



CM6800 Matrix Switcher/Controller

MICROPROCESSOR-BASED, CROSS-POINT VIDEO SWITCHER, 32 X 6

Product Features

- 32 Video Inputs, 6 Video Outputs
- Inputs Allow for Viewing and Control of Cameras, Domes, PTZs, Multiplexers, and Other Devices
- Includes Multiple Language Menus and On-Screen Text
- Video Inputs Individually Selectable for Terminating or Looping with Switches on Rear Panel
- Supports Coaxitron® and RS-422 Camera Control
- Password-Protected Menu Programming
- Windows®-Based Manager Software
- System Partitioning Prevents Unauthorized Viewing and Control
- Integrated Color Bar Generator
- Wide Selection of Peripheral Components, Including Keyboards, Alarm Boxes, and Relay Boxes



- Macro Programming and Event Timers Automate System Operation
- Multiple Built-in ASCII Communication Ports
- Remote Viewing and Control Over TCP/IP Networks Using PelcoNet™

The **CM6800 Matrix** switcher/controller is a very affordable single box solution for medium-sized matrix switch applications. This fully integrated package offers a highly versatile, cross-point matrix switcher. The **CM6800** provides switching and control from any one of up to 10 keyboards. The system can also be used to control other devices, such as Genex® multiplexers.

The **CM6800** provides easy-to-use, password-protected, on-screen programming menus. Eight different languages are supported.

The **CM6800** is designed to be remotely operated from desktop keyboards or external computer systems. Programming the system is easy using on-screen menus and a system keyboard or the Windows®-based system management software. The manager software allows for remote programming and external storage of all user setups.

The user-enabled character display shows time and date, operation mode, camera number, and a 20-character title for quick, easy identification of the on-screen video.

The **CM6800** supports powerful system macros (32) and programmable sequences (16), which allow activation of commonly occurring events based on time/calendar or alarms. Macros provide quick call-up of multiple cameras to multiple monitors.

Macros may also activate preset positions and auxiliaries on suitably equipped (PTZ or dome) receivers; and activate external relays to turn on lights, lock doors, or control other auxiliary functions (additional equipment may be required).

Built-in video loss detection alerts operators or technicians of camera failure. Logical camera numbering provides the ability to assign any camera number to the physical input. An integral color bar generator allows the user to adjust monitor settings.

With the **CM6800** the system manager can select from a wide variety of alarm handling and display options. An alarm can trigger a macro, preset, or pattern, and alarmed cameras can be displayed on one or several monitors. There are also choices for the order in which alarms are displayed, alarm priorities, automatic or manual acknowledgement, and activation of auxiliaries.

Multiple ports are provided for PTZ control and keyboards. A single data line, using Pelco's M protocol, can accommodate various types of equipment, such as keyboards and external alarm interface units. RS-232 ports allow for communication with a PC. Peripheral components allow for expansion of alarms, relay contacts, and keyboards.



C1522 / REVISED 1-07



International Standards
Organization Registered Firm;
ISO 9001 Quality System



TECHNICAL SPECIFICATIONS



MATRIX SWITCHER

The CM6800 matrix switcher/controller provides switching and control for up to thirty-two video inputs and six monitor outputs from any one of up to ten keyboards, PCs and other devices. The CM6800 can be controlled from a local or remote keyboard, or from an external computer. Additionally, it can be used with Genex multiplexers to display multiple camera views on a monitor. The CM6800 features menu-driven, password-protected programming either directly from the switcher or with the CM6800-MGR software package installed on a personal computer. Programming menus and onscreen text are provided in eight languages – English, French, German, Italian, Polish, Portuguese, Russian, and Spanish. Multiple ports are provided for PTZ control, keyboards, and peripheral components.

MODELS

CM6800-32X6	Switcher/controller, 32 video inputs, 6 video outputs, NTSC
CM6800-32X6-X	Switcher/controller, 32 video inputs, 6 video outputs, PAL

GENERAL

Memory Protection	Lithium battery provides five years of data protection.
Keyboards	Ten: eight KBD100/200A/300A Series keyboards and two KBD960 Series keyboards
Total Capacity	CM6800-32X6 can provide power for one KBD100/200A/300A Series keyboard. Additional keyboards require a remote power supply.
Keyboard Power	Coaxitron® and RS-422
Receiver/Dome Control	Eight individually programmable for N.O. or N.C. on rear panel (plus an additional 128, via ALM2064, Alarm Interface Units, providing a total of 136 possible)
Alarm Inputs	One, rated at 0.5 amp at 125 VAC, 1 amp at 30 VDC, 60 milliohms contact resistance
Control Outputs on Rear Panel	One; 15 VDC maximum, 25 mA maximum
Relay (SPDT)	One; 15 VDC maximum, 25 mA maximum
Open Collector (TTL)	One; 15 VDC maximum, 25 mA maximum

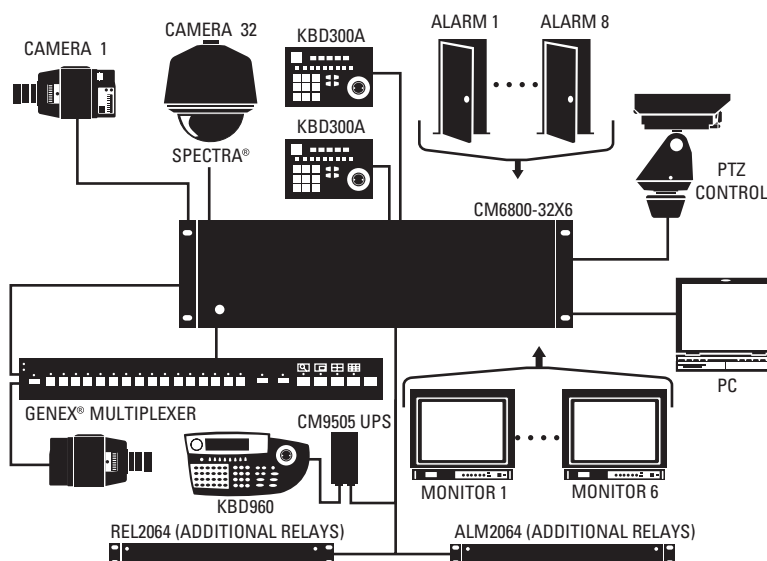
Additional Outputs	Two REL2064, Relay Interface Units, may be connected to expand relay outputs to a maximum of 128
Communication Ports	Six total: five data ports, one PTZ control port, flexible configuration options; 1 data port powered for keyboards
System Macros	32
Programmable Sequences	16
Ambient Operating Temperature	20° to 120°F (-7° to 49°C)
Humidity	10% to 90%, non-condensing

ELECTRICAL

Power Source	120 VAC or 230 VAC, 50/60 Hz, auto-ranging
Power Consumption	25 W

SWITCHER CHARACTERISTICS

Video Inputs	Thirty-two, BNC, terminating or looping (individually selectable per camera) 0.5 to 2 Vp-p composite video, video loss detection
Video Outputs	Six outputs, BNC
Switching Type	Cross-point video matrix. NTSC and PAL compatible
Switching Method	Vertical interval switching
Switching Time	Less than 16 milliseconds (typical)



SAMPLE CM6800-32X6 SYSTEM

TECHNICAL SPECIFICATIONS

VIDEO

Bandwidth	15 MHz
Frequency Response	Flat to 8 MHz, ± 1 dB to 13 MHz
Signal-to-Noise Ratio	-44.26 dB (peak-to-peak vs. RMS noise)
Adjacent Channel Crosstalk	-56.47 dB at 3.58 MHz
Differential Gain	0.11%
Differential Phase	0.06 degrees
Line Tilt	0.20%
Field Tilt	0.56%
Gain	Unity (± 1 dB)
DC Output	Zero volts
Video Cable Distances	Minimum cable requirements: <ul style="list-style-type: none">• 75 ohms impedance• All-copper center conductor• All-copper braided shield with 95% braid coverage

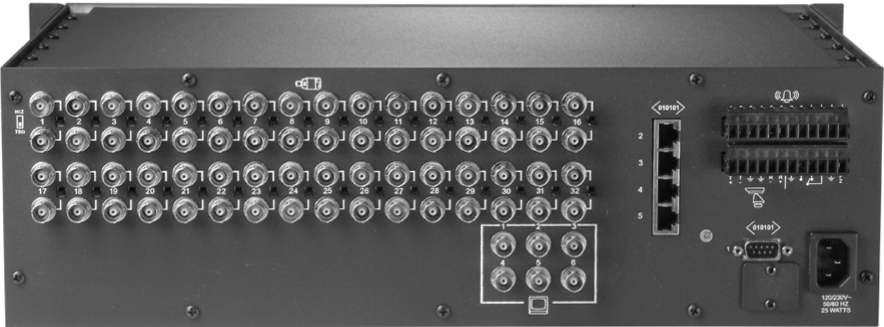
Cable Type	Maximum Distance	
RG59/U	750 ft	(228 m)
RG6/U	1,000 ft	(304 m)
RJ11/U	1,500 ft	(457 m)

CHARACTER GENERATION








Character Type	White with black outline, adjustable brightness
Camera Identification	Two lines, twenty character title, plus camera number, monitor number, date (4 formats) and time (24-hour or AM/PM formats); each item user-selectable
Programmable	On-screen, menu driven
Character Set	128 ASCII characters

MECHANICAL

Dimensions (switcher only)	12.25" D x 17.40" W x 5.25" H (31.12 x 44.20 x 13.34 cm)
Mounting (switcher only)	Factory configured for EIA rack mount (3 RU); rack ears can be removed for versatile wall mount or freestanding applications
Weight (switcher only)	
Unit	11.6 lb (5.22 kg)
Shipping	18 lb (8.1 kg)



CM6800-32X6 REAR PANEL

-  Video Inputs, 1-32, terminating or looping (individually selectable per camera)
-  Video Outputs (monitor), 1-6
-  RJ-45 Data Ports, COM 2-5 (used to connect keyboards, Genex, and other peripheral devices, such as alarm interface units)
-  COM 1 Data Port (DB-9 connection; used to connect a PC or ASCII device)
-  Alarm Inputs, 1-8 (N.C. or N.O.; in addition, up to four ALM2064 units can be connected using a data port)
-  PTZ Control Port, PTZ-A (RS-422 output can control video sources using D or P protocol; up to four CM9760-CDU-T units can be connected for additional receiver capacity)
-  Auxiliary Control Output (one relay output, one open collector output; in addition, up to two REL2064 units can be connected using a data port)

SYSTEM COMPONENTS

MODELS

Matrix Switcher

CM6800-32X6	Switcher/controller, 32 video inputs, 6 video outputs, NTSC, 120/230 VAC, 50/60 Hz
CM6800-32X6-X	Switcher/controller, 32 video inputs, 6 video outputs, PAL, 120/230 VAC, 50/60 Hz

Keyboards

KBD960	Full-function desktop variable-speed keyboard, white finish; 100-240 VAC, 50/60 Hz.
KBR960	Full-function 19-inch EIA rack mount keyboard (4 RUs); black finish; 100-240 VAC, 50/60 Hz.
A suffix of -US, -UK, -AU, or -EU, designating a region-specific power cord, is added to the above model numbers when ordering. For example, a KBD960-US is a desktop keyboard with a power cord for use in the United States.	
KBD300A*	Desktop system keyboard with full switching and programming capabilities, plus joystick control of PTZ functions.
KBD200A*	Desktop keyboard, multi-speed PTZ
KBD100*	Desktop keyboard, no PTZ

* 25-foot cable supplied. If distance between switcher and keyboard exceeds 25 feet or if using more keyboards than the switcher can power, use KBDKIT/KBDKIT-X (CM6800-32X6 can provide power for one KBD100/200A/300A Series keyboard). KBDKIT/KBDKIT-X required when wiring more than one keyboard to a single keyboard port.

Interface Units

ALM2064	Alarm interface unit; provides alarm monitoring capabilities for up to 64 alarm inputs. 100-240 VAC, 50/60 Hz, auto-ranging. (1 RU)
REL2064	Relay interface unit; provides 64 relays for operating peripheral equipment. 100-240 VAC, 50/60 Hz, auto-ranging. (1 RU) Note: Cannot be controlled from KBD100.

OPTIONAL ACCESSORIES

CM9760-CDU-T	Code distribution unit; 16-channel RS-422 transmit only (2 data wires and ground) distributor. Primarily used for configuring up to 16 pan/tilt/zoom receivers in a "star" configuration.
KBDKIT	Remote keyboard wiring kit; includes two RJ-45 wall blocks and one 120 VAC to 12 VAC transformer. Use when distance between switcher and keyboard exceeds 25 feet or if using more keyboards than the switcher can power (CM6800-32X6 can provide power for one KBD100/200A/300A Series keyboard). Required when wiring more than one keyboard to a single keyboard port.
KBDKIT-X	Same as KBDKIT except includes 230 VAC to 12 VAC transformer
PV140	Converter kit, RS-232/RS-422, with 12 VDC power supply
PelcoNet™	Transmission system for PTZ functions, camera control, and remote site viewing
VMX300 Series	Video management system; graphical map/icon-based user interface for mouse-driven operator control from external PC

CERTIFICATIONS/RATINGS

- CE, Class B (CM6800-32X6-X, KBD960/KBR960 Series)
- UL Listed (CM6800-32X6)
- UL Listed to Canadian safety standards (CM6800-32X6)
- FCC, Class B (CM6800-32X6)



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