

Livewire Ethernet for Studio Audio

FREISING, Germany Telos Livewire technology lets broadcasters transport audio across standard Ethernet, providing a low-cost way to connect audio and data for everything in a studio facility.

According to the company, Livewire lets operators monitor microphone and other live audio with almost no discernable delay. It calls these fast audio connections "Livestreams."

In addition to Livestream traffic, Livewire allows other forms of network traffic to coexist on the same Ethernet. For example, PCs can send IP-standard audio streams over the network to be mixed and merged with Livestream data. Even nonaudio message traffic, such as program associated data and routine communications, can be conveyed over the same network.

A single Cat5 or fiber-optic cable conveys multiple audio channels, control, program-associated-data, voice-over-IP telephone and general computer data.

The product is designed to use the traffic management and prioritization capabilities of switching Ethernet hubs. The switch delivers Livewire packets only to those ports wishing to subscribe and prioritizes the audio packets so they take precedence over all other traffic.

Multiple studios are joined using Livewire. All audio sources are made available throughout the entire plant. Livewire features low latency, enabling real-time monitoring of live audio sources. Per-link delay is less than 1 millisecond for high-priority audio signals.

PCs are directly connected to Livewire. A Windows software driver emulates a soundcard, enabling delivery systems and editors to pass audio directly to and from the Livewire network.

A 100baseT link can carry 50 bidirectional stereo channels of 48 kHz, 24-bit linear PCM audio. A 100baseT link or Gigabit fiber can carry hundreds. A Studio Engine, based on a Pentium PC motherboard running real-time Linux, provides mixing console functions at low cost. All connections into and out of the Studio Engine are via a single Ethernet port.

Because there are analog and AES-3 connections in addition to Ethernet jacks, Telos offers microphone terminal, analog line terminal, AES/EBU terminal and router selector audio terminal adapters to convert conventional audio sources and destinations to/from the Livewire network.

Each terminal adapter is equipped with a 100baseT Ethernet connection. When a terminal is connected to the Livewire network, it advertises the availability and attributes of its signals to the rest of the network, allowing interested receivers to subscribe to the signals originating at this terminal.

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Terminals can be placed physically near the audio and may be distributed throughout a facility. A unit placed within a studio can collect audio from microphones and deliver audio to monitors, while another in the central equipment area can enter network feeds, codecs and Telco remotes into the system.

All sources and destinations are accessible by the Livewire network, making it possible have crosspoint switching from any source to a range of destinations.

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