



# Emergency Communication Plan



## Table of Contents – Print page 5 and only the pages you need

<b>HAM PLAN in Effect (Pages 3 – 7, v 2.1 07192016)</b> .....	<b>3</b>
Weekly Check-in Group Meeting.....	4
<b>Emergency Communications (Updated 07192016)</b> .....	<b>5</b>
HF HAM Frequencies: .....	5
HF Alternate OK monitoring / communicating frequencies:.....	5
Information Passing.....	6
FEMA Regions (FR) - 5 Areas and 10 region designation (I – X).....	7
<b>Appendix 1 - Neighborhood Communications Plans</b> .....	<b>8</b>
The Three Tier System .....	8
Basic Communications Design .....	8
Channel Plan .....	9
Recommended Communications Equipment & Procedures.....	10
SKYPE .....	10
Radio Frequency / HAM Look-up site.....	10
AmRRon .....	10
<b>Appendix 2 - Support Information</b> .....	<b>11</b>
ARRL Band Plan.....	11

# HAM PLAN in Effect (Pages 3 – 7, v 2.1 07192016)

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The ham network is set up to defeat efforts to isolate an area with a total communications blackout, for any reason; or to provide emergency communications in any natural disaster or unrest scenario. This is why the ham network needs to go down to the CB network and to the neighborhood network and also family network. Information can enter the network at any point. Any operational communications tool can be used (email, cell phone, landline).

## Network Platforms

HF HAM Radio / Monitoring UHF/VHF HAM and CB – Tier One  
| UHF/VHF HAM / CB Monitoring - Tier Two  
| | CB Radio / Family Service Radio / Shortwave Radio Monitoring - Tier Three

## The Three Tier System

Tier Three – The local neighborhood, community communications. This approach is left up to the communities to utilize what is available and affordable to provide the *local level (street) communications*. The primary radio is the CB (SSB preferred or AM), and / or walkie talkie, FRS, GMRS.

Tier Two – Is the *interface between Tier One local street level communications to / from the general or extra class HAM operator having the shortwave HF equipment necessary to carry out national / global communications*. While frequencies may vary, the Tier Two must have capabilities on CB (SSB preferred or AM) or HAM UHF / VHF (not preferred), and telephone, RetroShare.

Tier One – This is the *general or extra class HAM with Shortwave who in coordination with the Emergency Communications Network provides the information flow into and out of an area that might otherwise be isolated or subject to controls*. A Tier One must have additional capabilities on CB (SSB preferred or AM) or HAM UHF / VHF (not preferred), and telephone, RetroShare. Additional equipment like amplifiers and emergency power provides additional strength to the network.

**If you are a HAM:** Send an Email to [cehuff1@bellsouth.net](mailto:cehuff1@bellsouth.net) with your call sign, license class, and include skill and special equipment.

**If you are not a HAM:** think about getting a CB radio and finding a HAM in your area to relay. Add your name and location in the Roll Call. Indicate CB. Once the hams are setup we can direct the CB's to the nearest ham. Others we recommend Family Service Radio (FRS) walkie-talkies. Find your nearest HAM so you can come up with a plan to pass and receive information. You could also get a shortwave radio receiver with SSB reception capabilities to monitor the OK frequency for information.

## **HF Country Wide Communications:**

The HF Tier 1 group is operated by General and above HAMS and will work primary with available frequency...The main stay will be

Primary 20 meters data **14.120 plus 1000 USB CONTESTIA 4/250** are monitored 24/7.

Voice between **14.345 to 14.3375 USB Day/Night** and Secondary 15 meters **21.345 USB Day** are used only in time of emergency or called upon by the hams to operate locally.

When called upon they will work with a team of operators using high power beams and high wattage. They will cover the entire country (conditions permitting) to all other hams in the various locations. **HF HAMs will utilize Emergency Communications section for instructions.**

If relays are needed they will be called by the lead station of the group for that day. Information from OK Central (to be designated, with alternates and back-ups) or BOD members will be transmitted down the net to the following platform. (The word net is used although this is a series of groups tied together to relay information.)

From the primary net it is filtered down to the technician class of hams that work the VHF bands and the UHF bands.

From this net, the technicians will send the message to the local CB and other low power groups and then to the family group...This is a bidirectional information hot line.

Any information received from any of the groups that seem important will be relayed up the net. The lead station operator will make the determination if it is at a level for OK Central to be notified for comment or return instructions.

**Weekly Check-in Group Meeting:** Monday - **8:00 PM** Central Standard Time - Our weekly Group Meeting for Hams is held each week, with meeting and chat sessions, via Skype, each Monday at 8:00PM CST (9:00 EST, 7:00 MST, 6:00 PST) Ham Operators interested in participating in these weekly meeting and chat sessions can contact me at [cehuff1@bellsouth.net](mailto:cehuff1@bellsouth.net)

# Emergency Communications (Updated 07192016)

Primary communications across the lower 48 is occurs on data frequency 14.120 plus 1000. Messages may be sent and recovered any time of day. Currently monitored 24/7 and remains primary during an emergency. Secure communications are also conducted on Retrosahre software by HF Hams. For non-hams to monitor communications requires a Single Sideband (SSB) Shortwave radio and free computer software program FLDGI. All CPT teams / local comms should monitor this frequency. (How To setup provided by AMRRON: <https://www.amrron.com/2014/01/16/how-to-receive-ham-radio-digital-communications/>). **Print this page and keep in shack.**

## HF HAM Frequencies:

Current Stand-by Operations		
PRIMARY calling frequencies	Digital - Use FLDIGI – USB CONTESTIA 4/250 mode <b>14.120 plus 1000</b>	<b>24/7 monitoring</b>
<b>Emergency Operations</b>		
PRIMARY calling frequencies	Digital - Use FLDIGI – USB CONTESTIA 4/250 mode <b>14.120 plus 1000</b>	<b>24/7 monitoring</b>
Local under 300 miles	Digital - Use FLDIGI – USB CONTESTIA 4/250 mode <b>7.120 plus 1000</b> for day or night <b>3.585 plus 1000</b>	<b>Used by local HAMS when required</b>
CW	<b>14.121.5</b> or <b>14.120 plus 1500</b> on the waterfall for data read	<b>Must be prearranged for monitoring</b>
Voice Primary Calling frequency	Voice - <b>14.345</b> MHz USB (20 Meters – Day) (between 14.345 and 14.3375 MHz based on conditions and traffic)	<b>45 min after every hour during emergency or called upon by HAMS to operate</b>
Voice Secondary Calling frequency	Voice - <b>21.345</b> MHz USB (15 Meters- Day)	

### HF HAMS initiating contact:

To Contact: CQ CQ CQ PA Group (Patriotic Air) This is [call sign]

If the frequency is in use, monitor between the two frequencies for any hams calling out from the group.

## HF Alternate OK monitoring / communicating frequencies:

Voice
<b>3.838</b> MHz LSB / <b>3950</b> MHz LSB (Night)
<b>7.238</b> MHz LSB - (Day/Night)
RMS Express
Winlink email messaging
Peer-to-Peer using 14.120 day/ 7.120 night frequencies.
Bulletin Boards - designated

## Information Passing

Questions to put to any contact:

### Information Collection Form (Circle Options)

DATE / TIME/ DOW	/ / : _ M S M T W TH F SA
PRIORITY ( RED / H / M / L )	RED H M L
INFORMATION CONFIDENCE (SCALE 1-5, H=1, L=5)	
RECEIVER / LOCATION	
SENDER / LOCATION	
PASSED TO / LOCATION	
1. WHO	
2. WHAT	
3. WHERE	
4. WHEN	
5. WHY	
6. ADDITIONAL INFO	

**FEMA Regions (FR) - 5 Areas and 10 region designation (I – X)**

<p><b>AREA 1 = I, II, III</b></p> <ul style="list-style-type: none"> <li>• CONNECTICUT - I</li> <li>• DELAWARE - III</li> <li>• DISTRICT OF COLUMBIA            DC - III</li> <li>• MAINE - I</li> <li>• MARYLAND - III</li> <li>• MASSACHUSETTS - I</li> <li>• NEW HAMPSHIRE - I</li> <li>• NEW JERSEY - II</li> <li>• NEW YORK - II</li> <li>• PENNSYLVANIA - III</li> <li>• RHODE ISLAND - I</li> <li>• VERMONT - I</li> <li>• VIRGINIA - III</li> <li>• WEST VIRGINIA – III</li> </ul>	<p><b>AREA 4 = VI</b></p> <ul style="list-style-type: none"> <li>• ARKANSAS - VI</li> <li>• LOUISIANA - VI</li> <li>• NEW MEXICO - VI</li> <li>• OKLAHOMA - VI</li> <li>• TEXAS - VI</li> </ul>		
<p><b>AREA 2 = IV</b></p> <ul style="list-style-type: none"> <li>• ALABAMA - IV</li> <li>• FLORIDA - IV</li> <li>• GEORGIA - IV</li> <li>• KENTUCKY - IV</li> <li>• NORTH CAROLINA - IV</li> <li>• MISSISSIPPI - IV</li> <li>• SOUTH CAROLINA - IV</li> <li>• TENNESSEE - IV</li> </ul>	<p><b>AREA 5 = IX, X</b></p> <ul style="list-style-type: none"> <li>• ALASKA - X</li> <li>• ARIZONA - IX</li> <li>• CALIFORNIA - IX</li> <li>• HAWAII - IX</li> <li>• IDAHO - X</li> <li>• NEVADA - IX</li> <li>• OREGON - X</li> <li>• WASHINGTON - X</li> </ul>		
<p><b>AREA 3 = V, VII, VIII</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <ul style="list-style-type: none"> <li>• COLORADO - VIII</li> <li>• ILLINOIS - V</li> <li>• INDIANA - V</li> <li>• IOWA - VII</li> <li>• KANSAS - VII</li> <li>• MICHIGAN - V</li> <li>• MINNESOTA - V</li> <li>• MISSOURI - VII</li> </ul> </td> <td style="width: 50%; border: none;"> <ul style="list-style-type: none"> <li>• MONTANA - VIII</li> <li>• NEBRASKA - VII</li> <li>• NORTH DAKOTA - VIII</li> <li>• OHIO - V</li> <li>• SOUTH DAKOTA - VIII</li> <li>• UTAH - VIII</li> <li>• WISCONSIN - V</li> <li>• WYOMING - VIII</li> </ul> </td> </tr> </table>		<ul style="list-style-type: none"> <li>• COLORADO - VIII</li> <li>• ILLINOIS - V</li> <li>• INDIANA - V</li> <li>• IOWA - VII</li> <li>• KANSAS - VII</li> <li>• MICHIGAN - V</li> <li>• MINNESOTA - V</li> <li>• MISSOURI - VII</li> </ul>	<ul style="list-style-type: none"> <li>• MONTANA - VIII</li> <li>• NEBRASKA - VII</li> <li>• NORTH DAKOTA - VIII</li> <li>• OHIO - V</li> <li>• SOUTH DAKOTA - VIII</li> <li>• UTAH - VIII</li> <li>• WISCONSIN - V</li> <li>• WYOMING - VIII</li> </ul>
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# Appendix 1 - Neighborhood Communications Plans

## The Three Tier System

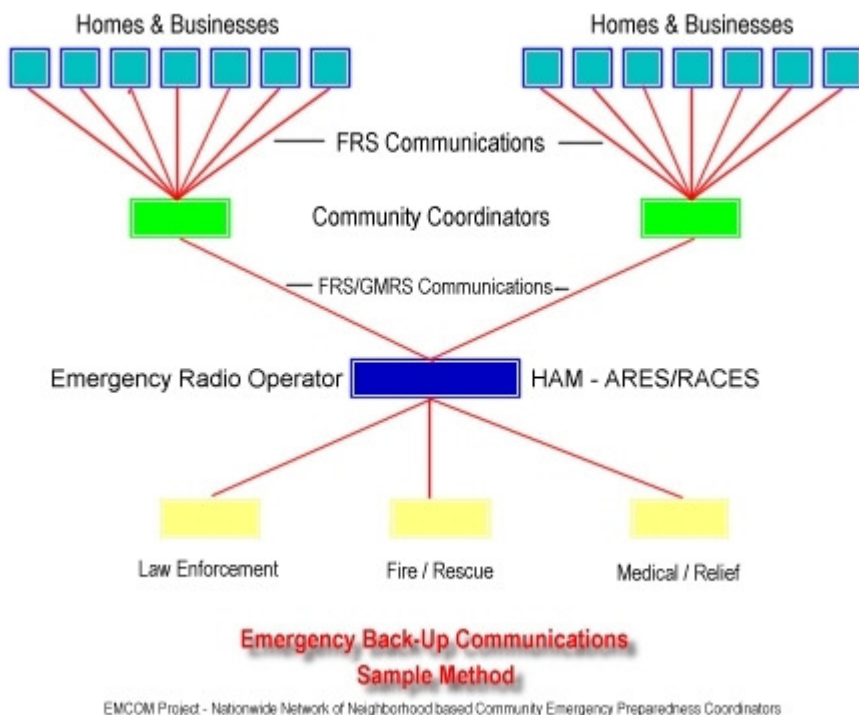
HF HAM Radio / Monitoring UHF/VHF HAM and CB – Tier One  
| UHF/VHF HAM / CB Monitoring - Tier Two  
| | **CB Radio / Family Service Radio / Shortwave Radio Monitoring - Tier Three** [you are here]

Good information extracted from :<http://emcomus.org/commwp.html>  
CB Information: <http://www.nat-com.org/cbfaq.htm>

## Basic Communications Design

It is virtually impossible to create a "one size fits all" neighborhood emergency communications network. The one depicted below is proposed as an example system to use as a starting point for neighborhood emergency coordinators to modify as required for their particular circumstances. It supposes a typical urban/suburban neighborhood, with surrounding neighborhoods also setting up like communications, **and the existence of an amateur radio (ham) operator within 2 miles of the neighborhood**. An alternative is to integrate CB radios to reach out to other neighborhoods, vehicles, or monitoring HAMS.

<http://emcomus.org/images/commsamp2.jpg>



This system recommends Family Service Radio (FRS) walkie-talkies for each family in the neighborhood. These radios are relatively inexpensive, provide clear, crisp, static-free communications, and are limited in range (typically in an urban area) to 1/2 to 3/4 of a mile in range, and offer up to 14 channels upon which to communicate. This will serve to lessen the congestion that serves to cripple communications. Additionally, these types of radios are already in wide usage for camping trips, boating, skiing, etc. for families to communicate between themselves. (Be as standard as possible).



## Channel Plan

A "channel plan" is developed to limit the amount of communications for each purpose, based on using 3-4 channels, thus leaving (or coordinating) channels for use by adjacent neighborhoods for their own communications.

Channel 2 - Emergency messages to be relayed to the neighborhood coordinator, or designated communications coordinators (there should always be a backup communicator designated in case the primary assignee is incapacitated).

**Channel 8** - Intra/Inter Family Communications

**Channel 9** - Neighborhood light search and rescue efforts

**Channel 10** - Evacuation/Relief/Health/Welfare efforts

**Channel 5** - Secondary Emergency Message Channel - Assigned to one side of the neighborhood that is close to another neighborhood using Channel 5 as their primary Emergency channel. This should only be used when one cannot reach their primary neighborhood coordinator(s).

**Channel 6** - Secondary Emergency Message Channel - Assigned to the other side of the neighborhood that is close to another neighborhood using Channel 6 as their primary Emergency channel. This should only be used when one cannot reach their primary neighborhood coordinator(s).

Note that whenever possible, **channels 1-7 should be used for Emergency communications that are to be relayed.** These channels are universally accessible by General Mobile Radio Service, so can be accessed by each. Channel 1 (FRS) should be further reserved as a 'General' emergency channel common to all areas such that coordinators and/or other emergency services, agencies or organizations entering a defined neighborhood area can receive information including the main frequency (channel) assignments for that area. Other internal neighborhood communications can be assigned channels 8-14.

Neighborhood coordinators should be equipped with General Mobile Radio Service (GMRS) radios when possible. As indicated, these radios can communicate on the first 7 channels of FRS radio, plus 8 additional frequencies. These radios have a farther effective range (typically reliable to 2 miles in urban areas, and farther using repeater systems). Use of these should be limited so as not to cause undue frequency congestion.

Neighborhood coordinators will receive emergency messages on channel 2 of their radio, and communicate it to their assigned participating amateur radio operator. In this case it is assumed that the operator is an ARES/RACES operator with direct radio contact with law enforcement, fire/rescue, medical personnel, etc., and has agreed to monitor Channel 8 of GMRS radio as a primary channel, and Channel 2 (both FRS and GMRS) as a secondary frequency.

A CB Radio would extend range and not rely on repeaters. You can expect anywhere between 1 and 15 miles between mobile units. There are all sorts of variables, including terrain, how crowded the channel is, or even types and numbers of buildings around the transmitting/receiving units. Base stations can expect about 5 to 10 miles between base and mobile and 10 to 30 miles between base units.

**CB channel 9 has been designated by the FCC as an emergency contact channel.**

Since the ham operator is already involved in emergency message relaying, he/she is most likely monitoring several other radios/frequencies, and will potentially be receiving messages from multiple neighborhood coordinators via the GMRS/FRS/CB link. To insure quick, concise communications, a communications protocol has been established to

standardize (and thus simplify) the message handling process. This protocol includes contacting the operator by using the appropriate call signs, and the channel and service being used for transmission, so that the ham operator will know which radio to use. (It can be confusing with several frequencies being monitored.)

### **Recommended Communications Equipment & Procedures**

EMCOM has surveyed the marketplace of FRS and GMRS radios with an eye to recommending specific equipment to be used in terms of features, standardization and compatibility issues. While virtually all of the makes and models of radios offer basic compatibility and can be used for basic level communications, there is a wide variety of features available on various models; some helpful in an emergency situation, some not. We have reviewed these systems in terms of price, performance, reliability and features, as well as universal availability and manufacturer participation. We offer our recommendation in light of achieving the maximum possible standardization.

In this way, useful features should be universally available, and persons that are in a neighborhood other than their own at the time of an emergency (i.e., at work, visiting, shopping, etc.) will have the best chance for compatibility of organized emergency communications in that area. Equally important is the ability for neighborhood radios to share charging facilities and interchange rechargeable battery packs when needed in an emergency. Normally different brands and even different models use different charger and/or battery pack configurations. For the same reasons that emergency agencies insist on single-source compatibility for their systems, we advise neighborhoods to do likewise.

Key features we feel to be important considerations:

- Full 14 channels for FRS Radios, 15 for GMRS (1-7 shared with FRS)
- Water Resistant/Weatherproof Design (for adverse weather conditions)
- 38 CTCSS Codes
- Key Lock
- Selectable call tones
- Programmable Channel Scan so that multiple channels can be monitored
- Hands-Free (VOX) operation with selectable sensitivity
- NOAA Weather Alert Radio
- Rechargeable NiMH Battery operation
- CB Radio with SSB

**SKYPE** - Alternative communications for coordinating between individuals or groups via voice communications with your computer. <https://www.skype.com/en/>

### **Radio Frequency / HAM Look-up site**

Find you local Repeaters, EMS frequencies, and local HAMs

<http://www.radioreference.com/>

### **AmRRon**

AmRRON.com is the "Communications Hub" merging AmRRON (American Redoubt Radio Operators Network) and TAPRN (The American Preparedness Radio Network)

<http://www.amrron.com/> - Plan put together by **John Jacob Schmidt** – go to site for complete plan.

# Appendix 2 - Support Information

## ARRL Band Plan

