

# Configuration Tips - Use of Portable Radios

By: Roman Kaluta, Director, Interoperability Solutions - Public Safety Liaison for Raytheon JPS Communications

When deploying our ACU technology products, agencies often incorporate portable radios to add additional agencies to the radio network. Portable radios are used mostly for tactical deployments but also in situations when the installed radios do not have the necessary frequencies available.

The use of portable radios provides a convenient method to get up and operational quickly; however, there are certain issues that should be taken into consideration when using portable radios, especially over long period of time.

We offer these suggestions as guidelines when utilizing portable radios in gateway deployments:

## Test the portable radio coverage before connecting to the ACU gateway.

Prior to connecting a portable radio to your ACU, you should conduct radio tests from the location in which the radio will be located and on the frequency it will be used. Once you have confirmed the proper frequency and coverage, you can connect the radio to the ACU and configure the ACU accordingly.

## The use of a battery eliminator – service power supply is highly recommended.

As battery power runs low, the transmit function is lost while receive is still functional. The receive audio may still be heard, but transmissions may not be generated. This is a situation a battery eliminator will address.

\*Using a portable radio in a desk top charger is not recommended and several portable radios will not function while in their charger base. Audio interference can also occur if utilizing a portable radio in a desk top charger.

\*If a battery eliminator is not available, make sure to have a supply of charged batteries and have a replacement procedure in place to swap batteries on a regular basis.



## Remote antenna – ensure proper antenna separation.

Many interoperability deployments are often conducted in mobile command vehicles, trailers, and other types of vehicles or temporary structures. We recommend agencies have antenna adaptors on hand to connect a remote antenna to the portable radio.

Getting the antenna outside the vehicle or structure will greatly increase coverage. When placing the antennas, ensure proper separation is maintained to eliminate any inter-modulation. Likewise, if using the portable radio's antenna, be sure to separate the portable radios as inter-modulation can also occur if the radios are too close together.

\*Antennas such as the multi-band Sti-Co are excellent for remote antenna installations.

## Keep programming software available to program in new frequencies.

When possible, we suggest the use of mobile radios and recommend programming software is kept available to program in new frequencies as necessary.

## Ensure the correct interconnect cables are available.

Raytheon JPS Communications offers the largest variety of mobile and portable interconnect cables. A current list of cables can be found by visiting:

<http://www.jps.com/page/view/200>.

Also, as deployments often occur after regular business hours, please remember that Raytheon JPS Communications offers 24/7 emergency support. More information on this can be found by visiting:

<http://www.jps.com/247>. Please e-mail [support@jps.com](mailto:support@jps.com) if additional assistance is needed.



Roman Kaluta joined Raytheon JPS Communications in December 2002 following his retirement from the Alexandria, VA police department after 25 years of law enforcement service. He specializes in all applications of JPS' interoperability technologies, with a particular focus on regional and wide area system integration with LMR and IT infrastructures. He can be contacted at [roman.kaluta@raytheon.com](mailto:roman.kaluta@raytheon.com).

**About JPS Communications:**

JPS Communications, the industry leader in radio interoperability technology, is a wholly-owned subsidiary of the Raytheon Company. JPS Communications designs, manufactures and sells electronic hardware and software products that enhance the effectiveness of communications systems.

**About Raytheon Company:**

Raytheon Company (NYSE:RTN), with 2007 sales of \$21.3 billion, is a technology leader specializing in defense, homeland security and other government markets throughout the world. With a history of innovation spanning more than 85 years, Raytheon provides state-of-the-art electronics, mission systems integration and other capabilities in the areas of sensing; effects; and command, control, communications and intelligence systems, as well as a broad range of mission support services. With headquarters in Waltham, Mass., Raytheon employs 72,000 people worldwide.

Raytheon Company  
**JPS Communications**  
5800 Departure Drive  
Raleigh, NC 27616  
[sales@jps.com](mailto:sales@jps.com)  
[www.raytheon.com/JPS](http://www.raytheon.com/JPS)

**Raytheon**