

Case Study

Turner Equips World's Largest All-Digital Broadcast Facility with IQ Modular™ Components



HDTV Upgrade Proved Scalability of Snell's "Smart" Broadcast Infrastructure.

The Customer

Turner Broadcasting System Inc (TBS, Inc.), a Time Warner Company, headquartered in Atlanta, Georgia, is the world's largest all digital broadcast facility, supplying 30 standard and high-definition channels to several different time zones in the North and South American Continents.

The Challenge

Over the past five years, the building of a new 193,000 square foot broadcast facility on a 33-acre campus in Atlanta meant TBS, Inc. required a sophisticated "smart" broadcast infrastructure—one that could easily scale to the company's expanding needs and that could be easily monitored and controlled through an integrated network.

TBS, Inc. had to constantly grow its technical facilities to cope with the continuing change that has shaped the television business. Its engineers were faced with anticipating the future through careful planning, astute design,

and the help of best available broadcast components.

The Snell Solution

TBS, Inc. chose Snell's IQ Modules due to their features, flexibility, reliability and built-in "intelligence." IQ modules are ideal "bridges" to interconnect "islands" of broadcast technology no matter whether analog, digital, high-definition or the most advanced file-based IT systems.

Initially, TBS, Inc. chose more than 5,000 IQ modules for the network's broadcast operations in the new transmission center, allowing for input material to be fed to the broadcaster's then 18 television networks from a single centralized source. With the investment, TBS, Inc. became the world's largest broadcast system with integrated monitoring and control capabilities.

IQ modules handle analog and digital audio and video distribution, analog-to-digital and digital-to-analog conversion, video decoding and encoding, frame synchronization, audio conversion, subframe remapping, digital proc amp control, gamut legalization, and standards conversion for international program exchange.

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Ron Tarasoff

TBS, Inc.'s Vice President of
Broadcast Technology & Engineering



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The Snell's RollCall™ Network Management System completed the package, providing integrated monitoring and control capabilities of the IQ Modular products. This allows TBS, Inc.'s engineers to comprehensively monitor the entire operation for all networks from a single PC.

The Results

Though TBS, Inc. began with 5,000 IQ modules, the number quickly expanded to over 7,000 within two years. Most are installed in the broadcaster's central equipment room (CER), a vast space housing more than 400 equipment racks that span the length of a football field. The modules in the CER tie everything in the facility together and distribute, condition, manipulate and process the signal at all stages.

Over the past two years, TBS, Inc. has upgraded its standard definition (SD) capabilities for high definition (HD) distribution-not by rebuilding facilities, but by simply adding and reconfiguring IQ modules to accommodate the change in formats. TBS, Inc. now delivers 30 SD and HD channels while continuing to grow.

Today, IQ modules are being used to condition and process HD signals at every point in TBS, Inc.'s signal path. This includes synchronization, distribution, audio shuffling, and audio embedding and de-embedding.

"The industry is moving toward high definition at a much faster pace than two, three years ago," said Ron Tarasoff, TBS, Inc.'s vice president of broadcast technology and engineering. "Consumer electronics prices are coming down as more and more stations are coming on air with high definition signals."

The HD signal path was added on top of the facility's SD layer to create a separate signal path that remains within the established chain of SD equipment. This allows both the HD and SD equipment, including gear from other suppliers, to be controlled and monitored via a Snell RollCall Network Management System.

According to Tarasoff, the success of this massive installation coupled with TBS, Inc.'s in-depth studies of the HD IQ modules confirmed that the entire infrastructure would scale seamlessly as high definition equipment was added.

Another benefit of the Snell system, Tarasoff added, is the packing density of the modules. Each 3 RU IQ enclosure, capable of mixing both SD and HD modules, features 16 slots for a packing density of 5.33 modules per rack unit, leaving a good margin of headroom for future expansion.

As TBS, Inc. has learned, planning for future expansion is a key to success. TBS, Inc.'s new facility in Atlanta is prepared for any new services and business opportunities that come its way. It is also living proof that Snell's IQ Modular infrastructure with RollCall is scalable and adaptable to a broadcast facility of any size.