System T Audio Production Platform

Technology for entertainment programming and events

Solid State Logic
OXFORD · ENGLAND

System T – Audio production for entertainment programming and events

Unrivalled audio quality and flexibility for a dynamic production environment

The broadcast entertainment environment is a uniquely challenging audio production space, but more and more broadcast and production facilities are finding that SSL's System T technology platform has the power and the feature set required to excel in the very highest-profile programmes.

Production challenges

There are multiple challenges that audio production for large-scale entertainment has to face. It has to deal with quick turnarounds, a wide breadth of differing requirements that run all the way from multi-presenter management, solo performers to full orchestras, changes made on the fly as running orders evolve, increasingly networked production environments, and be able to keep up with the very latest audio requirements such as immersive formats. And it has to deliver all this in pristine audio quality and with the ergonomics and ease of use that leading professionals have come to expect from their equipment.

SSL's System T platform provides the audio backbone to dynamic and complex productions, with a feature set and native IP design that allows teams to develop and expand what was previously achievable.

Changing audio requirements

Music often lies at the heart of large-scale broadcast entertainment shows, which means the audio production set-up has to respond to a dynamic set of requirements. One night's episode can feature a band, the next a solo acoustic artist, the following a full orchestra, meaning different channel counts and bus configurations. What's more, these acts can be booked and/or changed last minute, making guesstimating how many channels/buses might be required before a production run difficult.

System T's flexible DSP processing allows for all these changes to be undertaken on the fly without interrupting audio. On other consoles, bus paths will often have limited processing available, or there's a trade-off between numbers of channels and amounts of processing available. All System T's path types are fully processed, meaning you can respond to whatever is thrown at you.

Where there is music, there is effects processing. Unlike other consoles on the market, all our effects are included as standard as part of System T's in-built FX Rack rather than outboard or only available as a separate cost option. What's more, they are processed using a separate pool of DSP so they have no impact on System T's ability to fully process up to 800 channels at a time.

In addition, unique features such as Record Rehearsal aid a changing schedule workflow, allowing a rehearsal performance to be recorded and played back so that a mix can be tweaked and perfected before going live. Multiple rehearsal groups on the console allow for multiple bands, acts and teams of presenters to be switched individually. Dialogue automix takes the load when managing multiple presenters for the biggest shows, and advanced scene automation allows for the push-button management of complex shows with multiple bands, again providing additional flexibility and control when needed.

Evolving entertainment formats

High-profile entertainment programming is one of the broadcast genres leading the demand for immersive and NGA content as part of a general push towards new formats, including UHD HDR. Everything required to output up to 7.1.4 alongside the standard stereo and 5.1 mixes is already onboard without any major workflow changes required. Any channel or bus can be any of the available formats (up to 7.1.4), while 3-axis panning and downmixing capabilities are built-in.

There are also advanced tools for manipulating spatial audio built into the console. The 360° Transcoder FX Rack plugin enables users to connect a spatial audio mic directly to the console and it provides all the tools required tools to steer the incoming source to achieve the desired result.

And uniquely a Binaural Encoder allows for the creation of immersive audio via two channels, which is in increasing demand given the growth of listening via mobile devices.

Multi-track control

Entertainment programmes and event productions will typically be multi-tracked, so can either be edited before transmission if recorded, or 'fixed' for subsequent uses downstream if live. With DAW control built in, both DAW channels and transport can be controlled from the control surface, providing benefits during tracking. It also has the additional benefit of providing greater control over playback machines if they are using DAWs, for instance, in multitrack backing for music performances. System T also has automated signal switchers to cover the event of a playback machine failure.

Dynamic automation, meanwhile, allows for the recording of a mix to timecode so that the mix can be subsequently tweaked before transmission or finessed for subsequent uses such as the release of a live broadcast to OTT services or physical media.

Integration and IP networking

For environments where networked audio over IP (AoIP) is essential, SSL is the only broadcast audio manufacturer to offer full routing control of the Dante network from within consoles and control interfaces. System T utilises Audinate's Dante technology stack, including the Dante API managing audio routing of SSL Network I/O and over 2500 third party AoIP products directly in the console GUI with automatic discovery. The same hardware supports Dante, AES67 and ST 2110. This integrated IP backbone allows instant switching with no downtime between performance spaces and 3rd party production systems.

System T has also been built from the ground up for interoperability. Its Event Manager function allows for many connection possibilities, whether that be GPIO, MIDI, or virtual GPIO, allowing for easy integration with external systems. From AFV setups with video switchers, to MIDI integration with buzzers, or custom console functionality driven by external actions, System T can integrate with your specific set up and workflow.

Bringing it all together

There's more of course, and with multi-console surface options available to suit different environments, production teams now have a huge amount of flexibility to set up audio workflows in precisely the way they want.

Consider, for example, a studio-based large scale entertainment programme involving multiple bands and being produced in Atmos or MPEG-H. The studio has a slung AMBEO mic, which can be used for audience and ambience in the height channels. The 360° Transcoder is used to manipulate the pickup from the AMBEO for each act, and these different settings can each be programmed into scenes. Using the rehearsal groups feature, the mix for each artist can be fine-tuned after the soundcheck has taken place and the extensive scene automation system can then be updated.

Each artist can use a dedicated signal switcher for their main and redundant playback machines, the internal effects engine reduces the need for outboard gear, Automix can be used for chat sections in the show and Event Manager allows integration with external equipment through GPIO or MIDI. And all this is above and beyond the large amount of processing available to every channel and the flexible path processing order that is a feature of System T.

Production audio platform of choice

There isn't another console on the market that presents such a powerful and flexible choice for production studios working on broadcast entertainment shows. From delivering the audio quality that SSL is justifiably famous for, to a range of powerful and unique features that dovetail tightly into the most exacting audio production, System T is the perfect broadcast audio platform for large-scale entertainment.

Solid State Logic

O X F O R D · E N G L A N D