

Extract from the SERA



## Anatomy of an incursion

by Gary Pearce KN4AQ

*Originally published November, 2001*



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# Anatomy of an "Incursion"

by Gary Pearce KN4AQ

August 10, 2001

Derek's Trucking  
3102 Rockspring Church Road  
Creedmoor, NC 27522-1964



## SUBJECT: Warning Notice--Unlicensed Radio Operation

Dear Sir:

Monitoring information before the Commission shows that you have been operating radio-transmitting equipment without a license on frequencies in the Ten Meter Amateur Radio Service band. Your truck bearing license plate ZB20189 was monitored transmitting on Ten Meter frequencies on July 19, 2001 at 10:30 a.m. on U.S. 1 near Cary, NC, at 2:50 p.m. on Kildaire Farm Road and from 3:00 to 3:30 p.m. from a landfill near the intersection of State Road 55 and Sunset lake Road. Re-transmissions of Nextel two-way communications were also sent from the truck on Ten Meter frequencies.

Please be advised that operation of radio transmitting equipment without a license is a violation of Section 301 of the Communications Act of 1934, as amended, 47 U.S.C. Section 301, and will subject you to fine or imprisonment, as well as an in rem seizure of any non-certified radio transmitting equipment, in cooperation with the United States Attorney for your jurisdiction. Monetary forfeitures normally range from \$7,500 to \$10,000.

You are requested to contact me at 717-338-2502 to discuss this matter.

Derek Pleasants is a small businessman who owns a few dump trucks. These days he and his men are pretty busy hauling debris from the new beltline being built around Raleigh, NC, to a landfill in southern Wake County. They use Nextel phones for business, and some CB radios for keeping in touch and, well, goofing around.

"They're real nice CB's," Derek said. "Real expensive, with lots of power. They have a high band and a low band. You can get them at truck stops and CB shops."

And that is about all Derek knows about the Connex 4400 radios that sit on the dash of each of his trucks. Well, he knows one more thing about them now - they can get you in trouble.

Earlier this year, Derek received a letter from the FCC's Riley Hollingsworth. A warning letter, citing the fact that someone in one of Derek's trucks had been monitored talking on the 10 meter Amateur Radio band without a license. It could cost him several thousand dollars. "I'll fire the driver who did it, if I have to," Derek said.

He won't have to. The letter was only a warning, and Derek had a chat

with Riley on the phone. He still doesn't completely understand what he and his drivers have been doing wrong, but he does understand that there are some channels on his expensive CB that he can't use. Some of the 240 channels total that the Connex radio can dial.

"We went to that channel because it was quiet. Nobody else was using it," Derek said.

But somebody else was listening to it. The quiet channel was 28.085 MHz, in the low end of the 10 meter band, the cw segment. Some hams across the country listen to 28.085 and adjacent frequencies, looking for intruders. And they hear plenty.

One such team of hams in the Raleigh, NC, area was listening when two of Derek's employees were chat-

ting and goofing around while hauling a load to the landfill. As the signals faded a bit, the hams thought they were hearing skip. Then they heard what sounded like some local references, and when the signals picked up strength, the hams got a bearing and took off in that direction. Eventually they spotted one of Derek's dump trucks, and made a positive ID on one of the transmissions. The details went off to Riley, and Derek's letter, a public-record document printed in ham magazines and posted on the web, followed.

This team of hams, who need to remain anonymous, has had a few other successes. Last year, they found a fellow jamming a wide-coverage Raleigh repeater. They had been looking for this particular jammer for a long time. A letter from Riley brought both a denial... and the end to an apparent source of jamming.

The DF team does not approach their quarry when they are successful. They just document everything and send it to Washington. In the past, when they weren't so careful, they've encountered threats and even some minor damage to an automobile from irate operators.



Derek Pleasants, owner of Derek's Trucking, received a warning letter from Riley Hollingsworth for unlicensed operation in the Amateur 10 meter band

continued on next page

## INCURSION

continues.....

Derek, though, wasn't irate. Worried, a little, but not irate. In fact, he was most cooperative and willing to share what he knew, and didn't know, about two-way radio. "Mostly I use them with my hunting group. We don't know that much about them." Spectrum? No. Bands? No. Amateur Radio? He's heard of it. Doesn't know much about what, or where, that is.

The service technician at a local CB shop wasn't surprised. "Most of the truck drivers and hunters we sell these radios to don't know anything about that stuff," he said. "They buy them for the extra features (echo mic, roger beep), and because they're easier to repair. They're not necessarily looking for extra channels. They don't want to operate in the 10 meter band. In fact, we wish we could modify them so they *didn't* operate in 10 meters."

At first, the service tech was a bit more circumspect. No, he didn't know anything about CBers operating in 10 meters, or where the radios came from. This despite the radio sitting on a nearby shelf labeled "10 Meter Amateur Transceiver." Once assured that the *Repeater Journal* wasn't doing an exposé on that particular store, he and the store's owner gradually became more forthcoming.

### THE WORLD OF "EXPORT" RADIOS

Welcome to the world of "Export" radios. New hams who have recently arrived from CB are likely to be familiar with these shady radios. Old timers might be in for a ruder awakening.

There are many radios models on the market sold as "10 meter Amateur radios." Some are SSB, some are AM, and a few, like Derek's



Channel 19 on this Connex 4400 "Export" radio, sitting on Derek's dash, can be one of 8 actual radio frequencies. One of them is 28.085 in the 10 meter band

Connex, can be operated on FM (though it's stock frequency coverage stops below 29.5 MHz, so it doesn't cover the 10 meter FM band).

Few of the radios are sold to hams. They are specifically designed to be "modified" to expand their coverage below 28 MHz, where they will operate on the regular 40 CB channels, and many more, from below 26 MHz to the middle of the 10 meter band. The modification usually involves removing a resistor or two, and no surface mount stuff. Most of the radios aren't particularly high power - less than 20 watts is typical. They cost between \$150 and \$400, and are available from CB shops (which will do the mod for those who don't feel handy with a soldering iron), and truck stops (which may not do the mod, leaving the buyer with a 10 meter radio).

And dealers proliferate on the internet, where one dealer will sell the radios "peaked and tuned" for an extra \$10 to \$20. The dealer's web site explains that "peaked and tuned" means that the radio will be capable of operating out of the legal CB band, with more power than is legal on CB. It is the buyer's responsibility to make sure that operation is kept legal in the country they are going to operate in, thus the "export" designation.

Few of the radios have direct frequency readout. Most have a channel indicator which just reads between 1 and 40. For expanded coverage, the radios have a complex set of knobs and switches, like the Connex, which has a "high/low" switch, and a "band" switch. Each combination of switch positions yields 40 channels of operation somewhere in the total spectrum of the radio, somewhere between 25 and 29 MHz.

With the Connex radio, a flip of the "band" switch moves the operator from CB channel 19 (27.185 MHz) to 28.085 MHz on 10 meters. Other radios do the same, making that frequency a particular hot spot.

And this complex operation leaves the operators completely in the dark about what part of the spectrum they're using, unless they carry a conversion chart with them and understand what it means. The people who buy the radios may have an inkling that there's something

illegal about their coverage, but few know the specifics, and nobody cares, since "everyone does it."

That's why the CB shop owner wishes they could modify the radio to *not* cover 10 meters. He said they warn buyers which channels not to use, but it doesn't mean much to the buyer. And they have to do mods, or the radios would be left on 10 meters, and they don't want to sell radios like that. They don't mind abetting an "incursion" in the space immediately above and below the legal 40 CB channels, but the 10 meter ham band means trouble.

There are a few CB users who know better. The true CB hobbyist knows what he's doing, and a few of the more arrogant ones just don't care if they end up on 10. And then there are some hams who have modified their Amateur equipment and continue to also operate around the CB channels (putting their Amateur license at risk).

Is anybody concerned about Riley? A letter like the one Derek got causes some ripples in the local pool, but for the most part, CB users have never heard of Riley, and couldn't care less.

Amateurs who are aware of the 10 meter incursion problem encourage more operation on the low end of 10. The problem is that this is cw territory, available only to those with General or higher class licenses.

How big a problem is incursions in the low end of 10? That's hard to say. When the band is open, you'll often hear a few AM signals, most of them speaking Spanish. But even through the current sunspot peak, all of 10 meters remains sparsely occupied by hams, and the cw segment is almost always devoid of hams unless there's a contest. We may not be losing it as far as the FCC is concerned, but practically, it's changing hands a little at a time.



The combination of E/A and HI puts the radio on 27.185 MHz, CB Channel 19. Switch to G/C HI and you're on 28.085 in the 10 meter band.

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