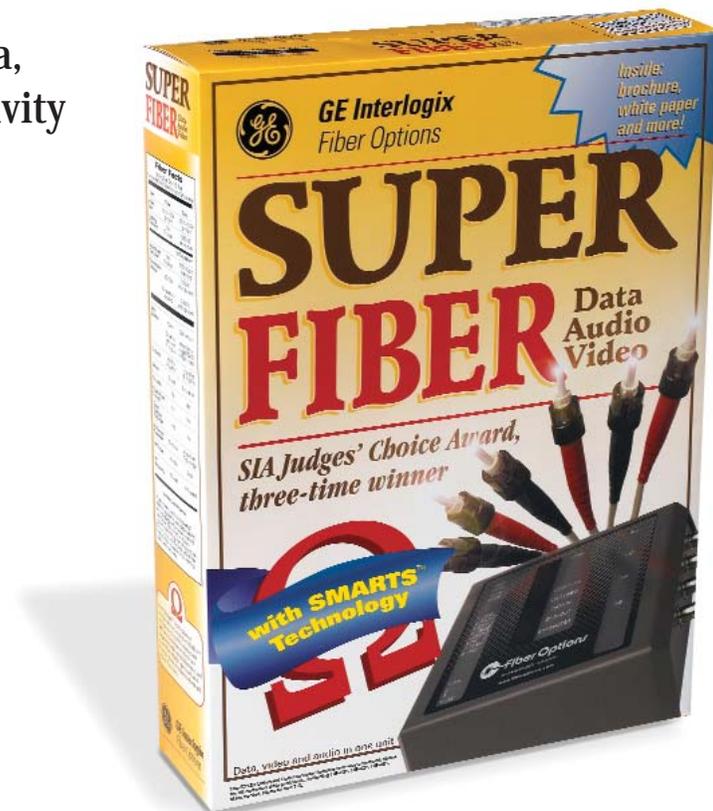# Give your security system the fiber it needs

10 reasons to use fiber instead of copper for data, audio and video connectivity

Add more fiber to your diet

Still connecting the video, audio and data components of your security system using copper? Then you're probably hungry for higher performance, more capability and fewer hassles with installation or operation. You can satisfy that hunger when you add fiber to your security diet.

The Omega™ Series from GE Interlogix gives you all the performance benefits of fiber connectivity, plus exclusive technologies that won three SIA Judges' Choice Awards. Read on to learn 10 top reasons to make fiber part of your healthy, balanced security system.

Easy to install
Every stand-alone Omega Series product uses our unique slide-on mounting bracket. There are no screw holes on the unit itself, making installation easier while eliminating the potential for damage.

❶ Exclusive SMARTS™ makes installation, monitoring easy

Only the Omega Series has SMARTS (Status Monitoring and Reliability Test System). SMARTS technology includes on-board test generators that allow you to perform system checks without having to connect separate test equipment, making installation fast and easy. Plus SMARTS gives you real-time status monitoring of level/loss, video, audio, data input/output and other system functions, depending on the model. No other point-to-point fiber transmitter gives you this much information about the performance of your system.

❷ Pinpoint problem areas easily

Nobody likes to spend time on trial-and-error troubleshooting during installation—and with the Omega Series, you don't have to. Several models include the exclusive On-Screen Display feature, which allows you to test your fiber network before installing a single camera. The On-Screen Display helps you identify the source of any problems, so you can fix them quickly.

## ❸ Eliminate problems caused by electrical interference

Fiber transmits light signals; copper transmits electricity. So when you connect with fiber, there are no problems with electromagnetic interference (EMI), radio frequency interference (RFI), cross-talk or ground loops. That means less time spent troubleshooting during installation. You don't have to worry about short circuits, sparks or fire hazards, either. And unlike copper, a fiber network is virtually impossible to tap, keeping your system secure. What's more, should lightning strike one of your cameras, fiber won't transmit the electronics-frying jolt that copper will. So the rest of your valuable electronic equipment is safe from damage.

❹ See sharper pictures over longer distances

Compared to copper, fiber really goes the distance. Fiber can transmit signals more than 22,000 ft. That's more than four miles. And you don't need repeaters or amplifiers over that distance, either. Fiber also features a high signal-to-noise ratio. So you get a perfect picture—with sharp resolution, detail, contrast and color—even when connecting a camera to a monitor or recorder over long distances.

1,000 ft

twisted pair

coax

CyberDome

transceiver

coax

receiver

monitor
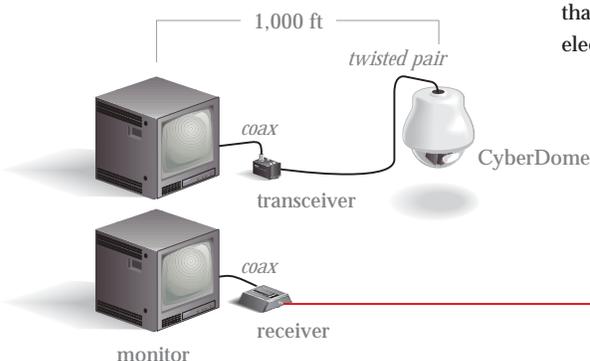
fiber (22,000+ ft)
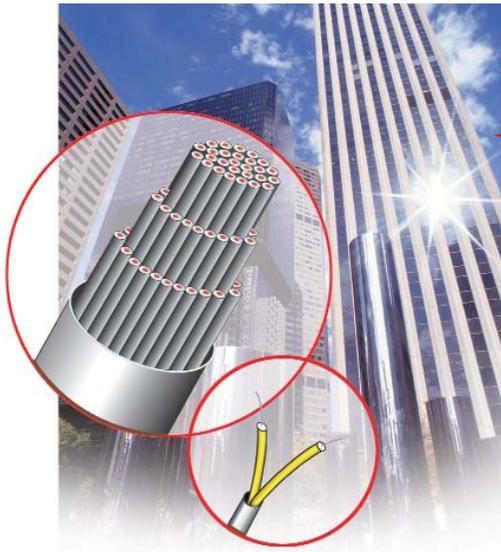
❺ Save space with less weight

A typical 2- to 4-fiber cable is 87.5% smaller than a typical RG/59 or RG/11 coaxial copper cable or 3-inch twisted-pair copper cable. Combine fiber's smaller size with its high bandwidth, and you can get far more capabilities with fiber while using far less conduit in your building. And fiber cable is much lighter and easier to handle than copper cable. That reduces labor and installation costs.

❻ Count on reliable performance

Every Omega Series product comes with a Mean Time Between Failure (MTBF) of more than 100,000 hours. That's 11.5 years of day-in, day-out dependability. And fiber transmitters offer a much wider range of operating temperatures than conventional copper equipment, from -40º to 167º F (-40º to 75º C). That makes fiber ideally suited for harsh outdoor and/or industrial environments.

❼ Give your system bandwidth without limits

There's virtually no limit to fiber connectivity. A single 1/8-inch fiber can simultaneously support multiple video, audio and data signals—far more than conventional copper cable. Fiber's high bandwidth lets you transmit broadcast-quality audio and video that takes full advantage of today's high-resolution cameras and digital recorders.

❽ Integrate with other building management systems

Chances are, there's already an existing fiber backbone in your facility. And most new commercial construction includes fiber as well. So you can integrate several building functions—including closed-circuit video surveillance, access control, fire and alarm, even heating/ventilation/air conditioning (HVAC)—on a single communications network. Fiber's ready connectivity makes installation faster and easier. And a fiber network gives you greater flexibility for expansion or modification than one that uses copper.

❾ Work with security equipment you already have

Security equipment speaks different languages, but the Omega Series is fluent in all of them. With its exclusive Multi-Protocol Data, you get universal compatibility with all the common data protocols, including RS-232, RS-422, RS-485, TTL, Manchester, Biphase and Sensornet.™ Plus the unique data translation function lets you connect products that use different data formats, and they'll work together without additional equipment. Data protocol is field selectable—simply turn the rotary switch to the number assigned to the data type as listed in your user's manual. Or skip the manual and keep turning the switch until the LED indicator turns green. Either way, the Omega Series makes installation and integration fast and easy.

❿ Spend less time and money on installation and maintenance

Installation costs can be the critical variable in a new surveillance system. If the technician encounters interference problems or has to do other troubleshooting, his time—and the cost—goes up. Fiber eliminates interference, along with much of the trial-and-error diagnosis required at installation. The Omega Series' unique SMARTS technology includes on-board diagnostics, so the technician can run system checks without additional test equipment. What's more, LED indicators give you real-time monitoring of all system functions. And besides saving money at installation, there are virtually no maintenance costs over the life of a fiber cable. Plus fiber lasts much longer: 50 years compared with two to 10 years for copper.

Fiber Facts
Serving Size: One 1/8" fiber
Servings Per Fiber: Video from up to 128 cameras

Item	Fiber	Coax
Cable Cost	$0.15 - 0.29 per foot	$0.10 - 0.29 per foot
Lightning Protection	Not Required	$250.00 per channel
Ground Loop Correction	Not Required	$150.00 per video loop
Transmission Distance	22,140 ft.	1,000 ft. w/o repeaters
	No repeaters required	2,400 ft. with repeaters
Cable Diameter	.184 in.	.232 -.405 in.
	Based on cable with 2 - 4 fibers	Based on a single RG/59 or RG/11 cable
Bandwidth	500 MHz @ 3,280 ft.	100 MHz @ 1,000 ft.
Security	Secure	Non-secure
Cross-Talk	No	Yes
Shorts / Shock Potential	No	Yes
System Expansion & Upgrades	Yes	No
Multiplexing Capabilities	Real-Time	Fast-Scan Technology
NEC Codes	Flexible	Strict
Life Expectancy	50 years	2-10 years

No Noise = No Problems

Because fiber transmits light instead of electricity, you don't have to diagnose and correct problems with electrical noise and interference. Fiber is immune to such problems, transmitting clear, sharp pictures. So you can do something else with all that time you'd have to spend troubleshooting. Like make more money.

FiberDome

Fiber comes in a variety of flavors

NEW

9908VMPD-T-R
9908VMPD-R-R

The **9900V Series** of single-mode digital video multiplexers supports two to 20 video channels. The 9900V Series can simultaneously transmit multiple full-frame, real-time color or mono-chrome video signals over one or two single-mode optical fibers. It features two-way multi-protocol data, including RS-232 3- and 5-wire, RS-422, RS-485 2- and 4-wire, Manchester, Biphase, TTL and Sensornet. Exclusive SMARTS diagnostics include LED indicators for power, laser TX, level/loss, video status and link ready.

S730DVT

S730DVR

The **730 Series** features a line of transmitters with video, two-way multi-protocol data and contact closure. The 730 Series offers 8- and 10-bit analog-to-digital video on up to 16 video channels on a single fiber. You get a high signal-to-noise ratio (>60 dB) for clean, noise-free video.

Every 730 Series model includes our exclusive SMARTS diagnostics and the data translation function, which allows one data format at the input end and a different format for output. The 730 Series also meets or exceeds the EIA/TIA-250C medium-haul standard.

NEW

S768DAV

The **S768DAV/S7768DAV** features two-way video, audio and multi-proto-col data with contact closure. The multi-mode (S768DAV) configuration can transmit up to 3.2 miles; the single-mode transmits up to 20 miles. You get a high signal-to-noise ratio (>65 dB) for clean, noise-free video.

The 768 Series also comes with our exclusive SMARTS diagnostics, featur-ing LED indicators for level/loss, video, data input/output, enable, configuration, laser and contact. And its user-configurable data format lets you easily select from any of the data protocols used in security applications.

For more information about fiber-optic transmission systems, visit our Web site, www.fiberoptions.com. Or ask your dealer for product literature and specifications.

GE Interlogix
Fiber Options