

June 27, 2007

Larry Van Horn, N5FPW
Assistant Editor, *Monitoring Times*

Dear Mr. Van Horn:

I was forwarded a copy of the editorial you wrote in the April 2007 issue of *Monitoring Times* entitled, "It's so easy a caveman could understand it!" I have subsequently also read your November 2005 editorial "The Communications Blame Game."

Because your piece was so replete with incorrect information, omitted facts and misleading conclusions, as the public safety manager for M/A-COM, I am setting the record straight for public safety officials. As a responsible publication, we are certain that you will correct the misinformation included in those articles. A few key points are outlined below.

1) P16 vs. P25: Currently, the majority of the trunked public safety radio systems in the U.S. conform to the legacy APCO Project 16 standard, which proliferated among the many trunking systems in the U.S. beginning in the late 1970s: EDACS®, Smartnet®, and Smartzone®. While M/A-COM has supplied many P16 systems, a large number of those systems were provided by other vendors. P16 has only defined functionality and does not define the "handshake protocol" details of the air interface. The result has been that users did not get something important that they wanted: a widespread interchangeability among subscriber radios of different vendors. Further, as more criminals began to use scanners, the vendors came up with proprietary methods to provide increased privacy and security to law enforcement: M/A-COM with Voice Guard, Aegis, and ProVoice using DES or VGE encryption and Motorola with DVP, DVP-XL, DES, DVI and DVI-XL (all well explained in your January 2002 newsletter).

In your November 2005 editorial you mention M/A-COM EDACS systems as being non-P25, but the article ignores the many systems from other vendors, including Motorola, that are non-P25. In your April 2007 editorial, again there is a failure to describe an accurate picture of vendors who use proprietary digital protocols. The editorial makes no mention of any vendors, aside from M/A-COM, who use proprietary protocols although there are several including Motorola. P16 systems are inherently not interoperable and all digital protocols used by vendors at the time were proprietary. It is thus misleading and false to suggest that only M/A-COM systems are proprietary and non-interoperable.

2) Katrina: The vast majority of the trunked systems from various vendors that existed in the Gulf area prior to Katrina were legacy P16 systems, not P25. For example, the Louisiana state system was a Motorola SmartZone P16 system, not P25¹.

¹ *Mobile Radio Technology*, "Statewide System Connects Agencies," by James Careless, February 2006: "...this [new] system - which represents the first phase of LATIE - is being built by Motorola using Project 25-compliant ASTRO 25 digital radio technology... Installed in 1996, the analog trunked system currently serves ..."

Motorola trunking systems prior to ASTRO 25 6.x employed a 3600 baud control channel, which is not compliant to the P25 standard of 9600 baud. *After* Katrina both the state of Louisiana and Region 1, consisting of Jefferson and other parishes, began to build out a 700/800 MHz P25 system. The completely incorrect implication in your editorial is that most systems in the region were P25 and that the Harrison County and New Orleans systems were unique in being non-P25. Given the criteria in the editorial, the P16 Motorola systems in the Gulf area should be included in your 'Hall of Shame.'

3) Operability during Katrina: The first requirement of any public safety communications system is to be operable for its users. Of the 22 systems that M/A-COM had deployed in the area, all survived and continued to operate during and after the storm. The sole exception was an issue experienced by New Orleans when a city owned and maintained generator in the Energy Centre failed (which was corrected once technicians were allowed entry into the city)². Per the consultant's report, on the morning of September 2nd: ***"At this point, and to our knowledge, the only public safety trunked radio communication network operable within the Orleans, Jefferson, St. Bernard and Plaquemines areas during that time was the City of New Orleans' 800MHz radio network."***

Jefferson Parish, Slidell, Jackson County MS, St. Bernard Parish, Plaquemines Parish and the Louisiana State Police systems all had system failures that created communications problems. According to Motorola Vice President Gary Grube on September 29, 2005, in testimony before the Senate Committee on Commerce, Science, and Transportation, : ***"The Louisiana State Police is a Motorola customer. They lost about 15 of the 46 sites that were taken out in Katrina's wake."***

Slidell (a Motorola system, not a M/A-COM system as was erroneously stated in your April editorial) was not operational, but was able to utilize radios from St. Tammany Parish's M/A-COM EDACS system.

You chose to criticize the Harrison County MS M/A-COM P16 EDACS system, yet it was the only system in the area that remained operational. According to local officials, ***"It took only a day for Harrison County to realize it was the only county in the area with a working communications system. Neighboring communities often had nothing more than portable car-to-car communications and no transmitters."***³

4) Interoperability: It is unfortunate that P25 is often depicted as a panacea for interoperability. Interoperability is not guaranteed by P25 alone. Interoperability problems are created by many issues, one of which is the frequency band and channel bandwidth. For example, a VHF P25 radio has no inherent way of interoperating radio-to-radio on scene with an 800 MHz P25 radio. Nor can a federal government user operating at 420 MHz on a P25 radio have any inherent way of talking to a local fire department operating a P25 radio system at 480 MHz (federal users operate on a different

² www.fcc.gov/eb/hkip/PubCom/ma_com.pdf

³ *911 Magazine*, "Harrison County Mississippi, Radio System Weathers the Storm," by Mike Scott, Jan/Feb. 2006

portion of the VHF and UHF bands than local & state public safety, and are licensed by the NTIA not the FCC) unless one of them has a radio that spreads to the others' sub-band and has a Memo of Understanding to operate on the other agency's frequency.

Project 25 is a standard for employing digital radio techniques for land mobile radio. It specifies the "air interface" or handshake among radios that use either conventional or trunking technologies. Tyco Electronics M/A-COM manufactures P25 equipment and has been awarded many contracts for such systems. In addition to having a leadership (chair or vice chair) on nine of the P25 committees or APICs, M/A-COM is fully committed to P25 and since August 2006 we have demonstrated on three occasions the new P25 ISSI interface which allows system-system linking; very few vendors have done this to date.

Unfortunately, legacy systems will exist for years to come because budgets are tight for most governments. To create interoperability for those legacy systems and subscriber radios, a variety of tools are employed that are described on the federal government's SAFECOM continuum (www.safecomprogram.gov). For example, for many years the New Orleans EDACS system had the provision for interoperability links to more than ten agencies and channels in the area which use different technologies, bands and vendors. Those links included: 6 mutual aid channels, St. Bernard Parish Sheriff, St. Bernard Fire, Kenner FD, Jefferson Parish Sheriff and several others. When New Orleans' interoperability links were checked after Katrina, many of the neighboring systems were down and therefore could not respond. That is why operability comes first.

5) NY, PA, FL Systems: You make mention of M/A-COM systems in New York, Pennsylvania, and Florida.

The New York State System (www.oft.state.ny.us/oft/swnindex.htm), was awarded on competitive RFP at half the price that the competition offered. It is a hybrid system which uses P25 VHF in the rural areas and 700/800 MHz advanced OpenSky TDMA 4:1 technology for urban areas that need higher capacity. Subscriber radios will all have P25 conventional capability for on scene interoperability to other radios on the same band that have P25.

Pennsylvania (www.radio.state.pa.us/portal/server.pt) was also awarded on competitive RFP at a substantially lower price than the competition offered and uses OpenSky TDMA trunking technology at 800 MHz. Again all subscriber radios can operate P25 conventional for on scene interoperability to other radios at 800 MHz that have P25.

The Florida SLERS system(www.macom-wireless.com/slrs/) is owned and operated by M/A-COM in a public-private partnership with the State of Florida. The SLERS system has a proven track record of excellent performance during hurricanes. During the worst season ever in 2004, SLERS never failed during four hurricanes and one tropical storm.⁴

⁴ *Mission Critical Communications*, "Public/Private Partnerships; Florida builds a radio system that stands up to Mother Nature's worst," by Glenn Cannon, Nov./Dec. 2005

Florida originally contracted with Motorola to build that system, and after more than 10 years, the project was over budget and had only completed only 2 of 5 promised phases. Governor Jeb Bush decided to award the contract to M/A-COM, and all 5 phases were completed in less than six years.⁵

And so, the correct set of facts is:

- Currently, the majority of the trunking systems in this country, provided by multiple vendors, are not P25;
- P16 systems are not inherently interoperable at the radio-radio level across all vendors;
- Operability comes before interoperability;
- M/A-COM systems had the best track record during the devastating 2004-2005 storm seasons of any vendor and the company continues to develop and promote the most technologically-advanced radio systems at the state, local and federal levels.

Thank you for your willingness to set the record straight.

John Facella
Director, Public Safety Markets
Tyco Electronics M/A-COM

⁵ *Mobile Radio Technology*, "Easier Said than Done," by Donny Jackson, May 1, 2007