PART I
BASICS OF GOOD RADIO COMMUNICATION
The Basic Formula

The basic formula for being a successful radio communicator is this:

THINK – LISTEN – PUSH – PAUSE – TALK

THINK about what you’re going to say and what specific action you want the person on the other end to take in response to your call

LISTEN to the radio before you transmit

PUSH the “push-to-talk” (PTT) button

PAUSE for one second (or until the radio beeps) before speaking

Then – and only then – TALK.

Think

The most important (and sometimes hardest) part about using a radio is thinking about what you want to say.

Nine times out of ten, you’re using your radio because you want somebody to do something – to take some action based on your radio call. So: what you say on the radio should be directly related to the action you want them to take.

A way to focus the “think” part of your radio call is to remember your ABCs:

ACTION – BRIEF – CLEAR

ACTION: What specific action do I want to have happen as a result of this call?

BRIEF: Be as brief as possible.

CLEAR: But given its brevity, is my message still clear and unambiguous?
The Art of Radio

Know What You Need

A really good pattern to use for your radio call is “I need X at Y for Z.”

This pattern puts the action part of your call right up front, makes sure you include the location you need something, and is brief.

If you can’t put your transmission in this form, it may be a good idea to think a little bit more about what you need.

I need FIRE RESPONSE at .... for a ...

I need MEDICAL at ... for a ...

I need LAW ENFORCEMENT at ... for a ...

I need a RANGER at ... for a ...

I need INFORMATION/ADVICE about ...

I need TO PAGE [person] with the following message ...

I need ADVICE about X issue....

The 411 on FYI Calls

Sometimes you don’t need any action from the person you’re calling — that is, you’re just calling to let them know something. We call these “FYI calls.” For these calls, the “I need X at Y for Z” format doesn’t really work. But thinking before speaking still does!

Think about what information you’re trying to convey, and put it into a brief, clear form. Consider making any time or location bits explicit. Also think about clearly stating any implications of what you’re saying, since the person you’re talking to may not realize them.

BAD: “The wood you wanted is here.”

GOOD: “The 2 x 4s you wanted are here at the DPW Depot and you can pick them up any time before 5 pm.”

BAD: “We’re on our way.”

GOOD: “Hubcap and I are on our way to meet you at the Man. We’ll be there in 15 minutes.”

BAD: “We’re still waiting for Site Services.”

GOOD: “We’re still waiting for Site Services. Until they get here, the portos near DMV are still completely clogged and unusable.”
Why is Listening So Important?

Talking is (at best) only half the radio. The other half is listening. Why is listening so important? Two reasons: one immediate and one bigger-picture.

The immediate one: only one person can transmit on a channel at a time. So you need to listen before you transmit to make sure you don’t step on somebody else’s transmission.

The bigger picture one: it is hard to juggle multiple conversations on a channel at once (even if people are being polite and not stepping on each other). So the most important traffic should get the channel at any given time.

You need to listen to the radio to understand what is going on in the city and how important your traffic is vs. what’s happening right now.

If a channel is particularly busy, and you’re not specifically looking for something from Dispatch, you can always ask the person you’re calling to meet you on another channel to help manage radio traffic.
It's Time to Push the Button!

Now that you’ve thought about what you’re going to say and listened to the channel for an appropriate length of time (to make sure you’re not going to step on someone or interrupt a more important conversation), you can push the “push-to-talk” (PTT) button to transmit.

Wait For It....

You need to pause before you start talking. If you don’t, the first part of your radio call will be cut off (also called “clipped” — you may hear someone say “Last caller, you were clipped” when part of your call did not come through).

After you press the PTT button, our radios will beep when you have the channel, which means it’s time for you to talk. They will make a long, irritating tone when the radio system is too busy to accommodate your traffic.

Finally! You Get to Talk!

You’ve thought, you’ve listened, you’ve pushed, you’ve paused. Now, finally, you get to talk.

Speak **slowly, clearly, and calmly**. Oh, and: **e-nun-ci-ate**.

This is harder to do than you might think. It is especially hard if you’re agitated or in an emergency.

Take a deep breath and pretend you’re bored. (Think about how aircraft pilots sound in an emergency: cool, calm, and collected.)

There is no special formula for making yourself understood in loud areas — shouting won’t work and will often make you even harder to understand. The best thing you can do is try to minimize the amount of ambient sound that the microphone can pick up by moving to a quieter area or shielding the microphone as much as possible.

If you’re in a windy place, get someplace sheltered or use your hand to shield the microphone. Turn into the wind so that the microphone is facing away from the direction of the wind.
Basic Hailing Format

The standard hailing format for all Burning Man radio traffic is to call for the person twice and then state your handle... basically, “You, You, Me”

So if Hubcap wanted to call Burnside, that call would start like this:

“Burnside, Burnside, Hubcap”

You only need to use this format when you initiate a call, not for every transmission during the conversation.

Acknowledge Everything

You should acknowledge all transmissions directed to you.

If you don’t acknowledge, the person calling you has no idea if you actually heard them. The only communication you don’t have to acknowledge is another acknowledgment (you can imagine what a vicious circle that could become).

Here’s an example of an acceptable acknowledgment:

**BLACK ROCK 911:** “Please stay on this channel until medical gets to your location.”

**YOU:** “Copy that.”

Simply saying “copy,” “copy that,” “affirm” (short for “affirmative”) or “roger” are ok forms of acknowledgment.

A better form of acknowledgement is reading back what you heard. This is especially useful if you have the slightest doubt about what you heard:

**BLACK ROCK 911:** “Please stay on this channel until medical gets to your location.”

**YOU:** “Copy that. I will stay on this channel until medical arrives.”

Plain English, Please

Use plain English, not 10-codes or other codes.

E.g., “Where are you?” not “What’s your 20?”

E.g., “Situation is all clear” not “We’re code 4.”

You may sometimes hear codes used on the radio by some of our crustier radio users. Old habits die hard; the Appendix presents a secret decoder ring so you can understand what these ... umm, seasoned volunteers are saying.
Location: Street Names

When giving addresses use the actual street name or a phonetic alphabet word instead of just the letter.

Radial streets should be called in as a clock-face number between two letter streets (e.g., “5:00 between Echo and Foxtrot”).

Many letters sound alike on the radio and are a source of confusion.

**BAD:** “I need medical at 3:15 and B.” (Was that D? B? C? E?)

**GOOD:** “I need medical at 3:15 and Burrito” (or “Bravo”)

Military personnel, pilots, and ham radio operators use a nifty thing called the NATO/ICAO phonetic alphabet ("alpha,” “bravo,” “charlie,” etc.) in place of letters. It’s not required that you memorize it, but using it will cut down on confusion. It’s listed in the Appendix.

But really, almost any phonetic alphabet you come up with on the fly (“A as in apple”, “B as in burrito”, “C as in cat”, ...) will be an improvement over just the letters themselves.

Location: Numbers

When giving street numbers, “fifteen” and “fifty” sound alike on the radio. Give these as individual digits.

**BETTER:** “I need medical at three fifteen and Bravo, that’s three-one-five and Bravo.”

Location: Man-side v. Mountain-side

If you need to specify which side of the street you’re on (e.g., on a very crowded street or in a camp that is back a ways off the street), you can specify “Man-side” or “mountain-side.” Man-side is the side of the street that is closest to the Man, and mountain-side is the side furthest from the Man.

**BETTER:** “I need medical at the mountain side of three fifteen and Bravo, that’s mountain side, three-one-five and Bravo.”
Count to Three (or Five, or Seven)

Before keying up with new traffic, here’s a general rule to gauge where your traffic fits:

If your traffic is to Dispatch, wait for the channel to be quiet for at least 2-3 seconds before initiating traffic (hitting the PTT button).

If your traffic is operational and directed to somebody other than your dispatcher or shift lead, wait for the channel to be quiet for at least 5 seconds before initiating traffic.

If your traffic is non-operational, wait for the channel to be quiet for at least 7 seconds.

“Open Mic! Open Mic!”

Only one person can talk on a channel at a time. This means if you sit on your microphone and accidentally start transmitting, nobody is able to use the radio.

If you hear someone call “Open mic, open mic, check your mic!” on the radio, do just that: check to make sure it’s not you or someone with you causing the problem.

There are some things that commonly cause open mics:

- Hugs that press your shoulder mic
- Sitting down and accidentally pressing the button on the side of the radio (the button on the side of your radio is still live, even if you have a shoulder mic attached)
- Riding a bike and the pedaling motion of your leg presses the button on the side of the radio

When you hear an open mic, stay off the radio so that the offending station can be identified.

In 2015, our radios will time out after 2 minutes of transmission to prevent open mics from hogging the channel.

RADIO TIP Wear your radio so that the button on the side of the radio is at the front of your belt and faces outward; you’re less likely to have it bump up against something else (flashlight, water bottle, whatever)

FASHION TIP Wear a belt so that the weight of the radio doesn’t turn you into an accidental shirt cocker.
“BREAK!”

The word “break” is used on the radio for a few things. It can indicate that the speaker is done talking to one person and now wants to talk to somebody else.

For example (assume that Hopscotch has already been acknowledged by DPW Dispatch):

**RANGER HOPSCOTCH** “We need heavy equipment help at 2:00 and Bravo to help get a broken water cube off of some scaffolding.”

**DPW DISPATCH** “Copy that, Ranger Hopscotch. I’ll have Chaos meet you on Ranger Common to discuss. BREAK. Chaos, Chaos, Dispatch.”

**CHAOS** “Dispatch, go for Chaos.”

**DPW DISPATCH** “Can you meet Ranger Hopscotch on Ranger Common to discuss a request for heavy equipment assistance for a broken water cube.”

“BREAK” is also used to break up a long transmission into smaller pieces. For example:

**KHAKI**: “We are looking for a lost 4-year-old girl, name Alice Jones, caucasian, long brown hair, brown eyes, approximately 3 ft tall. BREAK.”

**KHAKI** continues: “Last seen near the Temple. She is wearing a pink tutu, orange sunglasses, and riding a lime green tricycle.”

This avoids hogging the channel and gives other people a chance to transmit in the case of an emergency.

“BREAK! BREAK! BREAK!”

We’re a chatty bunch – sometimes it’s hard to get a word in edgewise on the radio. And that, invariably, is when an emergency comes up and you need to get Dispatch’s attention.

In an emergency, the way to break into a conversation in progress is to wait until the end of someone’s transmission and then push the PTT button, pause, and say, **“BREAK BREAK BREAK.”**

You may have to repeat this a couple of times but Dispatch will hear you and know that your call is urgent.

Dispatch will respond, “Breaking station, go for Black Rock.” That’s your cue to identify yourself with your callsign and to tell dispatch what was so dang urgent.

This should not be used lightly – you need to be reporting a medical emergency or lost child or something of similar import to use “break break break.”
Things We Avoid Saying

You should assume that anything you say on the radio could wind up on the front page of the *New York Times*.

Our 911 radio traffic is recorded and is also monitored by the FCC, law enforcement, other agencies, and probably even private individuals.

There are also a lot of radios floating around Black Rock City, turned up for lots of people to hear, so keeping calm in an emergency is important to help other people keep calm.

There are some things we never say or talk about on BRC 911:

**Profanity of any kind**

“Death,” “dead,” “deceased”
Instead request urgent medical for a participant who is not conscious and not breathing

**Drugs or overdose**
Instead say “disoriented,” “altered,” “unconscious,” or “unresponsive,” as appropriate

*In an emergency, do not hesitate to accurately describe what is going on. Do not be vague: say what you see, ask for what you need, and request an immediate response as appropriate.*

Radio Check

When you get your radio, it is an excellent idea to make sure the knobs and buttons and display all work and that the channels make sense to you (more on this is available in the “Care and Feeding of Your Pet Radio” video), and then do a “radio check.”

It’s easy and quick. You don’t even have to give your call sign, just press the PTT button and say, “Radio check.”

If there are any smartasses on channel – which there almost certainly are – somebody will come back to you and say, “It’s a radio.”

Better still is the more informative response “Loud and clear.” (You may sometimes get the cryptic response “five by five,” which is code for “loud and clear.”)

Either way, now you know your radio works.

But please: don’t do radio checks during busy times.
The Radio as Radical Self Expression

“The difference between comedy and tragedy is timing.”
—Carol Burnett

We are all volunteers who are working hard while on vacation in the wackiest place on earth. Volunteering, including using the radio, can be fun while also being effective ... The difference with the radio, though, is that when you’re transmitting your comedic jewel, no one else can use the channel.

If you are about to broadcast a quick quip or aside on an operational channel, consider these questions before using humor to radically express yourself on the radio:

- How much traffic is there on the channel?
- What’s the general tone of traffic on the channel?
- Perhaps most important: is your traffic actually funny?
NATO/ICAO Phonetic Alphabet

<table>
<thead>
<tr>
<th>Letter</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALPHA</td>
<td>NOVEMBER</td>
</tr>
<tr>
<td>BRAVO</td>
<td>OSCAR</td>
</tr>
<tr>
<td>CHARLIE</td>
<td>PAPA</td>
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<tr>
<td>DELTA</td>
<td>QUEBEC</td>
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<tr>
<td>ECHO</td>
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<td>GOLF</td>
<td>TANGO</td>
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<tr>
<td>HOTEL</td>
<td>UNIFORM</td>
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<tr>
<td>INDIA</td>
<td>VICTOR</td>
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<tr>
<td>JULIET</td>
<td>WHISKEY</td>
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<tr>
<td>KILO</td>
<td>X-RAY</td>
</tr>
<tr>
<td>LIMA</td>
<td>YANKEE</td>
</tr>
<tr>
<td>MIKE</td>
<td>ZULU</td>
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</tbody>
</table>

This is presented for your reference. You do not need to memorize it. (But you can if you want to; we're big respectors of free will.)

In general, any reasonable phonetic alphabet that you can come up with on the fly will probably be better than A, B, C, etc.

Please note that “P as in pneumonia” has already been used and wasn’t that funny the first time.

24-Hour Time

<table>
<thead>
<tr>
<th>24 HOUR</th>
<th>12 HOUR</th>
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<tbody>
<tr>
<td>0000</td>
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</tr>
<tr>
<td>0100</td>
<td>1 AM</td>
</tr>
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</tr>
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</tr>
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<tr>
<td>1200</td>
<td>Noon</td>
</tr>
<tr>
<td>1300</td>
<td>1 PM</td>
</tr>
<tr>
<td>1400</td>
<td>2 PM</td>
</tr>
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Radio Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tr>
<td>10-4</td>
<td>Understood</td>
</tr>
<tr>
<td>10-7</td>
<td>Out of service</td>
</tr>
<tr>
<td>10-9</td>
<td>Please repeat, did not copy</td>
</tr>
<tr>
<td>10-20</td>
<td>Location**</td>
</tr>
<tr>
<td>10-33</td>
<td>Emergency</td>
</tr>
<tr>
<td>Code 4</td>
<td>Situation is resolved, nothing more needed</td>
</tr>
<tr>
<td>5 by 5</td>
<td>Loud and clear</td>
</tr>
</tbody>
</table>

** Sometimes shortened to “20.”

Note that we're not advocating these codes, just trying to give you a decoder ring for when you inevitably hear them.