



TECHNICAL COLUMNS

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CABLE-TEC EXPO SHOW PICS

By RON HRANAC

Philadelphia served up heat and humidity - air conditioning was definitely our friend - during this year's Cable-Tec Expo, the 25th anniversary of this confab. Official attendance hit 11,000, up about 300 from 2007, which was up 6 percent from 2006's show. When I walked the exhibit hall Wednesday and Thursday, floor traffic was brisk. The crowds were gone by Friday, typical on the last day of the show. Thanks to SCTE's staff for another fine Expo! This year I had the honor of serving on the Expo '08 Program Subcommittee - chaired by Charter's Marwan Fawaz - and now understand why the Society is so nice to subcommittee members - it's a lot of work.

Each year at Expo my schedule gets even more hectic. With the exception of the first 30 minutes of the workshop done by Cisco's John Downey and Sunrise Telecom's Brady Volpe (I had to leave for another meeting), I didn't make it to any technical workshops other than the two that Cisco colleagues Frank Eichenlaub, Don Sorenson, and I did on Thursday and Friday. We're noodling on adapting our 33-page workshop paper for a future article in CT.

Goodies and gadgets

I found time between meetings to wander through about half of the show floor looking for interesting technology, goodies and gadgets. Here, in no particular order, are my Expo '08 picks.

Earth or ground resistance testing is especially important in today's networks to evaluate the effectiveness of grounding electrode installations. Megger has long been a supplier of ground resistance test equipment, such as their DET3 three-terminal and DET4 four-terminal series digital testers. But what caught my eye was their DET10C clamp-on model. The latter can be used to test multiple loop installations without disconnecting the earth or ground, although it cannot be used to test an isolated electrode. The DET3/4 testers, which do what is called fall of potential testing, are still required for measurements that conform to IEEE 81. Megger also has a handy 80-page booklet titled "Getting Down to Earth," an excellent tutorial on earth resistance testing. www.megger.com

When I approached Gale's booth, I saw what resembled an RF connector and adapter kit that I use for ham radio. A closer look revealed the kits are the company's Pocket Toner and various connectors and adapters that support a variety of applications: cable, telephone, security/fire, local area network (LAN), and voice/audio and video. Besides tracing out lines, the Pocket Toner can detect opens, shorts, continuity, and the presence of voltage - including dial tone and ring voltage. www.galecorp.com

As node splits and moving fiber deeper into the network become more popular, what can be done to deal with lack of conduit space in existing underground runs? Kabel-X has a solution that involves removing the center conductor and dielectric from existing trunk/feeder type coax, creating a "mini" conduit out of the remaining shield and jacket. Then a small diameter fiber or other cable can be pulled through. I asked if this works with hardline coaxial cables that have the dielectric bonded to the inside of the shield and was told, "No problem." www.kabelxusa.com



I've long advocated thread sealing sleeves on all outdoor F-connector installations. PPC's AquaTight EX series universal compression F connectors have a sealing sleeve attached to the end of the connector! No need to install a separate sleeve on the mating spigot. The AquaTight EX has a knurled section adjacent to the 7/16-inch wrench flats for more efficient finger tightening in those applications where tightening with a torque wrench is not recommended. PPC also was displaying its line of locking HDMI cables, which feature 12 pounds of port retention (pull-out) vs. the usual 4 pounds or less with other HDMI cables. www.ppc-online.com

A relatively new player in the quadrature amplitude modulation (QAM) analyzer space is VeEX. The handheld CX180 is billed as a CATV Signal Analyzer, supporting analog and digital channel measurements, downstream and upstream QAM analysis, upstream 16-, 64- and 128-QAM signal generator (with continuous forward error correction, FEC, for bit error rate, BER, measurements), cable modem emulation, and various IP tests. The company also displayed other models of its CATV Signal Analyzer series, including a rack-mount version. www.veexinc.com

In last year's Expo Show Picks column, I mentioned VGI Solutions' CPAT GPS-based signal leakage monitoring system. Dead reckoning technology has been added to it, allowing the equipment to accurately track its position even when GPS signals cannot be received reliably - for instance, in a downtown area where high-rise buildings block the satellite signals or cause excessive multipath. The dead reckoning works using a gyroscope and an interface to the vehicle's transmission. www.vgisolutions.com

Sunrise Telecom has enhanced its AT2500RQv spectrum/QAM analyzer. One new feature is an instantaneous channel power detector, useful for seeing fast amplitude variations in digital signals. Equalized modulation error ratio (MER) measurements now go as high as 42 dB, and a simple on-screen softkey function allows turning adaptive equalization on and off. Unequalized MER measurement accuracy is improved, too. All of these are available via a firmware upgrade, which should be available by the time you read this. The CM2000 upstream signal generator will support return path 64-QAM testing by late August, including pre- and post-FEC BER. A new "E" dual IF version (6 or 8 MHz channel bandwidth) of the CM-2000 is available, too. www.sunrisetelecom.com

Have you ever wondered how to quantify picture and sound quality on digital video sources? One can certainly look at a picture and see blocking, tiling, freeze frame, and so forth, but wouldn't it be nice if this could be done electronically in a way that simulates someone observing the video and audio? Well, Mixed Signals (www.mixedsignals.com) and Symmetricom (www.symmetricom.com) exhibited equipment that does just that. Mixed Signals' Sentry Digital Content Monitor, for instance, monitors, diagnoses and validates video and audio content and is able to detect video freeze and video black, audio silence, bandwidth utilization, and a host of other parameters. Symmetricom's Q-1000 Headend Analyzer is part of V-Factor, the company's Quality of Experience platform, and also can identify a variety of impairments. One high-level industry engineer with whom I spoke said these two manufacturers' products were, in his opinion, arguably the best technology he saw at the show.

Show favorite

My show favorite? Drum roll, please

Given the interesting goodies and gadgets I saw this year, picking a show favorite was a tough call. But JDSU is back for an encore appearance in my show favorite category. How'd they do it? With their new RPM3000 card for the PathTrak Return Monitoring System. The RPM3000, which should be shipping by the time you read this, has an expanded frequency range that covers 500 kHz to 85 MHz and a number of other enhancements. But my favorite feature is the ability to display an upstream DOCSIS channel's constellation and MER - unequalized! As of now, this works with quadrature phase shift keying (QPSK) and 16-QAM channels (all DOCSIS symbol rates), with a 64-QAM demod expected to be available this fall, the latter by firmware upgrade. www.jdsu.com

See you next year in Denver, October 28-30, for another exciting Cable-Tec Expo - yes, it's in October rather than June, so heat, humidity, and the need for air conditioning won't be factors - and a celebration of SCTE's 40th anniversary!

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