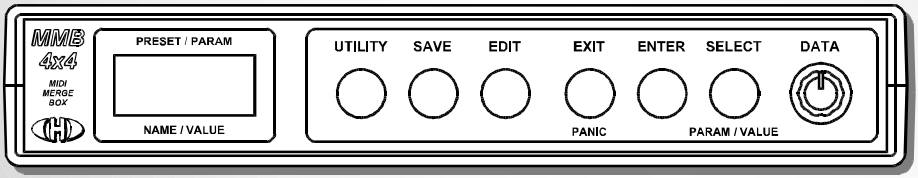
MMB 4x4

MIDI

Merge Box

Model 8-255
ver. 1.0



HARDWARE TESTS

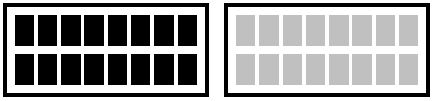
HW TESTS

Operating system of MMB 4x4 contains routines for checking of functionality of own hardware. Tests can be done if the device does not work properly with MIDI system etc.

For enter into testing mode, press UTILITY and SAVE 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

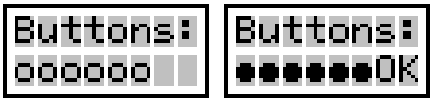
Test of display is launched automatically immediately after entering into testing mode. All dots or blank area are displayed alternately on all positions of the display (all dots luminous or all dots hidden):



Continue to next test occurs automatically after any button is pressed.

2) TEST OF BUTTONS

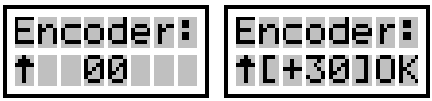
Status of each of buttons is displayed as circular symbol. This symbol is blank before a button is pressed and it will be filled after a button pressing



Proper function of buttons is indicated by symbol "OK". Continue to next test occurs automatically after all six buttons are pressed.

3) TEST OF ROTARY ENCODER

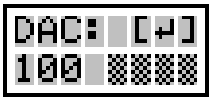
Number "00" is shown on display. This number must be incremented by turning of rotary encoder clockwise or decremented by turning of rotary encoder counter-clockwise. If function of the encoder is inverse, it is necessary to change direction of counting by pressing of UTILITY button. The direction of counting is indicated with arrow symbol on the left. During the encoder rotation, displayed number must be changed fluently (step is ±1) without any jumps.



If displayed number attains value –30 or +30, limitation symbol is shown on the left or on the right. Continue to next test occurs automatically after obtainment of both boundary values (±30).

4) TEST OF DA CONVERTER

DA converter controls contrast of display's image. Level of contrast can be changed with help of rotary encoder. The contrast is lowered by turning of rotary encoder counter-clockwise and it is raised by turning of rotary encoder clockwise. Level of contrast is indicated by number from 0 to 127.

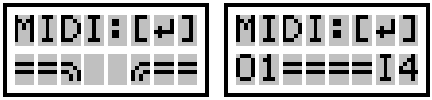


For continue to next test, it is necessary to press ENTER button.

5) TEST OF MIDI INPUTS AND OUTPUTS

Standard MIDI cable (with DIN 41524 connectors on both ends) is necessary for execution of this test routine. Individual MIDI inputs and outputs of the device will be interconnected with help of this cable.

Until no MIDI input is connected with no MIDI output, symbol of interrupted cable is shown on display. Connection of arbitrary MIDI input with arbitrary MIDI output is indicated in form "O x ==== I y", where "x" is number of used MIDI output and "y" is number of used MIDI input.



If symbol of interrupted cable is still displayed after a MIDI input is interconnected with a MIDI output, used MIDI input or MIDI output respectively is not working correctly.

For continue to next test, it is necessary to press ENTER button.

6) TEST OF OPERATIONAL RAM MEMORY

RAM memory is tested in blocks, size of one block is 256 byte. Number of just tested block (0~127) is shown on display during the test. If the RAM memory works properly, Information "Cells OK" is shown on display after the test completion. If any defective memory cell is detected during the test, the test is canceled and number of block with the defective cell is shown on display.

For continue to next test, it is necessary to press ENTER button.

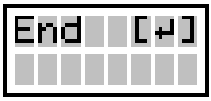
7) TEST OF USER'S EEPROM MEMORY

EEPROM memory is tested in blocks, size of one block is 256 byte. Number of just tested block (0~7) is shown on display during the test. If the EEPROM memory works properly, Information "Cells OK" is shown on display after the test completion. If any defective memory cell is detected during the test, the test is canceled and number of block with the defective cell is shown on display.

For continue, it is necessary to press ENTER button.

8) END OF TESTS

Information about test ending is shown on display after all checking procedures are finished.



For exit from testing mode, it is necessary to press ENTER button. After that, reset of the device is executed and MMB 4x4 will come to normal working mode.

If no error occurs during testing procedures, the device is fully functional and it should to work with MIDI system correctly. If any hardware malfunction was detected during testing procedures, the device must be repaired in specialized workshop.

Manufacturer :

CHD Elektroservis
Nad kundratkou 27, 19000 Praha 9
Czech Republic

info@chd-el.cz
www.chd-el.cz