SECURITY Dealer & Integrator
New Technology and Installation Solutions

INTEGRATED SYSTEMS

By Skip Haight

Fiber Optics: Future-Fit and Ready for Convergence

New innovation targets installation ease

Fiber optic transmission products are no newcomer to security—they've been in use in the market for some 25 years. What the integrator needs to know is that what once was a very complicated technology is now easier to deploy, and in many cases (especially as IT and security converge), the preferred method of signal transmission. The bottom line is that fiber optic transmission is still the best way to move video, data, audio and Ethernet from point A to B.

There have been many articles written over the years discussing the benefits of using fiber and those advantages are undisputable. However, many of today's fiber optic products were designed 20-plus years ago and while they have undergone changes and improvements in performance and application, little has been done to advance and innovate the product lines themselves in terms of use. Fiber optic transmission for the security market has advanced to the true definition of 'plug it in and it works.' No matter if it is video with PTZ, access control, intrusion, or intercom, most fiber optic products can adeptly accommodate the functions.

But as the applications supported by fiber optics have increased over the years, little has been done to make the products easier to deploy. As an example, many fiber optic products require the use of two optical fibers to handle the transmission of both video and PTZ control data. Most manufacturers offer models that use "wavelength division multiplexing" to accomplish hosting multiple channels on a single fiber. Unfortunately, this adds considerable cost to the product. Part of the benefit of using fiber optics has always been in the capability to reduce the transmission media required in an application. Using two fibers to accomplish what can be easily supported by one seems like a natural evolution. Using one fiber to accomplish what had previously required the use of two was a natural evolution in fiber optic product design.

ComNet fiber optic products were designed from the ground up to address the challenge of single fiber and are predominantly of this type of design. Using new components and available optics, creating a better performing line using a single optical fiber was an easy undertaking, and pricing it at a level competitive with other manufacturers' two fiber products a logical choice.

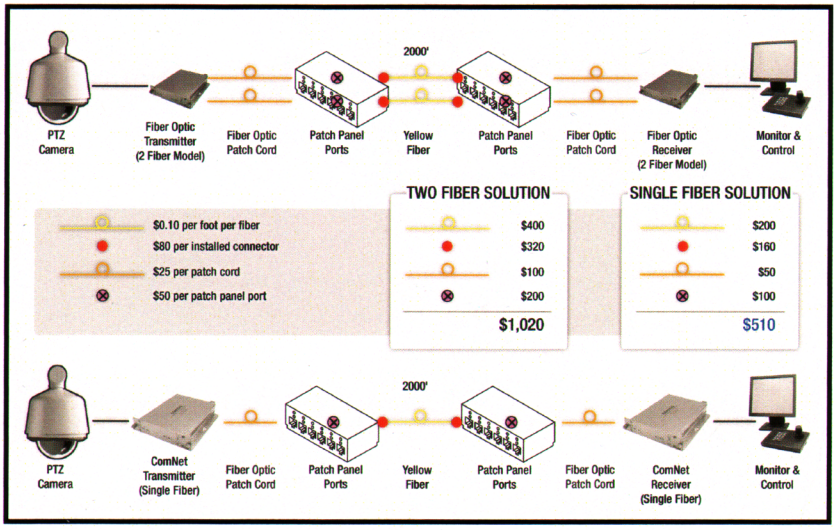
Single fiber frees transmission

The benefit to the installing dealer and ultimately the end-user in freeing up that additional fiber is that it can be used for other applications. In an existing application, if the previous two-fiber equipment is upgraded to a ComNet single fiber design, the extra fiber can be used for applications such as access control or intrusion detection alarms, for example.

In today's Ethernet world, having an additional fiber for an internal local area network (LAN) is an extremely valuable commodity. Due to its exceptional bandwidth capabilities, optical fiber is still the best available medium for network infrastructure. With the need for video over IP CCTV, gigabit Ethernet networks are best suited to accommodate the required bandwidth. Optical fiber can also extend the distances between devices from 10 to 50 times further than standard Category 5 cables. That means that the one fiber previously used to transport a single channel of video or control data can now be used as the backbone for an entire LAN. That simple feature translates into big savings to the end-user and adds more value overall to the fiber transmission system.

Your installation choice

Another innovation introduced by ComNet is the first interchangeable product line. In the past, fiber optic companies offered different models of the same product, depending on the application. This was done to accommodate how the product was to be deployed. Fiber optic products can be standalone mounted or rack mounted. In a standalone product installation, the unit was typically mounted on a wall or shelf and powered by an individual power supply. The source of signal to be transmitted (video, data, etc.) was generally close by. On the receiving end, the fiber optic sig-



Using single fiber products can reduce the per camera media cost by half when factoring in the costs for all the additional required elements of an installation.

nal was converted back to the same type of signal as the original by the use of a standalone receiver or a receiver that could be mounted in a standard electronics rack. Until now, a separate model had to be ordered to designate a standalone versus a rack-mounted product. This fact was the source of much confusion and led to challenges that ultimately cost the dealer and end-user time and money.

It's hard to calculate, but consider the cost to send out an installer to a remote location who ultimately discovers he has rack-mounted products and the application instead requires standalone equipment. There's nothing more frustrating and costly than to be forced to send out a technician twice to accomplish a task that could have been handled in one trip. He now has to go back to the office, have purchasing contact the manufacturer, arrange an RMA and pay shipment back to the manufacturer. The manufacturer now has to re-ship the correct model at the installer's expense. After a delay, the dealer/installer has to accept the cost to send out an installer to finish the job.

Starting with a clean slate, and knowing the challenges having separate model numbers for standalone equipment and rack-mounted equipment posed, ComNet introduced the first line of interchangeable standalone and rack-mounted equipment. It is a simple concept; one model number accomplishes either application of the product. Called ComFit, this feature virtually eliminates model number confusion and has the potential to save the dealer/installer and ultimately the end-user large sums of money in terms of lost productivity and unnecessary costs. Every product comes with an external power supply and can be fixed or mounted to a flat surface. If that product requires it to be installed in a ComNet card cage in an electronics rack, the installer simply removes the external power connector and slides the entire unit into the channels in the card cage. The uniquely designed power connector slips into the receiver on the card cage and the individual units are now powered by the central power supply. Multiple ComNet products can be installed in the ComNet card cage, making for an organized installation. This interchangeable product package also provides a higher level of resistance to interference. When transmitting video, there is always a chance that some picture quality degradation can occur due to the video being susceptible to EFI/RFI interference within the equipment cabinet. The same enclosure that enables the ComNet unit to be used as a standalone or rack-mount model also acts as an additional shield and improves the quality of the video being transmitted.

Having the right model at the time of installation can save the dealer time and money by eliminating costly return trips to finish the project.

This exclusive feature also is a major benefit to those who purchase fiber optic products through distribution. For the one who orders, any chance of getting the right product for the wrong application is eliminated. Having one variation per model also benefits distribution, as one model fits multiple applications. This translates to fewer SKUs, less space to warehouse, less shipping and fewer dollars tied up in inventory.

Fiber optic transmission products are more advanced than ever. Newer designs offer numerous advantages in specification, performance, longevity and value. A big part of the story today is in the value-add of the product. Little extras allow security dealers and integrators to be more competitive and more efficient, while giving the end-user more for their money as well. Standardization in installation application specifications allow them to save on inventory, factor in less time and labor during the installation and have the right product at the right time. That can make all the difference between winning and losing projects—and with the current economy—every bit counts.

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