

STARCOM21

Frequently Asked Questions

Dated August 1, 2011

*Developed in collaboration with the Illinois SWIC Team
and the SIEC Usage Working Group*

Questions/Comments – send to ema.scip@illinois.gov

The Frequently Asked Questions (FAQs) in this document relate to both uses of STARCOM21 – “operability” and “interoperability.”

The Illinois Terrorism Task Force (ITTF) made radios available to first response organizations (law, fire, EMS, EMA, dispatch centers, public health, etc.) for interoperability with other jurisdictions and disciplines – these radios are generally referred to in the FAQs as “ITTF radios” and were provided to the users with the Statewide Interoperability Template **only** pre-loaded in the radio.

A number of State agencies (ISP, ILSOS, IDOT, IDPH, etc.) and a growing number of local organizations (Springfield Police, Boone County Sheriff, McHenry County departments, St. Clair County departments, etc.) use STARCOM for their day-to-day, normal/regular radio communications (daily operability) – these radios have zone(s) for the agency’s unique operability template **plus** the Statewide Interoperability Template.

Questions that refer specifically to “ITTF radios” or “ITTF-provided radios” generally refer to issues of interoperable communications, not daily operability.

Questions that refer to STARCOM21 radios in general may refer to both daily operability and interoperability.

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The Single Most Frequently Asked Question

Question: Is there a charge for using my ITTF-provided radio?

Answer: There is **NO** additional charge to you for using your ITTF-provided STARCOM21 radio as long as it is used for Interoperability on the Statewide Interoperability Template because the ITTF **prepaid** the annual service fee for five years when the radios were purchased. It can be used for any of the following activities:

- Tests
- Nets
- Training
- Drills
- Exercises
- Emergencies
- Disasters
- Preplanned Events

STARCOM21 Contract and Cost

Question: What are all of the STARCOM21 Rates?

Answer: Per the current contract (2001-2011) the "ITTF Rate" is a special prepaid rate of \$100 per year for ITTF-provided radios as long as they are used for interoperable communications only.

The other rates include:

\$53 per month – Statewide daily operability communications

\$35 per month – Countywide daily operability communications

\$30 per month – Municipal daily operability communications

Port Access Rate – Case by case subsystem approach

\$100 a year – used for interoperability only on the Statewide Interoperability Template

Question: If I use the ITTF STARCOM21 radio will I be charged \$53 per month forever?

Answer: **No** – There is **no** charge to the user to use an ITTF STARCOM21 radio as long as it is used for Interoperability on the Statewide Interoperability Template because the ITTF **prepaid** the annual service fee for five years when the radios were purchased.

Question: What is the difference between an ITTF STARCOM21 radio and any other STARCOM21 radio?

Answer: The airtime rate of \$100 per year has been prepaid for five years by the ITTF. The radio is **not** to be used for day to day communications operability – it's for interoperability **only**.

Question: When does the prepaid service on ITTF STARCOM21 radios end?

Answer: Service was prepaid for five years. After five years, the cost for "interoperable only" access is expected to be the prepaid airtime rate of \$100 per year per radio (per current contract). The initial prepaid service started on October 1, 2007, and will end on September 30, 2011. The remaining 12 months is expected to continue in the new contract and will end September 30, 2012. The ITTF hopes to continue supporting these radios financially in the future, but this is dependent on the availability of future grant funding.

Question: Has the STARCOM21 contract between Motorola Solutions and the State been renewed?

Answer: Not yet - the contract expires September 27, 2011. The State is currently negotiating with Motorola Solutions for a new contract for network services and infrastructure.

Question: Are the STARCOM21 rates changing?

Answer: Not sure – the rate structure is part of the ongoing negotiations for the new infrastructure contract.

Question: What is the charge for public safety agencies to utilize the STARCOM21 platform for an ongoing response to an incident?

Answer: Agencies should not fear unexpected usage charges. To date Motorola Solutions has not billed anyone for extra communications usage during an incident. Motorola

Solutions has also agreed to contact agencies and notify them that usage is outside the program guidelines PRIOR to sending any invoice. In fact, any billable usage would have to be authorized with a purchase order or other appropriate billing authorization by the affected agency before Motorola Solutions could generate an invoice. Motorola Solutions reserves the right to charge for extended usage; agencies may incur radio charges for every 30-day period that the STARCOM21 radio is utilized for the incident response per the STARCOM21 contract.

Question: If our public safety agency purchases additional STARCOM21 radios, can we get the ITTF talkgroups installed on these units?

Answer: Yes - The ITTF talkgroups are part of the Statewide Interoperability Template. The SIEC and ITTF Communications Committee recommend that all STARCOM21 radios have the Statewide Interoperability Template included. Motorola Solutions has agreed to include the Statewide Interoperability Template when radios are being programmed. As of today, both the "current" and "new" templates should be programmed into each radio unless the radio is limited to three zones only, in which case a one zone Interoperability template is available.

STARCOM21 Rules of Use

Question: What is the plan (operational guidelines) for use of the STARCOM21 radio by public safety agencies for interoperability?

Answer: The Illinois Emergency Management Agency (IEMA) and ITTF Communications Committee have developed protocols and procedures for the use of the STARCOM21 platform during an event, as part of the Statewide Communications Interoperability Plan (SCIP) and the State's Tactical Interoperable Communications Plan (TICP). Both plans are posted on the IEMA web page accessible via the 'Interoperable Communications' link. A Communications Unit Leader (COML) is in charge of putting together a communications plan in the field in response to an incident or event. STARCOM21 may be used for the following conditions:

- Command and Control
- Notification / important information from the State
- Monthly tests or Nets
- Exercises (quarterly, or approved in advance by the COMC)
- During an emergency incident

Question: Are there criteria that should be met or a trigger point where a talkgroup on STARCOM21 can be used at the municipal or county level (what type of incident, operation, etc.)? What talkgroup (s) can be used?

Answer: No, there are no specific criteria; it is based on the need for interoperability in emergency situations. The Regional A and B (example: RGN 4A or RGN 4B) talkgroups can be used (B first, then A if you need a second talkgroup) for any training, drill, exercise, planned event, or emergency incident without asking anyone's permission provided that no one else is using the talkgroup(s). The regional talkgroups are named for the IEMA regions, so you must know the IEMA Region that your county is in to be able to select the correct B and A talkgroups. If any additional talkgroups are needed, the event/incident COML must seek permission and talkgroup assignment from the State COMC or IEMA Communications Officer – 800.782.7860.

Question: If one discipline in a jurisdiction uses STARCOM21 for daily operable communications can they be "patched together" with the other disciplines (on VHF, on UHF, etc) in that jurisdiction for use on a daily basis? Do you need permission to do so and, if so, what does it cost?

Answer: Yes, the systems can be "patched together." If you are interested in establishing a patch on a permanent basis then the STARCOM21 Technical Advisory Subcommittee will need to approve that patch. On the other hand, if you are in need of a temporary patch during an event or incident, that form of temporary interoperable link should be done under the direction of a COML.

Question: Why can't I "just listen" in to a conversation that is happening elsewhere in the state?

Answer: Listening to a talkgroup that is active outside your local area for the purpose of "just listening" is prohibited. The "dragging" of communication traffic from one area of the state to another area takes precious channel resources out of action for others to use. Only listen to your designated/authorized talkgroups.

Question: Is it OK to monitor surrounding agencies on my ITTF-provided STARCOM21? Is there an additional fee even if I don't talk on it?

Answer: Monitoring interoperable talkgroup traffic of agencies close to yours is important and proper to provide situational awareness of what is happening in your area when using the Statewide Interoperability Template. There are no fees to the user associated with any ITTF radio as long as it is used for interoperability only.

Question: Our agency has a STARCOM21 mobile radio, should it be put in a car or mounted in the station?

Answer: It depends – if your agency has a Command/Communications vehicle that is used to manage communications at an incident, especially interoperable communications, then the vehicle is the right place. Otherwise installing the radio in an area that can monitor 7x24 (if possible) is the ideal location when mounting the radio inside your headquarters.

Question: What are the monthly STARCOM21 radio nets and communications tests? How can my agency participate?

Answer: Directed Nets are conducted in each of the eight IEMA regions at 10:30 am on the first Tuesday of each month. Set your radio to the “B” talkgroup for your IEMA Region. Example: if you are in IEMA Region 4 you would set your radio to the “RGN 4B” Talkgroup. If your agency is called by Net Control then respond “<<Agency Name>> checking in;” if it is not called, then at the end of the net the Net Control station should ask if there are any additional stations that wish to check in. At this point you should check in with the net by identifying your agency with “<<Agency Name>> checking in.” From then on your agency should be called during the directed part of the Net each month.

For too long the STARCOM21 radios distributed by ITTF have sat unused and ignored in boxes, closets, drawers, and on shelves. At the same time the people that are expected to use the radio have had no opportunity to learn about the radio or use it. The monthly regional nets were established to verify that the radios are operational and to provide an opportunity for agency staff members to learn proper STARCOM21 usage. The goal is to have all ITTF STARCOM21 radios in a region participate in that regional monthly net on a regular basis. The statewide net will be conducted twice per year to give the users an opportunity to move through the interoperability template to a talkgroup that they would not regularly use.

STARCOM21 Statewide Interoperability Template

Question: I've heard about a 'template'. What does that mean?

Answer: In order to provide an organized, uniform and consistent set of interoperable STARCOM21 talkgroups along with the National Interoperable Pool (NIP) 700 and 800 MHZ interoperable channels, the Statewide Interoperability Template was developed.

Question: What versions of the Statewide Interoperability Template are there?

Answer: The 3 versions are: (CURRENT and NEW templates are at the end of this section) ORIGINAL – this version was installed when the radios were first distributed. It included a talk group for each of the 19 Homeland Security Regions. This template is NOT to be used.
CURRENT (AA-AG) – this version includes the STARCOM21 interoperability talkgroups as well as the 700 and 800 MHz National Interoperable Pool (NIP) channels that were current in 2006.
NEW (BA-BI) – this version includes the expanded list of STARCOM21 interoperability talkgroups and the latest designated 700 and 800 MHz NIP channels per the 2010 ANSI Standard. This template is to be loaded into all newly purchased radios along with the CURRENT template.

Question: Does every STARCOM21 radio in Illinois have the entire Statewide Interoperability Template in it?

Answer: They all should, providing that the radio has the capacity for all of the zones. Some radios that were purchased only have the capacity for 3 zones and those radios may have parts of the Statewide Interoperability Template in any or all of their zones.

Question: Where can I find the Statewide Interoperability Template and should I keep a copy of it by the radio?

Answer: You can see the templates at the end of this section. You can download them from <http://www.state.il.us/iema/SCIP.asp> and yes, you should keep a copy of the template by the radio so you can easily navigate to other talkgroups and/or channels.

Question: What talkgroups were established for the STARCOM21 platform?

Answer: There are two types of talkgroups in STARCOM21 radios. The first type is for "daily operability" for the agency using the radios. The second type is the group of "interoperability" talkgroups that were established by agreement between Motorola Solutions and the State of Illinois and are the foundation of the Statewide Interoperability Template.
The first section of the Statewide Interoperability Template talkgroup list is discipline-specific, primarily for statewide hailing, dispatch or convoy use. These talkgroups are

- IESMA - Illinois Emergency Services Management Association,
- ILEAS - Illinois Law Enforcement Alarm System,
- MABAS - Mutual Aid Box Alarm System,
- PUB HLTH - Illinois Public Health,
- IPWMAN - Illinois Public Works Mutual Aid Network. (Only on the NEW Template)

The second section consists of the statewide Incident talkgroups 1 through 5 (INCDNT 4&5 are only in the NEW Template). The third section is based on subdividing the State into three geographic areas. These talkgroups are named Zone 1, 2, 3 in the CURRENT template and on the NEW template as North, Center and South with 2 talkgroups (A&B) for each of the three areas. The last section is made up of two talkgroups (A&B) for each of the IEMA Regions (2, 3, 4, 6, 7, 8, 9, & 11).

Question: Are all the talkgroups on the Statewide Interoperability Template statewide?

Answer: Some talkgroups are designated for statewide use. Others are for use within a geographic area of the state while others are for use within a particular IEMA Region. The “discipline” talkgroups (IESMA, ILEAS, MABAS, PUB HLTH and IPWMAN along with the “incident” (INCDNT 1, 2, 3, 4, 5) talkgroups are for statewide use.

Question: Are the statewide talkgroups monitored 24 hours per day?

Answer: The only talkgroup that is guaranteed to be monitored is the IESMA talkgroup. It is used as the statewide hailing channel and is monitored by the IEMA Communication Center in Springfield 24 hours/day, 7 days/week

Question: What talkgroup should I monitor on my ITTF-provided STARCOM21 Radio?

Answer: As a general statement all agencies should listen to the “B” talkgroup for their IEMA Region. Example: if your agency is in IEMA Region 7, you should listen to RGN 7B. Follow protocols established by statewide organizations (IESMA, ILEAS, MABAS, Public Health, and/or IPWMAN) for the monitoring and use of their talkgroups.

Question: What are the 700/800 National Interoperability Pool (NIP) channels?

Answer: After the events of 9/11 and again after Hurricane Katrina the lack of designated interoperable channels for responding agencies was addressed by a number of organizations. The FCC, NPSPAC, and NPSTC worked together to identify frequencies in all common public safety radio bands and to assign them standard nationwide names. That process led to the creation, in 2009, of an ANSI standard designating these channels and their names. The CURRENT Statewide Interoperability Template contains 700 and 800 MHz NIP channels as they existed in 2006. Since then both sets of channels have been changed because of rebanding efforts. The NEW Statewide Interoperability Template reflects the latest version (the ANSI standard) of the 700/800 National Interoperable Pool channels.

Question: What are the Statewide Interoperability Templates?

CURRENT Statewide Interoperability Template

| | | Zone | | | | | | |
|------|----|----------|---------|-----------|-----------|-----------|-----------|----------|
| | | AA | AB | AC | AD | AE | AF | AG |
| Mode | 1 | IESMA | RGN 6A | 7 TAC 58D | 7 TAC 74D | 7 CAL 59D | I-CALL D | 8CAL-90D |
| | 2 | ILEAS | RGN 6B | 7 TAC 62D | 7 TAC 78D | 7 TAC 63D | I-TAC 1 D | 8TAC-91D |
| | 3 | MABAS | RGN 7A | 7 TAC 66D | 7 TAC 82D | 7 TAC 67D | I-TAC 2 D | 8TAC-92D |
| | 4 | PUB HLTH | RGN 7B | 7 LAW 68D | 7 LAW 84D | 7 TAC 73D | I-TAC 3 D | 8TAC-93D |
| | 5 | INCDNT 1 | RGN 8A | 7 LAW 69D | 7 LAW 85D | 7 CAL 75D | I-TAC 4 D | 8TAC-94D |
| | 6 | INCDNT 2 | RGN 8B | 7 TAC 70D | 7 TAC 86D | 7 TAC 79D | I-CALL R | 8CAL-90R |
| | 7 | INCDNT 3 | RGN 9A | 7 MOB 72D | 7 MOB 88D | 7 TAC 83D | I-TAC 1 R | 8TAC-91R |
| | 8 | ZONE 1 | RGN 9B | 7 TAC 58 | 7 TAC 74 | 7 TAC 89D | I-TAC 2 R | 8TAC-92R |
| | 9 | ZONE 2 | RGN 11A | 7 TAC 62 | 7 TAC 78 | 7 CAL 59 | I-TAC 3 R | 8TAC-93R |
| | 10 | ZONE 3 | RGN 11B | 7 TAC 66 | 7 TAC 82 | 7 TAC 63 | I-TAC 4 R | 8TAC-94R |
| | 11 | RGN 2A | | 7 LAW 68 | 7 LAW 84 | 7 TAC 67 | | |
| | 12 | RGN 2B | | 7 LAW 69 | 7 LAW 85 | 7 TAC 73 | | |
| | 13 | RGN 3A | | 7 TAC 70 | 7 TAC 86 | 7 CAL 75 | | |
| | 14 | RGN 3B | | 7 MOB 72 | 7 MOB 88 | 7 TAC 79 | | |
| | 15 | RGN 4A | | | | 7 TAC 83 | | |
| | 16 | RGN 4B | | | | 7 TAC 89 | | |

NEW Statewide Interoperability Template

| | | Zone | | | | | | | | |
|------|----|----------|---------|----------|----------|-----------------|----------|-----------------|---------|----------|
| | | BA | BB | BC | BD | BE | BF | BG | BH | BI |
| Mode | 1 | IESMA | RGN 2A | 8CALL90D | 7CALL50D | 7MOB59D | 7CALL70D | 7MOB79D | 7FTAC1D | 7MTAC9D |
| | 2 | ILEAS | RGN 2B | 8TAC91D | 7TAC51D | 7MOB59DA | 7TAC71D | 7MOB79DA | 7FTAC2D | 7NTAC10D |
| | 3 | MABAS | RGN 3A | 8TAC92D | 7TAC52D | 7LAW61D | 7TAC72D | 7LAW81D | 7FTAC3D | 7NTAC11D |
| | 4 | PUB HLTH | RGN 3B | 8TAC93D | 7TAC53D | 7LAW62D | 7TAC73D | 7LAW82D | 7GTAC4D | 7NTAC12D |
| | 5 | IPWMAN | RGN 4A | 8TAC94D | 7TAC54D | 7FIRE63D | 7TAC74D | 7FIRE83D | 7GTAC5D | 7MTAC9 |
| | 6 | INCDNT 1 | RGN 4B | 8CALL90 | 7TAC55D | 7FIRE64D | 7TAC75D | 7FIRE84D | 7LTAC6D | 7NTAC10 |
| | 7 | INCDNT 2 | RGN 6A | 8TAC91 | 7TAC56D | 7MED65D | 7TAC76D | 7MED86D | 7LTAC7D | 7NTAC11 |
| | 8 | INCDNT 3 | RGN 6B | 8TAC92 | 7GTAC57D | 7MED66D | 7GTAC77D | 7MED87D | 7LTAC8D | 7NTAC12 |
| | 9 | INCDNT 4 | RGN 7A | 8TAC93 | 7CALL50 | 7MOB59 | 7CALL70 | 7MOB79 | 7FTAC1 | |
| | 10 | INCDNT 5 | RGN 7B | 8TAC94 | 7TAC51 | 7MOB59A | 7TAC71 | 7MOB79A | 7FTAC2 | |
| | 11 | NORTH A | RGN 8A | | 7TAC52 | 7LAW61 | 7TAC72 | 7LAW81 | 7FTAC3 | |
| | 12 | NORTH B | RGN 8B | | 7TAC53 | 7LAW62 | 7TAC73 | 7LAW82 | 7GTAC4 | |
| | 13 | CENTER A | RGN 9A | | 7TAC54 | 7FIRE63 | 7TAC74 | 7FIRE83 | 7GTAC5 | |
| | 14 | CENTER B | RGN 9B | | 7TAC55 | 7FIRE64 | 7TAC75 | 7FIRE84 | 7LTAC6 | |
| | 15 | SOUTH A | RGN 11A | | 7TAC56 | 7MED65 | 7TAC76 | 7MED86 | 7LTAC7 | |
| | 16 | SOUTH B | RGN 11B | | 7GTAC57 | 7MED66 | 7GTAC77 | 7MED87 | 7LTAC8 | |

NEW 3 Zone Interoperability Template

| | | Zone | | |
|------|----|----------|---------|----------|
| | | BA | BB | BC |
| Mode | 1 | IESMA | RGN 2A | 8CALL90D |
| | 2 | ILEAS | RGN 2B | 8TAC91D |
| | 3 | MABAS | RGN 3A | 8TAC92D |
| | 4 | PUB HLTH | RGN 3B | 8TAC93D |
| | 5 | IPWMAN | RGN 4A | 8TAC94D |
| | 6 | INCDNT 1 | RGN 4B | 8CALL90 |
| | 7 | INCDNT 2 | RGN 6A | 8TAC91 |
| | 8 | INCDNT 3 | RGN 6B | 8TAC92 |
| | 9 | INCDNT 4 | RGN 7A | 8TAC93 |
| | 10 | INCDNT 5 | RGN 7B | 8TAC94 |
| | 11 | NORTH A | RGN 8A | |
| | 12 | NORTH B | RGN 8B | |
| | 13 | CENTER A | RGN 9A | |
| | 14 | CENTER B | RGN 9B | |
| | 15 | SOUTH A | RGN 11A | |
| | 16 | SOUTH B | RGN 11B | |

NEW 1 Zone Interoperability Template

| | | Single Zone |
|------|----|------------------------|
| | | BA |
| Mode | 1 | IESMA |
| | 2 | ILEAS |
| | 3 | MABAS |
| | 4 | PUB HLTH |
| | 5 | IPWMAN |
| | 6 | INCDNT 1 |
| | 7 | (NORTH/CENTER/SOUTH) A |
| | 8 | (NORTH/CENTER/SOUTH) B |
| | 9 | RGN XA |
| | 10 | RGN XB |
| | 11 | 8CALL90D |
| | 12 | 8TAC91D |
| | 13 | 8TAC92D |
| | 14 | 8CALL90 |
| | 15 | 8TAC91 |
| | 16 | 8TAC92 |

NOTE: For the single zone Interop Template; change Modes 7 & 8 to be affiliated with your geographic area and Modes 9 & 10 to be affiliated with your IEMA Region.

Question: What IEMA Region is my agency located in?



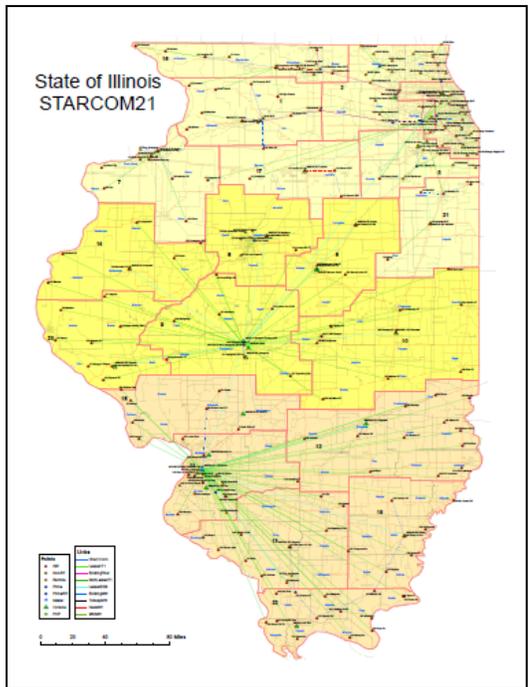
Question: What STARCOM21 geographic area (North, Center, or South) is my agency located in?

CURRENT
Template

Zone 1

Zone 2

Zone 3



NEW
Template:

North A

North B

Center A

Center B

South A

South B

Using (operating) a STARCOM21 Radio

Question: What is a “Talkgroup”?

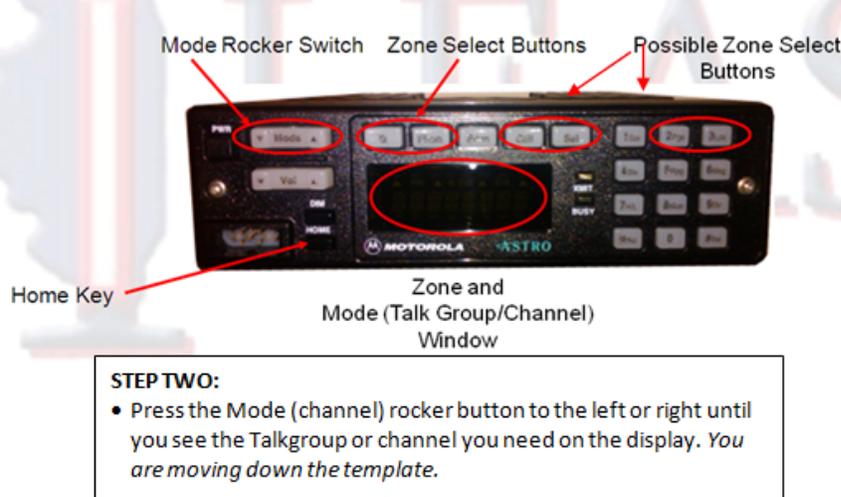
Answer: A talkgroup is to a trunked radio system (STARCOM21) as a channel is to a conventional radio system. It is a talk path with a pre-determined name. The terms talkgroup and channel are sometimes used interchangeably on a STARCOM21 radio because that radio can access trunked system talkgroups and conventional channels, as in the Statewide Interoperability Template.

Question: What are Zones and Modes in a radio? How do I find talkgroups and/or channels using zone and mode? How do I find a particular zone?

Answer: A Zone is a set of talkgroups (channels). To visualize how zones are organized in a radio look at the graphic of the Statewide Interoperability Template in the prior section. Each column in every spreadsheet forms a zone in the radio (for example Zone AA, Zone AB, Zone AC, and so forth). A Mode is a particular line or row in a Zone. For example in the CURRENT Statewide Interoperability Template Mode 1 in Zone AA is the IESMA talkgroup and Mode 3 in Zone AB is the RGN 7A talkgroup. Zones in mobile radios are configured with only 16 modes so that the zone will be the same on both mobiles and portables because portables can only have 16 modes in a zone.

To find a particular zone or to find talkgroups or channels using zone and mode control, see the instructions.

Identify the controls on the XTL5000



The image shows a Motorola XTL5000 radio with several controls highlighted by red circles and arrows. The labels are: Mode Rocker Switch (pointing to the left and right buttons on the left side), Zone Select Buttons (pointing to the buttons above the display), Possible Zone Select Buttons (pointing to the buttons above the display on the right), Home Key (pointing to the button on the left side), and Zone and Mode (Talk Group/Channel) Window (pointing to the central display).

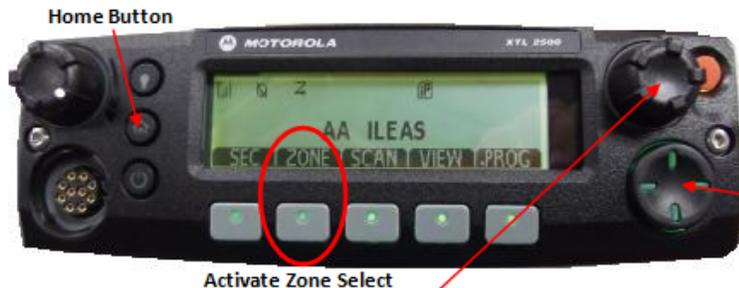
STEP ONE:

- Turn on the radio
- Press the Home Key to start.
- Press the Zone Select buttons left or right to move through the zones as indicated. *You are moving across the top of the template.*
- Note: I have found the zone select buttons in three locations on the W7 model, Check yours.
- Locate the zone you want “AA-AG”.

STEP TWO:

- Press the Mode (channel) rocker button to the left or right until you see the Talkgroup or channel you need on the display. *You are moving down the template.*

Identify the controls of the XTL2500



NOTE: Emergency Button (orange button) not activated on most ITTF radios.

STEP ONE:

- Turn on the radio
- Press the button below "Zone" on the display to begin zone select. Display will show current zone and mode (channel).
- Press rocker switch left or right to move through the zones "AA-AG". *You are moving across the top of the template*
- Locate the zone you want "AA-AG" then press the home button to stop zone select.

STEP TWO:

- Turn the Mode (channel) knob to the left or right until you see the Talkgroup or channel on the display. *You are moving down the template*

Question: What is the orange (looks red to some people) button for and what happens if I push it?

Answer: Although all of the buttons on a Motorola Solutions radio are 'soft' buttons in that they can be programmed to do one of many different functions, the orange button is most commonly used as the "Emergency Button" on the radio. On some radios the Emergency Button forces the radio to place an emergency alert call on a pre-determined talkgroup and some dispatch center consoles may be programmed to alert when the call is made. If you push (activate) the Emergency Button accidentally on your radio, then **DO NOT** just turn off the radio; please let the dispatcher know that the button was depressed accidentally. If you simply turn off the radio, the dispatcher may think you are in serious trouble and in need of assistance. The most important question is "**Does my radio have a button configured as the Emergency Button?**" That answer can only be supplied by the radio system tech staff at your agency or the organization that programmed the radio.

NOTE: The Emergency function for all ITTF Talkgroups (The State Interoperability Template) has been disabled at the system management level by Motorola Solutions at the request of the State. Therefore, the Emergency button does not work on any radio that only has the Statewide Interoperability Template; it does not matter how the radio is programmed.

Question: Does my radio have scan? Should I use it?

Answer: Generally speaking – yes. Most radios have been configured with the ability to scan. You should **not** use scan in interoperable communication situations.

Question: What does “out of range” mean? How do I fix that?

Answer: “Out of Range” means that your radio cannot “associate” itself with a STARCOM21 tower site. You may be able to fix that by:

1. Portables
 - a. Verify that your antenna is completely screwed into the fitting on the radio,
 - b. If you are in a vehicle, open the window or step out of the vehicle,
 - c. If you are inside a building move closer to an outside wall, window or step outside,
 - d. Take the radio off of your belt and hold it head height or higher,
 - e. If you are outside, simply move to a different location.
2. Mobile Radio
 - a. Make sure all connections are secure,
 - b. Move to a different location.
3. Control Station - Make sure all connections are secure.

Question: I have heard the term “Site Trunking” in correlation with a STARCOM21 network failure, what does this mean?

Answer: “Site Trunking” is displayed on a radio when the STARCOM21 tower site that your radio is associated with loses connectivity with the rest of the network in the state. When a site goes into Site Trunking, all of the radios associated with that site can still potentially communicate with each other as long as users are on the same talkgroup, but they cannot communicate with any radio that is not “associated” with that site. If one of the soft keys (buttons) is configured to scan for STARCOM21 sites (towers) you can press and hold that button and the radio may be able to “associate” with another site. If it does ‘associate’ with another site, you will not be able to communicate with the radios on the ‘site trunking’ site.

Question: I can't get the interoperable repeater channels on the template to work. Am I doing something wrong?

Answer: Perfectly understandable, as of today there are no repeaters permanently active on any 700 MHz national interop channel, there are some repeaters active on the 800 MHz national channels but if you are not within range of one of those repeaters, you will not be able to communicate.

Question: When my radio turns on – I see the words “Key Fail.” Should I be concerned? How can I fix that?

Answer: Most Starcom radios are equipped with the internal hardware that will allow for encryption “keys” to be loaded. Having the hardware and an encryption key allows the user to have encrypted conversations with other radios loaded with the same key. If you turn on a radio and the display reads “key fail” it simply means that the radio is encryption capable and an encryption key has not been loaded. The “key fail” will usually clear as the radio goes through its boot-up process. If “key fail” does not clear it’s usually as a result of the following:

On a mobile radio the encryption on / off switch is generally indicated on a button with a circle and a line through it. If the light under the button is illuminated the radio expects a “key” to be present. The radio will display “key fail” if you try to transmit, if a key has not been loaded in the radio. Simply press the encryption button and the light that is illuminated under the button will turn off. The radio now no longer expects an encryption key to be present, and a normal transmission can be made.

On a portable it’s usually the concentric switch that surrounds the channel selector that is in the encrypted position. It too is indicated by a circle with a line through it. Simply move the switch so that it points at the circle without the line through it (un-encrypted). If the radio has a display it will show one of the two circles that will indicate encryption on or off based on line or no line through the circle.

The “key fail” message is present to prevent unintentional unsecure messages from being transmitted, when the intent of the user is to send a secure message.

Question: How do I find another STARCOM21 Site? Why would I need to do this operation on the radio?

Answer: You may need to locate another site for the following reasons:

1. Because your radio is displaying “Site Trunking”
2. You’re experiencing poor reception (“going digital”)

There may be a button on the radio that is configured to select different sites. To find another site:

1. On a portable radio
 - a. A short press of the button displays what site you are currently associated with. The RSSI (Received Signal Strength Indicator) is a measure of how well your radio can communicate with that site (the larger the number, the better coverage you have).
 - b. A long press and hold of the button forces your radio to scan for another STARCOM21 site within range and associate with that site.
2. On a mobile radio:
 - a. XTL5000 with numeric keypad, check the number 1 button on the keypad, it may be configured as the site scan button
 - b. XTL2500 with rotary knobs, check the buttons below the display to see if any of them have this function.

Question: How should I do a “radio check” on my ITTF-provided STARCOM21 radio?

Answer: On the B talkgroup for your region simply ask for a radio check to verify that the radio is working by saying “<<agency name>> Radio Check,” and wait for a response. If you get no response, move to the IESMA, MABAS, or ILEAS talkgroup and repeat. If you don’t receive a response, have the radio, antenna, etc checked by a radio technician.

Daily Operability versus Interoperability

Question: What is “operability” versus “interoperability?”

Answer: “Operability” describes day-to-day, normal communication activities of a user / agency (example dispatch, car to car, tactical operations). “Interoperability” is when a user from one agency needs to communicate with user(s) from a different agency (inter-disciplinary interoperability) and/or needs to communicate with user(s) from a different jurisdiction (inter-jurisdictional interoperability) and that communication with the other user(s) is not part of their normal day-to-day communications.

Question: My Department is moving to STARCOM21, do I get rid of my old radio system?

Answer: The decision to abandon an existing system when moving to a new one is both a business decision (cost to maintain, cost to upgrade, etc) and an issue of communication reliability. Redundant systems (keeping the old along with the new) may or may not prove to be very helpful in your agency’s situation. There is no easy answer.

Question: My agency has an ITTF STARCOM21 radio. Can I use it for day to day operations without any additional cost?

Answer: No – the ITTF radios are for interoperability only, what you are asking to do is use it for daily operability, which would change the airtime rate plan per the State contract. You would also need one or more daily operability talkgroups to be set up and more than one radio to operate together on operability talkgroup(s). If your agency is interested in using STARCOM21 for daily operability, an application must be submitted to and approved by the STARCOM21 Technical Advisory Subcommittee. After the application has been approved, the local agency will then enter into a contract with and secure their own operability talkgroups.

Question: Explain how the ISPERN patch works and why is it divided into ISP Districts and not statewide?

Answer: Each ISP District Communications Center has the ability to create console “patches.” One of the patches at each of the districts is dedicated to connecting VHF ISPERN with that district’s STARCOM21 ISPERN talkgroup. The VHF ISPERN traffic does not need to be sent statewide through STARCOM21, because ISPERN traffic is local (confined to one ISP District usually).

Question: If I use STARCOM21 as a primary communications network, do I need the Statewide Interoperability Template loaded in my radios?

Answer: Yes. To provide the ability to have agency to agency interoperability anywhere in the state, the Illinois Statewide Interoperability Template should be loaded into every STARCOM21 radio. In a radio with a limited number of zones, one zone should be used for a reduced interoperable template. See the templates in the STARCOM21 interoperability Template section of this FAQ document.

Question: What if my portable/mobile radio does not have enough zones for the full Statewide Interoperability Template?

Answer: In those radios with limited three zones used for daily operability, one zone should be used for a reduced interoperable template. If the three zone radio is not used for daily

operability then it should be configured with the 3 Zone Statewide Interoperability Template. See the templates in the STARCOM21 Interoperability Template section of this FAQ document.

Question: Can my department join the STARCOM21 Network to use it as a primary communications network?

Answer: Yes. An application to join STARCOM21 is available from the Technical Advisory Subcommittee of the STARCOM21 Oversight Committee. Send an email to ema.scip@illinois.gov and the SWIC team will forward your request.

Question: Can I put additional talkgroups in my ITTF STARCOM21 radio? If I do is there an additional fee?

Answer: Yes you can, but there may be additional charges depending on if the radio is used for interoperability or daily operability. This is an issue that you **MUST** discuss with your Motorola Solutions representative.

STARCOM21 General

Question: Who polices/administers the STARCOM21 System?

Answer: The STARCOM21 network is a public/private partnership between the State of Illinois and Motorola Solutions. Motorola Solutions owns, maintains, and manages the network infrastructure. So, in one sense, Motorola Solutions administers the system. The ISP Communication Services Bureau has the responsibility of managing the State use of the network, and the STARCOM21 Oversight Committee and its Technical Advisory Subcommittee administer certain aspects of the STARCOM21 Platform, such as rules of use, new users, etc.

Question: How can units of government apply for or receive base / mobile / portable units either from ITTF or transferred from agencies that have too many or do not want them anymore?

Answer: In 2009 the ITTF decided that there would be no additional single radio/agency requests accepted for STARCOM21 equipment. Federal grant dollars will be used in a focused approach based on the needs of a particular discipline or for developing caches of radios.

There is no central 'clearinghouse' in Illinois for the redistribution of unused STARCOM21 radios. There were some radios returned after the Nextel funded 'first touch' and those radios have already been reallocated. If an agency has the funds or has access to grant funds they may purchase radios on their own but must also file an application with the STARCOM21 Oversight Committee's Technical Advisory Subcommittee.

Question: Is there training available on the use of the STARCOM21 radio?

Answer: Using Federal Interoperable Emergency Communications Grant Program funds ILEAS has contracted with an outside training company to develop an interactive training program. The first training module is scheduled to be released in December 2011.

Question: Where in Illinois can my STARCOM21 communicate?

Answer: Any STARCOM21 radio that has the Statewide Interoperability Template (1 Zone, 3 Zone or full template) can communicate with any other STARCOM21 users and possibly with non STARCOM21 users anywhere in the state of Illinois using either STARCOM21 interop talkgroups or NIP 700/800 MHz interoperable channels.

Question: Does the Statewide Net affect STARCOM21 performance?

Answer: The first statewide net was conducted in March 2011 with the approval and encouragement of Motorola Solutions technical personnel to see if network performance would be affected. The results of the statewide net indicate that STARCOM21 performance was not negatively impacted or degraded.

Question: ILEAS / MABAS gave my department a radio in a case several years ago. Is that a STARCOM21 radio? I have two mobile radios that say ASTRO on them, how do I know which radio is STARCOM21 and which one is VHF?

Answer: The easiest way for a user to know for sure is to turn on the radio and then check the display to determine what talkgroups or channels are in the radio.

Question: **What is the “Nextel Second Touch?” And when will that happen?**

Answer: Sprint-Nextel, in an effort to reduce interference between their cellular push-to-talk service and public safety radio (STARCOM21) is paying to move Public Safety users to new channels (known as 800 MHz re-banding). The ‘first touch’ was to add the new channels/frequencies to user radios; the ‘second touch’ will be to remove the old channels/frequencies from the radios. It may start as soon as fall of 2011.

Question: **Can an agency still request a STARCOM21 radio from the ITTF?**

Answer: No. Current ITTF funding is planned for discipline-oriented distribution of radios and/or developing caches of radios.

Question: **Are there going to be any Regional Interoperable Communication Plans put into place that expand on County TICPs?**

Answer: It is our intention to connect county plans together through the mutual sharing of communications channels to develop regional interoperable communications plans.

Question: **Can the regional STARCOM21 nets be simplified?**

Answer: The Regional Net Protocol has been refined and defined to be standardized across the state. These are designed to be ‘directed nets.’ One of the advantages of a directed net is that while all of the users are listening they can hear what other agencies in the area are using STARCOM21 and because of this have a better idea who is ready to interoperate on STARCOM21 should the need arise. The role of Net Control will be rotated throughout the region from month to month so that personnel at various agencies can become familiar with and/or more proficient using STARCOM21.

Question: **What brands of radios will work on STARCOM 21?**

Answer: STARCOM21 is an APCO Project 25 open standard radio system. More and more radio vendors are able to provide radios that can operate on STARCOM21. Please consult your local radio vendors for further information.

Question: **What is the process for adding radios other than those provided by Motorola Solutions to STARCOM21?**

Answer: Any radios added for existing STARCOM21 user agencies must be approved. Contact the STARCOM21 Oversight Committee – Technical Advisory Subcommittee for the latest information. Send an email to ema.scip@illinois.gov and the SWIC team will forward your request.

Question: **Can scanner listeners receive STARCOM21 on their scanners?**

Answer: Yes – there are certain models of scanners on the market today that can hear non-encrypted traffic. Scanners are incapable of receiving encrypted traffic.

Question: **Is STARCOM21 considered a Strategic or Tactical system or a combination thereof?**

Answer: It is a combination...

- Strategic – in that high level command and control decisions can be communicated
- Tactical – in that it has talkgroups and conventional channels that can be assigned to satisfy tactical needs

Question: What is the range of a STARCOM21 portable radio?

Answer: STARCOM21 is designed to provide statewide mobile radio coverage; however most areas across the state have portable radio coverage. There is no real way to pre-determine range for a portable radio - it is dependent on topography, foliage density, building density, etc.

Question: Are STARCOM21 radios field programmable in the ITECS trailers? The idea being that during an event “just purchased” radios could be put on the air immediately?

Answer: No. “Just purchased” radios should always be programmed with the Statewide Interoperability Template by Motorola Solutions or an authorized dealer before being given to the purchaser/customer.

Question: Can we take the radio out of the case and mount it in the dispatch center as a base radio?

Answer: The radio is yours to use in the manner that best suits your needs.

Question: I’m not using STARCOM21 for daily operability, but if a situation requires me to use it, what/where are the resources that would allow me access, radio caches, or what can an ITECS suite provide?

Answer: The best answer to this multipart question is to:

- Either have a local COML available to consider the communications needs and what resources would best satisfy those needs **OR**
- Contact the IEMA Communications Officer or COMC for advice and further information at 800.782.7860.

Question: What is the COMC?

Answer: COMC is the official ICS acronym for Communications Coordinator. The role of the COMC is to coordinate the communications plans and critical resources needed at multiple simultaneous incidents either from an Area Command or the State Incident Response Center (SIRC). At the time these FAQs were published, the COMC is Stephen Jackson, IEMA Communications Officer - 800.782.7860.

Question: What is a COML and why is it important that I know who these are in my area?

Answer: COML is the official ICS acronym for Communications Unit Leader. The roles of a COML are to survey communications needs, develop a communications plan, request needed communications assets and coordinate the use of those assets to implement the plan.

Question: How can I receive additional information regarding the STARCOM21 project?

Answer: Additional information regarding STARCOM21 can be found at the following Web site: www.motorolastarcom21.com or contact the SWIC Team at ema.scip@illinois.gov

