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LOCATION OF CONTROLS / パネル配置図

17059789 Printed in Japan AFA0 (DP) 1
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PARTS LIST / パーツリスト

NOTE：The parts marked * are new (initial parts).

CASING / ケース
0067445 TOP COVER #
0067345 DISPLAY COVER #
0078412 FRONT PANEL #

CHASSIS / チャージス
0067456 BOTTOM CHASSIS #
0054723 FRONT HOLDER #
22103153 RACK ANGLE TV WRT
22208989 PSW HOLDER
00234136 INLET HOLDER 230V/240V

KNOB/BUTTON / ボタン
0078623 DEVICE KEY UNIT MCO #
0078634 OUTPUT KEY UNIT MGCO #
2243318 F.O.B.KOM M.CO MCO #
2243519 F.O.B.KOM M.CO MCO #
2293620 F.S-BUTTON MX MCO #
22135612 F.B-ESCT MUX BLK

SWITCH / スイッチ
13129139 AC SW 230V/250V/TV /
1319793 SKY F/BS
1319169 SLIDE 230V/240V

JACK/SOCKET / ジャック、ソケット
13252271 YK5U5-10S4
1329911 TC57927-28-01L
0057978 NC8F41-1 #
0067057 NC8FAH-1 #
1344025 Phone Jack(INPUT A, B)
1344025 Phone Jack(INPUT A, B)

POWER SUPPLY UNIT / 電源ユニット
22443588 MSA18100011TV
22443589 MSA1812200124V

NOTE：Replacement Power Supply Unit should be made on a unit basis. No replacement available for individual parts.

注：需要更换电源供应单元时，请以单个单元进行更换。没有单个部件的更换项。

PCB ASSY / 基板完成品
70852978 MAIN BOARD ASSY
70852989 JU BOARD ASSY

NOTE：Replacement MAIN BOARD ASSY should be made on a unit basis. No replacement available for individual parts. Replacement only by a unit.

注：需要更换MAIN BOARD ASSY时，请以单个单元进行更换。没有单个部件的更换项。

LED BOARD SW BOARD VR BOARD

IC / 集積回路
15199870 UPD9432D-MB
00673637 TC51C1404F-001 #
0047841 TC6215F-001 #
0034523 SHM211021L2M85
00581090 LM6425B01-00
00602100 TM2532040-10L
00602210 TM2532040-10L
00602212 TM2534040-10L
15024835 TM2534040-10L
00120816 AR5C101-01
00678378 SAJ3365-12#
00222567 PC6064A-1U2%
00679756 TC8394F1012L
00878718 TC8394F1717L
15231912 TC78234012L
152392700 TC78234012L
152392700 TC78234012L
15294212 TC79090512L
15294212 TC79090512L
0025665 TC14VH225P-0L
00679768 TC74VH0112L
15189126 NE-532AN
15199916 M6951F3-P1A
00476203 AD7706
15288132 MV5131APP-900
1529208050 PC910
15192521 TA8905A

TRANSISTOR / ロングランナー
15290210 2SSA11666R
15290210 2SSA11666R
15290210 2SSA11666R
15290210 2SSA11666R

DIODE / ダイオード
13670142 S168G
15019283 1SS-254
1502020 1SS-254
1503042 1SS-254
1533492 LN1351C-TR
1533492 LN1351C-TR
1533492 LN1351C-TR
2243589 LB-402MA #

NOTE：No replacement available for individual parts. Replacement only by a unit.

注：没有单个部件的更换项。

NOTE：Replacement Power Supply Unit should be made on a unit basis. No replacement available for individual parts. Replacement only by a unit.

注：需要更换电源供应单元时，请以单个单元进行更换。没有单个部件的更换项。

NOTE：Replacement MAIN BOARD ASSY should be made on a unit basis. No replacement available for individual parts. Replacement only by a unit.

注：需要更换MAIN BOARD ASSY时，请以单个单元进行更换。没有单个部件的更换项。

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注：需要更换MAIN BOARD ASSY时，请以单个单元进行更换。没有单个部件的更换项。
TEST MODE/テストモード

The RSS-10 test mode comprises two sub-test modes called Test Mode 1 and Test Mode 2. Use each mode as the situation requires.

1. Test Mode 1: Starts from the MIDI check.
2. Test Mode 2: Starts from the D/A check per the DSP oscillator signal.

- Test Items
  - Version display
  - LED check
  - Key switch check
  - Serial port check
  - D/A check (oscillator signal) per the DSP
  - D/A check
  - D/A check and residual noise check

- Setup Items
  - MIDI cable
  - Computer test cable (%1)
  - XLR plug
  - Oscillator
  - Oscilloscope
  - Noise meter

- Make the Following Settings before Testing
  - Use the above MIDI cable to connect the MIDI IN and MIDI OUT jacks.
  - Connect the above computer test cable to the SERIAL PORT jack.
  - Set the rear panel slide switch in the PC/IPC-2 side.

- Running the Test Mode
  - Test Mode 1
    - Turn on the power while simultaneously holding down the [DEVICE ID] and [FUNCTION] buttons.
    - Once in Test Mode 1, the MIDI IN and MIDI OUT checks begin.
    - If the WRITE and READ checks have been performed for (I/C) and (DSP/CIC).
    - An error message is displayed if the test results are not normal.
  - Test Mode 2
    - Turn on the power while simultaneously holding down the [LOCK] and [OPTION] buttons.
    - Test items 4 to 9 are then set.

- Changing the Test Item
  - Switch to the test test item by pressing the [DEMO PROGRAM] button.
  - Return to the previous test item by pressing the [DEMO] button.

1. Version display
   - A message like that below, appears on the 7 segment LED display and the FLYING (LED) display lights up.

2. LED check
   - The LEDs light up in the following order. Check that each LED is lit up.
     - The level meter LEDs light up once at a time, from left to right.
     - The 7 segment LEDs light up once at a time.
     - The FUNCTION mode and OUTPUT mode LEDs light up one at a time.
     - The MIDI indicator lights up.
     - The key switch LEDs light up once at a time from left to right.
     - When all the LEDs are lit up, they stay in that state.
   - Press the [DEMO PROGRAM] button to proceed to the next test item.

3. Key switch check
   - Press the 8 FUNCTION 7 LED lights up...
   - The 7 segment display LED lights up as follows.

4. DEMO PROGRAM
   - Press the DEMO PROGRAM button to proceed to the next test item.

- Test items can be changed only during this display.
- The switches must be pressed in the following established sequence.

- DEMO PROGRAM button
  - 8 segment LED display
  - 8 segment LED display

- DEMO PROGRAM button
  - 8 segment LED display
  - 8 segment LED display
  - 8 segment LED display
  - 8 segment LED display
  - 8 segment LED display

- DEMO PROGRAM button
  - 8 segment LED display
  - 8 segment LED display
  - 8 segment LED display
  - 8 segment LED display
  - 8 segment LED display

- DEMO PROGRAM button
  - 8 segment LED display
  - 8 segment LED display
  - 8 segment LED display
  - 8 segment LED display
  - 8 segment LED display

- DEMO PROGRAM button
  - 8 segment LED display
  - 8 segment LED display
  - 8 segment LED display
  - 8 segment LED display
  - 8 segment LED display
5. D/A check (oscillator signal) per the DSP
The MCR-4 LED lights up.
A square wave is sent from the DSP (IC18) to OUTPUT-L and OUTPUT-R. Check each output level and waveform on an oscilloscope.
A matching waveform is output when all key switches are pressed.

LOCK: 20Hz sine wave (phones)

OPTION: 1kHz sine wave (phones) OPTION: 1kHz sine wave (phones)

BYPASS: 1kHz sine wave (phones)

* Square wave output
Check that the output 1 (±2.5V) is present.

DEVICED: 1kHz square wave (phones) DEVICEID: 200Hz square wave (phones)

* Square wave output
Check that the output 4 (±250mVp-p) is present.

D/A 1kHz

D/A 20kHz

D/A 11kHz

0.1V/DIV, 20ms/DIV

0.1V/DIV, 1ms/DIV

0.1V/DIV, 500μs/DIV

Press the DEMO PROGRAM button to proceed to the next test item.

6. D/A Check
The SPEAKER LED lights up.
Check the data bus and timing between DSP (IC18) and DRAM (IC1, 2, 3, 4, 12, 17).
The matching test appears when each key switch is pressed.

Key switch Test area LED
[LOCK] Address bus LOCK
[OPTION] Data bus OPTION

When operation is normal, each item lights up as follows.

* An error message is displayed if the test results are not normal.

Press the DEMO PROGRAM button to proceed to the next test item.

7. D/A Check
Check the data bus and timing between DSP (IC18) and DSP (IC5, 7, 8, 28).
The HEADPHONES LED lights up.
Check that the 7 segment LED display changes as listed below.

Check the address and data bus by means of the following communication route:
DSP (IC8) to DSP (IC8) to DSP (IC18)
各キー-SWを押し、各LEDの表示がそれぞれ下記の順に変化することを確認して下さい。

【DEVICE ID】ボタンを押します。

Press the 【DEVICE ID】 button.

【FUNCTION】ボタンを押します。

Press the 【FUNCTION】 button.

【DEVICE ID】と【FUNCTION】ボタンでは、DSP(IC8)→DSP(IC6)→DSP(IC2)→DSP(IC1)の経路の通信、アドレス、データバスをチェックします。

【DEVICE ID】ボタンを押します。

【OUTPUT】ボタンを押します。

Press the 【OUTPUT】 button.

【LOCK】ボタンを押します。

Press the 【LOCK】 button.

【OUTPUT】と【LOCK】ボタンでは、DSP(IC8)→DSP(IC6)→DSP(IC2)→DSP(IC1)の経路の通信、アドレス、データバスをチェックします。

【OUTPUT】ボタンを押します。

【BYPASS】ボタンを押します。

Press the 【BYPASS】 button.

【OUTPUT】と【BYPASS】ボタンでは、DSP(IC8)→DSP(IC2)→DSP(IC1)の経路の通信、アドレス、データバスをチェックします。

【OUTPUT】ボタンを押します。

Press the 【DEMO PROGRAM】 button to proceed to the next text item.

【DEMO PROGRAM】ボタンを押すと次のテスト項目に進みます。
VERSION IDENTIFICATION

1. Turn on the power while simultaneously holding down the DEVICE ID and the FUNCTION button.
2. Press the DEMO PROGRAM button.
   * The above item 2 is not necessary if MIDI IN and MIDI OUT are connected by the MIDI cable.
3. The 7 segment LED is displayed as shown below.

(Ex.) Ver 1.01

LOADING FACTORY PRESET DATA

EEPROM initialization

Procedure:

- Set TEST MODE.
  Turn on the power while simultaneously holding down the LOCK and the OPTION buttons.
  The MCR-8 LED lights up.
- Press the DEMO PROGRAM button 4 times.
  The 7 segment LED display appears as shown below.

- Press the DEVICE ID button.
  The 7 segment LED display appears as shown below.

The EEPROM is now initialized.

- EEPROM memory items and initialization values are listed below.

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEVICE ID</td>
<td>1 (64)</td>
</tr>
<tr>
<td>Baud rate</td>
<td>38.4, 19.5</td>
</tr>
<tr>
<td>Speaker angle</td>
<td>50, 24, 30, 36, 48, 60, 72, 84</td>
</tr>
<tr>
<td>Datas numbers</td>
<td>0 (0-99)</td>
</tr>
<tr>
<td>MCR-8 mode</td>
<td>ON</td>
</tr>
<tr>
<td>LOCK status</td>
<td>Lock off</td>
</tr>
</tbody>
</table>

EEPROM Initialization

- TEST MODE
- LOCK button
- OPTION button
- MCR-8 LED
- DEMO PROGRAM button
- 7 segment LED

EEPPROMS are initialized.

- EEPROM memory values and initialization values are listed below.

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEVICE ID</td>
<td>1 (64)</td>
</tr>
<tr>
<td>Baud rate</td>
<td>38.4, 19.5</td>
</tr>
<tr>
<td>Speaker angle</td>
<td>50, 24, 30, 36, 48, 60, 72, 84</td>
</tr>
<tr>
<td>Datas numbers</td>
<td>0 (0-99)</td>
</tr>
<tr>
<td>MCR-8 mode</td>
<td>ON</td>
</tr>
<tr>
<td>LOCK status</td>
<td>Lock off</td>
</tr>
</tbody>
</table>

EEPROMs are initialized.
ERROR MESSAGE AND TROUBLE SHOOTING

1851 MODE 1
- DATA TAKEN FROM MIDE OUT WILL NOT RETURN TO MIDE IN.

The signal path is shown below:

CPU (IC36, pins 37) to IC4 (pins 1 to IC4 (pin 2) to IC4 (pin 3) to IC4 (pin 6) to MIDE OUT to MIDE IN to PC90 (IC30) to CPU (IC36, pins 38).

- Check that there is a signal coming to jack board L1.
- If there is no signal, check the jack board IC4, main board IC36 (pins 37/38).
- Check if the MIDE route signal has set to off.
- Check that there is about 4.7 volts at the collector of Q4 on the jack board.

CANNOT READ OR WRITE ON THE EEPROM

- Check the EEPROM soldering connection and the installation orientation.
- Check the connections at EEPROM (IC5, pins 3 - 6) and CPU (IC36, pins 31 - 35) for any cares on the board pattern, soldering defects and fridges.

While in normal mode and not test mode, the EEPROM device is written on every time the DEVICE ID is changed, so the signal can be checked each time the DEVICE ID button is pressed.

NO READ AND WRITE OPERATION IN DSP (IC18)

- Check that a clock signal is being generated from clock X of DSP (IC18).
- Check that a signal is at pins 68, 70 and 69 of DSP (IC18).
- Check IC14.
- Check the (applicable) pins at the CPU (IC36).

While in normal mode and not test mode, the signal can be checked since DSP (IC18) is accessed every time the DEVICE ID is changed, so the signal can be checked each time the DEVICE ID button is pressed.

- Check the data bus and address of CPU (IC36) to DSP (IC18).

The figure below shows the error messages that may be displayed in each test mode.

1.2 Version display and LED check

When the following LEDs are not lighting correctly check as follows.

- Segment 7
  - Check IC104, RA105 - 106, and U101 on the LED board.
- Level meter 1, R, B
  - Check IC101, RA101, RA102, RA103, RA107, and D101 - D105 on the LED board.
- Level meter R, B, H
  - Check IC102, RA103, RA104, RA108 - RA114, and D116 - D110 on the LED board.
- Mode LED
  - Check IC105, RA109, RA110, D111 - D117.

3. Key switch check

- The panel switches are connected to the CPU (IC36, pins 15 - 22).
- Check that there is no shorting at RA1 / RA3 and C12 / C13.
- Check that the CPU pins C12 - C13 show 5 volts with the switch off and 0 volts with the switch on.

2.9V

1.1V

1us

4. Serial Port Check

DATA OUTPUT FROM CPU DOES NOT RETURN TO CPU

- Check the signal path listed below.
- Test specifications can be acquired by tapping the computer interface for the RS-232 line to the Mac side.

CPU -> IC23 / IC22 / JACK BOARD SW1 / SW2 -> Test Point
CPU -> IC23 / IC22 / JACK BOARD SW1 / SW2

- Check that a 1 MHz clock pulse is coming out of the test point.
- This signal is generated from IC32. It is controlled from switch 1 (SW1) so no signal is generated unless switch 1 (SW1) is set to the Mac side.

1.6 Checks

- Check that a 4 MHz signal is being generated from X2. Check that a clock signal is coming from pin 3 of IC38.

5. D/A check (oscillator signal) per the DSP (IC18)

Four types of waveforms are generated from DSP (IC18), check their output characteristics from DSP (IC18) to D/A (IC22) to OUTPUT.

NO WAVEFORM is OUTPUT.

- DSP (IC18) is not operating.
- Check the address bus and data bus of clock X3, CPU (IC36).
- Check for a signal at the D/A converter (IC22).
- Check for specified number of points, sampling conditions, missing points in the oscilloscope.

6. DRAM check

Check that READ and WRITE is performed normally between DSP (IC18) and DRAM (IC1, 2, 3, 4, 12, 17).

- Test the address bus between DSP (IC18) and DRAM (IC1, 2, 3, 4, 12, 17) with the [LOCK] button.
- Test the data bus between the DSP and the DRAM with the [OPTION] button.
- Check the address bus and data bus of DRAM (IC1, 2, 3, 4, 12, 17).
- Check [74H157] (IC33).

- Check that a 4 MHz clock pulse is coming out of the test point.
- This signal is generated from IC32. It is controlled from switch 1 (SW1) so no signal is generated unless switch 1 (SW1) is set to the Mac side.

5. D/A check (oscillator signal) per the DSP (IC18)

Four types of waveforms are generated from DSP (IC18), check their output characteristics from DSP (IC18) to D/A (IC22) to OUTPUT.

NO WAVEFORM is OUTPUT.

- DSP (IC18) is not operating.
- Check the address bus and data bus of clock X3, CPU (IC36).
- Check for a signal at the D/A converter (IC22).
- Check items such as specified number of points, sampling conditions, missing points in the oscilloscope.

6. DRAM check

Check that READ and WRITE is performed normally between DSP (IC18) and DRAM (IC1, 2, 3, 4, 12, 17).

- Test the address bus between DSP (IC18) and DRAM (IC1, 2, 3, 4, 12, 17) with the [LOCK] button.
- Test the data bus between the DSP and the DRAM with the [OPTION] button.
- Check the address bus and data bus of DRAM (IC1, 2, 3, 4, 12, 17).
- Check [74H157] (IC33).

XのRAMの表示を確認してください。IC38の3ピンにクロックが通っていることを確認してください。

5. D/A check (oscillator signal) per the DSP (IC18)

Four types of waveforms are generated from DSP (IC18), check their output characteristics from DSP (IC18) to D/A (IC22) to OUTPUT.

NO WAVEFORM is OUTPUT.

- DSP (IC18) is not operating.
- Check the address bus and data bus of clock X3, CPU (IC36).
- Check for a signal at the D/A converter (IC22).
- Check items such as specified number of points, sampling conditions, missing points in the oscilloscope.

6. DRAM check

Check that READ and WRITE is performed normally between DSP (IC18) and DRAM (IC1, 2, 3, 4, 12, 17).

- Test the address bus between DSP (IC18) and DRAM (IC1, 2, 3, 4, 12, 17) with the [LOCK] button.
- Test the data bus between the DSP and the DRAM with the [OPTION] button.
- Check the address bus and data bus of DRAM (IC1, 2, 3, 4, 12, 17).
- Check [74H157] (IC33).

XのRAMの表示を確認してください。IC38の3ピンにクロックが通っていることを確認してください。

5. D/A check (oscillator signal) per the DSP (IC18)

Four types of waveforms are generated from DSP (IC18), check their output characteristics from DSP (IC18) to D/A (IC22) to OUTPUT.

NO WAVEFORM is OUTPUT.

- DSP (IC18) is not operating.
- Check the address bus and data bus of clock X3, CPU (IC36).
- Check for a signal at the D/A converter (IC22).
- Check items such as specified number of points, sampling conditions, missing points in the oscilloscope.

6. DRAM check

Check that READ and WRITE is performed normally between DSP (IC18) and DRAM (IC1, 2, 3, 4, 12, 17).

- Test the address bus between DSP (IC18) and DRAM (IC1, 2, 3, 4, 12, 17) with the [LOCK] button.
- Test the data bus between the DSP and the DRAM with the [OPTION] button.
- Check the address bus and data bus of DRAM (IC1, 2, 3, 4, 12, 17).
- Check [74H157] (IC33).
7.DSP check

Check that data sent in the path from DSP (IC8) to DSR (IC10) to DSP (IC13) to DSP (IC18) to DSP (IC12) to the DSP is receiving normally.

Make an operational test of DSR (IC8, 7, 8, 28).

Signal path description

Pin 107 and pin 101-109 of DSP (IC8)
→ Pin 72, pins 74-76 and pins 78-80 of DSP (IC8, 7, 8, 28)
→ Pin 7 of DSP (IC8)
→ Pin 122 of DSP (IC13)

- DSP (IC8) is the master of the synchronization signal, while ADC (IC11), DA (IC22) and DSR (IC17, 8, 28) are slaves.
- DSP (IC8) is DSP (IC8, 7, 8, 28) are synchronized with IC18 (pin 107) and parallel data sent is sent to pins 101-106 of IC18.
- DSP (IC8, 7, 8, 28) are synchronized with pins 67 and 60, and serial data is sent on pins 71 to 70.
- The signal path from DSP (IC8) to DSP (IC18) comes from pins 124 and 129 of DSP (IC8, 7, 8, 28), in the interface circuits comprised of IC24, and IC24, signals are formed for DSP (IC8, 7, 8, 28) and serial data sent is a path from IC8 (pin 37) to IC18 (pin 122).

Causes of errors

If any error occurs in the DSP operational tests, the possible causes are:

- DSP (IC8) is DSP (IC8, 7, 8, 28) are tied together in parallel so the cause of error may lie in a solder bridge, solder defect or cut on the pattern at pin 107, pins 101-106 on the DSP (IC8, IC13) side, or any pins 72, 74-76, 78-80 on the DSP (IC8, 7, 8) side.
- If there is a solder reflow or unattached pin on pin 72, 74-76 or 78-80 at DSP (IC8, 7, 8, 28), then test of related chips will show errors.
- Once a DSP (IC8, 7, 8, 28) chip stops operating all chip tests prior to the chip will show errors.
- As IC8 is defective: Then, IC6, IC7, IC25 will show errors. IC18 may be okay however.
- If the ROM (IC9, IC10) is wrong or if it is not inserted, then all tests will show errors.
- A defective DSP (IC8) will cause tests on the DSP (IC8, 7, 8, 28) to all show errors.

8.DSP Thru check and residual noise check

- LARGE AMOUNTS OF RESIDUAL NOISE

The signal travels a path of AD (IC11) to DSP (IC8) to DA (IC22). Noise may be due to items such as defective AD converter (IC11), DA/DC converter or OpAmp.

OVERALL HARDWARE DESCRIPTION

CPU
- CPU: IC36. V53P
- CLOCK: X1 21.25MHz (CPU opens in 12.5MHz divided in 2)
- CPU CLOCK (7 pins) pins 12.5MHz.
- ROM: IC16 TMS27C800-10H (16MHz EPROM) for system programming
- RAM: IC15 SRAM0100LLMS5 (1MB SRAM) for work area
- EEPROM: IC5 AS95240F (1024bits), Serial input/output of system parameter storage data.
- RESET: IC13 M5 9353AFP

CPU RESET is "H", The CPU does not function during the "L" interval.
The time constant is set by C17. The CPU can be reset by shorting both loads of C17, without having to turn on the power on and off.
- ADDRESS LATCH : IC37 74HC573
- VDP 53P9 is time shared with the data bus with A0 - A7 output as lower address.
- CPU/AST is switchable so latch the lower address.
- DATA BUS BUFFER : IC14 74HC4051, IC29A 74H

CPU関係
- CPU: IC36. V53P
- CLOCK: X1 21.25MHz (CPU opens in 12.5MHz divided in 2)
- CPU CLOCK (7 pins) pin 12.5MHz.
- ROM: IC16 TMS27C800-10H (16MHz EPROM) for system programming
- RAM: IC15 SRAM0100LLMS5 (1MB SRAM) for work area.
- EEPROM: IC5 AS95240F (1024bits), Serial input/output of system parameter storage data.
- RESET: IC13 M5 9353AFP

CPU RESETP is "H", The CPU does not function during the "L" interval.
The time constant is set by C17. The CPU can be reset by shorting both loads of C17, without having to turn on the power on and off.
- ADDRESS LATCH : IC37 74HC573
- VDP 53P9 is time shared with the data bus with A0 - A7 output as lower address.
- CPU/AST is switchable so latch the lower address.
- DATA BUS BUFFER : IC14 74HC4051, IC29A 74H

MEMORY MAP
- MEMORY MAP 0000 - FFFF : 1MB RAM
- 20000 - 3FFF : DSP (IC8)
- 40000 - 5FFF : DSP (IC14)
- 60000 - 7FFF : DSP (IC17)
- 80000 - 9FFF : 4MB ROM

Signal Processing
- DSP (IC8) is the master for AD (IC11), DAC (IC8, 7, 28), and DA (IC22).
- All clocks are driven by XO connected to oscillator (pin 29) of the DSP (IC8).
- SYNO (pin 122) of DSP (IC18) is the system synchronizing signal. When using an oscilloscope for observing signal processing functions, synchronize the oscilloscope with this signal for clear observations and measurements.

信号処理関係
- AD(11), DSC(13, 7, 28), DA(22)のマスタはDSP(8)です。
- 全てのクロックのが出力のDAC(13, 7, 28)に同期しているところです。
- システム同期信号はDSP(18)のsyntの22ピンです。
- オシロスコープで信号処理結果の波形を観察するときはこの信号を同期を
- とることで正しい結果を得られます。
Replacement MAIN BOARD ASSY should be made on a unit basis.
No replacement available for individual parts.
Replacement only by a shop.

Main MAIN BOARD ASSYの交換は、ユニット単位で行ってください。
ユニット単位で交換してください。
CIRCUIT DIAGRAM / 回路図 (MAIN)
JK BOARD / 基板図（JK, LED, SW, VR）

JACK BOARD TOTAL
ASSY 70562989
(PCB 00785145)

NOTE
1. Replacement JK BOARD includes the following.
   LED BOARD  (PCB 00679834)
   SW BOARD   (PCB 00679845)
   VR BOARD   (PCB 00679812)

View from components side.
CIRCUIT DIAGRAM / 回路図 (LED)
CIRCUIT DIAGRAM / 回路図 (SW, POWER)
IC DATA / ICデータ

CPU (IC36)
μPD704333GD-58
(15199970)

EEP-ROM (IC5 on MB)
A90274S6-F1
(00120056)

OP. AMP. (IC21, 23-26 on MB, IC1, 2 on JK)
NE5532AN [DIP]
(15189256)

Crystal Oscillator (IC30 on MB)
TC32W004F
(00679756)

A / D Converter (IC11 on MB)
SAA7138ET
(00678738)

D / A Converter (IC22 on MB)
PCMCIA4 / T2
(00320557)

EPROM (IC9, 10, 16)
TMM327C040-12UL
(152094B3)

SRAM (IC15 on MB)
SRM03104204M-65
(00345823)

D-RAM (IC1, 2, 3, 4, 12, 17)
LHSH2568K-63
(00891980)

RS-232 / RS-422 Transceivers (IC27 on MB)
AD2306
(00457623)
**CHANGE INFORMATION**

On the main board, cut the circuit board pattern between pins 51, 52 and pin 54 on IC18 and then connect a jumper line between pins 51,52 of IC18 and C155. (Reset signal connection)

**[EFFECTIVE]**
SNs. up to Zxxx649

**[REASON]**
Countermeasures for reset of IC18.

**[SERVICE RESPONSE]**
Unnecessary since countermeasures for all pieces were done at the factory prior to shipment.

変更案内

メインボードIC18の51、52ピンと54ピンの間のパターンカットおよび、IC18の51、52ピンとC155をジャンバー線で接続。 (リセット信号の接続)

**[実施番号]**
SNs. Zxxx649まで。

**[理由]**
IC18のリセット対策のため。

**[サービス財用]**
工場出荷時に全数対策済みのため、要らない。
Test Parameter newly added. Please add the following new Parameter to the end of the Test Mode to all existing service notes.

- Switch between Flying and Stationary each of the Absolute and Relative.
  1. Get into “EPROM Initializing” mode. The segment will display “EE”.
  2. Press [PROGRAM]. The segment will display “Sr”.
     * You can switch between Flying and Stationary from pressing [FUNCTION].
     * (The DEMO Pattern of Flying will not run in this checking.)
     * You can switch between Absolute and Relative from pressing [DEVICE ID].

- Check with the following 4 modes. Use CD or Sound Module with continuous sound for source.
  * Sr: Stationary - Relative
  * Fr: Flying - Relative
  * SA: Stationary - Absolute
  * FA: Flying - Absolute

Execute the above 4 mode checking and DEMO pattern #1 (Fr) and #11 (FA)

- DEMO Pattern #1 & #11 (Moving sequence program)
  Run each DEMO Program and check the sound. Use CD or Sound Module with continuous sound for source.

1. Exit Test Mode and execute initialization.
   a) Turn the power On while pressing [LOCK] and [OPTION] at a time. LED of MCR-8 lights.
   b) Press [DEMO PROGRAM] 4 times to display “EE”.
   c) Press [DEVICE ID]. The LED will display “0”. EEPROM will be initialized.
   d) Turn the power Off.
2. Turn the power On and check the two Demo patterns if the sound is normal or not.
   a) Press [DEMO]. The LED of a button blinks.
   b) Press [DEMO PROGRAM] to display “1”. (RSS will get into “Fe” mode.)
   c) Press [DEMO]. Demo starts and LED of the button lights.
      Be sure that the sound moves correctly.
   d) LED of the button changes from light to brink when the Demo ends.
   e) Press [DEMO PROGRAM] to display “11”. (RSS will get into “FA” mode.)
   f) Press [DEMO]. Demo starts and LED of the button lights.
      Be sure that the sound moves correctly.
   g) LED of the button changes from light to brink when the Demo ends.
3. Turn the power Off.
4. Execute Initialization again.