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A QUARTER CENTURY OF WORDS
By RON HRANAC

This issue marks 25 years since I started writing for Communications Technology —my first article appeared in May 1985.
Back then, Paul Levine was publisher, Toni Barnett was editor, and Wayne Lasley—the guy who convinced me to start writing for CT —was managing editor. It had been just two months since Paul wrote of celebrating the magazine's first anniversary.

Way before Nirvana

What were cable's hot topics in 1985? SCTE, amplitude modulated link (AML) microwave, dabbling in FM video transmission over fiber, addressable converters, preventive maintenance, new signal leakage rules, and ever-expanding system bandwidth are a few that come to mind.

"Sweeping and leakage control seemed to be made for each other."
SCTE, at the time known as the Society of Cable Television Engineers (the name wouldn't change to Society of Cable Telecommunications Engineers until 1995), introduced its Satellite Tele-Seminar program the previous year, and the first training seminar was transmitted on Galaxy I's transponder 3 Tuesday, February 19, 1985.

That first Satellite Tele-Seminar featured then SCTE At-Large Director Richard Covell, and was titled "dBs and dBmVs." Richard's seminar was recorded at the University of Denver by Jones Intercable and the SCTE's Rocky Mountain Meeting Group.

The Society's Technical Tuition Assistance Program was authorized by Board of Directors in 1985, and initially funded by matching donations from Rex Porter and National Cable Television Institute. The BCT/E certification program was officially introduced at that year's third annual Cable-Tec Expo in Washington, D.C., and the first exam was Category IV "Distribution Systems." SCTE's Interval was a small beige booklet included with each issue of CT.

Hughes AML microwave equipment was still widely used in many cable networks, helping operators break up those long trunk amplifier cascades and divide systems into smaller service areas. This was done using multichannel point-to-multipoint signal transmission in the local distribution service portion of the 12.7-13.2 GHz CARS (cable television relay service) microwave band.

What eventually came to be known as hybrid fiber/coax (HFC) using AM transmission over fiber was still a few years away, although FM video transmission was used in some supertrunk applications. The outside plant architectures of the mid-1980s were variations of all-coax tree-and-branch.

Sweeps and leaks

Preventive maintenance was an important part of the technical arsenal in the mid '80s. In particular, cable operators were paying more attention to system sweeping. Remember the sweep gear from Avantek and

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Wavetek? When it was used, there were no surprises: As outside plant was swept and the various gremlins that caused frequency response problems were fixed, picture quality improved and service calls went down!

There was an increasing emphasis on getting signal leakage under control, largely in anticipation of the FCC's pending new rules. The Commission had issued a Second Report and Order in Docket 21006, and upcoming requirements included much of what's on the books today.

Some of the new regulations about to descend upon cable operators mandated quarterly monitoring of the entire system, fixing leaks within a reasonable period of time, leakage performance verification prior to the carriage of signals and an annual "snapshot" of leakage performance in the form of something called cumulative leakage index.

(The latter reminds me of one of my pet terminology peeves, right up there with dB versus dBmV: One does not measure CLI or fix CLI. That is, CLI is not the same thing as signal leakage. Rather, CLI is a number that represents the severity of leakage at a given point in time, and must be calculated after leakage measurements are performed. OK, off the soapbox.)

Like system sweeping, fixing leaks almost always resulted in improved picture quality and fewer service calls, but also made it easier to sweep the plant. Sweeping and leakage control seemed to be made for each other.

Converters, amps

As system RF bandwidths expanded, more channels were added to fill the spectrum. The availability of new satellite programming continued—remember, it was only 10 years earlier that HBO's first satellite transmission had occurred—and conditional access technology was front and center.

In the 1980s, addressable converters were available from some companies that are still around today, though the names have changed. For instance, Jerrold became General Instrument, Next Level, back to General Instrument, and finally Motorola; Scientific-Atlanta, which called its converters "set-top terminals," is now Cisco. But do you remember addressable boxes from the likes of Magnavox, Sprucer, Tocom and Zenith?

Looking at the display ads in a copy of the May 1985 CT, it's interesting to see which vendors are still here today, which ones merged with or were acquired by others and which ones are no more.

Wegener Communications has a full-page ad on the inside front cover, and Eagle Comtronics is on the next page. Both companies are still part of today's industry.

Eagle's ad promoted its 500 MHz taps, which were pretty much state-of-the-art, considering that typical cable system upper frequency limits topped out at 330, 400, 440 or 450 MHz. There were still a bunch of 220, 270 and 300 MHz systems in operation, which were target markets for bandwidth expansion: The Jerrold Division of General Instrument was advertising 330 MHz drop-in modules for its Starline 20 SJ series amplifiers.

The May issue included three feature articles about outside plant powering, one on new FCC rules pertaining to an 18 GHz allocation for CARS microwave, one on system sweeping, and one on equipment reliability prediction.

My first article, titled "Getting the most out of your bench sweep," appeared in the system economy category of the magazine's departments. Other categories under departments included preventive maintenance, tech tips (this was different than the "Tech Book" series that Bruce Catter and I coauthored later) and construction techniques. Bob Luff and Ike Blonder were regular columnists.

Big changes

SCTE

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Fast forward to 2010. We don't use the term "converter" anymore; those boxes in customers' homes are called set-tops. Perhaps the folks at SA were prescient?

Modern digital set-top features and functionality are a far cry from that of their addressable converter predecessors. Long ago state-of-the-art systems were 450 MHz; today, 1002 MHz is the norm. Instead of using AML microwave to divide our systems into smaller service areas, AM fiber technology does that.

Signal leakage and ingress are more important than ever, although preventive maintenance and system sweeping don't always get the attention they should.

Where would we be without cable modems and high-speed data? Analog TV channels are on the way out, being replaced by standard and high-def digital video. And who would've thought in 1985 that today's largest cable companies would also be counted among the largest telephone companies?

A lot has changed in cable since the mid-Eighties, nearly all for the better. I'm truly grateful to have had a forum in Communications Technology during the past quarter of a century.

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