**SPECSIFICATIONS**

The RV-1000 is a 1U rack-mount stereo Digital Reverb unit using a fully digital delay system.

**Input Level/Output Impedance:**
- Nominal: 
  - 300Ω (10kΩ @ 300Ω)
  - 48kΩ (10kΩ @ 48kΩ)
- Maximum: 
  - 300Ω (4.8kΩ @ 300Ω)
  - 48kΩ (6.3kΩ @ 48kΩ)

**Output Load Impedance:** More than 10kΩ

**Frequency Response:**
- Direct: 300Ω: 3kHz (1kHz)
- Effect: 3kHz: 1kHz (1kHz)

**Sampling Process:**
- Sampling Resolution: 16bit Linear Response
- Sampling Rate: 32kHz

**Pre EQ:**
- Low: -15dB at 50Hz
- High: -15dB at 12kHz

**Recall Notes:**
- Low (<30Ω, Hi (1kHz, <30Ω)
- BYPASS OFF, LOAD @ 300Ω, INPUT @ 48kΩ, OUTPUT @ 48kΩ, EQUILIBRATION @ 48kΩ, TIMING @ 5kHz

**Power Consumption:** 6.5W

**Dimensions:** 482mm x 440mm x 280mm: 1U 
14" x 17-1/2" x 11-1/4"

**Weight:** 2.6kg

**Accessories:**
- Owner's Manual (English) (PB201216)
- Owner's Manual (Japanese) (PB201217)

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**TABLE OF CONTENTS**

- EXPLODED VIEW
- PARTS LIST
- BLOCK DIAGRAM
- BOARD ASSY
- CIRCUIT DIAGRAM
- ADJUSTMENT
- CHECK THE DIRECTION OF THE MODE SWITCHES KNOB
- SURFACE MOUNTING DIAGRAM FOR BOARD ASSY

---

**GENERAL VIEW RV-1000 の概要図**

Pot. RK163111R926-AW 10KB (F3229108RT)

Pot. RK16312AR438-AW 10KB × 2 (F3229111RT)

Pot. RK16312AR443-AW 50KB × 2 (F3229109RT)

Switch SR5122057-A (13119181)

Switch SPUN19K007-AW (F3129301RT)

Button (Black) (22477521)

LED 2021H (15029192)

Knob KNOB (Gray) (244771311RT)

Button (Black) (224776000)

Switch SDDA1 TV-3 (13121144)

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**Jack (Phone Jack)**
- HL4350-01-3010 (F3484101RT)
- Jack Nut (H5037956RT)

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Printed in Japan (AI-2) (CR)

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PARTS LIST

SAFETY PRECAUTIONS:
The parts marked * have safety-related characteristics. Use only listed parts for replacement.

IC 集積回路

15189136RT (or 15189136)  
M5218L  
Low Noise Dual OP Amp  
(Mitsubishi) IC1, 2, 4, 5

15189188  
M5238L  
Low Noise JFET Dual OP Amp  
(Mitsubishi) IC8

15190128OH  
HD1405BP  
Triple 2-Channel Multiplexer  
(CMOS) IC7

15189111RT (or 15189111J1)  
NJM311D  
Precision Voltage Comparator  
(JRC) IC8

15189196  
μP339C  
Quad Comparator  
(NEC) IC13

15199102  
TA805S  
Quad Comparator  
(Toshiba) IC19

△15199147  
MS7815L-01  
5V Voltage Regulator  
(Mitsubishi) IC21

△15199148  
MS7815L-01  
15V Voltage Regulator  
(Mitsubishi) IC20

15170394  
MN4264-12  
120μF 66k (16kx4) nMOS D-RAM  
(Panasonic) IC15, 16, 17, 18

F52120102RT  
NMC27C128B  
150ns 128K (16Kx8) CMOS OTP-ROM  
(INS) IC10

15239152  
HG62E2R646FS  
Gate Array (DSP Chip)  
IC4

15219162  
PCM54HR-V  
16-Bit D/A Converter  
(BB) IC9

TRANSISTOR トランジスター

15129111RT (or 1512911)  
2SC1815-GR  
Tr for AF amp (Toshiba) Q4

15119113RT (or 15119113)  
2SA1015-GR  
Tr for AF amp (Toshiba) Q3

15129136RT (or 15129136)  
2SC278B-A  
Tr for Muting Sw. (Toshiba) Q1

15139107RT (or 15139107)  
2SK117-Y  
FET for Low Noise Buf. (Toshiba) Q6

15139101RT (or 15139101)  
2SK30A-Y  
FET for Limiter Sw. (Toshiba) Q14

DIODE ダイオード

△15039111RT  
P8154M  
Bridge Rectifier  
for +5V D20

15019420  
RD 30E652-T  
Zener Rectifier  
for limiter circ. D5

△15019030RT  
1N4004  
Rectifier  
for +15V and −15V D21-D24

POTENTIOMETER 可変抵抗器

F3229100RT  
RK1631AR439-AW  
50KB x 2  
INPUT VR1

F3229100RT  
RK1631AR926-AW  
10KB  
PRE EQ (LOW, HIGH) VR4, 5

F3229111RT  
RK1631AR781-AW  
10KB  
DECAY VR9

F3229111RT  
RK1631AR439-AW  
10KB x 2  
OUTPUT (DIRECT, EFFECT) VR2, 3

F3299101RT  
EVN80B3815  
100KB Trimmer Pot.  
for A/D Offset Adj. VR7

F3299102RT  
EVN80A03B53  
5KB Trimmer Pot.  
for Decay Time Adj. VR8

CASING ケース

F2029101RT  
TOP COVER  
(CHASSIS)

F2029102RT  
BOTTOM COVER  

F219101RT  
FRONT PANEL  

F219102RT  
REAR PANEL  

F219501RT  
TOP ANGLE  
(TOP COVER HOLDER)

KNOB, BUTTON つまみ、ボタン

G2477101RT  
KNOB (Gray)  

G24776500  
BUTTON (Black)  

G24792510  
BUTTON (Black)  

SWITCH スイッチ

△13129144  
SDDL1 TV-3  

13119016  
SRRS1057A  

F3129030RT  
SPUN99003-AW  

F3192903RT  
SPUN99007-AW  

JACK, SOCKET ジャック、ソケット

F3449101RT  
HLJ4306-01-3010  
Phone Jack  
INPUT A/B, OUTPUT A/B

PCB ASSY 基板組立

7572290000  
RV1000 BOARD ASSY  
(pcb G2927101RT)

This ASSY includes the following.

* MAIN BOARD 1/3  
* MAIN BOARD 3/3  

*pbc G2927101RT 1/3  
*pbc G2927101RT 3/3

この基板組立には、次のものが含まれています。

* MAIN BOARD 1/3  
* MAIN BOARD 3/3  

*(pbc G2927101RT 1/3)  
*(pbc G2927101RT 3/3)
## CAPACITOR コンデンサー

- **13639194RT** SKR102M1VJ25 1000/35 Electrolytic for +15V and -15V CT27, 130
- **13639195RT** SKR102M1CG20 1000/16 Electrolytic for +5V CT25

## INDUCTOR, COIL インダクタ, コイル

- **12445240** [or 12389716] BL02RN2-R62 Coil [EMI FIL] for EMI Filtering L1-L5

## CRYSTAL, RESONATOR クリスタル, 餅振子

- **12389716M1** [or 12389716] CSA.800MS1 Ceramic Resonator

## OPTICAL DEVICE 光電部品

- **15029188RT** 202HD LED for Power, Bypass and Overload Indi. D1, 3, 25

## WIRING, CABLE ワイヤリング, ケーブル

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIRING A</td>
<td></td>
<td>1 conductor HOOK-UP WIRE (JUMPER LEAD)</td>
</tr>
<tr>
<td>WIRING B</td>
<td></td>
<td>1 conductor HOOK-UP WIRE (JUMPER LEAD)</td>
</tr>
<tr>
<td>WIRING I</td>
<td></td>
<td>2 conductors SHIELDED CABLE (JUMPER LEAD)</td>
</tr>
<tr>
<td>WIRING L</td>
<td></td>
<td>1 conductor HOOK-UP WIRE on PCB soldering side (JUMPER LEAD)</td>
</tr>
</tbody>
</table>

## TRANSFORMER トランス

- **G2457101RT** 100V/117V Power Transformer for 100V/117V T1
- **G2457202RT** 220V/240V Power Transformer for 220V/240V T1

## AC CORD (Installed) 電源コード（接え付け式）

- **G3497103RT** LP-50 with Plug for 100V use (2-CONDUCTOR)
- **G3497102RT** LV-30 with Plug for 117V use (3-CONDUCTOR)
- **G3497101RT** LP-21 with Plug for 220V use (2-CONDUCTOR)
- **G3497104RT** LP-23 with Plug for 240VA use (3-CONDUCTOR)
- **G3497105RT** 5722-660-4527 with Plug for 240VE use (3-CONDUCTOR)

## SCREW 頑ねじ

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>3x6 Round Head Machine Screw Fe Cm W/Spring Washer</td>
<td></td>
<td>11 pcs</td>
</tr>
<tr>
<td>3x3 Binding Head Machine Screw Fe BC W/Internal Tooth Washer</td>
<td></td>
<td>15 pcs</td>
</tr>
<tr>
<td>3x16 Round Head Machine Screw Fe BC W/Untitled Washer</td>
<td></td>
<td>2 pcs STRAIN RELIEF</td>
</tr>
<tr>
<td>4x16 Binding Head Machine Screw Fe BC 2 for STRAIN RELIEF 2 for POWER TRANS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4x10 Hex Socket Cap Screw Fe BC</td>
<td>1 for Ground B-6 Lug Terminal</td>
<td>4 pcs for FRONT PANEL</td>
</tr>
<tr>
<td>M3 Hex Flange Nut Fe Cm</td>
<td>1 for Ground B-6 Lug Terminal</td>
<td>4 pcs</td>
</tr>
<tr>
<td>M4 Hex Nut Fe Cm</td>
<td>1 for Ground B-6 Lug Terminal</td>
<td>4 pcs for FRONT PANEL</td>
</tr>
<tr>
<td>M4 External Tooth Washer Fe Cm</td>
<td>1 for Ground B-6 Lug Terminal</td>
<td>4 pcs for FRONT PANEL</td>
</tr>
<tr>
<td>M4x0.45 Internal Tooth Washer Fe BC</td>
<td>1 for Ground B-6 Lug Terminal</td>
<td>4 pcs for FRONT PANEL</td>
</tr>
<tr>
<td>Jack Nut</td>
<td>1 for Ground B-6 Lug Terminal</td>
<td>4 pcs for FRONT PANEL</td>
</tr>
<tr>
<td>V.R. Accessory (Nuts)</td>
<td>14 pcs for POTENTIOMETER</td>
<td>4 pcs for JACKE</td>
</tr>
<tr>
<td>V.R. Accessory (Nut)</td>
<td>6 pcs for POTENTIOMETER</td>
<td>4 pcs for JACKE</td>
</tr>
<tr>
<td>SW. Accessory (Nut)</td>
<td>1 for MODE SWITCH</td>
<td>1 for MODE SWITCH</td>
</tr>
<tr>
<td>SW. Accessory (Nut)</td>
<td>1 for MODE SWITCH</td>
<td>1 for MODE SWITCH</td>
</tr>
</tbody>
</table>

## MISCELLANEOUS その他

- **12369410RT** [or 12369410] STRAIN RELIEF 1702B (CORD BAND or CORD CLAMP)
- **H362901RT** 174182-2 PIN (QUICK SLIDE TERMINAL)
- **H362901RT** INSULATE (INSULATION SHEET OF FIBER)
- **F369402RT** SB-0710 CORD BUSHING
- **F239101RT** FOOT RUBBER FOOT
- **F219101RT** PC BOARD JOINT 4053970200 B-6 PIN (LUG TERMINAL)

## ACCESSORIES (STANDARD) 標準付属品

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>OWNER'S MANUAL (Japanese)</td>
<td>G6027101RT</td>
<td>G6027102RT OWNER'S MANUAL (English)</td>
</tr>
</tbody>
</table>

### NOTES:
On mechanical characteristics, connection diagram and the purpose of using, H62E229R64F5 (10239152) is same as H601H298F6 but be used on MT-32 「MULTI TIMBRE SOUND MODULE」 or RV-2 4 DIGITAL REVERB. But electrical characteristics is difference in part, so there is incompatibility.

注：Gate Array H62E229R64F5（16239152）は、MT-32「MULTI TIMBRE SOUND MODULE」、RV-2 4 DIGITAL REVERB等で使用しているrevichip H601H298F6（15229896）と、形状および端子配置そして使用目的は同じです。しかし、一部仕様が変更されていますので互換は出来ません。
RV1000 BOARD ASSY
ASSY 75722300000
(pcb G292710IR T)

MAIN BOARD 1/3 (MAIN BOARD)
(pcb G2927101RT 1/3)

MAIN BOARD 3/3 (POWER BOARD)
(pcb G2927101RT 3/3)

NOTES:
1. Replacement RV1000 BOARD ASSY includes MAIN BOARD 1/3 (MAIN BOARD) and
   MAIN BOARD 3/3 (POWER BOARD).
2. The PCB (pcb G2927101RT) use in RV1000 BOARD ASSY is used in RE1000 BOARD
   ASSY too.
3. Some space do not lay some parts in BOARD ASSY.
   That space must be used by RE1000 BOARD ASSY.
4. In RV1000 BOARD ASSY, there are some surface (foil side) mountings and a
   pattern cut.
   For details, refer to the SURFACE MOUNTING DIAGRAM FOR BOARD ASSY (P.9).

注:
1. 補修用 RV1000 BOARD ASSY(基板組立)は、MAIN BOARD 1/3 (MAIN BOARD)とMAIN
   BOARD 3/3 (POWER BOARD)を含みます。
2. RV1000 BOARD ASSYで使う基板（pcb G2927101RT）は、RE1000 BOARD ASSYでも使
   用されます。その為、BOARD ASSY 上に、部品の付いていない場所があります。そこは、
   RE1000 BOARD ASSYで使用されます。
3. AとBの文字は、ジャンパ線のWIRING AとBの接続点を表しています。
4. RV1000 BOARD ASSYには、裏付け部品とパターン・カットがあります。
   詳細については、基板組立の裏付け説明図 (P.9) を参照してください。
ADJUSTMENT/調整仕様

ADJUSTMENT
1. ADJUST THE OFFSET of A&O
   Adjuster : VR 7
   Observation Point : pin 19 of IC 7
   Setting of RV1000:
   INPUT 1/2 do not connect anything
   MODE SMALL ROOM 1
   DECAY 5 (PCON)
   Other knobs: do not care
   Setting of Oscilloscope:
   RANGE : 0.5mV/div
   Indianapolis : 5 mV/div (about)
   AC coupling

1-1. Connect an oscilloscope to pin 15 of IC 7 (COMMON
   of HIC4065 MULTIPLEXER) on MAIN BOARD.

1-2. Observing the waveform, adjust VR 7 so that the
     waveform becomes symmetrical with respect to
     horizontal line as shown below.

1-2. Set the waveform to the shape shown in the figure
     below and adjust VR 7 so that the waveform becomes
     symmetrical with respect to horizontal line.

1-2. Adjust the time of decay
   Adjuster : VR 8
   Setting of RV1000:
   INPUT B do not connect anything
   INPUT do not connect anything
   INPUT do not connect anything
   INPUT suitable position for input signal level
   OUTPUT DIRECT 6 (PCON)
   OUTPUT DIRECT 18 (PCON)
   MODE LARGE HALL 2
   DECAY 5 (PCON)
   OUTPUT UNCONNECTED
   Other knobs: do not care

2-1. Connect an amplifier with speaker to OUTPUT A.

2-2. Apply a pure sine sound to INPUT 1 jack.

2-3. By adjusting the volume, you can recognize the
     decay time easily.

NOTED: Do not preselect for input signal (pure sine sound)

2-4. Listening to the effect sound, adjust VR 9 so that the
     decay time becomes shortest.

   Then, the range of time that the decay time becomes
   shortest is on an angle of about 30 degrees.

   So, you must set it to the middle of D range.
   If set to the side of D range, time is unsettled
   because of time get data become inaccurate
   between next data.
CHECK THE DIRECTION OF THE MODE SWITCHS KNOB

There is a regular direction to fix a knob to the MODE switch. The MODE switch is 16 position BCD rotary switch for 16 effect mode. Relation of MODE name and BCD output is shown below. The knob has a black line in the graphics to point the current MODE.

1. Connect an oscilloscope to pin 21 of IC10 (A10 INPUT of NMC27C128BN PROM) on MAIN BOARD and measure it levels. While change the connect-position to pin 23 (A11 INPUT), pin 26 (A12 INPUT), pin 26 (A13 INPUT) of same IC in turn, measure each levels. These levels are High (about 5V dc) or Low (about 0V dc).

2. Look for matching code with these levels (A10, A11, A12, A13) from the following table for binary coding of switch. Left entry of the table is MODE name to correspond to 4 bits binary coding. MODE of the matching code is the current MODE.

3. Fix a knob to the MODE switch so that a black line on the knob direct to the same MODE name on the front panel as detected MODE name.

---

SURFACE MOUNTING DIAGRAM FOR BOARD ASSY

In RV1000 BOARD ASSY, surface (foil side) mounting and pattern cut are made as shown below.

---

<table>
<thead>
<tr>
<th>BINARY CODING TABLE FOR MODE SWITCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODE/ROM PIN</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td>SMALL ROOM1</td>
</tr>
<tr>
<td>SMALL ROOM2</td>
</tr>
<tr>
<td>MID ROOM1</td>
</tr>
<tr>
<td>MID ROOM2</td>
</tr>
<tr>
<td>MID HALL1</td>
</tr>
<tr>
<td>MID HALL2</td>
</tr>
<tr>
<td>LARGE HALL1</td>
</tr>
<tr>
<td>LARGE HALL2</td>
</tr>
<tr>
<td>CATHEDRAL</td>
</tr>
<tr>
<td>PLATE1</td>
</tr>
<tr>
<td>PLATE2</td>
</tr>
<tr>
<td>GATE REVERB1</td>
</tr>
<tr>
<td>GATE REVERB2</td>
</tr>
<tr>
<td>REVERSE GATE</td>
</tr>
<tr>
<td>DELAY1</td>
</tr>
<tr>
<td>DELAY2</td>
</tr>
</tbody>
</table>