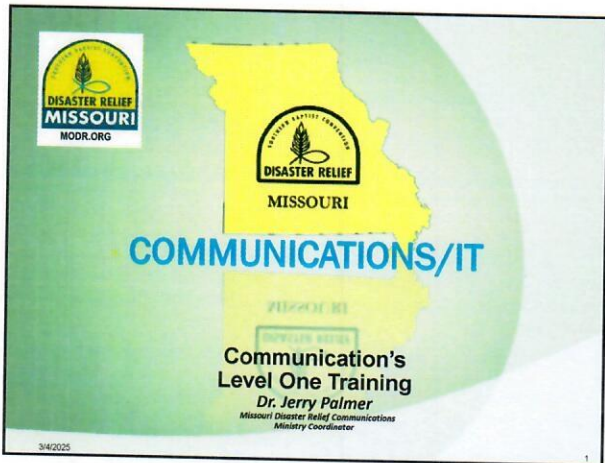


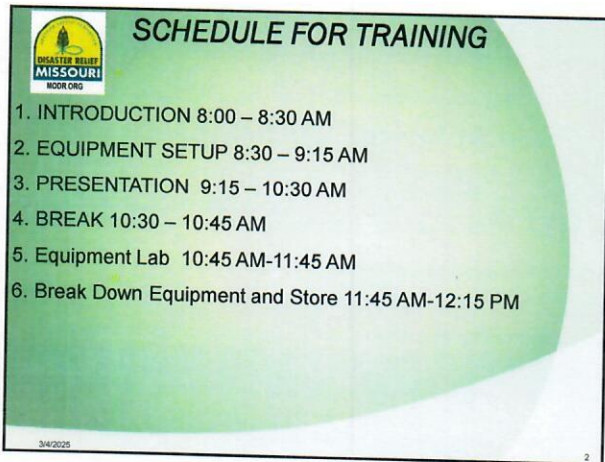
COMMUNICATIONS/IT

Notebook

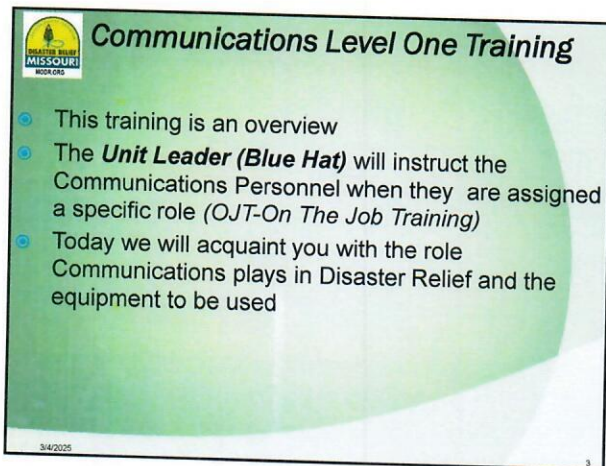
Edited March 4, 2025




1



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3




DISASTER RELIEF!

"What use is it, my brethren, if a man says he has faith, but he has no works? Can that faith save him? If a brother or sister is without clothing and in need of daily food, and one of you says to them, "Go in peace, be warmed and be filled," and yet you do not give them what is necessary for their body, what use is that?"
James 2:14-16 NAS

**FIRST
WE MEET THE NEED
THEN
WE PLANT THE SEED!**

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DISASTER RELIEF!

- Communications is **not** the most visible units in Disaster Relief
- All the Equipment and the satellite dish will gain attention
- We support other units and those in leadership

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Why a Communications Unit?

- Previous gaps in communications in the field
- Initiation of the "Incident Management Team" (IMT)
- IMT has standardized the command structure of DR Partners
 - And a greater need for Communications

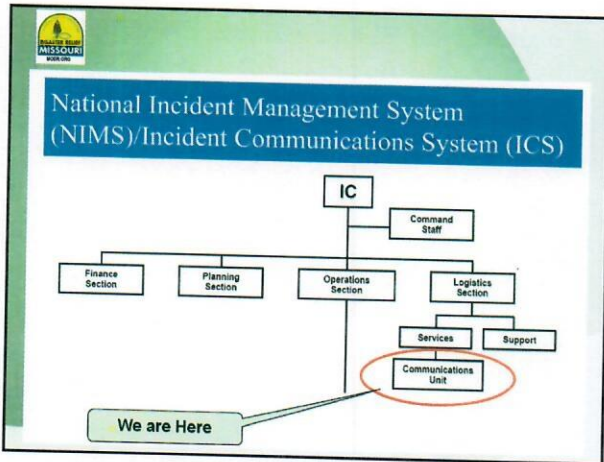
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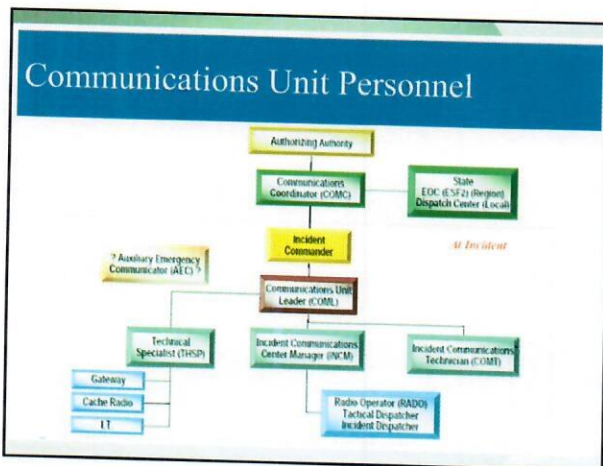
Overview

- The primary function of Missouri Disaster Relief Communications Unit is:
 - To provide logistical and tactical communications support, as directed
 - To whatever unit or task to which they have been assigned
 - Using multiple communications methods
 - MOTTO: TRANSFORMING LIVES AND COMMUNITIES WITH THE GOSPEL BY BRINGING HELP, HOPE AND HEALING THROUGH CONNECTING PEOPLE IN CRISIS

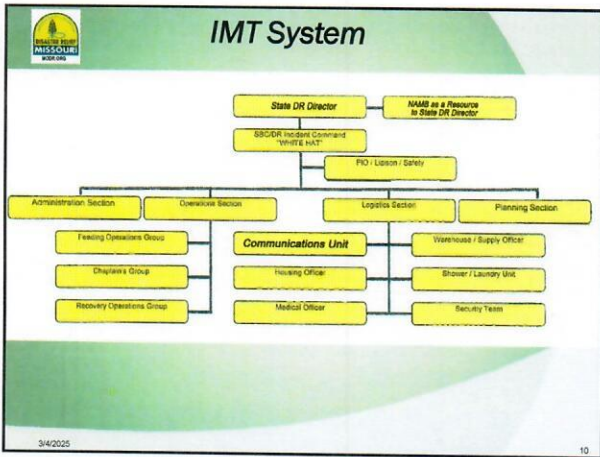
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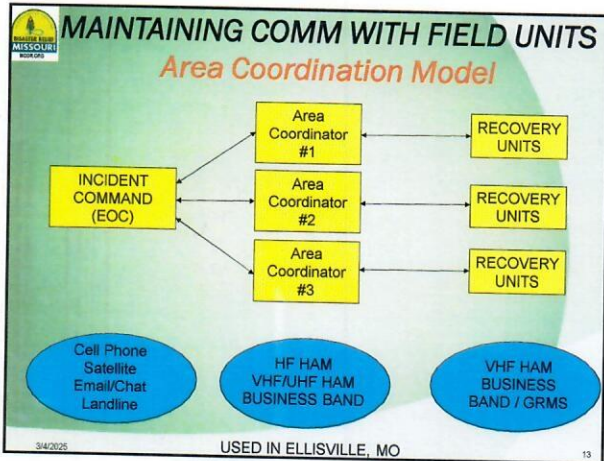
10

- ### Incident Management Team (IMT)
- Incident Commander (IC)
 - White Hat assigned by State DR Director
 - In Charge of overall Relief effort
 - Safety Officer
 - May be IC
 - Oversees all health & safety aspects of DR volunteers
 - Public Information Officer (PIO)
 - May be IC
 - Informs the public, media and agencies of the progress being made during the response

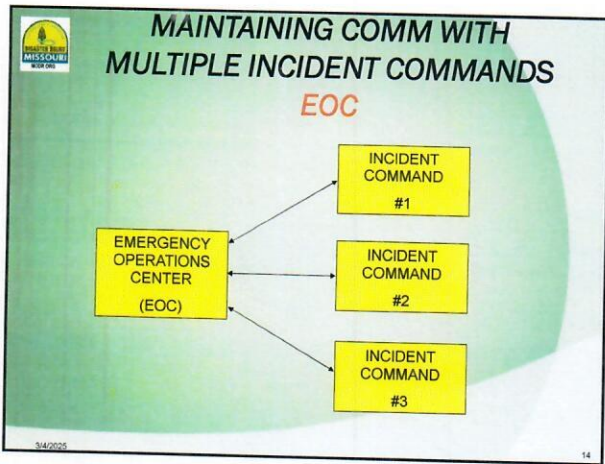
11

- ### IMT (cont)
- Operations Chief
 - Responsible for the recovery units working in the field
 - Logistics Chief
 - Responsible for hosting volunteers (Food & supplies at the assigned location)
 - Administration Chief
 - Responsible for all reports, paperwork, etc
 - Planning Chief
 - Responsible for scheduling units to come in and all units in route. Also responsible for preparations for deployment

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- Communications/IT**
- Personnel
 - State DR Communications Coordinator
 - Assistant Coordinator
 - Unit Blue Hat
 - Two Teams
 - IT Team
 - Radio Operations Team
- 3/4/2025

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Communications Team Member

- All Communications Team Members need:
 - To be Disaster Relief certified
 - To complete this training
 - Basic computer & phone skills
 - Know how to work in a team environment
- Communications Team Members are not required to hold an Amateur Radio License
 - Preference will be given to the Radio Communications Team Members that hold at least a Technicians License

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Comm Team Organization (cont)

The Communications Team is organized in two groups

- Information Technology (IT) Team
 - IT Assistants with basic skills in
 - Networks
 - Modem, Routers, Switches and interconnect
 - Internet over Satellite
 - Computer hardware and software application support
 - Printer setup and support
 - Voice over IP (ClearlyIP/VoIP) Phone support
 - OTJ training for those with basic skillsets
 - Setup, Teardown, Support, Configuration, & Maintenance

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Communications Team Organization

- Radio Operations Team
 - All Radio Comm equipment
 - Setup, Teardown, Support, Configuration, & Maintenance
 - Preference given to at least a Technicians License but an Amateur General or Extra License is helpful.

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Communications Level One Training

- This training is an overview
- The **Unit Leader (Blue Hat)** will instruct the Communications Personnel when they are assigned a specific role (*OJT-On The Job Training*)
- Today we will acquaint you with the role Communications plays in Disaster Relief and the equipment to be used

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Comm Team Equipment Types

- The Comm Team utilizes and supports 5 Equipment types
 - Satellite Internet/Intranet (Starlink)
 - Cellular based Internet
 - Cradlepoint LTE Modem/Router
 - ClearlyIP VoIP (digital) Phone System
 - Thinkcentres, Laptop, Printer Equipment
 - Radios
 - Amateur & Business Band

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Comm Team Equipment Types (cont)

- Satellite Internet
 - Capable of deploying a Starlink Satellite based Internet
 - Includes satellite dish, stand, & mesh router
 - Internet access independent of:
 - Cellular based Internet providers and cell towers
 - Land based Internet providers
 - Susceptible to signal interference from trees, buildings, and clouds
 - It is the Internet preference over cell service when available

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Comm Team Equipment Types (cont)

- Cellular Based Internet
 - Capable of deploying 2 Cradlepoint IBR1700 Mobile Ruggedized Gigabit-Class LTE Routers
 - Analogous to in-home DSL or Cable Modem/Wireless Routers
 - Uses FirstNet first responder services over ATT cellular spectrum
 - Internet access independent of
 - Land based Internet providers
 - Requires Firstnet/ATT cellular service at IMT location
 - Can be susceptible to severe weather conditions

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Comm Team Equipment Types (cont)

- VOIP (ClearlyIP Phone System) All Digital
- Desktop, Laptop, Printer Equipment
 - Comm Team has 9 ThinkCentre Desktops
 - Equipment allows users (IC, Operations, Logistics, Planning, Administration) to
 - Perform email communication tasks
 - Perform data entry (Work Orders, Excel sheets, Mapping) and logging with applications over DropBox
 - General computer and printer functionality
 - Use Thinkcentres as an extension on a PBX
 - No Hardware Phones

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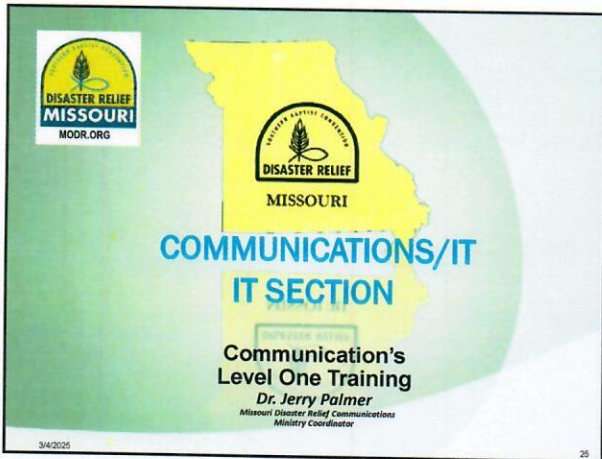


Comm Team Equipment Types (cont)

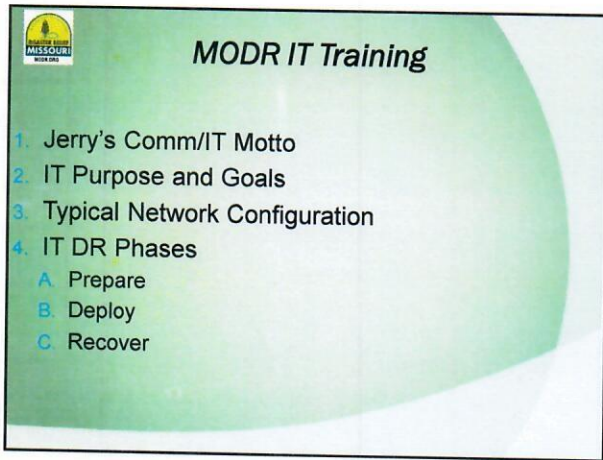
- Radios
 - Amateur Radios
 - KDØKVS-Com Unit License
 - See Communications Level One Booklet -Appendix E
 - Business Band
 - WQAL495-NAMB License
 - See Communications Level One Booklet -Appendix E

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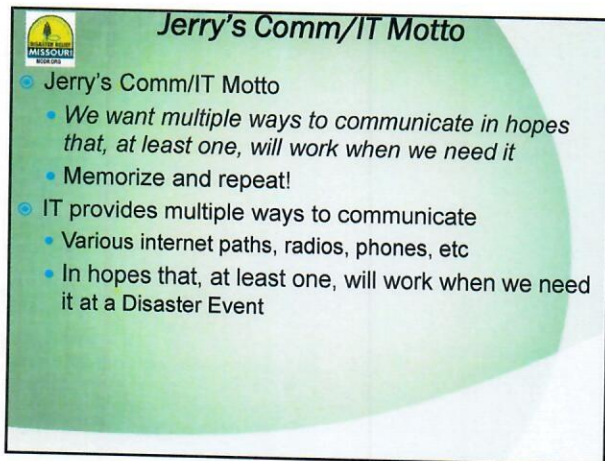
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IT Purpose & Goals

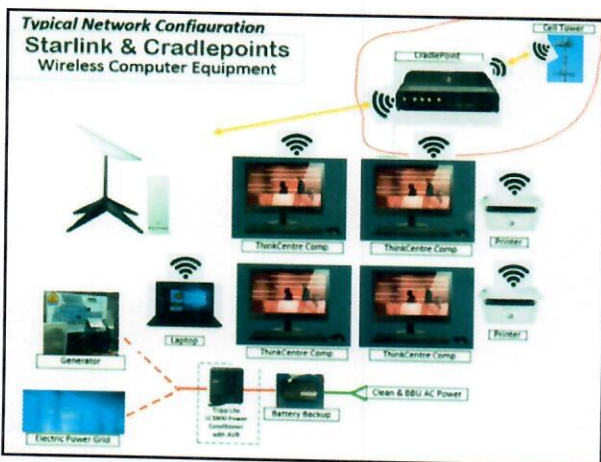
- MODR IT Purpose and Goals
 - Provide the communication network infrastructure in support of:
 - Incident Management Team
 - Assessors
 - Logistics
 - And other volunteers to fulfill their missions
 - If the IT team does its job correctly
 - We are transparent
 - Nobody will notice or know what you do
 - And you will likely have spare time to help others
 - Otherwise, if the network is down
 - Everybody will know who you are and what you are not doing...
 - That is the life of an IT type person

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Network Configuration Diagrams

- The following is a typical Network configuration used during deployments
 - Not static
 - Expected to evolve over time as capability and technology changes
 - Starlink internet configuration has enhanced our system.
 - Two major additions last year:
 - ClearlyIP Phone PBX
 - Remote Management

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Network Configuration Diagrams

- This configuration incorporates: Starlink or CradlePoint (CP), wireless computers & printers
- Internet comes into the Starlink or CradlePoint and is converted to wired and wireless internet
- Wireless equipment (computers and printers) attach to the wireless side of the CP
- Power may come from power grid or generator
- Similar configuration used at: Mandeville, LA, Kentucky, and Augusta, Georgia


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Comm/IT DR Phases

- MODR Comm/IT efforts tend to fall into the following phases
 - 1) Prepare
 - Success of DR deployments is largely dependent upon the individual and group preparation
 - Preparation occurs prior to a DR event
 - Preparation includes: Spiritual, Mental, Training, Equipment Configuration, and Documentation
 - 2) Deploy
 - Be READY TO GO
 - Be FLEXIBLE
 - Be Safe
 - Be Ready to Support
 - Be Ready to Leave

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Comm/IT DR Phases (cont)

POST DEPLOYMENT

- 3) Recover
 - Rest
 - Talk
 - Write

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DISASTER RELIEF MISSOURI
MODR.ORG

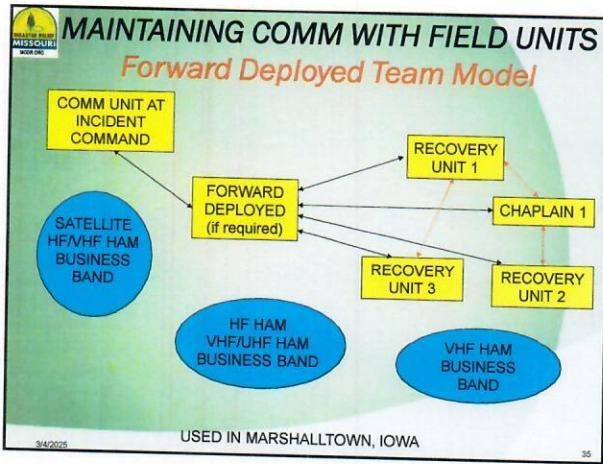
DISASTER RELIEF MISSOURI

COMMUNICATIONS/IT

Communication's Level One Training
Mike Walker
Missouri Disaster Relief Communications

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MODR Radio Training

1. Radio Types
2. Radio Utilization
3. Radios
4. Always Remember
5. Radio Etiquette

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NMSZ and the 1811-1812 Earthquakes



Most seismically active area east of the Rocky Mountains

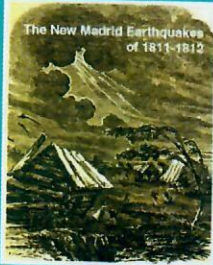
NMSZ Facts:
 Earthquakes occur along the NMSZ nearly every other day. Approximately 200 earthquakes per year occur.
 Over 20 damaging earthquakes have occurred since the events of 1812.
 Large earthquakes have also occurred in 900 A.D. and 1450 A.D.
 The NMSZ is still capable of producing major earthquakes

Largest NMSZ Earthquakes:
 December 16, 1811 @ 2:15 AM - M7.4 - 7.8
 January 23, 1812 @ 9:00 AM - M7.4 - 7.8
 February 7, 1812 @ 3:45 AM - M7.6 - 8.0


Source: USGS

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Effects of the 1811-1812 Earthquakes

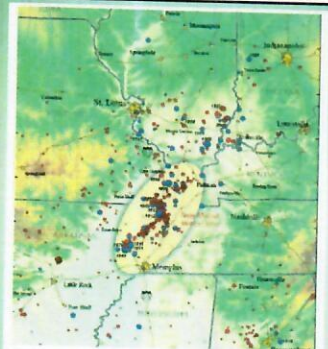


The New Madrid Earthquakes of 1811-1812
 Widespread liquefaction, including fissuring and sand/water fountaining.
 Creation of sunken land lakes, primarily Reelfoot in Tennessee; also St. Francis and Big Lake in Arkansas.
 "Sunken" forests and "uplifted" lowlands.
 Waterfalls, rapids and barriers on the Mississippi River.



New Madrid
 Temporary Water Falls
 River Run Backwards
 Reelfoot Lake
 Reelfoot Earth

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Topographic map showing earthquakes greater than magnitude 2.5 (circles). Red circles are earthquakes that occurred after 1972. Blue circles are earthquakes that occurred before 1972. Larger earthquakes are represented by larger circles. USGS image.

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Radio Types

Ham Radio

- Requires licensed operators
- Requires training and/or familiarity with equipment
- Standard UHF, VHF and HF capability
- Repeater Capability if available

Business Band Radio

- Radio is Licensed
- Standard VHF & UHF capability
- Simplex Operations – requires no infrastructure
(There are a limited number of Business Band Repeaters)

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Radio Utilization

Ham Radio

- Establish VHF Net --- "KDØKVS Baptist Com"
- Mobile Unit communicates with Com Trailer on 2 meter
- Possible Chaplain/Assessor Teams communicating on 2 meter

Business Band Radio

- Recovery Unit communicate on Business Band 151.525 to Mobile Unit (Chain Saw 23 or Mudout 3)
- IC and Logistical Units communicate on Business Band-UHF (Mass Care 2, Child Care, Shower Trailer2, etc.)
- Possibly in the future we will have a business band repeater and/or Cross Band Repeating (For use by Recovery Units)

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Radio - HF/VHF-UHF

- YAESU FT-897



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HT Radios

- Baofeng UV-82HP 
- Wouxun - KG-UV6D 

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**Always Remember
Radio Etiquette**

1. Use plain Language
 - Phone & radio
2. Repeat all information
 - Phone & radio
3. Leave "Roger" at home
4. Never use special codes
 - 10 codes or Q codes
5. Learn the International Phonetic Codes

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Additional Information

Missouri Baptist Communication's CONTACTS

- Gaylon Moss, DR State Director,
 - 1-800-736-6227 or gross@mobaptist.org
- Jerry Palmer, MO Baptist Communications Coordinator/Trainer
 - W0GRP, (417) 630-8848, w0grp@mobears.org
- Linda Palmer, MO Baptist Communications Trainer,
 - W0LSP, (417) 468-8801, w0lsp@mobears.org
- www.fema.gov for ICS 100, 200, 700, 800
- www.arri.org www.hamtestonline.com
- <https://hamstudy.org> www.qrz.com

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