INDUSTRY NEWS

# InBroadcast™

Vol: 15 - Issue 5 | DIGITAL MAGAZINE & NEWS HUB | May 2025

Encoder & Decoders

# Unsung heroes in the limelight

With Adrian Pennington - Page 14

# Unsung heroes in the limelight *cont'd...*


▶ of AVoIP protocols as well as providing the broadcast feature sets their users are accustomed too.

"Our transceivers, encoders and decoders are a perfect example of such innovation. They support Dante AV-Ultra, Dante AV-H, NDI High Bandwidth, NDI | HX3, Fast HEVC and more traditional streaming protocols (RTSP, RTMP, SRT, and MPEG-TS), while also delivering low latency, High-resolution video over IP, with outputs of up to 4K60 video with embedded audio, through HDMI 2.0 and 12G-SDI. This ensures interoperability with baseband video systems.

"Where remote production is involved, products like the EG40N (NDI decoder) support NDI Embedded Bridge, allowing cross-network video routing, whilst the D20H and D20S (Dante AV-Ultra transceivers) provide visually lossless, ultra-low latency solutions with perfectly synched audio and video using PTP clocking. The EG40DH and EG40F are used to decode Dante AV-H and Fast HEVC respectively and are also suitable for Live Broadcast, corporate AV, classrooms and professional AV installations."

## Next Gen Audio

The way audio is delivered for television is about to undergo a massive change, declares Larry Schindel, Senior Product Manager, **Telos Alliance** and it's all to do with Serial ADM metadata (S-ADM). "S-ADM removes the last hurdle, making the personalisation and immersive audio features of Next Generation Audio (NGA) practical for broadcasters to use," he explains.

At a basic level, this metadata informs the audio encoder about the technical makeup of the audio program, communicating among other things: How many channels are present, Whether it is a complete mix or a music and effects 'bed' mix and if it's stereo, 5.1, or immersive.

It also carries information about how many dialogues are present, and if they are different languages, team announcers, or an AD service for the visually impaired

How the audio encoder should create different language and Bed Mix combinations for viewer choice is also determined by S-ADM.

Schindel says, "Metadata can also allow the viewer to adjust dialog gains relative to the bed mix and control where to place the dialog in the sound field. For example, the broadcaster can allow the viewer to pan an AD dialogue to the speaker closest to where they are seated and separate it from the program dialogue, which will make both dialogs easier to understand."

S-ADM allows this to change dynamically and on a program-to-program basis - from, say, the studio show between periods of a football match, or between a news broadcast (stereo), a drama program (5.1), to a football match (immersive).

France TV was the first broadcaster to deploy this capability on-air with the Paris Games last summer. It used the Jünger Audio AIXpressor in several locations to author S-ADM at the venue and monitor it in their broadcast centre. This then fed a downstream Ateme video encoder, which created the final Dolby AC-4 bitstream delivered to viewers.

To Schindel, "this broadcast illustrates a simple use case of two different languages that the viewer could choose between, but it was the first time this type of workflow was supported in a linear broadcast."

Studios supporting AoIP protocols such as WheatNet-IP, Livewire+ or Dante need the ability to connect and stream between equipment from different vendors. This is where AES67, RAVENNA, and ST 2110-30, provide a high degree of interoperability with proprietary protocols such as Dante, Livewire+ and WheatNet-IP.

"Broadcast engineers require AoIP devices that can transcend multiple technological standards and traverse seamlessly across LANs, WANs and the public internet, with simple monitoring and control," explains Charlie Gawley, **Tieline** VP Sales APAC/EMEA. "This interoperability delivers greater flexibility when integrating IP audio streams into the broadcast plant from a range of sources."

With so many open source and proprietary IP protocols in broadcast, it's little wonder there's confusion amongst some engineers about compatibility and compliance. While these two terms may seem similar, compliance and compatibility refer to different levels of adherence to important IP standards and protocols.

"ST2110 is designed to address timing issues in broadcast workflows, ensuring low-latency transmission and accurate synchronisation between audio and video streams," Gawley says. "Products that comply with this standard are designed to minimise delay and maintain synchronisation, which is essential in live production and broadcasting environments. This reduces frustration for end users trying to work in compatibility modes." ▶

## Broadcast control

David Isola, Director of Global Product Marketing, **Black Box** highlights key trends in broadcast control technology.

Reimagined workspaces: Broadcast control room customers are making huge investments to update aging legacy systems Additionally, hybrid set ups are changing the workflow and how content is not only being developed, but how it is distributed. There's already a shift from SDI-based infrastructure to IP-based infrastructure.

*Virtualisation:* With virtualised infrastructure businesses can quickly deploy new applications and services without making substantial hardware investments. Virtualised resources are far easier to manage and deploy as they have been previously.

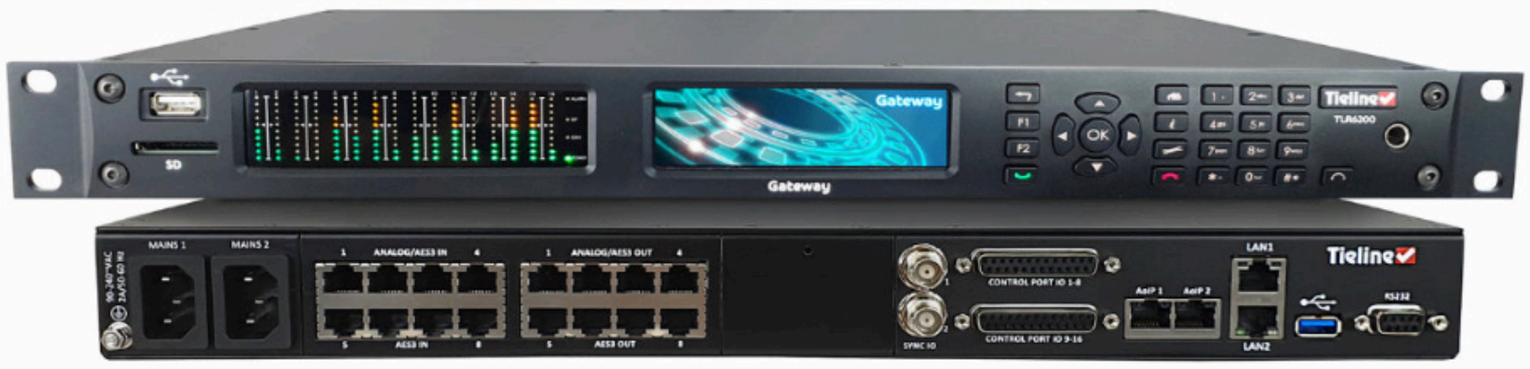
*Centralised equipment control and remote management:* Broadcasters want a single intuitive interface (or single pane of glass) instead of juggling separate tools for each of the connected devices. An enhanced and easy-to-operate GUI makes for easy and familiar operation and eliminates the need to manage each device separately - saving time and money.

*Reliability:* Downtime is not an option. The inaccessibility of a network is due to the failure of a particular system, application, or the entire network. Downtime can be a result of power cuts, or unexpected technical failures. You lose revenue, productivity drops, and customers can't access your services.

Black Box and its award-winning Emerald platform addresses these issues. "We simplify the operator area and workspace by focusing on creating environments that allow for faster access, simpler interfaces, and more efficient switching between tasks, increasing overall productivity and accuracy," says Isola.

"Emerald supports both virtual and physical servers at the same time, using the same interface giving operators the ability to switch between these systems without worrying about which is real and which is virtual. This reduces time-consuming processes and total OPEX.

"The platform further ensures fail-safe operations and maximum uptime; all the way up to complete switchover from one broadcast control room to a backup location. The overall control system also provides critical status alerts to prevent failures or bandwidth shortages that hinder performance and productivity."




**Tieline codecs such as the Gateway operate on the edge of IP networks, interfacing between studios and WANs like the internet**