

Counterfeit or non-compliant cables put your company at risk.

# Don't Stint On Cables



BY BRIAN RIZZO

For your customers, the cabling you choose to complete a project usually isn't a top concern. They expect it to perform its function, and often leave the cable selection up to you. Even some installers don't put a lot of thought into the cables they use, which could create problems for them and their clients. As in any popular market, counterfeits and knockoffs are a problem for the cable products industry, but there are ways to protect yourself and your business.

## Why It's Important

As security, communication and automation technology advances, more data is being sent over twisted-pair cabling. In 2015, there are a number of critical technologies that require full-spec cables. For example, transmission of full HDBaseT 5Play signals requires full-spec Category cables, and experience has proven that cheap cables consistently fail in this application, as many manufactur-

ers and installers have experienced. (5Play is a feature set of HDBaseT, which converges uncompressed full HD digital video, audio, 100BaseT Ethernet, power over cable and various control signals through a single Category or LAN cable.)

The extraordinary demands and bandwidth requirements of 4K and other high-resolution video signals can only be handled by full-performance, high-bandwidth cables. The expansion and growth of high-performance category cables for video applications is a prime example of this trend, which is still in its early stages. With these technologies, gone are the days of using cheap counterfeit copper-shaven cable and getting away with it!

In addition, Power over Ethernet (PoE) technologies mean that, not only is cable supporting digital signals, it's also a conduit for more power. Surveillance cameras, keypads, alarms and sensors are all adopting this technology, which makes a qual-

ity cable more important than ever. When it comes to PoE, heat rise, among other things, is a key issue.

Safety should be a huge concern for the installation company. Recently, several wire and cable brands have been singled out by Underwriters Laboratories (UL) for their potentially unsafe cables. This presents potential liabilities to the installer. For this reason, properly UL-tested cables are a must. Whether it's performance or safety, you can't afford to "cheap out" on the cable you use, regardless of the type of installation.

For all these reasons, cable can't be treated as a commodity. It's a critical component to the complete system's operation and reliability.

The Communications Cable and Connectivity Association (CCCA), an industry watchdog and standards group, has been tracking the problem of counterfeit cables since 2007. The group observes that some



One way to tell if your wiring is counterfeit is by looking at the packaging: A legitimate cable usually will come in a box with a payout tube two inches or larger in diameter. And quality cables will have a neat and orderly wind, with clear "Vs" running along the center of the coil up to the edges of the payout hole.

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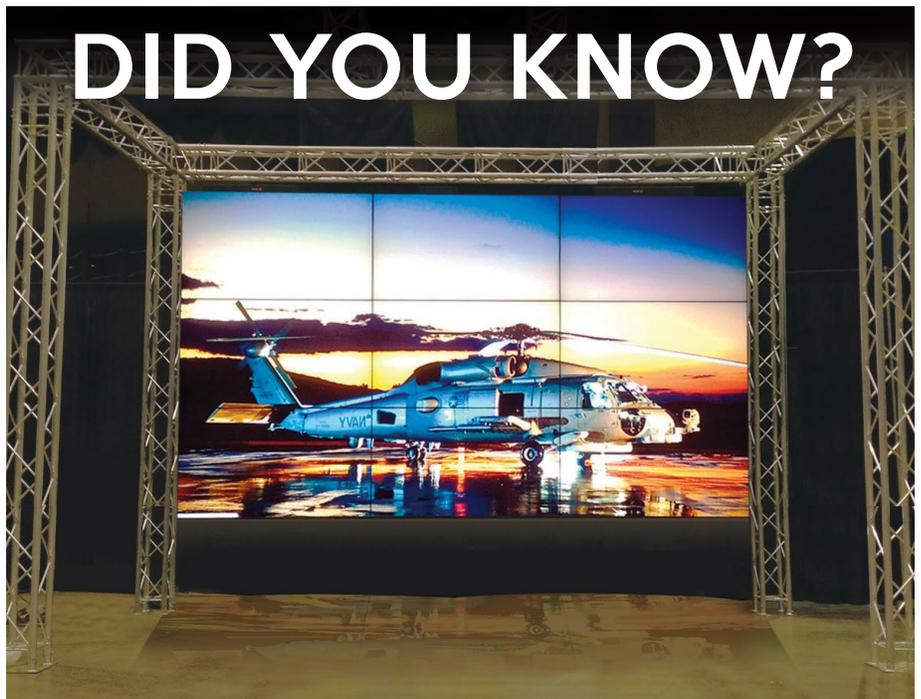
Gone are the days of using cheap counterfeit copper-shaven cable and getting away with it!

Imported cables fail to meet the National Electrical Code (NEC) standards, which can open up a contractor who uses those cables to liabilities and civil lawsuits. The CCCA developed an app to help users identify counterfeit cables. Available free for iOS and Android mobile devices, it allows users to look up the UL code and also walks the user through the identification process. To learn more about the app, including a YouTube video, go to [www.cccassoc.org/news/free-apps](http://www.cccassoc.org/news/free-apps).

#### Low Quality

Counterfeit and non-compliant cables are often cheaply constructed with lit-

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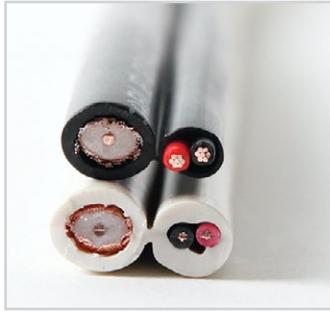
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CCCA



Properly tested cables are a must. This label (unless it is itself counterfeit!) is an indication that the wire you are using is in compliance.

ICE Cable Systems



This shows an example of inferior RG59-18-2 (white jacket) versus compliant (black jacket) wiring.

ICE Cable Systems



UL Holographic Sticker

Reellex Trademark Logo

Compliant boxes feature appropriate logos.

tle or no attention to quality assurance. Fraudulent, cost-cutting techniques in that industry are rampant, and can lead to failure or even damage. Thin or uneven jackets can impact signal integrity and result in overheating and burn-through. Uneven or dishonest conductor diameters reduce signal strength, resulting in components, such as IP surveillance cameras, not working properly. Poorly constructed packaging can introduce knots or kinks in the cable,

which cause time-consuming tangles and can lead to cable failures.

Some knockoff cables use copper-clad aluminum rather than solid copper, which can generate excess heat that compromises data and can result in fire. Some cables indicate that they are made of copper-clad aluminum on the box...but not always. Imagine the headaches when a building inspector discovers non-compliant cable after it's already been installed. Also, cables

may be marked deceptively as complying with NEC safety codes and National Fire Protection Association (NFPA) standards, when, indeed, they are not.

Luckily, one of the easiest ways to spot counterfeit cable is to simply look at the box. Most bulk twisted-pair cable for the security and AV industries comes in large pull boxes. When purchased from a reliable cable manufacturer, the pull boxes most companies use feature a patented REELEX



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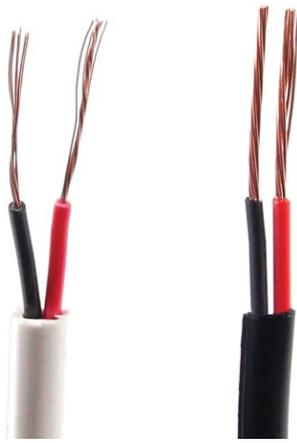


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ICE Cable Systems



Here is another example of non-compliant versus compliant cable.

packaging system. This system has a few distinctive features that can make it easy to identify.

How do you tell a counterfeit box? The first sign is the payout tube where the cable exits the package. A legitimate cable usually will come in a box with a payout tube two inches or larger in diameter. The large payout tube accommodates the larger hole wound into the coil made by the coiling machine. If you were to pull out the payout tube, the coils should have obvious large payout holes without the appearance of the cable being forced out of the way.

Knockoff product usually will come in a box with a very narrow payout tube that, incidentally, prevents the user from peering inside to see how tangled and stuffed the cable in the box is. Quality cables will have a neat and orderly wind, with clear "Vs" running along the center of the coil up to the edges of the payout hole. Cable manufacturers that license the patented packaging are asked to print the company's trademark on the package, although some counterfeit manufacturers have been found to use the trademark without authorization.

Another simple method of checking for counterfeit cable is by weight. Cable made from copper-clad aluminum, or cables with thinner-than-specified diameter, will feel lighter than the real thing. You can also scrape the surface of the cable with a blade to see if the copper comes off and reveals aluminum underneath. Many municipalities ban installers from using copper-clad aluminum in communications cables.

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**VIDEO DEVICES**

type 6mm pitch display mounted at the base of each videowall. Overall control of the displays is via the Crestron PRO3 platform, accessed through a Crestron V-Panel 12-inch HD touchscreen.

At a time when Las Vegas books have to cover more sporting events than ever, the ability of the videowalls to be configured to display multiple video streams gives Red Rock's book some useful aesthetic flexibility, as well as offering some practical advantages, such as no projection lamps to maintain. But this is Las Vegas, and pragmatism easily gives way to the never-ending search for the spectacular.

## DON'T STINT ON CABLES

*(continued from page 65)*

Finally, you want to look for the Underwriters Laboratories certification label with a UL holographic sticker on the box. If the product isn't UL certified, that can be a red flag that there's something fishy with the product, such as an inability to meet the UL safety standards. Counterfeit UL box stickers and cable jacket stamps are an ongoing problem for the structured-wire industry. If an installer uses a non-UL cable, that installer may be liable for damages caused through the cable's use, especially if UL has identified that cable as using fraudulent UL certification.

First, don't let your clients purchase the project's cable unless you have verified that the product meets all needs and specifications. If a customer tells you that he or she has already purchased the cable, that should be a warning sign that the customer is trying to save money and likely bought substandard product.

## RING OUT THE OLD, RING IN THE...OLD?

*(continued from page 61)*

are RF modulators that will package two HD MPEG programs into a single 256-QAM channel, resulting in a total of 270 channels in your system. (The largest private IPTV/QAM systems I've seen carry about 200 custom-programmed HD channels).

It should also be noted that multi-channel RF program distribution qualifies as a constant bitrate (CBR) network, unlike AV-over-IP, where the bandwidth is often shared with other users (like TCP/IP traffic). All programs are delivered with the same picture quality as they were encoded,

Fundator said that Stations Casinos was ready to go for the 4mm displays that were available two years ago, as the renovation was being planned but, as time went on and resolutions sharpened, they were eager to keep the book at the bleeding edge. "We did a side-by-side comparison between 4mm and 2.5mm, and the 2.5 was just astounding," he said, adding that the higher cost of the higher resolution will be offset over time by the economies of LED.

A Station Casinos spokesperson agreed, commenting, "This allows Red Rock Race & Sports Book to be ready for 4K when that content becomes more

Before you head out into the field, check your entire cable inventory for suspicious products. Even after inspecting the box, the cable wind and the certifications, it's also a good idea to open up the jacket and measure the cable with a micrometer to be sure the wire is what the box says it is. If the product is not what it is advertised as, then don't use it.

The CCCA developed a free downloadable app for iOS or Android ([snd.com.us/1OCj1C](http://snd.com.us/1OCj1C) or view a video about it at [sndcom.us/1MUNSuF](http://sndcom.us/1MUNSuF)) that allows you to check a cable's UL file number. It also explains in detail how to spot fraudulent UL labels.

If you suspect you've purchased counterfeit cable, you can try to return it to the manufacturer for a refund, but the sad truth is you might not be able to: Counterfeit companies aren't in the business of giving your money back. The first thing you

no matter how many receivers are tuned in. (This, by the way, is the original concept of multicasting!)

Another advantage of coax that we haven't mentioned until now is that it is ridiculously easy to terminate, certainly faster than category wire and optical fiber. And the tools required to troubleshoot cable systems (spectrum analyzers and signal level meters) are also as affordable as they'll ever be. No one who works in RF should be without an analyzer because it is used to measure C/N levels, look for tilt and iden-

readily available. We're not going to have to worry about upgrading for at least another five years, and the pixel warranty is longer than that. We are more limited by the video source than the LED displays."

The hotel business is changing, compelled on all sides by the deepening of BYOD into the larger culture on the technical front, with iPads and iPhones challenging old content revenue models, and by even deeper disrupters such as AirBnB and other social-sharing platforms. What hotels can do in response is what they're really best at: creating an experience that you can't get at home. 

should do is make sure you don't use it. If you have used it already, seriously consider replacing it. UL regularly puts out press releases about counterfeit cable products, so check the website periodically to make sure you know how to spot a fake. If you find a suspicious cable, report it to UL.

If your customers question why some cables cost more than others, remind them that the cable is a critical part of the system, and that poor or faulty cables can compromise performance and safety. If something fails in a system (and, yes, even the best systems can experience problems), you don't want it to be the cable. It's much easier and cheaper to replace a camera, alarm or keypad than to replace miles of installed cable. Poor quality and counterfeit cables not only jeopardize the integrity of the systems you install, they also jeopardize the integrity of your business. 

tify working/non-working channels.

And there you have it. Coaxial cable is still alive and kicking, and a long ways from retirement. It can coexist with optical fiber and structured wire, has plenty of bandwidth and channel capacity, is easy to terminate, comes in different sizes, can be run outside and even buried, and multiplexes AC and DC signals with ease. It is also available with extra shielding or even as rigid line to minimize stray radiation and interference.

Everything old is new again.... 