

## MP300 MC1



### OVERVIEW :

#### The main features of the MP300 MC1 are :

- Access to 4 smartcards simultaneously (all communication parameters are independant)
- Support of the ISO/IEC 7816-3 and &ndash;4, SWP, MMC/SD, USB 2.0 protocols
- Support of a multitude of memory chips
- Full implementation of the T=0 and T=1 protocols
- Fully compatible with ETSI TS 102 613 and ETSI TS 102 622 specification
- Open for implementation of custom protocols
- Endless possibilities of protocolary customisation
- Support of the fastest smartcards
- Compatible with micro-modules, smartcards, M2M components
- Fast hardware assisted data transmission mechanism, ensuring the maximum throughput
- Open platform : integrate the MP300 MC1 inside your own personalisation platform
- Compatible with the MVPi production machine interface

#### This production coupler will typically be used in the following contexts :

- OS loading, pre-personalisation, or personalisation of smartcards
- Personalisation of SIM, U-SIM, and banking cards
- Multi stations personalisation machines for contact smartcards

### SPECIFICATIONS :

#### Number of independent test heads per board : 4

#### Supported protocols

<b>ISO/IEC 7816-3</b>	
T=0 and T=1 protocols	100% implemented, managed by firmware
Hardware acceleration	Transmission and reception of characters managed by the MicroSmart technology
<b>USB 2.0</b>	
Available speeds	Low speed, full speed

Classes	ISO/IEC 7816-12, mass storage, custom protocols
<b>SWP (ETSI TS 102 613 and TS 102 622)</b>	
SWP transmission	Assisted by hardware
LLC layers support	ACT, CLT and S-HDLC realised by firmware
Evolvutivity	This tester can be upgraded to support future evolutions of the standard
<b>MMC 4.1 / SD</b>	
Data bits	1 and 4 data bits
File format	Can be implemented on demand
Low level commands	Available
<b>Raw mode</b>	
Gives the possibility to exchange frames without any protocolary encapsulation (all interfaces)	
<b>Out of standard chips support</b>	
Gives the possibility to exchange frames without any protocolary encapsulation (all interfaces)	

## Programmable parameters

<b>Physical parameters</b>	
<b>Voltages</b>	
Vcc	0V to 6V
Vol	0V
Voh	1,65V to 5,5V
<b>Frequency</b>	
ISO 7816 and MMC/SD clock frequency	10kHz to 50MHz
ISO 7816 clock duty cycle	50%
<b>Pin states</b>	
All pins are independent from each other, and can be separately managed	
<b>ISO 7816 communication parameters</b>	
ETU width	From 1 to 4096 clock cycles (bit sampling adjustable)
BGT, initial ETU width	Adjustable in clock cycles
BWT, CWT, EGT, RGT, WWT	Adjustable in ETUs
Clock stop at high or low state	Adjustable
Clock stop tG and tH timings	Adjustable in clock cycles
Parity control	Can be forced to 0, 1, odd, even
Input parity error checking	Can be disabled
Pull-up resistor	5k $\Omega$ ; or 20k $\Omega$ ;
<b>SWP communication parameters</b>	
Available baudrates	212 kbps
Activation time, P2, P3 timings	Adjustable

## Available feature

<b>Personalisation assisted by hardware</b>
Do not lose a microsecond while sending data to the chip thanks to the hardware assisted data sending mechanism

## Memory extension

Possibility to extend the memory size available, by using a microSD card. This microSD card can also be used as reference memory, whose
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## Communication parameters

USB 2.0
TCP/IP 10/100 Mbps

RS 232

## Software development

Remote development (the code is executed from the PC)

Elements available	MPSDK .NET library available on demand Communication Dll supplied
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Supported programming languages	C, C++, VB, Java, .NET Any language that supports Dll
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Embedded development (the code is executed directly by the MP300)

Recommended cross compiler	Windriver compiler (prefered version : 4.4b)
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## User Interface

MPScope, MVPi

## SOFTWARES :

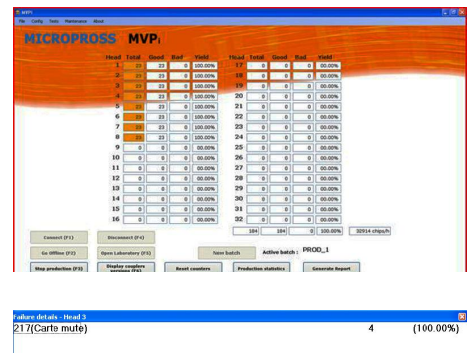
The MP300 MC1 can be accessed using several ways :

First, using the driver dll that we supply, which enables the user to access all functionalities of the MP300 MC1 from any programming language that supports Dll

For users preferring to embed their code directly inside the MP300 MC1, Micropross has designed the SORB interface, which completely encapsulates all programming tasks related to the management of embedded applications, and lets the user focus on the smartcard oriented code

Finally, we can also supply our own user interface, MVPi, which elegantly conciliates convenience of use, high throughput and stability.

MVPi is able to handle up to 32 test heads at the same time, but upgrades are easily possible.



Head	Total	Good	Bad	Rate	Head	Total	Good	Bad	Rate
1	23	0	0	100.00%	17	0	0	0	100.00%
2	23	0	0	100.00%	18	0	0	0	100.00%
3	23	0	0	100.00%	19	0	0	0	100.00%
4	23	0	0	100.00%	20	0	0	0	100.00%
5	23	0	0	100.00%	21	0	0	0	100.00%
6	23	0	0	100.00%	22	0	0	0	100.00%
7	23	0	0	100.00%	23	0	0	0	100.00%
8	23	0	0	100.00%	24	0	0	0	100.00%
9	0	0	0	0.00%	25	0	0	0	100.00%
10	0	0	0	0.00%	26	0	0	0	100.00%
11	0	0	0	0.00%	27	0	0	0	100.00%
12	0	0	0	0.00%	28	0	0	0	100.00%
13	0	0	0	0.00%	29	0	0	0	100.00%
14	0	0	0	0.00%	30	0	0	0	100.00%
15	0	0	0	0.00%	31	0	0	0	100.00%
16	0	0	0	0.00%	32	0	0	0	100.00%

23 / 240 / 0 / 100.00%

2014-09-04

Go Offline (F12) Open Laboratory (F13) New batch: AddNew batch: PROD\_1

Show production (F14) Register equipment: Next counters: Production statistics: Generate Report

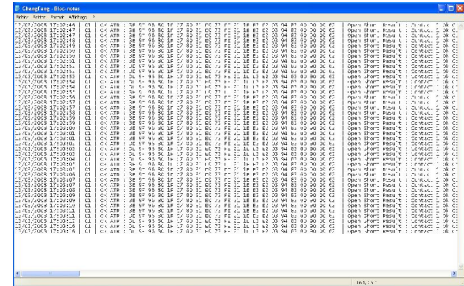
Value details - Head 3  
217 (Carte mute) 4 (100.00%)

Statistics are available, either separated between all test heads, or displayed for the whole system

More statistics are available, showing the current test time, as well as the average one.

Details about production						
	Total	Good	Bad	Test time	Avg. test time	Test result
1	319	311	8	515	513	ATR : Card mute!!
2	319	311	8	515	513	ATR : Card mute!!
3	319	311	8	516	514	ATR : Card mute!!
4	319	311	8	515	512	ATR : Card mute!!
5	319	311	8	516	514	ATR : Card mute!!
6	319	311	8	516	513	ATR : Card mute!!
7	319	311	8	516	513	ATR : Card mute!!
8	319	311	8	516	513	ATR : Card mute!!
9						
10						

As smartcards are being produced, logfiles are also generated, that allow to keep track of the produced components. The content of this logfile is controlled by the user.



The screenshot shows a window titled "D:\datalog\Bureau" containing a log file with multiple columns of data, including timestamps, card IDs, and test results. The data is dense and spans many lines.

## ACCESSORIES :

**Micropross supplies a complete range of accessories for the MP300 MC1, that include :**

- Various sizes of rack housing, who allow to protect the Micropross testers from any kind of danger
- External smartcard readers, for application development, or integration into manual working places
- The MVPi software interface, that allows to easily integrate our MP300 production tools inside production machines

We also supply packages to extend the warranty of the tester. Please ask us for the maintenance contracts available.