FACILITY**SHOWCASE**

From the Ground Up

Canadian Magic 96.7 signs on in Peterborough, and makes the move to digital

By Shawn Smith

Master control room

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On June 8, 2011, Pineridge Broadcasting launched CJWV, Magic 96.7 in Peterborough, ON, operating at 96.7MHz at a maximum ERP of 7kW. CJWV is a brand new license and a third FM station for Pineridge, which operates Star 93.3 and 107.9 The Breeze in nearby Cobourg.

Launching Magic 96.7 required a complete studio and transmitter build from the ground up. The studios, including office space are located in Peterborough Square, right in the heart of downtown Peterborough. The transmitter facilities are co-located at Corus Entertainment's CHEX-TV tower, situated 4km northeast of the studio location providing superb coverage of Peterborough and the surrounding area.

Once Trevelyan Architect completed design drawings, John Kraetzer of Beavermead Construction was brought in to complete the construction of the new studios and office space. Richard Sondermeyer of GS Broadcast Technical Services Ltd. installed and commissioned the studios. Siegi Purkott of Homeworthy Products built and installed custom millwork in the studios. I was Pineridge/Durham Radio's project manager for the build, overseeing design, construction and installation of the studios, offices and transmitter systems.

One of the first questions faced when designing a new facility was whether to install analog audio systems that we have been using for years or make the leap to a digital IP-based system. The system had to be easy for the staff to use, extremely reliable and supported well by the manufacturer. After a great deal of research we felt that digital IP systems had matured enough over the last few years, and are so feature rich that it was time to go digital, and specifically Wheatstone's Wheatnet IP system. It has become the heart of the audio system and proven to be as tough and reliable as any quality analog system. On the few occasions we have needed support, Kelly Parker and his team at Wheatstone have provided exceptional service. The automation system chosen for CJWV is Scott Studios to match the Cobourg operation and to easily share files and facilitate remote voice-tracking.

Voice Booth
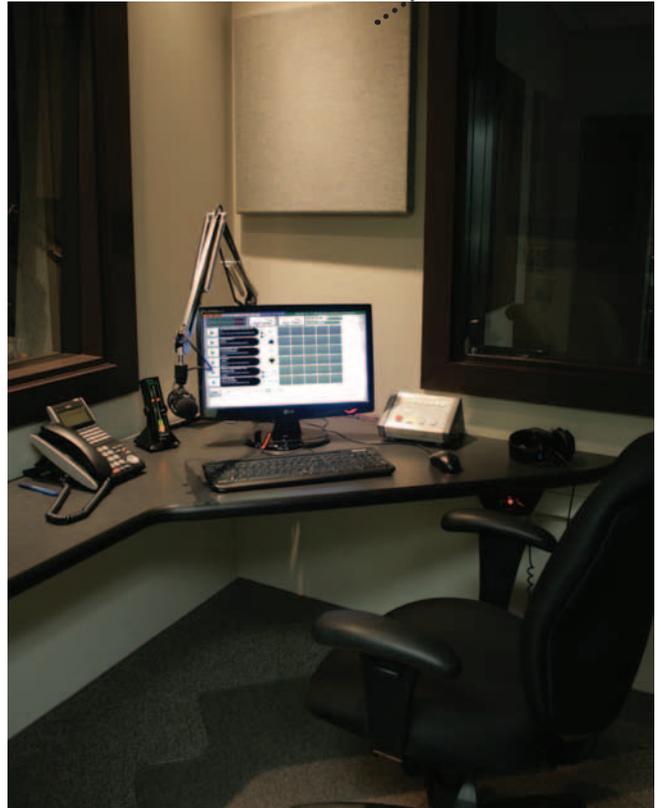
Production

Production Room B

AROUND THE STATION

The studios consist of a master control room, newsroom, production studio, voice booth, and engineering room. At the center of the master control room (MCR) is a Wheatstone Evolution E6 console with 12 faders in a 16-channel frame. Using the programmable buttons the operator can reconfigure the E6 console for the specific needs of the morning, midday, drive shows or voicetracking with a single button press. There are three monitors above the console: to the left is the SS32v5 playout system; the center monitor is connected to the E6, which displays audio meters and allows for configuration; and the monitor on the right is for an Internet/production system, which can be used for voicetracking, show prep, recording and editing of phone calls, etc. A Telos Desktop Director routes phone calls from the Telos NX6 through to the E6.

There are three microphones in MCR, one for the host/operator, one for the co-host and the third for a guest. Wheatstone GP-4S mic on/off/cough/talkback panels mounted in custom turrets give the co-host and guest control of their respective microphones. The co-host position is also equipped with an Internet computer workstation.

To the host's right is the newsroom, complete with two edit stations that are both capable of producing news elements and going to air. In lieu of a traditional news mixer, Wheatstone SBC-4F four-channel sideboards were installed. While normally selected to sources within the newsroom each fader on the Sideboard is capable of bringing up anything connected to the Wheatnet IP system. Burli Newsroom System software facilitates writing and recording of news stories and interviews and allows easy collaboration between the newsrooms in Cobourg and Peterborough.

To the host's left is the voice booth. The voice booth was designed to work with MCR, the production studio or in stand-alone mode for voicetracking. A Wheatstone GP-8 control panel, complete with custom scripts, allows the vocal booth operator to select one of the three modes. When MCR mode is selected, the microphone, talkback and headphone feeds are routed to MCR. When Prod is selected, the microphone, talkback and headphone feeds are removed from MCR and routed to the Production studio. When Voicetrack is selected, the microphone and headphone feeds are removed from both studios and routed to the voicetracker workstation via utility mixers in the Wheatstone Blades. Talkback is disabled.

The production studio is equipped with a Wheatstone Evolution E1 console, which can be switched to air in the event MCR is offline. Adobe Audition CS5.5 was chosen as the audio editing software for production.

BEHIND THE SCENES

Engineering is home to the bulk of the broadcast equipment, network switches and office servers. It has a dedicated HVAC unit to keep the temperature at a constant 74 degrees year round. All of the workstations used in the studios are here, connected to their respective studios by KVM extenders. A workstation loaded with Wheatstone's Navigator software is used for configuration and backup of the Wheatnet IP system. A Davicom Mac 208 monitors program and off-air feeds, room temperature, power, etc. and reports alarms to

Engineering racks

Cross-connect panel
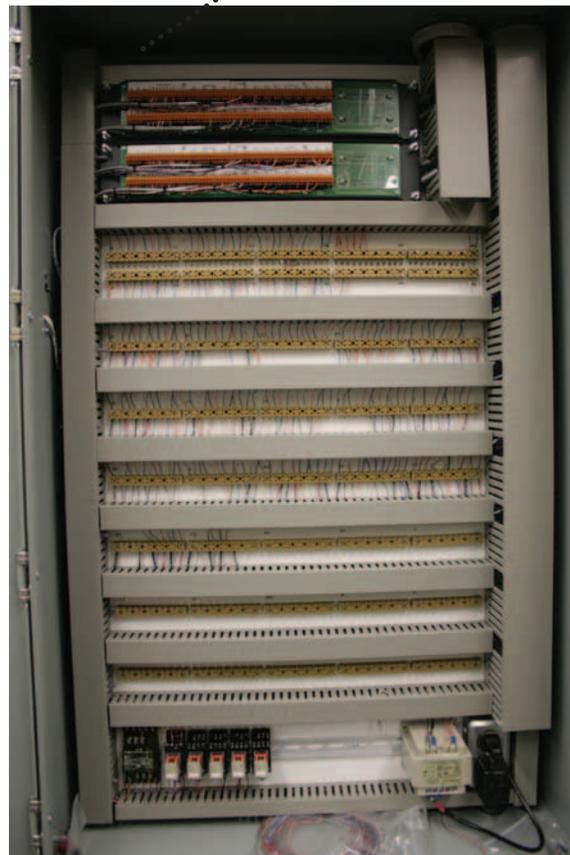
Newsroom

technical staff via email and phone. It can also be used to switch studios, or put the play out system directly to air. Switching sources to air can also be triggered from a pushbutton panel by staff on site.

AGC level control of program audio is provided by Junger Levelmagic LT processors. The studios are linked to the transmitter site by a dedicated Ethernet point-to-point T1 circuit. Program audio moves from the AGC stage across the T1 via redundant APT Horizon audio codecs. Once at the transmitter site audio is processed primarily by an Omnia 6EX, backed up by an Omnia 1. The T1 also allows technical staff to take control of equipment at the transmitter site from the studios.

A pair of Nautel VS 2.5 transmitters in a main/standby configuration produce the 1.85kW required to transmit 7kW max ERP. The control system was designed and programmed by

EQUIPMENT LIST

Adobe Audition CS5.5
APT Horizon
Beavermead Construction
Burli Newsroom System
Davicom Mac 208, Mac 216
GS Broadcast Technical Services
Homeworthy Products furniture
Junger Levelmagic LT
Nautel VS 2.5
Omnia 6EX, Omnia 1
Scott Studios SS32v5
Telos Desktop Director, NX6
Trevelyan Architect
Wheatstone Wheatnet IP, Evolution E6,
   Evolution E1, SBC-4F

independent contractor John McCloy and uses a Davicom Mac 216 to monitor and remotely control all systems at the transmitter site. It will automatically change transmitters or STLs/processors in the event of a failure and report alarms to engineering staff by email and phone.

Since the launch, Magic 96.7 has been well received by listeners in Peterborough. As with every new build there have been minor technical issues to work through, but overall systems have performed quite well. Charlie Toner and I provide technical support to CJWV and the Cobourg stations on an ongoing basis. Ω

Smith is technical manager of Pineridge Broadcasting, Peterborough, ON. All Photos by Shane Macaulay