Assembling Considerations:

- Be sure to connect the keypad to the CN9 with correct orientation.
- Be sure to connect CN65, 6 and 8 with wirings in the correct order—note the position of the white wire.

Disassembly:

1. Remove A
2. Remove B
CIRCUIT DESCRIPTION/回路解説

1. IC7 CPU (μPD78210) の主な動作
1-1. キーボード操作
10個のキーボードの信号は、IC1、IC2 のマルチブレーカにより、同時に4個のキーを4個分に分けて、A/D 変換入力端子(AN0～AN3)へと送られます。キーボードの使用状況はキーの押下で増減し、IC1、IC2 のユニット状態でD5、500 gfで0.6V、1 kgfで0.5V です。

2. キー入力（PB0～PB7、P23～P27）
読み取りチップがスイッチボードの中心に配置されます。
3. キー入力（P32、P33）
常に LED の駆動（P32、P33）
4. キー入力（AD0～AD7）
外周メモリのアクセス（AD0～AD7、ASTB、A0～A7, RD, WR）
IC7 (CPU) はIC9 を介して、外部メモリをアクセスします。
IC9 はIC10 のプログラム ROM、IC10（データ及びメモリの RAM）で、IC7 を介して、RAM カードをアクセスします。

3. スウース音源
IC12 (MB87419) とIC13 (MB87420) はLSIs で、IC14 (MB87430) はRAM ICs で、IC15, IC16 はデジタルデータを出力する専用のサウンドハーモニメータにより音楽を形成する専用LSIです。

4. その他のデバイス
IC4 (MSI05416) は、システムリセット ICです。

5. IC6 (BU339045)
IC6 (BU339045) は、FSK変調/復調用のスキャナICです。モード設定はD0～D3 へと入力されるコマンドによって決まります。
D2 "L" = 通常,
D2 "H" = 常時

变更時
変調器はP0 入力によって行わずに、FSK の出力信号はP0 "L" で1kHz, "H" で2kHzです。

変調器
FSK の出力信号はP0 入力されたFSK信号によって、IC8 (μPD65013) を介して、RAM カードを出力します。
Apparatus containing Lithium batteries

WARNING!
Explosive gas if filled gas bottle is Ars.
Avoid using same battery as an explosion hazard type.
1. Remove battery from circuit board.
2. Replace battery with type specified by the manufacturer.

NOTE: Replacement CPU Board Assy does not include the Lithium Battery. Because lithium battery does not use use for the back-up of factory presets. Order proper the lithium battery separately if necessary.

1256924950 Lithium Battery CR2032
JACK BOARD ASS'Y
ASSY 7315108000
 pcb 2292565003 1/2

SWITCH BOARD ASS'Y
ASSY 7315111000
 pcb 2292565003 2/2
TEST MODE & ADJUSTMENT/テストモード・調整

CAUTION
The user data in the R-8 MKII will be erased once the unit enters the test mode. Before entering the test mode, be sure to save the user data to an external memory. Follow the procedure described in the “Data Save/Load” section.

Hardware required
- Monitor with speaker (MA-12, etc.)
- Sound source
- MIDI capable instrument having transmitter
- Foot switch (DP-2 or equivalent)
- Volume control pedal (EV-5 or EV-10)
- Equipment equipped with sync IN and OUT
- Multimeter or noise meter
- RAM card (M-256E/D)
- ROM card (SN-RB-03: Sound Effect)

Entering test mode
While holding down [TEMP ASGN] and [EXIT] keys simultaneously, turn on the R-8 MKII. The display will show the test mode initial screen.

Test result indication
Successful: At the end of selected test, the LCD displays “OK” and the LED lights green.
Under this condition another test can be started by simply pressing the corresponding key.

Test ended
Good Bye !!

SYSTEM INITIALIZE ➔ Press Enter.

Press [ENTER] key and the LCD will show “Are you sure?” Press [ENTER] key again.
The system is initialized, showing “Completed” and then enters the normal mode.

Tests
Keys 0-9 of the ten key keyboard, [PTN BANK], [EXIT] and [ENTER] keys start the respective test shown below.

0: MIDI THRU check
1: Switch check
2: Keypad check
3: RAM and RAM card check
4: D/A converter bit check
5: Volume control pedal check
6: Tape sync IN check
7: Tape sync OUT check
8: Output assign check
9: OP amp offset adjustment
PTN BANK: Sound ROM and ROM card check
ENTER: Program version identification/MSB adjustment
EXIT: Initialization

Test mode entry
While holding down [TEMP ASGN] and [EXIT] keys simultaneously, turn on the R-8 MKII. The display will show the test mode initial screen.

Test result indication
OK表示各テスト全の場合は以下のように表示され、緑のLEDが点灯します。
この状態で、各テストに対応するキーを押すと次のテストが実行できます。

NG表示NGの場合以下のように表示され、赤のLEDが点灯します。
この状態で、各テストに対応するキーを押すと次のテストが実行できます。

Test ended
Good Bye !!

SYSTEM INITIALIZE ➔ Press Enter.

Press [ENTER] key and the LCD will show “Are you sure?” Press [ENTER] key again.
The system is initialized, showing “Completed” and then enters the normal mode.

MIDI THRU check

CAUTION
Do not send too many data at a time or the test may fail.

注意
R-8MK IIを含む他の機器が入っている場合は、MIDI THRUの設定に影響がありません。

注意
場所によってはデータを送らないようにしてください。

Jan. 1993
1. Key switches and foot switch check (excluding keypad keys)

a) Connect the foot switch to START/STOP jack.
b) Press the key [1] on the ten key keyboard. The display will change as follows.

** SWITCH CHECK **

The rim shot will sound and the LCD show 'OK'.

2. Keypads check

a) Press the key [2] on the ten key keyboard. The display will change as shown below. Press keypads one by one. XXX indicates the key pressure and xx the number of the key pressed.

** KEY PAD CHECK **

** LEVEL=XXX **

b) Press [MULTI] key to end the test. The display 'OK' means that all the keypads are successfully tested.

3. RAM and RAM card check

a) Insert the RAM card to the RAM card slot and then press the key [3] on the ten key keyboard. The LCD will indicate that the test starts.

** RAM, RAM CARD CHECK **

The LCD will show the test result.

'Card not ready' The card is not sensed. Withdraw and then reinset the RAM card. Select the test again.

'Card protected': Turn off the write protect switch and select the test again.

'OK': The RAMs (ICs 10 and 81 of the CPU board) and RAM card successfully passed the test.

'NG': The card or RAM failed to pass the test.

4. D/A converter (PM545) bit check

a) Press the key [4] on the ten key keyboard and the display will change as shown below.

** BIT / OFFSET CHECK **

b) Press keys 1 to 4 on the ten key keyboard. The tom will sound with a low velocity.

The sound for distortion which means wrong data bit arrangement (missing bit, bridged bit lines, etc.).

** KEY PADチェック **

Level

Key No.

** KEY PAD CHECK **

Level

Key No.

** KEY PAD CHECK **

Level

Key No.

** KEY PAD CHECK **

Level

Key No.

** KEY PAD CHECK **

Level

Key No.

** KEY PAD CHECK **

Level

Key No.
5. Volume control pedal check
   a) Connect the volume control pedal (EV-5 or EV-10) to VALUE jack.
   b) Press the key \[5\] on the ten key keyboard. The LCD will show the volume level settings in place of XXX on the LCD shown below.

6. Tape SYNC IN check
   a) Press the key \[6\] on the ten key keyboard and the display changes to:

   **TAPE SYNC IN CHECK**

   b) Apply a tape sync signal as shown below.

   **OUTPUT ASSIGN CHECK**

   8. Output assignment check
   a) Press the key \[8\] on the ten key keyboard. The LCD shows the test.

   **TAPE SYNC OUT CHECK**

   The R-8 MKII will output tape sync signal. Slide the control to change the tempo; the MKII will show the tempo on the LCD and blink the LED to the tempo. Verify that the receiving unit keeps pace with the sync signal.
   c) Press \[MULTI\] key to end the test and the LCD will show OK.

   9. OP amp offset adjustment (VR4)
   c) Press \[MULTI\] key to end the test and the LCD will show OK.

   **Note**
   For carrying out tests 9 and 11, open the R-8 MKII panel to expose the CPU board.

   **Pedal VR Level Check**

   Level=XXX

   c) Fully swing the pedal. If the pedal can set a minimum level of 0 and maximum level of 240, the LCD will display OK; if failed, NG, approx. 10 seconds later.

   **8. Output assignment check**

   a) Press the key \[8\] on the ten key keyboard and the display changes to:

   **OUTPUT ASSIGN CHECK**

   b) Press each of the keys on the keypad and test sine wave is routed to the OUTPUT(s) assigned as shown below depending on the key pressed.

   **Real Edit/Value**

   Slide the control to change the tempo; the MKII will show the tempo on the LCD and blink the LED to the tempo. Verify that the receiving unit keeps pace with the sync signal.
   c) Press \[MULTI\] key to end the test and the LCD will show OK.

   **8. Output assignment check**

   a) Press the key \[8\] on the ten key keyboard and the display changes to:

   **OUTPUT ASSIGN CHECK**

   b) Press each of the keys on the keypad and test sine wave is routed to the OUTPUT(s) assigned as shown below depending on the key pressed.

   **Real Edit/Value**

   Slide the control to change the tempo; the MKII will show the tempo on the LCD and blink the LED to the tempo. Verify that the receiving unit keeps pace with the sync signal.
   c) Press \[MULTI\] key to end the test and the LCD will show OK.

   **Real Edit/Value**

   Slide the control to change the tempo; the MKII will show the tempo on the LCD and blink the LED to the tempo. Verify that the receiving unit keeps pace with the sync signal.
   c) Press \[MULTI\] key to end the test and the LCD will show OK.

   **Real Edit/Value**

   Slide the control to change the tempo; the MKII will show the tempo on the LCD and blink the LED to the tempo. Verify that the receiving unit keeps pace with the sync signal.
   c) Press \[MULTI\] key to end the test and the LCD will show OK.

   **Real Edit/Value**

   Slide the control to change the tempo; the MKII will show the tempo on the LCD and blink the LED to the tempo. Verify that the receiving unit keeps pace with the sync signal.
   c) Press \[MULTI\] key to end the test and the LCD will show OK.

   **Real Edit/Value**

   Slide the control to change the tempo; the MKII will show the tempo on the LCD and blink the LED to the tempo. Verify that the receiving unit keeps pace with the sync signal.
   c) Press \[MULTI\] key to end the test and the LCD will show OK.

   **Real Edit/Value**

   Slide the control to change the tempo; the MKII will show the tempo on the LCD and blink the LED to the tempo. Verify that the receiving unit keeps pace with the sync signal.
   c) Press \[MULTI\] key to end the test and the LCD will show OK.

   **Real Edit/Value**

   Slide the control to change the tempo; the MKII will show the tempo on the LCD and blink the LED to the tempo. Verify that the receiving unit keeps pace with the sync signal.
   c) Press \[MULTI\] key to end the test and the LCD will show OK.

   **Real Edit/Value**

   Slide the control to change the tempo; the MKII will show the tempo on the LCD and blink the LED to the tempo. Verify that the receiving unit keeps pace with the sync signal.
   c) Press \[MULTI\] key to end the test and the LCD will show OK.

   **Real Edit/Value**

   Slide the control to change the tempo; the MKII will show the tempo on the LCD and blink the LED to the tempo. Verify that the receiving unit keeps pace with the sync signal.
   c) Press \[MULTI\] key to end the test and the LCD will show OK.

   **Real Edit/Value**

   Slide the control to change the tempo; the MKII will show the tempo on the LCD and blink the LED to the tempo. Verify that the receiving unit keeps pace with the sync signal.
   c) Press \[MULTI\] key to end the test and the LCD will show OK.
OFFSET ADJUSTMENT

- Press the key [9] on the ten key keyboard. The display changes as shown below and the test audio signal is applied through OP amp (IC6 of the CPU board) to MASTER OUTs.

- Monitoring OUTPUT(s), adjust offset control, VR4 of the CPU board, for a minimum signal level.
- Press the [MULTI] key and the LCD will show ‘OK’.

10. Sound ROMs and ROM card check

- Insert the ROM card (SN-R8-03: SOUND EFFECT) into the ROM card slot.
- Press the [PTN BANK] key. The LCD will show the following message, indicating that the ROM and ROM card tests start.

a) If the card is not sensed, ‘Card not ready’ is displayed. Remove and reinsert the card positively. Repeat step b).

b) Make sure ‘OK’ is displayed: the following error message may be displayed.

- ‘Sound ROM Check NG’: Check the internal sound ROMs (ICs 30, 31 and 82 of the CPU board).
- ‘Sound Card Check NG’: Check or replace the ROM card.

11. Program version identification/MSB (DAC) adjustment (VR5)

- Press the [ENTER] key and the LCD will show the version of the program ROM (IC9 of the CPU board).
- Press the [EXIT] key and the LCD will show as follows.

Test ended
Good Bye!!

SYSTEM INITIALIZE
⇒ Press Enter.
**DATA SAVE/LOADデータのセーブとロード方法**

**CAUTION**
Before entering the test mode, be sure to save the current data into the memory card or the MIDI capable instrument.
The current data will be erased once the unit reboots.
When using the memory card, you need two memory cards. Because the R-8MKII has two pattern banks (A/B), and each pattern bank’s data needs one memory card.

1. **Formatting**
To save data onto a brand new RAM card or one used by another unit, the following formatting procedure is required.
*Formatting will erase any previous data stored on the RAM card.*

**Step 1** Insert the RAM card into the RAM card Slot securely (it should click into place).

**Card Number 2 is indicated**
RAMカードを挿入すると、カード・ナンバー2を表示

**Step 2** Set the protect switch on the RAM card to OFF.
RAMカードのプロテクト・スイッチをオフにします。

**Step 3** Press **CARD** to select the Card Mode.

**Step 4** Press Numeric Key 3 to select "FORMAT."

- If you are using a brand new card, the Card Name setting display appears:

```
RAM CARD FORMAT
CARD NAME: <__>
```

- If any data is written on the card, the following display appears:

```
RAM CARD FORMAT
Data exist : FORMAT?
```

To continue, press **ENTER**, and to stop, press **EXIT**.

*If the RAM card is not connected correctly, the "Card not ready" message appears. If this happens, remove the card, reinsert it properly, then repeat the procedure.*

*If the connected card cannot be used with the R-8MKII, the "Improper card" message appears.*

**Step 5** Move the cursor with 
and 
, then create a card name with 
 or 
, the VALUE slider, or the Numeric Keys.

```
Pressing a Numeric Key also switches between numbers and letters/symbols mode (marked at the upper right of the keys). If you wish to use small letters, press a Numeric Key while holding SHIFT down.
```

**Step 6** Press **ENTER**.

```
RAM CARD FORMAT
→ → Are you sure?
```

*To leave this mode, press **EXIT**.*

**Step 7** Press **ENTER** again.
"Completed" appears showing the card is now formatted.

**Step 8** Set the protect switch on the card back to ON.

```
RAM CARD FORMAT
```

*操作を中止する場合は、**EXIT**を押してください。*
2. Save

The save procedure copies data from the R-8MK II onto a RAM card.

Step 1 Insert the RAM card into the RAM Card Slot securely (it should click into place).
Step 2 Set the protect switch on the RAM card to OFF.
Step 3 Press CARD to select the Card Mode.
Step 4 Press Numeric Key 2 to select "SAVE RAM."

3. Load

The load procedure copies data on a RAM card into the R-8MK II.

Step 1 Insert the RAM card into the RAM Card Slot securely (it should click into place).
Step 2 Press CARD to select the Card Mode.
Step 3 Press Numeric Key 1 to select "LOAD RAM."

SAVE TO RAM CARD
SEQ+SETUP
PTN BANK

Step 5 Specify the data group to be saved using Numeric Keys 1 to 3. Normally, use the "SEQ+SETUP."
Step 6 Select the Pattern Bank to be saved with [PTN BANK], then press ENTER.
The Display responds with "Are you sure?». Select the data group.
Card Name

LOAD FROM RAM CARD
SEQ+SETUP
PTN BANK

Step 4 Specify the data group to be loaded using Numeric Keys 1 to 3. Normally, use the "SEQ+SETUP."
Step 5 Select the Pattern Bank where the Rhythm Pattern will be loaded with [PTN BANK], then press ENTER.
The Display responds with "Are you sure?». Select the data group.
Card Name

SAVE <S+S>MUSIC 1
→→ PTN BANK: [ ]

Pattern Bank to be saved

Step 7 Press ENTER. "Completed" appears showing data is now saved onto the card.
Step 8 Set the protect switch on the card back to ON.

"Completed" appears showing data is now saved onto the card.

To leave this mode, press EXIT.

"Completed" appears showing data is now saved onto the card.

To leave this mode, press EXIT.

"Completed" appears showing data is now saved onto the card.

To leave this mode, press EXIT.

"Completed" appears showing data is now saved onto the card.

To leave this mode, press EXIT.

"Completed" appears showing data is now saved onto the card.

To leave this mode, press EXIT.
Data Transfer via Exclusive Messages

Using MIDI Exclusive messages, all data in the R-8MK II can be transferred to another R-8MK II or any MIDI device which can receive Exclusive messages.

a. Transmit (Bulk Dump)

Data stored in the R-8MK II can be transferred to another MIDI device.

Connections

Step 1: Set the basic channel (receive channel of the Instrument section) to the basic channel of the receive unit.

Step 2: With the Menu Display shown in the MIDI mode, press Numeric Keypad 8 to select “BLK DUMP.”

Step 3: Using Numeric Keys 1 to 6, specify the data group to be transferred.
1 ALL: All data is transferred (SEQ and SETUP)

操作1: R-8MKIIのペースク・チャンネル（インストゥルメント・セクションの受信チャンネル）と受信側のMIDI装置のペースク・チャンネルを合わせます。

操作2: MIDIモードのメニュー画面で、[テンキー]の8を押して“BLK DUMP”を指定します。

操作3: 1スタンバイモードの1〜6を押して、転送するデータを選びます。
1 ALL: R-8MKIIのすべてのデータ（SEQとSETUP）

[図解]

The display responds with:

データを指定すると次のように表示されます。

Select Data Group
指定したデータの種類

b. Receive

The R-8MK II can receive Exclusive messages from another R-8MK II or MIDI device.

Connections

Step 4: Press ENTER. The display responds with “Are you sure?”.

Step 5: Press [ENTER] to transfer the data. When the data transfer is finished, “Completed” appears in the display.

* To leave this mode, press [EXIT].

b. 受信

他のR-8MKIIまたは他のMIDI装置からのエクスクルーシブ・メッセージを受信します。

【図解】

Step 1: To receive "ALL" or "SEQ" data, delete all the programmable patterns in the internal memory.

Step 2: Set the basic channel (receive channel of the Instrument section) to the basic channel of the Transmitter.

Step 3: Set the Exclusive Switch (Function Switch) to "ON".

If the R-8MK II is stopped, it can receive Exclusive messages.

操作1: "ALL" または "SEQ" のデータを受信する場合は、本体のプログラマブルパターンをすべて消去してください。

操作2: R-8MKIIのペースク・チャンネル（インストゥルメント・セクションの受信チャンネル）と送信側のMIDI装置のペースク・チャンネルを合わせます。

操作3: エクスクルーシブ・スイッチ（ファントミン・スイッチ）を "ON" にします。

R-8MKIIの演奏をストップしている状態で、エクスクルーシブを受信できます。