Emergency Communication Plan

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NOTE: ONLY PRINT THE PAGES YOU NEED

*11112013 updated with handheld frequency tables and distance ranges. Plan has not changed.

12012013 pg 47 added with EMP impact map.

HAM PLAN in Effect (v 1.3 12012013)

POC's: **Rocky** W4SVS cehuff1@bellsouth.net **Mary** KJ4UYO

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 (BEAM) – Primary Net
HF HAM Radio / CB Monitoring – Primary Net
| UHF/VHF HAM / CB Monitoring
| |
CB Radio / Family Service Radio /Shortwave Radio Monitoring

If you are a HAM: Send an Email to 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 with SSB capabilities to monitor the OK frequency for information.

HF Country Wide Group:

The HF county wide group is operated by General or Extra hams and will work primary 20 meters with available frequency...The main stay will be between **14.345 to 14.3375 USB Day/Night**. 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. Secondary frequency has been added on 15 meters and is **21.345 USB Day. See the 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.

Information Passing

Questions to put to any contact:

(Form Follows to print out)

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**
RECEIVER / LOCATION / FR	
SENDER / LOCATION / FR	
PASSED TO / LOCATION / FR	
1. Is the power still on?	
2. Is your water still on?	
3. Is FEMA active in your AO?	
4. Is any weapons confiscation going on?	
5. Is there any ARMY and or NG active in your AO?	
6. What type of police activity.	
7. What is the local city government doing?	
8. Are gun shops still open?	
9. Is there overt gang activity in your AO?	
10. Are stores still open? If so what is the price of staples. Bread, milk, ect.	
11. Do you hear truckers on the road? If so what info can you get from them.	
12. Is fuel still available? If so at what price.	
13. Any Chemical, Viral, or other incidents being reported?	
14. Other observations to pass.	
15. Concerns to pass.	

FEMA Regions (FR) and 10 region designation (I – X)

<table>
<tr>
<td>AREA 1 = I, II, III

• CONNECTICUT - I
• DELAWARE - III
• DISTRICT OF COLUMBIA DC - III
• MAINE - I
• MARYLAND - III
• MASSACHUSETTS - I
• NEW HAMPSHIRE - I
• NEW JERSEY - II
• NEW YORK - II
• PENNSYLVANIA - III
• RHODE ISLAND - I
• VERMONT - I
• VIRGINIA - III
• WEST VIRGINIA – III</td>
<td>AREA 4 = VI

• ARKANSAS - VI
• LOUISIANA - VI
• NEW MEXICO - VI
• OKLAHOMA - VI
• TEXAS - VI</td>
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<tr>
<td>AREA 2 = IV

• ALABAMA - IV
• FLORIDA - IV
• GEORGIA - IV
• KENTUCKY - IV
• NORTH CAROLINA - IV
• MISSISSIPPI - IV
• SOUTH CAROLINA - IV
• TENNESSEE - IV</td>
<td>AREA 5 = IX, X

• ALASKA - X
• ARIZONA - IX
• CALIFORNIA - IX
• HAWAII - IX
• IDAHO - X
• NEVADA - IX
• OREGON - X
• WASHINGTON - X</td>
</tr>
<tr>
<td colspan="2">AREA 3 = V, VII, VIII

• COLORADO - VIII
• ILLINOIS - V
• INDIANA - V
• IOWA - VII
• KANSAS - VII
• MICHIGAN - V
• MINNESOTA - V
• MISSOURI - VII
• MONTANA - VIII
• NEBRASKA - VII
• NORTH DAKOTA - VIII
• OHIO - V
• SOUTH DAKOTA - VIII
• UTAH - VIII
• WISCONSIN - V
• WYOMING - VIII</td>
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</table>

Emergency Communications

We have established a time and frequency for emergency communications in case any *blackout* or *isolated incident* occurs, when information needs to get in or out of a region .

In an extreme emergency condition:

This time can be any day, at 45 minutes after the hour. Oath Keepers and Ham Radio operators not authorized to transmit on these frequencies, can listen in on a shortwave radio

Primary calling frequency is 14.345 MHz USB (20 Meters – Day / Night)

Secondary primary frequency is 14.3375 MHz USB

Secondary calling frequency is 21.345 MHz USB (15 Meters- Day)

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.

Alternate OK monitoring / communicating frequencies:

Voice at 3.838 MHz LSB / 3950 MHz LSB
Voice at 7.238 MHz LSB
Digital - Use Fldigi - using CONTESTIA 4/250 mode or MT63-500
14.120 plus 1000 for day
3.540 plus 1000 for night
RMS Express Winlink email messaging
Peer-to-Peer using 14.120 day/ 3.540 night frequencies.

Weekly Check-in Group Meeting

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

Alternate Network Plan

Standardized Amateur Radio Prepper Communications Plan
The American Preparedness Radio Net (TAPRN)
http://www.taprn.com/

In the event of a nationwide catastrophic disaster, the nationwide network of Amateur Radio licensed preppers will need a set of standardized meeting frequencies to share information and coordinate activities between various prepper groups. This Standardized Amateur Radio Communications Plan establishes a set of frequencies on the 80 meter, 40 meter, 20 meter, and 2 meter Amateur Radio bands for use during these types of catastrophic disasters.

Preppers are encouraged to monitor conventional Amateur Radio and non-Amateur Radio frequencies for sources of information, including: National Traffic System nets, state ARES/RACES HF nets, global Centers of Activity (CoA), local VHF/UHF repeaters, CB channel 19, and national simplex calling frequencies. However, these standardized frequencies and channels provide a place for preppers to meet and exchanges information relevant to those of a prepper mindset after a catastrophic disaster.

Routine nets will not be held on all of these frequencies, but preppers are encouraged to use them when coordinating with other preppers on a routine basis. Routine nets may be conducted by The American Preparedness Radio Net (TAPRN) on these or other frequencies as they see fit. However, TAPRN will promote the use of these standardized frequencies by all Amateur Radio licensed preppers during times of catastrophic disaster. The promotion of this Standardized Amateur Radio Communications Plan is encouraged by all means within the prepper community, including via Amateur Radio, Twitter, Facebook, and various blogs

Standardized Frequencies and Modes

80 Meters – 3.818 MHz LSB (+/-) voice QRM (TAPRN Net: Sundays at 9 PM ET) – 8PM ET for PRE NET
Alternate frequencies are 3.855 MHz LSB or 3.983 MHz LSB and always check +/- 6kc or more
WINMORE email over radio network on 3585 MHz USB
40 Meters – 7.242 MHz LSB
40 Meters Morse Code / Digital – 7.073 MHz USB PSK-31 Now using CONTESTIA 4/250 mode
20 Meters – 14.242 MHz USB
2 Meters – 146.420 MHz FM
FRS/GMRS - Channel 4 (462.6375 MHz)
CB - Channel 4 (27.005 MHz)
MURS - Channel 4 (154.570 MHz)

The communication of critical information using the AM mode is encouraged on the standard 80, 40, and 20 meter voice frequencies at the top of each hour so that those who do not have SSB capable receivers may obtain pertinent information using the AM mode.

Check the site chat room for current information including any real time frequency changes.
http://theoriginalpreppernetworks.com/APRN/APRN_blog/?page_id=516

Nets and Network Etiquette

In times of nationwide catastrophic disaster, the ability of any one prepper to initiate and sustain themselves as a net control may be limited by the availability of power and other resource shortages. However, all licensed preppers are encouraged to maintain a listening watch on these frequencies as often as possible during a catastrophic disaster. Preppers may routinely announce themselves in the following manner:

• This is [State Your Callsign, Repeat Your Callsign Phonetically] in [Your State], maintaining a listening watch on [Standard Frequency] for any preppers on frequency seeking information or looking to provide information. Please call [Your Callsign, Repeat Your Callsign Phonetically].

Preppers exchanging information that may require follow up should agree upon a designated time to return to the frequency and provide further information. If other stations are utilizing the frequency at the designated time you return, maintain watch and proceed with your communications when those stations are finished. If your communications are urgent and the stations on frequency are not passing information of a critical nature, interrupt with the word "Break" and request use of the frequency.

For More Information
Catastrophe Network: http://www.catastrophenetwork.org or @CatastropheNet on Twitter
The American Preparedness Radio Network: http://www.taprn.com or @TAPRN on Twitter

RMS Winmor (email over radio) BBS System

The BBS system is growing, with 26 members on line.

The BBS system is proving itself reliable and effective for information exchange and distribution. At the same time, the TAPRN voice net continues to be challenged by propagation, QRN, QRM and low participation.

1. All TAPRN members are strongly engouraged to equip for digital modes, including Winmor using the RMS Express software. No additional equipment is needed (in most cases) and assistance with technical issues is readily available from existing users. Information and free software available at: http://www.winlink.org/WINMOR/.

2. Participation in the TAPRN BBS system is limited to TAPRN members and requires registration via a sysop. TAPRN members interested in participating in the TAPRN BBS system must send Winlink email to either W0ECM via w0ecm@winlink.org or KB1TCE via kb1tce@winlink.org. Include your name, call, city, state and commercial email address

3. TAPRN BBS participants should ACCESS THE BBS REGULARLY (once daily at a minimum). The BBS system issues periodic surveys and exercises for information exchange and operational readiness assessment, as well as TAPRN bulletins. You may also exchange private messages with other TAPRN members via the BBS.

4. Make a renewed committment to participation in the TAPRN voice net…3.818000Mhz, Sunday evenings at 2100 EST (Monday 0200Z). Volunteers are needed for Net Manager and Net Control duty. If you are able to fill either of these positions, please contact jess, W0ECM: jess@acresoflove.com.

Fulfillment of the TAPRN mission will only come about through the active participation and support of the membership.

Will you be "prepared"? TAPRN

To Check-in to the APRN Net, when asked for check-ins wait for an opening pause and answer:

This is *say callsign in plain English* , that is *say callsign phonetically*. My name is *say your name* and I am located near *say your location*.

Procedure To Run a Net as Net Control :

Net Preamble - Here is the APRN Preamble if anyone needs it. This is just a guide to go by, if you run a net feel free to customize this for your net.

CQ CQ CQ This is __*your call sign*__. Calling The American Preparedness Radio Net. My name is —*Your name*—and I will be your net control this evening

Our net meets regularly every — Sunday —— night at 9PM Eastern time on this frequency **– 3.818 MHz LSB (+/-)** .
All general class or higher amateur radio operators are invited to participate.

While this net has been established as a fellowship net, the primary purpose for the net is to promote self-reliance and preparedness in all aspects of modern life. The goal of the American Preparedness Radio Net is to share & disseminate information that can help everyone achieve individual independence, & self-reliance. For additional information about The American Preparedness Radio Net we invite you to visit the Net's Home Page on the Internet at www.taprn.com again that is www dot Tango Alpha Papa Romeo November dot com

This net may be superseded by emergency traffic during times of a disaster.

[Announce the topic for the net here]

Are there any stations with traffic, bulletins, or announcements? Please give your call-sign slowly and phonetically. Please state the nature of your traffic. Please direct replies to —*Your Call* —- Your net control station
[Log and identify calling stations as necessary, prioritize the order of any Traffic, Bulletins or Announcements as you see fit and ask if they will be here for the rag chew portion of the net. It is Recommended that all Traffic, Announcements or Bulletins be handled at the beginning of the Rag Chew Portion of the net when all the check-ins have come on so everyone hears them]

We will now move into the formal portion of our net, this is a directed net. When checking in please give your call-sign phonetically. List if you have any informal traffic . Please direct all comments to —*Your Call* — Your net control station
Any short Time, mobile, or QRP stations please call now
[Log all contacts and thank them for checking in.]

We will now take all other check-ins. When checking in please give your call-sign phonetically. List if you have any informal traffic and if you will remain on frequency for the rag chew portion of the net. Please direct all comments to —*Your Call* — Your net control station

Any stations not wishing to stay for the rag chew portion of the net we would like to thank you for checking into the net and please remember to visit our Internet presence at www dot Tango Alpha Papa Romeo November dot com. We will now open the informal portion of our net.
[Call all stations one at a time in the order you set for priority when they checked in and ask for any comments they may have]

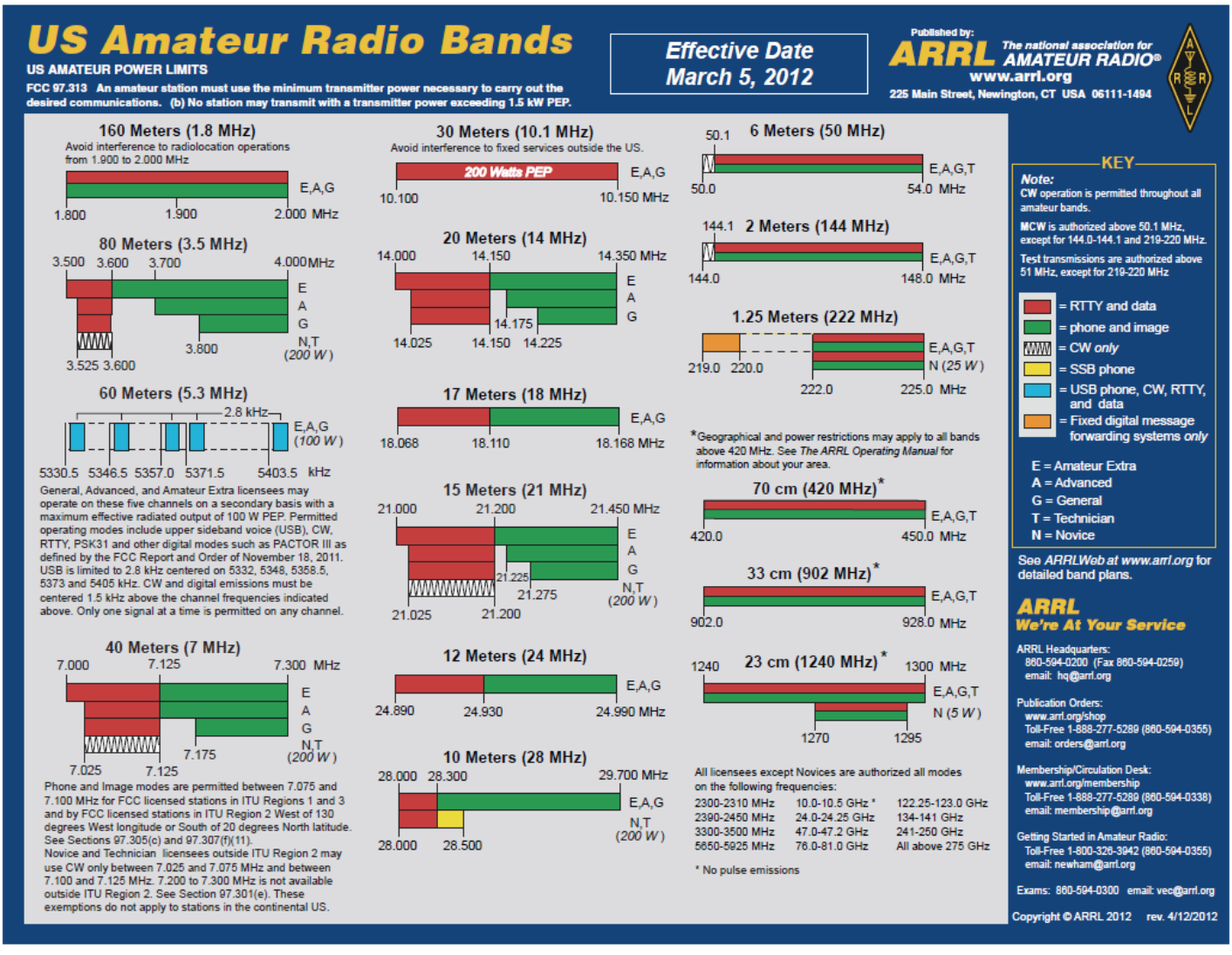
[Check for late checking stations at midpoint of rag chew and before closing.]

Before we conclude, are there any additional comments or business for the net?
If so please call now.

Check one last time for any late check-ins and log them and handle any questions or comments they have”

I want to thank everyone that has joined us tonight for making this net possible and we hope that you will go to www dot Tango Alpha Papa Romeo November dot com to keep up to date on the net schedules and information posted there.
I will now close this session of The American Preparedness Radio Net and return the frequency to regular amateur use.
Thank you all for making this net possible.
73 to all —*Your Call* —

ARRL Band Plan



Neighborhood Communications Plan

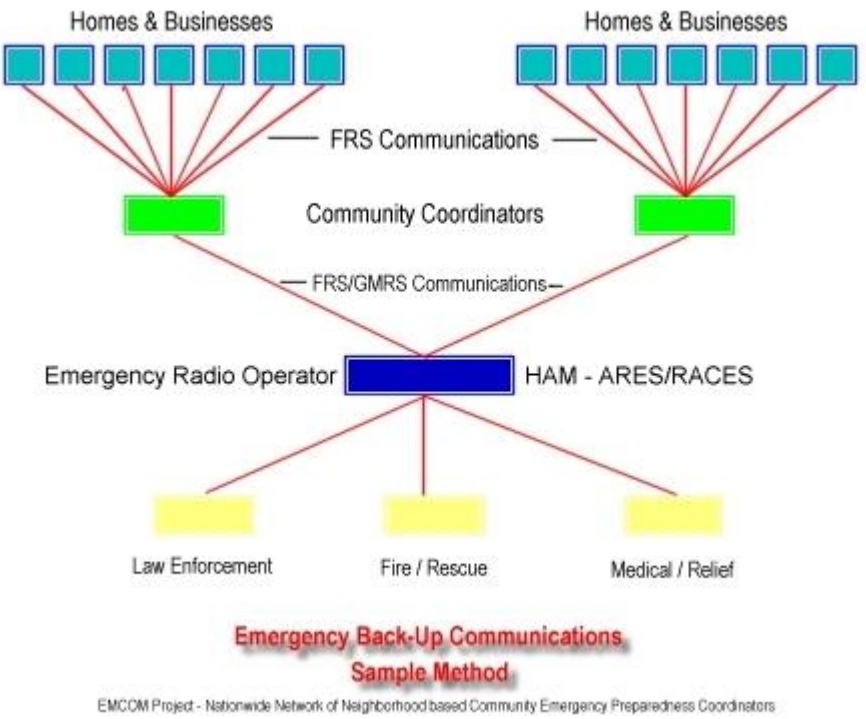
HF HAM (BEAM) (Top of structure – will pass info across country)
HF HAM RADIO / CB Monitoring – pass info to a beam
| UHF/VHF HAM / CB Monitoring – pass info to a HF General/Extra HAM
| |
CB Radio / Family Service Radio [you are here] - Get info to a HAM to get outside local area

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

SKYPE - Alternative communications for coordinating between individuals or groups via voice communications with your computer.

Simple Electromagnetic Pulse (EMP) Protection

http://www.catastrophenetwork.org/?p=503 by Travis Waack

Protecting electronics from damaging Electromagnetic Pulse (EMP) effects is much easier than you might think. All you need to do is wrap whatever you want to protect in paper towel, using some masking tape to keep in in place. The paper towel serves as an insulator between the device and the aluminum foil you will now wrap around the device. Several layers of foil increase protection. To prove this works, check out the video demonstrating that it completely blocks a very powerful local AM radio station (see above link).

Simple Faraday cage

http://www.youtube.com/watch?v=EoQZY1FtI3c

CB - North American/CEPT frequencies

CB Channel	Frequency	Typical Use (US)
Channel 1	26.965 MHz	
Channel 2	26.975 MHz	
Channel 3	26.985 MHz	
Channel 4	27.005 MHz	*4x4 channel*
Channel 5	27.015 MHz	
Channel 6	27.025 MHz	*many operators using illegal high-power amplifiers*
Channel 7	27.035 MHz	
Channel 8	27.055 MHz	
Channel 9	27.065 MHz	*EMERGENCY CHANNEL*
Channel 10	27.075 MHz	
Channel 11	27.085 MHz	
Channel 12	27.105 MHz	
Channel 13	27.115 MHz	*unofficial RV channel*
Channel 14	27.125 MHz	*included crystal on many walkie-talkies*
Channel 15	27.135 MHz	
Channel 16	27.155 MHz	
Channel 17	27.165 MHz	NORTH-SOUTH FREEWAYS TRUCKERS CHANNEL
Channel 18	27.175 MHz	
Channel 19	27.185 MHz	EAST-WEST FREEWAYS TRUCKERS CHANNEL
Channel 20	27.205 MHz	
Channel 21	27.215 MHz	
Channel 22	27.225 MHz	
Channel 23	27.255 MHz	
Channel 24	27.235 MHz	
Channel 25	27.245 MHz	
Channel 26	27.265 MHz	
Channel 27	27.275 MHz	
Channel 28	27.285 MHz	
Channel 29	27.295 MHz	
Channel 30	27.305 MHz	*depending on local needs, channels numbered above 30 or 35 are generally used for SSB operation*
Channel 31	27.315 MHz	
Channel 32	27.325 MHz	
Channel 33	27.335 MHz	
Channel 34	27.345 MHz	
Channel 35	27.355 MHz	
Channel 36	27.365 MHz	
Channel 37	27.375 MHz	
Channel 38	27.385 MHz	*unofficial SSB calling channel, LSB mode*
Channel 39	27.395 MHz	
Channel 40	27.405 MHz	

Multi-Use Radio Service Frequencies - MURS

Dakota Alert Chart

Frequency Chart

Channel	Channel Type	Frequency (MHz)	Power (Watts)
1	MURS	151.820	1.1
2	MURS	151.880	1.1
3	MURS	151.940	1.1
4	MURS	154.570	1.1
5	MURS	154.600	1.1

Sub Code (CTCSS) Frequency

Code	Frequency (Hz)	Code	Frequency (Hz)	Code	Frequency (Hz)
00	0	13	103.5	26	162.2
01	67.0	14	107.2	27	173.8
02	71.9	15	110.9	28	179.9
03	74.4	16	114.8	29	186.2
04	77.0	17	118.8	30	192.8
05	79.7	18	123.0	31	203.5
06	82.5	19	127.3	32	210.7
07	85.4	20	131.8	33	218.1
08	88.5	21	136.5	34	210.7
09	91.5	22	141.3	35	225.7
10	94.8	23	146.2	36	233.6
11	97.4	24	151.4	37	241.8
12	100	25	156.7	38	250.3

FRS/GMRS Channels

Channel numbers commonly used on FRS/GMRS dual service radios. Most radios of this type are not capable of repeater operation and do not include the repeater input frequencies.

Channel No.	Frequency	GMRS	GMRS Max Ouput	FRS	FRS Max Output	Usage/Notes
01	462.5625	■	5 W	■	500 mW	Unofficial national calling channel
02	462.5875	■	5 W	■	500 mW	
03	462.6125	■	5 W	■	500 mW	
04	462.6375	■	5 W	■	500 mW	
05	462.6625	■	5 W	■	500 mW	
06	462.6875	■	5 W	■	500 mW	
07	462.7125	■	5 W	■	500 mW	
08	467.5625			■	500 mW	
09	467.5875			■	500 mW	
10	467.6125			■	500 mW	
11	467.6375			■	500 mW	
12	467.6625			■	500 mW	
13	467.6875			■	500 mW	
14	467.7125			■	500 mW	
15	462.5500	■	50 W			
16	462.5750	■	50 W			
17	462.6000	■	50 W			
18	462.6250	■	50 W			
19	462.6500	■	50 W			
20	462.6750	■	50 W			Unofficial emergency/traveler assistance channel (PL 141.3)
21	462.7000	■	50 W			
22	462.7250	■	50 W			
	467.5500	■	50 W			Repeater input
	467.5750	■	50 W			Repeater input
	467.6000	■	50 W			Repeater input
	467.6250	■	50 W			Repeater input
	467.6500	■	50 W			Repeater input
	467.6750	■	50 W			Repeater input, Unofficial emergency/traveler assistance channel (PL 141.3)
	467.7000	■	50 W			Repeater input
	467.7250	■	50 W			Repeater input

http://wiki.radioreference.com/index.php/FRS/GMRS_combined_channel_chart

Midland Extra Channels

Midland has started marketing "Extra Channels" on several of their radios. These extra channels are simply existing FRS/GMRS frequencies with hard coded tones and low power on the FRS-only channels.

Channel No.	Actual Channel	Frequency	PL/DPL No.	PL Tone/DPL Code
23	GMRS 1	462.5625	38	250.3
24	GMRS 3	462.6125	35	225.7
25	GMRS 5	462.6625	32	203.5
26	GMRS 7	462.7125	29	179.9
27	GMRS 15	462.5500	26	162.2
28	GMRS 17	462.6000	23	146.2
29	GMRS 19	462.6500	20	127.3
30	GMRS 21	462.7000	17	118.8
31	GMRS 2	462.5875	1	023
32	GMRS 4	462.6375	4	031
33	GMRS 6	462.6875	7	047
34	FRS 8	467.5625	10	065
35	FRS 10	467.6125	13	073
36	FRS 12	467.6625	16	115
37	FRS 14	467.7125	19	131
38	GMRS 16	462.5750	22	143
39	GMRS 18	462.6250	25	156
40	GMRS 20	462.6750	28	172
41	GMRS 22	462.7250	31	223
42	GMRS 1	462.5625	14	107.2
43	GMRS 3	462.6125	11	97.4
44	GMRS 5	462.6625	8	88.5
45	GMRS 7	462.7125	5	79.7
46	GMRS 15	462.5500	2	71.9
47	GMRS 17	462.6000	37	241.8
48	GMRS 19	462.6500	34	218.1
49	GMRS 21	462.7000	31	192.8
50	GMRS 2	462.5875	2	025

HAM Aides

Selecting a Band

Before you pick your antenna, you should decide on what band or bands you want to operate. The following are three of the most popular HF bands with approximate frequencies in parenthesize and their best usages:

- 80 Meters (3 MHz) – Statewide Communications at Night
- 40 Meters (7 MHz) – Statewide Communications During Daytime, Nationwide and Worldwide Communications at Night
- 20 Meters (14 MHz) – Nationwide and Worldwide Communications During Daytime

Daytime HF Band Propagation

•160 meters
  –Ground wave to 25 mi
  –Sky wave to 200 mi
  –Severe D absorption
•80 meters
  –Ground wave to 20 mi
  –Sky wave to 250 mi
  –Severe D absorption
•40 meters
  –Ground wave to 20 mi
  –Sky wave to 750 mi
  –Moderate D absorption
•20 meters
  –Ground wave to 20 mi
  –Sky wave worldwide
•15 meters
  –Ground wave to 20 mi
  –Sky wave worldwide but variable
•10 meters
  –Ground wave to 20 mi
  –Sky wave variable
  –Line of sight 50-100 mi

VHF Daytime Propagation

•No ground wave like HF has, but line of sight communications are fairly reliable up to 80 miles or more with 6 meters
•Line of sight communications are fairly reliable up to 50 miles with 2 meters, less consistent to 70 miles
•Line of sight communications are more local with 440 MHz, roughly county wide

Digital Software (FREE): Fldigi

Please, go to the following link and download FLdigi, FLarq, FLmsg, Flwrap. To begin with, use Fldigi as a soundcard digital mode program and we'll cover the other plun-ins like Flarq in time.

Fldigi Program downloads: http://www.w1hkj.com/download.html
Setup help: http://w1npp.org/ares/topics/Introduction_to_FLDIgi_NBEMS_Suite.pdf
Or https://emcommeast2011.s3.amazonaws.com/Fldigi%20Workshop%20for%20EmComm%20East%202011.pdf
Soundcard setup help: http://panbems.org/fldigi_calibration.htm
Calibration program: http://www.pa-sitrep.com/checksr/CheckSR.exe
CONTESTIA look and sound: http://www.w1hkj.com/FldigiHelp-3.20/Modes/contestia.htm
What various digital sound and signals look like: http://hfradio.org.uk/html/digital_modes.html

RMS Express Winlink (FREE)

RMS Express has two means of message forwarding. The most familiar and most used mode of operation is the transmission of e-mail messaging to the Internet via either a RMS HF station (HF Pactor or HF Winmor) or directly to a CMS (TELNET via Internet). VHF modes are not discussed in this document.

A lesser known capability of RMS Express is its ability to transfer e-mail traffic directly between two connected stations. The message transfer, both directions, is automatic once a connection is achieved. This method**, Peer-to-Peer, permits error free messaging with attachments (ICS-213, etc.) even if the Internet has failed or long-range RMS HF stations were unavailable due to propagation conditions.** Further, the receiving station need not be manned as long as it is listening for a connection on a known frequency. All connected modes, use ARQ, Automatic Repeat Request, to achieve error-free transfer of messages and attachments.

Webpage: http://www.winlink.org/

Spftware: http://www.winlink.org/WINMOR

Installing the Software

The RMS Express Client program is what you will use to compose and read messages. It is very similar to other e-mail programs. Use this link to download the installation program for RMS Express:

http://www.Winlink.org/ClientSoftware

You also need to install the ITSHF propagation program that keeps track of available RMS frequencies:

http://www.greg-hand.com/hfwin32.html

When you see the purple ITSHF Icon on your desktop, just delete it; it has no function.
The RMS Express installation procedure will *not* put an icon for RMS Express on your desktop. However, you can manually create one by using this procedure:

1. Use Windows Explorer to browse the folder C:\RMS Express\

2. Right click on the entry for "RMS Express.

Getting Started with Winlink 2000 – http://**www.winlink.org/webfm_send/184**

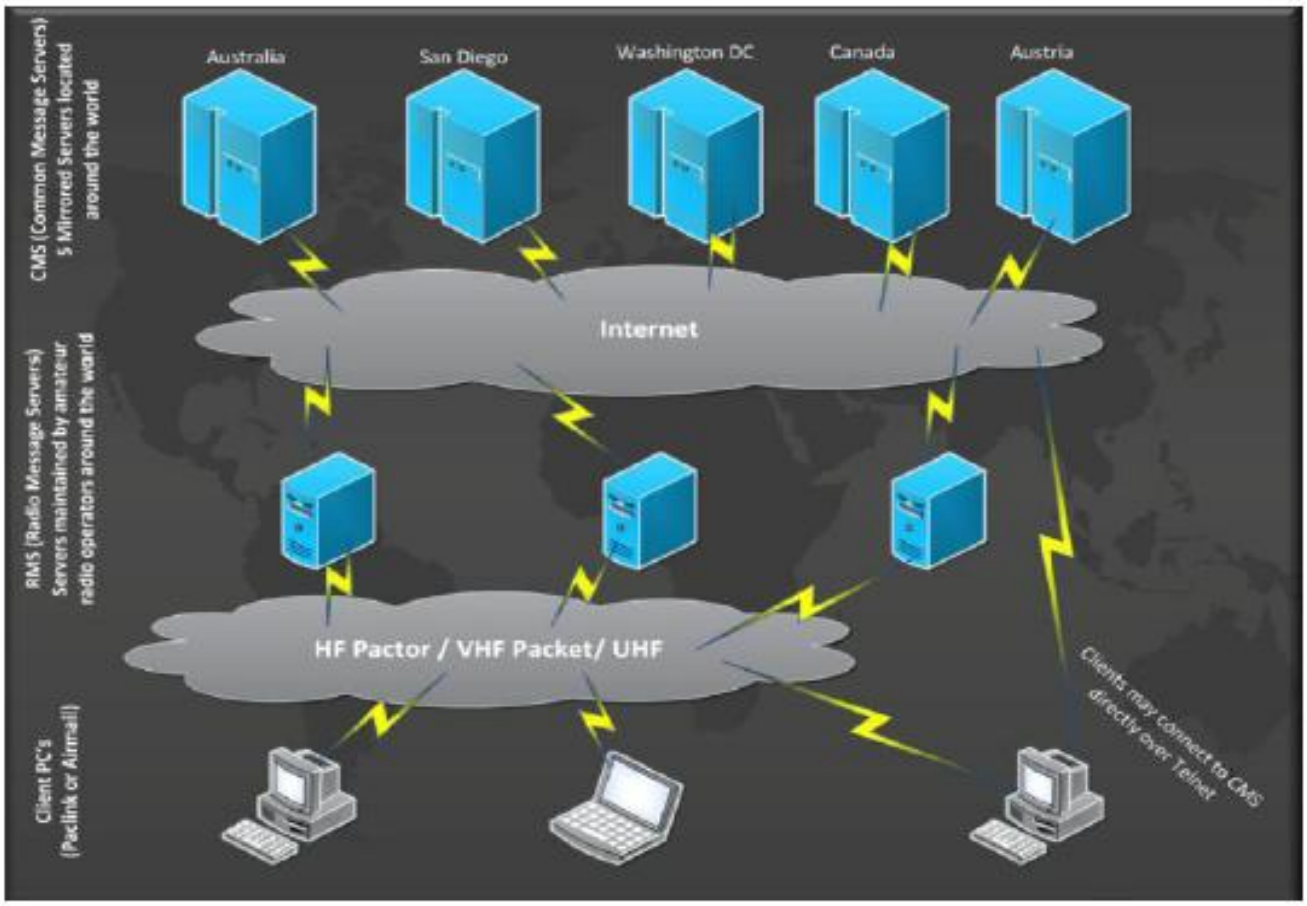
Getting Started with *Winlink 2000*

Phil Sherrod, W4PHS

Mar. 19, 2011

Introduction to Winlink:

Winlink 2000™ (www.Winlink.org) is a worldwide system for sending and receiving e-mail over radio. Since the connection from the client computer to the Winlink server does not depend on the Internet, Winlink is widely used by mariners, RV campers, missionaries, and various agencies who need to communicate when the Internet is not available.



The Winlink system consists of a group of Common Message Servers (CMS) placed at various locations around the world. These servers connect via the Internet to Radio Message Servers (RMS) in many geographic locations to form a star network configuration. The Radio Message Servers are the VHF, UHF, or HF RF gateway into the Winlink system. The final component is the client computer (i.e., your computer) which runs software to send/receive messages through your radio.

Like regular e-mail, Winlink messages are sent to a specific address, and they may contain file attachments such as pictures, weather maps, spreadsheets, ICS forms, etc. E-mails can be sent between Winlink stations and normal SMTP/POP3 e-mail servers like gmail.com.

Winlink is heavily used by the U.S. and other governments, and many of the Radio Message Servers are restricted to non-amateur operations since they operate on non-amateur frequencies.

It is also possible to make direct, peer-to-peer, connections between two client computers (radio stations) that are **within radio propagation range**.

Remember that e-mails sent through Winlink on the ham bands must follow the usual rules for amateur radio communication, and thus, may not be used for commercial operations, they may not be encrypted, and third-party traffic rules apply.

You can visit this site to check the current status of RMS servers: http://www.Winlink.org/RMSHFStatus

Winlink Connection Modes
There are four pathways for client computers to connect to the Winlink system:

- Via HF radio to one of the RMS hubs.
- Via VHF/UHF radio to a local RMS hub.
- Via the Telnet protocol over the Internet.
- Via Winlink WEBMAIL over the Internet.

Telnet connections are useful for testing the Winlink client software, but since the connection operates over the Internet, there isn't much advantage over using a regular e-mail service other than being good practice while learning to use the various Winlink client programs, or to keep from cluttering up the amateur spectrum, needlessly, during an emergency.

VHF/UHF Winlink Operation
Local area connections to a Winlink RMS server can be made over VHF/UHF connections if you have a local RMS hub. This type of connection uses the AX.25 packet protocol, which is different from HF transmissions, and it requires a specific type of modem. If you wish to connect to Winlink through a VHF/UHF packet system, a 1200 or 9600 baud packet modem is required; the modem speed much match the capabilities of the local RMS node. The Kantronics KPC-9612+ (http://www.kantronics.com/products/kpc9612.html) modem is recommended for 9600 baud; it costs about $400. The Byonics TinyTrack4 (http://www.byonics.com/tinytrak4/) is recommended for 1200 baud; it costs about $100 including cable. Because VHF/UHF Winlink connections depend on having the local radio system and local Internet infrastructure operational, they are less well suited for emergency communications than Winlink via HF.

Radio Programming software (FREE)

http://chirp.danplanet.com/projects/chirp/wiki/Home

CHIRP is a free, open-source tool for programming your amateur radio. It supports a large number of manufacturers and models, as well as provides a way to interface with multiple data sources and formats.

Skype software (FREE)

http://www.skype.com/intl/en-us/get-skype

Upgrade your Ticket Training Software (FREE)

http://hamexam.org/

http://www.qrz.com/ht/

http://www.eham.net/exams/

Propagation Software (FREE)

http://www.dxmaps.com/spots/map.php?Lan=E&Frec=14&ML=M&Map=NA&DXC=N&HF=S&GL=N

DXPROP and PROPHF

http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=7969

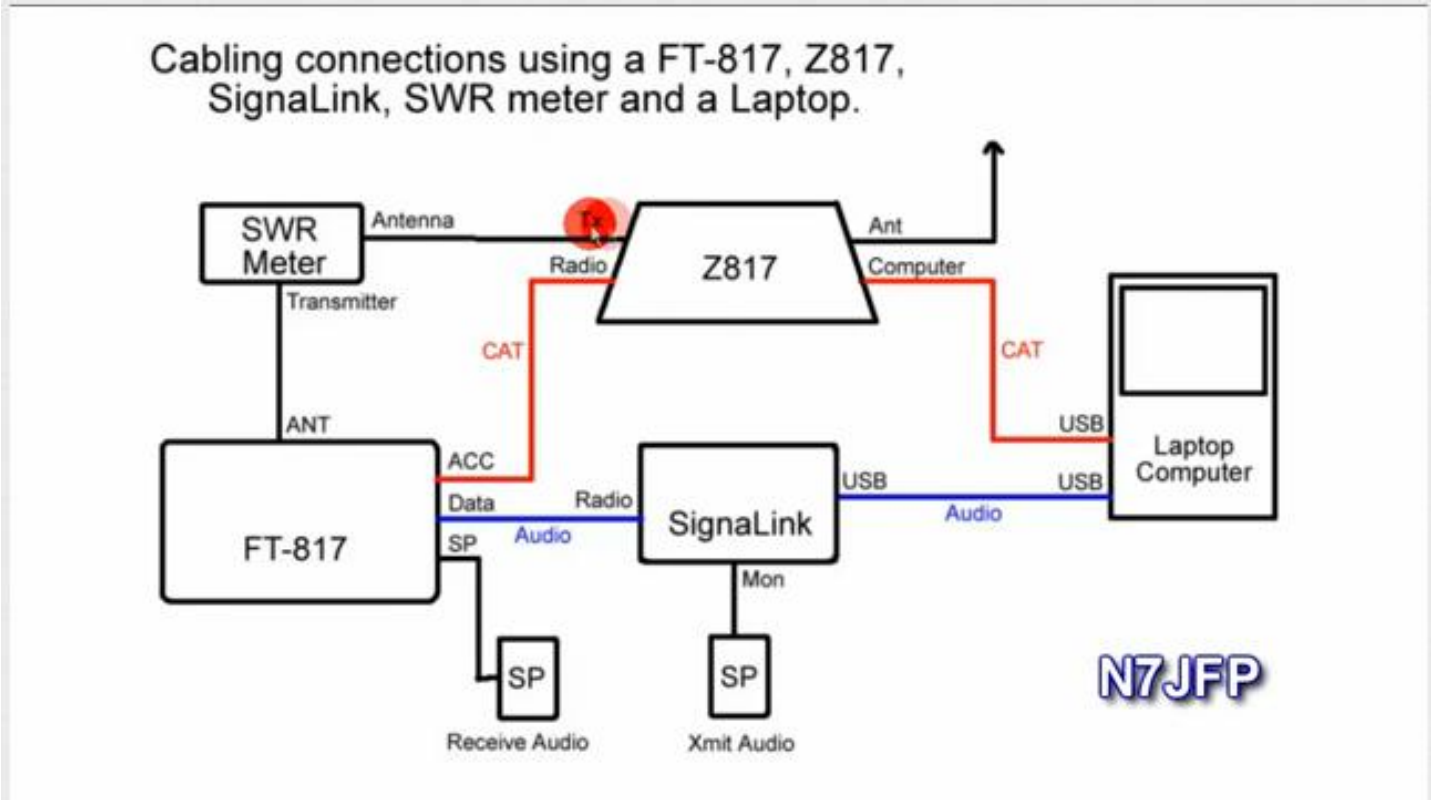
HFLink nets

Joe says - Here's a good video for PC-ALE software https://www.youtube.com/watch?v=y4USt8JFUHE

This software is the backbone as used by the HFLink nets http://hflink.net/.

Digital Computer Setup Example

Provided by N7JFP



Phonetic Alphabet / Morse Code

Phonetic Alphabet	Morse Code – Di and Dit are dot . Dah is a dash -			
A = ALFA	A	di-dah	Punctuation Mark	
B = BRAVO	B	dah-di-di-dit	Full-stop (period)	di-dah-di-dah-di-dah
C = CHARLIE	C	dah-di-dah-dit	Comma	dah-dah-di-di-dah-dah
D = DELTA	D	dah-di-dit	Colon	dah-dah-dah-di-di-dit
E = ECHO	E	Dit	Question mark (query)	di-di-dah-dah-di-dit
F = FOXTROT	F	di-di-dah-dit	Apostrophe	di-dah-dah-dah-dah-dit
G = GOLF	G	dah-dah-dit	Hyphen	dah-di-di-di-di-dah
H = HOTEL	H	di-di-di-dit	Slash ("/")	dah-di-di-dah-dit
I = INDIA	I	di-dit	Brackets (parentheses)	dah-di-dah-dah-di-dah
J = JULIETT	J	di-dah-dah-dah	Quotation marks	di-dah-di-di-dah-dit
K = KILO	K	dah-di-dah	At sign	di-dah-dah-di-dah-dit
L = LIMA	L	di-dah-di-dit	Equals sign	dah-di-di-di-dah
M = MIKE	M	dah-dah		
N = NOVEMBER	N	dah-dit	Prosign	
O = OSCAR	O	dah-dah-dah	AR, End of message	di-dah-di-dah-dit
P = PAPA(PA-PA')	P	di-dah-dah-dit	AS, Wait	di-dah-di-di-dit
Q = QUEBEC (KAY-BEK')	Q	dah-dah-di-dah	BT (or TV), Break in the text	dah-di-di-di-dah
R = ROMEO	R	di-dah-dit	CL, Going off the air ("clear")	dah-di-dah-di-di-dah-di-dit
S = SIERRA	S	di-di-dit	SK, End of transmission	di-di-di-dah-di-dah
T = TANGO	T	Dah		
U = UNIFORM	U	di-di-dah	Other Phrases	Abbreviation
V = VICTOR	V	di-di-di-dah	Over	K
W = WHISKEY	W	di-dah-dah	Roger	R
X = X-RAY	X	dah-di-di-dah	See you later	CUL
Y = YANKEE	Y	dah-di-dah-dah	Be seeing you	BCNU
Z = ZULU (ZED)	Z	dah-dah-di-dit	You're	UR
0 = ZERO	0	dah-dah-dah-dah-dah	Signal report	RST
1 = ONE	1	di-dah-dah-dah-dah	Best regards	73
2 = TWO	2	di-di-dah-dah-dah	Love and kisses	88
3 = THREE(TREE)	3	di-di-di-dah-dah	This is	DE
4 = FOUR	4	di-di-di-di-dah		
5 = FIVE (FIFE)	5	di-di-di-di-dit		
6 = SIX	6	dah-di-di-di-dit		
7 = SEVEN	7	dah-dah-di-di-dit		
8 = EIGHT	8	dah-dah-dah-di-dit		
9 = NINE (NINER)	9	dah-dah-dah-dah-dit		

The words in parentheses are the pronunciation or the alternate pronunciations for the words or numbers, but you will hear both used. With the letter Z, (ZED) is by far the most commonly used. With the number 9, NINER is the most common and easiest to understand ON THE AIR.

Phonetic Alphabet, Q Codes, Slang Terms : http://www.catastrophenetwork.org **Author:** Dave W4DMH

Q Codes

The most common Q Codes used in voice communications
CQ – means I wish to contact any amateur station
QRZ – Means Who is calling me
QRM – Interference
QSB – Signals are fading
QSL – Used like saying that you understand what was said or you copy what was said
QSY – Changing frequency
QTH – Where you are located (My QTH is _____ county West Virginia)

Slang Terms

Lets cover some of the more common slang you may hear and not understand.
73 or 73's – This stand's for best wishes or best regards
88 or 88's – Hugs and Kisses
Let me warn you there is a never ending quarrel over having the 's after the numbers. Well that will continue forever so I do not pay much attention to that.
XYL – Wife
YL – Young Lady (any women that is not married or commonly a girlfriend)
OM – Old Man (A common term like calling another operator a friend)
OT – Old Timer or someone that has been a Ham for a long time
LID – Used to describe a poor operator (using bad habits or being annoying)
HI HI – Laughing (like LOL on a computer)
Ticket – Your Ham license
Machine – A repeater
Rig – Your radio
DX – Long distance normally referred to as communication with a different country

Morse Code Chart

International Morse Code

1. A dash is equal to three dots.
2. The space between parts of the same letter is equal to one dot.
3. The space between two letters is equal to three dots.
4. The space between two words is equal to seven dots.

A	·−	U	··−
B	−···	V	···−
C	−·−·	W	·−−
D	−··	X	−··−
E	·	Y	−·−−
F	··−·	Z	−−··
G	−−·		
H	····		
I	··		
J	·−−−		
K	−·−	1	·−−−−
L	·−··	2	··−−−
M	−−	3	···−−
N	−·	4	····−
O	−−−	5	·····
P	·−−·	6	−····
Q	−−·−	7	−−···
R	·−·	8	−−−··
S	···	9	−−−−·
T	−	0	−−−−−

LEARN MORSE CODE in one minute !

http://www.learnmorsecode.com/

This is a code listening tool. Print it on your printer.

Place your pencil where it says START and listen to morse code.

Move down and to the right every time you hear a DIT (a dot).

Move down and to the left every time you hear a DAH (a dash).

Here's an example: You hear DAH DIT DIT which is a dash then dot then dot.

You start at START and hear a DAH then move down and left to the T and then you hear a DIT so you move down and RIGHT to the N and then you hear another DIT so you move DOWN and RIGHT again and land on the D

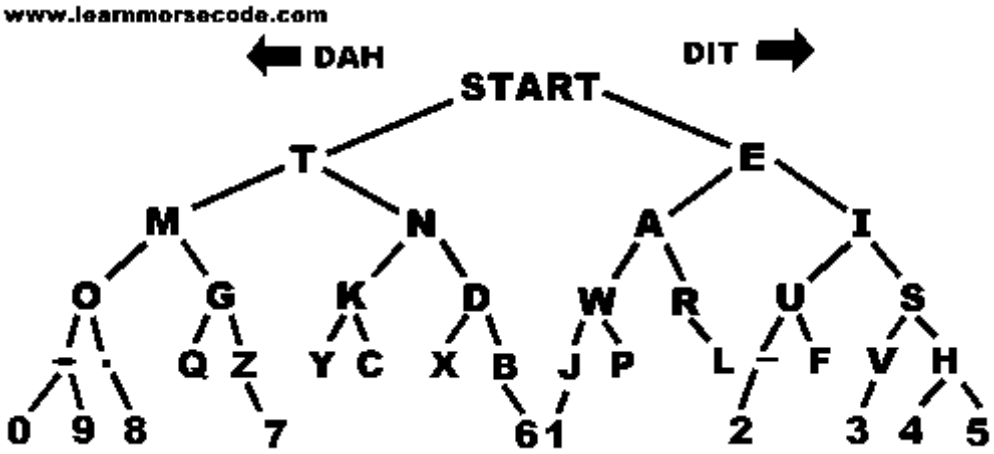
You then write down the letter D on your code copy paper and jump back to START waiting for your next letter.

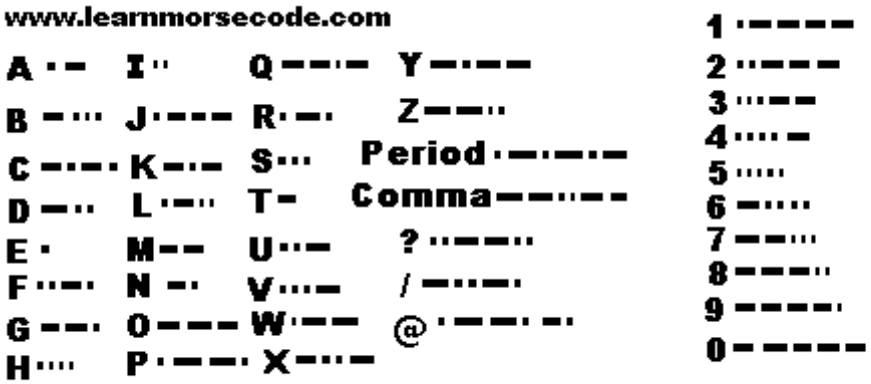
The key to learning the code is hearing it and comprehending it while you hear it.

The only way to get there is to practice 10 minutes a day.

Listen to code tapes or computer practice code while tracing out this chart and you will find yourself writing down the letters in no time at all without the aid of the chart.

The chart brings repetition together with recognition, which you don't get from any other type of code practice aid.





Morse Trainer Software – Koch Method CW Trainer G4FON - (FREE)

http://www.g4fon.net/CW%20Trainer.htm

Game to learn Morse Code – from NSA.gov

http://www.nsa.gov/kids/games/gameMorse.htm

Shortwave Listening

Basic Shortwave Radio Listening for Catastrophe Intelligence

http://www.catastrophenetwork.org/?p=418

by Travis Waack

One key element to any plan should be how your network will gather intelligence about what is happening around the country and around the world during and after a catastrophic disaster. Traditional AM/FM broadcasts might provide this type of information, but why not expand your broadcast reception globally? Your local and regional AM/FM stations might be damaged or offline for the same reason you are trying to gather information. However, a shortwave (SW) station thousands of miles away may still be operational and have a good handle on the situation. Shortwave stations operate in much the same way as traditional AM/FM broadcast stations, but they use different frequencies and higher power outputs that allow their signals to be heard around the world under the right conditions. The following is a short tutorial for beginners on shortwave listening:

- The best times to listen for shortwave broadcasts are during sunset and sunrise. This time of day is known as the "grayline" period in the radio communications world and often offers a short window for hearing stations all over the world.
- In addition to the grayline period, nighttime hours are generally better for shortwave listening than during the daytime.
- During the daytime, shortwave stations broadcasting between the frequencies of 15 and 18 MHz usually offer the best opportunity for receiving over long distances.
- During the nighttime, shortwave stations broadcasting between the frequencies of 5 and 10 MHz usually offer the best opportunity for receiving over long distances.
- Like any radio, being outdoors, in a high location, etc. will help improve reception. You may also want to purchase a commercial shortwave listening antenna to hook to your receiver.

Like any piece of radio equipment in your stockpile, don't forget to shield it from the destructive effects of Electromagnetic Pulse (EMP) that could be employed during warfare. Simply storing the radio in a metal lock box or safe will provide adequate protection.

Understanding the concept of shortwave bands

If you are new to shortwave radio, then the first thing you need to understand is the concept of bands (shortwave bands).

If you have ever listened to AM or FM radio, then you already know what a band is. The AM band is the frequency range stretching from 530 to 1710 kilohertz (this is a 'band'). The FM band is 88 to 108 megahertz. *A band is simply a frequency range where stations are located*.

When you look for stations in these 'bands', you simply tune around with your tuning buttons (or the tuning knob) until you find a station that you can receive clearly. Shortwave is very similar in concept except that there are multiple shortwave bands with names like 25 meters, 31 meters, 49 meters, etc. (these are abbreviated as 25m, 31m and 49m respectively).

Some radios show frequency in megahertz and some in kilohertz (abbreviated as MHz and KHz respectively). On some shortwave radios, frequencies will look like 15100 KHz, 15105 KHz or 15110 KHz, whereas on other radios they might look like 15.1 MHz, 15.105 MHz or 15.11 MHz.

The exact frequency ranges for shortwave bands may vary from one radio model to another. This is completely normal and due to design differences among manufacturers and their radio models. On some radios, bands are clearly marked while on others they are not marked at all.

In the chart below is a list of the shortwave bands used for international shortwave broadcasts and their corresponding frequency ranges.

Shortwave Band Chart

BAND	MEGAHERTZ (MHz)	KILOHERTZ (KHz)
120 m	2.300-2.500 MHz	2300- 2500 KHz
90 m	3.20-3.40 MHz	3200- 3400 KHz
75 m	3.90-4.00 MHz	3900- 4000 KHz
60 m	4.750-5.060 MHz	4750- 5060 KHz
49 m	5.950-6.20 MHz	5950- 6200 KHz
41 m	7.10-7.60 MHz	7100- 7600 KHz
31 m	9.20-9.90 MHz	9500- 9900 KHz
25 m	11.600-12.200 MHz	11600-12100 KHz
22 m	13.570-13.870 MHz	13570-13870 KHz
19 m	15.10-15.80 MHz	15100-15800 KHz
16 m	17.480-17.90 MHz	17480-17900 KHz
13 m	21.450-21.850 MHz	21450-21850 KHz
11 m	25.60-26.10 MHz	25600-26100 KHz

Source: Grundig

Because shortwave signals depend on such factors as the sun, the ionosphere, and interaction with the earth itself, *signals cannot be heard on all bands throughout the day*. Some bands are best during the daylight hours, and some are best at night.

In general, the bands with frequencies below 13 MHz (13000 KHz) are better at night and the bands with frequencies above 13 MHz (13000 KHz) are best during the day.

Generally speaking, the best time for listening to shortwave (when signals are strongest and clearest) is the time around sunrise and sunset. Usually there's a two-hour window for optimal listening, but it may extend up to three or four hours.

Shortwave DAY bands

DAY BANDS	CHARACTERISTICS
13m	Results vary but worth trying. Sometimes extremely good around sunrise and sunset.
16m	Similar to 19m.
19m	The best overall daytime band. May also be good at night in summer months. Sometimes extremely good around sun rise and sunset. Sometimes good at night in the summer.
22m	Similar to 19m.
25m	Best around sunrise and sunset. May be good mid-day in some areas.
31m	Similar to 25m.

Source: Grundig

Shortwave NIGHT bands

NIGHT BANDS	CHARACTERISTICS
25m	Similar to 31m.
31m	Good all night everywhere. Often extremely good at sunrise and sunset. Good results often start about an hour before sunset.
49m	The best overall night band.
41m	Similar to 49m. Good all night worldwide.

http://modernsurvivalblog.com/communications/shortwave-radio-bands-101/

Frequency Reference

http://www.radioreference.com/

Prime Time Shortwave is a listing of English shortwave broadcast schedules

http://www.primetimeshortwave.com/

“Emergency Operations Frequencies to avoid or Monitor”

This is a list that Ham’s should be aware of. It can help to keep you better informed and to AVOID ANY POTENTIAL INADVERTENT INTERFERENCE. During the time(s) that these frequencies are in EMERGENCY operations it is suggested that they be given 5 KHz spacing on either side……

http://www.arkansas-aresraces.org/Training%20Scripts/emergency_operations_frequencies.pdf - (Tom Harris, K5WTH) Compiled by

State	OPERATION FREQUENCIES
ARKANSAS	3987.5 (SSB), 7260 (SSB), 146.52 (VHF), 3626.9 (Winlink)
LOUISIANA	3910 (SSB), 3673 (CW)
MISSISSIPPI	3862 (SSB), 3665 (CW)
TENNESSEE	3980 (SSB), 3635 (CW)

All listings are subject to change due to band conditions.

3.636.90 LSB Arkansas Win-link
3.862.00 LSB Mississippi Section Traffic
3.865.00 LSB West Virginia Emergency
3.890.00 LSB DELTA ARES EMERGENCY NET (night)
3.905.00 LSB Delaware Emergency
3.907.00 LSB Carolina Coast Emergency
3.907.00 LSB Virginia Emergency
3.910.00 LSB Central Texas Emergency
3.910.00 LSB Mississippi ARES
3.923.00 LSB North Carolina ARES Emergency
3.925.00 LSB Central Gulf Coast Hurricane
3.925.00 LSB New York State Emergency
3.925.00 LSB Louisiana Emergency (alternate)
3.925.00 LSB Southwest Traffic (alternate)
3.927.00 LSB North Carolina ARES (health & welfare)
3.935.00 LSB Central Gulf Coast Hurricane
3.935.00 LSB Alabama ARES
3.935.00 LSB Louisiana ARES (health & welfare)
3.935.00 LSB Texas ARES (health & welfare)
3.935.00 LSB Mississippi ARES (health & welfare)
3.935.00 LSB Alabama Emergency
3.937.00 LSB Western Massachusetts ARES
3.940.00 LSB Southern Florida Emergency
3.947.00 LSB Virginia Emergency, Bravo (health & welfare)
3.950.00 LSB *** Amateur to National Hurricane Center (alternate)***
3.950.00 LSB Northern Florida Emergency
3.955.00 LSB South Texas Emergency
3.960.00 LSB North East Coast Hurricane
3.965.00 LSB Alabama Emergency (alternate)
3.965.00 LSB Connecticut Emergency
3.967.00 LSB Gulf Coast (outgoing traffic)
3.970.00 LSB New Jersey ARES
3.975.00 LSB Georgia ARES
3.975.00 LSB Texas RACES (alternate)

3.980.00 LSB Tennessee Emergency
3.980.00 LSB Southeast Virginia ARES
3.987.50 LSB ARKANSAS EMERGENCY
3.990.00 LSB South Carolina
3.990.00 LSB New Jersey RACES
3.993.50 LSB New York State RACES
3.993.50 LSB Gulf Coast (health & welfare)
3.993.50 LSB South Carolina ARES/RACES Emergency
3.995.00 LSB Gulf Coast Weather
3.995.00 LSB Western New York State Coordination
7.165.00 LSB Inter-island 40 meter (continuous watch)
7.225.00 LSB Central Gulf Coast Hurricane
7.230.00 LSB New York State Emergency
7.230.00 LSB Southwest Traffic
7.232.00 LSB North Carolina ARES Emergency (alternate)
7.232.00 LSB South Carolina Emergency
7.235.00 LSB Central Gulf Coast Hurricane
7.235.00 LSB West Virginia
7.235.00 LSB Louisiana Emergency
7.240.00 LSB American Red Cross US Gulf Coast Disaster
7.240.00 LSB Texas Emergency
7.240.00 LSB Virginia Emergency, Bravo (health & welfare) (alternate)
7.242.00 LSB Southern Florida ARES Emergency (alternate)
7.243.00 LSB Alabama Emergency
7.243.00 LSB South Carolina Emergency
7.245.00 LSB Southern Louisiana
7.245.00 LSB New York State RACES
7.247.50 LSB Northern Florida ARES Emergency (alternate)
7.248.00 LSB Texas RACES (primary)
7.250.00 LSB Texas Emergency
7.254.00 LSB Northern Florida Emergency
7.260.00 LSB ARKANSAS EMERGENCY
7.260.00 LSB Gulf Coast West Hurricane
7.260.00 LSB Virginia Emergency, Alpha (ARES/RACES) (alternate)
7.264.00 LSB Gulf Coast (health & welfare)
7.265.00 LSB Salvation Army Team Emergency Radio (alternate)
7.273.00 LSB Texas ARES (alternate)
7.275.00 LSB Georgia ARES
7.275.00 LSB DELTA ARES EMERGENCY NET (days)
7.277.00 LSB Georgia Statewide
7.280.00 LSB National Traffic System, Region 5
7.280.00 LSB Louisiana Emergency (alternate)
7.283.00 LSB Gulf Coast (outgoing only)
7.285.00 LSB ARKANSAS EMERGENCY (alternate)
7.285.00 LSB Texas ARES Emergency (days)
7.290.00 LSB Central Gulf Coast Hurricane
7.290.00 LSB Gulf Coast Weather
7.290.00 LSB Texas ARES (health & welfare)
7.290.00 LSB Louisiana ARES (health & welfare)
7.290.00 LSB Texas ARES (health & welfare)
7.290.00 LSB Mississippi ARES (health & welfare)
7.290.00 LSB Traffic Net
14.222.00 USB Health & Welfare
14.245.00 USB Health & Welfare
14.265.00 USB Salvation Army Team Emergency Radio (health & welfare)

14.300.00 USB Maritime Mobile Service
14.303.00 USB International Assistance & Traffic
14.313.00 USB Intercontinental Traffic (alternate)
14.313.00 USB Maritime Mobile Net (alternate)
14.316.00 USB Health & Welfare
14.320.00 USB Health & Welfare
14.325.00 USB Amateur to National Hurricane Center

VARIOUS EMERGENCY SERVICES

Upper Sideband Voice channels
3311 kHz. U.S. Air Force Calling Frequency
4041 Navy/Marine Emergency Frequency
4585 Civil Air Patrol Command and Control
4590 Air Force Calling Frequency
5203 North Carolina National Guard
5211 Federal Emergency Management Agency
5755 Federal Agencies' Emergency Command
6826 US Army MARS (Military Affil. Radio)
6870 Federal Aviation Admin. Command
6999 US Army Emergency
7302 USAF MARS Emergency Net
7635 Civil Air Patrol Alternate Command
7743 Federal Agencies' Command/Control Net
8125 FAA Regional Command and Control Net
10493 FEMA Command and Control Net
11045 Federal Agencies' Command/Control Net
13457 FAA Regional Command/Control Alternate

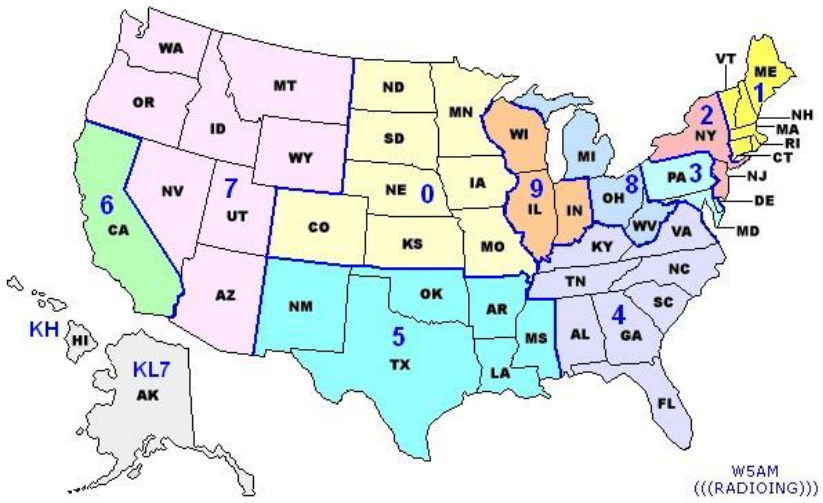
U.S. ARMY/NATIONAL GUARD -- USB Voice

3032 Night_time Primary Net
4442 Night_time Operations
4445 Night_time Operations
4520 Night_time Operations
5202 Night_time Operations
5203.5 Night_time Alternate Net
6766 Evening Primary Operations
6910 Evening Operations
7648.5 Evening Operations
8061.5 (in LSB) Day time Operations
8093 Day time Primary Operations
9121 Day time Operations
10796 Day_time Operations
12168.5 Day_time Operations

SHARES (SHARED RESOURCES EMERGENCY SERVICES)
USB Voice

5236 Voice Primary Night Channel 1
14396.5 Voice Primary Day Channel 2
(Tom Harris, K5WTH) Compiled by

Amateur Radio Callsign Numerical Prefixes



eHamRadio -- U.S.A. Callsign Geographical Regions				
Callsign Numeral	**Region**		**Callsign Numeral**	**Region**
1	Maine (ME) New Hampshire (NH) Vermont (VT) Massachusetts (MA) Rhode Island (RI) Connecticut (CT)		**6**	California (CA)
2	New York (NY) New Jersey (NJ)		**7**	Washington (WA) Oregon (OR) Idaho (ID) Montana (MT) Wyoming (WY) Nevada (NV) Utah (UT) Arizona (AZ)
3	Pennsylvania (PA) Delaware (DE) Maryland (MD)		**8**	Michigan (MI) Ohio (OH) West Virginia (WV)

4	Kentucky (KY) Virginia (VA) Tennessee (TN) North Carolina (NC) South Carolina (SC) Alabama (AL) Georgia (GA) Florida (FL)		**9**	Wisconsin (WI) Illinois (IL) Indiana (IN)
5	Texas (TX) New Mexico (NM) Oklahoma (OK) Arkansas (AR) Louisiana (LA) Mississippi (MS)		**0**	North Dakota (ND) South Dakota (SD) Minnesota (MN) Nebraska (NE) Iowa (IA) Colorado (CO) Kansas (KS) Missouri (MO)

* Additional U.S. Prefixes: KL7 - Alaska (AK), KH6 - Hawaii (HI)

Call Tree System

What is a Call Tree?

A Call Tree is a system by which an Alert goes out and people notify each other through specifically orchestrated phone calls in order to spread the word to more people as fast as possible. A Call Tree is designed to notify people of Alarming Events or Dangerous Situations that may be taking place, so that they can receive the earliest possible warning and be able to assess their own personal situations and safety.

It Starts with One or Two Specific Calls being placed to Certain designated people, once the Alarm goes out. Those designated People then in turn begin calling everyone on their CALL LIST, and each of the people called will also continue the TREE by calling everyone on Their List. Therefore the initial Call quickly results in a multitude of people being notified.

Call Tree's can be set up Locally or even Nationally and within certain Groups, such as Organizations, Family Structures, Patriot or Militia Groups, etc. We here at Patriot Resistance have set-up and offer our our Call Tree System for those who wish to be notified, in the event of a national emergency, such as Martial Law or Illegal Actions against citizens on a large scale, Terrorist Events, etc. If you wish to participate in our CALL TREE SYSTEM, you will find Instructions at the bottom of this page.

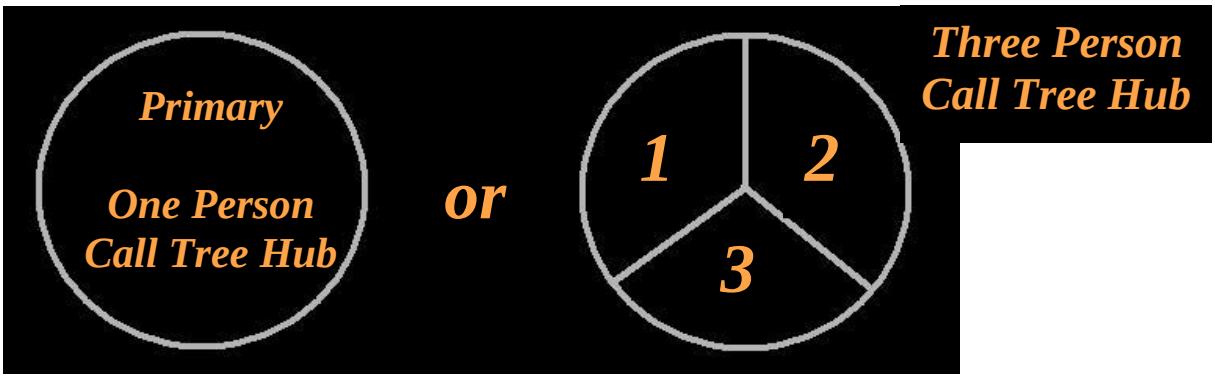
Note: Call Tree systems become important to use, because we realize that eventually the entire Internet may go down or be deliberately taken off-line in efforts to break our means of communications with one another. In this event, the hardline phone systems would most likely be the last thing to go down, hence giving us the best opportunity to use this as a final resort or back up mechanism to get the Alerts out.

How does the Call Tree system work?

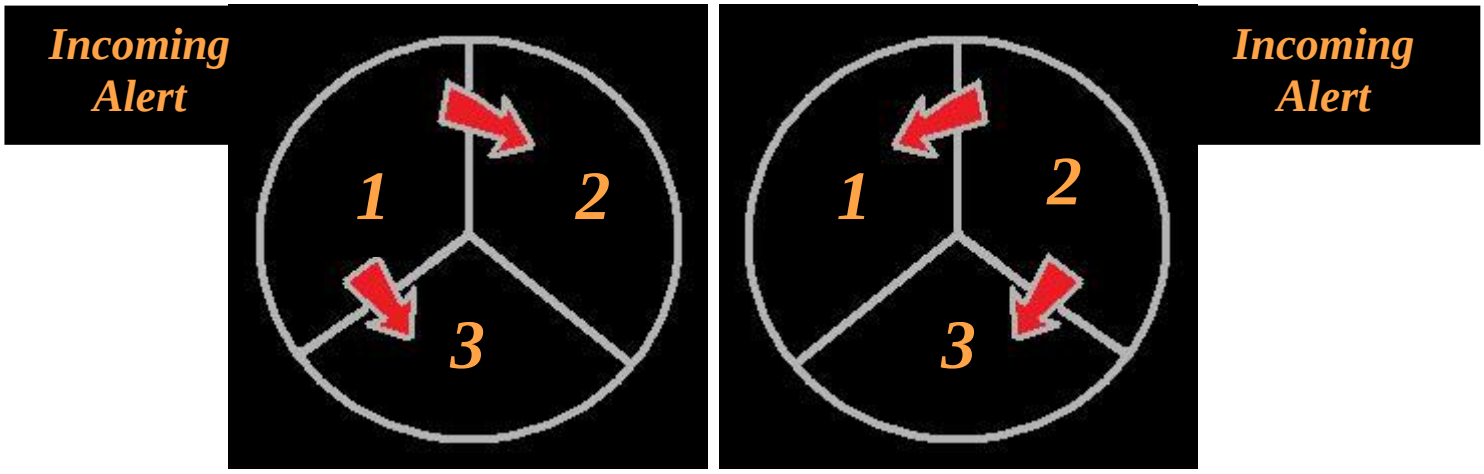
Using the Illustration below we can examine just How the Call Tree System is implemented and how it works to Alert as many people as possible.

Step 1. The Call Tree System starts with establishing a Centralized PRIMARY HUB. The Primary Hub is the person or persons responsible for making the initial CALLS to others within the TREE. In Larger Call Tree Groups the Centralized HUB may be made up of several individuals, as indicated on the HUB to the right. It is not recommended to have more than 3 to 4 Individuals in this HUB. It would be better to have additional HUBS instead, if they are necessary.

The HUB person is called the PRIMARY and they will be in charge of taking in INTEL or Information and then Initiating the CALL TREE. This means that no matter WHO in the group received the ALERT or has obtained Crucial Alert Information, they will Contact the PRIMARY and not try to initiate the Call Tree themselves. It is important that the FLOW of the Call Tree Protocol be followed religiously.



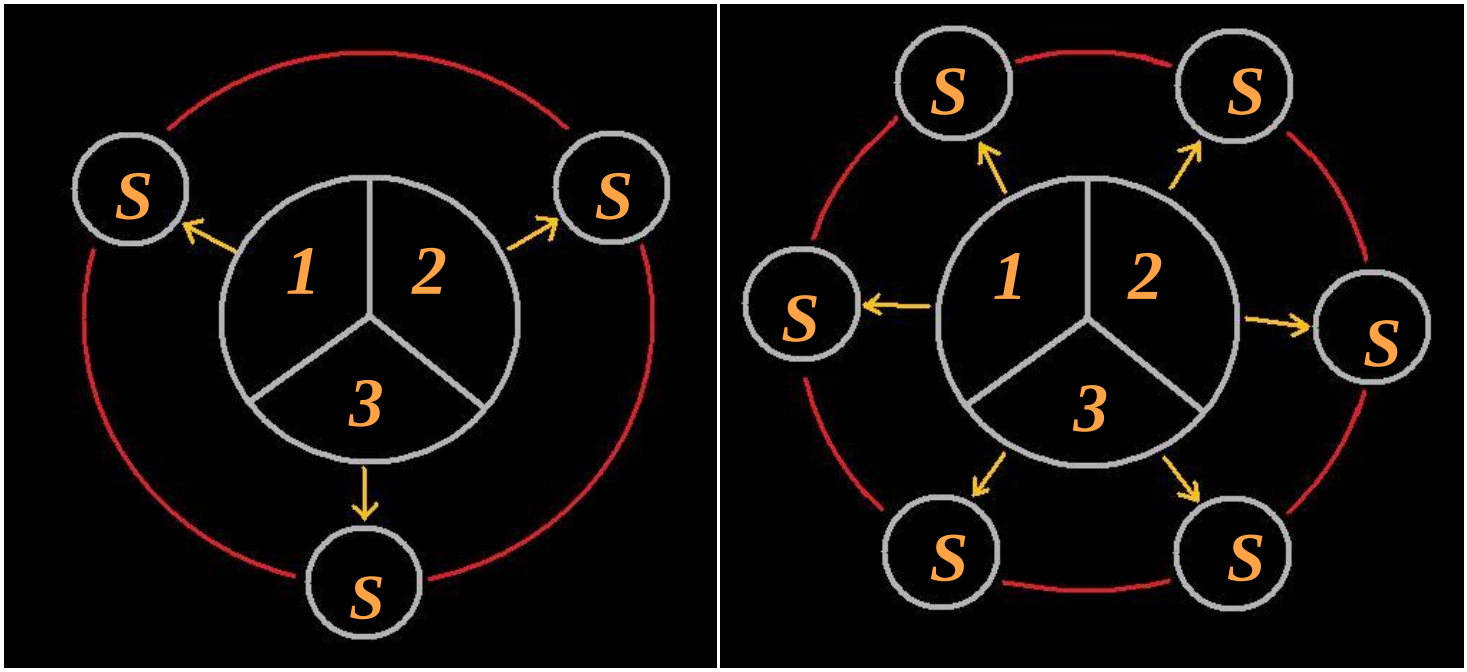
In cases with larger groups that have more than one Primary, the Primary person receiving the information must FIRST notify the other Primaries in the HUB, so they can all begin the Call Tree Process as simultaneously as possible. So, no matter which one gets the information first, that person must call the other primaries immediately.



Step 2.

The second step in establishing the Call Tree is to set up the SECONDARY Units. these are the People that the Primary will call first in order to continue the spread of the Flow of the Information. The Secondarys are usually going to be those people who are most likely to be reached the easiest or second in command in cases of Militia Groups. The Selection of the Secondary is totally up to each Call Tree Group, but important considerations should be made, such as accessibility, responsibility, rank, location, etc.

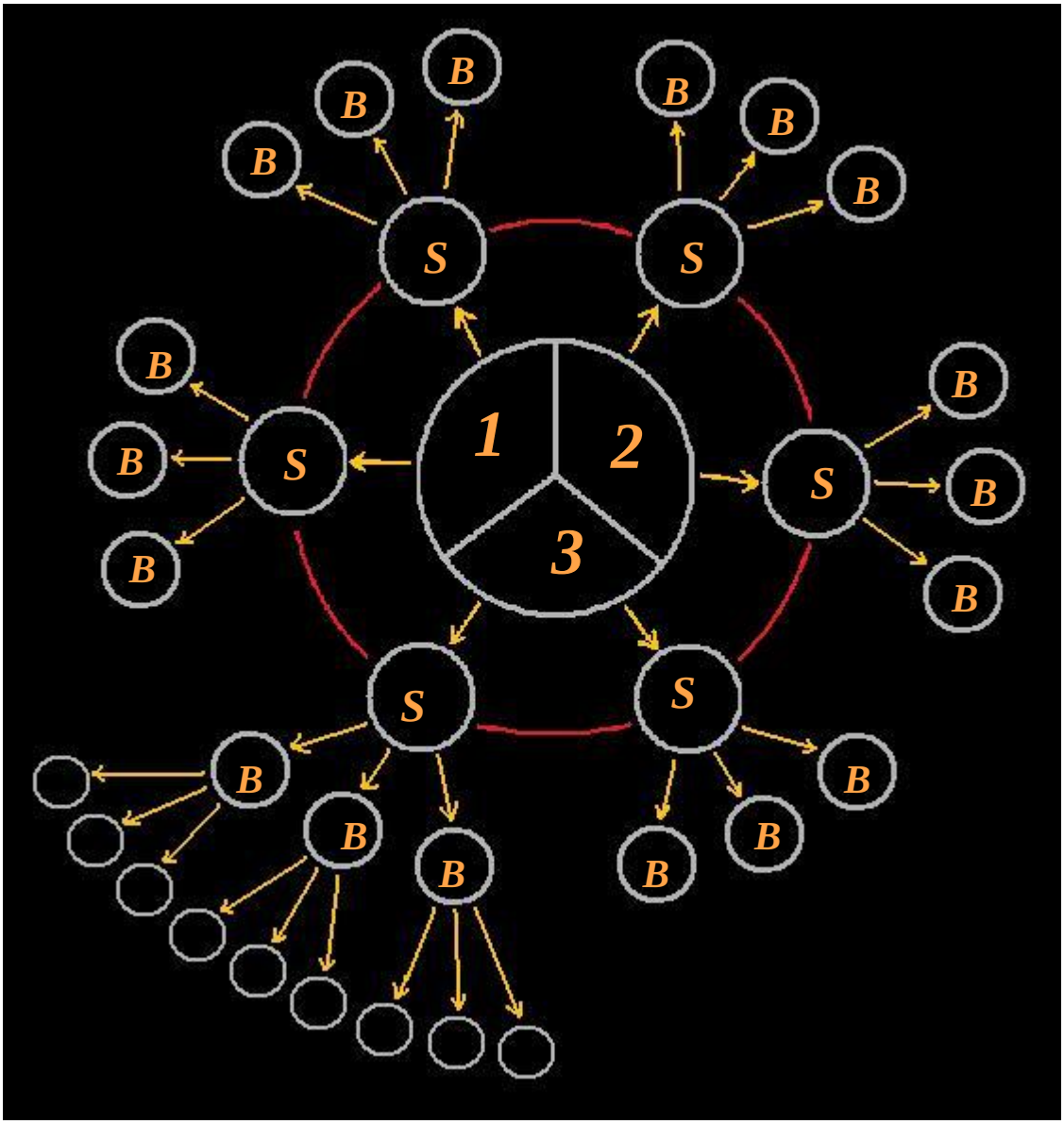
As illustrated, in the Multi-Person HUB, Each Primary will call their Secondary Specifically and each HUB may have more than one secondary depending on the size of the overall Call Tree. (See Image on the right)



Step 3.

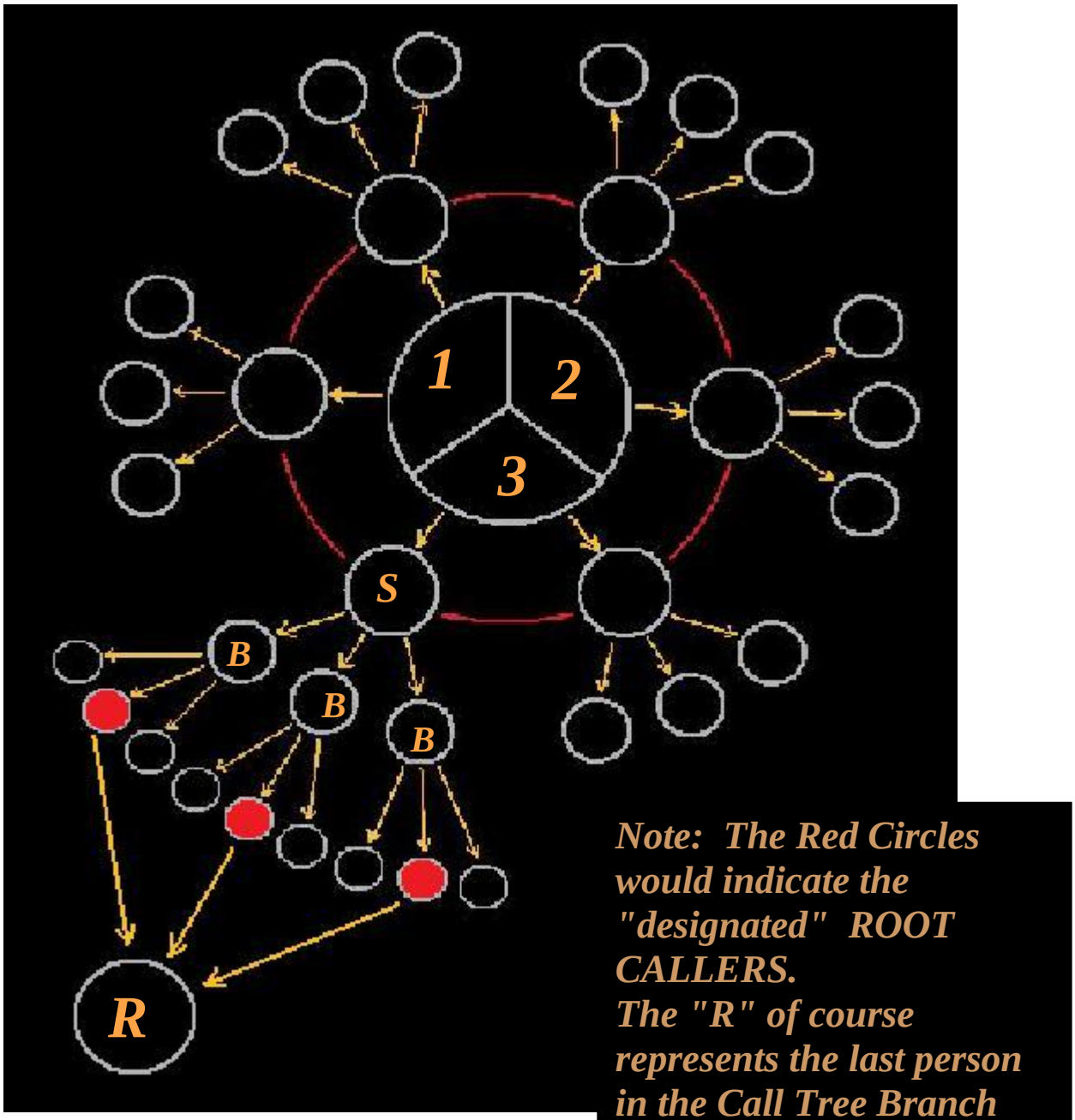
The next step would be to establish the next level of the Call Tree and have designated people for the Secondary's to call and notify. An Important note here is to not overload ANY ONE person in the Call Tree with too many numbers to call. You should limit the number of calls each Branch of the Tree has to call to around 3 (three) people no more than 4 (four). In situations of extreme survival, it may be crucial that once the Calls are received that people need to act quickly and they cannot do so if burdened down with too many calls to make. Therefore it should be all planned out ahead of time exactly WHO IS TO CALL WHO, and not allow any one person to be over burdened with making too many calls.

Also Calls should be very brief, giving only crucial information, even coded if necessary and no call should have to take more than 5 minutes to complete. Remember, time may be of essence and you may have to act quickly to get your family to safety, so keep the call process short and sweet and move on.



Testing the effectiveness of your Call Tree

Step 4. The last step, and somewhat most important, is the TESTING of you Call Tree System. In order to make this easier, we are going to install One more Position in our Call Tree Structure. This will be called the ROOT or ANCHOR of our system. This position is a specially designated Person at the END of the Call Tree that will report back to the Primary Position and informs them that the Call Alert has reached the end of all the Branches. We need to also establish ROOT CALLERS near the Bottom of the TREE so that they can finalize the procedure by calling the ROOT or ANCHOR position. In this manner, we now know that all phone calls that were necessary were made in order for this ANCHOR positon to have recieved the TEST Message and know to report back to the Primary. Here is what that would look like.



Note: The Red Circles would indicate the "designated" ROOT CALLERS.
The "R" of course represents the last person in the Call Tree Branch who is the ROOT or ANCHOR.

The ROOT or ANCHOR Person after hearing from the ROOT CALLERS, would then call in and report back to the PRIMARY. This way the Primary can assess just how long it has taken for the entire Call Tree test to be completed. You can also find "Broken" Links in your system or if someone is missing. For example, if the ANCHOR PERSON has received the phone calls from ALL THREE bottom ROOT CALLERS then he knows that the network connection has been completed or else someone would be missing. The unique purpose for the ANCHOR POSITION is to give the Primary the heads up on whether the entire Call Tree has been reached to the Last branch or not, if one of the ROOT CALLERS has not checked in to the ANCHOR, then there is a potential break in the line of Communications.

A general starting place here as a Time goal is 30 minutes for a medium sized Call Tree involving 20 to 30 people. You can use the scale below as a guide and work on improving your Time Responses from that.

Small Call Tree:	**5 to 19 People**	**15 minutes**
Medium Call Tree:	**20 to 30 People**	**30 Minutes**
Large Call Tree:	**31 to 60 People**	**45 Minutes**
Network Call Tree:	**over 60 People**	**50- 60 Minutes**

Beating these Time Frames are quite easy and you have to remember, this is based on a lot of calls being made simultaneously. At least it gives you a place to start in testing your own Call Tree and Response times.

Additional Tips and Information

A Word On Security Measures: A lot of people, especially when dealing with perhaps a group of strangers, feel they may have apprehensions with a great number of others having their phone number or contact information. Please keep in mind that a Call Tree is actually designed in such a way that, very few people are required to have your phone contact information. In most cases it will only be the person one level up from you that will have that information and likewise, if you are one of the Branch Callers, you only have to know the actual people you are suppose to call and not necessarily anyone else other than perhaps the Primary Hub Person(s).

Additional Notes: One of the aspects of the System is to QUICKLY pass on information to the next Branch member of the Call Tree. One such way to do this is for the Primary, or Secondary level people, to Set-Up an automated Voice Message system on a dedicated line, so that ANY or ALL members can call in and retrieve the information that explains the nature of the Alert. You would have to make sure that numerous people calling in would not overload the system or cause others to get busy signals. Keep the message as short as possible and learn to give pertinent information very quickly, for example: ("Call Tree Alert: Martial Law has been enacted in Jefferson County, Kentucky.....Repeat Martial Law has been declared in Jefferson County, Kentucky, be advised you may need to evacuate very soon, Call Base Unit # 3 for more details.") this would be just a sample of a message that you would tell to the people your suppose to call.

The object here is not to get into a long drawn out conversation about the Alert or to try to answer a lot of questions you may not have the answers to. Keep in mind you may have one or two other calls to make still and time is of the essence. Keep the calls short and to the point as much as possible, hang up and move on to the next person your suppose to call.

If an automated answering system is out of the question, try designating one or two other Members of the Call Tree that might live in a more secure or rural area, that could use their time to answer Inquiry calls and transmit more details to those who may need it. Of course it would be best if all the Call Tree members have their own plan on how to react beforehand and a place designated for them to retreat to. It is always better to have a plan and that way once the Call comes in you won't need to waste a lot of time trying to get ready.

Call Tree Alerts should be taken very seriously and never abused by the "Cry Wolf" scenarios. The Call Tree group should already decide what type of information justifies the Call Tree to be activated and which does not. Some can be Generalized Alerts, which could mean something is happening we all need to be aware of that could possibly turn into a

dangerous situation for us.....or it could be an Alert of Immediate Action required for safety of all concerned, meaning likely evacuation.

The Call Tree system works well for Natural and Man-Made disaster situations as well, in order to alert all members who may live in or near the event taking place such as a flood or hurricane, earthquake, tornado etc.

Call Tree Systems should be tested frequently and any members who might have changed phone numbers should notify their Branch Contact Immediately. The system should run a FULL System Test at least once a month given the current status of things in our country right now. This means Initiating a Call form the Primary down through ALL Branches and making sure that all people have been reached and also make notes on how long your process is taking and try to improve on the time at each occasion. Frequent assessments should always be made as to the effectiveness of your Call Tree.

http://www.patriotresistance.com/CALL-TREE-SYSTEM.html

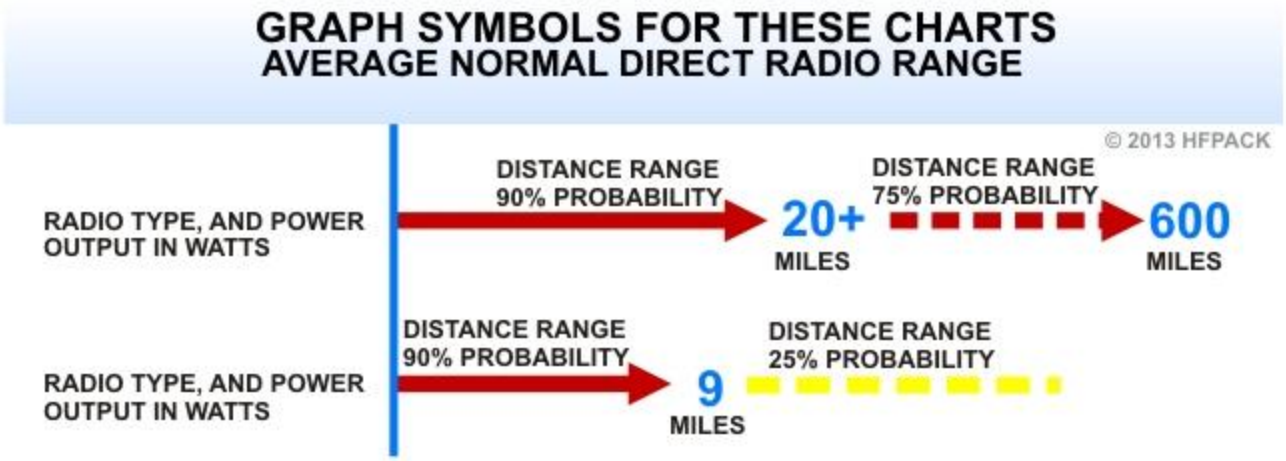
A Graphical Comparison of Distance Range for Radio Types and Stations

Typical Ranges for Various Types of Transmitters

http://hflink.com/hfpack/radiorange/

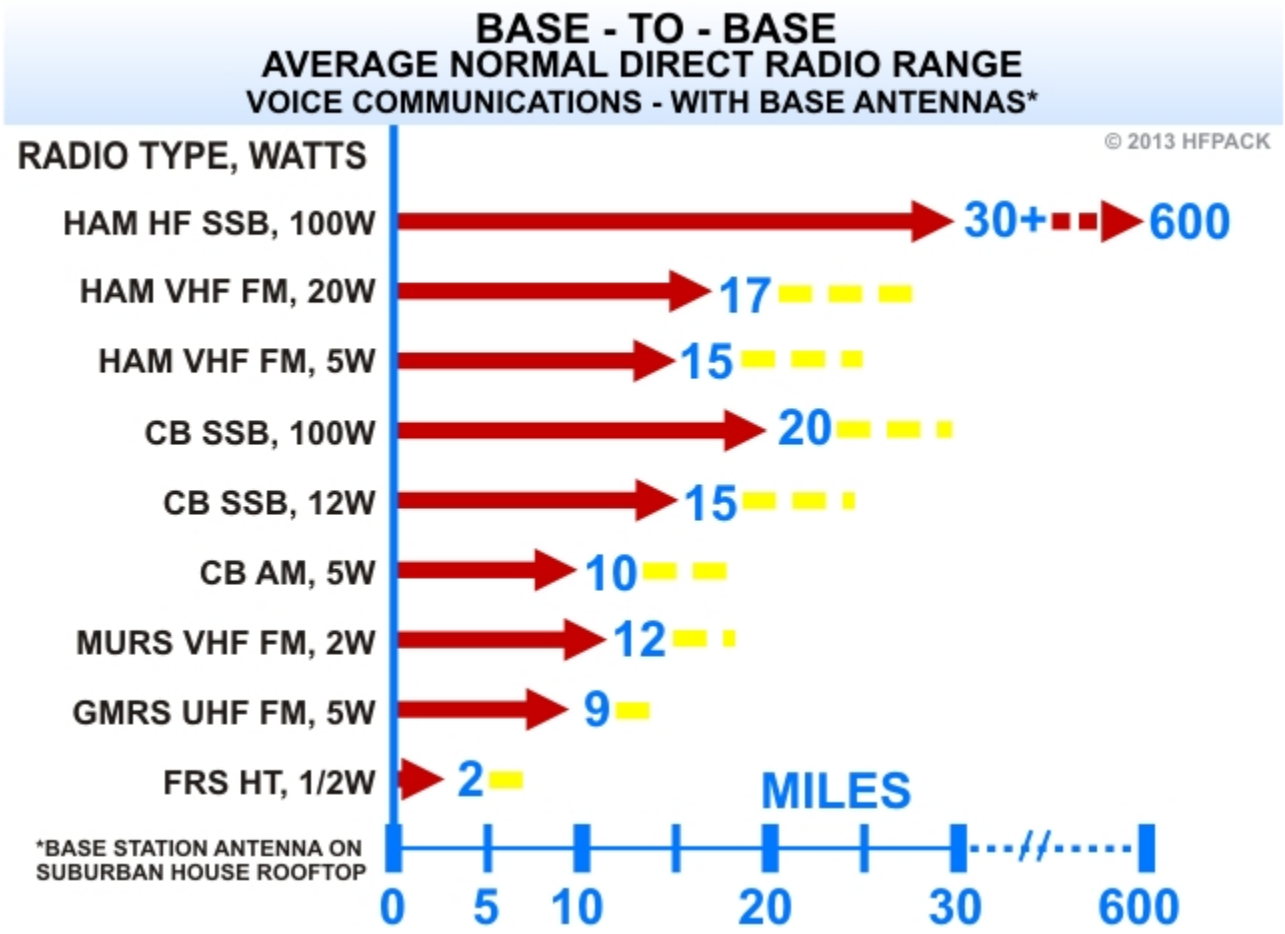
"How far will that radio go?"
"What type of radio should I get for most range?"

These simple questions often lead to complex answers because so many factors influence the distance of radio communications. To simplify, the following charts show how many miles you can usually communicate over normal terrain in suburban or rural areas with different types of radios, power levels, and station configurations. The graphs compare the most commonly available 2-way radios such as ham, CB, FRS, MURS, and GMRS. Some radio gear advertisements tout the maximum possible distance in perfect conditions, an often misleading specification. In the real world, people want to know the normal *dependable* average range of a radio.



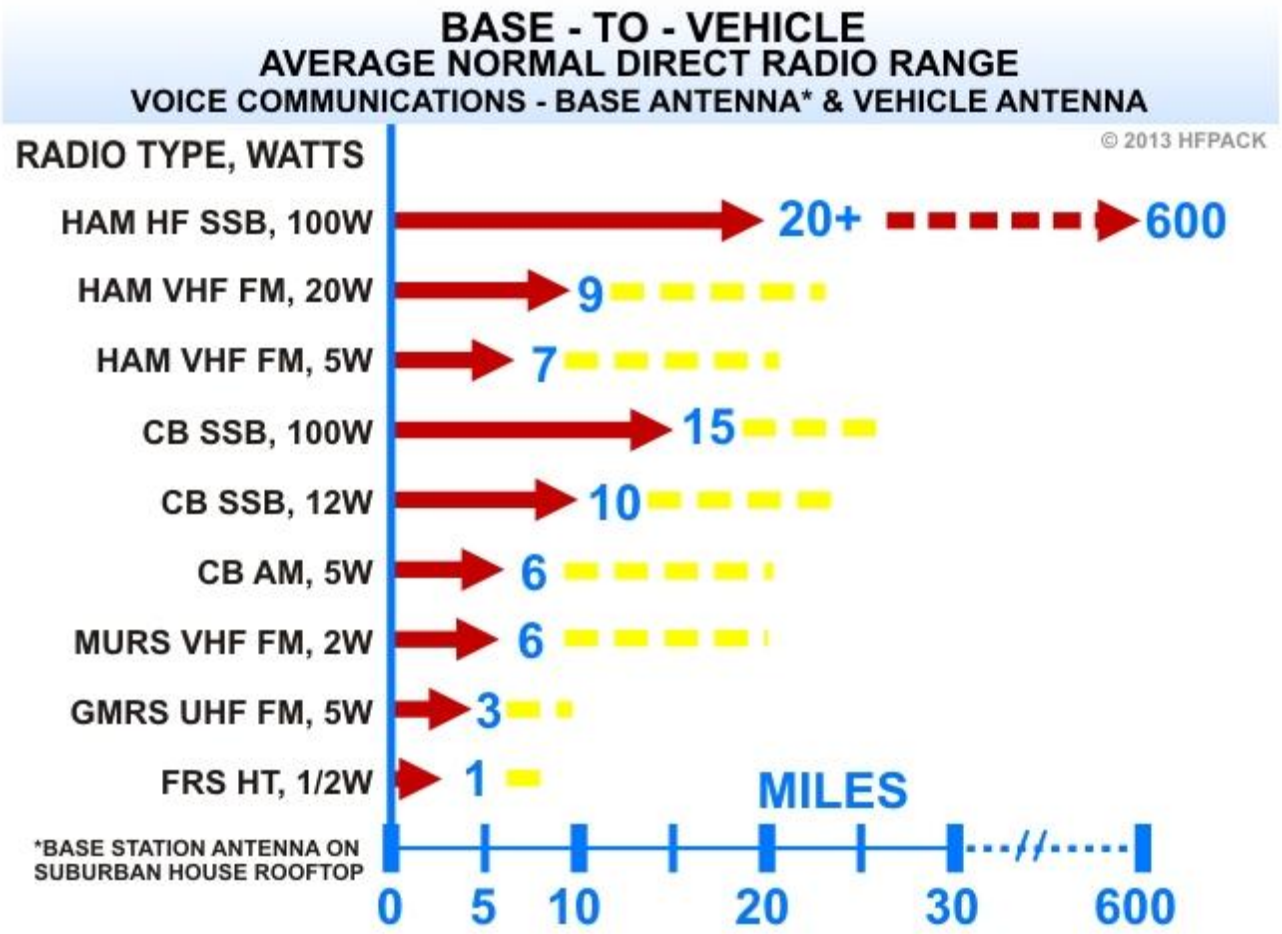
The above graph shows the distance range between two base stations using a basic antenna mounted on the roof of a suburban house with a height of about 20ft above ground level. Communication distance can be greatly improved over this by advanced gain antenna systems or a high pole or a tower. This estimate is based upon radio-to-radio direct communications without the use of a repeater.

BASE-TO-BASE



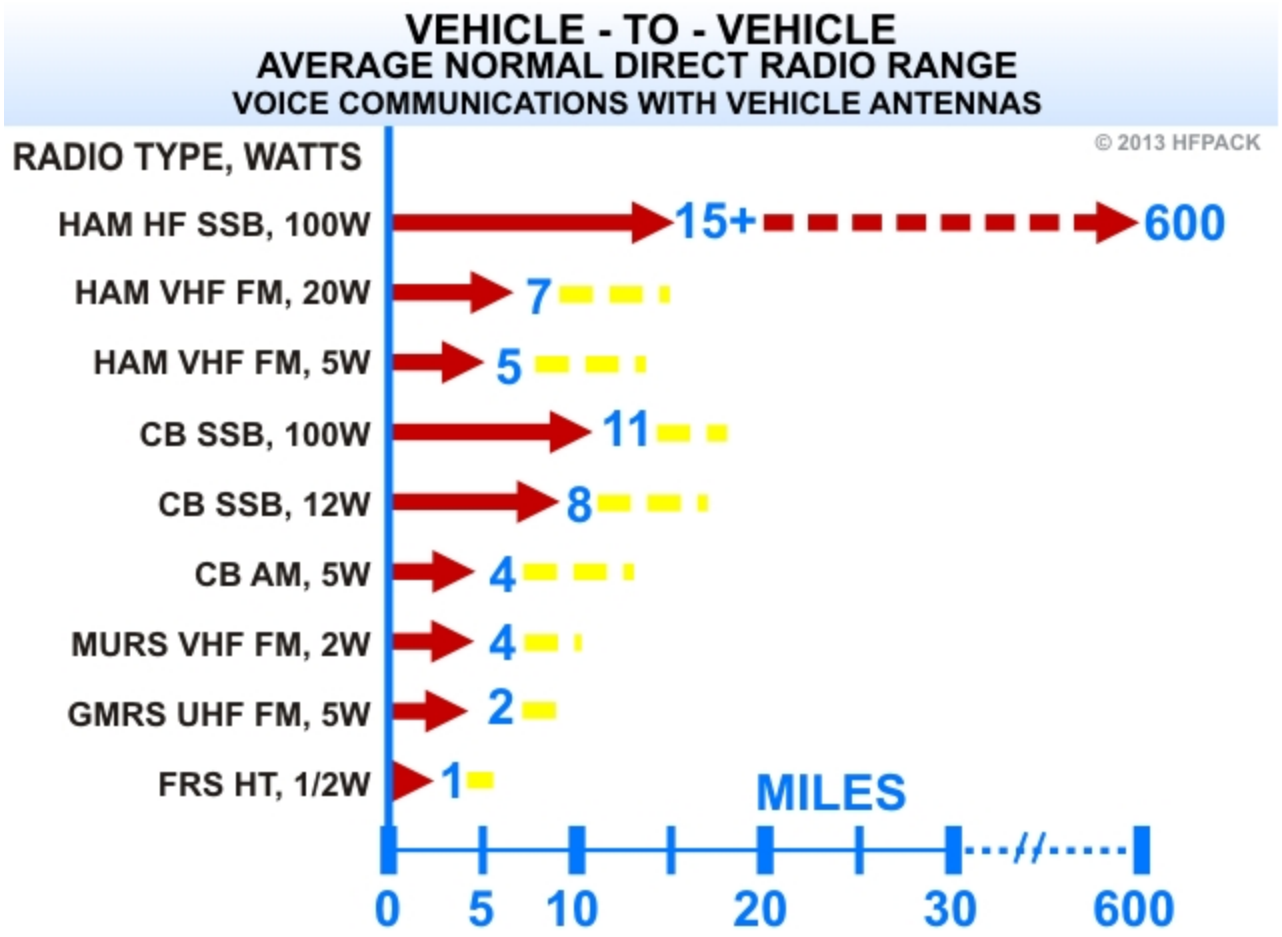
The above graph shows the distance range between a mobile vehicle with a basic vehicle antenna, communicating with a base station using a basic antenna mounted on the roof of a suburban house. Communication distance can be greatly improved over this by advanced gain antenna systems or a high pole or a tower at the base station. The distance can be adversely affected by interference from the vehicle engine; further distance can be achieved by parking on a hilltop or open area and shutting off the vehicle. This estimate is based upon radio-to-radio direct communications without the use of a repeater.

BASE-TO-VEHICLE



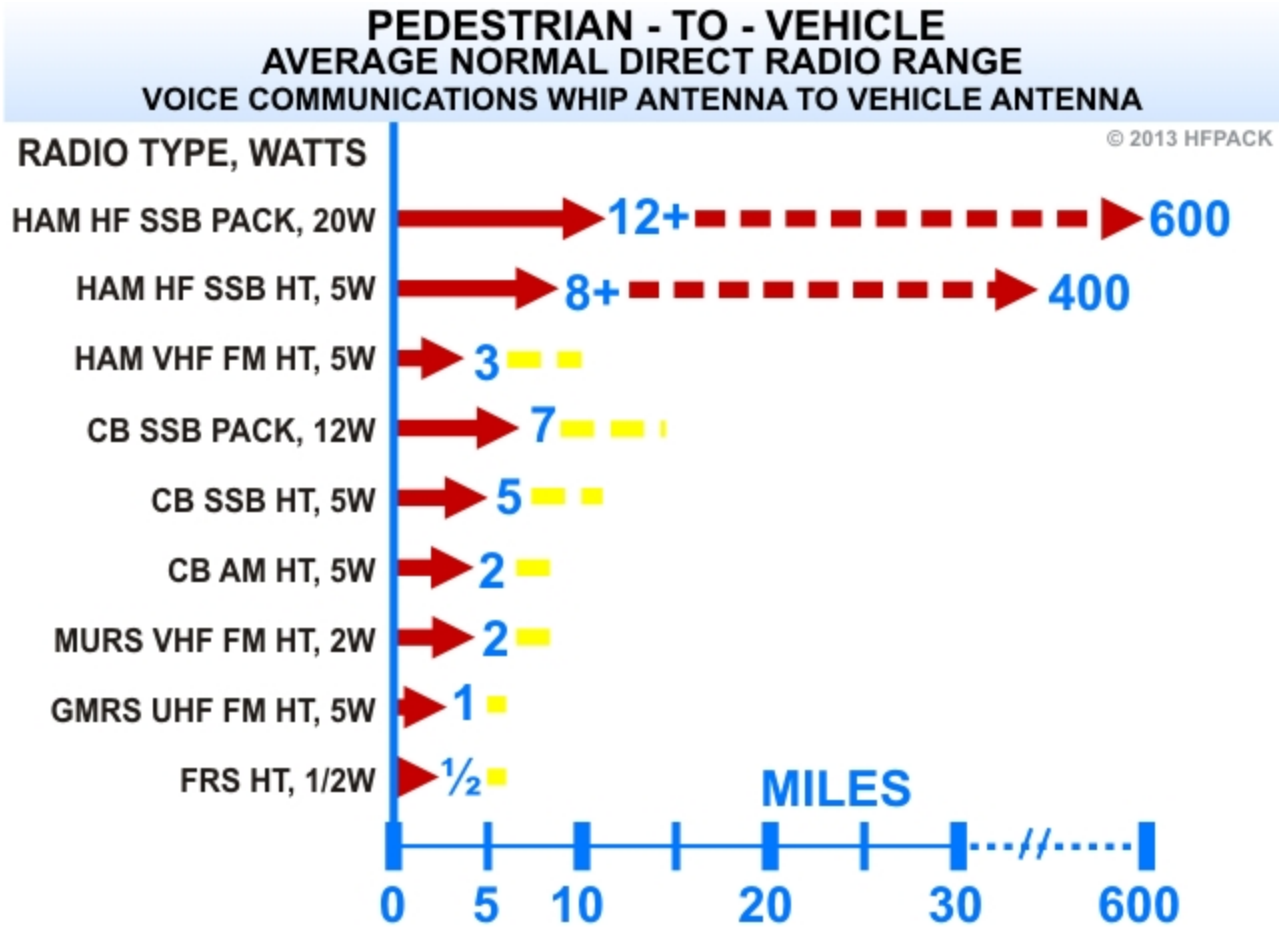
The above graph shows the distance range between a mobile vehicle with a basic vehicle antenna, communicating with a base station using a basic antenna mounted on the roof of a suburban house. Communication distance can be greatly improved over this by advanced gain antenna systems or a high pole or a tower at the base station. The distance can be adversely affected by interference from the vehicle engine; further distance can be achieved by parking on a hilltop or open area and shutting off the vehicle. This estimate is based upon radio-to-radio direct communications without the use of a repeater.

VEHICLE-TO-VEHICLE



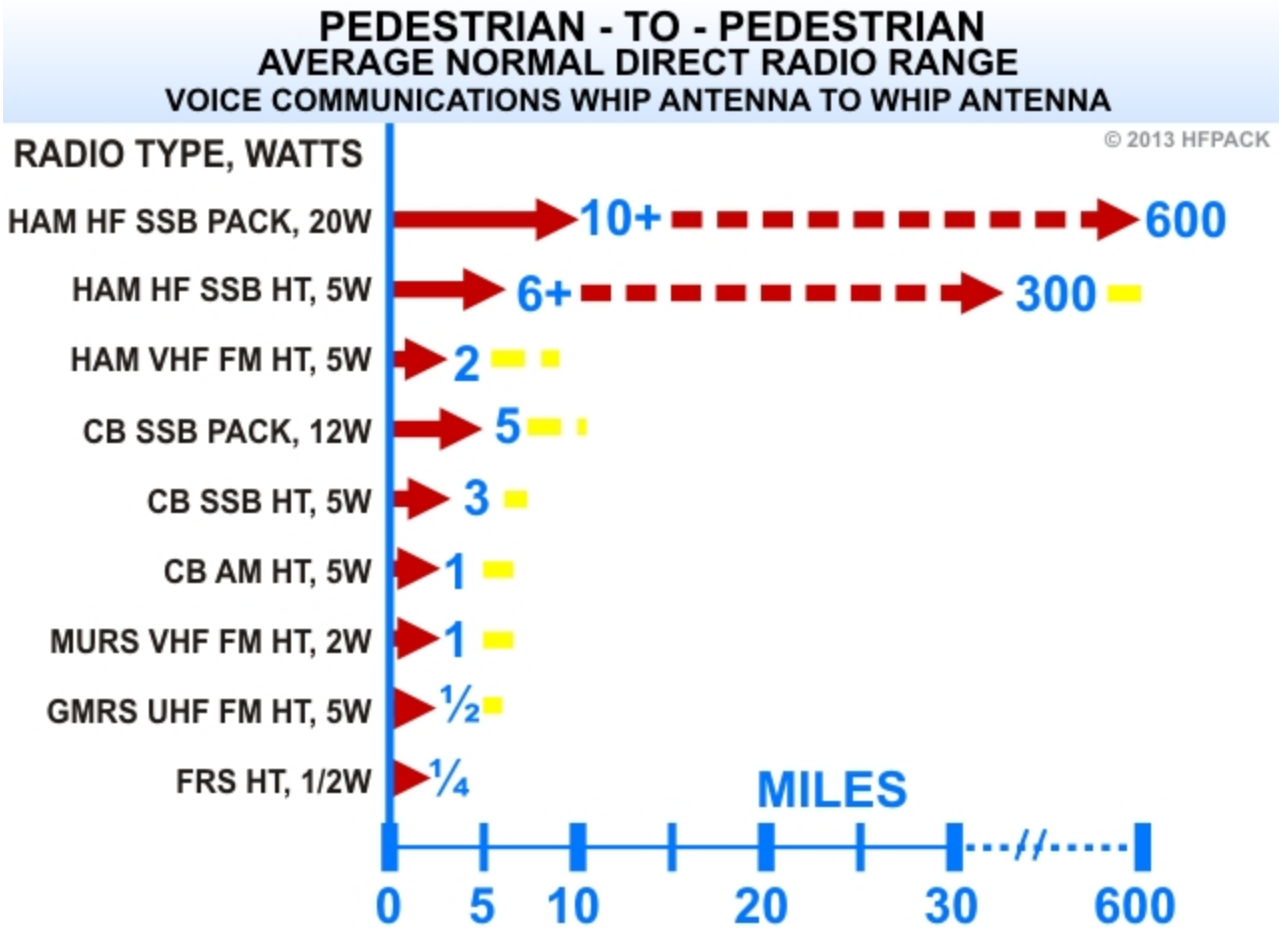
The above graph shows the distance range between two mobile vehicles with basic vehicle whip antennas. Communication distance can be somewhat improved (25%to 50% further) over this on VHF and UHF by the use of a gain antenna. The distance can be adversely affected by interference from the vehicle engine; further distance can be achieved by parking on a hilltop or open area and shutting off the vehicle. This estimate is based upon radio-to-radio direct communications without the use of a repeater.

PEDESTRIAN-TO-VEHICLE



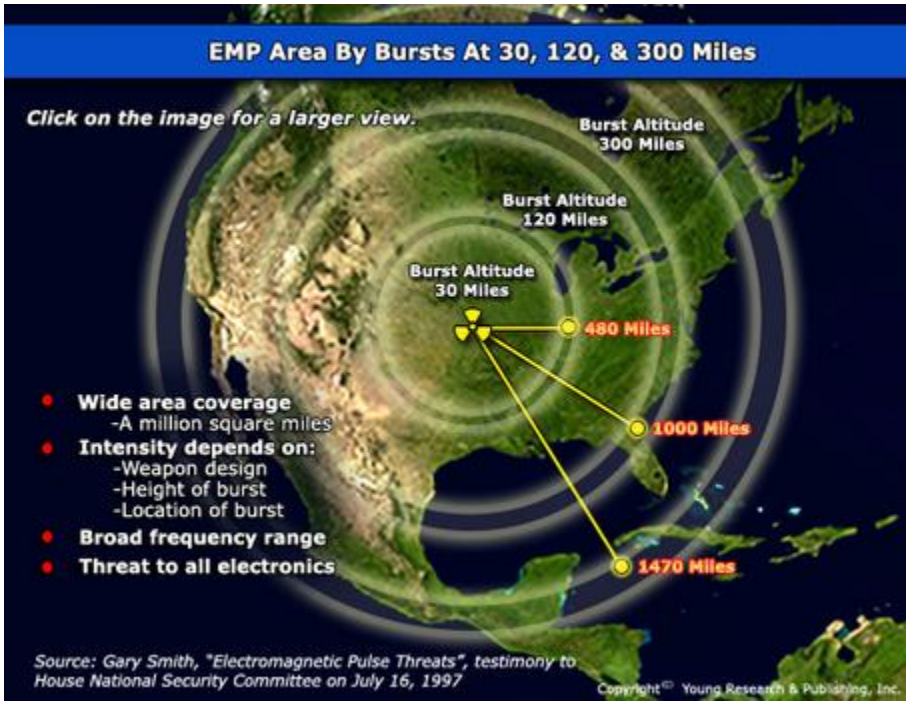
The above graph shows the distance range between a pedestrian with a whip antenna and a mobile vehicle with a basic vehicle whip antenna. HF backpack radios, HF packs, CB backpack radios, or manpack radios are compared with Handy Talkies, Walkie Talkie, or HT radios. Communication distance can be somewhat improved (25%to 50% further) over this on VHF and UHF by the use of a gain antenna on the vehicle. Distance on VHF will be somewhat less if a small rubber ducky antenna is used on the pedestrian radio instead of a full size antenna. The use of a counterpoise radial wire on the pedestrian radio improves distance. This estimate is based upon radio-to-radio direct communications without the use of a repeater.

PEDESTRIAN-TO-PEDESTRIAN



The above graph shows the distance range between two pedestrian radios with whip antennas. Improved distance can be achieved by standing in an open area or on a hilltop. HF backpack radios, HF packs, CB backpack radios, or manpack radios are compared with Handy Talkies, Walkie Talkie, or HT radios. Distance on VHF will be somewhat less if a smal rubber ducky antenna is used instead of a full size antenna. The use of a counterpoise radial wire on the pedestrian radio improves distance. This estimate is based upon radio-to-radio direct communications without the use of a repeater.

EMP Impact Area Map



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