

General Communications Rules of Use

for

VHF and UHF Conventional Interoperable Channels

Prepared for Illinois Public Safety Communications Professionals

By the

Statewide Interoperability Executive Committee (SEIC) Usage Working Group

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General Communications Rules of Use

Purpose

The purpose of the document is to provide general information about the State of Illinois Public Safety Interoperable channels.

NIMS/ICS/Plain Language/Unit Identification

- National Incident Management System – Use of an Incident Command System compliant with the National Incident Management System is recommended for use of any regional interoperability resource, i.e. implementing a Communications Unit Leader position.
- It is the responsibility of the Incident Commander/designee to establish the tactical callsigns to be used for the incident. It is the responsibility of all users to refer to facilities and staff by the proper tactical callsigns.
- Plain language – All communications shall be in plain language. Radio codes, acronyms and abbreviations are to be avoided as they may cause confusion between agencies. The reason for a request for assistance or backup should be clearly stated.
- Unit Identification – Agency name followed by identifier or resource type (i.e., IEMA 12, Fire Marshal David Adam 1, Secretary of State Police – Car 3 John 40, etc.).

Calling Another Unit

A user should call another user using the – “called unit **from** calling unit” format (also known as the “hey you –it’s me” format) using unit identifiers as shown in 3.1.1 (above) as in:

“Illinois State Police Car 2-5 **from** IEMA 3”

Followed by:

“IEMA 3 **from** Illinois State Police Car 2-5, go ahead”

Important

- **NOTE:** State level interoperable channels (ISPERN, IFERN, POINT, IREACH, ESMARN, and MABAS firegrounds) are used on a daily basis for day-to-day interoperable communications. Using these channel resources could affect ongoing operations in a nearby community. Please clarify/assess the need for the resource as an interoperable resource and be sensitive to how the state interoperable resources are used in a particular area.
- **NOTE:** Scanning across multiple channels is generally not advised when using interoperable communications.
- **NOTE:** Encryption shall not be used at any time on any simplex, State or National interoperable channel, including ISPERN, IREACH, IFERN, MERCI.
- **NOTE:** The use of digital voice/data transmission is prohibited on State and National level interoperable channels

If you have questions please email the Statewide Interoperability Coordinator (SWIC) at ema.scip@illinois.gov

State Interoperable Radio Channels Rules of Use

ISPERN Illinois State Police Emergency Radio Network

Channel Name	Analog / Digital	Wide / Narrow	Subscriber RX and Tone	Subscriber TX and Tone	Primary Use	Agencies Supported
ISPERN (NIP VLAW31)*	A	N	155.47500 CSQ/D156**	155.47500 D156	State and Local Interop	Law Enforcement

* indicates the channel has the same frequency as the non-federal Nation Interoperable Pool (NIP) channel but with an Illinois specific PL tone instead of the NIP PL Code of 156.7

****CTCSS Tones** – Default operation should be carrier squelch receive (CSQ), CTCSS Transmit. If the user can enable/disable without programming the radio, the indicated CTCSS tone also could be programmed for receive, and the user instructed how and when to enable/disable.

- ISPERN equipped radios must be operated only by law enforcement personnel.
- Routine communications on the ISPERN frequency between units owned by the same political subdivision is not permitted.
- Power output must not exceed 132 effective radiated power (ERP) for Mobile or base
- Provides personnel in police mobile units with an inter-agency communication capability for police activity of an emergency nature within the State of Illinois.
- Operates on a radio frequency assigned to the Illinois State Police by the Federal Communications Commission.
- Is under the control of the Director of the Illinois State Police.
- To accomplish the objectives of ISPERN, specific criteria for allowable communications have been established. The following eight types of communications are listed in priority ranking:
 - Emergency
 - Disaster
 - Pursuits
 - Criminal/traffic offense or missing persons
 - Hit alerts
 - Mobile-to-mobile coordination
 - Itinerant
 - Testing
- Mobile Command Post Eligibility Requirements. The ISPERN frequency may only be installed in Mobile Command Posts (Emergency Communications Vans) with the prior approval of the ISPERN Governing Board, and by meeting the following guidelines:

ISPERN is a law enforcement frequency, therefore, use of the ISPERN frequency in the Communications Van/Mobile Command Post must be under the control of a police agency.

 - Antenna height and effective radiated power (ERP) must be limited to that necessary to communicate with vehicle installed radios in the area of the emergency. Care must be taken to prevent interference with ISPERN traffic in adjacent areas.
 - The local ISPERN Control Point will remain the network control station and shall coordinate traffic on this frequency to minimize interference. The Communications Van/Mobile Command Post shall notify the ISPERN Control Point when a drill begins and request that they broadcast a dispatch on ISPERN announcing the drill. When a drill is concluded, the Control Point shall be notified and a dispatch made advising the conclusion of the drill.

- ISPERN and FCC rules and regulations shall be followed.
- The use of ISPERN by the Communications Van/Mobile Command Post for test or drills shall not interfere with legitimate emergency traffic. Drill traffic shall cease until such emergency traffic clears.
- Disaster drill traffic shall not include false or misleading messages, but will consist primarily of inter-agency coordination of mobile units.

IREACH Illinois Radio Emergency Assistance Channel

Channel Name	Analog / Digital	Wide / Narrow	Subscriber RX and Tone	Subscriber TX and Tone	Primary Use	Agencies Supported
IREACH	A	N	155.05500 CSQ/D156*	155.05500 D156	Inter-agency	All

***CTCSS Tones** – Default operation should be carrier squelch receive (CSQ), CTCSS Transmit. If the user can enable/disable without programming the radio, the indicated CTCSS tone also could be programmed for receive, and the user instructed how and when to enable/disable.

Used for interdisciplinary coordination.

The purpose of IREACH is to allow any public safety employee to talk to any other public safety employee via radio provided the radio traffic relates to their official duties and the protection of life and/or property. For example, to permit a fire fighter to have direct radio contact with an emergency medical technician in an ambulance or to enable a police officer to talk to an EMA/ESDA official at a disaster site.

OPERATING GUIDELINES

The definition of acceptable IREACH traffic is deliberately broad. IREACH may be used to coordinate official public safety activities involving two or more public safety agencies. Official activities are defined as those serving to provide for the protection of life and/or property.

Licensed base stations will be allowed to operate on IREACH to foster coordination and communications between public safety units. A base station may initiate a dispatch if it is of significant interest to two or more disciplines.

Messages that qualify for ISPERN should be forwarded to the appropriate ISPERN control point for broadcast. If the message also has significant value to another discipline, such as Fire, EMS, EMA/ESDA, Highway Maintenance, or Conservation/Forestry, it can be broadcast on IREACH.

The base station call sign shall be broadcast at the end of each series of transmissions as an indication that the agency has concluded its use of the channel momentarily and is ready to accept traffic.

Automatic station identifiers are specifically prohibited.

IREACH shall not be used by a single agency for field operations or as an intra-agency car-to-car channel. Paging and other forms of selective signaling will not be allowed on IREACH.

Manual

http://www.state.il.us/iema/SCIP/IREACH_Manual.pdf

MABAS Mutual Aid Box Alarm System (Fire Tactical Operations Channels)

Channel Name	Analog / Digital	Wide / Narrow	Subscriber RX and Tone	Subscriber TX and Tone	Primary Use	Agencies Supported
IFERN (NIP VFIRE22)*	A	N	154.26500 CSQ/210.7**	154.26500 210.7	Fire Dispatch	Fire
IFERN 2 (NIP VFIRE26)*	A	N	154.30250 CSQ/67.0**	154.30250 67.0	Fire Dispatch and Staging	Fire
FGND RED	A	N	153.83000 CSQ/69.3**	153.83000 69.3	Fire Ground	Fire
FGND WHT (NIP VFIRE21)*	A	N	154.28000 CSQ/74.4**	154.28000 74.4	Fire Ground	Fire
FGND BLU (NIP VFIRE23)*	A	N	154.29500 CSQ/85.4**	154.29500 85.4	Fire Ground	Fire
FGND GLD	A	N	153.83750 CSQ/91.5**	153.83750 91.5	Fire Ground	Fire
FGND BLK (NIP VFIRE24)*	A	N	154.27250 CSQ/94.8**	154.27250 94.8	Fire Ground	Fire
FGND GRY (NIP VFIRE25)*	A	N	154.28750 CSQ/136.5**	154.28750 136.5	Fire Ground	Fire
MERCI 160 (NIP SAR NFM)*	A	N	155.16000 Varies	155.16000 Varies	Edwardsville	EMS
MERCI 220	A	N	155.22000 Varies	155.22000 Varies	Dispatch	EMS
MERCI 280	A	N	155.28000 CSQ/D156**	155.28000 D156	Point to Point	EMS
MERCI 340 (NIP VMED28)*	A	N	155.34000 CSQ/ 210.7**	155.34000 210.7	Statewide	EMS
MERCI 400	A	N	155.40000 Varies	155.40000 Varies	NE Illinois	EMS

NOTE: * indicates the channel has the same frequency as the non-federal Nation Interoperable Pool (NIP) channel but with an Illinois specific PL tone instead of the NIP PL Code of 156.7

****CTCSS Tones** – Default operation should be carrier squelch receive (CSQ), CTCSS Transmit. If the user can enable/disable without programming the radio, the indicated CTCSS tone also could be programmed for receive, and the user instructed how and when to enable/disable.

Located at: <http://www.mabas-il.org/MABASDispatchers/Pages/default.aspx>

Definitions

IFERN – MABAS mutual aid dispatch and response frequency (base/mobile).

IFERN2 – Alternate base/mobile mutual aid dispatch frequency

Fireground – Low power tactical frequencies used for on-scene communications between the Incident Commander and units working the incident.(RED, WHT, BLU, GOLD, BLK, GRY)

MERCI – VHF ambulance to hospital frequencies. (155.280, 155.340 & 155.400 MHz)

Purpose:

To provide an operational guideline for member fire departments and their personnel for establishing an effective communications component for the Incident Action Plan at both routine and major emergency incidents.

Background:

The MABAS organization has grown significantly over the past few years in size, geographical service area and responsibility. The complex nature of the various incidents that member fire departments respond to has mandated the use of additional mutual aid dispatch, coordination and tactical operations radio channels to effectively manage these incidents. As a result, the MABAS Communications Committee has developed this recommended practice to assist local Incident Commanders with the task of implementing a communications plan at all emergency incidents and training evolutions.

Guideline:

The following guideline may be used by a fire service Incident Commander to develop the communications component of an Incident Action Plan. The narrow-band frequencies listed herein (IFERN2, GOLD, BLACK & GRAY Firegrounds) may create operational difficulties due to interference with adjacent wide-band frequencies. Use of these frequencies may be limited until full migration to narrow-band operation is completed. Limited to 10 Watts ERP.

Please consider that it is extremely difficult for a single individual to effectively monitor more than 1 or 2 radio frequencies during an emergency incident. As the communications plan becomes more complex, the Incident Commander must rely on aides to assist with communications management at the Command Post.

Occasionally, a jurisdiction may respond to multiple simultaneous incidents, or neighboring jurisdictions may experience simultaneous emergencies. Use of a single fireground channel for both incidents may be counterproductive and cause unnecessary harmful interference. Incident Commanders at subsequent incidents should consider adjusting their communications plan and assign a different primary fireground channel to avoid operational difficulties.

More continued on the next page

The recommended frequency use matrix on the following page can be used as a quick reference sheet for the Incident Commander or other communications personnel within the Command Post.

	Routine Incidents	Box-2nd Alarms	Major Alarms	Mass Casualty	Fire & MCI	Tech Rescue	Haz-Mat	Water Rescue	Major Disaster
IC to Local Dispatcher	Dispatch	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN
IC to MABAS Dispatcher		IFERN	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN
Staging		IFERN	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN	IFERN
Scene/First Due Companies	RED	RED	RED	RED	RED	RED	RED	RED	RED
Interior/Fire Companies	RED	RED	RED		RED				RED
Operations Officer	RED	RED	RED	RED	RED	RED			RED
Safety Officer	RED	RED	RED	RED	RED	RED	RED	RED	RED
RIT Team(s)	RED	RED	RED		RED				RED
Accountability	RED	RED	RED	RED	RED	RED	RED	RED	RED
Water Supply	RED/BLUE	BLUE	BLUE		BLACK	BLUE	BLUE		BLACK
Aerial Operations	RED/BLUE	BLUE	BLUE		BLACK	BLUE	BLUE		BLACK
Logistics		WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	GRAY
Public Information Officer		WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	GRAY
Liaison Officer(s)		WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	GRAY
Support Functions		WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	GRAY
Extrication & Manpower				RED					RED
Triage Sector				BLUE	BLUE				BLUE
Treatment Sector				BLUE	BLUE				BLUE
Transport to Ambulances				IFERN	IFERN				IFERN
Transport to Med Control				MERCI	MERCI				MERCI
Helicopter Landing Zone	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH
SRT Entry Teams						GOLD			GOLD
Haz-Mat Officer							RED		
Haz-Mat Resource							BLACK		
Haz-Mat Entry/Back-up							BLACK		
Divemaster/Dive Operations								BLUE	
Boat Operations								BLUE	
Base Camp Operations									IFERN2
Fire Operations									RED
SRT Operations									WHITE
EMS Operations									BLUE
Interdisciplinary Coordination	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH	IREACH

ESMARN Emergency Services Mutual Aid Radio Network

Channel Name	Analog / Digital	Wide / Narrow	Subscriber RX and Tone	Subscriber TX and Tone	Primary Use	Agencies Supported
ESMARN	A	N	155.02500 CSQ/123.0*	155.02500 123.0	Emergency Management	EMA

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The Emergency Services Mutual Aid Radio Network (ESMARN) is utilized throughout the state as an emergency management mutual aid channel. ESMARN is widely used in Illinois at the local emergency management agency level, providing a communications path for dispatch and notification as well as interoperability.

In Illinois and its adjoining states, the frequency known as ESMARN is used for local events where mutual aid and/or event notification is required. The use of ESMARN at the local level is both mobile-to-mobile and base-to-mobile communications. ESMARN is used by many local departments for paging of emergency management personnel as well as local services such as police, fire, and medical services.

Point to Point

Channel Name	Analog / Digital	Wide / Narrow	Subscriber RX and Tone	Subscriber TX and Tone	Primary Use	Agencies Supported
Point to Point	A	N	155.37000 CSQ	155.37000 CSQ	Law Enforcement Dispatch to Dispatch	All Law Dispatch

Law Enforcement PSAP to PSAP Communications Link

State and National Interoperable Pool (NIP) Radio Channels INDEX

State VHF - Low Band Inter-system Shared Channels

Channel Name	Analog / Digital	Wide / Narrow	Subscriber RX and Tone	Subscriber TX and Tone	Primary Use	Agencies Supported
IEMA 1	A	W	45.44000 CSQ	45.44000 CSQ	Emergency Management	EMA
IEMA 2	A	W	45.28000 CSQ	45.28000 CSQ	Emergency Management	EMA
IEMA 3	A	W	45.36000 CSQ	45.36000 CSQ	Emergency Management	EMA
IEMA 4	A	W	45.40000 CSQ	45.40000 CSQ	Emergency Management	EMA
LESERN	A	W	45.56000 CSQ	45.56000 CSQ	Emergency Management	EMA

National Interoperable VHF Low Inter-system Band Channels (Non-Federal)

Channel Name	Analog / Digital	Wide / Narrow	Subscriber RX and Tone	Subscriber TX and Tone	Primary Use	Agencies Supported
LLAW1	A	W	39.46000 CSQ/156.7	45.86000 156.7	Law	Multi Agency
LLAW1D	A	W	39.46000 CSQ/156.7	39.46000 156.7	Law	Multi Agency
LFIRE2	A	W	39.48000 CSQ/156.7	45.48000 156.7	Fire (NEW)	Multi Agency
LFIRE2D	A	W	39.48000 CSQ/156.7	39.48000 156.7	Fire (NEW)	Multi Agency
LLAW3	A	W	45.86000 CSQ/156.7	39.46000 156.7	Law	Multi Agency
LLAW3D	A	W	45.86000 CSQ/156.7	45.86000 156.7	Law	Multi Agency
LFIRE4	A	W	45.88000 CSQ/156.7	39.48800 156.7	Fire	Multi Agency
LFIRE4D	A	W	45.88000 CSQ/156.7	45.88000 156.7	Fire	Multi Agency

CTCSS Tones – Default operation should be carrier squelch receive (CSQ), CTCSS Transmit. If the user can enable/disable without programming the radio, the indicated CTCSS tone also could be programmed for receive, and the user instructed how and when to enable/disable.

State VHF High Band Inter-system Shared Channels

Channel Name	Analog / Digital	Wide / Narrow	Subscriber RX and Tone	Subscriber TX and Tone	Primary Use	Agencies Supported
ISPERN	A	N	155.47500 CSQ/D156*	155.47500 D156	State and Local Interop	Law Enforcement
ISP HF-4	A	N	155.46000 CSQ	155.46000 CSQ	LE Car-to-Car	All State Law Enforcement
All ISP Districts Main HF 2	A	N	Various VHF	Various VHF	Dispatch	IDNR Law Enforcement & others
IREACH	A	N	155.05500 CSQ/D156*	155.05500 D156	Inter-agency	All
IEMA VHF 1	A	N	155.92500 CSQ	155.92500 CSQ	IEMA Dispatch	EMA
ESMARN	A	N	155.02500 CSQ/123.0*	155.02500 123.0	Emergency Management	EMA
Point to Point	A	N	155.37000 CSQ	155.37000 CSQ	Law Enforcement Dispatch to Dispatch	All Law Dispatch
IFERN	A	N	154.26500 CSQ/210.7*	154.26500 210.7	Fire Dispatch	Fire
IFERN 2	A	N	154.30250 CSQ/67.0*	154.30250 67.0	Fire Dispatch and Staging	Fire
FGND RED	A	N	153.83000 CSQ/69.3*	153.83000 69.3	Fire Ground	Fire
FGND WHT	A	N	154.28000 CSQ/74.4*	154.28000 74.4	Fire Ground	Fire
FGND BLU	A	N	154.29500 CSQ/85.4*	154.29500 85.4	Fire Ground	Fire
FGND GLD	A	N	153.83750 CSQ/91.5*	153.83750 91.5	Fire Ground	Fire
FGND BLK	A	N	154.27250 CSQ/94.8*	154.27250 94.8	Fire Ground	Fire
FGND GRY	A	N	154.28750 CSQ/136.5*	154.28750 136.5	Fire Ground	Fire
MERCI 160	A	N	155.16000 Varies	155.16000 Varies	Edwardsville	EMS
MERCI 220	A	N	155.22000 Varies	155.22000 Varies	Dispatch	EMS
MERCI 280	A	N	155.28000 CSQ/D156*	155.28000 D156	Point to Point	EMS
MERCI 340 **	A	N	155.34000 CSQ/ 210.7*	155.34000 210.7	Statewide	EMS
MERCI 400	A	N	155.40000 Varies	155.40000 Varies	NE Illinois	EMS

*In some regions of the state a PL code is used on both RX and TX. If you are not sure leave RX as CSQ

**155.3400 has a PL of 210.7 for Statewide mutual aid use. In addition, each receiving hospital has unique CTCSS tone for communications

***CTCSS Tones** – Default operation should be carrier squelch receive (CSQ), CTCSS Transmit. If the user can enable/disable without programming the radio, the indicated CTCSS tone also could be programmed for receive, and the user instructed how and when to enable/disable.

National Interoperable VHF High Band Channels (Non-Federal)

Channel Name	Analog / Digit-al	Wide / Narrow	Subscriber RX and Tone	Subscriber TX and Tone	Primary Use	Agencies Supported
VCALL10	A	N	155.75250 CSQ/156.7	155.75250 156.7	Simplex Calling	Multi Agency
VTAC11*	A	N	151.13750 CSQ/156.7	151.13750 156.7	Simplex	Multi Agency
VTAC12*	A	N	154.45250 CSQ/156.7	154.45250 156.7	Simplex	Multi Agency
VTAC13*	A	N	158.73750 CSQ/156.7	158.73750 156.7	Simplex	Multi Agency
VTAC14*	A	N	159.47250 CSQ/156.7	159.47250 156.7	Simplex (SAR Interop)	Multi Agency
VFIRE21	A	N	154.28000 CSQ/156.7	154.28000 156.7	Fire Ground	Fire
VFIRE22	A	N	154.26500 CSQ/156.7	154.26500 156.7	Fire Ground	Fire
VFIRE23	A	N	154.29500 CSQ/156.7	154.29500 156.7	Fire Ground	Fire
VFIRE24	A	N	154.27250 CSQ/156.7	154.27250 156.7	Fire Ground	Fire
VFIRE25	A	N	154.28750 CSQ/156.7	154.28750 156.7	Fire Ground	Fire
VFIRE26	A	N	154.30250 CSQ/156.7	154.30250 156.7	Fire Ground	Fire
VMED28	A	N	155.34000 CSQ/156.7	155.34000 156.7	Interoperability	EMS
VMED29	A	N	155.34750 CSQ/156.7	155.34750 156.7	Interoperability	EMS
VLAW31	A	N	155.47500 CSQ/156.7	155.47500 156.7	Interoperability	Law
VLAW32**	A	N	155.48250 CSQ/156.7	155.48250 156.7	Interoperability	Law
VTAC33**	A	N	159.47250 CSQ/136.5	151.13750 136.5	Tactical Repeater	Multi Agency
VTAC34**	A	N	158.73750 CSQ/136.5	154.45250 136.5	Tactical Repeater	Multi Agency
VTAC35**	A	N	159.47250 CSQ/136.5	158.73750 136.5	Tactical Repeater	Multi Agency
VTAC36** ***	A	N	151.13750 CSQ/136.5	159.47250 136.5	Tactical Repeater	Multi Agency
VTAC37** ***	A	N	154.45250 CSQ/136.5	158.73750 136.5	Tactical Repeater	Multi Agency
VTAC38** ***	A	N	158.73750 CSQ/136.5	159.47250 136.5	Tactical Repeater	Multi Agency

* VTAC11-14 **PLEASE NOTE:** if using tactical repeater channels (VTAC33-38) the TX and RX are the same as the VTAC11-14 channels. Caution is to be used in planning interop comms in VHF using NIP

** VTAC33-38 recommended for Deployable Tactical Repeater use only (FCC FB2T)

*** VTAC36-38 are preferred; VTAC 33-35 only use when necessary

CTCSS Tones – Default operation should be carrier squelch receive (CSQ), CTCSS Transmit. If the user can enable/disable without programming the radio, the indicated CTCSS tone also could be programmed for receive, and the user instructed how and when to enable/disable.

State UHF Inter-system Shared Channels

Channel Name	Analog / Digital	Wide / Narrow	Subscriber RX and Tone	Subscriber TX and Tone	Primary Use	Agencies Supported
IDOT F4	A	N	453.70000 CSQ	458.70000 CSQ	Highway Maintenance	IDOT & Tollway
AMB TACT 1	A	N	458.02500 CSQ	458.02500 Varies	Transport	EMS
AMB TACT 2	A	N	458.07500 CSQ	458.07500 Varies	Transport	EMS
AMB TACT 3	A	N	458.12500 CSQ	458.12500 Varies	Transport	EMS
AMB TACT 4	A	N	458.17500 CSQ	458.17500 Varies	Transport	EMS
MED 1	A	N	463.00000 Varies	468.00000 Varies	Transport	EMS
MED 2	A	N	463.02500 Varies	468.02500 Varies	Transport	EMS
MED 3	A	N	463.05000 CSQ	468.05000 Varies	Transport	EMS
MED 4	A	N	463.07500 Varies	468.07500 Varies	Transport	EMS
MED 5	A	N	463.10000 Varies	468.10000 Varies	Transport	EMS
MED 6	A	N	463.12500 Varies	468.12500 Varies	Transport	EMS
MED 7	A	N	463.15000 Varies	468.15000 Varies	Transport	EMS
MED 8	A	N	463.17500 Varies	468.17500 Varies	Statewide Mutual Aid	EMS
MED 9	A	N	462.95000 Varies	467.95000 Varies	Transport	EMS
MED 10	A	N	462.97500 Varies	467.97500 Varies	Transport	EMS

Note: For MED Channels CTCSS varies across the state, but 210.7 is used for Statewide Communications during a disaster or mutual aid. UHF MED channels used per 47CFR 90.20(d) (65). In some regions of the state a PL code is used on both RX and TX. If you are not sure leave RX as CSQ

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National Interoperable UHF Channels (Non-Federal)

Channel Name	Analog / Digital	Wide / Narrow	Subscriber RX and Tone	Subscriber TX and Tone	Primary Use	Agencies Supported
UCALL40	A	N	453.21250 CSQ/156.7	458.21250 156.7	Inter-disciplinary Calling	Multi Agency
UCALL40D	A	N	453.21250 CSQ/156.7	453.21250 156.7	Inter-disciplinary Calling	Multi Agency
UTAC41	A	N	453.46250 CSQ/156.7	458.46250 156.7	Inter-disciplinary	Multi Agency
UTAC41D	A	N	453.46250 CSQ/156.7	453.46250 156.7	Inter-disciplinary	Multi Agency
UTAC42	A	N	453.71250 CSQ/156.7	458.71250 156.7	Inter-disciplinary	Multi Agency
UTAC42D	A	N	453.71250 CSQ/156.7	453.71250 156.7	Inter-disciplinary	Multi Agency
UTAC43	A	N	453.86250 CSQ/156.7	458.86250 156.7	Inter-disciplinary (SAR Interop)	Multi Agency
UTAC43D	A	N	453.86250 CSQ/156.7	453.86250 156.7	Inter-disciplinary	Multi Agency

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Programming Templates

Agencies that may need to work across a state border for mutual aid, should consider setting up a separate zone in the radio (if possible) with the NIP Channel names as opposed to relying on the Illinois name. (Police Example - Illinois = ISPERN; Wisconsin = VLAW31; National = VLAW31 // Fire Example - Illinois/Wisconsin/Indiana = MABAS BLUE; National = VFIRE23)

The Federal Communications Commission has designated multi-discipline interoperability channels in the UHF VHF (both low and high bands), UHF, 700 MHz and 800 MHz public safety radio bands. The term “multi-discipline” infers these channels are to be accessible for all public safety users to communicate to others within their discipline (police-to-police, fire-to-fire, etc.) as well as cross-discipline communications (police-to-fire, fire-to-local government, etc.) among all public safety users.

Below are examples of how these can be set up.

Basic VHF Interoperable Radio – EMA

CHANNEL	NAME	Mobile RX Freq	Mobile TX Freq	Tone RX	Tone TX
1	ESMARN	155.02500	155.02500	123.0*	123.0*
2					
3	IREACH	155.05500	155.05500	D156*	D156*
4					
5					
6					
7					
8					
9					
10	VCALL10	155.75250	155.75250	CSQ / 156.7**	156.7
11	VTAC11	151.13750	151.13750	CSQ / 156.7**	156.7
12	VTAC12	154.45250	154.45250	CSQ / 156.7**	156.7
13	VTAC13	158.73750	158.73750	CSQ / 156.7**	156.7
14	VTAC14	159.47250	159.47250	CSQ / 156.7**	156.7
15	NAT SAR	155.16000	155.16000	127.3	127.3
16					

NOTE: At no time will transmission of any form of digital signal be allowed on any state or national interoperability channel.

* New PL or DPL as of December 31. 2012

**NIFOG Recommendation: “Default operation should be carrier squelch receive, CTCSS 156.7 (5A) transmit. If the user can enable/disable CTCSS without reprogramming the radio, the indicated CTCSS tone should also be programmed for receive, and the user instructed how and when to enable/disable.”

BASIC VHF INTEROPERABLE RADIO – ILLINOIS FIRE ZONE

CHANNEL	NAME	Mobile RX Freq	Mobile TX Freq	Tone RX	Tone TX
1	IFERN	154.26500	154.26500	210.7	210.7
2	IFERN2	154.30250	154.30250	67.0	67.0
3	IREACH	155.05500	155.05500	D156*	D156*
4	FGND RED	153.83000	153.83000	69.3	69.3
5	FGND WHT	154.28000	154.28000	74.4	74.4
6	FGND BLU	154.29500	154.29500	85.4	85.4
7	FGND GLD	153.83750	153.83750	91.5	91.5
8	FGND BLK	154.27250	154.27250	94.8	94.8
9	FGND GRY	154.28750	154.28750	136.5	136.5
10	VCALL10	155.75250	155.75250	CSQ / 156.7**	156.7
11	VTAC11	151.13750	151.13750	CSQ / 156.7**	156.7
12	VTAC12	154.45250	154.45250	CSQ / 156.7**	156.7
13	VTAC13	158.73750	158.73750	CSQ / 156.7**	156.7
14	VTAC14	159.47250	159.47250	CSQ / 156.7**	156.7
15	NAT SAR	155.16000	155.16000	127.3	127.3
16	VMED29	155.34750	155.34750	CSQ / 156.7**	156.7

BASIC VHF INTEROPERABLE RADIO – NATIONAL FIRE ZONE

CHANNEL	NAME	Mobile RX Freq	Mobile TX Freq	Tone RX	Tone TX
1	IFERN	154.26500	154.26500	210.7	210.7
2	IFERN2	154.30250	154.30250	67.0	67.0
3	IREACH	155.05500	155.05500	D156*	D156*
4	VFIRE21	154.28000	154.28000	CSQ / 156.7**	156.7
5	VFIRE 22	154.26500	154.26500	CSQ / 156.7**	156.7
6	VFIRE23	154.29500	154.29500	CSQ / 156.7**	156.7
7	VFIRE24	154.27250	154.27250	CSQ / 156.7**	156.7
8	VFIRE25	154.28750	154.28750	CSQ / 156.7**	156.7
9	VFIRE26	154.30250	154.30250	CSQ / 156.7**	156.7
10	VCALL10	155.75250	155.75250	CSQ / 156.7**	156.7
11	VTAC11	151.13750	151.13750	CSQ / 156.7**	156.7
12	VTAC12	154.45250	154.45250	CSQ / 156.7**	156.7
13	VTAC13	158.73750	158.73750	CSQ / 156.7**	156.7
14	VTAC14	159.47250	159.47250	CSQ / 156.7**	156.7
15	NAT SAR	155.16000	155.16000	127.3	127.3
16	VMED29	155.34750	155.34750	CSQ / 156.7**	156.7

NOTE: At no time will transmission in any form of digital signal be allowed on any state or national interoperability channel. Both zones should be programmed. If space is limited in the radio, program only the Illinois zone

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**NIFOG Recommendation: “Default operation should be carrier squelch receive, CTCSS 156.7 (5A) transmit. If the user can enable/disable CTCSS without reprogramming the radio, the indicated CTCSS tone should also be programmed for receive, and the user instructed how and when to enable/disable

BASIC VHF INTEROPERABLE RADIO - LAW

CHANNEL	NAME	Mobile RX Freq	Mobile TX Freq	Tone RX	Tone TX
1	ISPERN	155.47500	155.47500	CSQ	D156
2	IREACH	155.05500	155.05500	D156	D156
3	VLAW31	155.4750	155.4750	CSQ / 156.7**	156.7
4	VLAW32	155.4875	155.4875	CSQ / 156.7**	156.7
5	VTAC33	159.47250	151.13750	CSQ / 136.5**	136.5
6	VTAC34	158.73750	154.45250	CSQ / 136.5**	136.5
7	VTAC35	159.47250	158.73750	CSQ / 136.5**	136.5
8	VTAC36	151.13750	159.47250	CSQ / 136.5**	136.5
9	VTAC37	154.45250	158.73750	CSQ / 136.5**	136.5
10	VCALL10	155.75250	155.75250	CSQ / 156.7**	156.7
11	VTAC11	151.13750	151.13750	CSQ / 156.7**	156.7
12	VTAC12	154.45250	154.45250	CSQ / 156.7**	156.7
13	VTAC13	158.73750	158.73750	CSQ / 156.7**	156.7
14	VTAC14	159.47250	159.47250	CSQ / 156.7**	156.7
15	NAT SAR	155.16000	155.16000	127.3	127.3
16	VTAC38	158.73750	159.47250	CSQ / 136.5**	136.5

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****NIFOG Recommendation:** "Default operation should be carrier squelch receive, CTCSS 156.7 (5A) transmit. If the user can enable/disable CTCSS without reprogramming the radio, the indicated CTCSS tone should also be programmed for receive, and the user instructed how and when to enable/disable."

BASIC VHF INTEROPERABLE RADIO - EMS

CHANNEL	NAME	Mobile RX Freq	Mobile TX Freq	Tone RX	Tone TX
1	VMED28	155.34000	155.34000	CSQ / 156.7**	156.7
2	VMED29	155.34750	155.34750	CSQ / 156.7**	156.7
3	IREACH	155.05500	155.05500	D156*	D156*
4	MERCI340	155.34000	155.34000	210.7	210.7
5	MERCI400	155.40000	155.40000	210.7	210.7
6	MERCI280	155.28000	155.28000	210.7	210.7
7	MERCI220	155.22000	155.22000	210.7	210.7
8					
9					
10	VCALL10	155.75250	155.75250	CSQ / 156.7**	156.7
11	VTAC11	151.13750	151.13750	CSQ / 156.7**	156.7
12	VTAC12	154.45250	154.45250	CSQ / 156.7**	156.7
13	VTAC13	158.73750	158.73750	CSQ / 156.7**	156.7
14	VTAC14	159.47250	159.47250	CSQ / 156.7**	156.7
15	NAT SAR	155.16000	155.16000	127.3	127.3
16	VMED29	155.34750	155.34750	CSQ / 156.7**	156.7

NOTE: At no time will transmission in any form of digital signal be allowed on any state or national interoperability channel.

* New PL or DPL as of December 31, 2012

**NIFOG Recommendation: "Default operation should be carrier squelch receive, CTCSS 156.7 (5A) transmit. If the user can enable/disable CTCSS without reprogramming the radio, the indicated CTCSS tone should also be programmed for receive, and the user instructed how and when to enable/disable."

MORE ON EMS CHANNELS

The State of Illinois, using federal homeland security grant monies, purchased 1,950 mobile radios, 180 portable radios, 201 hospital (MERCİ) base stations, and 20 İREACH base stations which were distributed to local public health agencies, hospitals, local emergency management agencies, and law enforcement and fire departments in 2005 and 2006. Recipients of those VHF radios could exercise the option to add their local frequencies to the units, promoting the use of and familiarity with the instruments within the user communities through day-to-day use.

Common Name	Mobile Receive Frequency	Mobile Transmit Frequency	DCS / CTCSS
MERCİ 160 ¹	155.16000	155.16000	Varies
MERCİ 220 ²	155.22000	155.22000	Varies
MERCİ 280 ³	155.28000	155.28000	D156
MERCİ 340	155.34000	155.34000	210.7 ⁴
MERCİ 400 ⁵	155.40000	155.40000	Varies
AMB TACT 1	458.02500	458.02500	Varies
AMB TACT 2	458.07500	458.07500	Varies
AMB TACT 3	458.12500	458.12500	Varies
AMB TACT 4	458.17500	458.17500	Varies
MED 1	463.00000	468.00000	Varies
MED 2	463.02500	468.02500	Varies
MED 3	463.05000	468.05000	Varies
MED 4	463.07500	468.07500	Varies
MED 5	463.10000	468.10000	Varies
MED 6	463.12500	468.12500	Varies
MED 7	463.15000	468.15000	Varies
MED 8	463.17500	468.17500	210.7
MED 9	463.95000	467.95000	Varies
MED 10	463.97500	467.97500	Varies

NOTE: At no time will transmission in any form of digital signal be allowed on any state or national interoperability channel.

¹ MERCİ 160 use is limited to Edwardsville/Collinsville/Belleuille area.

² MERCİ 220 is designated as a dispatch channel.

³ MERCİ 280 is designated for hospital point to point and disaster-related communications.

⁴ CTCSS Code 210.7 Hz is used for statewide communications during disaster or mutual aid incidents.

⁵ MERCİ 400 use is limited to northeastern Illinois, generally north of North Avenue in the Chicago metro area.

BASIC UHF INTEROPERABLE RADIO

CHANNEL	NAME	Mobile RX Freq	Mobile TX Freq	Tone RX	Tone TX
1	UCALL40D	453.2125	453.2125	CSQ / 156.7**	156.7
2	UTAC41D	453.4625	453.4625	CSQ / 156.7**	156.7
3	UTAC42D	453.7125	453.7125	CSQ / 156.7**	156.7
4	UTAC43D	453.8625	453.8625	CSQ / 156.7**	156.7
5	UCALL40	453.2125	458.2125	CSQ / 156.7**	156.7
6	UTAC41	453.4625	458.4625	CSQ / 156.7**	156.7
7	UTAC42	453.7125	458.7125	CSQ / 156.7**	156.7
8	UTAC43	453.8625	458.8625	CSQ / 156.7**	156.7
9					
10					
11					
12					
13					
14					
15					
16					

NOTE: At no time will transmission in any form of digital signal be allowed on any state or national interoperability channel.

**NIFOG Recommendation: "Default operation should be carrier squelch receive, CTCSS 156.7 (5A) transmit. If the user can enable/disable CTCSS without reprogramming the radio, the indicated CTCSS tone should also be programmed for receive, and the user instructed how and when to enable/disable."