SCP's HDBaseT™ Category Cables HNCPRO™ and HNCPROPLUS+™ are the Superior Category Cable Solution

Introduction

Category cables were initially used only for telephone and data/networking applications. Category cables that were installed just 10 years ago were not manufactured to support today's demands of HD distribution, 4k, 1080p, HDBaseT™ and so on. These technologies now require Category cables to carry uncompressed HD video, audio, high speed internet, controls, and even power.

With almost every new technology release, end users jumped at the new electronics being offered and rapidly replaced their now "outdated" A/V systems. But one thing was not really paid attention to by most people… because it was hidden… and that is the cable. Those Cat5 cables that were installed for AOL, LANs, and other basic networking applications, are now suddenly being asked to perform all sorts of things that were rarely envisioned as early as 10 years ago.

For years, most people in our industry viewed all Cat5e cables as the same. "Really no difference"… is what most people believed. *"The project spec says Cat5… so give me the cheapest Cat5 that you have"* was the mantra often told to distributors. And that thought processed worked ok… **until now**.

Category cables are the backbone to almost all electronic systems whether it is for commercial, institutional or residential systems. Cheap Category cables are "CHEAP" for a reason. Why put your project at risk by trying to save a few pennies per meter on cable… when the Category cable is perhaps one of the lower cost components of your system anyway?

In 2010, SCP began working with some of our largest distributors to develop a line of high performance but still cost effective Category cables.   These new Category cables became known as HNCPROPLUS+™ for Cat6/6A and HNCPRO™ for Cat5e.   In 2011, SCP submitted our new HNCPROPLUS+ and HNCPRO cables for testing to the HDBaseT Alliance and soon became the first HDBaseT recommended Category Cables.

Since this time, SCP's HNCPROPLUS+ for Cat6/6A and HNCPRO for Cat5e have become the fastest growing Category cable lines in the industry.

Traveling Down the Highway

There are 3 important aspects of a Category cable's performance: **Throughput** (size of the pipe), **Speed** (Frequency) and **Distortion** (quality of the data signal). The larger the pipe (such as 23awg vs. 24awg)… the more data that can be transmitted over that pipe. The higher quality the cable, the faster (Frequency) the data can travel and the less distortion/loss the data will experience.

Now just think of these cables as highways that were built in the early 20th Century. When these roads were built, the lanes were narrower and there wasn't a lot of traffic at that time.   A typical Cat5e cable is like a 3-lane highway with a posted speed limit of 55mph (88kph). The traffic traveling this highway is the data. The 3-lanes represent the size of the highway and the amount of data that can travel. The speed limit is the Regulatory standard frequency that the highway is approved to operate. This speed limit allows the data to move comfortably on that highway with minimal delays/interruptions.

Now today, there is a lot more traffic on these highways. Not only more data but other vehicles such as uncompressed video, internet streaming… all now travel down this same 3-lane highway. In addition, some of these highways may not have been built as they should have been and are starting to deteriorate. Now there is a greater likelihood that all this traffic will experience some congestion, accidents, or such, causing the traffic to slow down.

With cheaper and older Cat5e cables, it may be a 3-lane highway but the quality of the roadway is not very good. There are potholes, inconsistent lane markers, and odd twists and bends that can easily cause the traffic to slow. These cables may perform ok if you are only going a short distance such as from one exit to another, but traveling this highway over any distance, you will begin to experience congestion and other intermittent traffic problems.

With SCP's HNCPRO for Cat5e, through our "road improvements" as we call it, we are able to create a 4-lane highway instead of 3-lanes, and the roadway is in much better condition. This not only allows more data traffic on the highway, but this data can now travel comfortably at 70mph (112kph) instead of regulatory speed limit of 55mph because of the road improvements. In addition, longer distance travel is better because there is less likelihood for congestion from the traffic going on and off at the various exits. With HNCPRO for Cat5e you will get more data throughput; the data can move at a higher frequency; and there will be less distortion/resistance when compared to low quality and/or older Cat5 cables.

For Cat6, instead of traveling on a 3-lane highway (24awg), you are now driving on a 6-lane (23awg) highway with a posted (regulatory standard) speed limit of 75mph (120kph). Because Cat6 has more lanes and the lanes are wider, more data can travel the highway and at a much faster speed limit than Cat5e. This is why Cat6 from a mechanical perspective is being recommended more and more today… but of course, it is more expensive to construct this Cat6 highway as compared to the Cat5e highway.

The same type of "road improvements" also pertains to SCP's HNCPROPLUS+ for Cat6. HNCPROPLUS+ for Cat6 will perform safely well above the Speed Limits (as per Regulatory standards) and these cables can then move all this new traffic faster and more efficiently than many other Cat6 cables on the market.

Which cable should I use?

The short answer is: Depends on your project specs and the A/V component manufacturer recommendations.

In the real world, the answer is not always that simple. There are some cable manufacturers that insist only S/FTP shielded Category 6A and above rated cables should be used with all HDBaseT installations. Wow, those are some expensive cables… but of course, they are in the cable business… but so is SCP.

What we know is that there are many new project installations that are 4k compliant where HNCPRO for Cat5e works just fine. Did you know that HNCPRO for Cat5e can PASS 10GBaseT performance? Huh? That is correct. We have had numerous testing done that confirms that HNCPRO UTP for Cat5e can PASS 10GBaseT performance up to 40meters! Is it the right solution for every install? Of course not, but it is a solution for many installations… and HNCPRO UTP is way less costly than a S/FTP Cat6A cable.

Because of the many variances with project installations, there is NO one cable that is the right solution all of the time. This is why SCP has a wide range of cables in the HNCPROPLUS+ and HNCPRO product line.

HNCPRO for Cat5e:
UTP; F/UTP; Siamese (bonded side x side) UTP; Composite cable (various configurations)
All available with PVC or LSZH jacket
HNCPRO UTP is available in 8 different jacket colors

HNCPROPLUS+ for Cat6:

UTP; F/UTP; Siamese (bonded side x side) UTP; Composite cable (various configurations)
All available with PVC or LSZH jacket
HNCPROPLUS UTP is available in 8 different jacket colors

HNCPROPLUS+ for Cat6A:

U/FTP – Each Pair Shielded
LSZH jacket

SCP's HNCPROPLUS+ and HNCPRO Category cables are certified to meet today and tomorrow's demanding commercial, institutional and residential networking and A/V applications. The HNCPROPLUS+ and HNCPRO cables provide:

- Improved signal integrity,
- More stable electrical performance,
- More headroom to support bandwidth intensive applications,
- Improved networking performance, and
- Each box/spool is tested before it leaves the factory and a copy of the test report is included inside the box/spool.

HNCPROPLUS+ for Cat6/6A and HNCPRO for Cat5e cables also provide superior performance for data networks, digital signage, control systems, CCTV over IP, and more.

For more information about SCP's HNCPROPLUS+™ for Cat6/6A and HNCPRO™ for Cat5e, please visit our website at www.scpcat5e.com or contact your local SCP distributor.