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SPECIFICATIONS

Model: Sound Canvas SC-8850
(General MIDI System GM / GS format GS)

- Number of parts
  64

- Maximum Polyphony
  128 (voices)

- Internal Memory
  4 MB

- Sound Maps
  4 (SC-55, SC-88, SC-88Pro, SC-88APL)

- Preset Sounds
  1640

- Drum sound sets
  63

- User Drum sound sets
  2

- Effects
  Reverb (8 types)
  Chorus (8 types)
  Delay (10 types)
  2 Band equalizer
  Insertion Effect (64 types)

- Display
  160 x 64 dots Graphic LCD (Backlit LCD)

- Connectors
  MIDI connectors (IN 1, IN 2, OUT 1, OUT 2)
  Audio Input jack x 2 (LR)
  Audio Output jack x 4 (OUTPUT 1L, 1R, 2L, 2R)
  Headphones jack
  Serial connector
  USB connector

- Power Supply
  AC 117V, 230V or 240V

- Power Consumption
  11 W

- Dimensions
  218 (W) x 278 (D) x 88 (H) mm

- Weight
  2.3 kg

- Accessories
  Owner's manual Japanese (#71451856)
  Owner's manual English (#71451867)
  AC CORD (100V) (#13499219)
  (120V) (#13499220)
  (230V) (#13499221)
  (240V) (#13499222)
  EURO CONVERTER PLG (#00905234)
  CD-ROM (#01891556)

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* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.
LOCATION OF CONTROLS / パネル配置図

(FRONT VIEW)

(REAR VIEW)

(PARTS)

No. PART No. PART NAME DESCRIPTION Q'TY

1 22495630 F S-BUTTON SX BLK 1
2 00230223 PUSHPUSH SWITCH SDDLD1-C-D-1 TV-3 1
3 01891389 DISPLAY COVER DMF-5102NU-LA 1
4 01788823 LCD 1
5 01789233 FRONT PANEL 1
6 22460321 S R-KNOB L BLK 248-321 1
7 01788867 ROTARY ENCODER EC11B15244 L=15 1
8 01891412 P R-KNOB MF BLK/MWG 1
9 13289209 9MM ROTARY POTENTIOMETER RK097124110KB2 (W/SWITCH) 1
10 01891401 RUBBER SWITCH B STEREO YKB21-5130 1
11 13449433 5.5MM JACK MF 1
12 2255160 RUBBER FOOT D25 235-160 4
13 01891390 RUBBER SWITCH A 1
14 01891489 TACT SWITCH SKHJAB 05A WITH LED AMBER 5
15 01340290 TACT SWITCH EVD21A H=5.0 13

(PARTS)

No. PART No. PART NAME DESCRIPTION Q'TY

1 13429676 MIDI CONNECTOR YKF51-5048 2
2 13429911 DIN JACK TCS2972-28-401 (RS422) 1
3 01459945 USB CONNECTOR YKF45-0002 1
4 01891323 TOP COVER 1
5 13299994 9MM ROTARY POTENTIOMETER RK09K124A22A-10KB2 1
6 01891352 RCA(PIN) YKC21-3793 WITH FRAME GND 1
7 01891334 BOTTOM CHASSIS 1
8 23429740 AC INLET INL-B 10A/125V 2P PO 1

(Rear View)
EXPLODED VIEW / 分解図

[PARTS]

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### PARTS LIST

**SAFETY PRECAUTIONS:**

The parts marked  have safety-related characteristics. Use only listed parts for replacement.

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**SAFETY PRECAUTIONS:**

The parts marked  have safety-related characteristics. Use only listed parts for replacement.

Failure to completely fulfill all the above items with correct number and description will result in delayed or unsuccessful replacement.

---

**SAFETY PRECAUTIONS:**

The parts marked  have safety-related characteristics. Use only listed parts for replacement.

---

**CABING/ケース**

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**KNOB BUSNESS/ノブボタン**

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**DISPLAY UNIT/ディスプレイユニット**

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**POWER SUPPLY UNIT/電源ユニット**

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**PC BOARD ASSY/パーソナルコンピュータボード**

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**POTENTIAL BOARD/ポテンショナルボード**

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**CAPACITOR/コンデンサー**

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<tr>
<td>00567823</td>
<td>RIBBON CABLE 3x275-P2.0</td>
<td>CN3</td>
</tr>
</tbody>
</table>
1. IDENTIFYING VERSION NUMBER

While holding down the “F3”, “PART” and “INC”, turn the power on.


USER DATA SAVE AND LOAD / データのセーブとロード

The SC-8850 can transmit the contents of its sound generator memory as MIDI data. The data can be transmitted in two ways: Bulk Dump which transmits multiple parameters as a group, and Individual Data which allows parameters to be transmitted individually. All data is transmitted as System Exclusive messages.

Use Bulk Dump when you wish to save settings of the SC-8850 on a sequencer. By transmitting a Bulk Dump, you can also set all parameters of two units to identical settings.

By transmitting Individual Data, you can create data without having to look up individual System Exclusive messages, making it easier to create new data.

- Transmitting a Bulk Dump
  When transmitting or receiving Bulk Dump data, check the settings and procedures on your sequencing program or sequencer.

Here we explain how to transmit data from the SC-8850.
LOADING FACTORY SETTINGS / ファクトリー・プリセットの方法

この操作は、すべての設定をSC-8850の工場出荷時の設定にします。

1. Simultaneously press both the [EDIT] and PART [-] buttons (UTIL).
2. Press [INIT] ([F3]).
3. Press VAR. [-] or INST [-] to move the cursor up and down, and select Initialize All.
4. Press [ENTER].
5. To initialize, press [ENTER].
6. To quit without initializing, press [EXIT].

SHORTCUT KEYS

You can easily initialize the settings of the SC-8850 using the [SHIFT] button.

1. While holding down [SHIFT], press PART [-].
2. The display will ask “Initialize Sure?”
3. To initialize, press [ENTER].
4. To quit without initializing, press [EXIT].
5. Uploading the updating SMF data from the sequencer:

- **Updating procedure**

  1. Connect the SC-8850 and the sequencer to electric outlet.
  2. If necessary, check the current version of the SC-8850.
  3. On the rear panel of SC-8850, set MIDI/SERIAL/USB selector to MIDI.
  4. Connect MIDI IN2 of SC-8850 to MIDI OUT of the sequencer.

- **Uploading 8M flash memory (program)**

  1. While pressing [MUTE], [EXIT], [EDIT] and [F2] buttons, turn on power to the SC-8850.

- **Uploading 16M flash memory (tone parameters)**

  1. While pressing [MUTE], [EXIT], [EDIT] and [F3] buttons, turn on power to the SC-8850.

5. Publishing the updating SMF data from the sequencer:

- **On the sequencer:** Reproduce the 16 files, SC885_00.MID ~ SC885_15.MID in that order. While loading the EDIT button LED blinks for approx. 10 minutes until all data are loaded.

- **CAUTION:**

  If the sequencer sends sync signals such as F8 to the SC-8850, MIDI error will occur on the SC-8850. To prevent this problem from occurring, set the sequencer to disable the sync signal function. If the updating procedure fails, repeat updating procedure starting with step 1.

- **Updating 8M flash memory (program)**

  1. While pressing [MUTE], [EXIT], [EDIT] and [F2] buttons, turn on power to the SC-8850.

- **Updating 16M flash memory (tone parameters)**

  1. While pressing [MUTE], [EXIT], [EDIT] and [F3] buttons, turn on power to the SC-8850.

7. Turn off the SC-8850.

To update the tone parameters, go to the procedure described below.

- **Updating 8M flash memory (program)**

  1. While pressing [MUTE], [EXIT], [EDIT] and [F2] buttons, turn on power to the SC-8850.

- **Updating 16M flash memory (tone parameters)**

  1. While pressing [MUTE], [EXIT], [EDIT] and [F3] buttons, turn on power to the SC-8850.
4. When the contents of the 16M flash memory have been erased (after approx. 10 seconds), the LCD will display the following message:

```
Program Updater
Device: Parameter Password: OK!
Please Play SMF.
```

5. Uploading the updating SMF data from the sequencer:
- Read the SMF data, SC8850 16MID - SC8850 47MID in that order. During loading, the [EDIT] button LED blinks for approx. 20 minutes until all data are loaded.

**CAUTION:**
- If the sequencer sends sync signals such as F8 to the SC-8850, MIDI error will occur on the SC-8850. To prevent this problem, set the sequencer to disable the transfer of sync signal.
- If the updating procedure fails, the SC-8850 shows an error message during loading, repeat the updating procedure starting with step 1.

6. Upon receiving all data from the SMF, the unit will show update complete message on the LCD.

7. Turn off the SC-8850.

**Verifying version number**

1. While pressing [F3], [PART<] and [INC] buttons, turn on power to the SC-8850.
- The LCD displays the program version.
- Press [F2] button and the LCD displays the CPU version.
- Press [F3] button and the LCD displays the tone parameter version.

2. Check the versions and turn off power.

8. Exiting the test mode
- To abort the current test step and exit the test mode, simply turn off power.
**Test procedure**

- **Test 1: Version**
  The LCD will display the system version number as shown in the figure below.

![Version Screen](image)

Press [F2] and the screen displays the CPU version. Press [F3] and the screen displays the Param. version screen.

- **Test 2: Device test**
  This option automatically tests the following devices in sequence. When all devices covered by this option have passed the test, the LCD displays OK (see Fig. below). If the test fails, the LCD displays the defective device name and NG. The test program halts. Turn off the unit, take corrective action, and test again.

  1. CPU Checksum
  2. Flash ROM (verification and checksum)
  3. Wave ROM
  4. XP chip 1
  5. XP chip 2

  Additional features
  Buttons [EDIT], [DRUM], [EFFECTS], and [SOLO] display the test pattern shown below.

![Device Test Screen](image)

- **Test 3: Switch/LED test**
  1. Switch without LED
    The name of the button being pressed is displayed at the upper right on the screen.
  2. Switch with LED
    Pressing the button turns off the button LED. The name of the button will be displayed at the upper right on the screen as long as the button is pressed.

  Additional features
  Buttons [EDIT], [DRUM], [EFFECTS], and [SOLO] display the test pattern shown below.

![Switch/LED Test Screen](image)

- **Test 4: LCD & Encoder test**
  The LCD displays:

  1. Repeatedly press VALUE knob and verify that the screen first turns off and turns on again and then displays the following test patterns.
  2. With LCD being on, turn VALUE knob (encoder) clockwise and verify that it increases the contrast, and vice versa.

  Additional features
  Buttons [EDIT], [DRUM], [EFFECTS], and [SOLO] display the test pattern shown below.

![LCD & Encoder Test Screen](image)

- **Test 5: MIDI test**
  Hook a MIDI OUT up to the corresponding MIDI IN through the MIDI cable. Repeat for the other socket pair. The LCD will display OK.

  ![MIDI Test Screen](image)

- **Test 6: Serial test**
  When the COMPUTER terminal of this equipment is connected to the serial port of the computer being used and the result of this test shows "OK", check whether the dedicated connection cable is used.

  To perform this test, a "COMPUTER Test cable" (17049906) is required. Please order this cable from the Local Roland Service if necessary.

  ![Serial Test Screen](image)
Insert the plug of COMPUTER test cable into SERIAL socket on the rear panel. Connect the probe from oscilloscope to pin 1 (or white lead wire) of the COMPUTER test cable, and GND to pin 4 (GND).

COMPUTER テストケーブルを接続し1MHzの波形をオシロスコープで観察する。

2. Set the selector switch to “PC”. Observe the waveform on the scope.

2. 転動スイッチをPCに設定し、表示を確認する。

3. Set the selector switch to USB, PC, MAC and MIDI in that order and verify that the current switch position is indicated on the LCD in reverse video.

3. 転動スイッチをUSB, PC, MAC, MIDIの順に設定し、ソースの位置をLCDで確認する。

Test 7: Sound test

Connect OUT 2 L to INPUT L and OUT2 R to INPUT R through the audio cable. Turn VOLUME on the front panel fully clockwise. Prepare to monitor sound at OUT sockets (audible and visible (scope)). Pressing F3 key generates 440 Hz sine wave, and then goes to the next test step upon the next pressing. This cycle is repeated in the order given in the list below.

Pressing F2 key goes back to the previous step.

1. OUT1 XP1 L 2. XP1 R 3. XP1 L+R 4. XP2 L 5. XP2 R 6. XP2 L+R 7. OUT2 XP1 L 8. XP1 R 9. XP1 L+R 10. XP2 L 11. XP2 R 12. XP2 L+R

Also check:
1. The output level changes as VOLUME knob is turned.
2. Hold the unit at the front panel, raise the front side approx. 10 cm and then loosen the grip to let the unit fall. The sound must remain intact.
3. Turn INPUT VOLUME knob on the rear panel and verify corresponding changes in the sound level.
4. The VOLUME should have a nice feel.

オーディオケーブルをOUT2とINPUTの端子に接続し、本体の音量を最大にて次の音響をOUT1から出力させる音（60 440Hz）を確認する（F3を押すことと音響、再びF3を押し続けると次のステップへ切り替わり、そのステップでの音が発音します。なお本オーディオケーブルで波形も確認できる。F2で前のステップへ戻ります。）

<table>
<thead>
<tr>
<th>Test 7: Sound test</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEST# 7: SOUND</td>
</tr>
<tr>
<td>PREV 1 OFF</td>
</tr>
<tr>
<td>OUT1 OUT2 XP1 XP2</td>
</tr>
</tbody>
</table>

Also check:
1. The output level changes as VOLUME knob is turned.
2. Hold the unit at the front panel, raise the front side approx. 10 cm and then loosen the grip to let the unit fall. The sound must remain intact.
3. Turn INPUT VOLUME knob on the rear panel and verify corresponding changes in the sound level.
4. The VOLUME should have a nice feel.

Press the blinking EDIT. Factory settings will be loaded. Set the selector switch (on the rear panel) to MIDI and then turn off power.

EDTが不採算、[EDIT]を押すと実行します。Factory Presetが完了後RearのスライドスイッチをMIDIにして電源を切ります。
ERROR MESSAGES / エラーメッセージ

If operation is incorrect or if the data cannot be processed correctly, an error message will appear in the display. Consult the following list and take the appropriate action.

Checksum Error
Cause: The check sum of the received Exclusive message is incorrect.
Action: Check the data which was transmitted to the SC-8850, and transmit it once again. Also make sure that the MIDI cable is not broken.

MIDI Buff. Full
Cause: Too much MIDI data was received by the SC-8850 all at once, so it could not be correctly processed.
Action: Make sure that excessive amounts of MIDI data are not transmitted all at once.

MIDI Off Line
Cause 1: It is possible that the power has been turned off for the MIDI device connected to MIDI IN.
Action 1: The problem is not with the SC-8850. Check the power of the connected MIDI device.
Cause 2: It is possible that a MIDI cable has been pulled out or has a short.
Action 2: Check the MIDI cables.

USB Off Line
Cause 1: It is possible that the power has been turned off for the computer connected to MIDI IN.
Action 1: The problem is not with the SC-8850. Check the power of the connected computer.
Cause 2: It is possible that a USB cable has been pulled out or has a short.
Action 2: Check the USB cables.

No Instrument
Cause: A sound (Instrument) which the SC-8850 does not have has been selected.
Action: The previously selected sound name will be displayed, and that sound will be heard. Carefully refer to the tables on Instrument List (p.167), and specify the correct Bank number and Program number.

No Drum Set
Cause: A Drum Set that the SC-8850 does not have has been selected.
Action: The previously selected Drum Set name will be displayed, and that set will sound. Carefully refer to the tables on Drum Set List (p.187), and specify the correct Program number.

Checksum Error
原因: 受信したエクスクルーシブメッセージのチェックサムが異常です。
対応: 通常に受信したデータの内容をチェックして、もう一度送信してください。また、MIDIケーブルが折れていないか確認してください。

MIDI Buff. Full
原因: 大量のMIDIデータを短時間で受信したため、正しく処理できなかった。
対応: 大量のMIDIデータを短時間で送信していないか確認してください。

MIDI Off Line
原因 1: MIDIと接続しているMIDI機器の電源が切れている可能性があります。
対応 1: メディアに問題はありません、接続しているMIDI機器の電源を確認してください。
原因 2: MIDIケーブルが開いているか、接続している可能性があります。
対応 2: MIDIケーブルを調べてください。

USB Off Line
原因 1: MIDIと接続しているコンピューターの電源が切れている可能性があります。
対応 1: メディアに問題はありません、接続しているコンピューターの電源を確認してください。
原因 2: USBケーブルが開いているか、接続している可能性があります。
対応 2: USBケーブルを調べてください。

No Instrument
原因: SC-8850にインストゥルメントが指定されていない。
対応: 通常に選ばれた音色が表示され、その音色が聞こえます。
インストゥルメント名表（P.167）をよくご覧になり、正しいインストゥルメント・ナンバーを指定してください。

No Drum Set
原因: SC-8850にドラム・セットが指定されていない。
対応: 通常に選ばれたドラム・セット名が表示され、そのドラムの音色が聞こえます。
ドラム・セット名表（P.187）をよくご覧になり、正しいドラム・ナンバーを指定してください。
MAIN BOARD ASSY 2/6 (71344723)
MAIN BOARD ASSY 3/6 (71344723)
PS BOARD ASSY (71344790) / VR BOARD ASSY (71344801) / ENC BOARD ASSY (71344778) / SWITCH BOARD ASSY (71344767)

PS BOARD ASSY

VR BOARD ASSY

ENC BOARD ASSY

SWITCH BOARD Layout (Front View)

Diode: DAN202U
CIRCUIT BOARD / 基板圖
MAIN BOARD ASSY (71344723)

View from component side.
MAIN BOARD ASSY (71344723)

View from foil side.
ANALOG BOARD ASSY (71344745)/ PHONES BOARD ASSY (71344756)/ SWITCH BOARD ASSY (71344767)/
ENC BOARD ASSY (71344778)/ PS BOARD ASSY (71344790)/ VR BOARD ASSY (71344801)

View from component side.
ANALOG BOARD ASSY (71344745)/ PHONES BOARD ASSY (71344756)/ SWITCH BOARD ASSY (71344767)/ ENC BOARD ASSY (71344778)/ PS BOARD ASSY (71344790)/ VR BOARD ASSY (71344801)

VIEW FROM FOIL SIDE.