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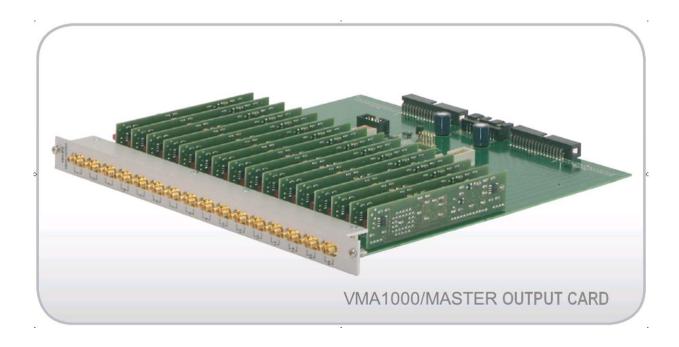
VMA1000
Video Output Card for the Video Matrix System VM1000

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Hardware version: 04

Manual for Installation and Start of Operation

VMA1000/MASTER OUTPUT CARD

1   Safety

– Before starting, read the safety advices for this accessory and for the main device, as well as the entire instruction

– Pay attention to the warning notices in the succeeding chapters

– Keep this document for later use or for handing it over together with the product

– In addition, regard the local safety standards or laws for planning, installation, operation, and proper disposal of the product

1.1   Symbol Meaning

⚠	Dangerous situation
ⓘ	Useful information

1.2   Meaning of Precautionary Statements

The seriousness of a hazard is expressed by the chosen signal word.
Following signal words will be used in case of an appropriate hazard:

Signal word	Meaning
Danger	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
Warning	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
Caution	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

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1.3 Authorized Persons

⚠ **Warning**

Danger of life for persons without necessary qualification

− Only skilled personnel are allowed to work on the device!

− Disregarding this can cause death, serious injury, or considerable property damage.

This document does exclusively address the following target audience:
– installer
– maintainer

Qualification	Function
Has expert knowledge in the field of electric installations and knows electrical hazards of any kind.	Set-up the product
	Maintain the product
	Dismantle the product

Comply with the appropriate safety regulations for low voltage systems, especially general safety and installation regulations.

1.4 Hazards

⚠ **Warning**

Danger of life

− Unconditionally respect the safety instructions for the main device!

– Only use this accessory for the designated main device

– Comply with the installation instructions given by the manufacturer

⚠ **Warning**

Danger of life by electric shock

− Before any work on the main device, disconnect the plug from mains!

− Improper handling of the device can cause death, serious injury, or considerable property damage.

Electrostatic Discharge

Electrostatic discharge can damage or destroy components

− Do not touch parts at risk (e.g. contacts of plugs)

− Before touching a device, discharge your body electrostatically (e.g. by touching a grounded metallic object)
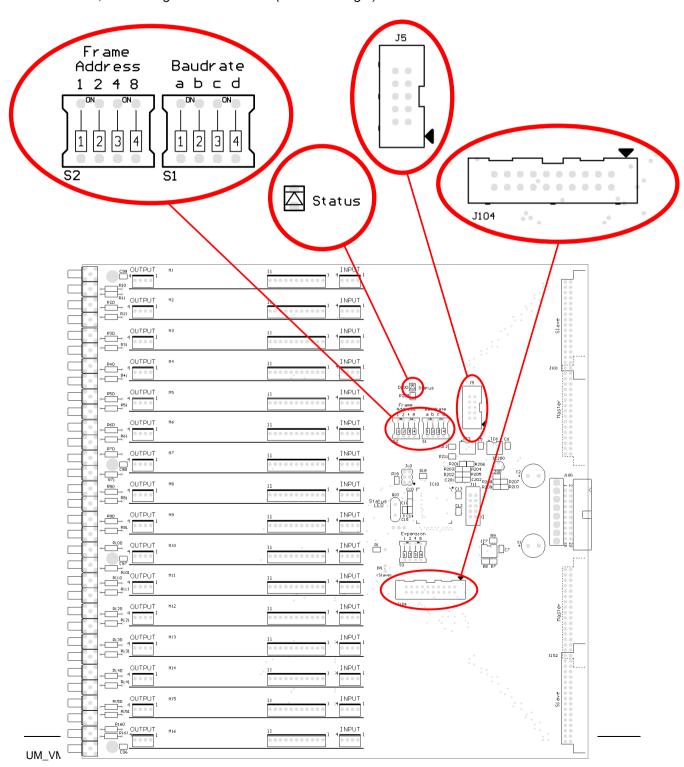
2 Overview

The video output card VMA1000/Master provides 16 outputs for the video racks of the VM1000 and SIMATRIX SYS video matrix systems. 32 outputs are available if combined with the video output card VMA1000/Slave. Each single video output provides 2 SMB sockets, providing for expansion capability by simply interconnecting multiple video racks with feed-through cables.

The video output cards VMA1000/Master and VMA1000/Slave can be used for upgrading a SIMATRIX SYS – even mixed with original SIMATRIX SYS cards.

Illustration: VMA1000/MASTER with DIP switches, status LED, control connector, and connector for the ribbon cable, connecting to the slave card (from left to right).

3 Advises for Installation

Prior to installing the VMA1000, assign it an address and set the control bit-rate (refer to the following section "Configuration").

After that, plug-in the card into the intended slot of the video rack:

Install the **VMA1000/Master in the VM1000 Video Rack into the rightmost slot**, closely to the power supply (unlike the **SIMATRIX SYS** where you place it **into the second slot to the right**).

Connect the control cable (10-conductor ribbon cable) to the multi-pin connector J5 on the output card.

Connect the control cable for the slave card (20-conductor ribbon cable) to the multi-pin connector J104 on the card and run it at the bottom, between card holder and punched plate of the video rack, to the left (respectively to the right, for the SIMATRIX SYS).

Install the **VMA1000/Slave in the VM1000 Video Rack left-hand of the master card** (unlike the **SIMATRIX SYS** where you **place it right-hand of the master card**)

Connect the ribbon cable coming from the master card to the appropriate multi-pin connector.

Avoid squeezing and straining the cable when inserting the cards. Fasten the cards with fixing 2 screws.

4 Configuration

4.1 Setting the Video Rack Address

Assign each video rack of the video matrix system an address using the DIP switch S2 ("Frame Address") on the VMA1000/MASTER (see table). If only 1 video rack is in use, set the address to "0" (factory setting)

Table: Switch positions at configuration switch S2 for setting the video rack address

1	2	4	8	Address
0	0	0	0	0 (factory setting)
1	0	0	0	1
0	1	0	0	2
1	1	0	0	3
0	0	1	0	4
1	0	1	0	5
0	1	1	0	6
1	1	1	0	7

4.2 Setting the Bit Rate

Each video block must be controlled by a controlling CPU, optionally by the VM1000 CPU, the SIMATRIX SYS, or a PC with an adequate video matrix application. It is controlled via RS422 (respectively RS485 full duplex) at one of the bit rates shown in the table below and to be set on the VMA1000/MASTER. If the video block is operated with a VM1000 CPU or SIMATRIX SYS, the bit rate is normally 307.2 kBaud (factory setting for the VMA1000/MASTER).

Table: Switch positions at configuration switch S1 for setting the bit rate of the video rack

a	b	c	d	Bit rate
0	0	0	0	115.2 kBaud
0	1	0	0	9.6 kBaud
1	1	0	0	19.2 kBaud
0	0	1	0	38.4 kBaud
1	0	1	0	76.8 kBaud
0	1	1	0	153.6 kBaud
1	1	1	0	307.2 kBaud (factory setting)

4.3   Configuration DIP Switch "Expansion"

The configuration DIP switch "Expansion" (S3) is reserved for factory purposes. All sliders must be set to "0".

5   Start of Operation and Functional Check

For diagnostic purposes the card provides a LED signalling the operational state. The LED is most easily looked at from top or bottom, through the punched plate of the video rack.

After powering-on the video rack the LED shines yellow. As soon as the communication between the controlling CPU and the VM1000 video rack has been established, the LED shines green.

NOTICE

Before putting questions, please note card type, positions of configuration switches, as well as operational state as shown by the LED (yellow or green).

For detailed information refer to the extensive Operation Manual.

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Subject to technical change