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WXXI Renovates With Wheatstone

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In early 2004, WXXI began a major renovation of its radio and audio production studios. Requirements for audio mixing and routing were quite strict. The new facility would be totally digital and had to fully interface into the television production world. The design had to fully support live as well as post production requirements. Also, the technology needed to be new and innovative, simple to operate and easy to install and support.

WXXI chose the Wheatstone Bridge router for all the audio switching, and a complement of 10 fully compatible radio and television production and live consoles. Two Wheatstone D9s were chosen to support television production.

One console was placed in the audio area supporting television production control, and the second console was placed in the newly redesigned audio production suite. Two G5s were utilized as radio control room consoles supporting WXXI-AM and WXXI-FM.

Four Wheatstone D3 consoles provide control in audio production areas, with one of them being installed on a rollout system near the television technical director. This console allows the technical director to access any audio source for cueing, as every input to any console is an output from the router.

The console also supports smaller productions when the full complemented D9 console isn't required. When this G5 console is not needed, it is simply tucked away in a cabinet. This flexibility is possible because of the limited number of cables required to support any of the Wheatstone Bridge interfaced consoles. Only two network RJ45 connectors and power cables are required.

Kent Hatfield, WXXI-TV vice president of technology and operations, with one of the station's Wheatstone audio consoles

The Wheatstone bridge system allowed simplified cutover from the analog system with reduced cabling. The Bridge router design segments the system into several physical sections.

The primary tier was placed in the technical operations area and a second smaller tier went in the radio technical area. Each tier frame contains digital signal processing to support the consoles that use that specific frame.

Additional satellite frames were placed where digital and analog audio conversions were required. The satellite frames provide digital I/Os, analog microphone preamp inputs and line level I/Os. There are also logic controls for on-air lights, cough switching, talkback switching and commands for auxiliary equipment.

Much of the multiconductor cabling that interfaces high- and low-level analog to the rack frames was custom made by Wheatstone. Other digital audio I/O connections were made using punchdown terminal blocks. Category 5E cables connect the satellite frames and provide interconnection between tiers. Multiple distributed control processors provide redundancy and automatic failover.

During the final design phase, Wheatstone provided an interactive spreadsheet for I/O naming. This spreadsheet was later used in the factory to generate the initial base configuration. Wheatstone's X-point software provides the configuration tools to complete and manage the installation.

The Wheatstone Bridge router and consoles have provided WXXI a solid audio platform for television and radio. I've found the versatility of the Bridge router to be unsurpassed, providing high quality audio, ease of configuration and smooth day-to-day operation for the users at WXXI. ■

Kent S. Hatfield began his career in 1967 and has been with WXXI for seven years. He may be contacted at khatfield@wxxi.org.

For additional information, contact Wheatstone at 252-628-7000 or visit www.wheatstone.com.

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