Solid State Logic (SSL)

SSL´s Flagship demo studios turn to Adder for Video & USB extension

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CHALLENGE

Solid State Logic’s (SSL) Product Demonstration Area (PDA) is a suite of 6 fully functioning production studios, used for demonstrations, training, testing and product development. Built over two floors, each of the studios is acoustically designed by some of the world’s finest acoustic designers, including Sam Toyashima, WhiteMark, Neil Grant Associates and Munro Acoustics. The studios are all wired for video and 5.1 audio and with the development of HD video and audio, digital workstations and computer based production technology, SSL saw an opportunity to develop even more flexibility and capability for this showcase facility.

Central to the vision for the development was the need to give complete flexibility to all resources in the facility. Customer demands mean that at any time there may be a need to do 5.1 audio demo mix production in one room, at the same time providing a HD, mix-to-picture training session in another.The combination of six multi-channel console rooms having free access to five Mac and PC based workstations and their associated display screens, pointing devices, keyboards and HD video feeds were a complex problem to solve.

Initially, SSL’s PDA had three machine rooms to house tape machines, power supplies and all the other paraphernalia that studios need.With SSL’s development of more green, energy efficient technology and the use of PC and Mac workstations, it looked feasible that all studios could be fed from one machine area. It also seemed feasible that the majority of the installation could be future proofed by flood wiring with Cat5e and Fiber to carry all audio, video and control signals. These became further design goals for the project, reducing power consumption, machine space and liberating copper stuffed cable ducts to be freely accessible and capable of significant expansion, when necessary.

SOLUTION

When the time came to plan the new installation, SSL engineers sat round the table with Adder to work out a flexible, cost efficient solution to the various challenges.A key technical obstacle was how to deal with Mac and PC display, keyboard and controller technology, particularly the need for hi-resolution video and USB 2.0 serial connections.The solution came in the form of Adder’s new AdderLink X50 module.This combined the required video resolutions, with USB 2.0 capability and common Cat5e based wiring.At the machine end, each Mac and PC is connected to it’s own X50 transmitter.Cat5e is then wired to a manual Cat5e Patch and in each studio, the displays, keyboards, mice and USB portsare taken from the X50 receivers.To provide additional video only feeds to HD projectors and secondary TFT displays, the installation uses parallel AdderLink AV100 units, again via a Cat5e patch.

The central machine area is on the ground floor, meaning that the longest cable runs to first floor studios are approxi- mately 40 metres (130 ft.), initial testing proved that the X50 would be capable of all the video resolutions needed, even at the longest distances.Also the USB performance gave snappy pointer and keyboard reactions.Projector video feeds also had great resolution performance, all the video and control problems were solved.

RESULT

Audio at the Speed of Light

With a solution to the challenges of workstation control and display, the next hurdle was how to deliver the same flex-ibility for SSL’s audio.Key to solving this challenge were SSL’s MORSE fibre MADI router and Alpha-Link Fibre MADI Convertors.Each room was wired for several fibre MADI feeds all connected to the MADI router in the machine area. All consoles, processors and workstations were also connected to the fibre router, creating the world’s largest MORSErouting system and eliminating approximately 10km of multi-core and co-axial wire in the process.

Multiple Synchronization

As if this project weren’t complex enough, another challenge is system synchronization.In most installations, there’s a single source of Video sync

and Wordclock and that is distributed throughout the whole facility.A complex demand on SSL’s resource is the need to work in different studios using different standards, for example, PAL and NTSC, Tri-Level sync for HD and also often at different digital audio sample frequencies.To resolve this challenge the facility has multiple master sync sources that are used to create all the house sync signals.Each studio can then be patch isolated to allow any console and associated workstation to work independently of another.In normal operation, the whole facility is locked to a master clock source to ensure complete synchronicity.

In Summary

From HD video production to film dubbing, from evaluating the latest processing plug-in to training the basics of mixing console operation, SSL’s PDA is now equipped for a huge variety of production tasks for today and into the future.Along the way, facility power consumption has reduced enough to eliminate the need for two significant AC systems and more space liberated for future expansion. The combination of Cat5e, Fibre MADI, Adder KVM technology and SSL MORSE routing have brought a new era to the development of SSL’s products and services.