

# MART

**MOBILE RADIO TECHNOLOGY**

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## Motorola turbo-charges digital radios

MOTOTRBO represents middle ground between commercial, public-safety platforms

**D**espite its attributes, which include a plethora of advanced features, digital radio so far has found application primarily in the public-safety and government sectors, largely because of the high cost of digital equipment compared with analog gear, which has proved prohibitive for profit-driven entities.

Motorola plans to change that by introducing at IWCE 2006 (May 17-19 in Las Vegas) a new digital platform dubbed MOTOTRBO that the vendor giant will market to the “professional” sector, e.g., construction firms, transportation companies and public utilities. Better yet, Motorola has pledged to work with dealers to hold the line, keeping prices for MOTOTRBO handsets close to what these customers currently are paying for analog devices, to encourage them to make the migration.

Previously, Motorola developed a digital radio platform called the DTR Series for the commercial tier—businesses largely in the retail and hospitality sectors, where users generally are confined to smaller onsite footprints. However, the professional sector needed a more robust product capable of covering a much wider area, said Craig Chenicek, director of Motorola Radio Products.

“Three or four years ago, we spent a lot of time and independent research to look at customers in the professional sector to understand why they were buying certain prod-

ucts and not others,” Chenicek said. “We found that they were most interested in spectrum efficiency, improved basics, new features, applications that would integrate into their businesses and a comfortable migration path.”

According to Chenicek, MOTOTRBO—built on the ETSI DMR Tier 2 standard—delivers improved performance typical of digital platforms when compared with analog, such as better audio quality, increased coverage, improved battery life and privacy. But where the new platform really shines is in the area of spectrum efficiency, he said.

Motorola built MOTOTRBO using a two-slot time division multiple access (TDMA) platform that creates two independent 6.25 kHz voice channels within a standard 12.5 kHz channel. “It doubles the efficiency using a single [repeater],” Chenicek said.

He added that use of two-slot TDMA also results in higher data throughputs. “You need the wide pipe to get data down it, and [with MOTOTRBO], you still have the full use of the 12.5 kHz pipe.”

A digital radio geared to the professional sector, particularly in large urban centers, is good news, said Mike

Ishida, director of sales for Day Wireless Systems, a Motorola dealer in Portland, Ore. “We operate in 30 different offices on the West Coast, from small rural communities to big metro



Handset using Motorola's new MOTOTRBO platform.

areas, and in the metro areas we're seeing spectrum-efficiency issues where this digital product is going to bring us some opportunities.”

Other features include GPS capability—making it easier for dispatchers to deploy the closest field technician to a given situation to realize improved operating efficiencies and lower costs—and an integrated text-messaging function that lets dispatchers communicate with field personnel when voice communications would be inappropriate.

Also, because MOTOTRBO radios can operate in both digital and analog mode, they are backward-compatible, which should further aid the analog-to-digital migration,

Chenicek said. "This allows you to migrate channels, talk groups or entire systems over time," he said. "For example, if you were expanding your network and needed another repeater, you likely wouldn't buy an analog repeater, but instead would buy a MOTOTRBO repeater and use it in the analog mode. Over time, you could switch it to digital."

Although such flexibility is important, Chenicek conceded that cost would be the primary driver for MOTOTRBO to gain traction in the professional sector. "In the business world, it comes down to the economics of the tools that you buy," Chenicek said. "Will they pay themselves off and can you justify adding them to the business?"

Dale Purvis, president of COMSOUTH, a Motorola dealer based in Hattiesburg, Miss., agreed, adding that the time is right for MOTOTRBO.

"Over the years, people have asked about [digital] and wondered why they can't get it when it's already in the public-safety sector," Purvis said. "A lot of it is cost-driven. Public safety a lot of the time has millions of dollars to spend on radio systems. Hospitals don't place that kind of priority on their communications systems. But if we had [a digital product] on a lower level ... the [professional] market would embrace it."

Motorola came to the same realization, which is why the vendor is

pledging to help hold down prices, according to Chenicek. "This is an incredibly important step. Fundamentally, we would like to see them over time migrate their system, but we didn't want to punish them financially," for doing so, Chenicek said. He added that Motorola decided it was willing to "compromise our financial position" by taking longer than usual to pay off an investment he described as the largest ever made by the vendor in the professional sector.

"We're anticipating long-term gain because we're confident that MOTOTRBO provides such increased functionality and operational efficiencies that people will want to move to digital faster," he said. ■

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