



# [SINGLE CABLE SOLUTION PROVIDES 5PLAY CONVERGENCE FOR COMMERCIAL INSTALLERS]

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## **HDBaseT Alliance**

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## Single Cable Solution Provides 5Play Convergence for Commercial Installers

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The criteria for connectivity in the commercial market varies from that of the consumer home installation market. Until now, commercial installations have made due with more home-centric technologies and cables, as only a few cable standards can accommodate the feature set required for audio/video (A/V) connectivity. However, these standards—designed specifically for the consumer electronics (CE) market—place limitations on commercial integrators in terms of cable reach, feature capabilities, ease of installation and overall flexibility.

Whether installing a video wall in an airport, a projector in a class room or placing digital signage in a mall, cable length remains the biggest A/V challenge for integrators. Addressing this key challenge and many more, a new technology called HDBaseT™ is gaining momentum as the installer's connectivity of choice. Supported by the HDBaseT Alliance—a cross-industry alliance incorporated by LG Electronics, Samsung Electronics, Sony Pictures Entertainment and Valens Semiconductor—HDBaseT is the first technology to enable 5Play™ convergence, sending video, audio, Internet, controls and power over a single, long reach cable.

### HDBaseT: The all-in-one, commercial connectivity solution

Sending the 5Play feature set over a single 100m/328ft Cat5e/6 LAN cable with standard RJ-45 connectors, HDBaseT allows installers to cut the cables down to one, all-inclusive cable already widely used for Ethernet connections.



### *Video and audio*

HDBaseT supports TV and PC video formats including standard, enhanced, high-definition and 3D video, as well as all standard audio formats.

HDBaseT delivers Full HD/3D and 2K/4K uncompressed video to a network of devices or as a point-to-point connection. Uncompressed content supports all video sources, including legacy products, and accurately renders gaming graphics and features such as electronic program guides (EPGs), all without degrading video quality or adding latency.

### *100BaseT Ethernet*

HDBaseT supports 100Mb Ethernet capabilities, enabling televisions, hi-fi equipment, computers and other CE devices to communicate with each other and access stored multimedia content, including video, pictures and music.

### *Power over cable*

Sending power over the same CAT5e/6 cable gives installers the option to forego plugging devices into the wall outlet for power, allowing greater mobility. HDBaseT can power remote TVs and other devices up to 100 watts.

### *Various control signals*

HDBaseT delivers different types of control signals for different purposes, from Consumer Electronic Controls (CEC) to Recommended Standard (RS)-232, USB and infrared (IR), which operate remote equipment allowing a system to be easily controlled and monitored.

Simply put, HDBaseT has a feature set that is so comprehensive that it can be used for the entire commercial integrator market. Let's consider a few examples:

Corporate – Using HDBaseT, installers can connect a wall mounted projector to a distribution matrix with a single 328ft Cat5 cable. Any type of projector can be used- including the most advanced 3D

projectors - together with any software management. This type of networking is useful for applications such as video conferencing.

HDBaseT transfers data in an uncompressed format providing unmatched video quality with minimum latency. No video decoders/encoders are required and all formats are supported. Moreover, HDBaseT's ability to drive power over the LAN cable means that the devices require no connection to a wall power outlet. It's truly a single cable solution. A centralized video hub can be connected to several displays and cameras with no intermediate convertors.

This same projector connection is useful for markets including education, arena and church installations. Beyond video conferencing, HDBaseT can support all applications requiring an enhanced A/V connection.

Hospitality – HDBaseT allows installers to network displays throughout hotel suites, lobbies and conference rooms to create a unified viewing experience for guests. Whether connecting devices within a large suite or accommodating a large conference within the hotel, the existing Ethernet infrastructure allows an HDBaseT network to be easily implemented. For example, CE devices can be located in a separate area at distances less or more than 100 meters away. This networking system allows flat screen displays to be cleanly mounted on any wall, while still connected to the remote devices, providing additional traffic space and eliminating cable clutter.

Using a low price cable already installed in many commercial businesses, HDBaseT is eco-friendly, has low installation and maintenance costs and supports future upgradability.

Airports and Shopping Malls – Digital signage is a growing market for commercial installers but can also pose many challenges in regards to distance, power proximity and controls. HDBaseT allows screens to be networked easily through daisy-chain or star topologies and up to eight, 100m LAN cables can be chained together to create a long reach network not offered by any other technology on the market. The same 5Play features apply, overcoming distance, power and control barriers.

Beyond these examples, surveillance, healthcare and any other commercial integrator market segment can appreciate and utilize the HDBaseT 5Play feature set.

## Benefits of an HDBaseT Installation

HDBaseT offers benefits to installers by providing enhanced feature capabilities, extended cable reach, simplified installation and overall flexibility.

In today's commercial market, simply providing video and audio connectivity is not enough. Beyond supporting Internet and all A/V formats, installers can now rely on HDBaseT's support for various controls and power.

Projector and video display installations in commercial, hospitality and educational facilities rely on dedicated controls that are carried over RS-232, CEC or Internet Protocol (IP) links, regardless of which management software is being used. HDBaseT supports all of these control signals, giving equipment manufacturers and integrators the flexibility to choose the solution that best meets their needs.

For power, installers are no longer limited by power cord and wall outlet proximity. HDBaseT powers devices consuming 100W or less with the same LAN cable simultaneously transporting the other four features.

Using a single 100m/328ft LAN cable with common RJ-45 connectors, installers are able to either use existing RJ-45 infrastructure or install the single cable infrastructure with less expense to the installer and client. Throughout the installation process, the LAN cable supports both field termination and multi-hop networking of up to eight, 100m cables. This high-reliability, low maintenance and scalable technology provides installers with the flexibility to quickly, cost-effectively and confidently complete even the largest scale jobs.

## Overcoming Common Installation Pitfalls

When choosing to work with equipment based on the HDBaseT technology, integrators will be happy to find that many of the hurdles that were part of their daily working experience no longer exist. This seamless solution increases distance of data transfer, expands distribution, simplifies installation and lowers overall system cost.

With HDBaseT, distance is not a worry. Installers no longer need to count meters or worry about the cost of a repeater or extender when the distance is several meters long. For even short distances, there is no need to measure. Using a standard LAN cable, installers can field terminate after the cable is run. HDBaseT extends installers' networking reach at least four-fold to what has been previously

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offered through existing technologies, increasing cable distance while also expanding the range of distribution capable throughout a space.

Other common installation pitfalls resolved with HDBaseT include:

- Support for HD and 3D: HDBaseT utilizes a quality cable proven for transferring HD and new 3D formats
  - Extender/repeater is capable of supporting new video formats requiring higher pixel clocks
- Quality controls: HDBaseT sends various controls while ensuring reliability and low latency
- Power outlet proximity: Remove the electrician from the process—HDBaseT sends 100W of power simultaneously through the 5Play feature set eliminating the need for a power outlet to be installed near the display
- Cable clutter: HDBaseT means fewer cables and less mess—a truly single cable solution

HDBaseT has set an ambitious target to improve the installation process and enhance the viewer experience; both in the home and in commercial installations. The unmatched 5Play offering enables the industry to deploy HD systems that are cheaper, more installation friendly, reliable and are capable of dealing with the new HD video format as well as future 3D content.

The HDBaseT 1.0 specification was finalized in June 2010. Since that time, embedded HDBaseT products have already hit the market. The HDBaseT Alliance invites interested parties to join and to play a pivotal role in defining the future of multimedia transmission and data communication in the consumer electronics, digital signage and content provider industries. For additional information on HDBaseT Alliance and membership benefits visit [www.HDBaseT.org](http://www.HDBaseT.org).

## Additional Resources

HDBaseT Alliance [www.HDBaseT.org](http://www.HDBaseT.org)

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