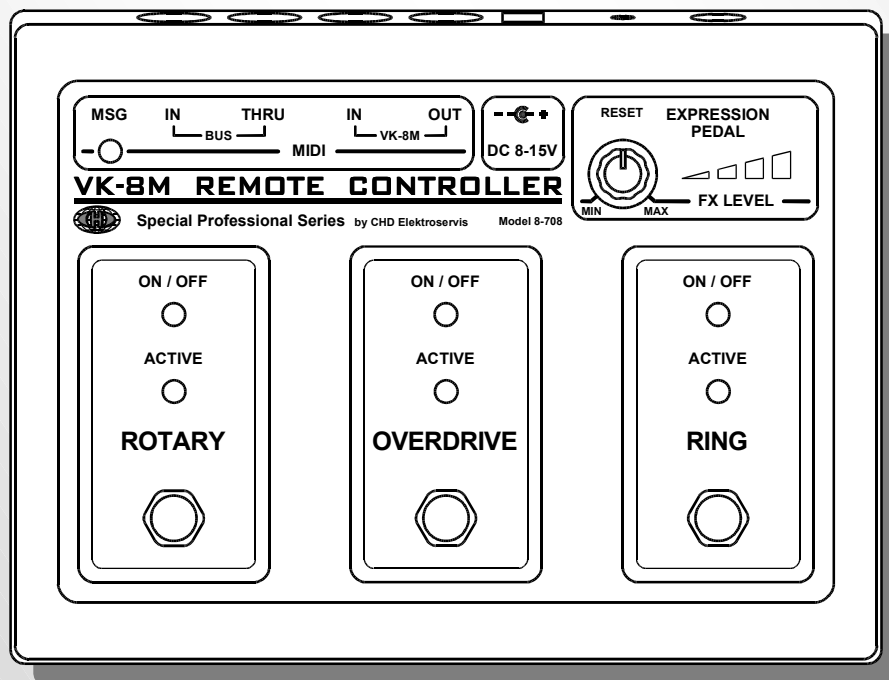


VK-8M Remote Controller

Model 8-708
ver. 1.0



OWNER'S MANUAL



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1. DEVICE DESCRIPTION

VK-8M Remote Controller lets you real time remote control some functions of the organ sound module Roland VK-8M. You can add to the equipment also external „Expression“ pedal, so these functions you can control completely just by foot switch without any hand to manipulation of the controllers VK-8M. You can enjoy following:

- Execute and stop effect „Rotary Sound“ and continuously control the speed,
- Switch effect „Overdrive“ On/Off and continuously control a level of the distortion,
- Switch effect „Crescendo“ On/Off and continuously control a frequency of its carrier.

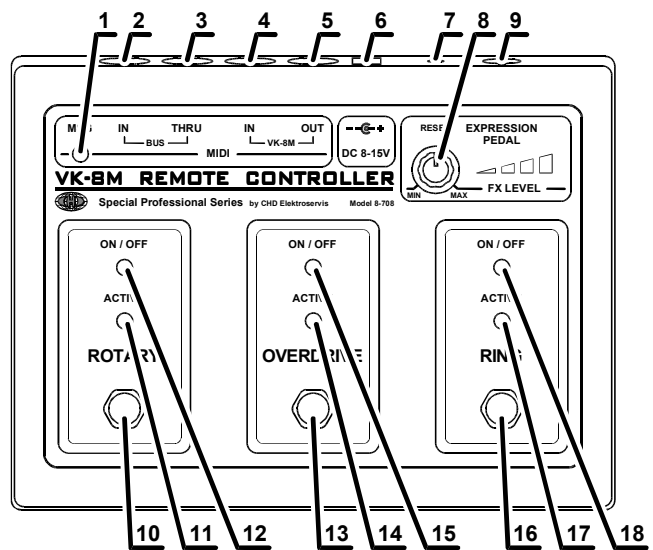
All of the written effects is possible to provide from the panel VK-8M and by external controller together – that’s because of bi-directional MIDI communication and the steadily synchronization of both devices.

1.1. CONTROLLERS AND INDICATORS, CONNECTORS

The connectors and Reset button are centralized on Rear panel, Controllers and LED indicators on front panel. Locating and descriptions of controllers are seen on the picture bellow.

Picture 1 – Controllers and indicators, connectors

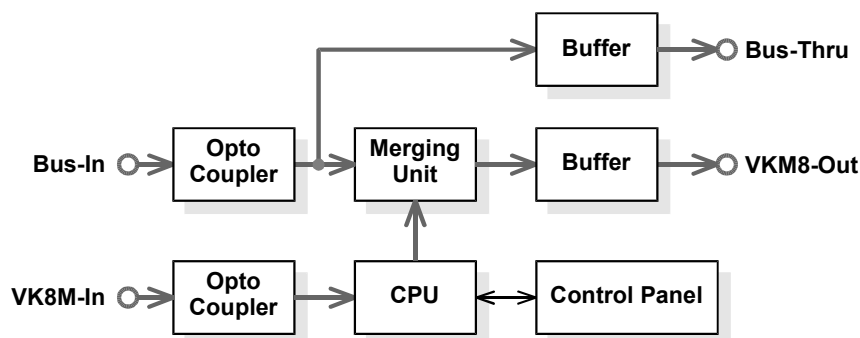
- [1] MIDI OUT activity Indication
- [2] MIDI-IN for MIDI Bus
- [3] MIDI-THRU (Out side) for MIDI Bus
- [4] MIDI-IN for VK-8M
- [5] MIDI-OUT for VK-8M
- [6] Power Supply IN from external Adaptor
- [7] Reset button
- [8] Manual continue lever for actual effect
- [9] External continual „Expression“ pedal Input
- [10] Food Switch of „Rotary Sound“ effect
- [11] „Rotary Sound“ effect controller activity indication
- [12] „Rotary Sound“ On/Off indication
- [13] „Overdrive“ Food Switch
- [14] „Overdrive“ effect controller activity indication
- [15] „Overdrive“ On/Off indication
- [16] Food Switch of „Ring Modulator“ effect
- [17] „Crescendo“ effect controller activity indication
- [18] „Crescendo“ On/Off indication



1.2. DEVICE FUNCTION DESCRIPTION

You can see the simplified functional diagram on the picture 2. MIDI signal from „Bus-In“ is transferred without change on „Bus-Thru“ Out and there is mixed with the data generated by CPU. Resulting data are transferred into „VK8M-Out“. Returning data from „VK8M-In“ are processed in CPU.

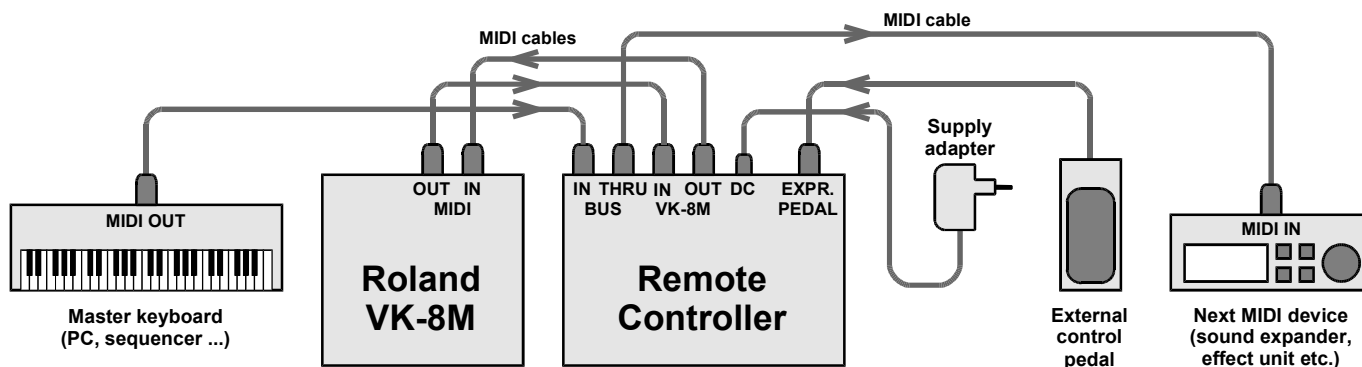
Picture 2 – Functional diagram



2. DEVICE INSTALATION

The device is connected between MIDI data source (master keyboard, PC, sequencer) and organ module VK-8M, as you can see on Picture 3. Minimum configuration contents the MIDI data source (e.g. Control keyboard) connected by one MIDI cable to Control keyboard and VK-8M module connected by two cables to Control keyboard. Other MIDI equipment and external „Expression Pedal“ are optional.

Picture 3 – Total Connection



2.1. CONNECTION TO POWER SUPPLY

Coming Supply to controller is brought from the external adaptor to connector DC [6]. Connector is regular (Central pin is 2,1 mm). External direct-current adaptor has to be able to deliver up to 100 mA in Voltage range 8 – 15V.

On the adaptor connector has to be on the shell negative polarity and inside the positive. Polarity of power supply connector is seen graphically on the panel. This unit is equipped with a protection circuit against reversing of polarity of supply voltage. If this happened, controller doesn't work, but no damage occurs.

2.2. CONNECTION TO MIDI BUS

The MIDI data source you can connect into MIDI-BUS-IN [2] on Rear panel. You will connect here the MIDI-OUT of Control keyboard, PC, sequencer, and so on, via regular MIDI cable.

If you are controlling from the MIDI data source among VK-8M module something else, their controlling signal is ready on MIDI-BUS-THU [3]. MIDI data on this output are identical to the input data. They are not processed any way, even no data delay occurs here.

2.3. CONNECTION TO VK-8M MODULE

Controller has to be connected to Organ module VK-8M via two regular MIDI cables for correct functionality, because of the bi-directional communication. The output MIDI-VK8M-OUT [5] has to be connected to input MIDI-IN of VK-8M and module input MIDI-VK8M-IN [4] has to be connected to output MIDI-OUT of VK-8M module.

2.4. CONNECTION OF EXTERNAL CONTINUAL PEDAL

If you are using the external continual pedal, called „Expression Pedal“, connect it to EXPRESSION-PEDAL [9] jack 1/4“ stereo connector on rear panel. The external continual pedal has to fulfill the Options in Chapter 5.

Note: You have to calibrate the pedal before you use it first time, as written in Chapter 5.

3. OPERATING

After whole system connecting as described on previous pages, you can switch the controller On. You will do this by insert of Power Supply connector into DC [6] on rear panel. There is not any Switch On/Off, the controller is working immediately after connecting Power Supply.

3.1. INITIALIZATION SEQUENCE

Immediately after Power Supply connection is executed the internal initialization sequence automatically. All of controller functions are reset during this and all of data buffers are reset too. All of Yellow indicators light: LED ACTIVE [11], [14], [17] and controller is waiting for RESET [7] button press. The pressed button executes sequence, when the controller and VK-8M module change the setting information each other. The button RESET [7] press is needed for whole system to be ready.

You can press the button RESET [7] also anytime during your working, for actualization of communication between the controller and VK-8M module. Normally it is not needed, if you everything connected correctly.

3.2. ACTIVATION OF SELECTED EFFECT

Via food switches [10], [13], [16] you can define, which effect of VK-8M module is assigned to be controlled by controller. You can assign only one of them. The assigned effect is indicated by blinking or steady lighting of yellow LED ACTIVE [11], [14], [17].

Just after switch ON (after the Initialization sequence) is not assigned any effect of VK-8M so there is not lighting any yellow indicator LED ACTIVE [11], [14], [17].

After first press of food switch for selected effect [10], [13] or [16] only lights or blinks corresponding yellow LED ACTIVE [11], [14] or [17] – effect is activated, but actual effect state (On/ Off) will not change.

3.3. SWITCH THE ACTIVE EFFECT ON/ OFF

If you repeat press of food switch [11], [14] or [17] for assigned effect, this effect will switch On/ Off. The immediate state (On/ Off) is indicated by LED ON/OFF [12], [15] or [18].

3.4. CONTINUAL CONTROL OF ACTUAL EFFECT

VK-8M module actual effect continual control is available either manually, by FX-LEVEL [8] or via external pedal, connected to EXPRESSION-PEDAL [9] connector. The controlling manner is automatically defined during reset after switch On: If there is not any external pedal connected, controller works manually by FX-LEVEL [8]. If there is not any external pedal connected, controller ignores manual FX-LEVEL [8] and accepts only external pedal signal.

Note: Never connect or disconnect the external pedal during work (if the controller is ON). There is no risk of damage of any part indeed, but there is no guarantee of correct working of continual effects control VK-8M module. Manual (internal) or external adjustment are controlled by two different sections of controller's operating system and relevant section is selected only during switch On. Changes of regulator type made during working the controller does not accept and gives no answer to them.

The continual control you can do only with the VK-8M's effect, which is actually active – the one, whose yellow LED ACTIVE [11], [14] or [17] lights steadily or flashes. If relevant LED flashes, it means the continual control is permitted, but continual regulator (internal FX-LEVEL [8] or external pedal) location does not match the set level in VK-8M module. This state can happen mostly when changes the actual effect or program (sound) on VK-8M. When LED ACTIVE [11], [14] or [17] flashes, it is needed to move the continual regulator as long as is the value caught – it means to compensate a value given by location of regulator's level and value of effect's level, set on VK-8M. After caught the LED ACTIVE [11], [14] or [17] lights steadily and only from this moment is possible to control the level of actual effect by continual controller.

3.5. PROGRAM CHANGES ON VK-8M

When you change a program on VK-8M module (sound bank), either by buttons on panel of VK-8M module or by MIDI message from control keyboard, and so on, there is automatically changed also the actual setting of controller by the new parameters of VK-8M sound (because of bi-directional MIDI communication, when controller and VK-8M immediately change each other all of needed information). In the case of Program Change (sound) on VK-8M user does not need to change manually the controller setting and also does not need to repeat button press of RESET [7] as during switch on.

3.6. REMAPPING OF MIDI CONTROLLERS

Because VK-8M module does not recognize MIDI controller No. 7 (Volume), is this controller remapped to No. 11 (Expression), to be possible to change the Volume of VK-8M module by regular pedal on MIDI data sender (Control keyboard, PC, sequencer, ...). This remapping is done automatically on all of MIDI channels. At the same time is on all of MIDI channels filtered out MIDI controller No. 11 (Expression), to prevent the collisions, when MIDI data source sends both of controllers No. 7 and No. 11.

Note: Remapping controller No. 7 and filtering controller No. 11 proceed only on MIDI-VK8M-OUT [5], MIDI data on MIDI-BUS-THU [3] are rest without changes – they are identical to data on input MIDI-BUS-IN [2].

3.7. FILTRATION OF UNWANTED DATA

Operating system of VK-8M module contents an error, which principally disallows its no limit integration into the MIDI set of equipment made by other producers than Roland Inc. This error consists in the fact, that any time is received command „GM Reset“ (SysEx: F0 7E 7F 09 01 F7) or „XG Reset“ (SysEx: F0 43 10 4C 00 00 7E 00 F7), module is steadily latched and it is not possible to control it any way even instead selected sound starts to generate only a noise and not defined glissandos.

That is why we included in front of VK-8M output (MIDI-VK8M-OUT [5]) the filter of the SysEx messages written above, which blocks their sending into VK-8M, so the module cooperation with any other instruments (Yamaha, ...).

4. WORKING STATES INDICATION

All of controller's working states are indicated by LEDs on front panel – see Picture 1. Some combinations of LED lights can also indicate the Error states.

4.1. EFFECTS STATES INDICATION ON VK-8M

The controlled effects actual state is indicated via two-color LED ON/OFF [12], [15], [18]. If any of those LED lights steadily red, the relevant effect is Off. If any of those LED lights steadily green, the relevant effect is On.

Yellow LED ACTIVE [11], [14], [17] indicates which effect is active. Is correct, if there lights or flashes only one written LED – the relevant effect is active and there is possible to control it (switch On/ Off and continually control).

4.2. MIDI OUT ACTIVITY INDICATION

Green LED MIDI-MSG [1] indicates by short flashes the MIDI-VK8M-OUT [5] activity it means that by this connector are actually transferred data. Every time is sent out a MIDI event, shortly flash the green LED MIDI-VK8M-OUT [5]. In the case of heavier data flow (means more than by 100 ms), the flashes are melted down and LED MIDI-VK8M-OUT [5] looks like lighting steadily.

4.3. ERRORS INDICATION

If occurs an error during working, which blocks its correct functionality, whole controller is stopped. User is informed by LED ACTIVE [11], [14], [17] and ON/OFF [12], [15], [18]. When occurs the Fatal error (overloading internal buffers, wrong communication between controller and VK-8M ...), all of yellow LED ACTIVE [11], [14], [17] a LED ON/OFF [12], [15], [18] start flash red.

If occurs a Fatal error, you have to switch the controller Off and On again (pull out and in back the adaptor) so all of controller circuits are set to initialization state.

5. EXTERNAL CONTINUAL PEDAL CALIBRATING

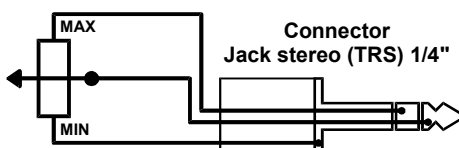
You can connect to controller practically any type of external continual pedal („Expression“), if it fulfills following options:

- Internal connection of pedal as on Picture 4
- Resistance of pedal's potentiometer in range 1000 – 250000 Ohms
- logarithmic, linear or exponential curve of potentiometer of pedal
- Unused parts of pedal's potentiometer's track (so called „Dead Track“) at the beginning + end is max. 8% of the resistance

Before use the external continual pedal you have to calibrate it as written below:

- 1) Connect the external continual pedal into connector EXPRESSION-PEDAL [9].
- 2) Press button RESET [7] and hold down.
- 3) Switch the controller (insert the power supply cord) and then release the button RESET [7].
- 4) Yellow LED [11] flashes – set pedal to minimum and press foot switch [10].
- 5) Yellow LED [14] flashes – set pedal the most precisely to middle position and press foot switch [13].
- 6) Yellow LED [17] flashes – set pedal to minimum and press foot switch [16].
- 7) Controller's Operating system provide now the values appraisal, measured in previous points and the result is displayed via LED [12], [15], [18] :
 - All of LED [12], [15], [18] light green – used continual pedal is suitable – its parameters are saved in the memory and next time you will switch it On with pedal connected, controller will adjust the VK-8M effects levels correctly,
 - If LED [12] lights red, used continual pedal is not suitable in minimal position,
 - If LED [15] lights red, there is not suitable curve track of used continual pedal's potentiometer,
 - If LED [18] lights red, used continual pedal is not suitable in maximal position,
 If any of LED [12], [15], [18] lights red, controller is not able to work with connected pedal and does not save its parameters into the memory.
- 8) Switch controller Off (pull out the power supply cord). When the connected pedal is suitable, next time you will switch controller On, it will work with the pedal correctly. If not, connect any other and repeat the calibrating.

Picture 4 – Connecting of „Expression“ pedal





6. TECHNICAL SPECIFICATIONS

Supply voltage:	external power supply unit - DC 8 to 15 V
Current power consumption:	max 100 mA
Protection:	protected against reversal of supply voltage polarity
Transit MIDI data delay MIDI:	„BUS-IN“ → „BUS-THRU“ type 0.005 ms „BUS-IN“ → „VK8M-OUT“ type 0.6 ms, max 1 ms
MIDI connectors:	DIN 41524 (5 pins 180°)
Dimensions (mm / inch):	189 / 7.44 (width) x 48.5 / 1.91 (height) x 139.5 / 5.49mm (depth)
Weight:	approx. 300g
Electrical design:	under the regulations of the ČSN EN 60335-1+A55, ČSN EN 60335-2-45
EMC:	under the regulations of the ČSN EN 55014
Operating environment:	standard
Range of operating temperature:	+10 to +35° C
Relative environmental humidity:	up to 85 %

7. WARRANTY CONDITIONS

The equipment is provided with **thirty-month warranty** starting from the date of the equipment take-over by the customer. This date must be specified on warranty list together with dealer's confirmation.

During this period of time, all defects of equipment or its accessories, caused by defective material or faulty manufacturing, will be removed free of charge.

Warranty repair is asserted by the customer against the dealer.

Warranty period is to be extended for the time period, during which the product was under the warranty repair.

The relevant legal regulations take effect in case of cancellation of purchase contract.

The customer will lose the right for free warranty repair, if he will not be able to submit properly filled out warranty list or if the defects of the product had been caused by:

- unavoidable event (natural disaster),
- connecting the device to the incorrect supply voltage,
- inputs or outputs overloading by connecting the signals source or load source with not-corresponding characteristics etc.,
- faulty equipment operation, which is at variance with the instructions referred-to in the operating manual,
- mechanical damage caused by consumer during transportation or usage of equipment,
- unprofessional interference with the equipment or by equipment modification without manufacturer's approval.

