



Summer
2011



SUMMER 2011 DANIELS ELECTRONICS NEWSLETTER

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Daniels Introduces P25 Voting at APCO 2011

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Daniels Electronics is pleased to introduce its new P25 digital voting system. Based on the versatile MT-4E radio platform, the Daniels digital P25 voter now offers an enhanced level of functionality for conventional P25 applications.



For extended or improved coverage, multiple receivers can be installed on the same frequency. When the Subscriber Unit transmits, many (and possibly all) of the receivers may hear the transmission depending on the location of the Subscriber Unit. The voter will then determine and select the "best" received signal from all the signals received. The best signal is then rebroadcast from the base station transmitter allowing improved talk-back capability between mobiles in the field. Each local receiver's received signal is back-hauled to the voter and transmitter base station via IP links (Microwave or wired).

As shown in the diagram below for a 3 site voted system with a single transmitter, each receiver receives the signal from the Subscriber Unit. These signals are then evaluated and compared, and the best possible representation of the signal received is passed to the Daniels P25 voter.

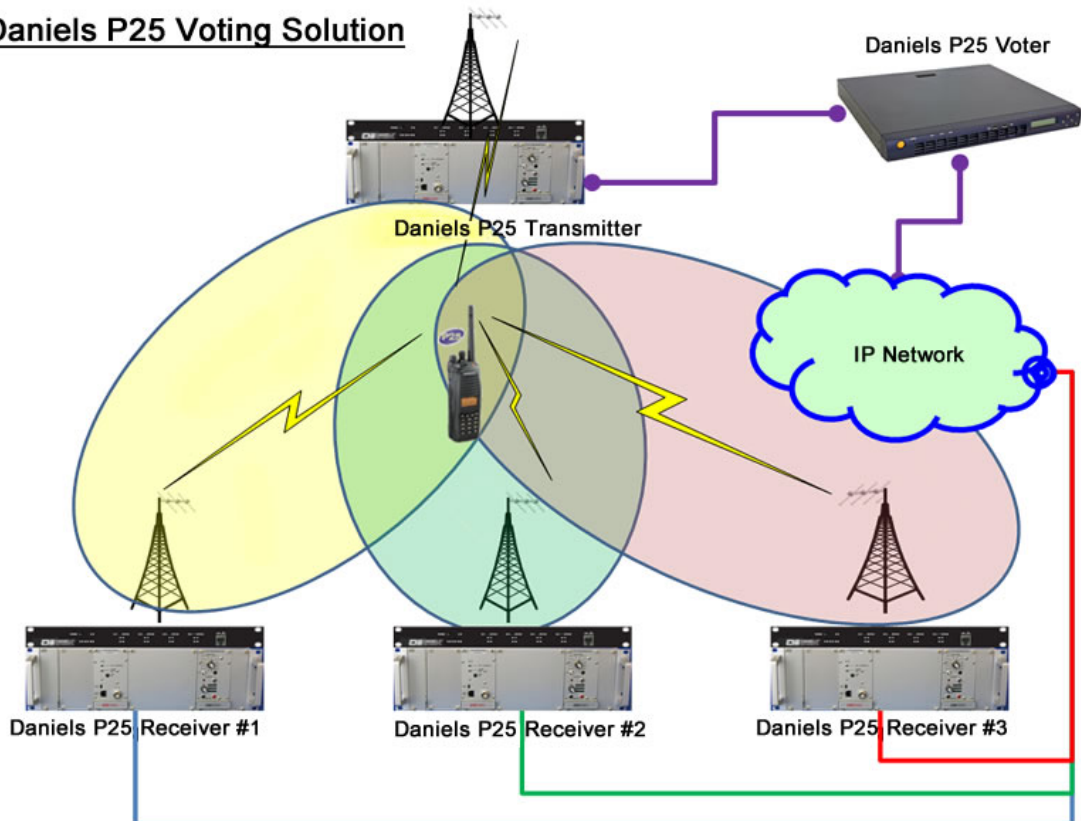
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Daniels P25 Voting Solution



For P25, each traffic packet received includes the Bit Error Rate (BER) detected by the receiver which is used by the voter to determine the relative quality of packets between the multiple streams received. This process is performed continuously as the quality of the received RF signal varies at each of the different receivers. An analog voice signal has no error detection; therefore the only measure of quality is the received signal strength indication (RSSI). The Daniels Voter has a "good quality threshold" which defines the analog signal quality level above which no switching will be done to reduce unnecessary switching of channels.

The Daniels Voting System is based on the versatile and proven MT-4E conventional radio system. P25 Voting requires no changes to existing MT-4E radios and is supported in all the P25 frequency bands (VHF, UHF, T-Band, 700 and 800 MHz). As shown in the diagram above, each Receiver site consists of a Daniels Receiver subrack along with the Daniels Voter. An industrial PC then receives all the voted received signals and sends the result to the transmitter site. The Industrial PC also provides the programming and System Monitoring statistics.

To learn more please refer to our website www.danelec.com
Or contact Daniels - sales@danelec.com.

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And the award goes to.....Daniels Electronics - VIATeC Member Company of the Year

Daniels Electronics Ltd., was named Member Company of the Year at the annual Victoria Advanced Technology (VIATeC) awards banquet held Thursday June 2nd.. The award for Member Company of the Year recognizes a Greater Victoria company that has demonstrated outstanding commitment to the technology sector through involvement, volunteering and support of



VIATeC. The Victoria Advanced Technology Council (VIATeC) is the conduit that connects people, knowledge and resources to grow a successful technology sector in Greater Victoria. Since VIATeC's inception back in 1989, the Greater Victoria technology sector has grown to over 800 technology companies, employing more than 13,000 people and generating in excess of \$1.95 billion in annual revenues making advanced technology Greater Victoria's #1 private industry.



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Product Updates

Newsletter Feedback

If you wish to unsubscribe from our newsletter, please email the editor@danelec.com.

Comments on desired enhancements or additions are welcome and can be forwarded to the editor@danelec.com.

New Frequency Band - 900 MHz

Daniels Electronics has completed FCC compliance on its new 900 MHz MT-4E radio operating in the frequency band 896 – 960 MHz. The 900 MHz MT-4E radio is a high performance, low current FM radio capable of P25 digital (for linking) or analog operation in 12.5 kHz channels as well as 900 MHz paging applications. P25 operation is supported via a purchasable P25 firmware option. 1st shipments will begin in the 3rd quarter 2011. The 900 MHz MT-4E modules provide:

- Software programmable
- 3 Watts - 900 MHz
- USB plug for programming and firmware upgrades
- Purchasable firmware upgrade from analog to P25 digital now or in the future
- Used for Repeater, Base Station or Paging applications



For full details visit the Daniels website: <http://www.danelec.com/products/rfmodules/>

New Firmware Release

In June Daniels began shipping the latest firmware load for the MT-4E transmitter and receiver. Included standard within the firmware functionality is a power save feature to reduce the transmitter current drain by 70 mA. This is accomplished by powering down the transmitter in idle state. To access the latest firmware load please visit the Daniel software download page on our website <http://www.danelec.com/products/softwaredownloads/> Or contact Daniels service department service@danelec.com

Digital P25 Fixed Station Interface with Moducom

Daniels Electronics Ltd., and Modular Communication Systems, Inc. <http://www.moducom.com/> recently announced the development of a P25 standards-compliant Digital Fixed Station Interface (DFSI) between their products, enabling direct digital connection from the Daniels LMR radio to the Moducom dispatch consoles, in accordance with the TIA P25 Fixed Station Interface (FSI) standard.

The Daniels digital Universal Interface card (UIC) provides the P25 DFSI connection via Ethernet from the Daniels MT-4 P25 radio system to other LMR subsystems, such as IP-based dispatch consoles in a P25 network. In accordance with the TIA P25 general system model, this interface interconnects the fixed station (Daniels Radio) to a console or RF subsystem at the Ef connection. The Ethernet universal interface provides the P25 encoded (and optionally encrypted) digital audio signal directly to the console, as well as a comprehensive suite of control signals. This allows the dispatch console to see and manage all information associated with a call in an IP format, including unit and emergency IDs.

Moducom's recently unveiled Ultra-Com IP25 is the latest version of its E911/radio dispatch control system that now supports the Project 25 Digital Fixed Station Interface (DFSI). In addition to the system's standard features — E911 dispatching, mapping and an IP-based architecture that is ready for the eventual migration to next-generation 911 technology — Ultra-Com IP25 is capable of encrypting and decrypting audio, and of storing multiple authentication keys.



RoHS Compliance – Restriction of Harmful Substances

Daniels Electronics is now shipping its first product that complies with RoHS - a European Union Directive that stands for Restriction of Harmful Substances. Directive 2002/95/EC was adopted in 2003 and became law in Europe in 2006 with the goal of restricting the use of six hazardous materials in the manufacture of electronic equipment:

- lead
- mercury
- cadmium
- hexavalent chromium
- polybrominated biphenyls and
- polybrominated diphenyl ether



While no such equivalent law exists in North America, Daniels has chosen to be ahead of our industry by removing these substances from our products and ensuring we continue to be environmentally friendly and recyclable.

Our first product is the A-PNL-SCARB-01 System Control and Alarm Relay Board. Other products will follow as Daniels converts its entire product line to RoHS compliancy. There are no functional

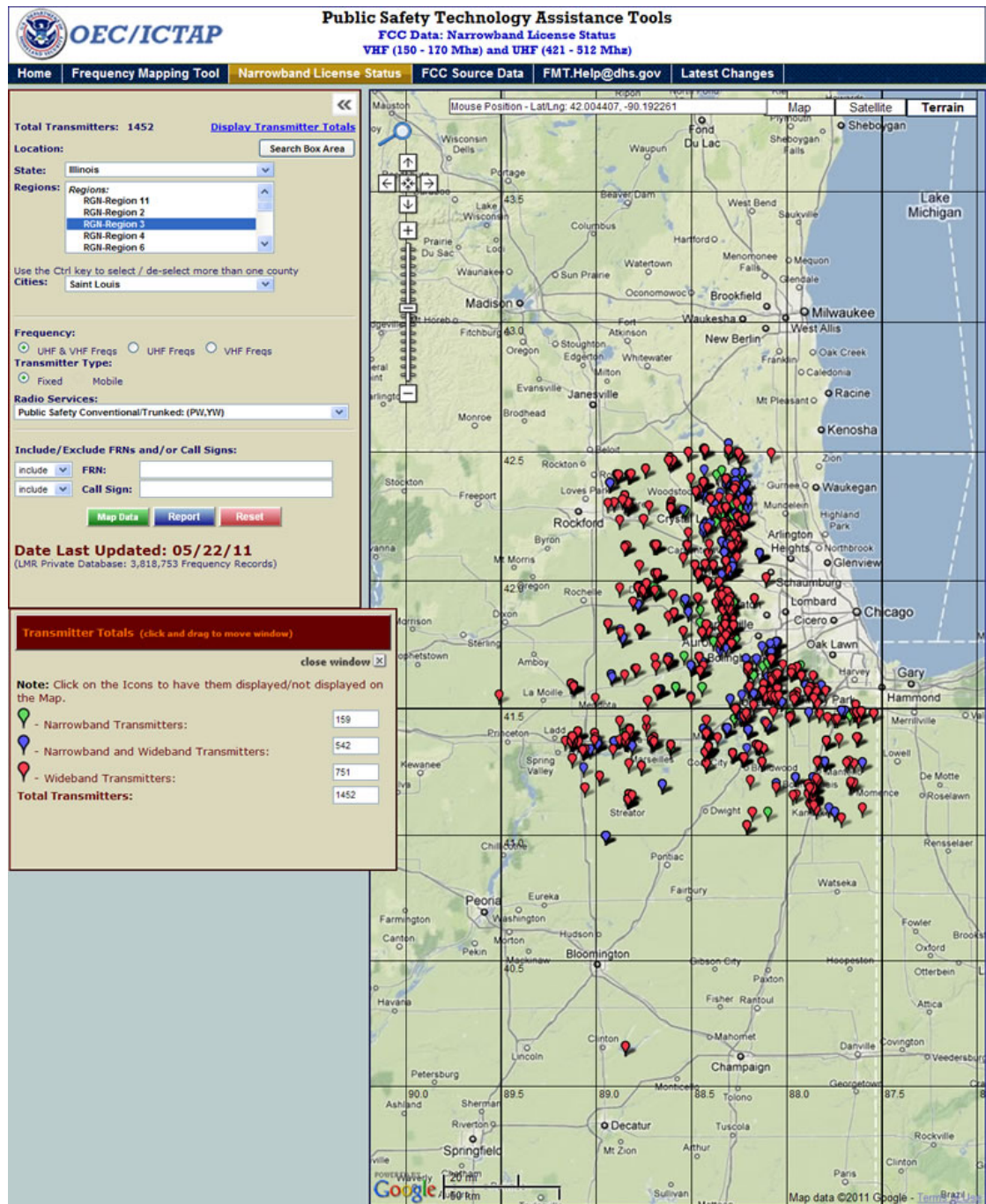
or performance specification changes to our RoHS compliant products. The part numbers remain the same and the modules are backwards compatible. All RoHS compliant products will carry the Daniels RoHS logo shown above to the right. The key change in our products with the elimination of the above hazardous materials has been a move to lead free soldering. This uses a different solder compound that requires a higher soldering temperature.

To learn more refer to the explanatory note on the Daniels webpage
<http://www.danelec.com/library/english/technotes.asp>

FCC Narrowbanding Mandate - Jan 1, 2013

According to the FCC frequency database there are 140,000 sites still operating in wideband ahead of the narrowbanding deadline of January 1, 2013. The following map illustrates a representative region providing a view of these sites

http://publicsafetytools.info/start_nb_status.php



If you are looking for replacement equipment to meet the January 1, 2013 narrowbanding mandate, then Daniels has a family of FCC registered VHF and UHF base stations and repeaters that support wideband, narrowband and cross-band operation.

<http://www.danelec.com/products/rfmodules/transmitters.asp>

Our repeaters are available in either analog, P25 or mixed mode operation and can be configured for any output power level. Our products are available on a variety of state contracts including WSCA and GSA. If you would like to learn more about our products or receive a quotation for a replacement system please contact the sales department sales@danelec.com

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Upcoming Events

Daniels in conjunction with its regional sales representatives and authorized dealers will be participating at the upcoming industry events:

Dates	Logo	Tradeshow	Location	Web
July 16-22		NATIA	Tampa, Florida	http://www.natia.org/i4a/pages/index.cfm?pageid=1
August 7-10		APCO	Philadelphia, PA	http://www.apco2011.org/
November 6-9		APCO Canada	Ottawa, Ontario	http://www.apco.ca/
November 16-17		RadioComms	Melbourne, Australia	http://www.radiocommsconnect.com.au/
December 4-7		CITIG	Ottawa, Ontario	http://www.citig.ca/home.aspx

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President's Desk

The Greek philosopher Heraclitus said "The only constant is change." With each issue of the newsletter I certainly find that to be true. We continue to develop and launch new products and in this issue I am very pleased that we are able to bring three more P25 product offerings to you along with many other enhancements. P25 Voting, 900 MHz radios and an expanded suite of P25 Fixed Station interface offerings broadens our ability to meet your interoperability requirements, particularly as many of you plan your transition to meet the FCC narrowbanding mandate.

Another exciting new initiative we have been working on for quite some time that has now come to fruition is the elimination of lead soldering and other toxic materials from our products under the European directive called RoHS – Restriction of Harmful Substances. This is a challenging technology change to our products that we are pleased to be able to achieve to make our products more environmentally friendly and easier to recycle when they finally reach the end of their life in 20 years.



Robert Small, President & COO

