

# 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 and programmable sequences, 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 pre-positions and auxiliaries on suitably equipped (PTZ or dome) receivers, 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.



**DataFAX**  
SPEC: 21522  
**MANUAL:** Not Available through DataFAX  
C1522 / NEW 10-02



# 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 2 weeks 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 Alarm Inputs	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)
Control Outputs on Rear Panel	
Relay (SPDT)	One, Rated at 0.5 amp @ 125V, 1 amp @ 30 VDC, 60 milliohms contact resistance
Open collector (TTL)	One; 15 VDC maximum, 25 mA maximum

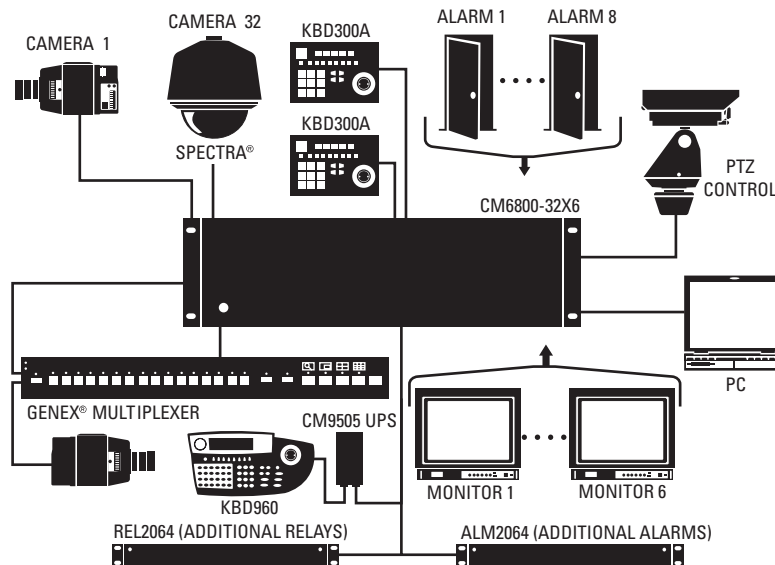
Additional Outputs	Two REL2064, Relay Interface Units, may be connected to expand relay outputs to a maximum of 128
Communication Ports	Six total: five data ports, one PTZ control port, flexible configuration options; 1 data port powered for keyboards
Ambient Operating Temperature	20° to 120°F (-7° to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

### ELECTRICAL

Power Source	120V or 230V, 50/60Hz, auto-ranging
Power Consumption	25 watts

### SWITCHER CHARACTERISTICS

Video Inputs	Thirty-two, BNC, terminating or looping (individually selectable per camera) .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, $\pm 1$ dB to 13 MHz
Signal-to-Noise Ratio	-50 dB (peak-to-peak vs. RMS noise)
Adjacent Channel Crosstalk	-55 dB typical at 3.58 MHz
Differential Gain	0.03% typical
Differential Phase	0.24° typical
Gain	Unity ( $\pm 1$ dB)
DC Output	Zero volts
Video Cable Distances	Minimum cable requirements: <ul style="list-style-type: none"> <li>• 75 ohms impedance</li> <li>• All-copper center conductor</li> <li>• All-copper braided shield with 95% braid coverage</li> </ul>

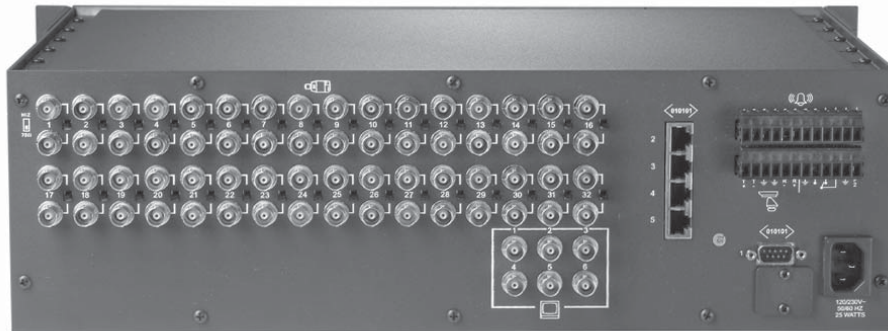
Cable Type	Maximum Distance
RG-59/U	750 ft (228 m)
RG-6/U	1,000 ft (304 m)
RJ-11/U	1,500 ft (457 m)

## 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 Character Set	On-screen, menu driven 128 ASCII characters

## MECHANICAL

Dimensions (switcher only)	5.25" H x 17.4" W x 12.25" D (13.34 x 44.20 x 31.12 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, 120/230V, 50/60 Hz
CM6800-32X6-X	Switcher/controller. 32 video inputs, 6 video outputs, PAL, 120/230V, 50/60 Hz

### Keyboards

KBD960	Full-function desktop system variable-speed keyboard with 24 programmable soft keys. 120V, 60 Hz
KBD960-X	Same as KBD960 except 230V, 50 Hz
KBR960	Full-function 19-inch EIA rack mount keyboard (4 RUs). 120V, 60 Hz
KBR960-X	Same as KBR960 except 230V, 50 Hz
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. 100-240V, 50/60 Hz, auto-ranging. (1 RU)
REL2064	Relay interface unit provides 64 relays for operating peripheral equipment. 100-240V, 50/60 Hz, auto-ranging. (1 RU). <b>Note:</b> Cannot be controlled from KBD100.

## OPTIONAL ACCESSORIES

CM9760-CDU-T	Code distribution unit; 16-channel RS-422 transmit only (2-wire and ground) distributor. Primarily used for "star" configuring up to 16 pan/tilt/zoom receiver data runs.
KBDKIT	Remote keyboard wiring kit; includes two RJ-45 wall blocks and one 120V to 12V 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 230V to 12V transformer
PV130	Converter kit, RS-232/RS-422, with 12 VDC power supply.
PelcoNet™	Transmission system for PTZ functions, camera control, and remote site viewing.
VMX200 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-X and KBR960-X)
- UL Listed (CM6800-32X6)
- UL Listed to Canadian safety standards (CM6800-32X6)
- FCC, Class B (CM6800-32X6)



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