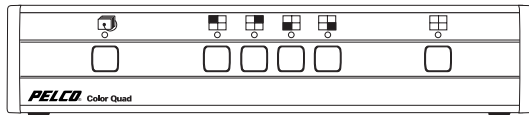




Installation/Operation

QD104 Series
Quad Video Processor

C660M (3/00)



Pelco • 300 W. Pontiac Way, Clovis • CA 93612-5699 USA • **Pelco Online @ <http://www.pelco.com>**
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IMPORTANT SAFEGUARDS AND WARNINGS

Prior to installation and use of this product, the following WARNINGS should be observed.

1. Installation and servicing should only be done by qualified service personnel and conform to all local codes.
2. Unless the unit is specifically marked as a NEMA Type 3, 3R, 3S, 4, 4X, 6 or 6P enclosure, it is designed for indoor use only and it must not be installed where exposed to rain and moisture.
3. Only use replacement parts recommended by Pelco.
4. After replacement/repair of this unit's electrical components, conduct a resistance measurement between line and exposed parts to verify the exposed parts have not been connected to line circuitry.
5. The installation method and materials should be capable to supporting four times the weight of the receiver.

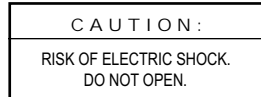
The product and/or manual may bear the following marks:



This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.



Please thoroughly familiarize yourself with the information in this manual prior to installation and operation.

DESCRIPTION

The QD104 Series Quad is a color/monochrome video processor capable of displaying full-screen or quad views of four camera inputs.

All camera inputs have looping outputs to connect additional video equipment.

A real-time video update rate assures live video on all camera outputs.

There are five alarm inputs, one for each of the four cameras, plus one for the quad input. An alarm output can trigger a VCR or an external alarm indicator, such as a light or buzzer.

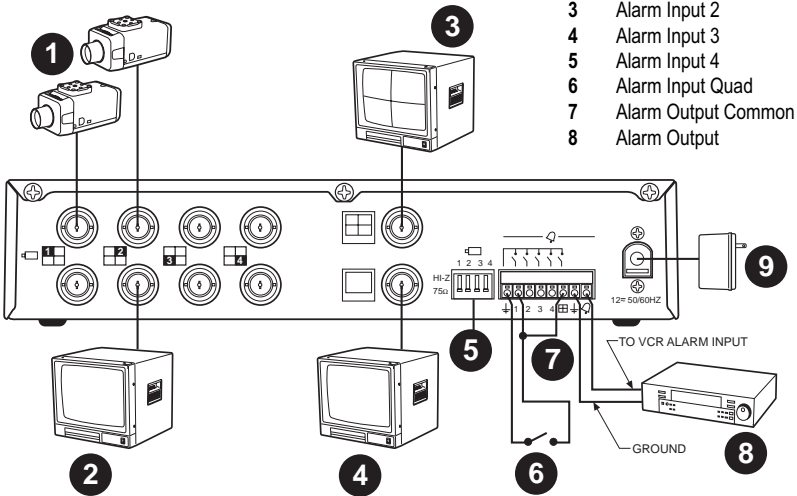
Programming the quad to sequence full-screen or quad images is done with front panel push buttons.

Models

QD104C	Color quad, NTSC, 120 VAC, 60 Hz
QD104M	Monochrome quad, EIA, 120 VAC, 60 Hz
QD104CX	Color quad, PAL, 230 VAC, 50 Hz
QD104MX	Monochrome quad, CCIR, 230 VAC, 50 Hz

INSTALLATION

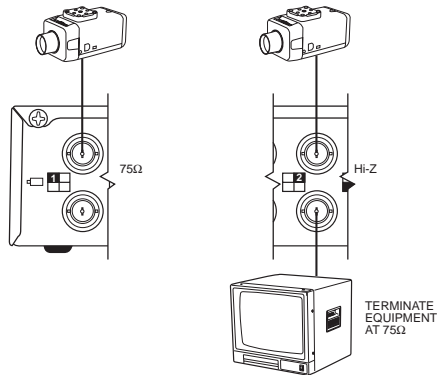
Rear View of Quad



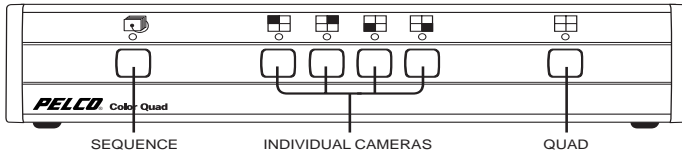
Alarm Terminals

- 1 Alarm Input Common
- 2 Alarm Input 1
- 3 Alarm Input 2
- 4 Alarm Input 3
- 5 Alarm Input 4
- 6 Alarm Input Quad
- 7 Alarm Output Common
- 8 Alarm Output

- 1 Connect cameras. If necessary, refer to the *Wiring Table* for the type of video coaxial cable to use.
- 2 Optional. Loop the video signal out to other equipment.
- 3 Connect a monitor to the quad monitor output. The quad monitor displays only a quad view of all four cameras.
- 4 Connect a monitor to the call monitor output. The call monitor can display a full-screen view of any camera, a quad view of all cameras, or it can sequence cameras. The call monitor also displays cameras with alarms.
- 5 Set the video termination switches. See drawings at right.
- 6 Optional. Connect the camera alarm inputs to normally open relay contacts.
- 7 Optional. Wire the quad alarm input. Tie the quad alarm input to one or more camera inputs. When there is an alarm, the call monitor output will sequence between the alarmed camera(s) and the quad view.
- 8 Optional. Wire the alarm output.
- 9 Connect power. Included with the quad is a power supply with 12-volt output (12 VAC for NTSC models and 12 VDC for PAL models). The quad starts operating when power is plugged in.



OPERATION



The quad starts operating when power is plugged in.

The quad monitor displays only a quad image.

The call monitor can display a full-screen view of any camera, a quad view of all cameras, or it can sequence cameras.

To display a full-screen view of any camera on the call monitor, press the button for the desired camera.

To view all four cameras on the call monitor, press the button under the quad icon.

Sequencing

The default sequence is all cameras (1, 2, 3, 4, Quad).

Programming

To program cameras to sequence on the call monitor:

1. Hold in the sequence button on the left side of the front panel until the LED begins blinking.
2. Select the cameras to include in the sequence by pressing the desired camera buttons (1, 2, 3, 4, Quad).
3. Press the sequence button.
4. Select one of four dwell times by pressing a camera button.

Camera 1 = 2 seconds (default)

Camera 2 = 4 seconds

Camera 3 = 8 seconds

Camera 4 = 16 seconds

5. Press the sequence button. The sequence begins.

Operation

To start and stop the sequence:

1. Press the sequence button on the left side of the front panel to start the sequence.
2. Press the sequence button again (or any camera button) to stop the sequence.

Flicker Reduction Mode

The default is off.

Hold in the Quad button and then press the Camera 3 button to turn on the flicker reduction mode.

Hold in the Quad button and then press the Camera 4 button to turn off the flicker reduction mode.

Alarm Handling

When there is an alarm:

- The call monitor displays a full-screen view of the camera with the alarm.
- The front panel LED for that camera blinks.
- An alarm bar appears on the quad monitor for that camera.

If there are multiple alarms, the alarmed cameras sequence at a two-second rate.

A camera remains in the alarmed state as long as the alarm exists or until you acknowledge the alarm by pressing the front panel button for that camera.

When you acknowledge an alarm:

- The call monitor displays a full-screen view of the camera.
- The alarm sequence stops if there are multiple alarms.
- The camera is removed from the alarm sequence list.
- The front panel LED for that camera stops blinking.
- The alarm bar for the camera disappears from the quad monitor.

If you acknowledge more than one alarm, the last camera acknowledged remains on the call monitor.

If you acknowledge some but not all alarms, you can resume the alarm sequence by pressing the sequence button. Alarms that still exist and have not been acknowledged will sequence on the call monitor.

If all alarms are cleared automatically (by the alarm conditions going away), the quad resumes what it was doing prior to the alarms.

Alarms are ignored if you are programming a camera sequence.

TROUBLESHOOTING

Symptom: The monitor screen is dark for a camera input.

1. There is no camera connected to that input.
2. The camera connected to that input has failed. Check by switching cameras.
3. There is a problem with the video coaxial cable or the cable connections. Check by switching cables.
4. The quad has failed for that input. Check by switching the camera to a different input.

WIRING TABLE

Video Coaxial Cable Wiring Distances

Cable Type*	Maximum Distance
RG59/U	750 ft (229 m)
RG6/U	1,000 ft (305 m)
RG11/U	1,500 ft (457 m)

- * Minimum cable requirements:
- 75 ohms impedance
 - All-copper center conductor
 - All-copper braided shield with 95% braid coverage

SPECIFICATIONS

VIDEO

Input Level:	1 Vp-p, composite
NTSC/EIA:	525 lines, 60 fields/second
PAL/CCIR:	625 lines, 50 fields/second
Digital Image:	1024 (H) x 512 (V) pixels
Quad Update Rate:	30 fields per second per camera
Analog Frequency Response:	Better than 12 MHz
Crosstalk at Color Subcarrier:	Better than -60 dB
Differential Gain:	Less than 2 percent
Differential Phase:	Less than 2 degrees
Signal-to-Noise Ratio:	Better than -60 dB

ELECTRICAL

Operating Voltage:	12 VAC (NTSC models) or 12 VDC (PAL models)
Power:	6 watts
Video Inputs:	Four, BNC, looping, 75-ohm/Hi-Z termination
Monitor Outputs:	Two, BNC, 75 ohms
Alarm Inputs:	Five, connect to N.O. relay contacts
Alarm Output:	10K output resistance; TTL, CMOS compatible
Alarm Clearance:	Automatic with manual override
Sequence Dwell Times:	Programmable for 2, 4, 8, or 16 seconds

GENERAL

Operating Temperature:	32° to 120°F (0° to 49°C)
Relative Humidity:	95% non-condensing
Dimensions:	1.73 (H) x 10.20 (D) x 8.44 (W) inches (4.39 x 25.90 x 21.43 cm)
Finish:	Charcoal gray
Unit Weight:	3 lb (1.36 kg)

(Design and product specifications subject to change without notice.)

WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship for a period of one year after the date of shipment. Exceptions to this warranty are as noted below:

- Three years on Genex® Series (multiplexers, server, and keyboard).
- Two years on all standard motorized and fixed focal length lenses.
- Two years on Legacy®, Camclosure™ Camera Systems, CM6700/CM8500/CM9500/CM9750/CM9760 Matrix, PelcoVision®, DF5 Series and DF8 Fixed Dome products.
- Two years on Spectra® and Esprit™, including when used in continuous motion applications.
- Two years on WW5700 series window wiper (excluding wiper blades).
- Two years on cameras.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Ship freight prepaid to: Pelco
300 West Pontiac Way
Clovis, CA 93612-5699

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair). Goods returned for repair or credit should be clearly identified with the assigned CA/RA number and freight should be prepaid. All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Ship freight prepaid to: Pelco
300 West Pontiac Way
Clovis, CA 93612-5699

REVISION HISTORY

Manual #	Date	Comments
C660M	3/00	Original version.