Spring 2006

A'n D Newsletter

Cable management done right!

A New Face at A'nD

Business is brisk at A'n D, which means that you are busy as well. And because we know that your time is valuable, we have taken steps to to create a better online resource for your benefit.

The A'n D Cable web site, still located at www.andcable.com, has a completely new look and feel. We have improved the structure of the site so that it will be much easier for you to find the cable information and products that you need to conduct your business.

We know your time is important, and we try to keep our newsletter short and to the point, so that you can quickly review the most valuable information for your business. We encourage you to visit our website for more detailed information and access to key cabling resources. We are always striving to be a better business partner, and will continue to update and expand the materials on our site as part of our commitment to your success.

As always we welcome your feedback and suggestions. Please let us know what you think of the new site and if there is anything else you would like to see there.

Tools & Techniques

TIPS FOR PULLING FIBER OPTIC CABLES

You may not realize that fiber optic cable is much stronger, and has greater tolerance to rough handling, than copper wire. Even so, there are some specific techniques to use when pull fiber that will help to ensure proper installations.

If you are currently working with copper, you know that it is somewhat demanding during installation. With a 25-pound pulling tension limit, performance sensitivity to kinks, and a strict requirement for twist maintenance through each termination, copper line must be pulled and installed with care.

You may not realize that fiber optic cable is much stronger, and has greater tolerance to rough handling, than copper wire. Even so, there are some specific techniques to use when pull fiber that will help to ensure proper installations.

First, plan for straight pulls only. Diagonal pulling across a workspace is OK, but the installation is far neater and more efficient if it is made at angles which are parallel to the walls.

Next, keep in mind that fiber optic cable has a "memory," so it holds the contour formed while on the reel. When pulling cable from a conduit, ceiling, or at a corner, do not to coil the cable in a circular pattern. Instead, coil the cable in a Figure-8 pattern. After you have pulled all the slack, turn the Figure-8 upside down to set up the pull it in the next direction.

Next, try not to pull cable around corners. Instead, pull all of the cable to the turn and lay it on the

Continued on page 4

AROUND AND ABOUT: INDUSTRY TRENDS

Having some idea how the future market will look is important to any business, and the cable industry is no exception. Here are some predictions being made that may impact your future.

Last October, *Cabling Installation & Maintenance* magazine surveyed 341 cabling-system end users and found that 10-Gbit Ethernet and IP-based video will be among the most popularly deployed applications in the next few years. A trend toward implementation or upgrade of IP- or network-based security surveillance systems was noted.

The same survey indicated that the penetration rate of 10-Gbit Ethernet will grow from 6.2% to 28.1% after the next upgrade cycle. 1-Gbit Ethernet will remain at the same level and 100-Mbit/sec Fast Ethernet will lose significant market share.

Fiber will outpace cable in a few years. Driven by demand for Gigabit and 10-Gbit Ethernet and the knowledge that these numbers will continue to grow, companies are inclined to use or switch to fiber for cabling or recabling. While copper supports Gigabit Ethernet and a 10GBase-T specification is imminent, fiber's ability to support the protocols over long distances make it a wise choice for many. As a result of its research, FTM Consulting predicts that fiber-cable shipments will exceed copper-cable shipments in 2008.

Generally, all industry researchers seem to concur that the U.S. cabling industry, while not expected to grow as rapidly as in other less-developed countries, will still see moderate and steady growth over the next few years.

As part of our commitment to your success, A'n D Cable Products would like to encourage you to turn your attention toward fiber optic premise wiring, if you haven't already done so. When we think about the ever-increasing speeds of data networks, and we consider this industry trend information in conjunction with the emerging RoHS standards we discuss nearby, it is clear to us that copper premise wiring is a market with low potential for new growth. Now is a great time to think about how to position your business for the incoming wave of technology. Please feel free to contact us to discuss how we can help you take the next step toward your success.

HOW TO MAKE MONEY

Cashing in on Green Practices

In our last newsletter, A'n D showed you how including the removal of old cabling as part of your bid for new work could be a great way to make a profit for your business while also complying with National Electrical Codes. This emerging RoHS standard (and its focus on workplace safety) means that you have another good reason to help your customers realize the value of having you pull out their old cable when you install new runs.

If you have seen the acronym RoHS printed on network equipment, cables, or labels, you may wonder what it means for your business.

Restriction of Hazardous Substances (RoHS) is a European Union (EU) directive requiring that any new electrical and electronic equipment entering its market to contain specified limits of hazardous substances. Directive 2002/95/EC, commonly called RoHS, is intended to protect public health by minimizing the impact of electrical and electronic goods on the environment, particularly when those goods become waste.

Effective as of July 1, RoHS identifies and reduces levels of hazardous compounds in the equipment, based on global research and scientific evidence. It specifies limits for lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB), and polybrominated diphenyl ether (PBDE).

Though this directive will immediately impact only those cabling vendors and suppliers that serve the EU market, environmental regulations modeled after RoHS are expected to be released in the United States and elsewhere around the world. **Two-thirds of U.S. states have adopted or are preparing legislation with RoHS-related clauses.**

In addition, consumers large and small have become aware of the environmental issues related to cabling. Many have started requesting the compliance position of each hazardous substance for every part number they purchase. If they are uneasy about a provider's status or progress in becoming compliant, they will get their RoHS-compliant components elsewhere.

Where to Find RoHS Substances

Banned RoHS substances are found in commonly used materials. Some may currently be exempt under the directive.

LEAD
- Solder
- Batteries
- PVC cables
- Pigments/paints
- Plating, coatings, lubricants
- Fuses, photoconductors, glass

CADMIUM
- PVC cables
- Yellow pigments/paints
- LEDs
- Phosphorescent coatings
- Recycled plastic materials

MERCURY
- Switches
- Lamps, bulbs, lighting
- PVC additives
- Polyurethane materials

HEXAVALENT CHROMIUM
- Metal plating for corrosion resistance
- Pigments, paints, dyes

In view of regulatory trends and increased consumer awareness, prudent businesses understand that green initiatives are here to stay. They are going with the flow, and are looking for ways of profitably incorporating "green" into their operations now rather than ignoring this trend.

One strategy is to ensure that any noncompliant goods are replaced with compliant products. This will likely take some time if you have inventory stockpiles that must be used first.

Another strategy that can favorably impact you focuses on marketing. If you are voluntarily implementing RoHS standards by offering and using compliant products, make sure your market knows. Your marketing materials and your sales people should stress your adherence with guidelines and state that your products and services are positioned to comply with any current or pending regulations. This strategy can put you in a favorable position relative to competitors who are either ignoring the RoHS issue or are not yet up to speed in this regard.

Pulling Fiber, from page 2

floor in the Figure-8 pattern noted above. Then pull through to the next turn, and so on.

Also, remember to pull the cables as straight as possible when coming out of a conduit. Pulling at an angle to the conduit opening (scraping the cable on the mouth of the conduit) can cause damage to the fibers.

And finally, for the lead line, use rope from 1/4" to 1/2" thickness, depending on the length of the pull (longer pull length = thicker rope). In order to make the pull as stable as possible, the rope should not have much stretch. Be careful when removing the pull eye. Using electricians' scissors or diagonal cutters, work toward the pull eye while lifting the mesh up and away from the cable.

You know that that the correct tools and materials make all the difference when you're on the jobsite, so feel free to give us a ring for assistance with getting the correct supplies for your next fiber optic install.

Do you have a suggestion for future issues of the A'n D Newsletter?

Let us know!

Tel: (800) 394-3008
Fax: (925) 672-0317
sales@andcable.com
http://www.andcable.com

AT A GLANCE TUTORIAL
Fiber Optic Basics

Fiber optics, once considered exotic in the cable industry, are overtaking copper in many applications. At the highest network speeds of today, fiber doesn't even have to work hard; it is well able to deal with a future that includes ten gigabit speeds or faster. Therefore, many customers are installing fiber or planning upgrades from their copper cabling in the near future.

A lot of companies have found that working with fiber does not require large investments in additional training, tools and equipment over and above that needed for copper wire, and that installation is straightforward.

Premises fiber cabling usually involves short lengths (less than a few hundred feet) with 2 to 48 fibers per cable. The fiber used in this case is mostly multimode, and splicing is rare. Most connectors are ST style with an occasional SC-type. Termination is accomplished by installing connectors directly on the ends of the fibers, and testing is done with a source and meter.

Be careful with the small scraps of glass cleaved off the ends of the fibers being terminated or spliced. They ends are extremely sharp and can easily penetrate your skin, and if they get into your eyes, they are very hard to flush out. Because of this safety hazard be sure to properly dispose of all scraps. Use a properly marked scrap container and work on a black pad to make the slivers easier to spot. Make sure glass scraps don't drop on the floor to prevent them getting into carpets and carried elsewhere. Never eat or drink in your fiber termination workspace.

Tolerance to dirt is near zero. Dirt on connectors is the biggest cause of scratches on polished connectors and high loss measurements. Therefore, try to work in a clean area and keep dust caps on anything that is going to have a connection made with it. Remember to use lint free pads and isopropyl alcohol every time you clean fiber optic connectors.

A 'n D Cable Products
We Do Cable Management Right!
1460 Washington Blvd, Suite A-103
Concord, CA 94521 4047

A Small Business/Veteran/Minority Owned California Corporation
Established in 1989
Visit us on the web at http://www.andcable.com