Coffee Break

Take 15 minutes with HDBaseT and simplify AV connectivity

HDBaseT Industrial: The Ultimate Solution for Industrial Computing Connectivity

The Industrial PC Environment

Industrial PCs (IPCs) are ruggedized devices mostly used in industrial settings, such as manufacturing plants, production lines, and factory sites. These are usually loud, hot, dusty environments, with high vibration and/or electromagnetic interferences. As such, IPCs must perform at a higher level in terms of reliability, interoperability, robustness and usage patterns. Because the complexity and cost of future upgrades are too high to contemplate in a plant setting, IPCs rely on future-proof technologies.

Connectivity for IPCs

Featured functionalities in this sector focus primarily on process control, data gathering and transfer, logistics, and monitoring. Several IPCs are simply passive-terminal displays (zero-client units), a more cost-effective option in plant settings, but one that relies on low-latency and no jitter for proper operation and control of manufacturing activities.

Common Challenges for IPC Connectivity

- **Distance limitations:** Factory floors usually run for more than a few meters, and the ideal solution must cover the distance from the end nodes and the central offices.

- **Cable quality & cost:** High-quality cables are expensive, and the use of several cables for different functions (video, controls, Ethernet, USB, power) may add to the cost of the industrial set-up.

- **Complex cabling:** Cables in a factory floor must be tied and secured out-of-sight and out-of-reach, for a safer environment, and to prevent cable damages. Easy installation (field termination) and drag-chain (cable carrier) compatibility is advantageous.

- **Quality:** Low-quality, compressed video connectivity negatively affects productivity and effectiveness of plant connectivity, introducing unacceptable latency and jitter to connections.

HDBT™

HDBaseT for IPCs

HDBaseT is the one-cable solution for Industrial PC connectivity. HDBaseT technology allows for the convergent delivery of the 5Play feature set - uncompressed ultra-high-definition audio & video, Ethernet, controls, USB 2.0 and up to 100W of power over a single LAN (Cat6 or above) cable.

The HDBaseT Difference

- **Cable:** LAN cables are plug-and-play, ubiquitous and inexpensive, providing an easy-to-install solution. They feature a locking connector, a locking connector, and can be field-terminated, bringing costs and complexity down, and allowing for easy expansions. LAN cables are also robust and compatible with drag chains.

- **High-quality, no-latency video over long distances:** HDBaseT delivers uncompressed, real time, ultra-high-def video, with no latency, for up to 100m/328ft, and even further for lower resolutions.

- **USB 2.0 Integration:** HDBaseT delivers USB signals with no latency for long-distances, with intrinsic support for keyboard, mouse, touch screen capability, mass storage device, smartcard, and bidirectional video/image.

- **Ethernet & controls:** HDBaseT supports various control signals and protocols, including RS-232, I^{2}C, MSIO, EthernetCAT, PROFINET, and PROFIBUS, with fast link uptime, and no latency, which is essential for proper operation and control of manufacturing activities.

- **Power:** HDBaseT provides up to 100W over the same LAN cable, through Power of HDBaseT (PoH), a standard based on Power over Ethernet (PoE), and compliant with UL safety regulations. 100W is sufficient to power most IPC displays with a single cable.

HDBaseT IPC

HDBaseT Display

Up to 100m/328ft Cat6 Cable

Mass Storage

Mouse & Keyboard (optional)