

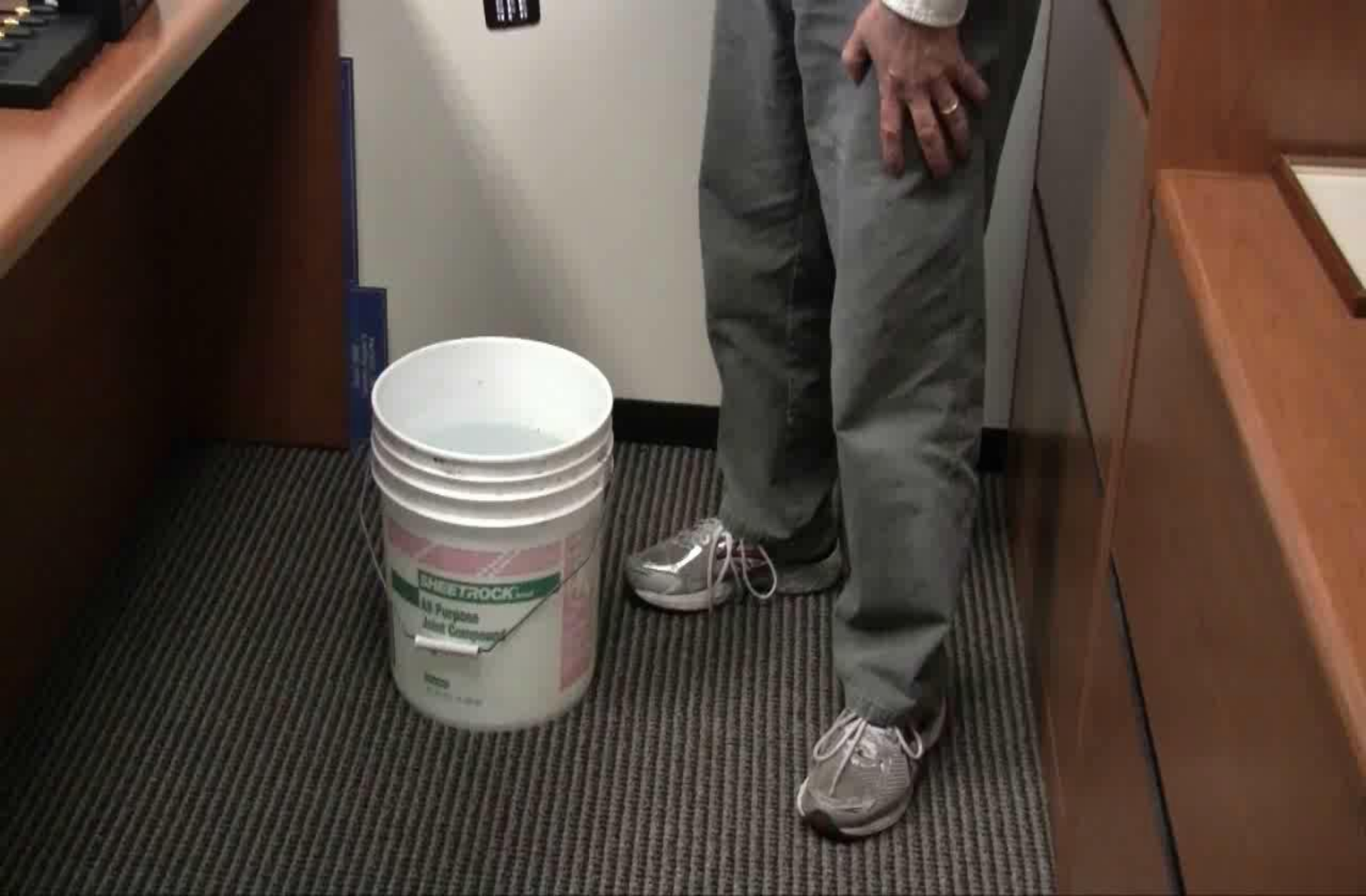


www.thalesliberty.com

Thales Liberty™ Multiband Land Mobile Radio (LMR)

2012 Overview

THALES



“MADE IN THE USA”

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

◆ Engineering

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

◆ Manufacturing

- Complete robotics-type factory

◆ 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



CMMI Level 3
ISO 9001:2008

Field-proven Thales 25 VHF conventional radio

- ◆ First Project 25 radio to receive DOI Fire approval
- ◆ DOI's most rugged and immersible VHF portable radio
- ◆ Customers include mostly Federal Agencies – NIFC, BLM, USFWS, USMS, and NPS amongst others

Liberty™ Multiband Land Mobile Radio (LMR) portable radio

- ◆ Merges multiband experience (AN/PRC-148) and LMR experience (Thales 25) into a single radio optimized for Public Safety Interoperability



Thales 25



Liberty 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











Interoperability issues caused by First Responders' radios operating on:

- ◆ Different frequency bands: VHF, UHF, 700/800 MHz
- ◆ Different modes: Legacy analog. Project 25 digital, trunking and conventional

***The Root Cause for Interoperability Issues
Remains the Same.....Multiple Users in Different
Frequency Bands Using Different Waveforms***

Frequency Bands Waveforms	136 - 174 MHz	380 - 400 MHz	402 - 420 MHz	450 - 512 MHz	700 MHz	800 MHz	Analog FM	Project 25	Future ???
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Federal Agencies									
State and Local Government									
DoD LMR									

Liberty Capabilities

- ◆ **Multiband full coverage in DoD and Public Safety frequency bands**
 - VHF: 136-174 MHz
 - UHF: 380-520 MHz
 - 700 MHz
 - 800 MHz
- ◆ **Multi-Mode**
 - Project 25 conventional and trunking
 - Full encryption AES/OFB-DES with OTAR
 - Legacy analog 25/12.5 kHz channel spacing
 - CTCSS/CDCSS/DTMF/MDC 1200



Interoperability in the palm of your hand

Single band radio performance across all bands

- ◆ **Specifications:** *Assured reliable communications*
 - Project 25 Class A specs across all bands
 - Analog Class A specs across all bands
 - Trunked systems protected by hardware system key
- ◆ **Environmental Specs:** *Tough radio for a tough mission*
 - Full MIL-SPEC metal housing submersible to 2 meters
- ◆ **Capacities:** *Facilitate wide area roaming*
 - 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



Reliable communications ...region-wide/nation-wide

Certifications

- ◆ **Performance / Emissions**
 - FCC Part 15 / 90 : FCC ID: OKC-4102023501
 - Industry Canada (IC) ID: 473C-4102023501
- ◆ **Project 25 Compliance – P25 CAP Testing**
 - Trunking Interoperability
 - Motorola, Harris, Cassidian (EADS), Raytheon, Tait
 - Performance: P25 Performance CAP test TIMCO Labs
- ◆ **Factory Mutual Intrinsic Safe: FM Labs**
- ◆ **DoD J/F-12 Certified**
- ◆ **NTIA Redbook Approval**



Tested P25 interoperability with multiple infrastructure providers

Tough Aluminum Case

- ◆ Designed to stand up to harsh operating environments

Rugged – Meets MIL-STD 810 C/D/E/F

- ◆ High reliability = Fewer repairs

Immersible – IP68 to 2 Meters

- ◆ No worries if it gets wet in rain or fighting fires



Tough Mission . . . Tough Radio!

Same HMI and feature set that users expect in a traditional single-band LMR

- ◆ **Software can be customized for individual user needs**
 - Simple 3 channel radio:
 - Channel 1: VHF P25 digital encrypted
 - Channel 2: UHF conventional analog
 - Channel 3: 800 MHz P25 trunked talkgroup
 - 2600 channel nationwide roaming configuration with custom banks for each region
 - Each bank contains multiple: Trunking system IDs, encryption keys, conventional repeater channels
- ◆ **Scan across all bands with custom Scan-Lists**
- ◆ **Multi-mode receive with Talk-Back**



Simplicity is the ultimate sophistication

- ◆ **You can set transmit to VHF and receive to UHF or any other frequency band for a single channel**
 - Defeats local scanners
- ◆ **RF power adjustable down to 0.1W**
 - SWAT team operations free of interference or detection
- ◆ **Single button covert mode**
 - Immediately disables all tones, lights, LEDs for surveillance
- ◆ **Color coded channel/TG and zone display**
 - Quick status recognition in high stress situations
- ◆ **Password protection enables/prohibits access**
 - Radio Lock, Keypad Lock, Softkey disable
 - Keypad programming allowed on a per channel basis



The secret is in the software



Easy Access "Cell Phone" Menu Structure

SELECT

BANKS: Bank01
 ZONES: VHF - PERF
 CHAN LIST: 174AN
 TONES: *No Tone*

EXIT

CHANNEL

155D

MULTI-MODE NORMAL
 DISPLAY NORMAL
 TYPE P25
 RX FREQ 155.000000
 TX FREQ 155.000000
 RXSQMOD SELECTIVE
 RX NAC 293
 TX NAC 293
 RX TG 00001
 TX TG 00001

EXIT SAVE BKSP

GLOBALS

TX INHIBIT P25 BUSY
 BACKLIGHT ALWAYS ON
 CHANNEL: NAME
 KEYPAD: SILENT
 ALERTS: AUDIBLE
 FONT SIZE: AUTO
 DATE: 05/31/1972
 TIME: 05:26:08 PM

EXIT

UTILITY

RADIO 010049
 SW VerSW 00.00.14.0347
 FEATURES
 TRANSCEIVER
 BASEBAND
 KEYPAD GGGGGGGC
 ELAPSED TIME
 28 hr: 0 min
 SUPPORT
 1-800-914-0303

EXIT

CHANNEL

LO PWR 1.0W
 HI PWR: 5.0W
 SCANLIST Scanlist001
 AUTOSCAN OFF
 TLKRND ON
 TONE PICK OFF
 SECURE SELECT
 KEY None

EXIT SAVE

◆ PC Programmer

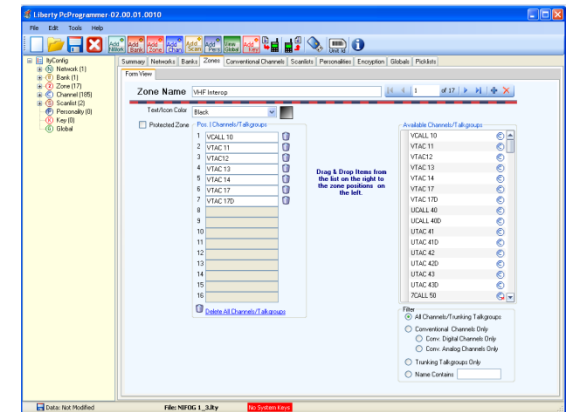
- Minimal training required
- Channel programming information all on one screen
- Drag-and-drop channel assignments to zones
- Firmware and feature upgrades
- Excel inport/export

◆ Built to last

- High reliability = Fewer repairs

◆ Stable performance alignments

- Less time aligning radios = more time to get other things done



Designed for the radio tech

Perfect radio for cache

- ◆ Will support any standard P25 or analog FM radio system
- ◆ Front panel programming (conventional channels only)
 - Enables rapid programming without the need for a PC or AC power
- ◆ All mutual aid channels to be pre-loaded
 - Deployed cache radios work right out of the box
- ◆ Radio-to-radio cloning
 - Allows new channel sharing without a PC
- ◆ Deploy quickly and hand out radios
- ◆ Operate with or without infrastructure



Example – Tornado response

April 2010 – Massive tornado ravages Tuscaloosa, AL

- ◆ **City of Tuscaloosa - VHF**
- ◆ **Outside Agencies responding – 800 MHz trunked**
 - University of Alabama has Liberty radio.
 - Help from Illinois arrives with 800 MHz radios.
 - Liberty radio front panel programmed with 800 MHz mutual aid channels already programmed in Illinois radios.
 - Communications bridge set up in minutes – no infrastructure required.
- ◆ **SOLUTION – Instant communications with out-of-town responders**

Fire

- ◆ **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



Law Enforcement

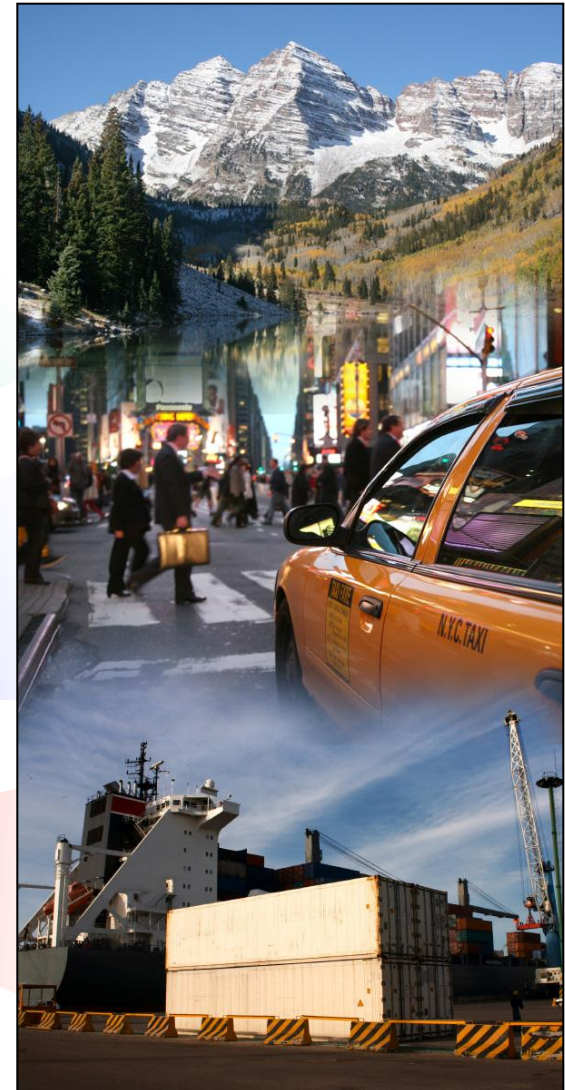
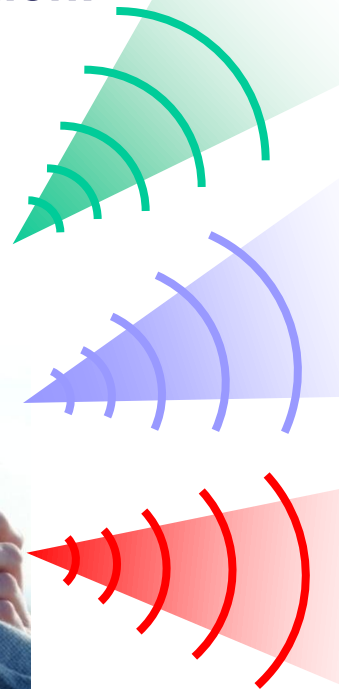
- ◆ **Encryption 256-bit multi-key AES and OFB DES with P25 OTAR**
 - Secure comms with easy key delivery over the air
- ◆ **Manual key load from KVL 3000/4000**
- ◆ **Audio adapter with 6-pin Hirose**
 - Use existing surveillance kits and audio accessories



Take full advantage of mutual aid channels in all bands 136-869 MHz

◆ Choose the band with best RF performance for your application:

- UHF for urban settings, container inspections
- VHF for superior performance in rural, forests, and parks



- ◆ **Seamless interoperability link for legacy conventional users and Federal agencies to State-wide/ Region-wide Project 25 trunking networks**
- ◆ **Trunking system users can have direct connect channels to legacy conventional systems that have not joined the trunking system.**



Full Public Safety Line of Accessories ...



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



- ◆ AA Clamshell
 - ◆ 12 AA Alkaline Cells



- ◆ 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

Full Public Safety Line of Accessories ...



- ◆ Advanced 6-Slot Lithium-Ion Rechargeable Battery Charger
- ◆ 120 V AC; faster charge time; battery gauge charge status



- ◆ Ruggedized Speaker Microphone
- ◆ High temperature speaker, balanced audio, PTT switch, emergency button; also available: Intrinsic Safe



- ◆ Speaker Microphone
- ◆ Balanced audio, PTT switch; emergency button; also available: Intrinsic Safe



- ◆ 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

Future Thales Liberty LMR Portable Features and Accessories

◆ Planned Software Releases

- Continued firmware enhancements (free upgrades)
- GPS
- Data modes
- P25 OTAP
- Project 25 Phase 2

◆ Accessories

- Bluetooth sidemate – headsets / data / speaker mics
- Remote speaker/mic - display and knob control



- ◆ **PC Programmer – Single Purchase Provides License**
 - No need to purchase multiple copies of software
- ◆ **Industry Standard Cables – Lowers Costs**
 - COTS USB cables connects to Side Adapter for programming
 - Hirose 6-pin connector eliminates need to buy many new accessories
- ◆ **Free Upgrades for the Life of the Radio**
 - No subscription fees required
- ◆ **Radio has Standard 3-year Warranty**
 - Extendable to 5 years
 - Since it is rugged and waterproof, almost everything is covered
 - All accessories have 1-year warranty



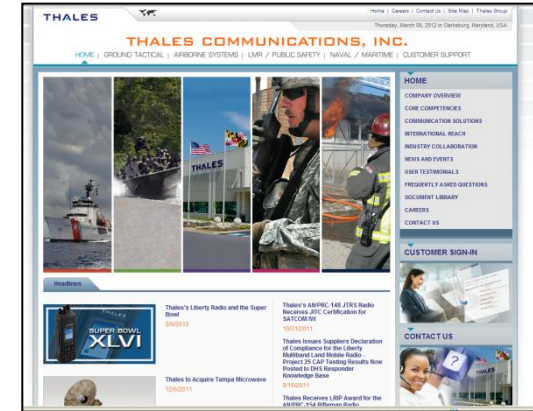
Predictable costs make budget planning easier

Customer Support Website: www.thalescomminc.com

- ◆ Free software updates for life of radio
- ◆ Free updates for radio and PC Programmer software
- ◆ 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



The Thales Liberty Multiband radio is the right interoperability solution for Federal, State, and Local agencies

- ◆ Creates flexible/deployable Interoperability between State and Local Government First Responders, and Federal Agencies
- ◆ A true Public Safety Grade LMR portable with P25 Trunking and Conventional, AES Encryption (OTAR) and legacy analog operation
- ◆ Allows use in all 3 Public Safety frequency bands including VHF, UHF, 700/800 MHz
- ◆ P25 open standard: No proprietary modes or features
- ◆ Free software upgrades for the life of the product: Lower Product Life Cycle Cost
- ◆ Easy to use: PC programmer and radio keypad interface



Liberty demo radios available today

Dan Albertson

DACOM

Phone: 916-422-3453

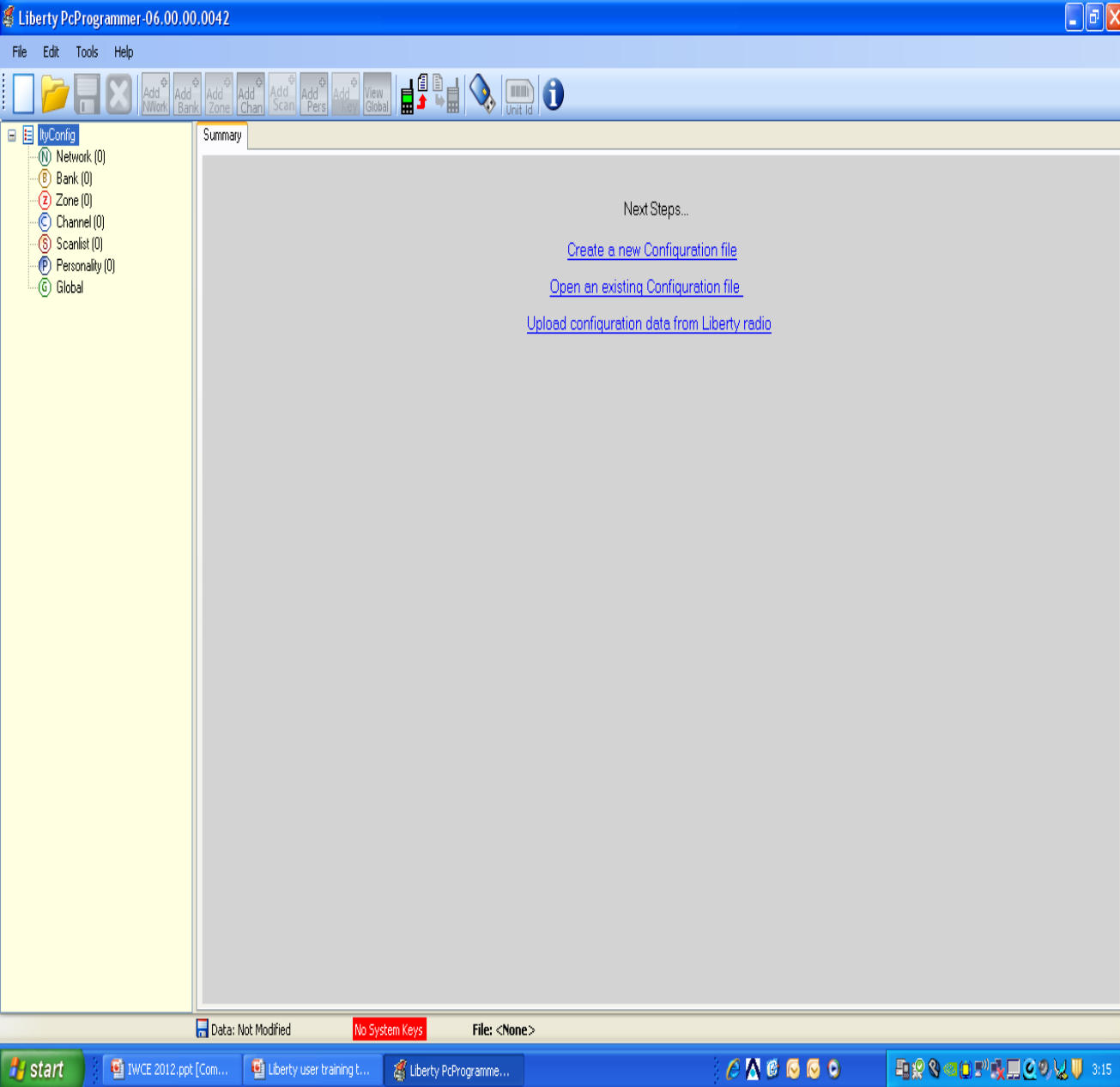
Online: www.dacom-co.com

Email: dan@dacom-co.com



Tough Mission ... Tough Radio!

THALES



PcProgrammer

Easy to navigate format

Can create a codeplug from scratch
No need to read a radio first



Liberty Multiband Portable

THALES

The screenshot displays the Liberty PcProgrammer software interface. The left pane shows a tree view of the configuration structure:

- Network (1)
 - Network001
- Bank (1)
 - NIFOG 1_4
- Zone (19)
 - VHF INTEROP
 - UHF INTEROP
 - 700 INTEROP 1
 - 700 INTEROP 2
 - 700 COMMON 1
 - 700 COMMON 2
 - 800 MHz REB
 - 800 MHz PRE-REB
 - VHF IR
 - UHF IR
 - VHF LE
 - UHF LE
 - MARINE
 - VHF W MUT AID
 - VHF N MUT AID
 - UHF MED WB
 - UHF MED NB1
 - UHF MED NB 2
 - WEATHER
- Channel (214)
 - VCALL10
 - VTAC11
 - VTAC12
 - VTAC13
 - VTAC14
 - VTAC33
 - VTAC34
 - VTAC35
 - VTAC36
 - VTAC37
 - VTAC38
 - VTAC17
 - VTAC17D
 - UCALL40
 - UCALL40D
 - UTAC41
 - UTAC41D

The right pane shows the Summary screen with the following content:

This configuration Contains...

- 1 Network [Add a new Network](#)
- 1 Bank [Add a new Bank](#)
- 19 Zones [Add a new Zone](#)
- 214 Channels [Add a new Channel](#)
- 1 Scanlist [Add a new Scanlist](#)
- 0 Personalities [Add a new Personality](#)

The status bar at the bottom indicates: Data: Not Modified, System Key Found, File: NIFOG 1_4_R2.Ity

Summary Screen:

Quick overview of codeplug

Tree view allows you direct access to any codeplug element



File Edit Tools Help

Add NWork Add Bank Add Zone Add Chan Add Scan Add Pers View Global

Summary Networks Banks Zones Conventional Channels Scanlists Personalities Secure Settings Globals Picklists

Form View

Network Name
Mutual Aid

Network: Mutual Aid 1 of 1 Use Default

Capabilities: Conventional Trunking OTAR TimeOut Timer (Secs) 60

Parameters

Conventional **Trunking** OTAR

WACN ID (Hex) 1 Secure Keys Console Patch Key None

System ID (Hex) 1

RFSS ID (Hex) 1

Unit ID (Dec) 1

Sys. Modulation Simulcast

Roaming

Inter WACN Roaming
 Intra WACN Roaming
 Inter RFSS Roaming
 Full Spectrum Scan

Control Channel List Channel Identifier List Site List Full Spectrum Scan

10 of 10

	RxFreq (MHz)	TxFreq (MHz)
01	136.000000	137.000000
02	136.000000	137.000000
03	136.000000	137.000000
04	136.000000	137.000000
05	136.000000	137.000000
06	136.000000	137.000000
07	136.000000	137.000000
08	136.000000	137.000000
09	136.000000	137.000000

Data: Modified System Key Found File: NIFDG 1_4_R2.Ity

Network Screen:

Easy access and entry of both conventional and trunked system information in one place.

Touch to see Trunking Tab

Touch to see Conventional Tab



The screenshot displays the Liberty PcProgrammer software interface. The top menu bar includes File, Edit, Tools, and Help. Below the menu is a toolbar with various icons for adding and managing elements like Networks, Banks, Zones, and Channels. The main window is titled 'Form View' and shows the configuration for a 'Bank' named 'NIFOG 1_4'. The 'Bank Name' field contains 'NIFOG 1_4'. A 'Default Bank' checkbox is checked. On the left, a 'Special Channels' dropdown is set to 'Home' with 'VCALL10' selected. The central area features two lists: 'Zones in this Bank - 19' and 'Available Zones - (19)'. The 'Zones in this Bank' list includes channels like VHF INTEROP, UHF INTEROP, 700 INTEROP 1, 700 INTEROP 2, 700 COMMON 1, 700 COMMON 2, 800 MHz REB, 800 MHz PRE-REB, VHF IR, UHF IR, VHF LE, UHF LE, MARINE, VHF w MUT AID, VHF N MUT AID, UHF MED wB, UHF MED NB1, UHF MED NB 2, 700 INTEROP 1, 700 INTEROP 2, 700 COMMON 1, 700 COMMON 2, 800 MHz REB, 800 MHz PRE-REB, VHF IR, UHF IR, and VHF I.F. The 'Available Zones' list contains the same set of channels. Navigation arrows and a 'Clear All Zones' link are present between the lists. The status bar at the bottom shows 'Data: Modified', 'System Key Found', and 'File: NIFOG 1_4_R2.Ity'.

Bank Screen:

The use of Banks allow greater flexibility in navigation of up to 175 Zones and 2608 Channels

Up to 10 banks

Each bank can have it's own Home Channel



The screenshot displays the Liberty PcProgrammer software interface. The top menu bar includes File, Edit, Tools, and Help. Below it is a toolbar with various icons for adding and managing elements like networks, banks, zones, channels, and scanlists. The main window is titled 'Form View' and shows the configuration for a 'Zone Name' (VHF INTEROP). The interface is divided into several sections:

- Zone Name:** A text field containing 'VHF INTEROP' with navigation buttons (back, forward, home, search) and a 'Use Default' button.
- Text/Icon Color:** A dropdown menu set to 'Black' with a color selection icon.
- Protected Zone:** A checkbox that is currently unchecked.
- Pos. | Channels/Talkgroups:** A list of 16 positions. Positions 1-13 are populated with channel names: VCALL10, VTAC11, VTAC12, VTAC13, VTAC14, VTAC17, VTAC17D, VTAC33, VTAC34, VTAC35, VTAC36, VTAC37, and VTAC38. Positions 14, 15, and 16 are empty.
- Available Channels/Talkgroups:** A list of available channels including VCALL10, VTAC11, VTAC12, VTAC13, VTAC14, VTAC33, VTAC34, VTAC35, VTAC36, VTAC37, VTAC38, VTAC17, VTAC17D, UCALL40, UCALL40D, and UTAC41.
- Filter:** A section with a 'Network' dropdown set to 'All' and several radio button options: 'All Channels/Trunking Talkgroups' (selected), 'Conventional Channels Only', 'Conv. Digital Channels Only', 'Conv. Analog Channels Only', 'Trunking Talkgroups Only', and 'Name Contains' with an input field.

A central instruction reads: "Drag & Drop Items from the list on the right to the zone positions on the left." The status bar at the bottom shows 'Data: Modified', 'System Key Found', and 'File: NIFOG 1_4_R2.Ity'.

Zone Screen:

Up to 175 Zones of 16 Channels

Easy drag and drop from Channel list to Zone

Channel list can be filtered to allow easy location of channels



File Edit Tools Help

Summary Networks Banks Zones Conventional Channels Scanlists Personalities Secure Settings Globals Picklists

Form View

Conv. Ch. Name
VCALL10

Channel Options

Text/Icon Color: Red

Network: Mutual Aid

Scanlist: Scanlist 1

P25 Individual Call: Tx Unlimited

P25 Call Alert: Disabled

Phone: Disabled

Talk Around Enabled GPS Enabled
 Keypad Prog. Locked P25 Status Message
 Tone Picklist AutoScan
 OTAR Surveillance Strap
 Transmit MDC ID

Emergency

Emergency Mode: Alarm and Call

Emergency Channel: Current

Transmit Power (Watts)

High: 5.0 Lo: 1.0

Channel Parameters

Multi Mode: Multi Mode Receive Only

Primary Channel Settings

Type: Analog NarrowBand

	Rx	Tx
Freq (MHz)	155.752500	155.752500
Squelch Mode	CSQ	CTCSS
Squelch Value	3	156.7 Hz 5A

Secure Switch: Clear Key Name: None

Multi Mode Settings

Name: VCALL10*

Type: Project 25

	Rx	Tx
P25 NAC (Hex)	293	293
Squelch Mode	Monitor	
Talk Group (Dec)	1	1

Secure Switch: Clear Key Name: None

Data: Modified System Key Found File: NIFOG 1_4_R2.Ity

Conventional Channel Screen:

Simple layout with all Conventional information on once screen

Channel name can be up to 32 characters and 8 different colors

Multimode allows mixed mode Rx and Tx

Analog and P25

2 Different CTCSS/CDCSS/NAC

2 Different encryption keys

Many other combinations



The screenshot displays the Liberty PcProgrammer software interface. The top menu bar includes File, Edit, Tools, and Help. Below the menu is a toolbar with various icons for adding and managing scanlists and channels. The main window is titled 'Form View' and shows the configuration for 'Scanlist 1'. The interface is divided into several sections:

- Scanlist Name:** Scanlist 1
- Scanlist Parameters:**
 - Scan Type: Conventional
 - Trunked Network: (empty)
 - Scan Hold Timer (Secs): 2
 - Monitor Timer (Secs): Off
 - Est. Scan Time (Secs): (empty)
 - Talkback Enabled:
- Scanlist Items (11):** A list of channels including VCALL10, UCALL40, 7CALL50, 7CALL70, 8CALL90, ICALL, NC 1, NC 2, LE A, LE B, and MARINE 16.
- Available Conventional Channels:** A list of channels including VCALL10, VTAC11, VTAC12, VTAC13, VTAC14, VTAC33, VTAC34, VTAC35, VTAC36, VTAC37, VTAC38, VTAC17, VTAC17D, UCALL40, UCALL40D, UTAC41, and UTAC41D.
- Scanlist Priority:**
 - Priority 1: VCALL10
 - Priority 2: 8CALL90
 - Options: P1 Locked, P2 Locked

At the bottom of the window, there are status indicators: 'Data: Modified', 'System Key Found', and 'File: NIFOG 1_4_R2.Ity'.

Scanlist Screen:

Naming of scanlists allows for easy user navigation

Both conventional and trunked scan

Drag and drop of scan list members



File Edit Tools Help

Add NWork Add Bank Add Zone Add Chan Add Scan Add Pers Add Key View Global

Summary Networks Banks Zones Conventional Channels Scanlists Personalities Secure Settings Globals Picklists

Form View

Personality Name
Fire 1

Personality: Network: Mutual Aid Scanlist: None

Emergency Options
Emergency Mode: Alarm and Call
Retry Counter: 4
Hot Mic (Secs): Off
Emergency Talkgroup: TG + ATG
Console Ack:

Announcement TalkGroup (ATG) Options
 Enabled
ATG Name: Fireground 10 ATG
System ID (Hex): 1
TalkGroup ID (Hex): 0011
Secure: Clear
Key: None
Fallsort: Rx: 136000000 Tx: 136000000

Other
Conv. Type: PTT-ID
Call Alert: Disabled
Individual Call: Tx Unlimited
Phone: Disabled

TG Revert
Sys: 1
TG: Fire Dispatch
Secure: Clear
Key: None

ATG Revert
Sys: 1
TG: Fireground 10
Secure: Clear
Key: None

AutoScan Status
 Surveillance Strap
 Squelch Tail Suppression

Talkgroup List

Name	SysId	TG-Id	Color	Secure	Key
Fire Dispatch	1	0001	Red	Clear	
Response 1	1	0003	Red	Clear	
Fireground 10	1	0005	Black	Clear	
Fireground 11	1	0007	Black	Clear	
Fireground 12	1	0009	Black	Clear	
Fireground 20	1	0013	Black	Clear	

Data: Modified System Key Found File: NIFOG 1_4_R2.Ity

Personality Screen:

Naming of Personalities allows for easy codeplug development

All information for Personality on one screen

Talkgroup name can be up to 32 characters and 8 colors



The screenshot displays the Liberty PcProgrammer software interface. The top menu bar includes File, Edit, Tools, and Help. Below the menu is a toolbar with various icons for adding and viewing configurations. The main window is divided into several panes. On the left is a tree view showing a hierarchy of configurations: Network (1), Mutual Aid, Bank (1), NIFOG 1_4, Zone (19), and Channel (214). The Zone (19) is expanded, showing various interop and common channels. The main pane is titled 'Traffic Keys' and shows the configuration for 'AES1'. The 'Key Algorithm' is set to AES, and the 'Key Parameters' section shows 'SLN (Decimal)' set to 51. The status bar at the bottom indicates 'Data: Modified', 'System Key Found', and 'File: NIFOG 1_4_R2.Ity'.

Secure Screen:

Simple layout of all encryption parameters

Up to 64 keys in any combination of DES-OFB or AES-256



The screenshot displays the Liberty PcProgrammer software interface. The top menu bar includes File, Edit, Tools, and Help. Below it is a toolbar with various icons for adding and managing channels and banks. The left sidebar shows a tree view of the configuration structure, including Network (1), Bank (1), NIFOG 1_4, Zone (19), Channel (214), and various call channels like VCALL10, VTAC11, etc. The main window is titled 'Global Parameters' and is divided into several sections:

- Keys And Switches:** Configures Side Button 1 (Monitor), Side Button 2 (Scan), Side Button 3 (Backlight), Toggle A/B/C (Zone Select), and Top Red Button (Emergency). It also includes a 'Zone Select Locked' checkbox.
- Timers:** Sets the Priority Scan Interval (Sec.) to 1.5.
- Keypad Programming Password:** Includes a 'Keypad Programming Authorized' checkbox, a 'Password Active' dropdown (Yes), and a password field.
- Radio Access Password:** Includes a 'Password Active' dropdown (Yes) and a password field.
- Surveillance:** Features radio buttons for Lights, Tones, Display, Internal Speaker, and Backlight Hotkey, with 'Off' selected for all.
- Multi Mode Channel:** Sets Revert Mode to 'Received' and Delay (Sec.) to 10.
- Lighting Controls:** Sets Display Timer (Sec.) to 30, Backlight on Rx Timer (Sec.) to 30, and Backlight on Tx Timer (Sec.) to 30.
- Transmit:** Sets Transmit Inhibit to 'Off'.

At the bottom of the window, there is a status bar showing 'Data: Modified', 'System Key Found', and 'File: NIFOG 1_4_R2.Ity'.

Global Screen:

Assignment of all button and switch parameters

Radio Access and Programming password management

Mutli-option Surveillance mode



File Edit Tools Help

Add NWork Add Bank Add Zone Add Chan Add Scan Add Pers Add Key View Global

Summary Networks Banks Zones Conventional Channels Scanlists Personalities Secure Settings Globals Picklists

Network (1)
Mutual Aid
Bank (1)
NIFOG 1_4
Zone (19)
VHF INTEROP
UHF INTEROP
700 INTEROP 1
700 INTEROP 2
700 COMMON 1
700 COMMON 2
800 MHz REB
800 MHz PRE-REB
VHF IR
UHF IR
VHF LE
UHF LE
MARINE
VHF w MUT AID
VHF N MUT AID
UHF MED WB
UHF MED NB1
UHF MED NB 2
WEATHER
Channel (214)
VCALL10
VTAC11
VTAC12
VTAC13
VTAC14
VTAC33
VTAC34
VTAC35
VTAC36
VTAC37
VTAC38
VTAC17
VTAC17D
UCALL40
UCALL40D
UTAC41
UTAC41D

Tone Picklist

23 of 24

Name	Analog				Digital		
	Analog Rx Sq. Mode	Analog Rx Sq. Value	Analog Tx Sq. Mode	Analog Tx Sq. Value	P25 Rx Sq. Mode	P25 Rx NAC (Hex)	P25 Tx NAC (Hex)
North	CSQ	1	CTCSS	67.0 Hz XZ	Monitor	293	659
East	CSQ	1	CTCSS	69.3 Hz WZ	Monitor	293	825
South	CSQ	1	CTCSS	71.9 Hz XA	Monitor	293	7D1
West	CSQ	1	CTCSS	74.4 Hz WA	Monitor	293	9F5
Sector 1	CSQ	1	CTCSS	67.0 Hz XZ	Monitor	465	465
Sector 2	CSQ	1	CTCSS	67.0 Hz XZ	Monitor	290	290
Sector 4	CSQ	1	CTCSS	82.5 Hz YZ	Monitor	F21	F21
Sector 5	CSQ	1	CTCSS	85.4 Hz YA	Monitor	9B3	9B3
State FD	CSQ	1	CTCSS	88.5 Hz YB	Monitor	AA2	AA2
State PD	CSQ	1	CTCSS	91.5 Hz ZZ	Monitor	676	676
State SD	CSQ	1	CTCSS	94.8 Hz ZA	Monitor	349	349
Med 1	CDCSS	023	CDCSS	023	Monitor	002	002
Med 2	CSQ	1	CDCSS	023	Monitor	536	536
Med 3	CSQ	1	CDCSS	051	Monitor	BB4	BB4
Med 4	CSQ	1	CDCSS	165	Monitor	238	238
Med 5	CSQ	1	CDCSS	245	Monitor	9BD	9BD
HAZMAT	CSQ	1	CTCSS	100.0 Hz 1Z	Monitor	222	222
USAR	CSQ	1	CTCSS	103.5 Hz 1A	Monitor	9B9	9B9
Water	CSQ	1	CTCSS	107.2 Hz 1B	Monitor	AAA	AAA
Hjw	CSQ	1	CTCSS	110.9 Hz ZZ	Monitor	AAB	AAB
Health	CSQ	1	CTCSS	131.8 Hz 3B	Monitor	AAC	AAC
EMA	CSQ	1	CTCSS	162.2 Hz 5B	Monitor	834	834
Interop	CSQ	1	CTCSS	156.7 Hz 5A	Monitor	F7E	293

Data: Modified System Key Found File: NIFOG 1_4_R2.lty

Picklist Screen:

Up to 32 user selectable
CTCSS/CDCSS/NAC

Each entry cover both analog and
P25

Alphanumeric name for each entry



The screenshot shows the 'Unit Id programming Table' window. At the top, there are controls for 'Unit Id Table' including a dropdown for 'OTAR Radio RSI' (set to 1) and an 'Auto Increment' button. To the right, there is an 'Auto Increment Value' dropdown (set to 1). Below these are navigation arrows. The main area is a table with columns: Network Name, Conv. UnitId (Dec.), Trunking UnitId (Dec.), MDC UnitId (Hex), Increment Row, and Decrement Row. The table lists various networks like Mutual Aid, Johnson County, and Statewide SYS. At the bottom of the window, there is a 'Reset All Unit IDs to Factory Default' link and a 'Close' button.

Network Name	Conv. UnitId (Dec.)	Trunking UnitId (Dec.)	MDC UnitId (Hex)	Increment Row	Decrement Row
Mutual Aid	12007	87642	22	+	-
Johnson County	13487	1		+	-
Garrett County	34098	1		+	-
Northern County	3458098	1		+	-
Waterside City	32498	1		+	-
Johnson City	3354	1		+	-
Portable Site	76	1		+	-
Army Base	3032	1		+	-
Elec Comp	7658789	1		+	-
Maine	3253465	1		+	-
Federal Ops	234908	1		+	-
Statewide SYS	324356	99246		+	-

Unit ID Screen:

Single screen for management of all Radio ID's

- Conventional P25
- Trunking P25
- MDC1200
- OTAR RSI

Ability to auto increment entire page, single line or single ID



Liberty PcProgrammer - Manage System Keys

System Keys Save ReScan

System Key Summary Daughter Key Programming

Master Keys There is 1 Master Key Attached.

Serial Number	WACN Id (Hex)	System Id (Hex)	Programmed On
0200	-	-	Wednesday, March 03, 2010

Daughter Keys There is 1 Network Licenses in 1 Daughter Key Attached.

Serial Number	Wacn ID (Hex)	System ID (Hex)	Status
01A7	BEE00	001	OK

Data: Modified System Key Found File: NIFOG 1_4_R2.Ity

Manage System Key Screen:

Displays both Master and Daughter System Key

Daughter Keys allow the addition of restrictions:

Expiration date

Limit by Radio Serial Number

Limit by P25 Trunking Radio ID

