

MDB-RS232 with POS PAX IM20 card reader



This PAX IM20 device requires the following three commands to start the test:

(Below is only an example, users can make modifications according to the protocol)

1100020000002 (configuration parameters and let the POS know which LEVEL to support)

1101FFF0000 (set maximum and minimum prices)

17004E4543303030303030030303003030202020204B52454120200005 (Read ID)

170400000020 Enable the Always idle mode (If need this working mode)

After the above three commands are sent, the device will respond and must receive the response before sending the next command

Then we send:

1401 (enable command)

And now, you can click "start" on the screen to start the Vend session

After receive the Vend start data, Then We can sends:

1300000A0001 (VMC command to card reader with Price and Selected Item number)

Then will see the price on the screen.

Follow the protocol and prompts to continue with subsequent testing

Important note for PAX Reader:

1. The PAX card reader may be remotely refreshed regularly every day, and after the refresh, the device restarts, but does not send a RESET status report to the host. Because our host may not know that the device has been rebooted, therefore, for such cases, we can send a read configuration 1100... Command, or 12 instructions to confirm that the device can reply, usually once in every 1 minutes. If the device does not reply and is not in the transaction status,VMC need to speed up the frequency of queries, and after the device restarts, VMC will receive an command reply. At this time, you can restart the configuration and enable.
2. For any MDB card reader, if the function does not exist, and the enable command cannot be sent casually, it is likely that the device cannot respond and stops working. For example, the ALWAYS IDLE function enable command 17040000020, if the device itself does not support this function, this command cannot respond, and even the device may stop working.

Important Note:

Some devices, after PC send a command,for example, a query the configuration command, cashless device will reply immediatly, but some devices just reply to an ACK first, and then report the configuration data with the next POLL command.

The PC sends a command to query the configuration of the cashless device , and the device will reply

PC Send: 110003000000

Cashless Device type1: reply data: 3031203033203131203536203031203032203539203044204434200D0A

Device type2 PC Send: 110003000000

Cashless Device type2: reply data: 3030200D0A (Reply with ACK(ASCII "00") firstly)

Cashless Device type2: report data: 31302030312030332031342035382030312030322042342030390D0A

The screenshot shows a software window titled "Shanghai Wafer Microelectronics Co.,Ltd - Com Test Tools". It features a menu bar (File, Device, Help) and a main interface divided into several sections:

- Left Panel:** Displays received data in hexadecimal and ASCII. The ASCII data shows "10 07" at the bottom, with a red arrow pointing to it and the label "Ascii data received from card reader".
- Right Panel:** A list of commands with checkboxes and a "Send" column. A red arrow points from the text "PC command Hex data" to the first command: "--Command to set the cashless device".
- Bottom Section:** Includes controls for "Hex Show", "Save contents", "Clear contents", "Open file", "Send file", "Send char" (with "Regularly sent Interval" set to 500 ms/per), "New Line", "Hex send" (checked), "Send", and "Close port".
- Status Bar:** Shows "Opened port: COM9", "Sent: 471", and "Received: 487".
- Bottom Right:** A "Shanghai Wafer Microelectr..." button and a "Hide" button, along with a list of product links.

MDB-RS232 测试 PAX IM20 刷卡器注意事项

这个设备，在测试的时候需要使用以下三条指令：

（以下仅作参考，用户根据协议可以做修改）

110002000002 （配置参数） 告诉刷卡器主板支持的刷卡器的 LEVEL 级

1101FFFF0000 （设置最大最小价格）

17004E4543303030303030303030303020202020204B5245412020200005 （读取 ID）

170400000020 （如果需要使能 Always Idle 工作模式就需要发这个指令去使能）

以上三条指令发送后，设备都会做出回复，必须要收到回复后发送下一个指令

然后发送：

1401 （使能指令）

这个时候，就可以屏幕上点“start”去开始测试交易了。

然后串口发送：

1300000A0001 就会看到屏幕上有价格了，按照协议和提示继续后续的测试就可以了

（在使能了 Always idle 功能，我们也可以先直接选货（主机直接发送：130001F40001），这时刷卡器会收到选货和价格信息，就可以刷卡确认出货。）

主机出货后发送扣款信息，比如：13020001

最后主机需要结束交易流程：指令：1304

针对 PAX 刷卡器的重要提示：

- 1、PAX 刷卡器可能每天会做定时刷新，而且刷新后，设备重启，但是并不会向主机发送复位的状态报告。因此我们主机可能无法知道设备已经重启，针对这样情况，我们可以发送读取配置 1100.....指令，或者 12 指令去确认设备能够回复，一般 1 分一次即可。如果设备没有回复，而且并不是处于交易阶段，则需要加快查询频率，设备重新启动后，会收到指令回复。这个时候可以重新开始配置和使能即可。
- 2、对于任何 MDB 刷卡器，如果不存在的功能，并不能随便发送使能指令，很可能设备无法响应而停止工作。比如 ALWAYS IDLE 功能使能指令 170400000020，如果设备本身不存在这个功能，这个指令无法响应，甚至设备可能停止工作。
- 3、关于刷卡器 MDB 协议里的配置数据：**Scale Factor** 和 **Decimal Places**：计算金额

110001000002 回复`01031156**0102**280DA3 (参数为举例数据实际设备可能不同)

对于读卡器来说，不同国家不同货币都会采用不同的配置参数，我们需要使用这个配置去计算价格和金额：

比如发送选货指令：130001F4000109 = 这里价格是 5

（这里的 16 进制 Hex: 01F4 换算为 10 进制数就是 500，然后 $500 * 1 / 100 = 5$ ）

（这里 Scale Factor 是 01，就是乘以 10， Decimal Places 是 02，也就是除 100）

比如刷卡器指令：031388 也就是刷卡，卡的余额是 50

（Hex: 1388 转换为 10 进制就是 5000，然后 $5000 * 1$ ，再除 $100 = 50$ ）

因此，如果我们上面读到的设备 **Scale Factor** 和 **Decimal Places** 是 **0A02**

那对应的数据 130001F4000109

这里价格就是 50，031388 的金额就是 500 了

重要提示:

有一些设备，在 PC 发送一个指令过去，比如查询配置指令，非现金设备可能会马上回复配置数据。但是又的设备会先回复一个确认 ACK"00"，然后在下一个指令的时候才会报告配置数。

比如 PC 发送一个查询配置参数的 1100..... 指令

PC Send: 110003000000

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Cashless Device type2: reply data: 3030200D0A (Reply with ACK(ASCII "00") firstly)

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注意：在第二个指令回复配置参数的时候，就相当于设备报告数据了，前面就要带有设备代码 10 了

Customer service:

Both pre-sales and after-sales can receive help and advice through our online skype technical support.

Email: wafer@waferstar.com

Web: <http://www.waferlife.com>

Web: <http://www.mdb-rs232.com> or <http://www.mdb2pc.com>

Tel: 0086-21-51870528

Online Technical and Service Skype: wafer-service