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**SPECIFICATIONS**
- Number of Tunes/内蔵音様数: 91
- Maximum Polyphony/最大音数: 12
- Memory Capacity/メモリ容量: 64 Preset Patterns
  - 64 Programmable Patterns
-ombres: 1 to 16, Last Step 1 to 16)
- 8 Songs
- (Max. 160 bars/Song: 1280 bars by using Song Chain function)
- (最大160小節) 

**EXPLODED VIEW**
- DR-550mk2 DISASSEMBLY PROCEDURE
- AND PRECAUTIONS

**PARTS LIST**
- BLOCK DIAGRAM
- CIRCUIT DESCRIPTION
- CIRCUIT BOARD (MAIN BOARD)
- CIRCUIT DIAGRAM (MAIN BOARD)
- IDENTIFYING VERSION NUMBER
- SETTING FACTORY PRESETS
- DATA SAVE AND LOAD
- TEST MODE
- TROUBLESHOOTING
- IC DATA
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**SPECIFICATIONS/仕様**

- Tempor: 40 to 250
- External Data Storage/外部メモリ: Cassetto Audio Tape
- External Sync: 外部シンクロ機能: MIDI
- Output Level/出力レベル: Max. 6.5 Vp, p (L or R)
- Noise Level/ノイズレベル: Max. 0.35 Vp, p (Tape Save)
- Power Source/電源: 9V, AC Adapter (Option)
- Battery Life/電池の寿命: Approx. 8hrs. (manganese), 23hrs. (alkaline type)
  (約8時間 [マンガン電池], 23時間 [アルカリ電池])

**NOTE:** These figures will vary depending on the actual conditions of use.

- Current Draw/消費電流: 90mA
- Dimensions: 188(W) x 157(D) x 41(H) mm
- Weight: 510g/1 lb. 2 oz. (including batteries)

**Accessories**
- Dry cell Battery SUM-35 1.5V (x 6pcs)

**NOTE:** The above parts/Dry cell Battery SUM-35 does not supply as replacement parts, because it is goods.

**Option:** AC Adaptor BOSS PSA Series

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**Diagram**

- Display Cover (22045365)
- LCD RCD-1-013R (15020506)
- Knob (22485211)
- TM-3 VR Spacer (221603300)
- Pot. R1K14K1230 50k x 2 (13229868)
- LED (x5) GL18925 (15029342)
- Rubber Switch (22485241)
- Top Case Assy (22045431)
- Jack YK821-5130 (13158188)
- Jack HIC-2305-01-250 (13449433)
- Jack HIC-3051-01-110 (13449133)
- DIN Socket M52-3P (13429442)

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分解の方法/注意

1. シールド板を取り付ける/取り外しの方法
   a) "Soldering point"（分解図p.2参照）の箇所を溶かして下さい。
   b) Main Board (1/2), (2/2), LCD and rubber switch.
   c) "Soldering point"（分解図p.2参照）の箇所を溶かして下さい。

2. To install the Shield Cover
   a) Use a soldering iron to melt location "★" and install the Shield Cover in the top case.
   b) [Note] At this time, be careful not to melt any other areas of resin.

3. Precautions when removing the main board (1/2)
   a) LCD and rubber connectors are not fastened to the main board (1/2) when you remove the main board (1/2), be sure to remove the LCD and rubber connectors from the main board (1/2).

4. To install the LCD
   a) Insert the LCD into the frame. (Refer to Fig.a)

5. MAIN BOARD (1/2)を外すときの注意
   LCD、ゴム・コネクターは、MAIN BOARD (1/2) 上に固定されているので、MAIN BOARD (1/2) を取り外した時は、必ずMAIN BOARD (1/2) 上からLCD、ゴム・コネクターを外して下さい。

6. LCDの取り付け方法
   a) LCDを箱へはめ込んで下さい。 (図a参照)

Fig.a (図a)

2. While pressing the rubber connector to the right, insert it into the slot. (Refer to Fig.b) At this time, be careful that no dirt comes between the LCD and the rubber connector, or between the rubber connector and the main board (1/2).

Fig.b (図b)

3. Install the main board (1/2) firmly in place.
4. Use "Test Mode (P.9) / LCD Check" to confirm that the LCD has been correctly installed.

3. MAIN BOARD (1/2)をしっかり取り付けて下さい。
4. LCDが正しく取り付けられたかどうかは、"テストモード (P.9) / LCDチェック"で確認して下さい。
### PARTS LIST/パーツリスト

**SAFETY PRECAUTIONS**

The parts marked with triangle (△), have safety-related characteristics.

Use only replacement parts for replacement.

三角印の部品は安全上の要因を含むため、以下の部品に限ります。

取り付けや補修の際は、必ず指定された部品を使用されると

### CONSIDERATIONS ON PARTS CONFIGURATION

When ordering any parts listed in the parts list, please specify the following items in the order sheet.

- **MODEL NUMBER**
- **PART NUMBER**
- **DESCRIPTION**
- **QTY**
- **REPLACE BY**

### CONSIDERATIONS ON PARTS CONFIGURATION

Ex. 16 S229500001A1 C16-1A0C-1200

Failure to completely fill in the above items with correct number and description will result in delayed or incorrect delivery.

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### CASINO

22045402 Top Case Assy

**NOTE**

Replacement Top Case Assy consists of the following 2 parts.

We do not supply the Top Case separately.

#### Replacement Parts

- Top Case Assy
- Top Cover Assy

- Rear Cover Assy
- Front Cover Assy

### Battery Case Assy

22045643 Bottom Case Assy

**NOTE**

Replacement Bottom Case Assy consists of the following 3 parts.

We do not supply the Bottom Case Assy separately.

#### Replacement Parts

- Bottom Cover Assy
- Rear Cover Assy
- Battery Cover Assy

### Battery Box Assy

22045412 Battery Case Assy

**NOTE**

Replacement Battery Box Assy consists of the following 4 parts.

We do not supply the Battery Box Assy separately.

#### Replacement Parts

- Battery Case Assy
- Battery Box Assy
- Terminal Spring (+)
- Terminal Spring (-)

### DOP Assly

22045054 DOP Assy

**NOTE**

Replacement DOP Assy consists of the following 2 parts.

We do not supply the DOP Assy separately.

#### Replacement Parts

- DOP Assy
- Dock Assy

### KNOB/BUTTON ASSY

- KNOB Asy
- BUTTON Assy

### JACKASSY

- JACK/ASSEMBLY ASSY

### MD ASSY

- MD ASSY

### MMD ASSY

- MMD ASSY

### MDL ASSY

- MDL ASSY

### NC ASSY

- NC ASSY

### POWER ASSY

- POWER ASSY

### SHAFT ASSY

- SHAFT ASSY

### SH PW Switch

- SH PW Switch

### DISPLAY UNIT ASSY

- DISPLAY UNIT ASSY

### PCB ASSY

- PCB ASSY

### MAIN BOARD ASSY

- MAIN BOARD ASSY

### IC

- IC

### TRANSISTOR ASSY

- TRANSISTOR ASSY

### MODE ASSY

- MODE ASSY

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### DIP ASSY

- DIP ASSY

### POT ASSY

- POT ASSY

### SMD ASSY

- SMD ASSY

### ASSY

- ASSY

### BOARD ASSY

- BOARD ASSY

### CABLE ASSY

- CABLE ASSY

### COIL ASSY

- COIL ASSY

### CONNECTOR ASSY

- CONNECTOR ASSY

### RUBBER ASSY

- RUBBER ASSY

### SCREW ASSY

- SCREW ASSY

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### OTHERS

- OTHERS

### OPTIONS

- OPTIONS
CIRCUIT DESCRIPTION

The LSI (IC2) has a key role in the DR-550mk2 circuit. The main tasks of IC2 are as follows.
- Supply of master clock
- Access to memories (RAM and ROM)
- Envelope operation and pan operation
- Output of digital operation results to DAC (IC103)
- Receiving MIDI information and Transmitting to the CPU.

回路解説

DR-550mk2の回路は、LSI (IC2) が中心となって動作しています。
IC2の主な機能は、次の通りです。
- マスターベートの供給
- RAM および ROMへのアクセス
- エンベロープ、パンの設定
- 数値化されたデジタルサウンドデータをDACへ出力する
- MIDI情報の受信およびCPUへの転送
Main Board Assy
assy 7316903000
(pcb 2292586803)

NOTE
Replacement Main Board Assy consists of the following PCBs.

Main Board Assy (1/2) (pcb 2292566803 1/2)
Main Board Assy (2/2) (pcb 2292566803 2/2)

Main Board Assy (1/2)
(pcb 2292566803 1/2)

Main Board Assy (2/2)
(pcb 2292566803 2/2)

View from component side.
バージョンの確認方法

[TEMPO] ボタンと [1/4] ボタンを押したまま、電源を入れます。すると、ディスプレイに下記のように表示されます。

例：Version Number 1.23 の場合
バージョン表示を押すときは、[ACC] ボタンを押します。

DATA SAVE AND LOAD

NOTE
The tape recorder you use must meet the following conditions.
1. It must have a recording monitor.
2. The recording level must be adjustable.
We recommend that you use a tape recorder designed for storing computer data.

1. Save
Use “2. Verify” to confirm that the data has been correctly

① Connect the TAPE SAVE/LOAD of the DR-550mk2 to the LINE OUT of the tape recorder.
② While pressing the [SHIFT] button, press [B] on the keypad.
③ Start recording on the tape recorder.
④ After several seconds, press the [START] button.
*When you press the [START] button, a pilot signal (a steady tone) will be output for about five seconds. Adjust the recording level of the pilot tone to about -10 to -3 VU.
*To abort the save operation, press the [STOP/CONT] button.
⑤ While saving, the display will show “SAVE”, and the tempo indicator will light.
⑥ When saving is completed and the tempo indicator goes out, stop recording on the tape recorder.

2. Verify

① Connect the TAPE SAVE/LOAD of the DR-550mk2 to the LINE OUT of the tape recorder.
② Rewind the tape on which you saved the data, and stop it a bit before the playback sound changes from the steady tone to the warble.
④ Start playback on the tape recorder.
⑤ Press the [START] button.
*Press the [START] button before the tape playback sound changes from the steady tone to the warble.
*To abort the verify operation, press the [STOP/CONT] button.
⑥ While verifying data, the tempo indicator will blink.
⑦ If the data has been saved correctly, the LCD will show “Gd”.
If an error occurs, the LCD will show “Err” and verification will be aborted. In this case, adjust the tape playback level and try again. If an error occurs no matter how many times you try, adjust the recording level and save the data once again.

3. Load

① Connect the TAPE SAVE/LOAD of the DR-550mk2 to the LINE OUT of the tape recorder.
② Rewind the tape on which you saved the data, and stop it a bit before the playback sound changes from the steady tone to the warble.
④ Start playback on the tape recorder.
⑤ Press the [START] button.
*Press the [START] button before the tape playback sound changes from the steady tone to the warble.
*To abort the load operation, press the [STOP/CONT] button.
⑥ While loading data, the tempo indicator will blink.
⑦ If the data has been loaded correctly, the LCD will show “Gd”.
If an error occurs, the LCD will show “Err”, and loading will be aborted. In this case, adjust the tape playback level and try again.

データのセーブとロードの方法

データをセーブした場合、正しくデータがセーブされたかどうか、必ず “2. ベリファイ”を行って確認して下さい。

1. セーブ
データをセーブした場合、正しくデータがセーブされたかどうか、必ず “2. ベリファイ”を行って確認して下さい。

① DR-550mk2のTAPE SAVE/LOADとテープレコーダーのLINE OUTを接続します。
② [SHIFT]ボタンを押しながらキー・ピッタの[B]を押します。
③ テープ・レコーダーの録音をスタートします。
④ 数秒後で[START]ボタンを押します。
* [START]ボタンを押すと、約0.5秒間のパイロット信号（ピーピー音）が出力されます。
* パイロット信号の録音レベルを、-10 - 3VU の範囲で調整して下さい。
* セーブが終了できないときは、[STOP/CONT]ボタンを押して下さい。
⑤ データのセーブ中は、ディスプレイに“SAVE”と表示され、テンポインジケーターが点灯します。
⑥ サングラガイドランプも点灯します。

2. ベリファイ

① DR-550mk2のTAPE SAVE/LOADとテープレコーダーのLINE OUTを接続します。
② データをセーブしたテープを逆走して、データの再生者が“ピーー”から“ピピー”に変わる少し手前にストップします。
③ [SHIFT]ボタンを押しながらキー・ピッタの[10]を押します。
④ ベリファイを開始する場合には、[STOP/CONT]ボタンを押して下さい。
⑤ ベリファイが終了した場合は、LCDに“Gd”と表示され、ベリファイを終了します。
⑥ ベリファイが失敗した場合は、LCDに“Err”と表示して、ベリファイを終了します。

この場合は、テープの再生レベルを調整して、もう一度操作をやり直してください。

3. ロード

① DR-550mk2のTAPE SAVE/LOADとテープレコーダーのLINE OUTを接続します。
② データをセーブしたテープを逆走して、データの再生者が“ピーー”から“ピピー”に変わる少し手前にストップします。
④ テープ・レコーダーの再生をスタートさせます。
⑤ [START]ボタンを押します。
* サウンド記録が“ピーー”から“ピピー”に変わる前に[START]ボタンを押してください。
* ロードが終わらない場合は、[STOP/CONT]ボタンを押します。
⑥ データセーブ中は、テンポインジケーターが消灯します。
⑦ データがセーブした場合、ディスプレイに“Gd”と表示されます。

この場合は、テープの再生レベルを調整して、もう一度操作をやり直してください。
テストモード

\[\text{NOTE}\]
Before you enter test mode, be sure to save the data.
To save the data, refer to "DATA SAVE AND LOAD" (p.8).

1. **Required Items**
   - Oscilloscope, monitor speaker (MA-12C, etc.), oscillator, measurement device (see Fig.1).

2. **To enter test mode**
   While simultaneously pressing the [LEVEL] button and the \(\uparrow \rightarrow \downarrow \) button, turn the power on.
The LCD will show "TEST", and you will enter test mode. Then, press a numerical key \(1 \sim 8\) to execute each test.

3. **To exit test mode**
   Press the [ACC] button to initialize and return to the normal display.

4. **Key check**
   - This test checks whether each key is functioning.
     1. Make connections as follows.

5. **LCD check**
   - This test checks whether the LCD is normal.
     1. The instant you enter this test, all segments of the LCD will be displayed. (Fig. a) The LED will also light.
TROUBLESHOOTING/トラブルシューティング

If a test results in N.G., refer to the "Troubleshooting" (P. 90) section or the Owner's Manual, or check the following points while referring to the circuit diagram.

* Is there a signal?
* Is the power supply for the ICs etc. correct?
* Is there a clock etc?

No sound is produced.

- Sound seems strange.
- Sounds are left out.
- No sound during Real-time.
- Some sounds are left out.
- Sound is peculiar.
- Sound is strange.
- Sound is not produced.
- Sound is too low.
- Sound is too high.
- Sound is distorted.
- Sound is not heard.
- Sound is not heard during Real-time.
- Sound is left out.
- Sound is peculiar.
- Sound is strange.
- Sound is not produced.
- Sound is too low.
- Sound is too high.
- Sound is distorted.
- Sound is not heard.
- Sound is not heard during Real-time.
- Sound is left out.
- Sound is peculiar.
- Sound is strange.
- Sound is not produced.
- Sound is too low.
- Sound is too high.
- Sound is distorted.
- Sound is not heard.
- Sound is not heard during Real-time.
- Sound is left out.
- Sound is peculiar.
- Sound is strange.
- Sound is not produced.
- Sound is too low.
- Sound is too high.
- Sound is distorted.
- Sound is not heard.
- Sound is not heard during Real-time.
- Sound is left out.
- Sound is peculiar.
- Sound is strange.

Are ROM, RAM ok?

- To check, refer to "Test mode (P.9) / (3) RAM check, (6) ROM check".
- ROM, RAM is normal?

Check the main board (1/2) in the area of IC3 and IC5.

MAIN BOARD (1/2) IC3, IC5, IC6, IC7, VR101.

N.G.

N.G.

Check the areas of main board (1/2) IC1, IC2, X1, and main board (2/2) IC103, IC104, IC105, VR101.

MAIN BOARD (1/2) IC1, IC2, X1, IC6,
MAIN BOARD (2/2) IC103, IC104, IC105, VR101.

Play doesn't start when [start] is pressed.

- A mode change cannot be obtained.
- [START] button does not work.
- Mode change cannot be obtained.

N.G.

N.G.

N.G.

Check the main board (1/2) in the area of IC3 and IC5.

MAIN BOARD (1/2) IC3, IC5, IC6, IC7, VR101.

Is each button being detected?

- To check, refer to "Test mode (P.9) / (1) Key check".
- Each button is detected?

Check the contact area of the rubber switches and the main board (1/2).

GOMU・スイッチ
GOMU・スイッチとMAIN BOARD (1/2)検点周辺をチェック

N.G.

Check the areas of main board (1/2) IC1 and IC2.

MAIN BOARD (1/2) IC1, IC2, IC6, IC7, IC8, IC9, IC10.

N.G.

Check the areas of main board (1/2) IC1 and IC2.

MAIN BOARD (1/2) IC1, IC2, IC6, IC7, IC8, IC9, IC10.

The sound for an existing rhythm pattern has changed.

- Before the rhythm pattern had a different sound.

N.G.

Check the area of main board (2/2) D102 and IC102.

MAIN BOARD (2/2) D102, IC102, IC6, IC7, IC8, IC9, IC10.

Is the backup voltage correct?

- Backup voltage is normal.

N.G.

N.G.

Check the area of main board (1/2) IC5.

MAIN BOARD (1/2) IC5, IC6, IC7, IC8, IC9, IC10.

Cannot save/verify/load data.

- Data cannot be saved/verified/loaded.

N.G.

N.G.

Check the area of main board (1/2) IC6 and IC1.

MAIN BOARD (1/2) IC6, IC1, IC2, IC3, IC4, IC5, IC6, IC7, IC8, IC9, IC10.
IC DATA/IC データ

MASK CPU (IC1 on MB1)
μPD7516DF - 237 - 369
(15199803)

Gate Array (IC2 on MB2)
MB87604PF - G - BND
(15239138)

2 INPUT NAND GATE (IC4 on MB1)
TCT7S00F
(15259883)

PHOTO COUPLER (IC7 on MB1)
PC-400 (OPTO-ISOLATOR)
(15289124)

D/A Converter (IC103 on MB2)
μPD53766S
(15289701)

+5V Voltage Regulator (IC101 on MB2)
LM29312 - 5.0
(15199216)

+3V Voltage Regulator (IC102 on MB2)
SC17710YDA
(15289401)

TRANSISTOR (Q1~3 on MB1)
2SC2412KR (NPN type)

D. GND 15
D. VDD 4
A. GND 5
R. OUT 11
V. OD 7
A. VOD 9
4/8 fs SEL 1
NC 3
L/SEL/SI 14
LOCK 10
A. GND 5
ROUT 6
1 OUT 2
GND 3
IN 1
16
CLK
1 2 3
1 Emmiter
2 Base
3 Collector

1/2
pcb 2292586803
1/2
pcb 2292586803
APPENDIX
Error Message

Cause 1: The DR-550 was unable to completely process an overly large amount of MIDI message that was received.
Remedy: Reduce the amount of MIDI message sent by the transmitting device.

Cause 2: MIDI message could not be received correctly due to an improper connection in the MIDI cabling.
Remedy: Check to make sure connections are in order, then try the operation again.

Cause 1: During the process of verification, the correct data was not received.
Remedy: Readjust the volume on the tape recorder, and try performing Verify again. Should you still get the error message, the data should be saved again from the beginning.

Cause 2: [STOP/CONT] was pressed during the verification process.
Remedy: Perform the verification over again.

Cause 1: During loading, correct data was not received.
Remedy: Readjust the volume on the tape recorder and try again.

Cause 2: [STOP/CONT] was pressed during the loading process.
Remedy: Carry out the Load procedure once again.
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