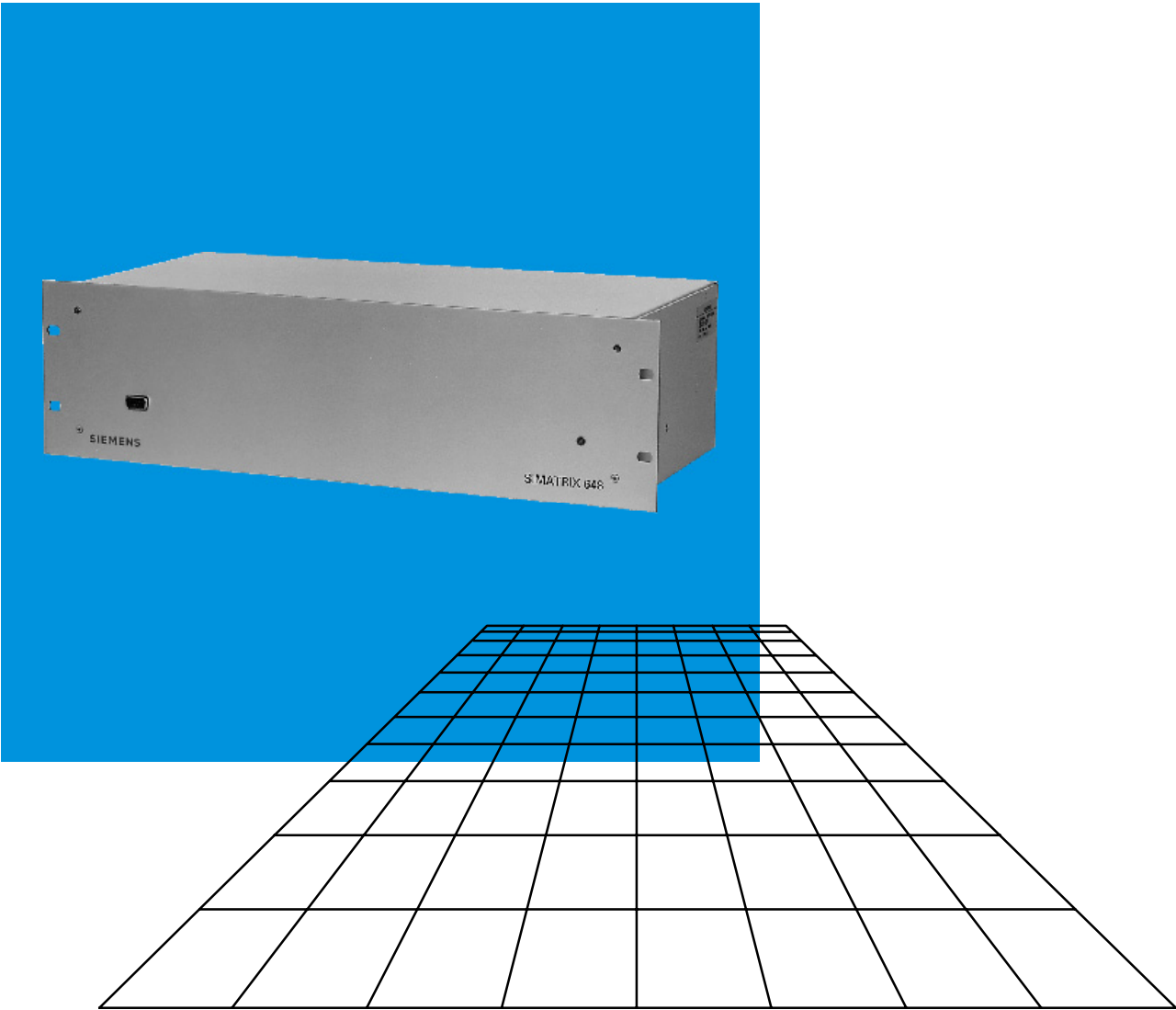# SIEMENS

Videomatrix
SIMATRIX 648

SIMATRIX 648 video matrix

System characteristics

Matrix unit

- **Minimum configuration:**   **16/4**
- **Maximum configuration:**   **64/8**
- **Video inputs can be expanded in steps of 16, and video outputs in steps of 4**
- **Monitoring of video signal failure**
- **On-screen text display**

System controller

- **Three serial interfaces V.24 (RS232) for connection of external systems such as:**
  - parameterization PC
  - Videosensor TELEMAT MD/MTD
  - SISTORE NT digital frame store
  - IVM NT (interactive video management system NT)
  - TELSCAN digital picture transmission system
  - External system controller
  - LMS modular (V2.44 onwards)
- **Further connections are possible for the following external devices:**
  - Terminals
  - SICOLOR DIG K500, K505 color cameras
  - Camera control units
  - Alarm lines
  - Video recorders
  - Picture storage unit

Operation characteristics

- **Simple graphic operation, visualization and control using the IVM NT interactive video management system**
- **Terminals with freely-assignable keys**

Parameterization characteristics

- **Input terminals with selection assignment**
- **Freely-parameterizable picture cycle (can be started automatically following switching-on)**
- **Selection of group (max. 4 cameras)**
- **Key function of terminals**
- **Screen menus in German, English and Spanish**
- **Parameter set can be stored as file on data medium (library function)**
- **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 NT graphical user interface**

The supplied parameterization software for Windows 98/NT/2000 provides the basic program and 6 pre-parameterized alarm programs on diskette.

Application

In many processes, visual information is an essential source for the measures to be implemented.

Even with small configurations, this requires the application of a powerful video matrix for event-controlled display selection and distribution.

The SIMATRIX 648 video matrix offered by SIEMENS is a video matrix tailored to such applications.

The SIMATRIX 648 consists of a matrix unit and a system controller, and permits optional connection of up to 64 video input signals to a maximum of 8 video outputs (64/8).

The project-specific characteristics of the system can be set for each process sequence using the parameterization software.

The SIMATRIX 648 is a video matrix for the market segment "Small, parameterizable video control centers", and can be expanded up to max. 64 inputs and 8 outputs.

The SIMATRIX 648 is a space-saving 19-inch complete system in a desktop housing, commencing with a configuration of 16 inputs and 4 outputs.

The SIMATRIX 648 is a freely-parameterizable and universally applicable video control center.

The application range extends from the pure matrix function up to event-controlled control centers in conjunction with external alarm contacts or messages for processing danger, alarm and burglary signals (e.g. TELEMAT MD/MTD video sensor).

IVM NT is an optional, user-friendly graphical interface for the SIMATRIX 648.

Operation is possible using the integrated terminal or using terminals with freely-assignable keys.

Principle of operation

The SIMATRIX 648 can be used to connect the video signals applied to the inputs in any combination to the outputs (monitors, picture storage units, video printers etc.).

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

An important feature is the processing of incoming messages.

The SIMATRIX 648 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 648 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.

When remote-controlling cameras, priorities can be assigned to the individual terminals.

The facilities for free parameterization mean that the SIMATRIX 648 can be optimally adapted to the respective system configuration.

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.
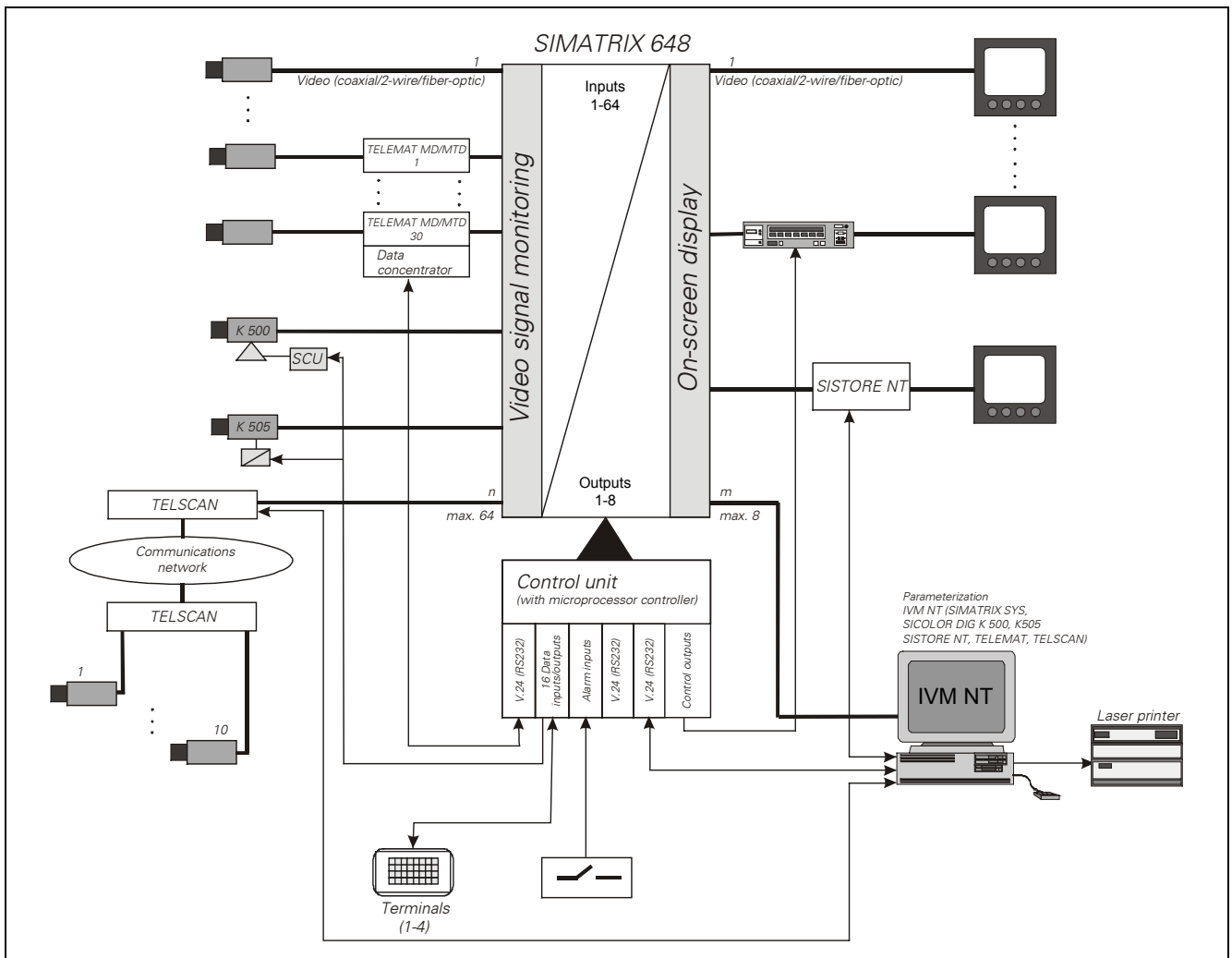

Fig. 1: Example of video monitoring system with SIMATRIX 648 video matrix

Technical data

Matrix unit

Video inputs	BNC sockets U_{pp} = 1 V video, 75 Ω
Video outputs	BNC sockets U_{pp} = 1 V video, 75 Ω
Detection of video signal failure	Checking of vertical sync pulses (only if picture cycle frequency parameterized)
On-screen text display	Full IBM character set, internal synchronization Character representation: white with black border Field size: 12 text lines with 24 characters each Character height: 18 screen lines
Crosstalk attenuation	≥ 56 dB at 5 MHz ≥ 52 dB at 10 MHz
Differential gain	≤ 1%
Differential phase	≤ 1.5°
Frequency response flatness	-1 dB at 10 MHz -3 dB at 20 MHz
Matrix point switching time	Typ. 80 ms, max. 200 ms (following command input on video matrix)

System controller

Computer	8-bit microprocessor system

Interfaces for:

Parameterization PC (ext. controller), IVM NT, TELEMAT, TELSCAN, SISTORE NT, SIPORT, LMS modular	3 x V.24 (RS232) interface Baud rate: Connection:	1200 bit/s to 19200 bit/s 3 x 9-pin Sub-D plug
Terminals	2 x TTY interface (20 mA) with power supply for external terminal Cable length up to 2 km with wire diameter 0.8 mm Baud rate: Connection:	1200 bit/s to 9600 bit/s 2 x 9-contact Sub-D socket
Control and power supply units (SCU)	8 x TTY interface (20 mA) Cable length up to 2 km with wire diameter 0.8 mm Baud rate:	1200 bit/s to 9600 bit/s
Alarm lines	16 x alarm input for alarm lines Cable length up to 10 m Connection:	1 x 37-contact Sub-D socket
Video recorder, picture storage unit	8 x control output (open-collector); max. 30 V, max. 50 mA Relay with 2 floating changeover contacts for common alarm output; max. 48 V, 250 mA Connection:	1 x 25-contact Sub-D socket

Power supply	AC 220 V to 240 V, 50 Hz, 125 mA switchable to AC 110 V to 120 V, 60 Hz, 250 mA using plug-in jumper
Temperature of use in °C	5 to 45
Relative humidity in %	30 to 85
Design (W x H x D) in mm	Desk-top housing (19-inch installation possible) 427 x 133 x 210, 3 HU

Ordering data

Item	Order No.	Approx. weight in kg
SIMATRIX 648 video matrix 16 video inputs, 4 video outputs; PAL version[1] 8 TTY interfaces for SCUs, 16 alarm inputs for alarm lines, 2 TTY interfaces for terminals, with basic program and 6 alarm programs on 3 ½-inch diskette for Windows 98/NT/2000 [1] **Note:** NTSC version on request	**2GF2208-8AA**	4.3
SIMATRIX 648 video matrix 16 video inputs, 8 video outputs; PAL version[1] 8 TTY interfaces for SCUs, 16 alarm inputs for alarm lines, 2 TTY interfaces for terminals, with basic program and 6 alarm programs on 3 ½-inch diskette for Windows 98/NT/2000 [1] **Note:** NTSC version on request	**2GF2208-8CA**	4.33
SIMATRIX 648 video matrix 32 video inputs, 8 video outputs; PAL version[1] 16 TTY interfaces for SCUs, 32 alarm inputs for alarm lines, 2 TTY interfaces for terminals, with basic program and 6 alarm programs on 3 ½-inch diskette for Windows 98/NT/2000 [1] **Note:** NTSC version on request	**2GF2208-8CB**	4.63
Options for expansion		
Input module (matrix card 16/8) to expand the video matrix in steps of 16 video inputs (max. 64 video inputs)	**2GF2208-8AB**	0.24
Output module to expand the video matrix to 8 video outputs	**2GF2208-8AC**	0.03
Interface card for control units[2] for connection of two further control units (max. four) [2] **Note:** The additional VMT 32 control units must be powered by an external plug-type power supply unit DC 12 V, 100 mA	**2GF2208-8AD**	0.04
Interface card (alarm/SCU) for expansion by 8 TTY control outputs for camera control and power supply units (max. 32) and 16 alarm inputs for alarm lines (max. 64)	**2GF2208-8AE**	0.06
Expansion of basic version Installation of all selected options into basic version	**2GF2208-8AF**	
Software module "TELSCAN interface" to connect a SIMATRIX 648 video matrix to TELSCAN	**2GF2208-8AN**	
Software module "SIPORT interface" to connect a SIMATRIX 648 video matrix to SIPORT	**2GF2208-8AM**	
Software module "GMA manager" to connect a SIMATRIX 648 video matrix to GMA Manager from V6.2 on Requirements: parameterization software for SIMATRIX 648 V1.26 or later, SIMATRIX 648 with EPROM version vm6_9706.x26 or later, checksum: $3B7D	**2GF2208-8AK**	

Ordering data (contd.)

Accessories, not included in delivery		
CKA3210 control unit in desktop housing with 35 keys for selection of video matrix and for remote-control of cameras with pan-and-tilt drive and lens control, with optical and audible alarm outputs.	**2GF2400-8EA**	1.1
CKA4810 control unit in desktop housing with 31 keys, LCD display, and joystick for selection of video matrix, as well as direct control facility for cameras with CAC0101, pan-and-tilt drive with SCU 301/302, CDC0401/0402 and Mini Dome Systems (CCDAxxx, SIVIS), with optical and audible alarm outputs.	**2GF2400-8EB**	1.3
SUT 48 control unit in desktop housing with 41 keys and joystick for selection of video matrix, as well as direct control facility for cameras with SCU 301/302, S-K502 and DCU 600 module	**2GF2400-8DA**	1.2
Plug-type power supply unit for power supply to terminals, AC 230 V, 50 Hz/DC 12 V, 640 mA, for indoor use, with 2 m DC cable	**2GF1800-8BE**	0.53
Cable for connection of terminal to video matrix, with plug connectors - 3 m long - 7 m long - 10 m long	**2GF2207-8AE** **2GF2207-8AF** **2GF2207-8AG**	
Cable for connection of an external computer with 9-pin AT connection, 2 m long, for parameterization of the video matrix and for loading an alarm program	**2GF2208-8AG**	
SCU 301 control and power supply unit to control a camera with pan-and-tilt drive and lens control	**2GF2207-8BC**	2.1
SCU 301 control and power supply unit as 2GF2207-8BC, but with control and parameterization connection for the SICOLOR DIG K500, K505 color cameras	**2GF2207-8BD**	2.1
SCU 302 control and power supply unit as 2GF2207-8BD, but with position control for cameras with positionable pan-and-tilt drive and positionable lens	**2GF2207-8BE**	2.5
CDC0401 control unit for pan-and-tilt drive; without position memory	**2GF2207-8CA**	
CDC0402 control unit for pan-and-tilt drive; with position memory	**2GF2207-8CB**	

Dimensional drawings/details
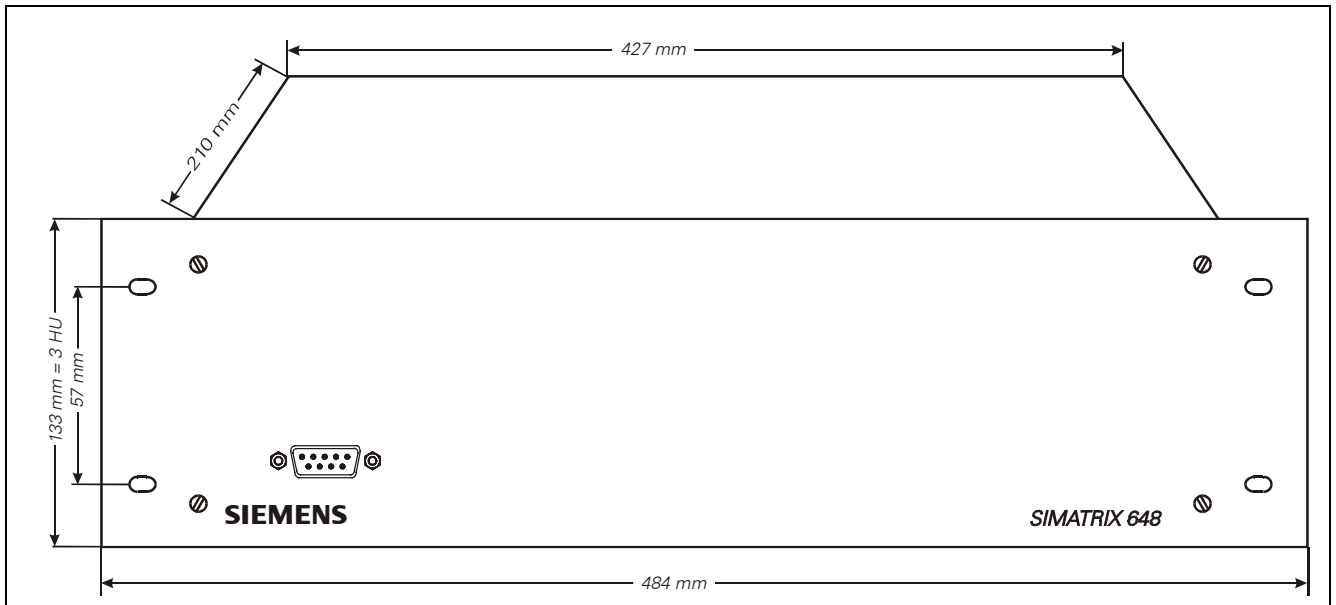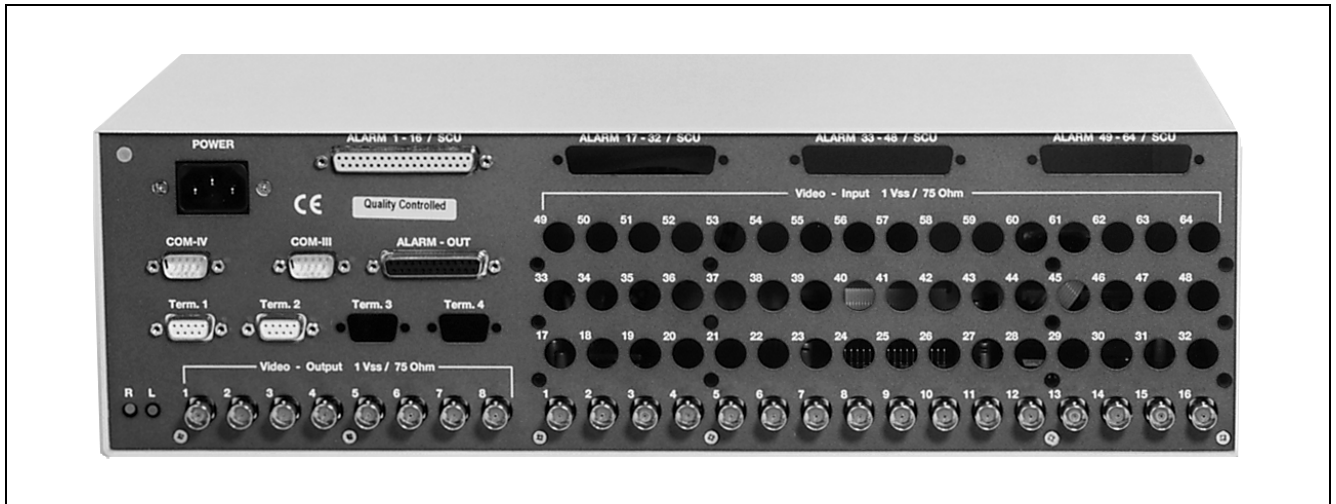

Fig. 2: Front view of SIMATRIX 648 video matrix

Fig. 3: Rear view of SIMATRIX 648 video matrix