



# Twisted Pair Hits the Mainstream

## Extron's Comprehensive Solutions Offer Advanced Features and Dramatic Savings

High definition video is experiencing unprecedented market growth and its use is expanding to an ever-widening range of applications: digital signage, retail merchandising, airport terminals, houses of worship, universities, and custom home installations, just to name a few. Projects that require switching and distribution of high resolution video are increasingly common. Whereas coaxial cable used to be the only option for such projects, recent advances in technology have made twisted pair systems a viable design alternative. Extron offers the widest selection of twisted pair transmitters, receivers, switchers, matrix switchers, distribution amplifiers, cabling, and accessories in the industry. When your next project requires distribution of high resolution video, along with standard definition video, audio, and serial control signals, consider the potential benefits and cost savings offered by Extron twisted pair solutions.



### Coax vs. Twisted Pair

Smaller. Lighter. Simpler. Cheaper. These attributes of CAT 5-type UTP cable, in relation to coaxial cable, are well known. The small, lightweight cable fits into smaller conduit than larger, stiffer coaxial cable and is easier to pull, lowering overall project costs and allowing it to be used in applications where space is an issue. Terminations are simpler and less expensive with CAT 5-type cable than with coaxial cable.



Twisted Pair Hits the Mainstream — continued

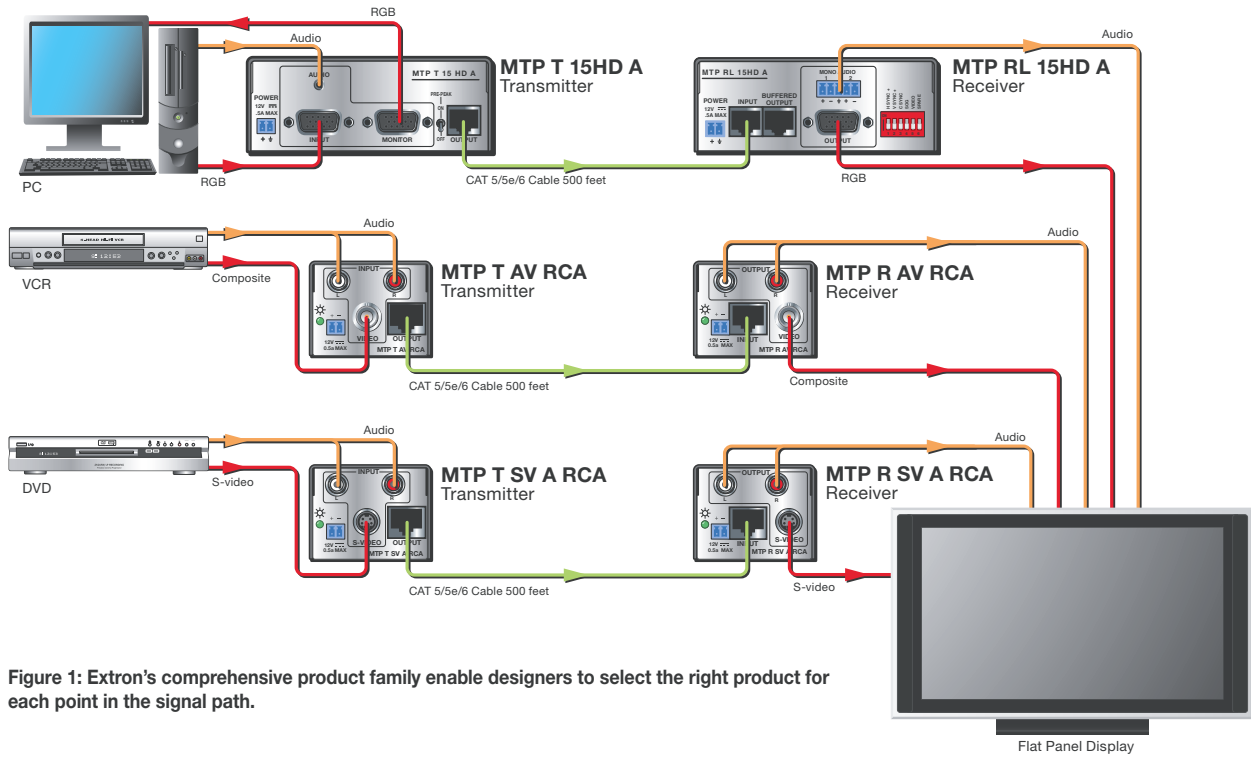


Figure 1: Extron's comprehensive product family enable designers to select the right product for each point in the signal path.

With the price of copper increasing dramatically over the past few years, low-cost twisted pair cable has made a difference in keeping many projects within budget. Especially when cable runs exceed 200 feet or more, the cost of twisted pair equipment and inexpensive CAT 5-type cable can be significantly less than an equivalent run of coaxial cable, for which an interface or peaking amplifier might also be required.

Extron engineers have developed a broad product line that capitalizes on the benefits offered by the physical characteristics of CAT 5-type cable. Through superior quality, advanced technology, and award-winning design, we offer system designers and integrators even more reasons to consider using twisted pair for A/V applications. Let's explore some of those reasons.

**Comprehensive Product Selection**  
Our broad range of options provides A/V designers the ability to "right size"

the twisted pair products at all points in the signal path. In this regard, we offer the most comprehensive twisted pair product selection in the industry.

Our MTP Series alone includes hundreds of transmitters, receivers, switchers, matrix switchers, distribution amplifiers, cables, and accessories. For example, with the Extron MTP Series, a system designer can select the right low resolution or high resolution transmitter or receiver for a given signal type and place a skew equalizer only where needed.

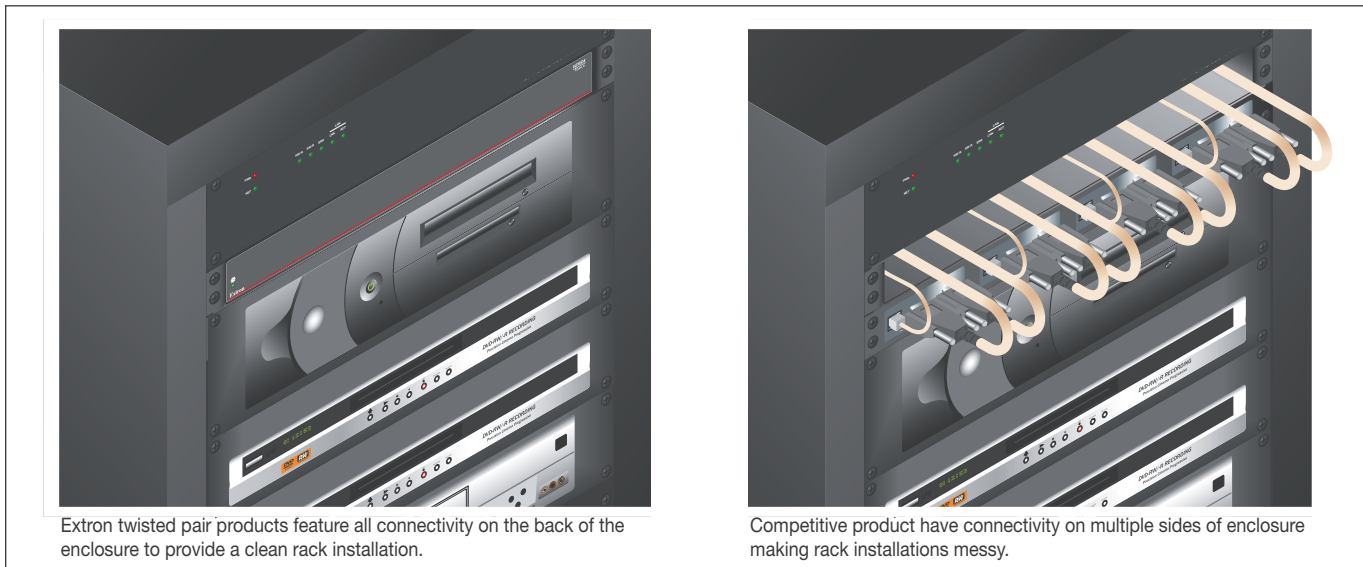
Figure 1 represents a point-to-point system using Extron MTP Series

transmitters and receivers. The simple system depicted is transmitting one computer video signal, one S-video signal, and one composite video signal. With our products, a designer has much broader freedom to specify precisely the right transmitter and receiver for each signal type. Because our low resolution transmitters and receivers have a lower price point, the cost savings, compared to using a competitor's products, is dramatic.

Extron twisted pair products feature professional grade connectors and proper connectivity for the application, eliminating the need for additional cable adapters and increasing the savings.



New MTP 1500 RL receivers for 1,500' distribution of high resolution video along with audio or RS-232.



**Figure 2: Connectors on the back make for a cleaner look and save on rack space.**

Imagine the magnitude of the savings Extron’s comprehensive selection of products would provide in a larger, more complex twisted pair application.

**Integration-Friendly Features**

In addition to providing dramatic savings over both coaxial cable-based systems and the twisted pair offerings of our competitors, MTP Series twisted pair products are designed to help solve common A/V integration challenges. Extron engineers carefully consider how the design of each product will help integrators and installers with the efficient use of costly rack space, effective cable management, fast access to controls and adjustments, and ease of mounting. All rack-mountable transmitters, receivers, switchers, matrix switchers, distribution amplifiers, and accessories in the MTP Series feature connectors that are all on the back panel. This eliminates the need to run cables over or under the rack shelf and through the rack, saving valuable rack space and making it easier to manage the cables. See Figure 2.

Front panel adjustments make it easy to dial in image quality from one location, without having to repeatedly move from the front of the rack to the back during set up. This can

save a considerable amount of time and frustration, especially in applications where space near the rack is limited.

Extron twisted pair products are designed in a wide range of form factors to provide integrators and installers with flexibility and freedom when it comes to deciding where and how to mount them. Rack-mountable products are housed in metal enclosures that are rack, under-desk, and projector pole-mountable using any of dozens of specialized Extron mounting products.

Many transmitter models are also available in wall-mount versions, as well as Extron’s popular AAP and MAAP configurations. Some receiver models are small enough

to mount behind a flat-panel display. Extron has the product and mounting solutions to help meet the architectural requirements of most any application.

**MTP U Series Universal Receivers**

Extron MTP U Series Universal Mini Twisted Pair Receivers accept a wide variety of video formats along with RS-232 or audio signals on a single UTP cable, providing dramatic cost savings with superior performance. With advanced features, including the ability to automatically route the incoming UTP signal to the appropriate video, audio, and RS-232 output connector, systems require only one receiver and one cable for each display.

**MTPX Plus Series Matrix Switchers**

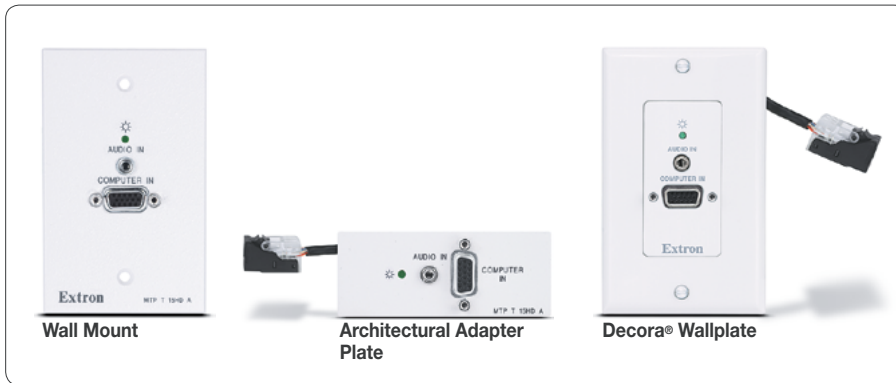
For complex matrix switching applications, the MTPX Plus Series Twisted Pair Matrix Switchers are available in six I/O sizes from 8x16 to 32x32. Each model is compatible with Extron MTP Series transmitters and receivers. They are capable of routing video signals, along with audio or RS-232 control signals, on a single twisted pair cable. MTPX Plus Series matrix switchers offer an innovative feature set not available on any others.



**Universal Twisted Pair Receiver**



## Twisted Pair Hits the Mainstream — continued



Flexible mounting solutions help meet the architectural requirements of most any application.

Local video and audio inputs and outputs enable direct connection of equipment located within the same rack as the MTPX Plus Matrix Switcher, greatly simplifying system complexity by eliminating additional MTP transmitters and receivers.

MTPX Plus Series matrix switchers also feature dynamic skew equalization on all inputs and outputs. This industry-first innovation ensures that CAT 5-type cable skew is eliminated—no matter which combination of input/output cable lengths are selected.

Yet another innovative feature, local RS-232 insertion ports, allows a control system located near the MTPX Plus to connect to and control remote displays over the same CAT 5-type output cable that carries the A/V signal. Additional features include switchable pre-peaking on a number of the outputs to drive signals long distances, audio input gain and attenuation to balance audio levels, output volume control for the local outputs, and IP Link® Ethernet connectivity.

These powerful features found in MTPX Plus Series Switchers enable integrators to greatly reduce installation time and costs associated with rack space, cabling, and installation, when compared to traditional twisted pair matrix switching.

### More Reasons to Consider Twisted Pair

Twisted pair systems eliminate the need for separate cables for audio and control signals, since those signals can be carried together with the video on a single cable.


It is worth noting that twisted pair A/V systems require a dedicated cable infrastructure that is completely separate from that used for data networking or voice applications. Although twisted pair A/V and data network systems may seem interchangeable by virtue of a common type of cabling, they must be considered separate, distinct, and incompatible. A/V signals are not formatted as packetized digital data for transmission over Ethernet, and therefore cannot coexist with data network signals within the same CAT 5-type cabling.

### Conclusion

The bottom line is that twisted pair A/V systems offer cost-effective, long-distance transmission capability with performance and picture quality similar to coax systems.

Although CAT 5-type cable was designed for data networking, it is also a viable, cost-effective alternative to running analog video and audio signals over conventional coaxial cabling. There are plenty of reasons to consider using twisted pair for your next application and even more reasons to choose Extron twisted pair solutions.

Extron offers the most comprehensive twisted pair product line with over 100 products for every type of application. The Extron MTP Series comprises the most integration friendly twisted pair transmitters, receivers, DAs, switchers, and matrix switchers available, enabling A/V systems to be installed more easily and more economically than ever before.

We understand that time, quality, and profitability are crucial in any installation. Extron has the experience and manufacturing capability to provide the highest quality products you need, backed by our 100% Satisfaction Guarantee. 



MTPX Plus Series Twisted Pair Matrix Switchers are available in six I/O sizes from 8x16 to 32x32.