

# Thales Communications, Inc.

## Liberty™ Multiband Land Mobile Radio (LMR)



Overview 2011

# Thales Communications

## “MADE IN THE USA”

Designed, Manufactured, and Supported at our Factory in Clarksburg, Maryland

### Engineering

- Electrical, mechanical, and software engineering ensures full integrated design
- On-site model shop for quick prototyping

### Manufacturing

- Complete robotics-type factory
- Two manufacturing facilities

### Customer Support

- Technical support free to all product users
- Full warranty and repair facility
- Stay up-to-date with free manuals and firmware on [www.thalescomminc.com](http://www.thalescomminc.com)



CMMI Level 3  
ISO 9001:2008

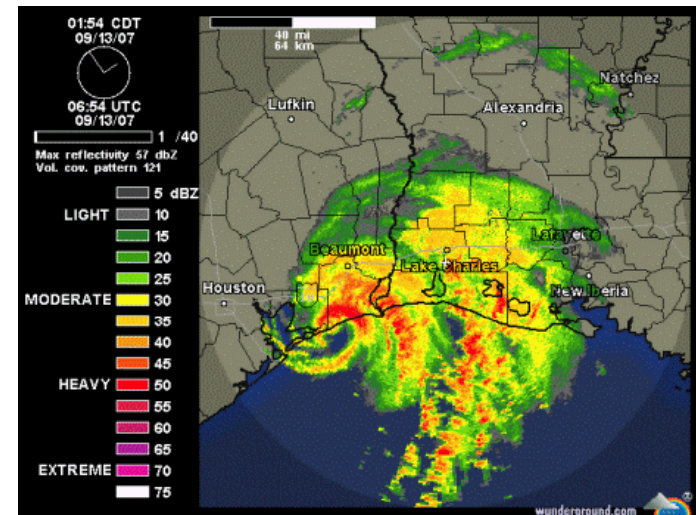
# The Birth of Multiband Public Safety LMR

## Existing solutions did not work for:

- Oklahoma City Bombing
- World Trade Center – 9/11/2001
- Hurricane Katrina
- Minnesota Bridge Collapse (I-35W)
- Everyday communications with nearby agencies

## Common lack of interoperability caused by radios operating on different frequency bands:

- Thales announces first multiband radio for LMR after customer research and input (IWCE 2007)
- Development being enhanced by extensive pilot testing in real-world exercises



# Liberty Multiband LMR Portable Radio

## Multiband

Full coverage in all Public Safety bands

- VHF: 136-174 MHz
- UHF: 380-520 MHz
- 700 MHz
- 800 MHz

## Multi-Mode

- Project 25 Conventional and Trunking
- AES/OFB-DES with OTAR
- Legacy Analog 25/12.5 kHz channel spacing
- CTCSS/CDCSS/DTMF/MDC 1200

## Size and Weight

Comparable to current single band LMR radios

## Performance

Equivalent or superior to current single band LMR radios



*The Liberty radio treats the entire Public Safety spectrum as a single contiguous band*

# Specifications and Capacities

## Specifications

- Project 25 Class A specs across all bands
- Analog Class A specs across all bands (12.5 kHz and 25 kHz)
- Trunked systems protected by hardware system key

## Capacities

- 30 trunking / conventional systems
- 2608 channels / talkgroups – any combination
- 175 zones (groups of 16 channels)
- 10 banks (groups of zones)
- Encryption keys – 64, any combination



# Certifications

## Certifications

- Performance / Emissions
  - FCC Part 15 / 90 : FCC ID: OKC-4102023501
  - Industry Canada (IC) ID: 473C-4102023501
- Electrical (chargers) - UL60950-1, CSA C22.2 60950-1.03; File No. E233976
- Project 25 compliance – P25 CAP - Trunking Interoperability
  - Passed CAP test on Cassidian (EADS) trunked system
  - Passed CAP test on Motorola trunked system
  - Passed CAP test on Harris trunked system
  - Passed CAP test on Raytheon trunked system
- Factory Mutual Intrinsic Safe

## Certifications in Process

- Project 25 compliance – P25 CAP - Performance
  - Performance CAP test



# Cache Radio Features and Benefits

## Perfect radio for cache

- **Will support any standard P25 or analog FM radio system**  
*Maximizes standardized interoperability*
- **Front panel programming (conventional channels only)**  
*Enables rapid programming without needing a PC or AC power*
- **All mutual channels to be preloaded**  
*Radios will be able to communicate straight out of the box*
- **Radio-to-radio cloning (conventional channels only)**  
*Allows new channel sharing without a PC*



# Wildland Fire Features and Benefits

Includes the features that Wildland Firefighters need

- **Front panel programming (conventional channels only)**  
*Enables rapid programming without needing a PC or AC power*
- **Tone picklist – CTCSS, CDCSS, and P25 NAC**  
*A single channel can access up to 32 repeaters*
- **Single zone cloning**  
*Rapid deployment at incidents while keeping your home radio intact*
- **Scan and priority scan**  
*Monitor all incident traffic*
- **Rugged and immersible**  
*Not damaged in wildland conditions*
- **Analog and P25 DTMF**  
*Access RAWS and other DTMF devices when needed*



# Structure Fire Features and Benefits

## Extensive field testing performed in structure fires

- **Loud audio**  
*Hear the radio over engines and other fire noise*
- **Loud speaker mic with large PTT**  
*Find the PTT when you need to most*
- **Rugged and immersible**  
*Not damaged in harsh fire conditions*
- **Accessories include leather case with strap**  
*Supplying accessories that firefighters need*
- **Evaluating solutions for P25 audio intelligence issue with PASS Alarm and Vib-alert (software only change)**  
*Thales is addressing fire concerns*



# Law Enforcement Features and Benefits

## Secure communications when you need them

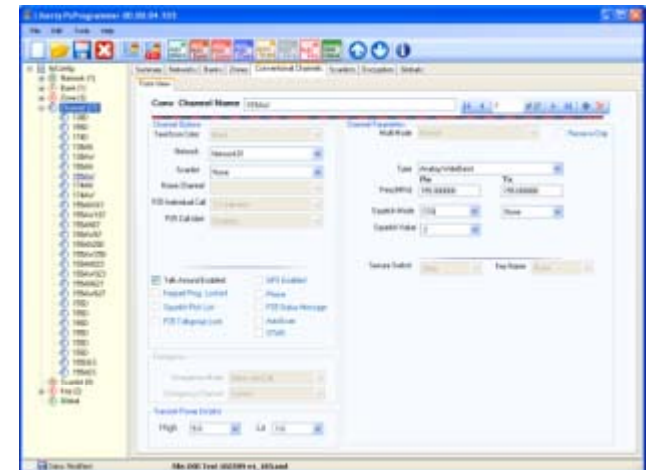
- **Encryption – AES 256 bit key and DES (option)**  
*Secure communications meeting Federal mandate*
- **Load via KVL 3000+ (AES and DES) or KVL3000 (DES only), or OTAR (option)**  
*Easy key loading choices: existing KVLs, new KVLs, or over the air*
- **Surveillance mode**  
*Secure covert operations at the touch of a button*
- **Audio adapter has 6-pin Hirose so that all current surveillance kits can be used**  
*No need to buy all new accessories*
- **Power-on password to prevent unauthorized use**  
*Prevents unauthorized personnel from using the radio*



# PC Programmer

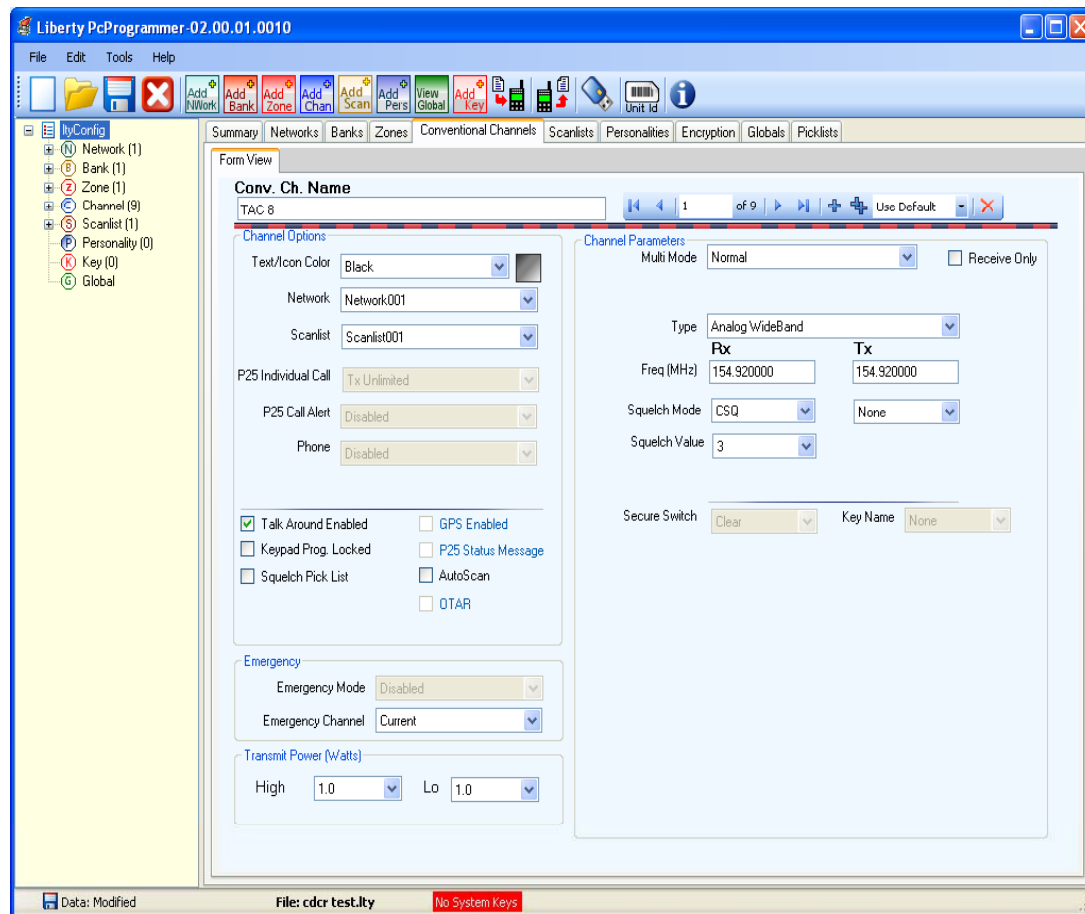
## Liberty PC Programmer – designed to be easy

- Radio connects to PC with side adapter and standard USB to mini-AB USB cable
- Most information needed on one screen
- Easy to follow programming flow
- Can enable options (including encryption) in the field – no return to factory required
- Forward / backward compatible – only need one version PCP Programmer
  - All versions of PCP can program all versions of radios
  - All radio configuration files can be used to program radios, regardless of the options installed (trunking, encryption, etc.)



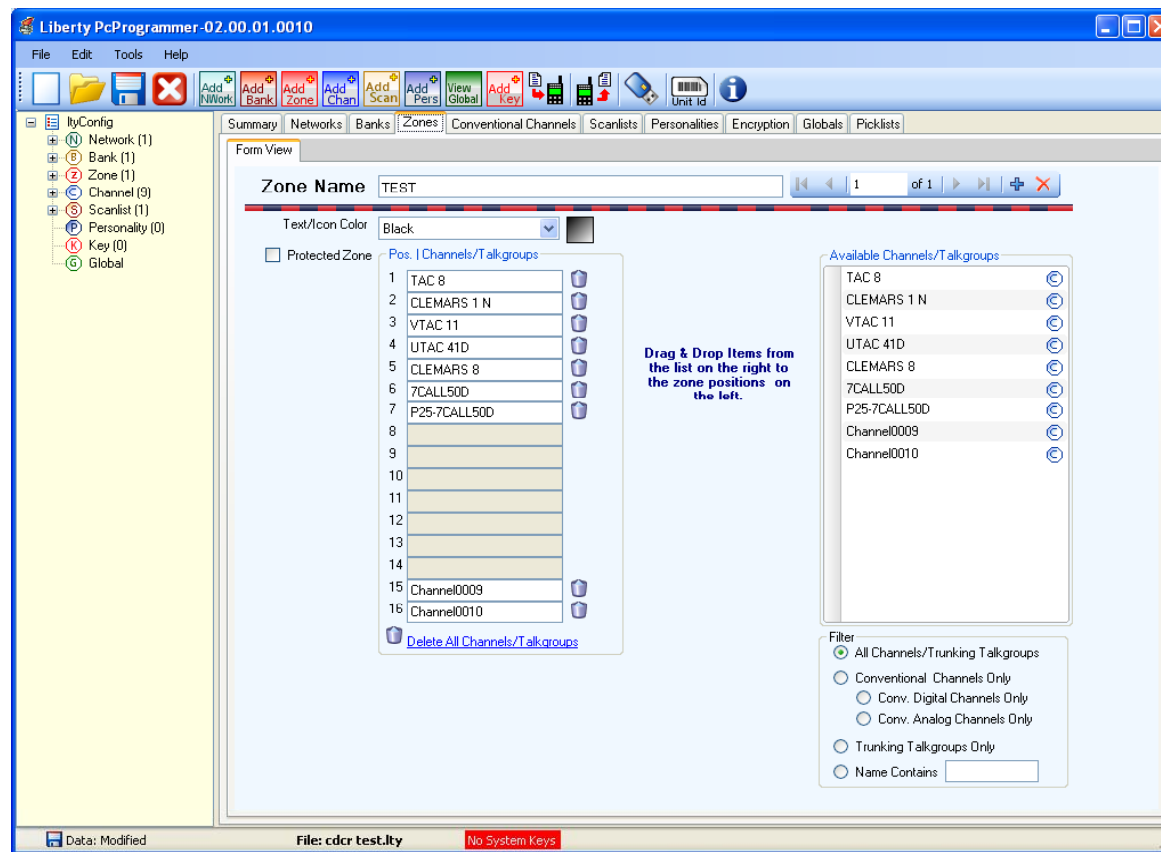
# PC Programmer

Simple channel creation with all information on one screen



# PC Programmer

## Easy channel assignment to knob positions



# DHS Multiband Radio Project – short-term demos

**DHS Multiband Radio Project provided Liberty LMR portable radios to end-users for feedback in the development of a production multiband radio**



**Laboratory T&E and short-term demonstration participants include:**

- Blaine Police Department
- Boise Fire Department
- National Interagency Fire Center
- Institute for Telecommunication Sciences
- Port Authority of New York and New Jersey
- National Guard Bureau J6
- Louisville (Kentucky) Joint Emergency Services Unit
- Louisville (Kentucky) MetroSAFE
- Louisville (Kentucky) Metro Police Department
- 41st Civil Support Team
- Michigan Emergency Medical Services
- Fire Department of New York
- New York City Department of Information Technology and Telecommunications
- New York City Office of Emergency Management
- New York City Police Department
- Federal Air Marshals Service
- Kentucky State Police
- Murray State University
- DHS Office of Operations Coordination and Planning

# DHS Multiband Radio Project – Pilots

## DHS Announces Pilot Locations – 30-Day Trials

### DHS Multiband Project Participants

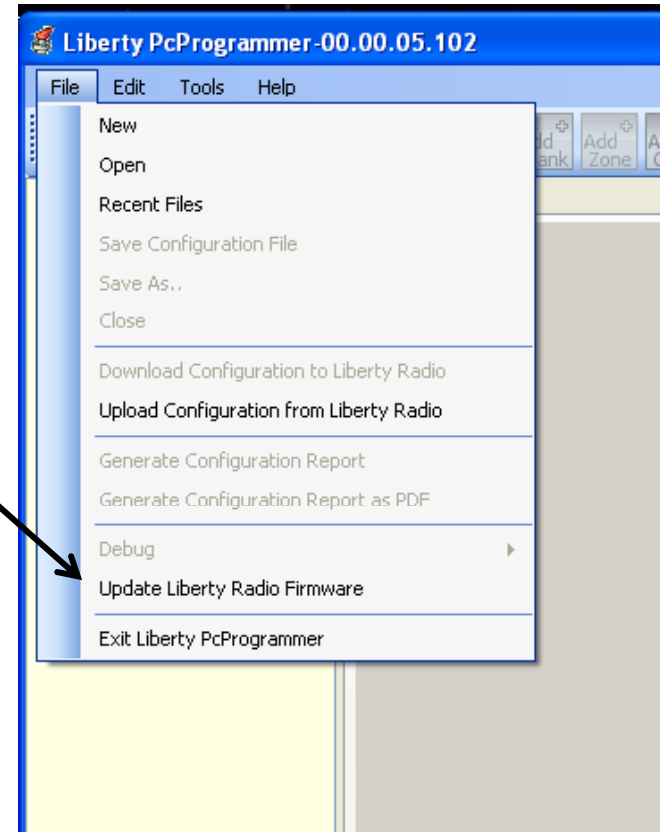
- 2010 Olympic Security Committee
- Nogales, Arizona
- Boise Fire Department
- Customs and Border Patrol (CBP)
- Federal Emergency Management Agency (FEMA)
- LA-RICS
- Michigan EMS
- Murray State University
- Phoenix Police and Arizona Emergency Management
- US Marshals Service
- DC COG (Council of Governments) and AMTRAK



# Software Upgrade Process

## Easy Firmware Upgrades

- Register on website:  
[www.thalescomminc.com](http://www.thalescomminc.com)
- Check Technical Resource Area for updates
- Download to PC (free)
- Use PC Programmer to upgrade to latest firmware
- Takes 2-3 minutes



# Liberty Accessories

## Full Public Safety Line of Accessories ...



**Standard Rechargeable Lithium-Ion Battery**  
*Also available: High Capacity; Intrinsic Safe*



**AA Clamshell**  
*12 AA Alkaline Cell Clamshell Cassette*



**Basic Single Slot Lithium-Ion Rechargeable Battery Charger**  
*120 V AC power*



**Mobile Lithium-Ion Rechargeable Battery Charger**  
*12 V DC power; built to NFPA retention specifications*



**Advanced Desktop/Vehicle DC Lithium-Ion Charger Kit**  
*Faster charge time; 120 V AC power for desktop use; 12 V DC adapter for vehicle charging; battery gauge charge status*

# Liberty Accessories

## Full Public Safety Line of Accessories ...



**Basic Six Slot Lithium-Ion Rechargeable Battery Charger**  
*120 V AC*



**Advanced Six Slot Lithium-Ion Rechargeable Battery Charger**  
*120 V AC; faster charge time; battery gauge charge status*



**Speaker Microphone**  
*Fits in the palm of the hand or attaches to shoulder strap; has its own PTT switch*



**Audio/Programming Side Connector Adapter**  
*Includes 6-pin Hirose connector for audio and keyfill, and USB for programming, cloning, and data transfer; universal connector for interfacing to the radio*

# Liberty LMR Roadmap

## Future Thales Liberty LMR Portable Features and Accessories

### Planned Software Releases

- Continued firmware enhancements (free upgrades)
- MDC1200
- GPS
- Data modes
- DTMF
- P25 OTAP (dependent on TIA standard)
- Project 25 Phase 2 (dependent on TIA standard)

### Accessories

- Bluetooth headsets
- Remote speaker/mic - display and knob control



# Our Customer Support Commitment to You

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## **Customer Support Website: [www.thalescomminc.com](http://www.thalescomminc.com)**

- Free software updates for life of radio
- Free updated manuals

## **Customer Support Call Center: 1-800-914-0303**

- 24/7 Call Center availability
- Contact information on website
- Technical assistance
- Repairs and warranty service
- Sales
- Calls routed for fastest assistance

**THALES**  
THALES COMMUNICATIONS, INC.

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- ▶ Training

**Joint C4ISR Solutions**

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- ▶ Vehicle Intercom Systems

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- ▶ Product and Procurement Info
- ▶ Repair and Maintenance Depots
- ▶ Customer Commitment Newsletter
- ▶ Online Customer Survey
- ▶ User Documentation Feedback

**Lives Depend On What We Do**

- ▶ Testimonials From The Battlefield

**Latest News**

11/15/2010  
**Thales Appoints Brenda Jackson to Develop New Dealer Channel for the Liberty Multiband Radio**  
[More](#)

10/4/2010  
**Thales First Responder Multiband Radio Approved for Purchase by U.S. Department of the Interior**  
[More](#)

7/15/2010  
**Thales to Provide Tactical Radios to the Democratic Republic of the Congo on Behalf of US and UK Governments**  
[More](#)

**Where to find us**

APCO West Regional  
February 7, 2011 - February 8, 2011  
Ontario, CA  
Booth 413

SO/LIC Symposium and Exhibition  
February 8, 2011 - February 9, 2011  
Washington, DC  
Booth 215

AUSA Winter  
February 24, 2011 - February 25, 2011

**Focus**

**THALES**  
Multichannel Multiband Airborne Radio (MMAR)  
The AN/PRC-148 JEM supports SIGINT, IW, and other airborne applications  
[www.thalescomm.com | solutions@thalescomm.com](#)

- ▶▶ **Thales Demos Mounted Soldier Cordless Communications System**  
[Click here for more...](#)
- ▶▶ **Thales Communications Receives Recognition from the Maryland Employer Support of the Guard and Reserve**  
[Click here for more...](#)
- ▶▶ **AN/PRC-148 JEM is now SECAN approved**  
[Click here for more...](#)
- ▶▶ **Thales Communications Supports Airborne Communications Relay Flight Testing with the MMAR**

## Technical Resources

**THALES** THALES COMMUNICATIONS, INC. Land and Joint Systems Division


Customer Care > Technical Resources

**Public Safety Technical Resources**

General Information

Manuals and Op Cards

- PC Programmer User Guide
- T25 User Manual
- T25 Wildland Fire Trainer



Software

- T25 Firmware 8.3 (for 503 and higher), 5.13 (for 501)
- PC Programmer 5.0
- Charger 2.10E
- T25 GPS Application for ESRI Mapping

Technical Notices

- T25 Lithium Ion Battery Maintenance June 2003
- T25 Technical Service Bulletin - Side Connector 26 Feb 03 Rev. 1

Procedures and Instructions

- T25 Accessory Cable Side Connector Retrofit
- T25 Technical Service Bulletin - #2 Antenna Upgrade 23 Mar 02
- T25 Side Connector Retrofit
- T25 GPS Mapping Application

Slicks and Data Sheets

- T25 Fire Features Aug 03
- T25 with GPS Software
- T25 Accessories Brochure

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## Special website dedicated to Liberty LMR

**LIBERTY™**  
MULTIBAND LAND MOBILE RADIO

PRODUCT INFORMATION  
DEMOS  
RESOURCES  
CONTACT

**Upcoming Trade Shows:**

- APCO West Regional  
February 7, 2011 -  
February 8, 2011  
Ontario, CA  
Booth 413
- IWCE  
March 9, 2011 - March 11,  
2011  
Las Vegas, NV  
Booth 3089
- For a complete list of 2010  
Trade shows, [click here](#).

**News Releases**

- 11/15/2010  
Thales Appoints Brenda  
Jackson to Develop  
New Dealer Channel for  
the Liberty Multiband  
Radio  
[Click here for all  
announcements/press  
releases](#)

**Highlights**

- Find out what all of the buzz is about...  
[Click to download:  
Briefing > Thales Liberty Multiband Portable LMR](#)
- DHS Science and Technology R-Tech Newsletter - July 2009  
EASING LINES OF COMMUNICATION  
U.S. Department of Homeland Security Pilots Multi-band Radio for First  
Responders  
[FIND OUT MORE...](#)

**Demos**

To schedule a demo of the Liberty Radio, [click here](#).

# Summary

## *Thales Liberty multiband radio is the right LMR portable radio*

- A true high-performance Land Mobile Radio with P25 Class A specs and FCC Type Acceptance
- Allows use in all Public Safety frequency bands including VHF, UHF, 700 MHz, and 800 MHz
- Takes advantage of existing infrastructure and allows migration to emerging P25 systems
- Extensive field testing performed to ensure the optimal feature set for all Public Safety agencies

