
This Suggested Operational Guidance contains the "foundations" of what is called "tactical" - as opposed to "formal" - radio communications, used by emergency responders and agencies. Some concepts may be new, and are a change from the normal manner in which amateur radio operators are used to operating in their normal daily activity. So, let's briefly recap proper radio technique. If doing so appears at first basic and even insulting, its purpose is to make sure that we're all "on the same page"!

Review: Proper Radio Technique
Proper radio technique is the basis from which all other activities are built. If an operator's technique isn't solid, it's possible to garble, obscure, or misconstrue the clarity of the message.

Make sure that you inspect and test EVERY piece of equipment at least monthly. Use equipment installed at served agencies to check into nets and use them for exercises. Check power connections for proper polarity, adequate wire gage, proper connections and fusing. Check antennas and coax for proper grounding, lightning protection, continuity and operating VSWR. Test transceiver controls for proper operation. Measure and adjust frequency alignment, correct power output, and deviation to avoid clipping or splattering. FM deviation on equipment used for digital transmissions should not exceed 2.8 kHz. All operators authorized to use pre-positioned equipment at served agency sites must be instructed in how to set up and operate it. The operating manual, operators check list and quick reference guides must be kept at the operating position! In the field always carry manuals for your rigs. Learn to use your own equipment! This sounds odd, but you'd be surprised how many amateur radio operators can't accomplish the simplest tasks on their radios. At a minimum, you should be able to use the VFO, program memory channels, set repeater offsets, including "odd" splits and select repeater access CTCSS tones. Prepare a reference card as an aid to programming and operating features and controls on each rig.

Listen to the frequency before you transmit. Be sure that there is not another contact in progress; make sure that the volume is high enough, and the squelch open enough, that you can hear any conversation on the frequency.

Think before you speak. Go over key points, and mentally rehearse what you need to say.

Pause slightly before speaking. After you press the PTT key, wait just a moment before you begin speaking. This allows your rig's relays, the repeater's circuitry, and the receiving station's squelch to be working before speech modulation occurs. How many times have you heard the beginning of someone's sentence cut off? That's what happens if you don't pause slightly - and in EmCom, it wastes time when you must repeat your traffic.

Talk across your microphone, not into it. Your voice won't be over-modulated, you'll avoid "popping" and distracting breath sounds and everyone will hear you more clearly.

Enunciate clearly. Speak in a normal conversational tone of voice. Don't slur and don't shout! When an emergency happens, it's all too easy to start talking quickly and loudly. This makes it far harder to understand, and far easier to make a mistake in copying a message. (Don't overcompensate by speaking too softly, either - be confident, not loud!)

Wait a couple of seconds for a previous contact to finish. Don't jump right in; especially on a repeater, the timer may not have reset - which may cause an embarrassing timeout!

Use the proword "OVER" when ever you expect the other station to acknowledge or reply to your transmission. It means**,** "I am done talking, and I ready to listen to your reply."

On repeaters, we're not accustomed to using this term; but in EmCom, particularly on SSB or FM simplex it's vital to do this to ensure that everything necessary has been covered.

Differences Between Tactical and Formal Communications

When a radio operator, used to talking on amateur radio repeaters, is first thrust into operating during an emergency he/she is often overwhelmed. Aside from the emphasis (and pressure) being placed on the "ABC's" of Accuracy, Brevity, Clarity, there are "prowords" (procedural words) that have specific, and important, meanings; the manner in which contacts are handled is more "professional"; and the traffic is more concise and fast-paced than one finds on the local repeater.

Here are a few of the most important differences:

* If written messages are sent will be recorded on either an EOC or RACES message form; (ICS Form 213, or a variant).
*The ARRL Radiogram, limited to 25 words, with its arcane transmission protocol, is not used. An ICS message is read and recorded in the same manner as a telephone message.
* All traffic is logged. If the traffic is not in the form of written messages, the log entry must contain a line-item, brief, accurate synopsis of the conversation. Predefined abbreviations abound, and the ability to write quickly is required.
* Parties are not identified by an FCC call sign; "tactical" call signs, usually with a team identifier, position title, location or function are used instead.
* Instead of relying on repeater "roger beeps" or saying "clear", only the pro words "over" or "out" are used to elicit a response or end the conversation, respectively. ("Over and out" are not used together, as doing so is contradictory, a phrase that no trained operator **ever** uses!)

Standard ITU Phonetics

While it doesn't take much effort to speak into a microphone and listen, it does take some training and practice to quickly and accurately convey exact information. Speak distinctly at all times. If information is to be written, pace your speech accordingly.

For critical information, or under noisy conditions, spell words with standard phonetics. The International Telecommunication Union (ITU) phonetics are the recognized standard of disaster relief, aviation, maritime and military services worldwide. They were chosen so that each word sounds completely different from all others and could be readily distinguished by non-English speakers in poor HF voice operating conditions:

Letters:

A - alfa (AL-fa)
B - bravo (BRAH-voh)
C - charlie (CHAR-lee)
D - delta (DELL-tah)
E - echo (ECK-oh)
F - foxtrot (FOKS-trot)
G - golf (GOLF)
H - hotel (HOH-tell)
I - india (IN-dee-ah)
J - juliet (JU-lee-ett)
K - kilo (KEY-loh)
L - lima (LEE-mah)
M - mike (MIKE)
N - november (no-VEM-ber)
O - oscar (OSS-cah)
P - papa (PAH-PAH)
Q - quebec (kay-BECK)
R - romeo (ROW-me-oh)
S - sierra (SEE-air-rah)
T - tango (TANG-go)
U - uniform (YOU-ni-form)
V - victor (VIK-tor)
W - whiskey (WISS-key)
X - x-ray (ECKS-ray)
Y - yankee (YANG-key)
Z - zulu (ZOO-loo)

Figures:

1 - one (WON)
2 - two (TOOO)
3 - three (tharr-EE)
4 - four (FOWer)
5 - five (FIFE)
6 - six (SICKS)
7 - seven (SEV-ven)
8 - eight (ATE)
9 - nine (NINE-er)
0 – zero (ZEE-ro)

You may still occasionally hear "Police Phonetics" which were adopted by the Association of Public-Safety Communications Officials (APCO). **RACES doesn't use them for transmission**, but it is helpful to know them in case you're on the receiving end of somebody else who does!

A - Adam	H - Henry	O- Ocean	V - Victor
B - Boy	I - Ida	P – Paul	W - William
C – Charles	J- John	Q – Queen	X - Xray
D - David	K - King	R – Robert	Y - Young
E - Edward	L - Lincoln	S - Sam	Z – Zebra
F - Frank	M - Mary	T- Tom	
G - George	N – Nora	U- Union	

"Figures" / Numbers

Numbers are pronounced as individuals. The number 60 is voiced as "figures six zero", not "sixty". The number 509 is voiced "figures five zero niner", not "five hundred nine" and NOT "five oh nine". Never use the initial OSCAR (Oh) if you mean the figure ZERO.