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SPECIFICATIONS / スペック

◎Keyboard/鍵盤 ........................................... 61 keys (with velocity)/61 鍵（ベロシティー付き）
◎Sound Generator/音源 .................................. Virtual ToneWheel Method/バーチャル・トーンホイール方式
◎Parts/パート ............................................. Main, Sub, Pedal, Orchestral/メイン、サブ、ペダル、オーケストラ
◎Maximum Polyphony/最大同時発音数 .................. Organ: Full Polyphony/オルガン部：完全ポリフォニック
Organ: 24 notes/Orgastra部：64 音
◎Organ/オーケストラ部 .................................. AMP simmulator/アンプ・シミュレーター
Type I
Type II
Stack I
Stack II
Stack Mix
Combo
Percussion/パーカッション
SECOND, THIRD, SOFT, SLOW
Vibrato/Chorus/ビブラート/コーラス
V-1, V-2, V-3, C1, C-2, C-3
Ring Modulator/リング・モジュレーター
◎Orchestral/オーケストラ部 ............................. Voice Category/音色カテゴリー
STRINGS
CHOIR
BRASS
ATTACK
OTHERS
Chorus/コーラス
Reverb/リバーブ
◎Effect/エフェクト ........................................ User Presets: 16/ユーザー・プリセット数: 16
Organ Presets: 64/オルガン・プリセット数: 64
Orchestral Voices: 30/オーケストラ・ボイス数: 39
◎Internal Memory/インターネル・メモリー ................. HARMONIC BAR/ハーモニック・バー
16', 5-1/3', 8', 4', 2-2/3', 2', 1-3/5', 1-1/3', 1'
HARMONIC BAR PART/ハーモニック・バー・パート
PEDAL, SUB, MAIN
ROTARY SOUND/ロータリー・サウンド
BYPASS, BRAKE, SLOW/FAST
PERCUSSION/パーカッション
SECOND, THIRD, SOFT, SLOW
ORGAN PRESETS/オルガン・プリセット
BANK, MANUAL, 1, 2, 3, 4, 5, 6, 7, 8, EDIT
SPLIT/スプリット
PDL/MAIN, SUB/MAIN
ORCHESTRAL ASSIGN/オーケストラ・アサイン
PEDAL, SUB, MAIN
ORCHESTRAL VOICES/オーケストラ・ボイス
STRINGS, CHOIR, BRASS, BASS, ATTACK, OTHERS, VARIATION, ORCHESTRAL LEVEL
Miscellaneous/その他
VIBRATO/CHORUS
OVERDRIVE
USER PRESETS
ORGAN MUTE
REVERB LEVEL
MASTER VOLUME
ROTARY LEVEL
MIDI IN MODE (KEYBOARD/SEQ)
POWER
◎Display/ディスプレイ ...................................... 16 characters, 2 lines (Backlight LCD)/16 枠 2 行（バック照明つきLCD）
◎Connectors/接続端子 ................................. OUTPUT JACK (L/MONO, R)/OUTPUT 端子(L/MONO, R)
PHONES JACK (stereo)/PHONES 端子（ステレオ）
MIDI CONNECTORS (KEYBOARD IN/IN1, PEDAL IN/IN2, OUT)
/MIDI端子(KEYBOARD IN/IN 1, PEDAL IN/IN 2, OUT)
EXP PEDAL JACK/EXP PEDAL 端子
CONTROL PEDAL JACK (1,2)/CONTROL PEDAL 端子（1,2）
ROTARY TONE CABINET CONNECTOR (11pins)/
ROTARY TONE CABINET 端子（11ピン）
AC INLET/ACインレット
◎Power/電源 ........................................... AC 117V, AC 230V, AC 240V, AC 100 V (50/60 Hz)
◎Power Consumption/消費電力 ..................... 18W(AC 117V), 19W(AC 230V), 19W(AC 240V), 16 W(AC 100V)
TEST MODE/テストモード

- Items required
  Expression Pedal (PV-300L, or EV-5)
  MIDI Cable
  Headphone
  Oscilloscope

- Entering the TEST MODE
  Turn the power on while holding down [PERCUSSION SECOND] and [PERCUSSION THIRD] and [USER PRESETS] buttons.

- Test Items
  1. Memory Check
  2. Battery Check
  3. ROM version Check
  4. MIDI Check
  5. VR, H-BAR, PEDAL Check
  6. SW LED Check
  7. Rear Slide Switch Check
  8. LCD Check
  9. ROTARY Check
  10. Sound Check / Line Out Check

- Proceeding the TEST Item
  Each time you press [*] button, the TEST Items advanced to the next.
  And you can proceed the test procedure of each TEST items by pressing [+] button.
  And you can also select TEST Items directly by pressing corresponding buttons.

- Exiting the TEST MODE
  Simply turn the power off.

1. Memory Check
   When entered the TEST MODE, automatically Memory Check is performed.
   - 儲存する物
     エクスプレッションペダル（PV-300L または EV-5）
     MIDIケーブル
     ヘッドフォン
     オシロスコープ
   - テストモードの入り方
   - テスト項目
     1. メモリチェック
     2. バッテリーチェック
     3. ROMバージョンチェック
     4. MIDIチェック
     5. VR・H-BAR・ペダルチェック
     6. SW・LEDチェック
     7. リアスライドスイッチチェック
     8. LCDチェック
     9. ROTARYチェック
     10. サウンドチェック/ラインアウトチェック
         工場出荷時のデータのロード
   - テストモードの進め方
     [+] ボタンを押すと順に次のテスト項目に進むことができます。
     [*] ボタンを押すことで、各テスト項目中の検査を進めていきます。

- [ORGAN PRESETS] 1 → 1. Memory Check
  [ORGAN PRESETS] 2 → 2. Battery Check
  [ORGAN PRESETS] 3 → 3. ROM version Check
  [ORGAN PRESETS] 4 → 4. MIDI Check
  [ORGAN PRESETS] 5 → 5. VR, H-BAR, PEDAL Check
  [ORGAN PRESETS] 6 → 6. SW LED Check
  [ORGAN PRESETS] 7 → 7. Rear Slide Switch Check
  [ORGAN PRESETS] 8 → 8. LCD Check
  [ORGAN PRESETS] 9 → 9. ROTARY Check
  [ORGAN PRESETS] 10 → 10. Sound Check / Line Out Check

You can suspend current TEST Items and proceed to the next TEST by pressing [EDIT] button. (excluding the SW LED Check. When you want to suspend SW LED Check, use the [PEDAL] [SUB] [MAIN] button (located on H-BAR PART) combination.)

2. Battery Check
   When the battery voltage value is within the prescribed range, the message "OK" appears on the display and the test automatically proceeds to the next test item.
   If an error occurs, the message "BATTERY NG" appears on the display and the test program will stop.

3. ROM version Check
   The display will show version number of the Program ROM (IC18).

4. MIDI Check
   The following display will appears on the LCD.

   Connect MIDI-OUT and MIDI-IN 1 (MIDI-IN2) with a MIDI Cable.

   While connecting a MIDI cable, the display will show as follows.

   [MIDI OUT] OUT and [MIDI IN] IN 1

   When connecting MIDI-OUT and MIDI-IN1.

   [MIDI OUT] OUT and [MIDI IN] IN 2

   When connecting MIDI-OUT and MIDI-IN2.

5. VR, H-BAR, PEDAL Check
   The display shows the quantity of the object to be tested

   The object to be tested are H-BAR x 9, OVERDRIVE, ORCHESTRAL LEVEL, REVERB, EXP PEDAL, CONTROL PEDAL 1 and CONTROL PEDAL 2 total to be 15.

   Use EXPRESSION PEDAL (EV-5) to operate EXP PEDAL, CONTROL PEDAL 1 and CONTROL PEDAL 2.

6. LCD Check
   Move each control fully up and fully down.

   When press down the control, display shows the name of the controls and a measurement value.

   Move each control fully up and fully down.

   When VK-7 detect the minimum and maximum value, quantity of the unchecked controls on the display is counted down.

   NOTE: If these controls are operated simultaneously, it does not work.

   When you perform this test, please operate them one by one.
When this test is OK, the test automatically proceed to next test item.

6. SW LED Check

6. SW LEDチェック

LEDが全て点灯します

Press each buttons on the panel one by one. Specified sound will be heard and quantity of the uncheckled buttons on the display is counted down. When you press a button with an LED, that LED will go dark. And when you press a button with no LED, the display shows name of the button.

After all buttons have been pressed, the test automatically proceed to next test item. When you want to suspend SW LED Check, use the [PEDAL], [SUB], [MAIN] button located on H-BAR PART combination.

7. Rear Slide Switch Check

7. リアスライドスイッチチェック

ライスイッチを動かした方向をLCDに表示します。

When this test is OK, the test automatically proceed to next test item.

8. LCD Check

8. LCDチェック

The LCD contrast vary when you move the [H-BAR 1] 

Press the [+] button. The display will go dark. And press the [-] button again. The display will go completely blank. After the checking, press [+] to proceed to the next test item.

9. ROTARY Check

9. ROTARYチェック

If the rotary speaker is not at fault, you may omit this test item. Press [+] button to proceed to next test item. If you need to test a function for rotary speaker, please check the following point.

1. VK-7 recognize a connection of the rotary speaker by the voltage available to the 11pin of the rotary tone cabinet connector.

The display shows as follows.

Apply DC 24V (or less) to the 11pin. The display shows as follows.

Press [-] button to proceed to the next step.

2. Check a control signal of SLOW and FAST.

The display shows as follows. VK-7 repeat SLOW and FAST.

When SLOW, you can detect 0V, from the 8pin of the rotary tone cabinet connector. And when SLOW, 8pin opens.

When FAST, you can detect 0V, from the 7pin of the rotary tone cabinet connector. And when SLOW, 7pin opens.

Press [+] button to proceed to next step.

3. Check that the sound is output from 1pin of the rotary tone cabinet connector.

VK-7 repeat MUTE and NOT MUTE.

Sound is output from 1pin.

No sound.

And check the change of the volume, by using [ROTARY] LEVEL knob.

Press [+] button to proceed to next test item.

10. Sound Check / Line Out Check

Check LINE-OUT. Connect an oscilloscope to the line output. And connect a headphone to the phone jack.

Press the [+] button.

Check that sound from sine waveform is output from Lch and Rch, by using headphone.

And check that the waveform of the "Tip" and "Ring" are inverted, by using oscilloscope. (GND is Sleeve)

Press the [+] button.

1. ROTARY は、ロータリスピーカーの情報をロータリーカフェテラインの11ビンに送られる電圧によって判断します。ディスプレイには下記のように表示されます。
2. Check that sound from sawtooth waveform is output from Lch, by using headphone.

And check that the waveform of the "Tip" and "Ring" are inverted, by using oscilloscope.
(GND is Sleeve)

Press the [>] button.

3. Check that sound from triangular waveform is output from Rch, by using headphone.

And check that the waveform of the "Tip" and "Ring" are inverted, by using oscilloscope.
(GND is Sleeve)

Press the [>] button.

4. Check that sound with reverb is output from Lch and Rch, by using headphone.

After the checking, press [+] to proceed to the next test item.

FACTORY SETUP (Initialize)
The display shows as follows.

Press [WRITE] to load the Factory setting data.
Press the [EXIT] button to quit the Factory Setup.
The unit exit the TEST MODE.
FACTORY SETUP／ファクトリー・セットアップ

○ Restoring the Factory Settings (Factory Setup)
After using the controllers etc. to modify the settings of the VK-7, you can restore the factory settings.

○ Factory Setup
This operation restores all settings of the VK-7 to their Factory Setting.

<Factory Setup procedure>

3. Press [g-e] to select "Factory Setup." The following display will appear, asking you to confirm that you wish to execute the Factory Setup operation.

4a. To execute the Factory Setup operation, press [*]. The following display will appear, and the Factory Setup operation will be executed.

4b. If you decide not to execute the Factory Setup operation, press [e]. The previous display will reappear.
   If you wish to continue setting other parameters, either press [g-e] to select the desired parameter instead of performing step 5, or press [1] - [8] once again to move to another group within Edit mode.

5. Press [EXIT] or [EDIT] to exit Edit mode.
You can also execute the Factory Setup operation by turning on the power while holding down the three HARMONIC BAR PART buttons ([MAIN], [SUB], and [PEDAL]).

USER DATA SAVE AND LOAD／ユーザーデータのセーブとロード

○ Transmitting VK-7 Settings as MIDI Data (Bulk Dump)

VK-7 System, Organ Preset, and User Preset settings etc. can be transmitted for storage on a sequencer.
This provides a convenient way to save the current settings before you make major changes.

1. Make the following connections.

   1. 下のように接続します。

   2. エディット・モードのパルク・ダンプを実行します。

   3. オリ・パネルのMIDIセレクト・スイッチを"SEQ"側にセットしてください。

   1. [EDIT] を押します。

   2. [7] (UTILITY) を押して、エディット・モードに入ります。

   3. [<] [>] を押して、"Bulk Dump"（パルク・ダンプ）を選ぶです。

   ディスプレイが以下のよう表示され、ファクトリー・セートアップ設定の確認表示になります。

   Factory Setup Loaded!

   "Set the rear panel MIDI select switch to the 'SEQ' position.


   2. Press [7] (UTILITY) to enter Edit mode.

   3. Press [g-e] to select "Bulk Dump.

      In the lower left of the display, a cursor (underline) will appear at the item that is to be transmitted."
4. Press [+] [-] to specify the data that will be transmitted.

The following data can be transmitted:

**All**
- All VK-7 data including system data.
- If "All" is selected, it will not be necessary to select the range of data to be transmitted (steps 5 and 6).

**User**
- User Preset data.
- You can specify the range of data that you wish to transmit.

**Organ**
- Organ Preset data.
- You can specify the range of data that you wish to transmit.

**Orch**
- Orchestral Voice data.
- This transmit the data of Edit mode "ORCHESTRAL PARAMETER."
- If "Orch" is selected, it will not be necessary to select the range of data to be transmitted (steps 5 and 6).

**System**
- VK-7 system data.
- If "System" is selected, it will not be necessary to select the range of data to be transmitted (steps 5 and 6).

5. Press [x].

In the lower right of the display, the cursor will move to the area which specifies the range of data to be transmitted.

6. Press [+] [-] to specify the ranges of data.

The following items and ranges can be transmitted.

- **When "User" is selected for transmission**
  - All User Preset data.
  - U11-U28 Data for one User Preset.

- **When "Organ" is selected for transmission**
  - All Organ Preset data.
  - U11-U28 Data for one Organ Preset.

7. After you have specified the item and range, press [x].

The display will ask you to confirm execution of the bulk dump operation.

8. Begin recording on the sequencer, press [x], and execute the bulk dump operation.

"Bulk dump may require a substantial length of time."

When the bulk dump is completed, the following display will appear.

**When all User Preset data is transmitted.**

8a. If you decide not to execute the bulk dump, press [x].

The previous display will reappear.

*If you wish to change settings other parameters, either press [x] or to select the desired parameter instead of performing step 9, or press [1] - [8] once again to move to another group within Edit mode.


**How to Receive MIDI Data**

When you wish to return data that was recorded on a sequencer back to the VK-7, connect the VK-7 and sequencer as follows, and playback the sequencer.

*Set the rear panel MIDI select switch to the "SEQ" position.

8b. バルク・ダンプをしない場合は [x] を押します。

1つ前のディスプレイ表示になります。


9. 「EXIT」もしくは「EDIT」を押して、エディット・モードを終了します。

**MIDIデータを受信するには**

シーケンサーに記録したデータをVK-7に戻すときには、VK-7とシーケンサーを以下のように接続してシーケンサーを再生します。

※リア・パネルのMIDIドミ・レシプト・スイッチを「SEQ」側にしてください。
ERROR MESSAGES／エラー・メッセージ

○Messages That Appear When the Power is Turned On

If an incorrect operation is performed or if data was not processed correctly, an error message will appear in the display.
Refer to the following list of error messages and take the appropriate action.

● Battery Low

 Cause: The internal backup battery has run down.
 Action: Contact a nearby Roland service station.

● MIDI-related messages

○ MIDI Communication Error

 Cause: It is possible that a MIDI cable has been disconnected or broken.
 Action: Make sure that the MIDI cables are firmly connected and are not broken.

○ Memory-related messages

○ Memory Damaged

 Cause: The data in user memory has been lost.
 Action: Execute the Factory Setup operation (p.88) to restore the memory to the factory settings.

● System Exclusive Checksum Error

 Cause: The check sum of a received system exclusive message was incorrect.
 Action: Check the contents of the data transmitted from the other device to the VK-7, and transmit it once again.
 Also, check that a MIDI cable has not been broken.

● System Exclusive Receive Data Error

 Cause: System exclusive data was not received correctly.
 Action: Check the contents of the data that was transmitted to the VK-7, and transmit it once again.

● MIDI Buffer Full

 Cause: The VK-7 received a large amount of MIDI data in a short time, and was unable to process it.
 Action: Decrease the amount of MIDI data that is being transmitted.

日本語版のエラーメッセージについても掲載されています。
KEYBOARD PARTS LIST／鍵盤パーツリスト

SK-961-E PARTS LIST

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<th>PARTS NAME</th>
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<td>SK-9 NATURAL KEY CF (WEIGHT)</td>
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<td>00893734W0</td>
<td>SK-9 NATURAL KEY EB (WEIGHT)</td>
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<td>00893756W0</td>
<td>SK-9 NATURAL KEY D (WEIGHT)</td>
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KEYBOARD DISASSEMBLY／鍵盤分解手順

<Attaching the RUBBER SWITCHES and PCB>

To fasten the SK-9 PWB, be sure to use 3*10mm BINDING VWH (PART No.40233545).

1) Turn the chassis over as shown in Fig.1. Next, place 4 pieces of RUBBER SWITCH 12P in turn on the chassis from the left end (the left side of the keyboard), aligning them with the long holes provided on the chassis.

At this point, be sure that the air-escape grooves of each RUBBER SWITCH are positioned at the respective air-escape grooves on the chassis. (See Fig.2) Then on the right side (the high note area), place RUBBER SWITCH 13P in the same way.

<SK-9の基板固定用ビスは、必ずBタイプ VWH 3*10mm (PART No.40233545) を使用してください。

1）Fig.1のようにシャーシを裏返します。RUBBER SWITCH 12Pを順に設置して左側（鍵盤の軽音部）より順に4つシャーシに配置します。

このときRUBBER SWITCHとシャーシの空気溝の位置が合っていることを確認してください。（Fig.2）右側（高音部）にはRUBBER SWITCH 13Pを同様にして配置します。>
2) Aligning the cutouts in the PWB with the lugs on the chassis, put one side of the PCB into the chassis hooks. Place the PCB on the Chassis so that the chassis positioning pins fit into the positioning holes (See fig.3). At this point, the chassis positioning reference pin should first be fitted into the hole. There are two PCBs, LOW and HI, as shown in fig.4. The Chassis positioning reference pins are located near the connector of each of the LOW and HI PCBs.

3) Then, using the screws, fasten the LOW and HI PCBs to the chassis from the center of the keyboard, that is, from the LOW PCB as shown in fig.5. While you are screwing down the PCB, it may float from the chassis. To avoid this, after screwing in the PCB at the center of the keyboard, screw down opposite end, before screwing in other areas in the middle of the PCB. (See fig.5) In addition, the PCB may be warped by soldering, etc. It is recommended that each PCB be fastened with screws while holding down the middle of the PCB tightly. Finally, screw down the adjacent area between the LOW and HI PCBs.

Note: When using an electric screwdriver, be careful of the torque. If excessive force is applied, the PCB may break or chip. (Suitable torque: 0.8 kgf.cm)

<Key removal>
Hold the tip of the key, put pliers into the bearing side, and spread out. (Refer to fig.6)

<Key installation>
Place a spring on the chassis. Next, place a key (see fig.7) and press the bearing side.

<Note>
電気ドライバー等を使用する際は、トルクに十分注意してください。"軟鋼ねじの付けるトルク：8kgf.cm" PWBに過度の力が加わるとパターン線の破損があります。
PS BOARD ASS'Y
TRANS BOARD ASS'Y

NIU: Not In Used

C2, D1, C1: NIU

TRANS BOARD
MAIN BOARD (Multiplex for AD port)

MAIN BOARD (KEY SCAN)