

MCR Manual – V1.01 (03/2011)

Description :

The MCR (Multi-Card-Reader) is an external smartcard reader for four or eight smart cards. (MCR4/MCR8)
He can read and write ISO7816 standard-size smart cards. (5 volts or 3.3 volts, manually adjustable)
Connection to host system can be done via RS232 or USB. (depending on model)

Switching between slots is possible via serial commands in a „command mode“.

The following signals are necessary for operation: RXD, TXD, RTS, DTR, CTS, DCD

(for programmers there is a detailed description for download: <http://mcr.irata.biz>)

Each slot can operate independently with a frequency of four possible frequencies.

The frequency can temporarily change or permanently stored by the host program.

The following frequencies are available: 3,57 MHz, 3,68 MHz, 6,00 MHz, 8,00 MHz

For RS232 operation there is an optional, programmable timer.

If active, the MCR is separated from the host for an adjustable period.

(necessary for some Linux hosts to booting)

Important: When connected to USB, the timer must be set to the value zero! (SetTime = 0 s)

To set the frequencies and RS232 timer, there is a PC program for Windows:

The „MCR Tool“. The most recent version is available on the MCR website: <http://mcr.irata.biz>

A source code of the MCR-Tool is also available on the MCR website for download,

for adaption to other operating systems or as a basis for own MCR projects.

Various signals you can see on LED matrix in real time. Shown are:

Occupied slot, selected slot (by blinking), RX, TX, RTS (reset), DTR (command mode),

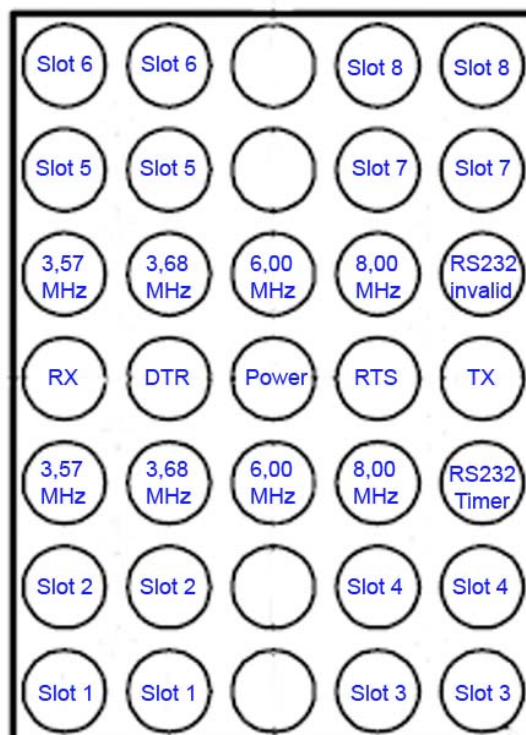
RS232 invalid, RS232 timer active, and the selected frequency of the active slot.

(the frequency display is double for a better distinctness)

With the LED matrix you can see all operational information's in real time!

(which slot is active, reset and frequency of selected card, i/o activity, etc.)

The LED matrix:

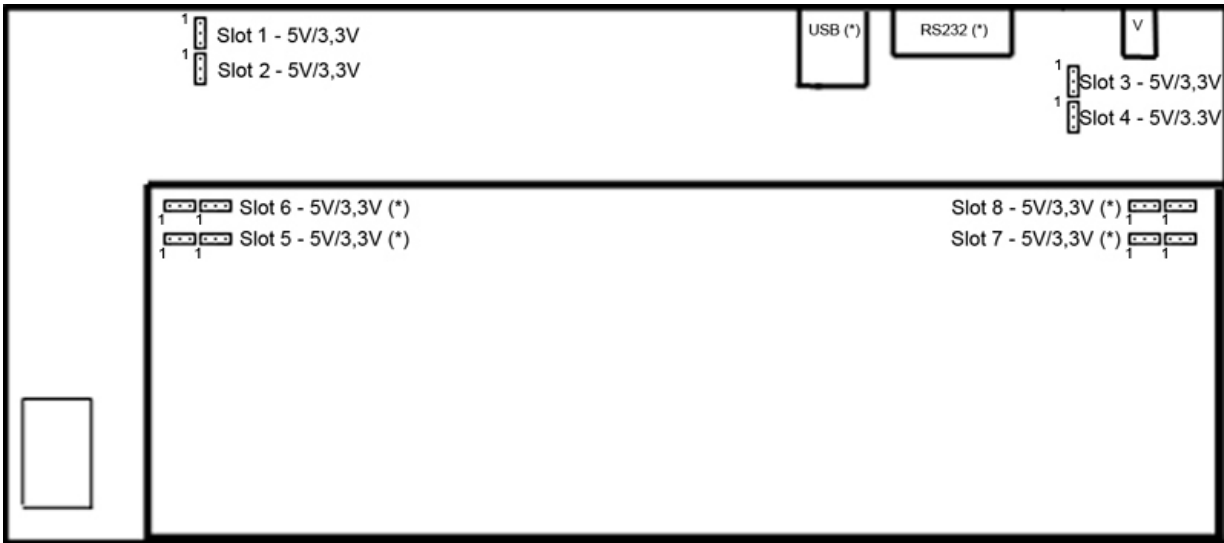


Note:

The LED matrix is so far as possible "tilted" soldered, for a better visibility from the front side.

The MCR is available in six versions: MCR4 (four card slots) or MCR8 (eight card slots), each as a RS232 version only, as USB version only, or a version with RS232 and USB. In the combined version RS232/USB the switching is automatically. If a USB host is connected, RS232 is turned off automatically. (USB has priority)

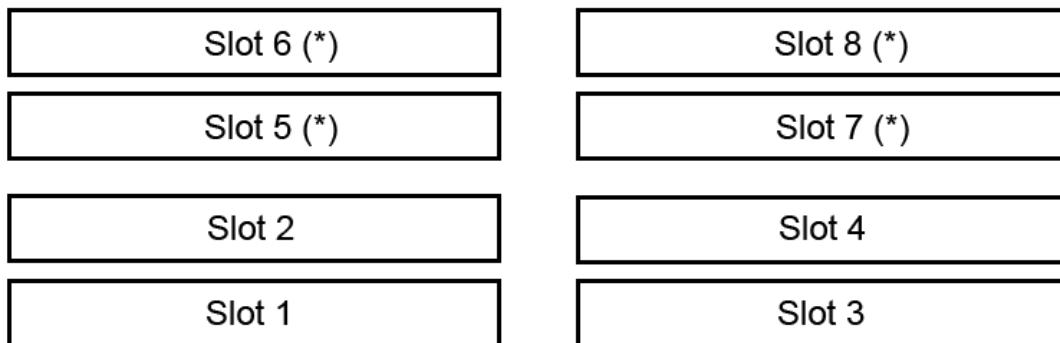
Overview jumper:



Jumper positions: 1,2 = 5V / 2,3 = 3.3V

(*) depending on the hardware version

Arrangement of Slots:



(*)MCR8 only

Delivery contents:

MCR4 or MCR8, AC adapter, USB cable (*), RS232 cable (*) / (*)depending on the version

Overview of features:

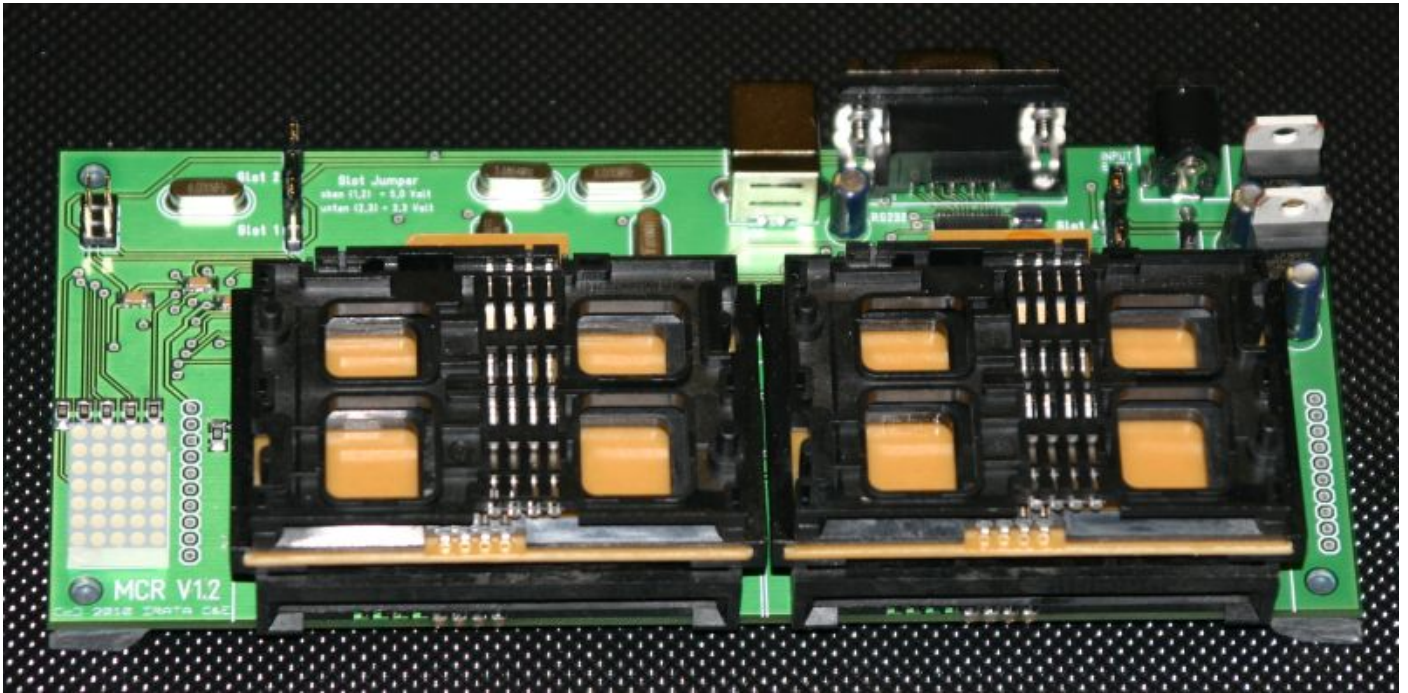
- four or eight card slots (MCR4/MCR8)
- reads and writes ISO7816 smart cards
- for 5 volts and 3.3 volts smart cards (for each slot individually adjustable)
- The voltage of each smart card is active switched. (and is very stable)
- four frequencies for each slot individually adjustable via software (3.57/3.68/6.00/8.00 MHz)
- status indicator of many signals via LED matrix (in real time)
- slot selection via software programmable (also SC8in1 compatible)
(a selected slot behaves electrically like a phoenix mouse)
- programmable RS232 timer (depending on the version)
- Service program for Windows to setting and testing (MCR-Tool)
- Support for developers (Docu for programmers, MCR-Tool source code, and more)

Information and downloads:

<http://mcr.irata.biz>

Pictures:

MCR4



MCR8

