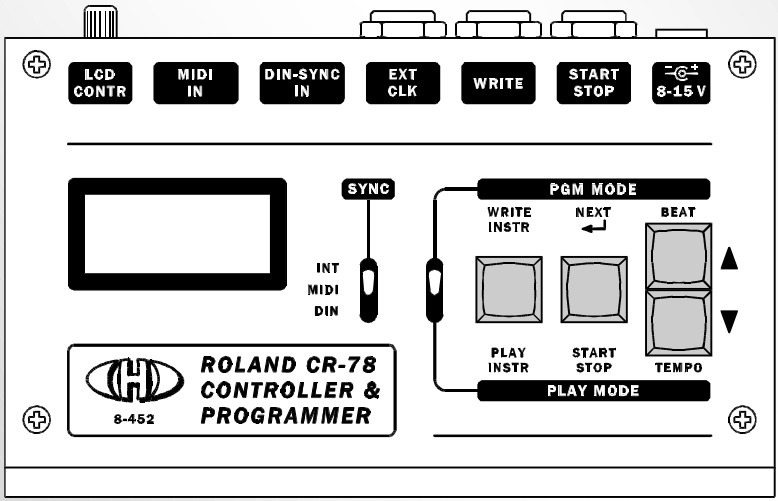
CR78-PGM

Controller & Programmer for Roland CR-78

Model 8-452
ver. 2.0



HARDWARE TESTS

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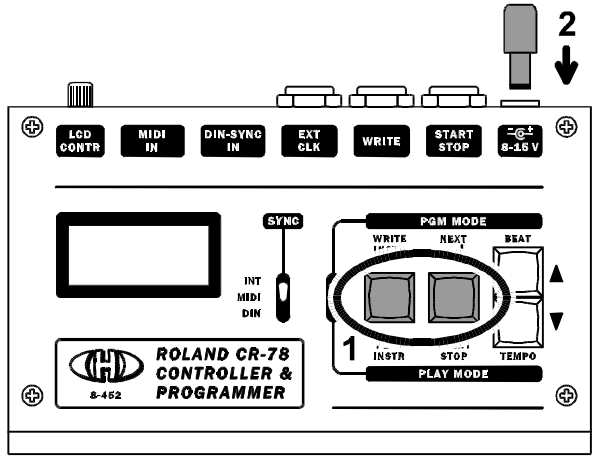
HW TESTS

Operating system of CR78-PGM controller contains routines for checking of functionality of own hardware. Tests can be done if the device does not work properly in harness with CR-78.

For enter into testing mode, press INSTR and NEXT buttons and hold them pressed. Then turn the device on – connect supply adapter. After that, all dots are displayed on device's display. Now INSTR and NEXT buttons can be depressed.



1) TEST OF DISPLAY

Test of display is launched automatically immediately after entering into testing mode. All dots or blank area are displayed alternately on all positions of the display (all dots luminous or all dots hidden):

Also functionality of LCD contrast regulator (LCD-CONTR) can be tested during this test (with LCD-CONTR regulator).

Continue to next test occurs automatically after any of buttons on device's panel is pressed.

2) TEST OF BUTTONS

Status of each of buttons is displayed as circular symbol on the display. This symbol is blank before a button is pressed and it will be filled after a button pressing.

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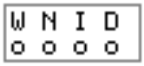
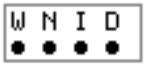




W = WRITE / PLAY INSTRUMENT
N = NEXT / START – STOP
I = BEAT / TEMPO INCREMENT
D = BEAT / TEMPO DECREMENT

Continue to next test occurs automatically after all four buttons are pressed.

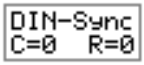
3) TEST OF SWITCHES

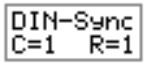
Status of SYNC and MODE switches is displayed during this test. Actual position of some of switches is shown under abbreviation of corresponding switch.

For continue to next test, NEXT button must be pressed.

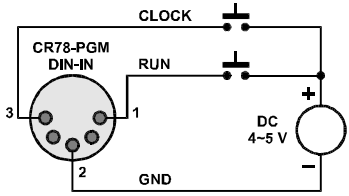
4) TEST OF DIN-IN INPUT

The display shows actual status of DIN-SYNC bus signals on DIN-IN input. Symbol “C” is used for Clock signal and symbol “R“ is used for Run signal. Signals Reset and Fill are not used in the controller.





Signals can be incoming to DIN-IN input from any DIN-SYNC transmitter or external source of DC voltage (from 4 to 5 volts) can be used – see picture:



For continue to next test, NEXT button must be pressed.

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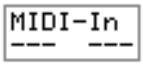
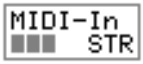
5) TEST OF MIDI-IN INPUT

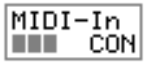
Display shows actual status of Transport MIDI commands received from MIDI transmitter on MIDI-IN input:

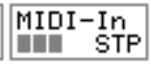


Default status (no received MIDI command) is displayed as dashes.

Symbol “CLK” is shown on left side of the display every time when Clock MIDI command (status byte F8h) is received on MIDI input. The symbol is shown for approx. 0,2 sec.





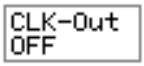


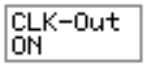
On right side of the display, symbol of last received Transport MIDI command is shown. The symbol is “STR“ for START command (status byte FAh) or “CON“ for CONTINUE command (status byte FBh) or “STP“ for STOP command (status byte FCh).

For continue to next test, NEXT button must be pressed.

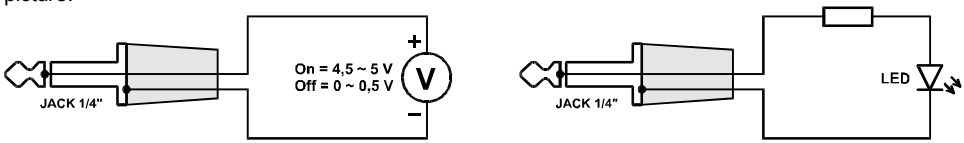
6) TEST OF EXT-CLOCK OUTPUT

Status of the output can be set with INCREMENT and DECREMENT buttons. Actual status is shown on the display simultaneously. +5V voltage level is on EXT-CLOCK output in “ON” status and 0V voltage level is on the output in “OFF” status.





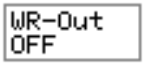
Status of the output can be checked with DC voltmeter or with help of testing circuit – see picture:

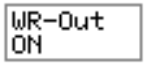


For continue to next test, NEXT button must be pressed.

7) TEST OF WRITE OUTPUT

Status of the output can be set with INCREMENT and DECREMENT buttons. Actual status is shown on the display simultaneously. Contacts of WRITE output are opened in ON status and the contacts are connected in OFF status - the output works as NC type switch.





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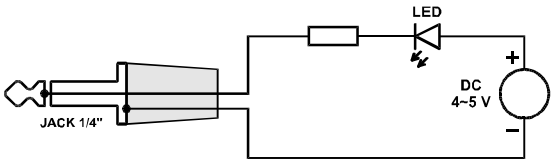
Status of the output can be checked with short-circuit tester or with help of testing circuit – see picture:



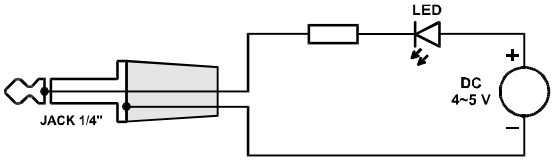
For continue to next test, NEXT button must be pressed.

8) TEST OF START / STOP OUTPUT

Status of the output can be set with INCREMENT and DECREMENT buttons. Actual status is shown on the display simultaneously. Contacts of START / STOP output are opened in ON status and the contacts are connected in OFF status - the output works as NC type switch.

S/S-Out OFF	S/S-Out ON

Status of the output can be checked with short-circuit tester or with help of testing circuit – see picture:



For continue, NEXT button must be pressed.

9) END OF TESTS

All available tests are executed now. Display shows info:

End of tests ↵

For continue, NEXT button must be pressed.

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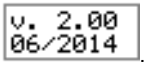
Now, operational system version number is displayed for about 3 seconds and then the device comes to normal working mode.



If no error occurs during testing procedures, the device is fully functional and it should to work with CR-78 drum machine correctly. If the device doesn't work with CR-78 in this case, some mistake can be in used interconnecting cables or in CR-78 drum machine.

If any hardware error occurs during testing procedures, the device must be repaired in specialized workshop.

OPERATIONAL SYSTEM VERSION DISPLAYING

Complete tests need not to be executed if only version of operational system of the device is requested. In that case, press INCREMENT button and hold it. Then turn the device on – connect supply adapter. After that, operational system version number is shown on display for about 3 seconds and then the device comes to normal working mode.

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