | US634100 | C. CE. CHP  | 0.01uF 16V   |            | チップセラコン             |
| C245     | UF038100 | C. EL. CHP  | 100uF 16V    |            | チップケミコン             |
| C246-248 | US625100 | C. CE. CHP  | 0.1uF 10V    |            | チップセラコン             |
| C255     | US634100 | C. CE. CHP  | 0.01uF 16V   |            | チップセラコン             |
| C256     | US662100 | C. CE. CHP  | 100pF 50V    |            | チップセラコン             |
| C258-260 | US046100 | C. CE. CHP  | 1uF 25V      |            | チップセラコン             |

\* New Parts / 新規部品

## DIGITAL

| Ref No.  | Part No. | Description            | Remarks | Markets | 部品名     |
|----------|----------|------------------------|---------|---------|---------|
| C261     | US662100 | C. CE. CHP 100pF 50V   |         |         | チップセラコン |
| C264     | US662100 | C. CE. CHP 100pF 50V   |         |         | チップセラコン |
| C265     | US663100 | C. CE. CHP 1000pF 50V  |         |         | チップセラコン |
| C272     | WD758300 | C. CE. CHP 10uF 10V    |         |         | チップセラコン |
| C278-281 | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C282     | WD758300 | C. CE. CHP 10uF 10V    |         |         | チップセラコン |
| C301-302 | UF027330 | C. EL. CHP 33uF 10V    |         |         | チップケミコン |
| C402     | US663100 | C. CE. CHP 1000pF 50V  |         |         | チップセラコン |
| C403     | US662470 | C. CE. CHP 470pF 50V   |         |         | チップセラコン |
| C404-405 | US661180 | C. CE. CHP 18pF 50V    |         |         | チップセラコン |
| C406     | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C407     | US634100 | C. CE. CHP 0.01uF 16V  |         |         | チップセラコン |
| C408-417 | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C422-429 | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C431-436 | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C438     | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C440-442 | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C446-459 | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C460-463 | WD758300 | C. CE. CHP 10uF 10V    |         |         | チップセラコン |
| C464-468 | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C469     | WD758300 | C. CE. CHP 10uF 10V    |         |         | チップセラコン |
| C470-471 | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C601-602 | US663100 | C. CE. CHP 1000pF 50V  |         |         | チップセラコン |
| C606     | US662100 | C. CE. CHP 100pF 50V   |         |         | チップセラコン |
| C607     | WD758300 | C. CE. CHP 10uF 10V    |         |         | チップセラコン |
| C608     | US046100 | C. CE. CHP 1uF 25V     |         |         | チップセラコン |
| C611     | US634100 | C. CE. CHP 0.01uF 16V  |         |         | チップセラコン |
| C613     | US661120 | C. CE. CHP 12pF 50V    |         |         | チップセラコン |
| C614     | US661150 | C. CE. CHP 15pF 50V    |         |         | チップセラコン |
| C617     | US046100 | C. CE. CHP 1uF 25V     |         |         | チップセラコン |
| C618     | US634100 | C. CE. CHP 0.01uF 16V  |         |         | チップセラコン |
| C619     | US046100 | C. CE. CHP 1uF 25V     |         |         | チップセラコン |
| C620     | US634100 | C. CE. CHP 0.01uF 16V  |         |         | チップセラコン |
| C621     | UB214680 | C. CE. CHP 0.068uF 25V |         |         | チップセラコン |
| C622     | US643470 | C. CE. CHP 4700pF 25V  |         |         | チップセラコン |
| C624     | WD758300 | C. CE. CHP 10uF 10V    |         |         | チップセラコン |
| C625     | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C627     | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C628     | WD758300 | C. CE. CHP 10uF 10V    |         |         | チップセラコン |
| C629     | US634100 | C. CE. CHP 0.01uF 16V  |         |         | チップセラコン |
| C632     | WD758300 | C. CE. CHP 10uF 10V    |         |         | チップセラコン |
| C633     | US634100 | C. CE. CHP 0.01uF 16V  |         |         | チップセラコン |
| C636     | US046100 | C. CE. CHP 1uF 25V     |         |         | チップセラコン |
| C651-652 | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C662-669 | US662100 | C. CE. CHP 100pF 50V   |         |         | チップセラコン |
| C673-674 | US663100 | C. CE. CHP 1000pF 50V  |         |         | チップセラコン |
| C676     | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C687     | US663100 | C. CE. CHP 1000pF 50V  |         |         | チップセラコン |
| C688     | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C702-703 | UF437100 | C. EL. CHP 10uF 16V    |         |         | チップケミコン |
| C804     | WD758300 | C. CE. CHP 10uF 10V    |         |         | チップセラコン |
| C805     | US634100 | C. CE. CHP 0.01uF 16V  |         |         | チップセラコン |
| C807     | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C808     | US663100 | C. CE. CHP 1000pF 50V  |         |         | チップセラコン |
| C809     | US634220 | C. CE. CHP 0.022uF 16V |         |         | チップセラコン |
| C810     | US663390 | C. CE. CHP 3900pF 50V  |         |         | チップセラコン |
| C811     | US663100 | C. CE. CHP 1000pF 50V  |         |         | チップセラコン |
| C813     | WJ344400 | C. CE. CHP 22uF 6.3V   |         |         | チップセラコン |
| C814     | US625100 | C. CE. CHP 0.1uF 10V   |         |         | チップセラコン |
| C815-816 | WD758300 | C. CE. CHP 10uF 10V    |         |         | チップセラコン |

\* New Parts / 新規部品

## DIGITAL

| Ref No.    | Part No. | Description             | Remarks | Markets | 部品名     |
|------------|----------|-------------------------|---------|---------|---------|
| C817-818   | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C819       | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C820       | US663330 | C. CE. CHP 3300pF 50V   |         |         | チップセラコン |
| C821       | WD758300 | C. CE. CHP 10uF 10V     |         |         | チップセラコン |
| C822       | US663390 | C. CE. CHP 3900pF 50V   |         |         | チップセラコン |
| C823       | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C825       | WJ344400 | C. CE. CHP 22uF 6. 3V   |         |         | チップセラコン |
| C826-827   | WD758300 | C. CE. CHP 10uF 10V     |         |         | チップセラコン |
| C828       | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C829       | US126100 | C. CE. CHP 1uF 10V      |         |         | チップセラコン |
| C830-831   | US634100 | C. CE. CHP 0. 01uF 16V  |         |         | チップセラコン |
| C832       | WD758300 | C. CE. CHP 10uF 10V     |         |         | チップセラコン |
| C833-834   | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C835       | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C836       | US643680 | C. CE. CHP 6800pF 25V   |         |         | チップセラコン |
| C837       | US663390 | C. CE. CHP 3900pF 50V   |         |         | チップセラコン |
| C838       | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C841       | WJ344400 | C. CE. CHP 22uF 6. 3V   |         |         | チップセラコン |
| C842       | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C843-847   | WD758300 | C. CE. CHP 10uF 10V     |         |         | チップセラコン |
| C848       | US126100 | C. CE. CHP 1uF 10V      |         |         | チップセラコン |
| C850       | WD758300 | C. CE. CHP 10uF 10V     |         |         | チップセラコン |
| C852       | WG251600 | C. CE. CHP 4. 7uF 6. 3V |         |         | チップセラコン |
| C855       | US126100 | C. CE. CHP 1uF 10V      |         |         | チップセラコン |
| C859       | WG251600 | C. CE. CHP 4. 7uF 6. 3V |         |         | チップセラコン |
| C861       | UF138220 | C. EL. CHP 220uF 16V    |         |         | チップケミコン |
| C862       | UF038100 | C. EL. CHP 100uF 16V    |         |         | チップケミコン |
| C9503      | UF138100 | C. EL. CHP 100uF 16V    |         |         | チップケミコン |
| C9506      | UF138100 | C. EL. CHP 100uF 16V    |         |         | チップケミコン |
| C9510-9512 | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C9513      | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C9514      | WD758300 | C. CE. CHP 10uF 10V     |         |         | チップセラコン |
| C9515      | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C9516      | WD758300 | C. CE. CHP 10uF 10V     |         |         | チップセラコン |
| C9517      | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C9518      | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C9519      | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C9520      | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C9521      | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C9522      | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C9523      | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C9524      | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C9525      | WJ344400 | C. CE. CHP 22uF 6. 3V   |         |         | チップセラコン |
| C9526      | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C9527      | WD758300 | C. CE. CHP 10uF 10V     |         |         | チップセラコン |
| C9528      | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C9529      | WD758300 | C. CE. CHP 10uF 10V     |         |         | チップセラコン |
| C9530      | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C9531      | WJ344400 | C. CE. CHP 22uF 6. 3V   |         |         | チップセラコン |
| C9532      | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C9533      | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C9534      | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C9535      | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C9536-9537 | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C9538      | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C9539-9540 | US661150 | C. CE. CHP 15pF 50V     |         |         | チップセラコン |
| C9541-9542 | US625100 | C. CE. CHP 0. 1uF 10V   |         |         | チップセラコン |
| C9543      | US663100 | C. CE. CHP 1000pF 50V   |         |         | チップセラコン |
| C9544      | WG251600 | C. CE. CHP 4. 7uF 6. 3V |         |         | チップセラコン |
| C9545      | US634100 | C. CE. CHP 0. 01uF 16V  |         |         | チップセラコン |

\* New Parts / 新規部品

## DIGITAL

| Ref No.    | Part No. | Description | Remarks               | Markets | 部品名         |
|------------|----------|-------------|-----------------------|---------|-------------|
| C9546      | WG251600 | C. CE. CHP  | 4. 7uF 6. 3V          |         | チップセラコン     |
| C9547-9548 | US634100 | C. CE. CHP  | 0. 01uF 16V           |         | チップセラコン     |
| C9549      | WG251600 | C. CE. CHP  | 4. 7uF 6. 3V          |         | チップセラコン     |
| C9551      | US625100 | C. CE. CHP  | 0. 1uF 10V            |         | チップセラコン     |
| C9552-9554 | US634100 | C. CE. CHP  | 0. 01uF 16V           |         | チップセラコン     |
| C9555      | WG251600 | C. CE. CHP  | 4. 7uF 6. 3V          |         | チップセラコン     |
| C9556-9557 | US625100 | C. CE. CHP  | 0. 1uF 10V            |         | チップセラコン     |
| C9559      | US634100 | C. CE. CHP  | 0. 01uF 16V           |         | チップセラコン     |
| C9560      | WG251600 | C. CE. CHP  | 4. 7uF 6. 3V          |         | チップセラコン     |
| C9561      | WJ344400 | C. CE. CHP  | 22uF 6. 3V            |         | チップセラコン     |
| C9562      | WG251600 | C. CE. CHP  | 4. 7uF 6. 3V          |         | チップセラコン     |
| C9563      | US634100 | C. CE. CHP  | 0. 01uF 16V           |         | チップセラコン     |
| C9564-9565 | US625100 | C. CE. CHP  | 0. 1uF 10V            |         | チップセラコン     |
| C9566      | US044220 | C. CE. CHP  | 0. 022uF 25V B        |         | チップセラコン     |
| C9567      | US625100 | C. CE. CHP  | 0. 1uF 10V            |         | チップセラコン     |
| C9571      | US625100 | C. CE. CHP  | 0. 1uF 10V            |         | チップセラコン     |
| C9574      | US625100 | C. CE. CHP  | 0. 1uF 10V            |         | チップセラコン     |
| C9578      | US634100 | C. CE. CHP  | 0. 01uF 16V           |         | チップセラコン     |
| C9580      | US663100 | C. CE. CHP  | 1000pF 50V            |         | チップセラコン     |
| C9581-9582 | US625100 | C. CE. CHP  | 0. 1uF 10V            |         | チップセラコン     |
| D2         | V2376600 | D. SCHOTTKY | RB500V-40             |         | ショットキーダイオード |
| D24        | VV220700 | D. SCHOTTKY | RB501V-40             |         | ショットキーダイオード |
| D201       | WR148500 | DIODE       | RB521S-30TE61         |         | ダイオード       |
| D202-205   | WW783900 | DIODE       | 1SS355VM              |         | ダイオード       |
| * IC2      | YG093B00 | IC. MEMORY  | W25Q16DVSS1G          | written | 書込済 I C     |
| IC3        | YE181A00 | IC          | TC7MBL3257CFK         |         | ロジック I C    |
| IC9        | X7787A00 | IC          | TC74LCX245FT (EL, K)  |         | ロジック I C    |
| IC22       | YE182A00 | IC. MEMORY  | R1EX25032ATA00A       |         | メモリ I C     |
| IC23       | YC109A00 | IC          | R3116N271A-TR-F       |         | 電源 I C      |
| IC27       | X4453A00 | IC          | SN74LVC1G17DCKR       |         | ロジック I C    |
| * IC42     | YG094B00 | IC. MEMORY  | W25Q80BVSS1G          | written | 書込済 I C     |
| IC43       | X9625C00 | IC. MEMORY  | M12L64164A-5TG2Y      |         | メモリ I C     |
| IC61       | YD216A00 | IC          | PCM9211PTR            |         | I C         |
| IC62       | X9870A00 | IC          | PCM1681PWPR           |         | I C         |
| IC71       | XY074B00 | IC          | TC74VHC125FT (EL, K)  |         | ロジック I C    |
| IC84       | YD987A00 | IC          | R1163N501B-TR-FE      |         | 電源 I C      |
| IC85       | YC289A00 | IC          | RP130Q501D-TR         |         | 電源 I C      |
| IC87-88    | X9292A00 | IC          | R1172H121D-T1-F       |         | 電源 I C      |
| IC89       | YC288A00 | IC          | RP130Q331D-TR-F       |         | 電源 I C      |
| IC90       | YA255A00 | IC          | R1172H501D-T1-F       |         | 電源 I C      |
| IC91       | YE357A00 | IC          | RP132H331D-T1-FE      |         | 電源 I C      |
| IC952      | YE488A00 | IC          | M12L2561616A-5TG2A    |         | メモリ I C     |
| * IC953    | YG095C00 | IC. MEMORY  | MX29GL256FLT21-90Q    | written | 書込済 I C     |
| Q3         | WH445000 | FET         | 3LN01C-TB-E           |         | F E T       |
| Q201-203   | WY001400 | TR. ARRAY   | HN4B01JE              |         | トランジスタアレイ   |
| Q204       | WZ461800 | TR. CHP     | 2SC4081UBTLR          |         | チップトランジスタ   |
| Q205-210   | WZ461700 | TR. CHP     | 2SA1576UBTLR          |         | チップトランジスタ   |
| * Q211     | ZK224100 | FET         | UM6K31N               |         | F E T       |
| Q801-803   | WW782000 | TR. DGT     | DTA044EUBTL           |         | デジタルトランジスタ  |
| Q804-806   | WZ703400 | FET         | RAL035P01             |         | MOS F E T   |
| R9561      | WZ749000 | R. CHP      | 12. 4K $\Omega$ 1/16W |         | チップ抵抗       |
| R9565-9568 | WZ748900 | R. CHP      | 49. 9 $\Omega$ 1/16W  |         | チップ抵抗       |
| ST61       | V4040500 | SCR. TERM   | M3                    |         | スクリューターミナル  |
| XL1        | ZA692800 | RSNR. CRYST | 27MHz DSX321G         |         | 水晶振動子       |
| XL21       | WA782500 | RSNR. CE    | 8MHz                  |         | セラミック振動子    |
| XL41       | WN318100 | RSNR. CRYST | 20MHz DSX321G         |         | 水晶振動子       |
| XL61       | WS190000 | RSNR. CRYST | 24. 576MHZ DSX321G    |         | 水晶振動子       |
| XL951      | WJ081300 | RSNR. CRYST | 24MHz DSX321G         |         | 水晶振動子       |

\* New Parts / 新規部品



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| OPERATION |
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| Ref No. | Part No.   | Description | Remarks     | Markets | 部品名           |
|---------|------------|-------------|-------------|---------|---------------|
| *       | ZK110000   | P. C. B.    | OPERATION   | J       | PCB OPERATION |
| *       | ZK110100   | P. C. B.    | OPERATION   | U       | PCB OPERATION |
| *       | ZK110200   | P. C. B.    | OPERATION   | C       | PCB OPERATION |
| *       | ZK110300   | P. C. B.    | OPERATION   | RVS     | PCB OPERATION |
| *       | ZK110400   | P. C. B.    | OPERATION   | T       | PCB OPERATION |
| *       | ZK110500   | P. C. B.    | OPERATION   | K       | PCB OPERATION |
| *       | ZK110600   | P. C. B.    | OPERATION   | A       | PCB OPERATION |
| *       | ZK110700   | P. C. B.    | OPERATION   | BGF     | PCB OPERATION |
| *       | ZK110800   | P. C. B.    | OPERATION   | LH      | PCB OPERATION |
|         | CB402      | VQ044700    | CN. BS. PIN |         | コネクター         |
|         | CB405      | VQ047100    | CN. BS. PIN |         | コネクター         |
|         | CB406      | WQ680200    | CN. USB     |         | USBコネクター      |
|         | CB477      | VB858300    | CN. BS. PIN |         | コネクター         |
| *       | CB501      | ZK096000    | CN. USB     |         | USBコネクター      |
|         | CB505      | VK024700    | CN. BS. PIN |         | コネクター         |
|         | CB522      | VK026300    | CN. BS. PIN |         | コネクター         |
|         | CB524      | LB919080    | CN. BS. PIN |         | コネクター         |
|         | CB525      | VK024700    | CN. BS. PIN |         | コネクター         |
|         | CB526      | VB858200    | CN. BS. PIN |         | コネクター         |
| △       | CB541      | VG879900    | CN. BS. PIN |         | コネクター         |
|         | CB542-543  | WN103000    | CLIP. FUSE  |         | ヒューズクリップ      |
| △       | CB544      | VG879900    | CN. BS. PIN |         | コネクター         |
|         | C4006      | US035100    | C. CE. CHP  |         | チップセラコン       |
|         | C4008      | US035100    | C. CE. CHP  |         | チップセラコン       |
|         | C4010-4011 | US061330    | C. CE. CHP  |         | チップセラコン       |
|         | C4013      | US064100    | C. CE. CHP  |         | チップセラコン       |
|         | C4015      | US064100    | C. CE. CHP  |         | チップセラコン       |
|         | C4016-4017 | US035100    | C. CE. CHP  |         | チップセラコン       |
|         | C4018-4019 | US064100    | C. CE. CHP  |         | チップセラコン       |
|         | C4020-4021 | US035100    | C. CE. CHP  |         | チップセラコン       |
|         | C4022-4023 | US062100    | C. CE. CHP  |         | チップセラコン       |
|         | C4024      | US035100    | C. CE. CHP  |         | チップセラコン       |
|         | C4025      | US062100    | C. CE. CHP  |         | チップセラコン       |
|         | C4026-4028 | WD758300    | C. CE. CHP  |         | チップセラコン       |
|         | C4029      | US035100    | C. CE. CHP  |         | チップセラコン       |
|         | C4030-4031 | WD758300    | C. CE. CHP  |         | チップセラコン       |
|         | C4032-4033 | US063680    | C. CE. CHP  |         | チップセラコン       |
|         | C4034      | WD758300    | C. CE. CHP  |         | チップセラコン       |
|         | C4035      | US063100    | C. CE. CHP  |         | チップセラコン       |
|         | C4037      | UR868220    | C. EL       |         | ケミコン          |
|         | C4038      | UM388330    | C. EL       |         | ケミコン          |
|         | C4039      | UM388100    | C. EL       |         | ケミコン          |
|         | C4041      | UM398100    | C. EL       |         | ケミコン          |
|         | C4501      | US063100    | C. CE. CHP  |         | チップセラコン       |
|         | C4502      | UM397100    | C. EL       |         | ケミコン          |
|         | C4503      | US064100    | C. CE. CHP  |         | チップセラコン       |
|         | C4504      | UM397220    | C. EL       |         | ケミコン          |
|         | C4505      | US062100    | C. CE. CHP  |         | チップセラコン       |
|         | C4506      | UM397470    | C. EL       |         | ケミコン          |
|         | C4507      | US061330    | C. CE. CHP  |         | チップセラコン       |
|         | C4510-4511 | UM397220    | C. EL       |         | ケミコン          |
|         | C4512      | UM397100    | C. EL       |         | ケミコン          |
|         | C4701-4702 | US063100    | C. CE. CHP  |         | チップセラコン       |
| *       | C4761-4762 | ZD519400    | C. MYLAR    |         | マイラーコン        |
|         | C4763      | US064100    | C. CE. CHP  |         | チップセラコン       |
|         | C4764      | US063100    | C. CE. CHP  |         | チップセラコン       |
|         | C5001      | US035100    | C. CE. CHP  |         | チップセラコン       |
|         | C5002      | US063100    | C. CE. CHP  |         | チップセラコン       |
|         | C5003-5004 | US062100    | C. CE. CHP  |         | チップセラコン       |
|         | C5005-5007 | US060800    | C. CE. CHP  |         | チップセラコン       |

\* New Parts / 新規部品

## OPERATION

| Ref No.      | Part No. | Description                   | Remarks | Markets       | 部品名        |
|--------------|----------|-------------------------------|---------|---------------|------------|
| C5008        | UR838100 | C. EL 100uF 16V               |         |               | ケミコン       |
| C5009-5012   | UR237100 | C. EL 10uF 16V                |         |               | ケミコン       |
| C5013-5018   | WD758300 | C. CE. CHP 10uF 10V           |         |               | チップセラコン    |
| C5024-5035   | US035100 | C. CE. CHP 0.1uF 16V B        |         |               | チップセラコン    |
| C5036-5037   | UR238100 | C. EL 100uF 16V               |         |               | ケミコン       |
| C5038-5042   | US035100 | C. CE. CHP 0.1uF 16V B        |         |               | チップセラコン    |
| C5043        | WD758300 | C. CE. CHP 10uF 10V           |         |               | チップセラコン    |
| C5201        | US035100 | C. CE. CHP 0.1uF 16V B        |         |               | チップセラコン    |
| C5202-5203   | ZH996900 | C. MYLAR 0.1uF 100V           |         |               | マイラーコン     |
| * C5204-5205 | ZD520800 | C. MYLAR 0.047uF 100V         |         |               | マイラーコン     |
| * C5206      | ZD520000 | C. MYLAR 0.01uF 100V          |         |               | マイラーコン     |
| C5207        | UR237470 | C. EL 47uF 16V                |         |               | ケミコン       |
| C5208-5209   | UR237330 | C. EL 33uF 16V                |         |               | ケミコン       |
| C5210        | UR237470 | C. EL 47uF 16V                |         |               | ケミコン       |
| C5211-5212   | UR267100 | C. EL 10uF 50V                |         |               | ケミコン       |
| C5213-5214   | UR266100 | C. EL 1uF 50V                 |         |               | ケミコン       |
| C5215-5216   | UR267100 | C. EL 10uF 50V                |         |               | ケミコン       |
| C5217-5218   | UR239220 | C. EL 2200uF 16V              |         |               | ケミコン       |
| C5219        | UR249470 | C. EL 4700uF 25V              |         |               | ケミコン       |
| C5220        | UR249220 | C. EL 2200uF 25V              |         |               | ケミコン       |
| △ C5401-5402 | WQ902300 | C. CE. SAFTY 1000pF 250V      |         | JUCRKABGFLVSH | 規格認定コンデンサ  |
| △ C5401-5402 | WQ856900 | C. CE. SAFTY 470pF 250V       |         | T             | 規格認定コンデンサ  |
| △ C5403      | V5877700 | C. MYLAR 0.22uF 250V          |         |               | マイラーコン     |
| △ C5404      | WQ939400 | C. CE. SAFTY 0.01uF 250V      |         |               | 規格認定コンデンサ  |
| △ * C5405    | ZD520200 | C. MYLAR 0.015uF 100V         |         |               | マイラーコン     |
| △ C5407      | WR246900 | C. CE. CHP 3300pF 250V        |         |               | チップセラコン    |
| △ C5408-5409 | WJ361200 | C. POL. MTL 0.047uF 400V      |         | JUC           | メタライズドポリコン |
| △ C5408-5409 | WJ361800 | C. POL. MTL 0.022uF 630V      |         | RTKABGFLVSH   | メタライズドポリコン |
| △ C5410      | WY685500 | C. CE. SAFTY 3300pF 250V      |         | JUC           | 規格認定コンデンサ  |
| △ C5410      | WQ902200 | C. CE. SAFTY 2200pF 250V      |         | RKABGFLVSH    | 規格認定コンデンサ  |
| △ C5410      | WQ902300 | C. CE. SAFTY 1000pF 250V      |         | T             | 規格認定コンデンサ  |
| C5411        | WJ322300 | C. CE. M. CHP 1000pF 630V     |         |               | チップ積層セラコン  |
| C5412        | US034470 | C. CE. CHP 0.047uF 16V B      |         |               | チップセラコン    |
| * C5414      | ZD518800 | C. MYLAR 1000pF 100V          |         |               | マイラーコン     |
| C5415        | US064100 | C. CE. CHP 0.01uF 50V B       |         |               | チップセラコン    |
| C5416-5417   | US063100 | C. CE. CHP 1000pF 50V B       |         |               | チップセラコン    |
| C5418        | US064100 | C. CE. CHP 0.01uF 50V B       |         |               | チップセラコン    |
| △ C5419      | WW766000 | C. EL 220uF 220V              |         | JUC           | ケミコン       |
| △ C5419      | WW766100 | C. EL 150uF 400V              |         | RVS           | ケミコン       |
| △ C5419      | WQ852500 | C. EL 68uF 400V               |         | TKABGFLH      | ケミコン       |
| △ C5420      | UR867220 | C. EL 22uF 50V                |         |               | ケミコン       |
| C5421-5422   | WH772400 | C. EL 2200uF 10V              |         |               | ケミコン       |
| C5423        | WH771600 | C. EL 220uF 10V               |         |               | ケミコン       |
| C5424        | WY269800 | C. EL 1uF 50V RX              |         |               | ケミコン       |
| D4001-4005   | WW783900 | DIODE 1SS355VM                |         |               | ダイオード      |
| D4006-4007   | WY163100 | DIODE. ZENR UDZV4. 7B         |         |               | ツェナーダイオード  |
| D4008-4019   | WW783900 | DIODE 1SS355VM                |         |               | ダイオード      |
| D4501-4502   | WW783900 | DIODE 1SS355VM                |         |               | ダイオード      |
| D4503        | WY163200 | DIODE. ZENR UDZV5. 1B         |         |               | ツェナーダイオード  |
| D4504        | WR095700 | LED 8224-10SDRD/S530A3        |         |               | LED        |
| D4761-4762   | WW783900 | DIODE 1SS355VM                |         |               | ダイオード      |
| D5001-5002   | WW783900 | DIODE 1SS355VM                |         |               | ダイオード      |
| D5201        | WY163300 | DIODE. ZENR UDZV5. 6B         |         |               | ツェナーダイオード  |
| D5202        | WW783900 | DIODE 1SS355VM                |         |               | ダイオード      |
| △ D5203      | WH487300 | DIODE. BRG RS203M 2. 0A 200V  |         |               | ブリッジダイオード  |
| D5204        | WY164100 | DIODE. ZENR UDZV12B           |         | RSV           | ツェナーダイオード  |
| △ D5205      | WH487300 | DIODE. BRG RS203M 2. 0A 200V  |         |               | ブリッジダイオード  |
| D5206-5207   | WW783900 | DIODE 1SS355VM                |         |               | ダイオード      |
| △ D5401      | WW872000 | DIODE. BRG DBL155G 1. 5A 600  |         |               | ブリッジダイオード  |
| △ D5402      | VV463000 | DIODE. CHP 1. 1A 200V D1FL20U |         |               | チップダイオード   |

\* New Parts / 新規部品

## OPERATION

|     | Ref No.    | Part No. | Description    | Remarks              | Markets       | 部品名         |
|-----|------------|----------|----------------|----------------------|---------------|-------------|
| △   | D5403      | WW170700 | DIODE          | SARS05               |               | ダイオード       |
| △   | D5404-5407 | WW783900 | DIODE          | 1SS355VM             |               | ダイオード       |
|     | D5408      | WW745500 | D. SCHOTTKY    | RB215T-90 20A 90V    |               | ショットキーダイオード |
|     | D5409-5412 | WW783900 | DIODE          | 1SS355VM             |               | ダイオード       |
| △   | F5401      | WR944000 | FUSE           | 2A 250V              |               | ヒューズ        |
| △   | F5401      | WR944000 | FUSE           | 2A 250V              | JUCRKABGFLVSH | ヒューズ        |
| △ * | F5401      | ZM616500 | FUSE           | 2A 250V              | T             | ヒューズ        |
| △   | F5402      | WB221200 | FUSE           | T6A 125V             | JUCRVS        | ヒューズ        |
| △   | F5402      | VV071700 | FUSE           | 3.15A 250V           | TKABGFLH      | ヒューズ        |
|     | IC401      | YF855A00 | IC             | ML9286-03GAZOARL     |               | IC          |
|     | IC402      | YA255A00 | IC             | R1172H501D-T1-F      |               | 電源IC        |
|     | IC471      | YD779A00 | IC             | BA4560F OP AMP       |               | アンプIC       |
|     | IC502      | YD948A00 | IC             | NJW1329FH2           |               | IC          |
|     | IC521      | YA381A00 | IC             | LM19CIZ/LF THERMAL   |               | 電源IC        |
|     | IC522      | X6248A00 | IC             | NJM2388F33           |               | 電源IC        |
| △   | IC523      | X4153A00 | IC             | KIA7812API           |               | 電源IC        |
| △   | IC524      | X4154A00 | IC             | KIA7912PI            |               | 電源IC        |
| △   | IC541      | YD359A00 | IC             | STR2A152             |               | 電源IC        |
| △   | IC542-543  | WP388200 | PHOT. CPL      | TLP781 (D4-GR, F)    |               | フォトカプラ      |
|     | IC544      | YA276A00 | IC             | TL431AC 2.5-36V      |               | 電源IC        |
|     | JK451      | WJ117300 | JACK. MNI      | MSJ-2200C AG         |               | ミニジャック      |
|     | JK476      | WZ975700 | JACK. PHONE    | MSJ-064-05B-B-RF     |               | PHONESジャック  |
|     | JK477      | WS275800 |                | MSJ-035-18L-B-AGSR   |               | ミニジャック      |
|     | PJ501      | WH381400 | JACK. PIN      | 3P JACK G, B, R      |               | ピンジャック      |
|     | PJ502-504  | V7190000 | JACK. PIN      | 2P                   |               | ピンジャック      |
|     | PJ505      | WG505100 | JACK. PIN      | 6P                   |               | ピンジャック      |
|     | PN521      | WS488500 | STYLE. PIN     | L=90 #18             |               | スタイルピン      |
|     | Q4001-4005 | WC529400 | TR             | KTC3875S Y GR RTK    |               | トランジスタ      |
|     | Q4006      | WW782300 | TR. DGT        | DTC044EUBTL          |               | デジタルトランジスタ  |
|     | Q4007      | VP872600 | TR             | 2SA1708 S, T         |               | トランジスタ      |
|     | Q4008      | WW782300 | TR. DGT        | DTC044EUBTL          |               | デジタルトランジスタ  |
|     | Q4009      | VP872700 | TR             | 2SC4488 S, T         |               | トランジスタ      |
|     | Q4010      | WC529400 | TR             | KTC3875S Y GR RTK    |               | トランジスタ      |
| *   | Q4501      | WG422900 | TR. DGT        | DTC114EUA TP         |               | デジタルトランジスタ  |
|     | Q5201      | VP872700 | TR             | 2SC4488 S, T         |               | トランジスタ      |
|     | Q5202      | WC529400 | TR             | KTC3875S Y GR RTK    |               | トランジスタ      |
|     | Q5203      | VJ927200 | TR             | 2SA1162-Y (TE85R, F) |               | トランジスタ      |
|     | Q5204      | ZA348800 | TR             | KTA1046-Y-U/PFY      |               | トランジスタ      |
|     | Q5205      | VJ927200 | TR             | 2SA1162-Y (TE85R, F) |               | トランジスタ      |
|     | Q5401-5402 | WZ461800 | TR. CHP        | 2SC4081UBTLR         |               | チップトランジスタ   |
|     | R4035      | WW969500 | R. MTL. OXD    | 120Ω 1/4W            |               | 酸化金属被膜抵抗    |
|     | R4037      | WW969500 | R. MTL. OXD    | 120Ω 1/4W            |               | 酸化金属被膜抵抗    |
|     | R4038      | WW866700 | R. CAR. FP     | 27KΩ 1/4W            |               | 不燃化カーボン抵抗   |
|     | R4040      | WW861700 | R. CAR. FP     | 4.7Ω 1/4W            |               | 不燃化カーボン抵抗   |
|     | R4044      | HL007100 | R. MTL. OXD    | 10KΩ 1/2W            |               | 酸化金属被膜抵抗    |
|     | R4048      | WW861100 | R. CAR. FP     | 1Ω 1/4W              |               | 不燃化カーボン抵抗   |
|     | R4049      | WW861700 | R. CAR. FP     | 4.7Ω 1/4W            |               | 不燃化カーボン抵抗   |
|     | R4763-4764 | V8071300 | R. MTL. FLM    | 470Ω 1W              |               | 金属被膜抵抗      |
|     | R5207-5208 | WW972900 | R. MTL. OXD    | 3.3KΩ 1/4W           |               | 酸化金属被膜抵抗    |
| △   | R5209      | WW967500 | R. MTL. OXD    | 18Ω 1/4W             |               | 酸化金属被膜抵抗    |
|     | R5215      | WW971300 | R. MTL. OXD    | 680Ω 1/4W            | RVS           | 酸化金属被膜抵抗    |
|     | R5219-5220 | V8070000 | R. MTL. FLM    | 1Ω 1W                |               | 金属被膜抵抗      |
| △   | R5401-5402 | WR033300 | R. CHP         | 4.7KΩ 1/4W           |               | チップ抵抗       |
| △   | R5403      | WU547900 | R. ANTI. SURGE | 3MΩ 1/2W             |               | 耐サージ固定抵抗    |
| △   | R5404      | WY023000 | R. CAR. CHP    | 0.91Ω 1W             |               | チップ抵抗       |
| △   | R5406      | WW745400 | R. CHP         | 150KΩ 1/2W           |               | チップ抵抗       |
| △   | R5409      | VF167800 | R. CHP         | 47Ω 1W               |               | チップ抵抗       |
| △   | RY541      | WQ804100 | RELAY          | DC DLS5D1-0 (M) 0.25 |               | リレー         |
|     | SW401-418  | WD483100 | SW. TACT       | SKRGAAD010           |               | タクトスイッチ     |
|     | SW451      | WD483100 | SW. TACT       | SKRGAAD010           |               | タクトスイッチ     |

\* New Parts / 新規部品

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| OPERATION and MAIN |
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| Ref No.    | Part No. | Description     | Remarks            | Markets | 部品名        |
|------------|----------|-----------------|--------------------|---------|------------|
| SW471      | WD483100 | SW. TACT        | SKRGAAD010         |         | タクトスイッチ    |
| SW473      | V9597100 | SW. RT. ENC     | EC12E2460802       |         | ロータリーエンコーダ |
| T5401      | YD115B00 | TRANS. PWR      |                    |         | 電源トランス     |
| TH541      | WF544600 | PTC. THERMISTOR | NTPAD5R1LDNB0 5.1  |         | PTCサーミスタ   |
| U4001      | WR153900 | L. DTCT         | RPM7238-H9R        |         | リモコン受光ユニット |
| V4001      | ZJ801000 | FL. DSPLY       | O20MT008GNK        |         | 蛍光表示管      |
| XL401      | ZJ062700 | RSNR. CRYST     | HC-49US            |         | 水晶振動子      |
|            | ZA889400 | SPACER          | 4. 3x8x30          |         | スペーサー      |
|            | WE774200 | SCR. BND. HD    | 3x10 MFZN2W3       |         | バインドBタイトネジ |
|            | ZK109300 | P. C. B.        | MAIN               | J       | PCB MAIN   |
|            | ZK109400 | P. C. B.        | MAIN               | UC      | PCB MAIN   |
|            | ZK109500 | P. C. B.        | MAIN               | RSV     | PCB MAIN   |
|            | ZK109600 | P. C. B.        | MAIN               | TA      | PCB MAIN   |
|            | ZK109700 | P. C. B.        | MAIN               | KLFH    | PCB MAIN   |
|            | ZK109800 | P. C. B.        | MAIN               | BG      | PCB MAIN   |
| CB201      | VQ963700 | CN. BS. PIN     | 16P                |         | コネクタ       |
| CB202      | VQ963900 | CN. BS. PIN     | 18P                |         | コネクタ       |
| CB221      | VM973500 | CN. BS. PIN     | 17P                |         | コネクタ       |
| CB222      | LB932060 | CN. BS. PIN     | 6P                 |         | コネクタ       |
| CB251      | VQ963400 | CN. BS. PIN     | 13P                |         | コネクタ       |
| CB252      | VQ962100 | CN. BS. PIN     | 18P                |         | コネクタ       |
| CB271      | VQ963600 | CN. BS. PIN     | 15P                |         | コネクタ       |
| CB272      | VQ961900 | HOUSING         | 16P                |         | ハウジング      |
| CB301      | V9377900 | CN. BS. PIN     | 4P                 | RVS     | コネクタ       |
| CB302-303  | WN077700 | CLIP. FUSE      | CLIP PFC5000-0202F | RVS     | ヒューズクリップ   |
| CB351      | VQ044300 | CN. BS. PIN     | 7P                 |         | コネクタ       |
| CB352      | VB858600 | CN. BS. PIN     | 7P                 |         | コネクタ       |
| C2001-2002 | US062820 | C. CE. CHP      | 820pF 50V B        |         | チップセラコン    |
| C2003      | UR267470 | C. EL           | 47uF 50V           |         | ケミコン       |
| C2004-2005 | WY270200 | C. EL           | 10uF 50V           |         | ケミコン       |
| C2006-2008 | US035100 | C. CE. CHP      | 0. 1uF 16V B       |         | チップセラコン    |
| C2009-2010 | US061220 | C. CE. CHP      | 22pF 50V B         |         | チップセラコン    |
| C2011      | US035100 | C. CE. CHP      | 0. 1uF 16V B       |         | チップセラコン    |
| C2012-2017 | US062220 | C. CE. CHP      | 220pF 50V B        |         | チップセラコン    |
| C2018-2019 | US035100 | C. CE. CHP      | 0. 1uF 16V B       |         | チップセラコン    |
| C2020      | UR837100 | C. EL           | 10uF 16V           |         | ケミコン       |
| C2021      | US061470 | C. CE. CHP      | 47pF 50V B         |         | チップセラコン    |
| C2022-2023 | UR267470 | C. EL           | 47uF 50V           |         | ケミコン       |
| C2024      | US061470 | C. CE. CHP      | 47pF 50V B         |         | チップセラコン    |
| C2025      | UR837100 | C. EL           | 10uF 16V           |         | ケミコン       |
| C2026-2027 | UR267470 | C. EL           | 47uF 50V           |         | ケミコン       |
| C2028      | VR169200 | C. MYLAR        | 0. 47uF 50V        |         | マイラーコン     |
| C2029-2030 | UR267470 | C. EL           | 47uF 50V           |         | ケミコン       |
| C2031-2033 | UR237100 | C. EL           | 10uF 16V           |         | ケミコン       |
| C2034-2035 | WY270200 | C. EL           | 10uF 50V           |         | ケミコン       |
| C2038      | US062100 | C. CE. CHP      | 100pF 50V B        |         | チップセラコン    |
| C2039      | UR267100 | C. EL           | 10uF 50V           |         | ケミコン       |
| C2040      | US064100 | C. CE. CHP      | 0. 01uF 50V B      |         | チップセラコン    |
| C2101-2103 | UU237100 | C. EL           | 10uF 16V           |         | ケミコン       |
| C2104-2105 | UR267100 | C. EL           | 10uF 50V           |         | ケミコン       |
| C2109-2110 | US062120 | C. CE. CHP      | 120pF 50V B        |         | チップセラコン    |
| C2111      | US062220 | C. CE. CHP      | 220pF 50V B        |         | チップセラコン    |
| C2112      | US062120 | C. CE. CHP      | 120pF 50V B        |         | チップセラコン    |
| C2113      | US062220 | C. CE. CHP      | 220pF 50V B        |         | チップセラコン    |
| C2114      | US062120 | C. CE. CHP      | 120pF 50V B        |         | チップセラコン    |
| C2115      | US062220 | C. CE. CHP      | 220pF 50V B        |         | チップセラコン    |
| C2116      | US062120 | C. CE. CHP      | 120pF 50V B        |         | チップセラコン    |

\* New Parts / 新規部品

## MAIN

| Ref No. | Part No.   | Description         | Remarks       | Markets     | 部品名     |
|---------|------------|---------------------|---------------|-------------|---------|
|         | C2117      | US062220 C. CE. CHP | 220pF 50V B   |             | チップセラコン |
|         | C2122      | US062220 C. CE. CHP | 220pF 50V B   |             | チップセラコン |
| *       | C2123      | ZD519400 C. MYLAR   | 3300pF 100V   |             | マイラーコン  |
|         | C2124-2125 | UR237470 C. EL      | 47uF 16V      |             | ケミコン    |
| *       | C2126      | ZD519400 C. MYLAR   | 3300pF 100V   |             | マイラーコン  |
|         | C2127      | UR237470 C. EL      | 47uF 16V      |             | ケミコン    |
| *       | C2128      | ZD519400 C. MYLAR   | 3300pF 100V   |             | マイラーコン  |
|         | C2129      | UR237470 C. EL      | 47uF 16V      |             | ケミコン    |
| *       | C2134      | ZD519400 C. MYLAR   | 3300pF 100V   |             | マイラーコン  |
|         | C2135      | UR237470 C. EL      | 47uF 16V      |             | ケミコン    |
| *       | C2136      | ZD519400 C. MYLAR   | 3300pF 100V   |             | マイラーコン  |
|         | C2137-2141 | WQ627600 C. CE      | 22pF 500V     |             | セラコン    |
| *       | C2144-2148 | ZD518200 C. MYLAR   | 330pF 100V    |             | マイラーコン  |
|         | C2158      | UR267100 C. EL      | 10uF 50V      |             | ケミコン    |
|         | C2160      | UR267100 C. EL      | 10uF 50V      |             | ケミコン    |
|         | C2162-2164 | UR267220 C. EL      | 22uF 50V      |             | ケミコン    |
|         | C2165-2169 | ZH996900 C. MYLAR   | 0. 1uF 100V   |             | マイラーコン  |
|         | C2172      | UR866470 C. EL      | 4. 7uF 50V    |             | ケミコン    |
| *       | C2173-2174 | ZJ832200 C. PP      | 1000pF 250V   |             | PPコン    |
|         | C2175      | UR828220 C. EL      | 220uF 10V     |             | ケミコン    |
|         | C2176-2177 | UR297100 C. EL      | 10uF 100V     |             | ケミコン    |
|         | C2178      | UR267470 C. EL      | 47uF 50V      |             | ケミコン    |
|         | C2179      | UR267330 C. EL      | 33uF 50V      |             | ケミコン    |
|         | C2180-2181 | UR297100 C. EL      | 10uF 100V     |             | ケミコン    |
|         | C2182      | US063100 C. CE. CHP | 1000pF 50V B  |             | チップセラコン |
|         | C2183-2184 | UR297100 C. EL      | 10uF 100V     |             | ケミコン    |
| △ *     | C2185-2186 | ZK586400 C. EL      | 8200uF 63V    | JBG         | ケミコン    |
| △ *     | C2185-2186 | ZK323500 C. EL      | 8200uF 63V    | UCRTKAFLVSH | ケミコン    |
|         | C2187      | UR868100 C. EL      | 100uF 50V     |             | ケミコン    |
| *       | C2188      | ZD520000 C. MYLAR   | 0. 01uF 100V  |             | マイラーコン  |
|         | C2190      | WY270200 C. EL      | 10uF 50V      |             | ケミコン    |
| *       | C2191      | ZD520000 C. MYLAR   | 0. 01uF 100V  |             | マイラーコン  |
| *       | C2193      | ZD520000 C. MYLAR   | 0. 01uF 100V  |             | マイラーコン  |
|         | C2194      | UR878100 C. EL      | 100uF 63V     |             | ケミコン    |
| *       | C2195-2196 | ZD520000 C. MYLAR   | 0. 01uF 100V  |             | マイラーコン  |
|         | C2197-2198 | WP421000 C. PP      | 0. 047uF 100V |             | PPコン    |
| *       | C2199-2200 | ZD520000 C. MYLAR   | 0. 01uF 100V  |             | マイラーコン  |
| *       | C2201-2203 | ZD520200 C. MYLAR   | 0. 015uF 100V |             | マイラーコン  |
|         | C2206      | UR258100 C. EL      | 100uF 35V     |             | ケミコン    |
|         | C2207-2208 | UR297100 C. EL      | 10uF 100V     |             | ケミコン    |
|         | C2501      | US062100 C. CE. CHP | 100pF 50V B   |             | チップセラコン |
|         | C2502-2503 | UR267100 C. EL      | 10uF 50V      |             | ケミコン    |
| *       | C2504      | ZD518600 C. MYLAR   | 680pF 100V    |             | マイラーコン  |
|         | C2506      | UR238100 C. EL      | 100uF 16V     |             | ケミコン    |
|         | C2508      | UR238100 C. EL      | 100uF 16V     |             | ケミコン    |
| *       | C2509      | ZD518600 C. MYLAR   | 680pF 100V    |             | マイラーコン  |
|         | C2510-2511 | UR267100 C. EL      | 10uF 50V      |             | ケミコン    |
|         | C2512-2513 | US062100 C. CE. CHP | 100pF 50V B   |             | チップセラコン |
|         | C2514-2515 | WY270200 C. EL      | 10uF 50V      |             | ケミコン    |
| *       | C2516      | ZD518600 C. MYLAR   | 680pF 100V    |             | マイラーコン  |
| *       | C2519      | ZD518600 C. MYLAR   | 680pF 100V    |             | マイラーコン  |
|         | C2520-2521 | WY270200 C. EL      | 10uF 50V      |             | ケミコン    |
|         | C2522      | US062100 C. CE. CHP | 100pF 50V B   |             | チップセラコン |
| *       | C2523      | ZD519800 C. MYLAR   | 6800pF 100V   |             | マイラーコン  |
|         | C2524-2525 | WY270200 C. EL      | 10uF 50V      |             | ケミコン    |
| *       | C2526      | ZD520800 C. MYLAR   | 0. 047uF 100V |             | マイラーコン  |
|         | C2528      | UR238100 C. EL      | 100uF 16V     |             | ケミコン    |
|         | C2530      | UR238100 C. EL      | 100uF 16V     |             | ケミコン    |
| *       | C2531      | ZD518600 C. MYLAR   | 680pF 100V    |             | マイラーコン  |
|         | C2532-2533 | UR267100 C. EL      | 10uF 50V      |             | ケミコン    |

\* New Parts / 新規部品

## MAIN

| Ref No. | Part No.   | Description          | Remarks            | Markets | 部品名       |
|---------|------------|----------------------|--------------------|---------|-----------|
|         | C2534      | US062100 C. CE. CHP  | 100pF 50V B        |         | チップセラコン   |
|         | C2701      | UR267100 C. EL       | 10uF 50V           |         | ケミコン      |
|         | C2702      | UU238100 C. EL       | 100uF 16V          |         | ケミコン      |
|         | D2001-2002 | WY163600 DIODE. ZENR | UDZV7. 5B          |         | ツェナーダイオード |
|         | D2103-2112 | WW783900 DIODE       | 1SS355VM           |         | ダイオード     |
| △       | D2117-2119 | WY163200 DIODE. ZENR | UDZV5. 1B          |         | ツェナーダイオード |
| △       | D2122-2123 | WY163200 DIODE. ZENR | UDZV5. 1B          |         | ツェナーダイオード |
|         | D2124-2128 | WW783900 DIODE       | 1SS355VM           |         | ダイオード     |
|         | D2131      | WY164200 DIODE. ZENR | UDZV13B            |         | ツェナーダイオード |
|         | D2132-2138 | WW783900 DIODE       | 1SS355VM           |         | ダイオード     |
|         | D2141      | WW783900 DIODE       | 1SS355VM           |         | ダイオード     |
|         | D2143      | WW783900 DIODE       | 1SS355VM           |         | ダイオード     |
| △       | D2144      | WY164600 DIODE. ZENR | UDZV20B            |         | ツェナーダイオード |
|         | D2145      | WW783900 DIODE       | 1SS355VM           |         | ダイオード     |
| △       | D2146      | WA653200 DIODE. BRG  | TS6P03G 6A 200V    |         | ブリッジダイオード |
|         | D2147      | WU201600 DIODE       | 1N4003S TP         |         | ダイオード     |
|         | D2148-2149 | WW783900 DIODE       | 1SS355VM           |         | ダイオード     |
| △       | D2150      | WY164600 DIODE. ZENR | UDZV20B            |         | ツェナーダイオード |
|         | D2701      | WW783900 DIODE       | 1SS355VM           |         | ダイオード     |
|         | F3001      | VV071700 FUSE        | 3. 15A 250V        | RVS     | ヒューズ      |
|         | IC201      | XZ509A00 IC          | TC74VHC04FT INVER  |         | ロジック I C  |
|         | IC202      | YD779A00 IC          | BA4560F OP AMP     |         | アンプ I C   |
|         | IC203      | YD953A00 IC          | BD3473KS2          |         | I C       |
|         | IC221-223  | YD779A00 IC          | BA4560F OP AMP     |         | アンプ I C   |
|         | IC271      | X4928A00 IC          | KIA7805API 5V      |         | 電源 I C    |
|         | PJ201      | V9420700 JACK. PIN   | 2P MSP-252V1-30NI  |         | ピンジャック    |
|         | PJ202-203  | V7046700 JACK. PIN   | 4P MSP-244V1-01NI  |         | ピンジャック    |
|         | PJ204      | V7189700 JACK. PIN   | 1P                 |         | ピンジャック    |
|         | Q2001      | VP872700 TR          | 2SC4488 S, T       |         | トランジスタ    |
|         | Q2002      | VP872600 TR          | 2SA1708 S, T       |         | トランジスタ    |
|         | Q2003-2007 | WC883400 TR          | 2SD2704 K          |         | トランジスタ    |
|         | Q2010-2011 | WC883400 TR          | 2SD2704 K          |         | トランジスタ    |
|         | Q2101-2104 | WK452300 TR          | 2SC2713 GR         |         | トランジスタ    |
|         | Q2107-2111 | WK452300 TR          | 2SC2713 GR         |         | トランジスタ    |
|         | Q2114      | WK452300 TR          | 2SC2713 GR         |         | トランジスタ    |
| *       | Q2115-2118 | ZH762900 TR          | 2SA1145 O, Y       |         | トランジスタ    |
| *       | Q2121      | ZH762900 TR          | 2SA1145 O, Y       |         | トランジスタ    |
| △       | Q2122-2126 | ZD495300 TR          | 2SC4115S S         |         | トランジスタ    |
| △ *     | Q2129-2133 | ZH763000 TR          | 2SC2229 O, Y       |         | トランジスタ    |
| △       | Q2136      | VP872700 TR          | 2SC4488 S, T       |         | トランジスタ    |
| △       | Q2137      | VP872600 TR          | 2SA1708 S, T       |         | トランジスタ    |
| △       | Q2138      | VP872700 TR          | 2SC4488 S, T       |         | トランジスタ    |
| △       | Q2139      | VP872600 TR          | 2SA1708 S, T       |         | トランジスタ    |
| △       | Q2140      | VP872700 TR          | 2SC4488 S, T       |         | トランジスタ    |
| △       | Q2141      | VP872600 TR          | 2SA1708 S, T       |         | トランジスタ    |
| △       | Q2142      | VP872700 TR          | 2SC4488 S, T       |         | トランジスタ    |
| △       | Q2143      | VP872600 TR          | 2SA1708 S, T       |         | トランジスタ    |
| △       | Q2144      | VP872700 TR          | 2SC4488 S, T       |         | トランジスタ    |
| △       | Q2145      | VP872600 TR          | 2SA1708 S, T       |         | トランジスタ    |
| △       | Q2150      | ZA891500 TR          | 2SC5198-F          |         | トランジスタ    |
| △       | Q2151      | ZA894200 TR          | 2SA1941-F          |         | トランジスタ    |
| △       | Q2152      | ZA891500 TR          | 2SC5198-F          |         | トランジスタ    |
| △       | Q2153      | ZA894200 TR          | 2SA1941-F          |         | トランジスタ    |
| △       | Q2154      | ZA891500 TR          | 2SC5198-F          |         | トランジスタ    |
| △       | Q2155      | ZA894200 TR          | 2SA1941-F          |         | トランジスタ    |
| △       | Q2156      | ZA891500 TR          | 2SC5198-F          |         | トランジスタ    |
| △       | Q2157      | ZA894200 TR          | 2SA1941-F          |         | トランジスタ    |
| △       | Q2158      | ZA891500 TR          | 2SC5198-F          |         | トランジスタ    |
| △       | Q2159      | ZA894200 TR          | 2SA1941-F          |         | トランジスタ    |
|         | Q2164-2168 | ZF457100 TR          | INC6002AC1-T112-1W |         | トランジスタ    |

\* New Parts / 新規部品



## MAIN

| Ref No. | Part No.   | Description | Remarks      | Markets            | 部品名        |
|---------|------------|-------------|--------------|--------------------|------------|
|         | Q2171      | ZF457000    | TR           | INA6002AC1-TH12-1W | トランジスタ     |
| △       | Q2172      | VP872600    | TR           | 2SA1708 S, T       | トランジスタ     |
| △       | Q2173      | WC398400    | TR           | 2N5551C-AT         | トランジスタ     |
| △       | Q2174      | WC397700    | TR           | 2N5401C-AT         | トランジスタ     |
| △       | Q2175-2176 | WW510000    | TR           | KTA1659A-Y-U/PF    | トランジスタ     |
|         | Q2177      | WB228800    | TR           | KTC3198 Y AT       | トランジスタ     |
| △       | Q2178      | WC398400    | TR           | 2N5551C-AT         | トランジスタ     |
|         | Q2179      | WC435000    | TR. DGT      | KRC102S-RTK        | デジタルトランジスタ |
|         | Q2180      | WC434900    | TR. DGT      | KRA104S-RTK        | デジタルトランジスタ |
|         | Q2183      | WC435000    | TR. DGT      | KRC102S-RTK        | デジタルトランジスタ |
|         | Q2184      | WC434900    | TR. DGT      | KRA104S-RTK        | デジタルトランジスタ |
|         | Q2185      | WC435000    | TR. DGT      | KRC102S-RTK        | デジタルトランジスタ |
| △       | Q2186      | VP872700    | TR           | 2SC4488 S, T       | トランジスタ     |
|         | Q2187      | WC434900    | TR. DGT      | KRA104S-RTK        | デジタルトランジスタ |
|         | Q2188-2189 | WC435000    | TR. DGT      | KRC102S-RTK        | デジタルトランジスタ |
|         | Q2190-2191 | WC434900    | TR. DGT      | KRA104S-RTK        | デジタルトランジスタ |
|         | R2001      | V8070100    | R. MTL. FLM  | 2. 2Ω 1W           | 金属被膜抵抗     |
|         | R2002      | WW964500    | R. MTL. OXD  | 1 Ω 1/4W           | 酸化金属被膜抵抗   |
|         | R2003      | V8070100    | R. MTL. FLM  | 2. 2Ω 1W           | 金属被膜抵抗     |
|         | R2038-2039 | V8070500    | R. MTL. FLM  | 22 Ω 1W            | 金属被膜抵抗     |
|         | R2076      | WW970100    | R. MTL. OXD  | 220 Ω 1/4W         | 酸化金属被膜抵抗   |
| △       | R2214-2219 | WC862200    | R. MTL. FLM  | 120 Ω 1W           | 金属被膜抵抗     |
| △       | R2220-2223 | HL005120    | R. MTL. OXD  | 120 Ω 1/2W         | 酸化金属被膜抵抗   |
| △       | R2235-2236 | HL004100    | R. MTL. OXD  | 10 Ω 1/2W          | 酸化金属被膜抵抗   |
| △       | R2238-2241 | HL004100    | R. MTL. OXD  | 10 Ω 1/2W          | 酸化金属被膜抵抗   |
| △       | R2243-2245 | HL004100    | R. MTL. OXD  | 10 Ω 1/2W          | 酸化金属被膜抵抗   |
| △       | R2248      | HL004100    | R. MTL. OXD  | 10 Ω 1/2W          | 酸化金属被膜抵抗   |
| △       | R2249-2253 | WP839400    | R. CEMENT    | 0. 22+0. 22 3W     | セメント抵抗     |
| △       | R2256-2258 | WW865600    | R. CAR. FP   | 4. 7K Ω 1/4W       | 不燃化カーボン抵抗  |
|         | R2260-2261 | WW865600    | R. CAR. FP   | 4. 7K Ω 1/4W       | 不燃化カーボン抵抗  |
| △       | R2277-2281 | WA620400    | R. MTL. FLM  | 3. 3Ω 1W           | 金属被膜抵抗     |
| △       | R2300      | V8070200    | R. MTL. FLM  | 4. 7Ω 1W           | 金属被膜抵抗     |
| △       | R2302      | V8070200    | R. MTL. FLM  | 4. 7Ω 1W           | 金属被膜抵抗     |
| △       | R2304      | V8070000    | R. MTL. FLM  | 1 Ω 1W             | 金属被膜抵抗     |
| △       | R2305      | V8071600    | R. MTL. FLM  | 1K Ω 1W            | 金属被膜抵抗     |
|         | R2322      | V8072100    | R. MTL. OXD  | 5. 6K Ω 1W         | 酸化金属被膜抵抗   |
|         | R2323      | WW971100    | R. MTL. OXD  | 560 Ω 1/4W         | 酸化金属被膜抵抗   |
|         | R2328      | V8072000    | R. MTL. OXD  | 4. 7K Ω 1W         | 酸化金属被膜抵抗   |
|         | R2329-2330 | WW964500    | R. MTL. OXD  | 1 Ω 1/4W           | 酸化金属被膜抵抗   |
| △       | R2337      | WW966900    | R. MTL. OXD  | 10 Ω 1/4W          | 酸化金属被膜抵抗   |
|         | R2340      | WW973300    | R. MTL. OXD  | 4. 7K Ω 1/4W       | 酸化金属被膜抵抗   |
|         | R2341-2342 | V8070200    | R. MTL. FLM  | 4. 7Ω 1W           | 金属被膜抵抗     |
| △       | R2343      | WW965300    | R. MTL. OXD  | 2. 2Ω 1/4W         | 酸化金属被膜抵抗   |
| △       | R2347      | V8070000    | R. MTL. FLM  | 1 Ω 1W             | 金属被膜抵抗     |
|         | R2701      | V8070500    | R. MTL. FLM  | 22 Ω 1W            | 金属被膜抵抗     |
|         | RY221      | WJ122400    | RELAY        | 981-2A-24DS-SP7    | リレー        |
|         | RY223-225  | WJ122400    | RELAY        | 981-2A-24DS-SP7    | リレー        |
|         | RY226      | WE648700    | RELAY        | DC DH24D2-0-Q      | リレー        |
|         | ST201      | V4040500    | SCR. TERM    | M3                 | スクリーターミナル  |
|         | SW301      | WW382900    | SW. SLIDE    | SL14               | スライドスイッチ   |
|         | TE221      | WW728900    | TERM. SP     | 4P                 | スピーカー端子    |
|         | TE221      | WW726500    | TERM. SP     | 4P                 | スピーカー端子    |
|         | TE222      | WW726600    | TERM. SP     | 6P                 | スピーカー端子    |
|         | TE222      | WW728800    | TERM. SP     | 6P                 | スピーカー端子    |
|         | TH221      | V9760200    | THRMST. CHP  | NCP18XH103J03RB    | チップサーミスタ   |
|         | U2001      | WU204200    | CN. PHOTO. R | 1P JSR1165-D       | 光ファイバー受信器  |
|         |            | WE774200    | SCR. BND. HD | 3x10 MFZN2W3       | バインドBタイトネジ |

\* New Parts / 新規部品

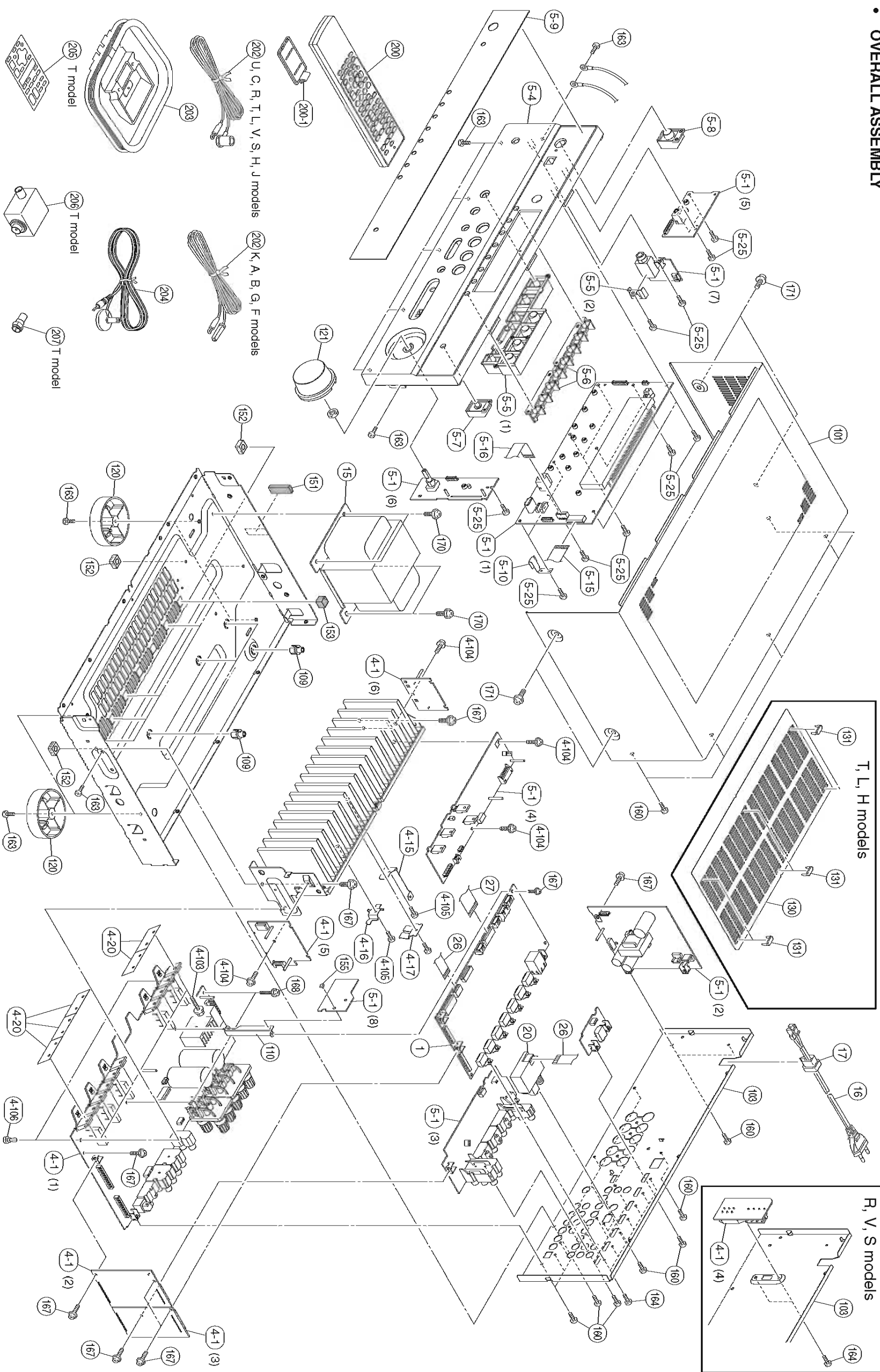


Carbon Resistors

| 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          | 11 kΩ  | HF45 7110          | HF45 7110          |
| 1.8 Ω  | HJ35 3180          | *                  | 12 kΩ  | HJ35 7120          | HF85 7120          |
| 2.2 Ω  | HJ35 3220          | HF85 3220          | 13 kΩ  | HF45 7130          | HF45 7130          |
| 3.3 Ω  | HJ35 3330          | HF85 3330          | 15 kΩ  | HF45 7150          | HF45 7150          |
| 4.7 Ω  | HJ35 3470          | HF85 3470          | 18 kΩ  | HF45 7180          | HF45 7180          |
| 5.6 Ω  | HJ35 3560          | HF85 3560          | 22 kΩ  | HF45 7220          | HF45 7220          |
| 10 Ω   | HF45 4100          | HF45 4100          | 24 kΩ  | HF45 7240          | HF45 7240          |
| 15 Ω   | HJ35 4150          | HF85 4150          | 27 kΩ  | HJ35 7270          | HF85 7270          |
| 22 Ω   | HF45 4220          | HF45 4220          | 30 kΩ  | HF45 7300          | HF45 7300          |
| 27 Ω   | HJ35 4270          | HF85 4270          | 33 kΩ  | HF45 7330          | HF45 7330          |
| 33 Ω   | HF45 4330          | HF45 4330          | 36 kΩ  | HF45 7360          | HF45 7360          |
| 39 Ω   | HJ35 4470          | HF85 4390          | 39 kΩ  | HF45 7390          | HF45 7390          |
| 47 Ω   | HF45 4470          | HF45 4470          | 47 kΩ  | HF45 7470          | HF45 7470          |
| 56 Ω   | HF45 4560          | HF45 4560          | 51 kΩ  | HF45 7510          | HF45 7510          |
| 68 Ω   | HF45 4680          | HF45 4680          | 56 kΩ  | HF45 7560          | HF45 7560          |
| 75 Ω   | HF45 4750          | HF45 4750          | 62 kΩ  | HF45 7620          | HF45 7620          |
| 82 Ω   | HF45 4820          | HF45 4820          | 68 kΩ  | HF45 7680          | HF45 7680          |
| 91 Ω   | HF45 4910          | HF45 4910          | 82 kΩ  | HF45 7820          | HF45 7820          |
| 100 Ω  | HF45 5100          | HF45 5100          | 91 kΩ  | HF45 7910          | HF45 7910          |
| 110 Ω  | HJ35 5110          | HF85 5110          | 100 kΩ | HF45 8100          | HF45 8100          |
| 120 Ω  | HF45 5120          | HF45 5120          | 110 kΩ | HF45 8110          | HF45 8110          |
| 150 Ω  | HF45 5150          | HF45 5150          | 120 kΩ | HF45 8120          | HF45 8120          |
| 160 Ω  | HJ35 5160          | *                  | 130 kΩ | HF45 8130          | *                  |
| 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          |        |                    |                    |
| 10 kΩ  | HF45 7100          | HF45 7100          |        |                    |                    |

\*: Not available

• OVERALL ASSEMBLY



| Ref No. | Part No. | Description                  | Remarks          | Markets     | 部 品 名                   |
|---------|----------|------------------------------|------------------|-------------|-------------------------|
| * 1     | ZK108900 | P. C. B. ASSEMBLY            | DIGITAL          | JUCRTLVSH   | P C B D I G I T A L     |
| * 1     | ZK109000 | P. C. B. ASSEMBLY            | DIGITAL          | KABGF       | P C B D I G I T A L     |
| * 4-1   | ZK109300 | P. C. B. ASSEMBLY            | MAIN             | J           | P C B M A I N           |
| * 4-1   | ZK109400 | P. C. B. ASSEMBLY            | MAIN             | UC          | P C B M A I N           |
| * 4-1   | ZK109500 | P. C. B. ASSEMBLY            | MAIN             | RSV         | P C B M A I N           |
| * 4-1   | ZK109600 | P. C. B. ASSEMBLY            | MAIN             | TA          | P C B M A I N           |
| * 4-1   | ZK109700 | P. C. B. ASSEMBLY            | MAIN             | KFLH        | P C B M A I N           |
| * 4-1   | ZK109800 | P. C. B. ASSEMBLY            | MAIN             | BG          | P C B M A I N           |
| * 4-15  | ZA166000 | PCB SUPPORT                  |                  |             | P C B サポート              |
| * 4-16  | WR939800 | SUPPORT                      |                  |             | サポート                    |
| * 4-17  | ZE869800 | SUPPORT                      | TR-2P            |             | 放射シート                   |
| 4-20    | WQ753200 | RADIATION SHEET              | 40X23X0.06 MIC   |             | 六角Bタイトネジ                |
| 4-103   | WM220800 | HEXAGONAL HEAD B-TIGHT SCREW | 3x15 SP MFZN2M3  |             | PWヘッドBタイトネジ             |
| 4-104   | WF002600 | PW HEAD B-TIGHT SCREW        | 3x8 MFZN2M3      |             | バインドBタイトネジ              |
| 4-105   | WE774300 | BLIND HEAD B-TIGHT SCREW     | 3x8 MFZN2M3      |             | ブラッシュリベット               |
| 4-106   | VQ368600 | PUSH RIVET                   | P3555-B          | J           | P C B O P E R A T I O N |
| * 5-1   | ZK110000 | P. C. B. ASSEMBLY            | OPERATION        | U           | P C B O P E R A T I O N |
| * 5-1   | ZK110100 | P. C. B. ASSEMBLY            | OPERATION        | C           | P C B O P E R A T I O N |
| * 5-1   | ZK110200 | P. C. B. ASSEMBLY            | OPERATION        | RSV         | P C B O P E R A T I O N |
| * 5-1   | ZK110300 | P. C. B. ASSEMBLY            | OPERATION        | T           | P C B O P E R A T I O N |
| * 5-1   | ZK110400 | P. C. B. ASSEMBLY            | OPERATION        | K           | P C B O P E R A T I O N |
| * 5-1   | ZK110500 | P. C. B. ASSEMBLY            | OPERATION        | A           | P C B O P E R A T I O N |
| * 5-1   | ZK110600 | P. C. B. ASSEMBLY            | OPERATION        | BGF         | P C B O P E R A T I O N |
| * 5-1   | ZK110700 | P. C. B. ASSEMBLY            | OPERATION        | LH          | P C B O P E R A T I O N |
| * 5-1   | ZK110800 | P. C. B. ASSEMBLY            | OPERATION        | T           | フロントパネル                 |
| * 5-4   | ZJ506800 | FRONT PANEL                  |                  | J           | フロントパネル                 |
| * 5-4   | ZJ506500 | FRONT PANEL                  |                  | UC          | フロントパネル                 |
| * 5-4   | ZK246500 | FRONT PANEL                  |                  | RTKABGFLVSH | フロントパネル                 |
| * 5-4   | ZJ506600 | FRONT PANEL                  |                  | ABGFL       | フロントパネル                 |
| * 5-4   | ZJ506700 | FRONT PANEL                  |                  | T           | ボタン                     |
| 5-5     | ZA281500 | BUTTON                       | SCENE            | GD          | ボタン                     |
| 5-5     | ZA281300 | BUTTON                       | SCENE            | BL          | ボタン                     |
| 5-5     | ZA281400 | BUTTON                       | SCENE            | ABGFL       | ボタン                     |
| 5-6     | WT823800 | BUTTON                       | TUNER            |             | ボタン                     |
| 5-7     | WT843700 | BUTTON                       | DIRECT           |             | ボタン                     |
| 5-8     | WT843800 | BUTTON                       | POWER            |             | ウインドボタンシート              |
| * 5-9   | ZJ551800 | WINDOW SHEET                 |                  | URTKGL      | ウインドボタンシート              |
| * 5-9   | ZJ551900 | WINDOW SHEET                 |                  |             | アースブラケット                |
| 5-10    | WY031500 | EARTH PLATE                  | OPERATION        |             | カード電線                   |
| 5-15    | MF116250 | FLEXIBLE FLAT CABLE          | 16P 250mm P=1.25 |             | カード電線                   |
| 5-16    | MF107140 | FLEXIBLE FLAT CABLE          | 7P 140mm P=1.25  |             | バインドボタンネジ               |
| 5-25    | WE774800 | BLIND HEAD P-TIGHT SCREW     | 3x8 MFZN2M3      | J           | 電源トランス                  |
| * 15    | YE068800 | POWER TRANSFORMER            |                  | UC          | 電源トランス                  |
| * 15    | YG131A00 | POWER TRANSFORMER            |                  | RSV         | 電源トランス                  |
| * 15    | YG135A00 | POWER TRANSFORMER            |                  | TK          | 電源トランス                  |
| * 15    | YG133A00 | POWER TRANSFORMER            |                  | ALH         | 電源トランス                  |
| * 15    | YG134A00 | POWER TRANSFORMER            |                  | BGF         | 電源トランス                  |
| * 15    | WZ527200 | POWER CABLE                  | 1.8m             | J           | 電源コード                   |
| 16      | WY040900 | POWER CABLE                  | 1.8m             | UC          | 電源コード                   |
| 16      | WY042500 | POWER CABLE                  | 1.8m             | RV          | 電源コード                   |
| 16      | WY042600 | POWER CABLE                  | 1.8m             | T           | 電源コード                   |
| 16      | WY042400 | POWER CABLE                  | 1.8m             | K           | 電源コード                   |
| 16      | WY042100 | POWER CABLE                  | 1.8m             | A           | 電源コード                   |
| 16      | WY041100 | POWER CABLE                  | 1.8m             | B           | 電源コード                   |
| 16      | WY041700 | POWER CABLE                  | 1.8m             | GFL         | 電源コード                   |
| 16      | ZC898500 | POWER CABLE                  | 1.8m             | S           | 電源コード                   |
| 16      | WY094600 | POWER CABLE                  | 1.8m             | H           | 電源コード                   |

\* New Parts / 新規部品

Finish / 仕上げ ..... GD: Gold color, BL: Black color, TI: Titanium color

| Ref No. | Part No. | Description                   | Remarks                 | Markets       | 部 品 名        |
|---------|----------|-------------------------------|-------------------------|---------------|--------------|
| 17      | V2438700 | CORD STOPPER                  | 10P1                    | JUCRTLVSH     | コードストッパー     |
| 20      | WY196500 | AM/FM TUNER                   | KST-WM04MS1-S89S        | KABGF         | AM/FMチューナー   |
| 20      | WY196600 | AM/FM TUNER                   | 9P 180mm P=1.25         |               | カード電線        |
| 26      | MF109180 | FLEXIBLE FLAT CABLE           | 17P 120mm P=1.25        | T             | トツツカバー       |
| 27      | MF117120 | FLEXIBLE FLAT CABLE           | GD                      | ABGFL         | トツツカバー       |
| 101     | ZA165500 | TOP COVER                     | BL                      | J             | リアパネル        |
| 101     | ZA165300 | TOP COVER                     | TI                      | UC            | リアパネル        |
| 101     | ZA165400 | TOP COVER                     | RX-V477                 | R             | リアパネル        |
| 103     | ZJ526200 | REAR PANEL                    | RX-V477                 | RSV           | リアパネル        |
| * 103   | ZJ526300 | REAR PANEL                    | HTR-4067                | R             | リアパネル        |
| * 103   | ZJ526400 | REAR PANEL                    | HTR-4067                | T             | リアパネル        |
| * 103   | ZJ527000 | REAR PANEL                    | RX-V477                 | KLH           | リアパネル        |
| * 103   | ZJ526500 | REAR PANEL                    | RX-V477                 | A             | リアパネル        |
| * 103   | ZJ527100 | REAR PANEL                    | HTR-4067                | BGF           | リアパネル        |
| * 103   | ZJ526600 | REAR PANEL                    | RX-V477                 | G             | リアパネル        |
| * 103   | ZJ527200 | REAR PANEL                    | HTR-4067                |               | サポート         |
| * 103   | ZJ526700 | REAR PANEL                    | RX-V477                 |               | サポート         |
| * 103   | ZJ526800 | REAR PANEL                    | RX-V477                 |               | サポート         |
| * 103   | ZJ526900 | REAR PANEL                    | RX-V477                 |               | サポート         |
| * 110   | ZJ534400 | PCB SUPPORT                   | H8                      |               | サポート         |
| 120     | ZE253400 | LEG                           | CUSHION TYPE 20x20x2 R2 | JBG           | レッグ          |
| 121     | ZC181800 | LEG                           | D60/H21 Black           | JUCRTKFLVSH   | レッグ          |
| 121     | ZK126400 | KNOB                          | D52 VOLUME              | T             | ツマミ          |
| 121     | ZA168700 | KNOB                          | D52 VOLUME              | TL            | ツマミ          |
| * 121   | ZK126300 | KNOB                          | D52 VOLUME              | TL            | ツマミ          |
| 130     | WR306100 | SHEET                         | TOP COVER, CLEAR        | TL            | シート          |
| 130     | ZH109200 | SHEET                         | TOP COVER, BLACK        | TLH           | シート          |
| 131     | WJ053800 | RIVET                         | TOP COVER, CLEAR        | TL            | リベット         |
| 131     | ZH306700 | RIVET                         | TOP COVER, BLACK        | TLH           | リベット         |
| 151     | V5881100 | CUSHION                       | 5x8x25                  |               | クッション        |
| 152     | WC879000 | DAMPER                        | SCREW MASK              |               | ダンパー         |
| 153     | ZA169400 | DAMPER                        |                         |               | ダンパー         |
| 155     | VQ368600 | PUSH RIVET                    | P3555-B                 |               | ブラッシュリベット    |
| 160     | WE774100 | BLIND HEAD BONDING B-T. SCREW | 3x8 MFZN2B3             |               | ボンディングBタイトネジ |
| 163     | WE774300 | BLIND HEAD B-TIGHT SCREW      | 3x8 MFZN2M3             |               | バインドBタイトネジ   |
| 164     | WE877900 | BLIND HEAD S-TIGHT SCREW      | 3x6 MFZN2M3             |               | バインドSタイトネジ   |
| 167     | WF002600 | PW HEAD B-TIGHT SCREW         | 3x8 MFZN2M3             |               | PWヘッドBタイトネジ  |
| 168     | V7669400 | PW HEAD B-TIGHT SCREW         | 3x15-8 MC2              |               | PWヘッドBタイトネジ  |
| 170     | WU048900 | BLIND HEAD S-TIGHT SCREW      | 4x10 MFZN2M3            |               | バインドSタイトネジ   |
| 171     | VD069600 | PW HEAD S-TIGHT SCREW         | 4x8-10 MFN133           | GD, TI        | PWヘッドSタイトネジ  |
| 171     | VH313200 | PW HEAD S-TIGHT SCREW         | 4x8-10 MFN13BL          | BL            | PWヘッドSタイトネジ  |
| * 200   | ZJ665100 | ACCESSORIES                   |                         |               | 付属品          |
| 200-1   | AAK82380 | REMOTE CONTROL                | 000-231110010           |               | リモコン         |
| 202     | V6267000 | FM ANTENNA                    | Black                   | CC-2209       | 電池蓋          |
| 202     | WQ147100 | FM ANTENNA                    | 1.4m 1pc                |               | FMAフンテナ      |
| 203     | WY296700 | FM ANTENNA                    | 1.4m 1pc                |               | FMAフンテナ      |
| 204     | WN649600 | YPAO MICROPHONE               | 6m 1pc                  | S0160BL-26    | YPAOマイク      |
| * 205   | ZJ846700 | REMOTE CONTROL SHEET          | 1pc                     |               | リモコンシート      |
| 206     | ZG306200 | ANTENNA ISOLATOR              | 1pc                     | 11D05Z42      | アンテナアイソレータ   |
| 207     | ZG306400 | CONVERSION PLUG               | 1pc                     | EP-6004-02-01 | 変換プラグ        |
|         |          | BATTERY                       | R03, AAA, UM-4 2pcs     | T             | 単4乾電池        |
|         |          | SERVICE TOOL                  |                         |               | サービスツール      |
|         | ZG780000 | PCB CHECKING JIG              | WITH FFG                |               | PCBチェック用ジグ   |

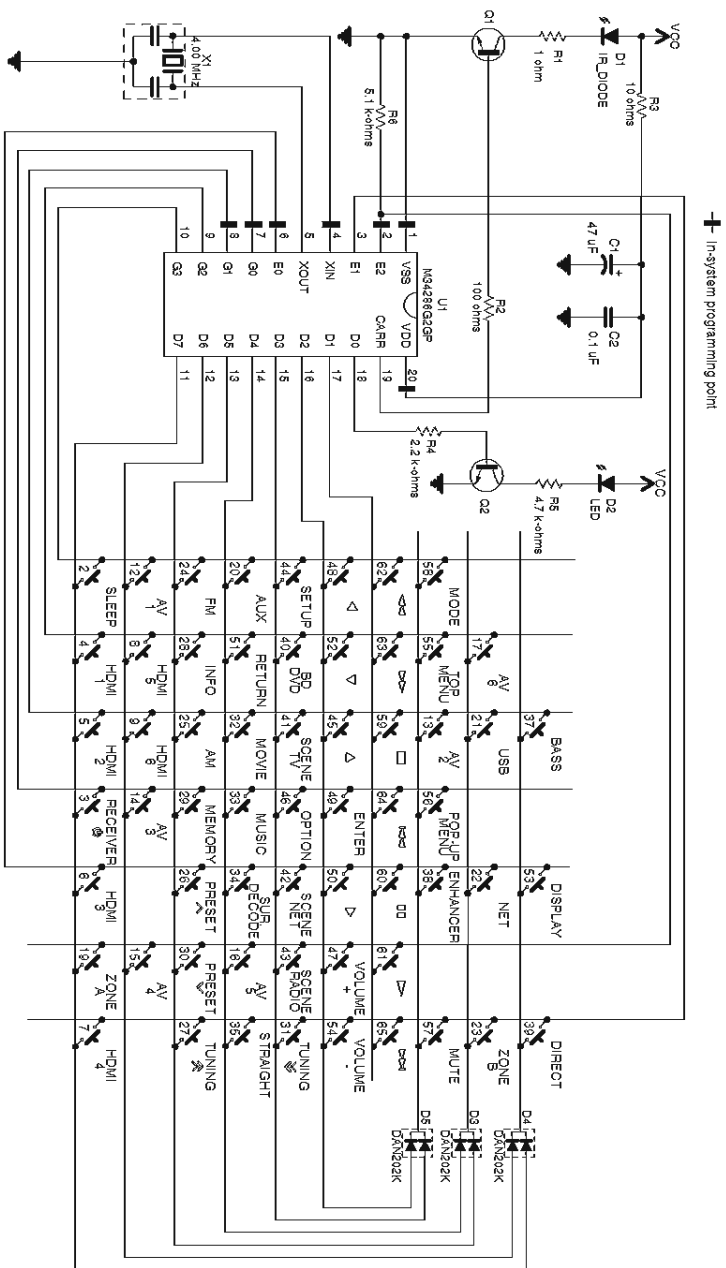
\* New Parts / 新規部品

Finish / 仕上げ ..... GD: Gold color, BL: Black color, TI: Titanium color

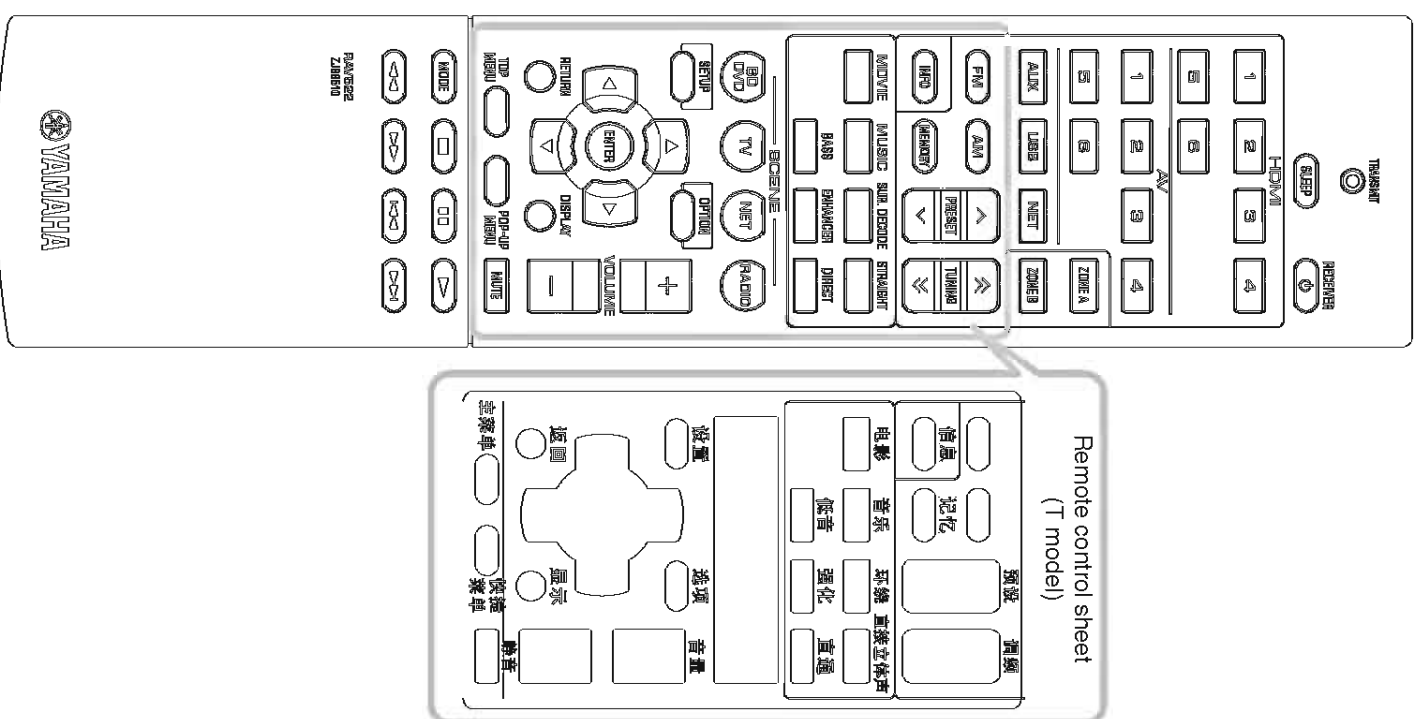
## ■ REMOTE CONTROL

### SCHEMATIC DIAGRAM

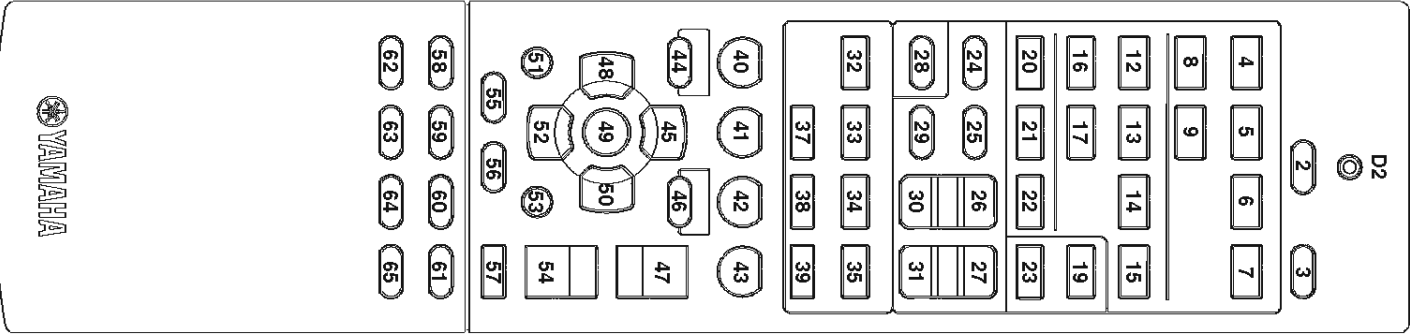
#### RAV522



**PANEL**



KEY NO. LAYOUT  
RAV522



KEY CODE  
RAV522

| Key No.                    | Key Name             | ID-1      |           | ID-2      |           |
|----------------------------|----------------------|-----------|-----------|-----------|-----------|
|                            | Remote control sheet | MAIN      | ZONE2     | MAIN      | ZONE2     |
| LED1                       | TRANSMIT             | —         | —         | —         | —         |
| "RECEIVER"<br>(mode fixed) | K2 SLEEP             | 7A-30     | 7A-31     | 7A-30CE   | 7A-31CF   |
|                            | K3 RECEIVER          | 7E-2A     | 7A-453A   | 7E-2AD4   | 7A-453B   |
|                            | K4 HOME 1            | 7A-4738   | 7A-4837   | 7A-4739   | 7A-4836   |
|                            | K5 HOME 2            | 7A-4A35   | 7A-4B34   | 7A-4A34   | 7A-4B35   |
|                            | K6 HOME 3            | 7A-4D32   | 7A-4E31   | 7A-4D33   | 7A-4E30   |
|                            | K7 HOME 4            | 7A-502F   | 7A-512E   | 7A-502E   | 7A-512F   |
|                            | K8 HOME 5            | 7A-700F   | 7A-710E   | 7A-700E   | 7A-710F   |
|                            | K9 HOME 6            | 7A-730C   | 7A-740B   | 7A-730D   | 7A-740A   |
|                            | K12 AV 1             | 7A-532C   | 7A-542B   | 7A-532D   | 7A-542A   |
|                            | K13 AV 2             | 7A-5629   | 7A-5728   | 7A-5628   | 7A-5729   |
|                            | K14 AV 3             | 7A-5926   | 7A-5A25   | 7A-5927   | 7A-5A24   |
|                            | K15 AV 4             | 7A-5C23   | 7A-5D22   | 7A-5C22   | 7A-5D23   |
|                            | K16 AV 5             | 7A-5F20   | 7A-601F   | 7A-5F21   | 7A-601E   |
|                            | K17 AV 6             | 7A-621D   | 7A-631C   | 7A-621C   | 7A-631D   |
|                            | K19 ZONE A           | 7A-9A     | —         | 7A-9A64   | —         |
| K20                        | AUX                  | 7A-55     | 7A-D8     | 7A-55A8   | 7A-D826   |
| K21                        | USB                  | 7F01-720D | 7F01-730C | 7F01-720C | 7F01-730D |
| K22                        | NET                  | 7F01-3F   | 7F01-40   | 7F01-3FC1 | 7F01-40BE |
| K23                        | ZONE B               | 7A-9B     | —         | 7A-9B65   | —         |
| K24                        | FM                   | 7F01-5827 | 7F01-5926 | 7F01-5826 | 7F01-5927 |
| K25                        | AM                   | 7F01-552A | 7F01-5629 | 7F01-552B | 7F01-5628 |
| K26                        | PRESET               | 7F01-5B24 | 7F01-5C23 | 7F01-5B25 | 7F01-5C22 |
| K27                        | TUNING               | 7F01-611E | 7F01-621D | 7F01-611F | 7F01-621C |
| K28                        | INFO                 | 7A-2758   | 7A-2857   | 7A-2759   | 7A-2856   |
| K29                        | MEMORY               | 7F01-6718 | 7F01-6817 | 7F01-6719 | 7F01-6816 |
| K30                        | PRESET               | 7F01-5E21 | 7F01-5F20 | 7F01-5E20 | 7F01-5F21 |
| K31                        | TUNING               | 7F01-641B | 7F01-651A | 7F01-641A | 7F01-651B |
| K32                        | MOVIE                | 7A-88     | —         | 7A-8876   | —         |
| K33                        | MUSIC                | 7A-89     | —         | 7A-8977   | —         |
| K34                        | SUR. DECODE          | 7A-8D     | —         | 7A-8D73   | —         |
| K35                        | STRAIGHT             | 7A-56     | —         | 7A-56A8   | —         |
| K37                        | BASS                 | 7A-BDC2   | —         | 7A-BDC3   | —         |
| K38                        | ENHANCER             | 7A-94     | —         | 7A-946A   | —         |
| K39                        | DIRECT               | 7A-DD     | —         | 7A-DD23   | —         |
| K40                        | SCENE BD/DVD         | 7A-007F   | 7A-017E   | 7A-007E   | 7A-017F   |
| K41                        | SCENE TV             | 7A-037C   | 7A-047B   | 7A-037D   | 7A-047A   |
| K42                        | SCENE NET            | 7A-0679   | 7A-0778   | 7A-0678   | 7A-0779   |
| K43                        | SCENE RADIO          | 7A-0976   | 7A-0A75   | 7A-0977   | 7A-0A74   |
| K44                        | SETUP                | 7A-84     | —         | 7A-847A   | —         |
| K45                        | △                    | 7A-9D     | 7A-2B54   | 7A-9D63   | 7A-2B55   |
| K46                        | OPTION               | 7A-6B14   | —         | 7A-6B15   | —         |

| Key No.                    | Key Name        | Remote control sheet | ID-1    |         | ID-2      |           |
|----------------------------|-----------------|----------------------|---------|---------|-----------|-----------|
|                            |                 |                      | MAIN    | ZONE2   | MAIN      | ZONE2     |
| LED1                       | TRANSMIT        |                      | —       | —       | —         | —         |
| "RECEIVER"<br>(mode fixed) | K47 VOLUME +    | 音量                   | 7A-1A   | 7A-DA   | 7A-1AE4   | 7A-DA24   |
|                            | K48             | ▽                    | 7A-9F   | 7A-2D52 | 7A-9F61   | 7A-2D53   |
|                            | K49 ENTER       |                      | 7A-DE   | 7A-2F50 | 7A-DE20   | 7A-2F51   |
|                            | K50             | ▽                    | 7A-9E   | 7A-2E51 | 7A-9E60   | 7A-2E50   |
|                            | K51 RETURN      | 返回                   | 7A-4A   | 7A-3C43 | 7A-AA54   | 7A-3C42   |
|                            | K52             | ▽                    | 7A-9C   | 7A-2C53 | 7A-9C62   | 7A-2C52   |
|                            | K53 DISPLAY     | 顯示                   | 7F01-60 | 7F01-80 | 7F01-609E | 7F01-807E |
|                            | K54 VOLUME -    | 音量                   | 7A-1B   | 7A-DB   | 7A-1BE5   | 7A-DB25   |
|                            | K55 TOP MENU    | 主菜单                  | 7A-A0DF | 7A-A1DE | 7A-A0DE   | 7A-A1DF   |
|                            | K56 POP-UP MENU | 快捷菜单                 | 7A-AADB | 7A-A5DA | 7A-AADA   | 7A-A5DB   |
|                            | K57 MUTE        | 静音                   | 7A-1C   | 7A-DC   | 7A-1CE2   | 7A-DC22   |
|                            | K58 MODE        |                      | 7F01-66 | 7F01-86 | 7F01-6698 | 7F01-8678 |
|                            | K59             | □                    | 7F01-69 | 7F01-89 | 7F01-6997 | 7F01-8977 |
|                            | K60             | □                    | 7F01-67 | 7F01-87 | 7F01-6799 | 7F01-8779 |
|                            | K61             | ▽                    | 7F01-68 | 7F01-88 | 7F01-6896 | 7F01-8876 |
|                            | K62             | △                    | 7F01-6A | 7F01-8A | 7F01-6A94 | 7F01-8A74 |
| K63                        | △               |                      | 7F01-6B | 7F01-8B | 7F01-6B95 | 7F01-8B75 |
| K64                        | △               |                      | 7F01-6C | 7F01-8C | 7F01-6C92 | 7F01-8C72 |
| K65                        | △               |                      | 7F01-6D | 7F01-8D | 7F01-6D93 | 7F01-8D73 |

NOTE:

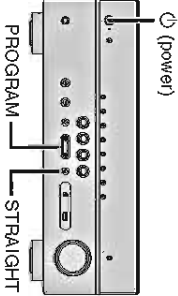
|                     |                                                         |                  |
|---------------------|---------------------------------------------------------|------------------|
| ID setting          | K48 [△] + K40 [SCENE BD/DVD]                            | ID-1             |
|                     | K48 [△] + K41 [SCENE TV]                                | ID-2             |
| ZONE setting        | DEFAULT                                                 | ID-1             |
|                     | K50 [▷] + K40 [SCENE BD/DVD] / K50 [▷] + K41 [SCENE TV] | MAIN / ZONE2     |
|                     | DEFAULT                                                 | MAIN             |
| 30-SEC TIMER on/off | K51 [RETURN] + K14 [AV 3] → K12 [AV 1]                  | 30-SEC TIMER on  |
|                     | K46 [OPTION] + K14 [AV 3] → K12 [AV 1]                  | 30-SEC TIMER off |
| DEFAULT             |                                                         | 30-SEC TIMER on  |

■ CONFIGURING THE SYSTEM SETTINGS

Configure the system settings of the unit while viewing the front display.

**1** Set the unit to standby mode.

**2** While holding down **STRAIGHT** on the front panel, press **⏻** (power).



**3** Press **PROGRAM** to select an item.

**4** Press **STRAIGHT** to select a setting.

**5** Press **⏻** (power) to set the unit to standby mode and turn it on again.  
The new settings take effect.

ADVANCED SETUP menu items



• Default settings are underlined.

| Item      | Function                                                                      |
|-----------|-------------------------------------------------------------------------------|
| SP IMP    | (U.S.A. and Canada models only)<br>Changes the speaker impedance setting.     |
| REMOTE ID | Selects the unit's remote control ID.                                         |
| TU        | (Asia and General models only)<br>Changes the FM/AM tuning frequency setting. |
| TV FORMAT | Switches the video signal type of HDMI output.                                |
| INIT      | Restores the default settings.                                                |
| UPDATE    | Updates the firmware.                                                         |
| VERSION   | Checks the version of firmware currently installed on the unit.               |

Changing the speaker impedance setting (SP IMP)

(U.S.A. and Canada models only)



Change the unit's speaker impedance settings depending on the impedance of the speakers connected.

| Settings |                                                                           |
|----------|---------------------------------------------------------------------------|
| 6 Ω MIN  | Select this option when you connect 6-ohm speakers to the unit.           |
| 8 Ω MIN  | Select this option when you connect 8-ohm or higher speakers to the unit. |

Selecting the remote control ID (REMOTE ID)



Change the unit's remote control ID so that it matches the remote control's ID (default: ID1). When using multiple Yamaha AV receivers, you can set each remote control with a unique remote control ID for its corresponding receiver.

**Settings**  
ID1, ID2

■ Changing the remote control ID of the remote control

**1** To select ID1, while holding down the cursor key (◀), hold down **SCENE** (BD/DVD) for more than 3 seconds.  
To select ID2, while holding down the cursor key (▶), hold down **SCENE** (TV) for more than 3 seconds.



• Once the remote control ID is selected successfully, TRANSMIT indicator blinks twice. If it blinks six times, selecting has failed.

Changing the FM/AM tuning frequency setting (TU)

(Asia and General models only)



Change the FM/AM tuning frequency setting of the unit depending on your country or region.

| Settings   |                                                                                               |
|------------|-----------------------------------------------------------------------------------------------|
| FM100/AM10 | Select this when you want to adjust the FM frequency by 100-kHz steps and AM by 10-kHz steps. |
| EM50/AM2   | Select this when you want to adjust the FM frequency by 50-kHz steps and AM by 9-kHz steps.   |

Switching the video signal type (TV FORMAT)



Switch the video signal type of HDMI output so that it matches to the format of your TV. Since the unit automatically selects the video signal type so that it matches to the TV, it is unnecessary to change the setting normally. Change the setting only when images on the TV screen do not appear correctly.

| Settings                                       |  |
|------------------------------------------------|--|
| NTSC, PAL                                      |  |
| <b>Default</b>                                 |  |
| U.S.A., Canada, Korea and General models: NTSC |  |
| Other models: PAL                              |  |

Restoring the default settings (INIT)



Restores the default settings for the unit.

**Choices**

|        |                                             |
|--------|---------------------------------------------|
| ALL    | Restores the default settings for the unit. |
| CANCEL | Does not perform an initialization.         |

Updating the firmware (UPDATE)



New firmware that provides additional features or product improvements will be released as needed. Updates can be downloaded from our website. If the unit is connected to the Internet, you can download the firmware via the network. For details, refer to the information supplied with updates.

■ Firmware update procedure

Do not perform this procedure unless firmware update is necessary. Also, make sure you read the information supplied with updates before updating the firmware.

**1** Press **STRAIGHT** repeatedly to select “**USB**” or “**NETWORK**” and press **INFO** to start firmware update.

| Choices |                                                |
|---------|------------------------------------------------|
| USB     | Update the firmware using a USB memory device. |
| NETWORK | Update the firmware via the network.           |



• If the unit detects newer firmware over the network, the envelope icon (✉) will appear in the screen. In this case, you can also update the unit's firmware by following the procedure in “Updating the unit's firmware”.

Checking the firmware version (VERSION)



Check the version of firmware currently installed on the unit.



• You can also check the firmware version in “Network Update” in the “Setup” menu.  
• It may take a while until the firmware version is displayed.

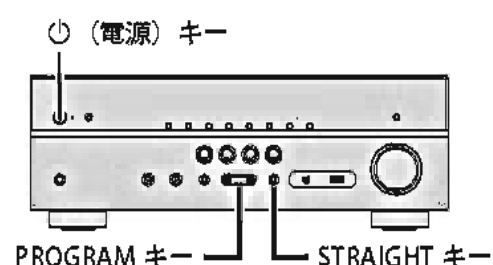


## ■ システム設定を変更する

前面ディスプレイを見ながら、本機のシステム設定を変更します。

- 1 本機の電源が入っている場合は、電源をスタンバイにする。

- 2 前面の STRAIGHT キーを押しながら （電源）キーを押す。



- 3 PROGRAM キーで設定項目を選ぶ。

- 4 STRAIGHT キーで設定値を選ぶ。

- 5 （電源）キーで、電源をスタンバイにしてから再度電源を入れる。

設定変更が反映されます。

## アドバンスドセットアップメニューでできること



・各項目の初期値には下線が付いています。

| 項目        | 説明                                 |
|-----------|------------------------------------|
| REMOTE ID | 本体側のリモコン ID を変更します。                |
| TV FORMAT | HDMI 映像出力のビデオ信号方式を切り替えます。          |
| INIT      | 各種設定を初期化します。                       |
| UPDATE    | ファームウェアを更新します。                     |
| VERSION   | 本機にインストールされているファームウェアのバージョンを表示します。 |

## リモコン ID の変更 (REMOTE ID)

REMOTE ID ID1

リモコン側のリモコン ID（初期値：ID1）と一致するよう、本体側のリモコン ID を変更します。複数のヤマハ製 AV レシーバーをお使いの場合、それぞれのリモコンで各レシーバーを操作するために、リモコン ID が重ならないように設定します。

設定値  
ID1、ID2

### ■ リモコン側のリモコン ID 設定

- 1 ID1 に設定するには、カーソルキー（）を押しながら SCENE（BD/DVD）キーを 3 秒間押し続ける。  
ID2 に設定するには、カーソルキー（）を押しながら SCENE（TV）キーを 3 秒間押し続ける。



・リモコン ID の設定が成功すると、リモコンの TRANSMIT 表示が 2 回点減します。6 回点減した場合は設定失敗です。再度設定してください。

## ビデオ信号方式の変更 (TV FORMAT)

TV FORMAT NTSC

お使いのテレビにあわせて、本機の HDMI OUT 端子から出力されるビデオ信号方式を切り替えます。通常は変更する必要はありません。本機により、テレビにあったビデオ信号方式が自動的に選択されます。テレビの映像が乱れる場合のみ変更してください。

設定値  
NTSC、PAL

## 設定の初期化 (INIT)

INIT ... CANCEL

本機の各種設定を初期化します。

### 選択項目

|        |               |
|--------|---------------|
| ALL    | すべての設定を初期化する。 |
| CANCEL | 初期化しない。       |

## ファームウェアの更新 (UPDATE)

UPDATE ... USB

機能の追加や不具合の改善に応じて、ファームウェアが更新されることがあります。ファームウェアは弊社ウェブサイトからダウンロードできます。詳しくは、ファームウェア更新時に提供される情報をご確認ください。

### ■ ファームウェアの更新手順

ファームウェア更新時以外は実行しないでください。また実行前に、更新時に提供される情報を必ずご確認ください。

- 1 アドバンスドセットアップメニューを表示させ、前面の PROGRAM キーで「UPDATE」を選ぶ。
- 2 STRAIGHT キーを繰り返し押して「USB」または「NETWORK」を選び、INFO キーを押して更新を実行する。

### 選択項目

|         |                            |
|---------|----------------------------|
| USB     | USB メモリーを使ってファームウェアを更新します。 |
| NETWORK | ネットワーク経由でファームウェアを更新します。    |



・ネットワーク上に新しいファームウェアがある場合は、画面に封筒（）アイコンが表示されます。この状態からファームウェアを更新することも可能です。

- 3 前面ディスプレイに「UPDATE SUCCESS PLEASE POWER OFF!」と表示されたら、前面の （電源）キーを押す。

## ファームウェアバージョンの確認 (VERSION)

VERSION ... XX.XX

本機にインストールされているファームウェアのバージョンを表示します。



・設定メニューの「ネットワークアップデート」画面でファームウェアのバージョンを確認することもできます。



# FIRMWARE UPDATING PROCEDURE



## IMPORTANT NOTICE

Do not attempt to update your Yamaha receiver using any other data file except those provided directly from the Yamaha website or through your network connection.

Follow the instructions carefully and do not attempt any other procedures not specified in the instructions provided by Yamaha.

Improperly updated products may cause improper operation, and any parts or service required to restore proper operation will not be covered under the Yamaha Limited Warranty.

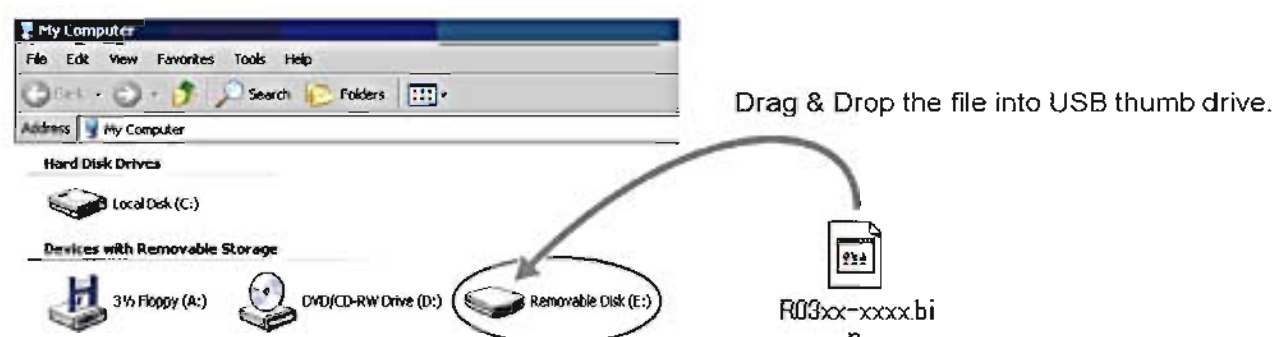
In case of error, see the [Troubleshooting](#) section

## Firmware Update by USB

**Requirement:** USB thumb drive, with enough free space to store over 25MB.  
(File system with FAT 16 or FAT32 format)  
Firmware file provided by YAMAHA, "R03xx-xxxx.bin".

### 1 Prepare USB thumb drive for the update

Download the firmware, unzip and copy "R03xx-xxxx.bin" into the root directory of the USB thumb drive.



### 2 Power off the receiver (Standby mode)

### 3 Insert the USB thumb drive

USB port is located at the lower left corner of the front panel.

### 4 Enter the ADVANCED SETUP mode

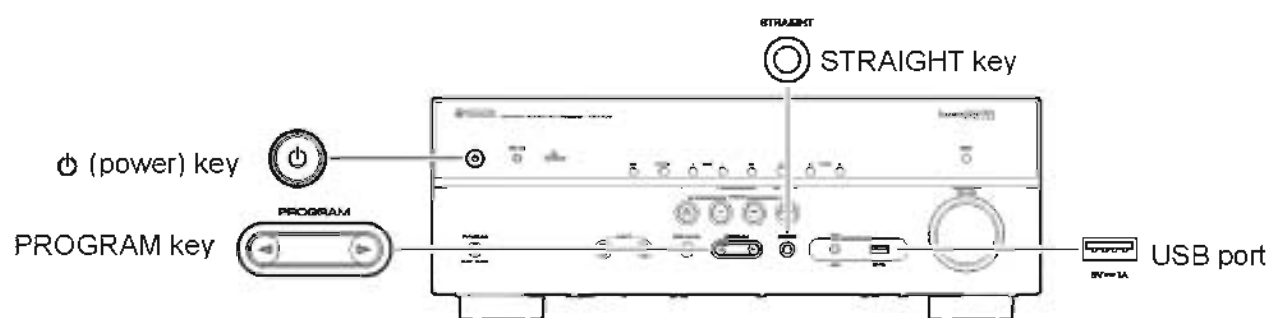
While pressing the **STRAIGHT** key, press the **⏻ (power)** key and keep **STRAIGHT** key pressed until "ADVANCED SETUP" appears on the front panel display.

ADVANCED SETUP

### 5 Select firmware update from the menu

Press the **PROGRAM** key until "UPDATE . . . . . USB" is displayed.

UPDATE . . . . . USB



## 6 Start firmware update

- a. Press **INFO** key to start the update.

(Update process may take up to 10 minutes)

- \* If "UPDATE SUCCESS" appears, this means your receiver is already up-to-date. In this case, power off to exit from Advanced Setup. Your AV receiver is ready for normal use.

Firmware update In progress



### Caution

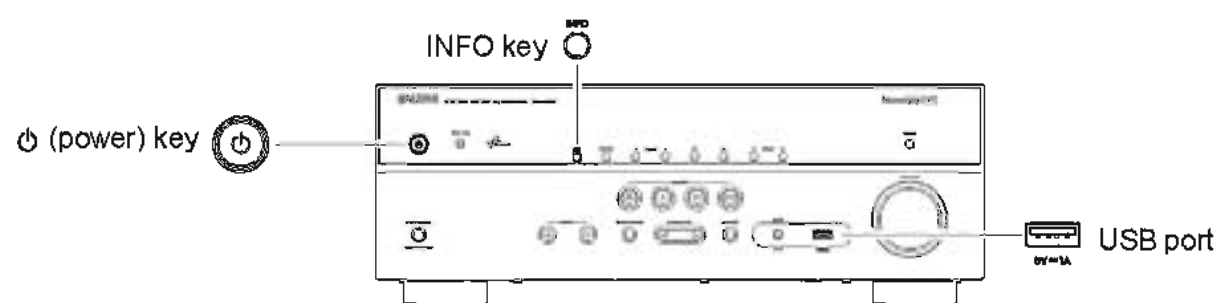
DO NOT interrupt power during the update.

In case the power is accidentally cut off resulting in a condition where you can't recover normal operation, refer to the troubleshooting method (**Troubleshooting CASE 2**) on the last page.

- b. When completed, "UPDATE SUCCESS", "PLEASE..." and "POWER OFF!" appears on the display.

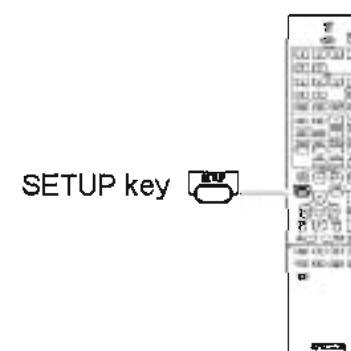


- c. Turn off the power of the receiver by pressing the **⏻ (power)** key.



## 7 Select "FIRM UPDATE" from the menu

- Power on the AV receiver and press the **SETUP** key on the remote control.
- Select "Network" > "Network Update".
- Confirm that the firmware version is updated to the latest version.



## Congratulations!

You have completed the firmware update. Your AV receiver is ready for normal use.

## Troubleshooting

### CASE 1 Error message appeared during the update

**Cause:** For some reason, the receiver can't read the firmware data.

**Method:** For your solution, check the following

- ☐ USB thumb drive is connected properly to the receiver.
- ☐ USB thumb drive is not password protected.  
(AV receiver cannot read data from a security protected USB thumb drive)
- ☐ Make sure the USB thumb drive is inserted before the receiver is powered on for the update.
- ☐ The firmware data, R03xx-xxxx.bin is stored in the root directory of the USB thumb drive.
- ☐ There is no other data except the firmware data in the USB thumb drive.
- ☐ No folders are created in the USB thumb drive.

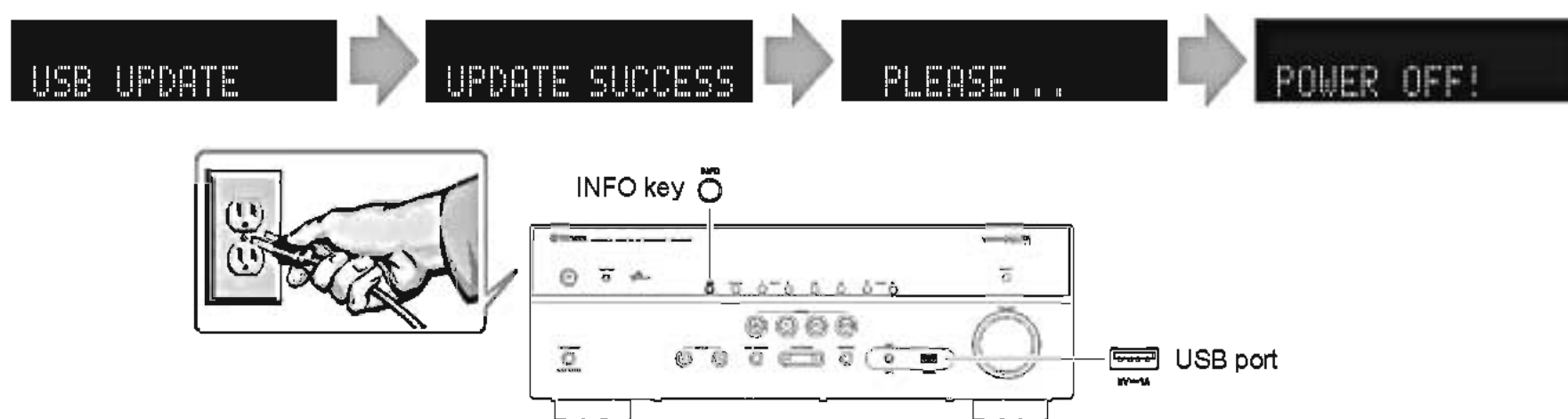
Else, retry the update by USB using another USB thumb drive.

### CASE 2 Firmware update doesn't start for other reasons

- Receiver doesn't power up after the update.
- Or, error message appeared when confirming the firmware version.

**Recovery method using USB method:**

1. Unplug the AC power cable from wall outlet.
2. Insert the USB thumb drive which has the firmware data stored inside, into the USB port located on the front panel.
3. Press and hold the **INFO** key and keep it pressed while you plug the AC power cable back into the wall outlet again.  
"USB UPDATE" will appear on the front display. Then, release the **INFO** key.
4. The update will start automatically.
5. When "UPDATE SUCCESS", "PLEASE...", "POWER OFF!" appears on the display, firmware update is completed.  
Power off the receiver and remove the USB thumb drive.
6. Confirm updated firmware version.



# ファームウェア更新手順

## 重要

当社がネットワーク経由またはホームページ上などでご提供する正式なアップデートデータ以外の使用や、当社からお知らせする方法以外でのアップデートは行わないでください。不正な状態で本体機能の更新を行った場合、動作保証を行わないだけでなく、アフターサービスおよび保証の対象外となります。

更新中にエラーが発生したときの [対処方法](#) はこちらをクリックしてください。



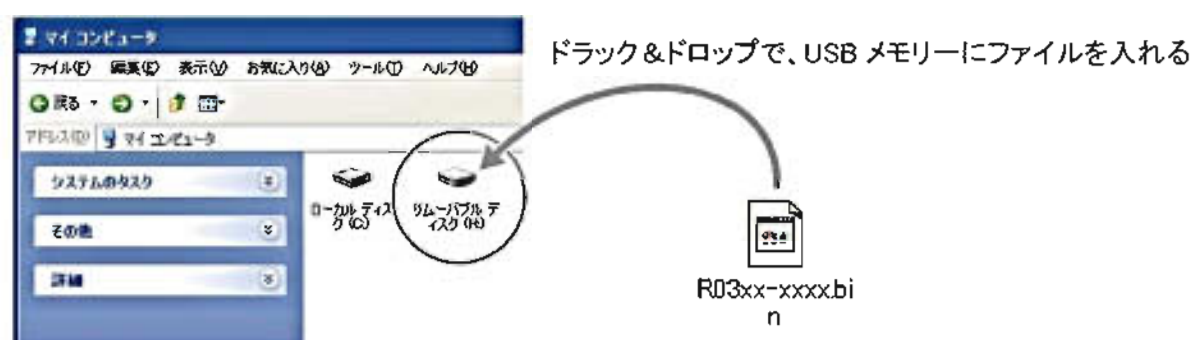
## USBメモリーを使ってファームウェアを更新する

ご用意いただくもの: USBメモリー(25 MB以上の容量が必要です)  
FAT16またはFAT32フォーマット  
ヤマハホームページからダウンロードしたファームウェアデータ  
“R03xx-xxxx.zip”

### 1 パソコン上でUSBメモリー内のデータを消去し、空の状態にします

### 2 USBメモリーにファームウェアをコピーします

パソコン上でファームウェアデータ(R03xx-xxxx.zip)を展開し、ファームウェア“R03xx-xxxx.bin”をUSBメモリーに入れてください。  
(フォルダ等の階層は作成しないでください)



### 3 電源ケーブルがコンセントに正しく挿入されていて、電源が切れていること(スタンバイ状態)を確認します

### 4 USBメモリーを差込みます

フロントパネル内のUSB端子に、USBメモリーを挿入してください。

### 5 ADVANCED SETUPモードで本機を立ち上げます

本機の STRAIGHTキー を押したまま **⏻** (電源)キー を押します。

※ “ADVANCED SETUP”が本体に表示されるまで STRAIGHTキー を押し続けてください。  
数秒後、表示が“REMOTE ID- ID1”に切り替わります。

ADVANCED SETUP

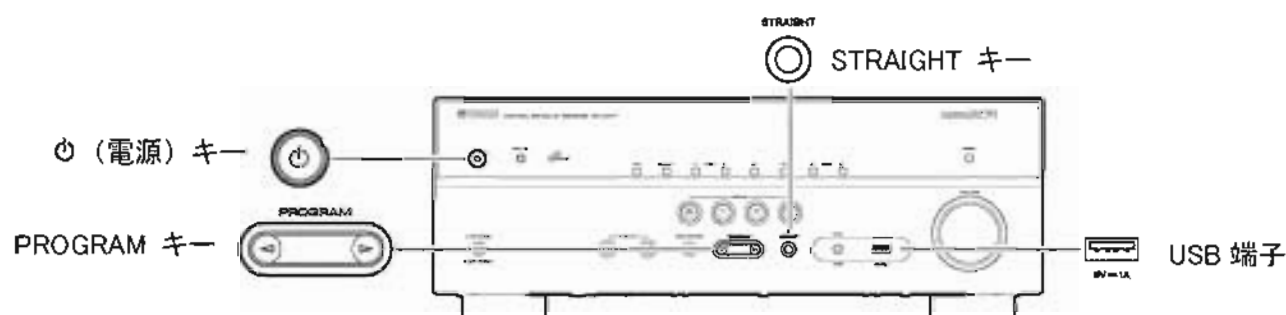


REMOTE ID- ID1

### 6 FIRM UPDATE USBを選択する

“UPDATE . . . . USB”が表示されるまで PROGRAMキー を何度か押します。

UPDATE . . . . USB



7 ファームウェア更新を開始する

- a. 本機の **INFO**キー を押すと更新を開始します。  
(完了まで10分ほどかかる場合があります)
- ※ “UPDATE SUCCESS”が表示された場合は、すでに本機のファームウェアが最新である可能性があります。その場合 **ファームウェア更新は不要** です。

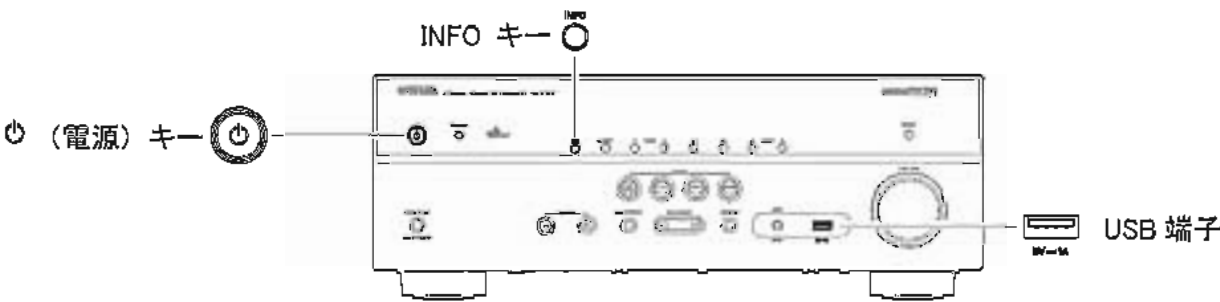


- ！ ご注意**  
更新中は **電源を絶対に切らない** てください。  
本機が立ち上がらなくなってしまった場合は、最終ページに記載されているリカバリー方法(「エラーが発生した時の対処方法」)で復帰してください。

- b. “UPDATE SUCCESS”、“PLEASE...”、“POWER OFF!”が本機に表示されましたら更新完了です。

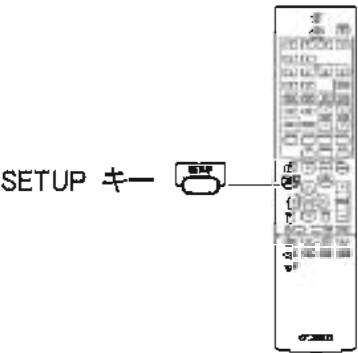


- c. 本機の **⏻ (電源)**キー を押し、電源を切ってください。
- d. USBメモリーを本機から抜いてください。



8 ファームウェア更新後のバージョンを確認します

- a. AVアンプの電源を入れ、リモコン の **SETUP**キー を押します。
- b. “Network”の中の“Network Update”を選択します。
- c. 現在のファームウェアバージョンが最新になっていることを確認します。



以上でファームウェア更新作業は終了です。



## エラーが発生した時の対処方法

### ケース1 更新中にエラーメッセージが表示された

**推定原因:** 何らかの理由でファームウェアデータが読めない。

**対処法:** 以下の項目を確認してください。

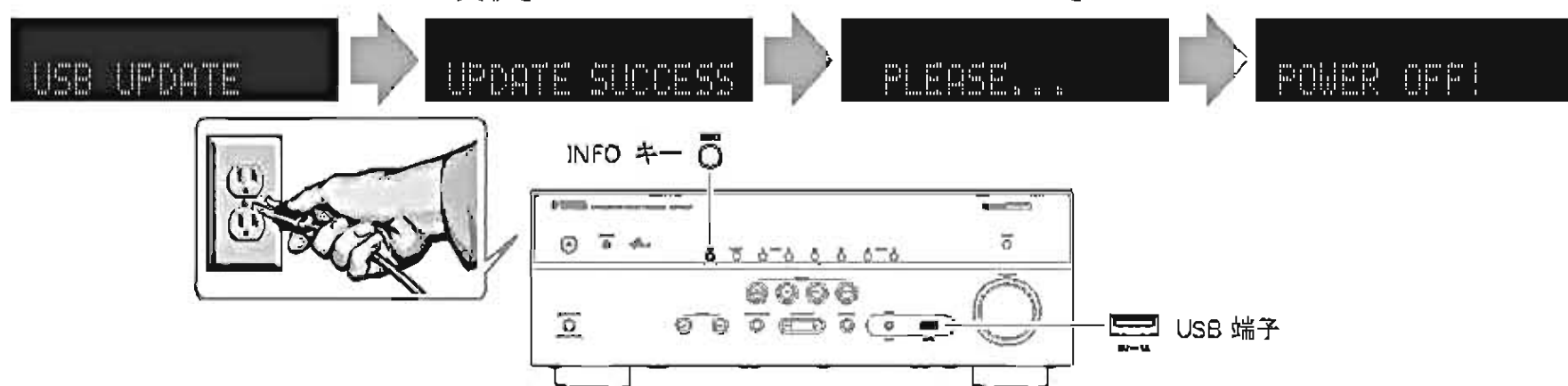
- ☐ USBメモリーが本機に正しく差し込まれていることを確認してください。
- ☐ USBメモリーがパスワード等で保護されてないことを確認してください。  
(セキュリティー保護されたUSBメモリーは読み込めません。)
- ☐ 更新用のUSBメモリーは電源を入れる前にAVアンプに差し込んでください。
- ☐ ファームウェアデータ(R03xx-xxx.bin)が何らかのフォルダの中に入っていないことを確認してください。  
(ルートにファイルがあること)
- ☐ USBメモリー内にフォルダが作られていないことを確認してください。  
それでも更新できない場合は、他のUSBメモリーを使い再度更新をおこなってください。

### ケース2 その他の理由で更新がうまくいかない

● (電源)キーを押しても本機が起動しなくなった。

● 更新後、ファームウェアバージョンを確認すると、本機でエラーメッセージが表示された。

- 復帰方法:**
1. 電源ケーブルをコンセントから抜きます。
  2. ファームウェアの入ったUSBメモリーを本機に差し込みます。
  3. 本機の **INFOキー** を押したまま電源ケーブルをコンセントに差し込みます。  
“USB UPDATE”が本機に表示されたら **INFOキー** を離してください。
  4. 更新が自動的に始まります。
  5. 本機で“UPDATE SUCCESS”、“PLEASE...”、“POWER OFF!”が表示されたら更新完了です。  
電源を切りUSBメモリーを抜いてください。
  6. 更新されたファームウェアバージョンを確認してください。



### ケース3 リモコンが効かなくなりました

**推定原因:** Advanced Setupの設定を変えてしまった。

**対処法:** 以下のAdvanced Setup項目を確認してください。

- ☐ リモコンIDの設定が“ID1”になっていることを確認してください。

# RX-V477/HTR-4067

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