

# Remote controls we have known

BY DAN ROACH



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One broadcast device that sure has changed its look and function over the years is the broadcast transmitter remote control system. A little while ago, I had a very pleasant conversation with Andrew Mulroney, Comlab/Davicom's self-described "resident Newfie", about remote controls past and present, and some of the trends that he sees in up and coming remote control systems.

Prior to 1955, there was very limited call for transmitter remote controls in Canada because you had to have someone physically at the transmitter, operating it, at all times that it was on.

After 1955, our remote control system bible was the Department of Communications Broadcast Procedure 6, which spelled out the technical requirements. Even then, an "Unattended Brief" needed to be filed with and accepted by DOC in each case before remote control operation officially began.

The first remote controls were pretty horrible, limited as they were to the technology of the day. Most of the early units had telephone dials for selecting

control channels, and stepper relays for jamming at the transmitter end. It's hard to imagine any of these Rube Goldberg devices functioning reliably.

But as technology improved, the equipment available rapidly got better, too.

While BP 6 set out what the Department was looking for, the hardware available generally was guided by what the FCC in the U.S. wanted, and so there were some features and functions included that our (relatively) relaxed regime didn't strictly require. That, incidentally, is why so many older remote control systems wanted to operate in "fail-safe" mode, in such a way that if direct communication with the site is not continuously maintained the transmitter would shut down automatically, taking you off the air.

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Well, that's one way guaranteed to get someone's attention!

The need for a direct connection between transmitter and studio mandated the use of telco lease lines or radio circuits.

The next big change was driven by changes in the way that radio stations operated: BP 6 required monitoring and control of the transmitter's output at the "control point", which inevitably was master control. But the advent of satellite radio networks and local automation systems meant that more and more radio stations were not staffed around the clock. That, and great improvements in transmitting equipment reliability, resulted in the need to re-draft the regulations, and Industry Canada responded with relaxed monitoring requirements in a new technical guideline.

The next generation of remote controls was smarter and used dial-up connections, so that they could call the station engineer on his pager or cell phone, wherever he chanced to be, when problems occurred at the transmitter. This solved

the problem of the unstaffed control point back at the studio.

Sigh! More freedom for broadcasters, less for engineers!

As systems get smarter, they're showing increasing flexibility and local decision-making ability: today's systems tend to monitor many more things, and can take more of an active role in sensing various failures and taking direct action to restore service, then advising engineering staff what has happened "after the fact".

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Once again, developments south of the border are having an effect, too: IBOC transmission requires an active Internet connection at the transmitter site. As a

result, more and more U.S. broadcasters are finding themselves with IP connections at their sites, and they want their control systems to be IP-enabled as well.

Reduced technical staffs need more and more automatic logging of events, both for record keeping and as an aid to troubleshooting, and today's control systems lend themselves very well to that function, too.

So much so, in fact, that one of Davicom's latest efforts has been to allow the end user to customize what changes should be logged, because reporting *every* item can generate reams of text from a single event.

With all the new control features and options, it's easy, but dangerous, to forget the basics, though: Andrew reminds me that it's still just as necessary as ever to make a good ground connection to any unused analog input return lines, or the potential for trouble in high RF fields will still combine with that law of Murphy's to bite you in the you-know-what!