SIEMENS

video matrix switching system
up to 255 inputs & 64 outputs

SIMATRIX SYS

- Input terminals with selection assignment
- Freely- programmable picture cycle
- Selection of group (max. 4 cameras)
- On-screen text and time of input
- On-screen time/date can be assigned to up to 8 monitors
- Freely-editable camera and alarm texts
- 64 positions can be called individually or as a sequence in conjunction with the SCU 302 control and power supply unit
- Home positioning of cameras with pan-and-tilt drive and lens control
- Password protection for activation/deactivation of alarm lines
- Time-controlled alarm programs (with day-of-week function)
- Selection of alarm line (max. 4 cameras)
- Alarm positioning of cameras with pan-and-tilt drive and lens control
- Alarm picture cycle on monitor
- Protocol functions using the optional IVM graphical user interface

SIMATRIX SYS video matrix is an innovative and future-oriented video matrix system, expandable up to a maximum of 255 video inputs and 64 video outputs. SIMATRIX SYS can be ordered with pre-configured video inputs and outputs and includes: the central processing unit (CPU) with interfaces; one SIMSYS-UART card for up to 16 x TTY current loop telemetry control outputs, dome control outputs, keyboards or alarm inputs; and the power supplies. Telemetry control can be expanded up to a maximum of 5 cards SIMSYS-UART or SIMSYS-A32 with the supplied 3U rack. Additionally all video outputs come with a dual distribution amplifier e.g. so that two monitors can be operated in parallel.

Fire & Security Products

System characteristics

Matrix unit

- Minimum configuration: 32 x 16
- Maximum configuration: 255 x 64
- Video inputs can be expanded in steps of 16, and video outputs in a steps of 8
- All video outputs with dual distribution amplifier so that e.g. two monitors can be operated in parallel
- Power management system to reduce power loss
- Monitoring of video signal failure
- On-screen text display

System controller

- **Three serial interfaces V.24 (RS232) for connection of external systems such as:**
  - setup PC
  - Video motion detection system - TELEMAT MD/MTD
  - SISTORE digital recorder
  - IVM (interactive video management system)
  - TELSCAN digital picture transmission system
  - External system controller
  - LMS modular (V2.44 onwards)
- **Further connections are possible for the following external devices:**
  - Keyboards
  - K505 colour cameras
  - Camera control units
  - Alarm lines
  - Video recorders
  - Picture storage unit

Principle of operation

SIMATRIX SYS can switch any video inputs to any of the video outputs (monitors, picture storage units, video printers etc.).

Automatic control by messages from external contacts or the TELEMAT video motion dector, or by an external computer, is also possible.

The SIMATRIX SYS video matrix connects the associated camera to the alarm monitor in the event of an alarm. The predefined video recorder or picture storage unit is activated. A predefined position is automatically selected in the case of positionable cameras.

The following features can be parameterized by the user:
- Assignment of alarm lines to cameras
- Assignment of alarm picture selection to alarm monitors
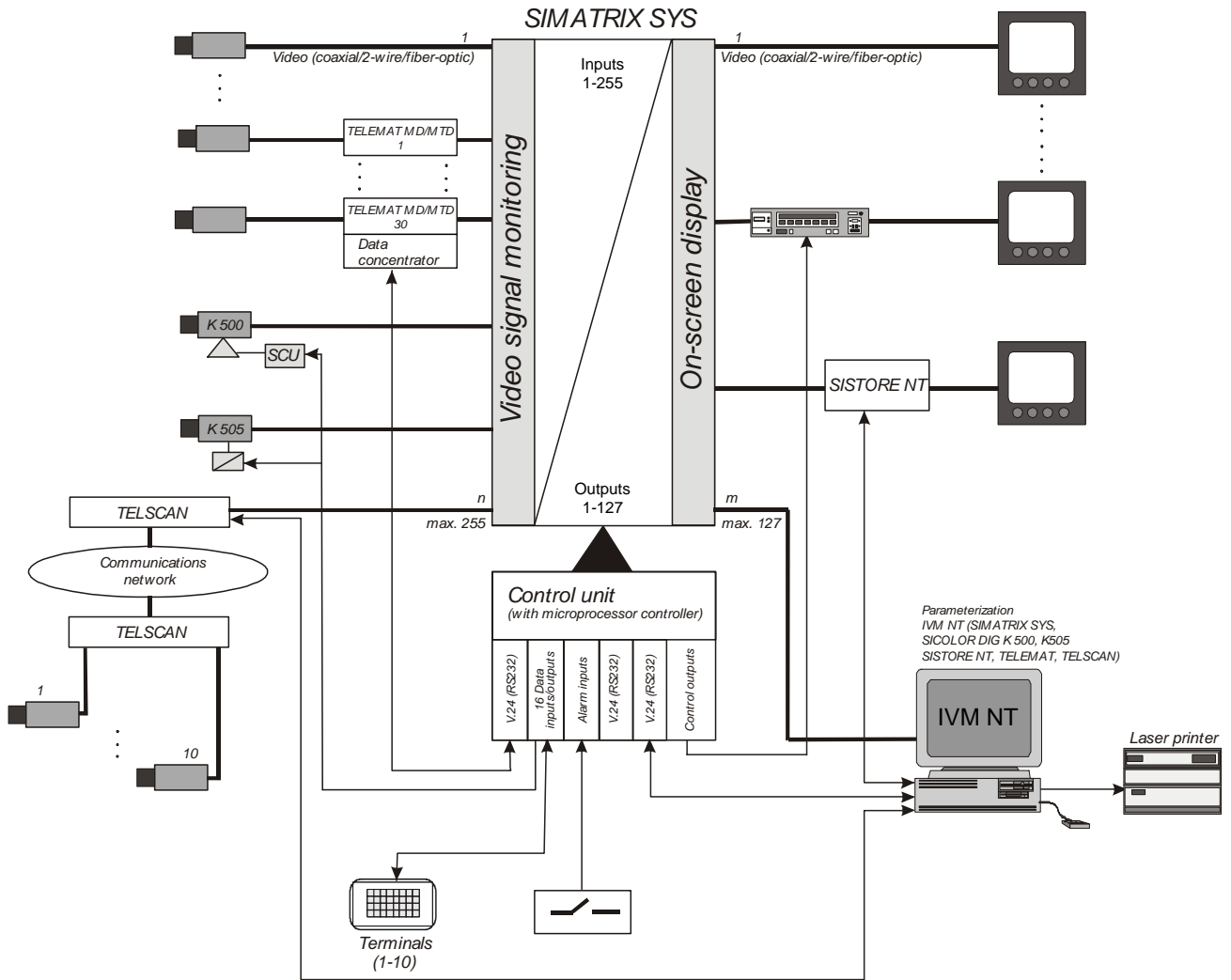- Definition of group and individual switching.

The alarms can be applied to the SIMATRIX SYS video matrix as a contact or a message via one of the V.24 (RS232) interfaces.

In addition to the switching of pictures, it is also possible to remote-control cameras with a pan-and-tilt drive and lens control including position control.
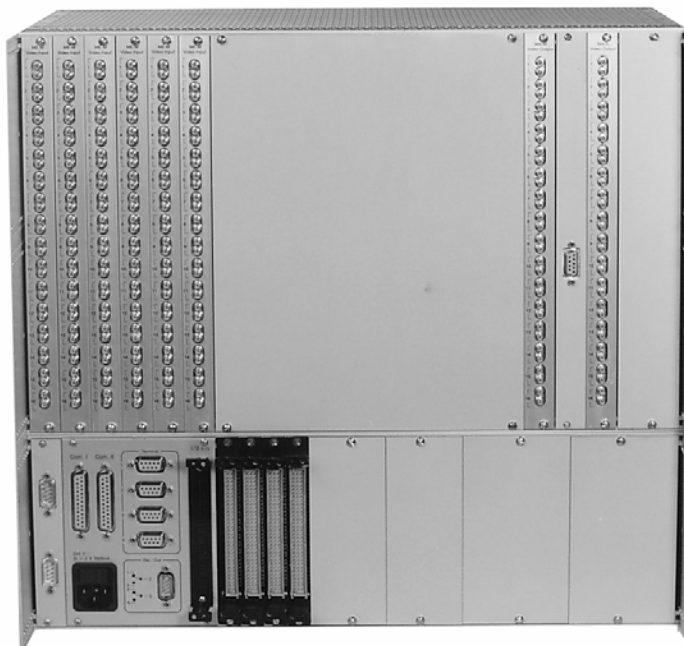
On-screen displays are possible for the time and date as well as texts for identifying cameras/alarms and definition of camera sequences.

Operational parameter settings are already available using the basic program and 6 further alarm programs supplied on diskette. It is frequently sufficient to make small modifications to individual parameters to satisfy customer-specific requirements.

System Overview - video monitoring system with SIMATRIX SYS video matrix

Rear view of SIMATRIX SYS video matrix with configuration 96 x 32

Technical data

Matrix unit	
Video inputs	16 to 255 (expandable in steps of 16) 2 SMB sockets each, 1 Vpp into 75 Ohm, 75 Ohm can be looped through
Video outputs	16 to 127 (expandable in steps of 8) 2 SMB sockets each, 1 Vpp into 75 Ohm, parallel
Number of control units	Max. 10
Number of alarm lines	Max. 255
Number of switching outputs	Max. 64
Number of camera control and power supply units	Max. 99
Number of interfaces in basic version	3 x V.24 (RS232), 1 x RS485, 16 x TTY interface (20 mA)
Crosstalk attenuation	$\geq$ 60 dB at 5 MHz $\geq$ 55 dB at 10 MHz
Differential gain	$\leq$ 0.6%
Differential phase	$\leq$ 1°
Frequency response flatness	$\pm$0.5 dB at 10 MHz -1.5 dB at 20 MHz
Control	By control unit, internal RS485 high-speed interface
Power supply	Primary: AC 230 V, 50 Hz, 1.9 A Secondary: DC +5 V, 12 A; DC -5 V, 12 A
Matrix point switching time	Typ. 80 ms, max. 200 ms (following command input on video matrix)
Matrix input module Master (SIMSYS-MIM)	
Inputs	16 x video loop-through input
Input amplifier	Clamping at S-base, sync disconnection stage
Detection of video signal failure	Testing of H-sync
Outputs	16, internal video bus, symmetric
Design	6 HU, double Eurocard
Matrix input module Slave (SIMSYS-SIM)	
Inputs	16, internal video bus, asymmetric
Outputs	16, internal video bus, symmetric
Design	Plug-on module for ME-M16
Matrix output module Master (SIMSYS-MOM)	
Inputs	16, internal video bus, symmetric
Outputs	8/16 x dual video output (depending on number of MA-AS text modules)
On-screen text display	Full IBM character set Internal synchronisation Character representation: white with black border Field size: 12 text lines with 24 characters each Character height: 18 screen lines
Design	6 HU, double Eurocard
Matrix output module Slave (SIMSYS-SOM)	
Inputs	16, internal video bus, symmetric
Outputs	8/16 x dual video output
On-screen text display	As matrix output module Master
Design	6 HU, double Eurocard

Technical data continued

System controller Computer	8-bit microprocessor system

Interfaces for:
  System controller,
  Setup PC,
  external computer, TELEMAT,
  TELSCAN, SISTORE NT, SIPORT,
  LMS modular
	2 x V.24 (RS232) interface
	Baud rate: 1200 bit/s to 19200 bit/s
	Connection: 2 x 9-pin Sub-D plug

Parameterization PC,
  external computer, IVM NT,
  SISTORE NT,
  video recorder
	1 x V.24 (RS232) interface
	Baud rate: 1200 bit/s to 19200 bit/s
	8 x control output (open-collector); max. 30 V, max. 50 mA
	Connection: 1 x 25-contact Sub-D socket

Terminals,
  control and power supply units
  (SCU)
	4 x TTY interface (20 mA) with power supply for external terminal
	Baud rate: 1200 bit/s to 9600 bit/s
	Connection: 4 x 9-contact Sub-D socket

	Floating alarm inputs: 16 x TTY interface (20 mA) Baud rate: 1200 bit/s to 9600 bit/s Connection: 1 x 64-pin plug connector Interfaces 1 to 4 are parallel to the four 9-pin Sub-D sockets
Video recorder, picture storage unit	Relay with 2 floating changeover contacts for common alarm output; max. 48 V, 250 mA Connection: 1 x 9-pin Sub-D plug
Matrix chassis (SIMSYS-CHE)	1x RS485 high-speed asynchronous, internal (MBGT 2 - MBGT 4) Baud rate: 307 kbit/s Connection: 1 x 9-pin Sub-D plug

Power supply	Primary: 230 V, 50 Hz, 260 mA
	Secondary: DC +12 V, 1 A
	                      DC -12 V, 0.6 A
	                      DC +5 V, 1 A

Modules	3 HU Eurocard
Temperature of use	5 °C to 45 °C
Relative humidity	30% to 85%
Design Basic unit (W x H x D)	427 x 399 x 345 mm, 9 U
Matrix chassis (W x H x D)	427 x 266 x 345 mm, 6 U

Details for ordering

Type	Part no.	Designation	Weight
SYS32-16	2GF2210-8KA	Matrix switching system preconfigured 32 x 16	
SYS48-16	2GF2210-8KB	Matrix switching system preconfigured 48 x 16	
SYS64-16	2GF2210-8KC	Matrix switching system preconfigured 64 x 16	
SYS80-16	2GF2210-8KD	Matrix switching system preconfigured 80 x 16	
SYS96-16	2GF2210-8KE	Matrix switching system preconfigured 96 x 16	
SYS128-16	2GF2210-8KF	Matrix switching system preconfigured 128 x 16	
SYS160-16	2GF2210-8KG	Matrix switching system preconfigured 160 x 16	
SYS192-16	2GF2210-8KH	Matrix switching system preconfigured 192 x 16	
SYS208-16	2GF2210-8KJ	Matrix switching system preconfigured 208 x 16	
SYS224-16	2GF2210-8KK	Matrix switching system preconfigured 224 x 16	
SYS255-16	2GF2210-8KL	Matrix switching system preconfigured 225 x 16	
SYS64-32	2GF2210-8LA	Matrix switching system preconfigured 64 x 32	
SYS80-32	2GF2210-8LB	Matrix switching system preconfigured 80 x 32	
SYS96-32	2GF2210-8LC	Matrix switching system preconfigured 96 x 32	
SYS128-32	2GF2210-8LD	Matrix switching system preconfigured 128 x 32	
SYS144-32	2GF2210-8LE	Matrix switching system preconfigured 144 x 32	
SYS160-32	2GF2210-8LF	Matrix switching system preconfigured 160 x 32	
SYS192-32	2GF2210-8LG	Matrix switching system preconfigured 192 x 32	
SYS208-32	2GF2210-8LH	Matrix switching system preconfigured 208 x 32	
SYS224-32	2GF2210-8LJ	Matrix switching system preconfigured 224 x 32	
SYS255-32	2GF2210-8LK	Matrix switching system preconfigured 255 x 32	
SYS96-48	2GF2210-8MA	Matrix switching system preconfigured 96 x 48	
SYS112-48	2GF2210-8MB	Matrix switching system preconfigured 112 x 48	
SYS128-48	2GF2210-8MC	Matrix switching system preconfigured 128 x 48	
SYS160-48	2GF2210-8MD	Matrix switching system preconfigured 160 x 48	
SYS192-48	2GF2210-8ME	Matrix switching system preconfigured 192 x 48	
SYS224-48	2GF2210-8MF	Matrix switching system preconfigured 224 x 48	
SYS255-48	2GF2210-8MG	Matrix switching system preconfigured 255 x 48	
SYS128-64	2GF2210-8NA	Matrix switching system preconfigured 128 x 64	
SYS144-64	2GF2210-8NB	Matrix switching system preconfigured 144 x 64	
SYS160-64	2GF2210-8NC	Matrix switching system preconfigured 160 x 64	
SYS192-64	2GF2210-8ND	Matrix switching system preconfigured 192 x 64	
SYS208-64	2GF2210-8NE	Matrix switching system preconfigured 208 x 64	
SYS224-64	2GF2210-8NF	Matrix switching system preconfigured 224 x 64	
SYS255-64	2GF2210-8NG	Matrix switching system preconfigured 255 x 64	

Accessories for ordering

Type	Part no.	Description	Weight
SIMSYS-CHE	2GF2210-8AC	SIMATRIX SYS extension chassis 19" 6U	
SIMSYS-MIM	2GF2210-8CB	SIMATRIX SYS extension master input module (16 inputs)	
SIMSYS-SIM	2GF2210-8CC	SIMATRIX SYS extension slave input module (16 inputs)	
SIMSYS-MOM	2GF2210-8DA	SIMATRIX SYS extension master output module (16 cameras)	
SIMSYS-SOM	2GF2210-8DB	SIMATRIX SYS extension slave output module (16 cameras)	
SIMSYS-TM	2GF2210-8DC	SIMATRIX SYS extension module for text overlay per output	
SIMSYS-UART	2GF2210-8BC	SIMATRIX SYS extension module for 16x TTY/alarm/SCU inputs	
SIMSYS-A32	2GF2210-8EA	SIMATRIX SYS extension module for 32x alarm inputs	
SIMSYS-AS32	2GF2210-8EB	SIMATRIX SYS extension module for 32x alarm inputs/outputs	
SIMSYS-TX/SCU	2GF2210-8ED	SIMATRIX SYS FSK data transmitter to SCU301/2	
SIMSYS-SMB	2GF2210-8GC	SIMATRIX SYS connection cable to extension video input	
SIMSYS-RS485	2GF2210-8GD	SIMATRIX SYS communication cable between chassis (RS485)	
SIMSYS-SW/DMS	2GF2210-8JA	Kit for SIMATRIX SYS to DMS interface	
SIMSYS-SW/SIP	2GF2210-8JC	Kit for SIMATRIX SYS to SIPORT interface	
SIM-TTY/FO	2GF2208-8AH	Converter TTY to fibre optic ST 850 nm	
SIM-SMB/BNC	2GF5608-8AP	SMB to BNC coaxial cable for input / output, 2.5 m	
TTY1X8	2GF5505-8AK	TTY distributor, 8 TTY outputs	
CAD0485-AA	S24245-F5047-A1	RS485 distribution amplifier 1 x 8	
CAC0103	S24245-F5046-A1	TTY to RS485 Interface with various protocols	
TTY-RS485	2GF2208-8DA	Converter-distributor TTY to RS485	
232-TTY	2GF5505-8AG	Converter RS232 to TTY	
RS232-RS485	2GF5505-8AH	Converter RS232 to RS485	
SUT48	2GF2400-8DA	SIMATRIX remote keyboard and fixed speed Siemens PTZ joystick	1.20 kg
SUT48NET	2GF2400-8FA	SIMATRIX remote keyboard & variable speed Siemens PTZ joystick	1.20 kg