



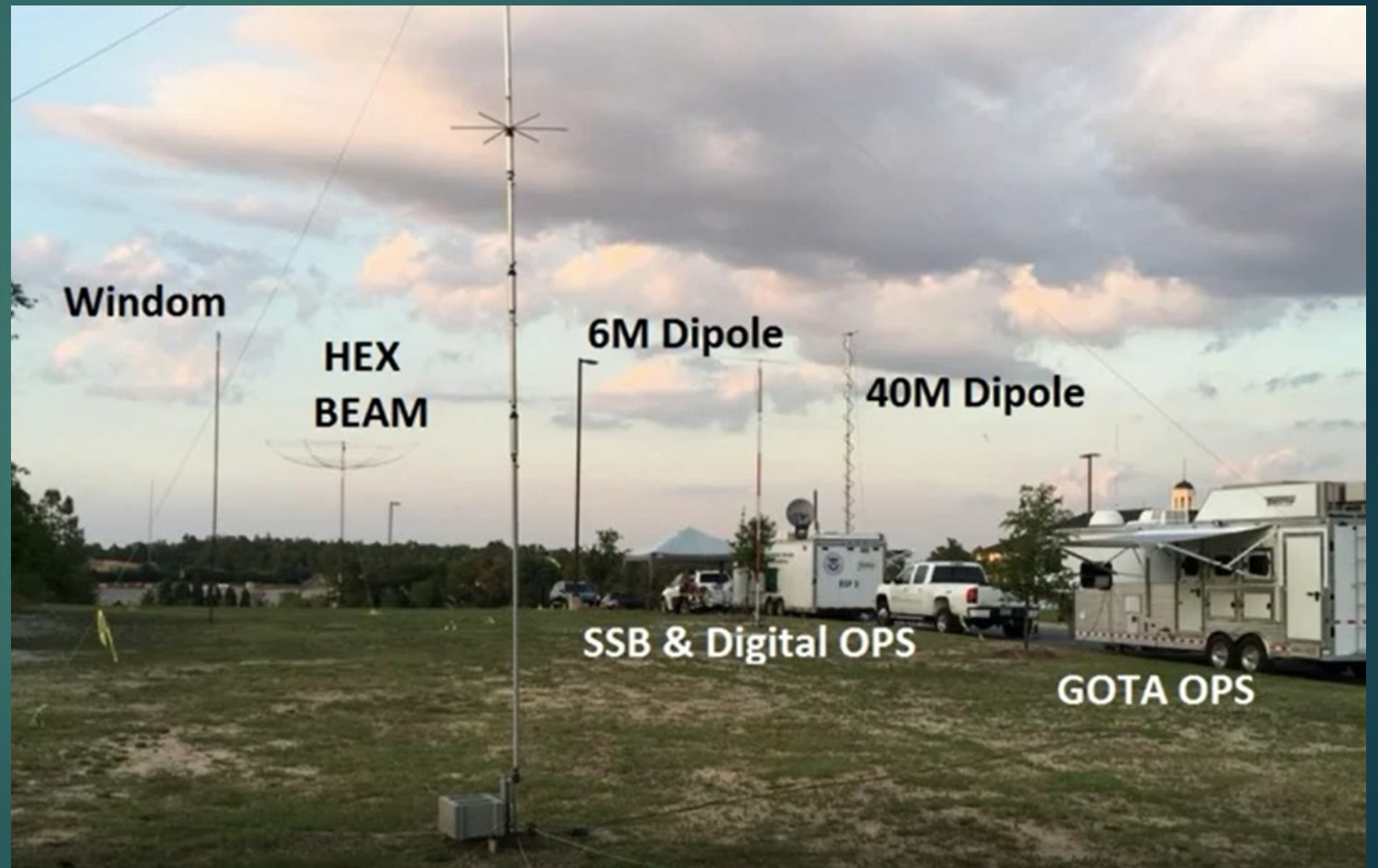
# Field Day

Kevan Nason, N4XL

# Food and Fellowship is only part of Field Day



# Setup



# Operating



# Tear Down



# Think Safety Throughout the Deployment

- Trip and fall hazards common
- Guy ropes
- Equipment being run for long periods may fail
- RF Safety
- Tired people
- Inexperienced people

# From the ARRL (paraphrased)

Field Day is... opportunity to practice... emergency response capabilities...

The contest part is simply to contact as many other stations as possible and to learn to operate our radio gear in abnormal situations and less than optimal conditions.

We use these skills while helping with emergency communications, bike-a-thons, parades, etc.

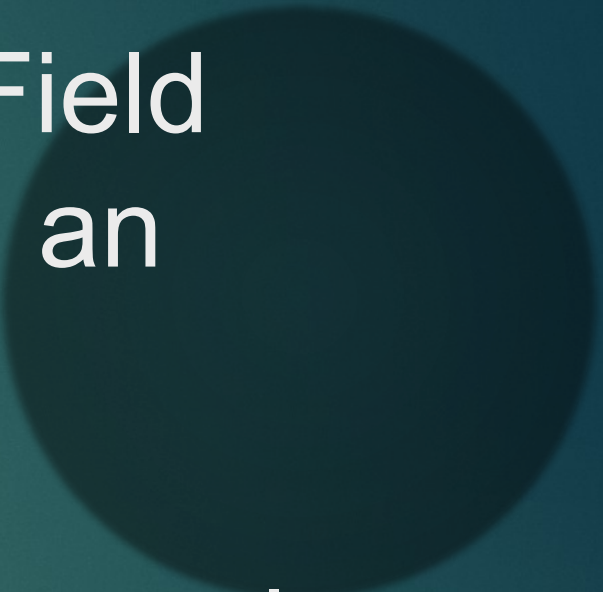

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This includes testing that equipment can do the job for many hours --  
N4XL



Ideally, we are expected to  
operate our radio during Field  
Day just like we would in an  
emergency

Think of it as practice for the real  
thing

Time-consuming pleasantries and other superfluous matters are not to be a part of the procedure while the net is in session.

Explanations of any kind are not transmitted unless they are absolutely essential to the net's conduct

# University of California - Radio Procedures During Emergencies

Before you key your mike, gather your thoughts about what you are going to say.

Many people with radios have a tendency to talk and/or repeat too much. Say what you need to say without unnecessary repeats.

# University of California - Radio Procedures During Emergencies

Keep in mind that you must strive to get your message through the first time. Know what you are going to say before you push the mike button; in other words, engage your brain before you put your mouth in gear.

Under stress, many operators have a tendency to talk too fast. ACCURACY FIRST, SPEED SECOND.

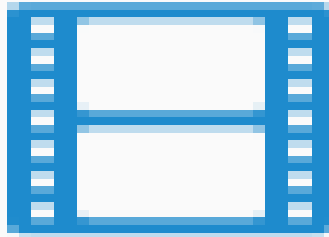
# University of California - Radio Procedures During Emergencies

During an incident, communications suffers enough confusion without wisecracks and jokes. When providing emergency communications you must remember that it is serious business and should be treated as such at all times.

At times, radio conditions are poor and words must be overly exaggerated to be understandable. In general, speak very slowly and distinctly to carry through static and weak signals.


# Videos

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WA1ENO, Field Day 2011

<https://www.youtube.com/watch?v=474X27pe9TQ>




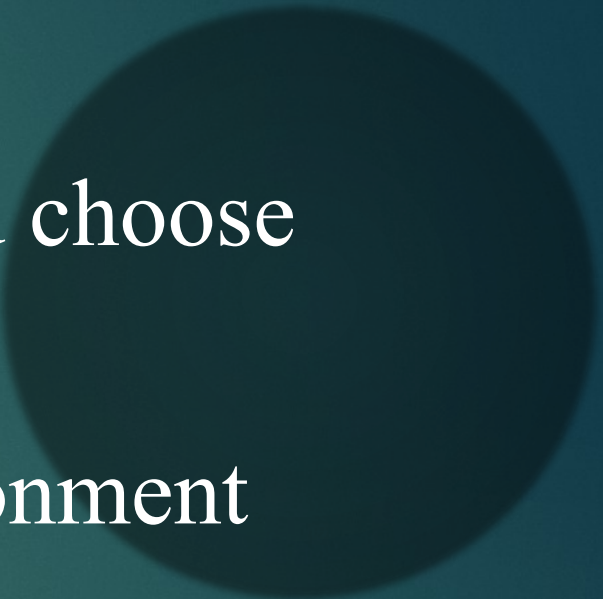
# Contest style operating contains many skills needed for Emergency Communications

- Efficient messages free of irrelevant distractions
- Maintaining operator focus over long periods of time to ensure accurate information exchange
- Cooperation between many stations to optimize the flow of information

# What Makes A Good Exchange?

Efficient

- Ideally, a contact takes 10 seconds
- Only send what is needed per the rules
  - Saying “I copy your 3A, Please Copy my...” wastes time
- Although there are exceptions (i.e: RTTY) just send your exchange once – UNLESS they will likely have trouble copying you the first time.
- The running station says “Thanks” to let you know she believes she copied your information correctly and to tell others it is okay for them to call her now.

- 
- 
- Make your contacts as quickly and efficiently as possible
  - Be aware of propagation changes and choose what band to be on to maximize rate
  - Adjust your radio for a contest environment instead of for a friendly rag chew
  - Run (call CQ) instead of Search & Pounce (S&P) whenever possible to maximize points

- Keep transmissions short. If on CW - call at a speed you feel comfortable receiving a reply
- Say everything in one smooth sentence
- Be nice
- There WILL be QRM. Work through it using filters and other rig controls
- Around 3 seconds between CQ's. If you leave too much time between CQ's someone will take the frequency. Yes, some actually think the freq is clear after 3 seconds of silence.

# Mock Exchange

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Runner: CQ Field Day Whiskey 4 Charlie Alpha Echo

S&P: November 4 X-ray Lima

Runner: N4XL, 2 Alpha, South Carolina (or Sierra Charlie)

S&P: 1 Echo, North Florida (or November Foxtrot Lima)

Runner: Thanks. Whiskey 4 Charlie Alpha Echo

# Trouble During The Exchange

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- Have alternate phonetics ready
  - Use standard phonetics, but if someone is having trouble understanding “Alpha” try “America”
  - Getting the message through quickly and accurately is more critical than using the “proper” word
- Once sent, do not repeat any information unless the other station has it wrong and you are trying to correct it (i.e.: Call sign, State, QSO number)

# Trouble During The Exchange

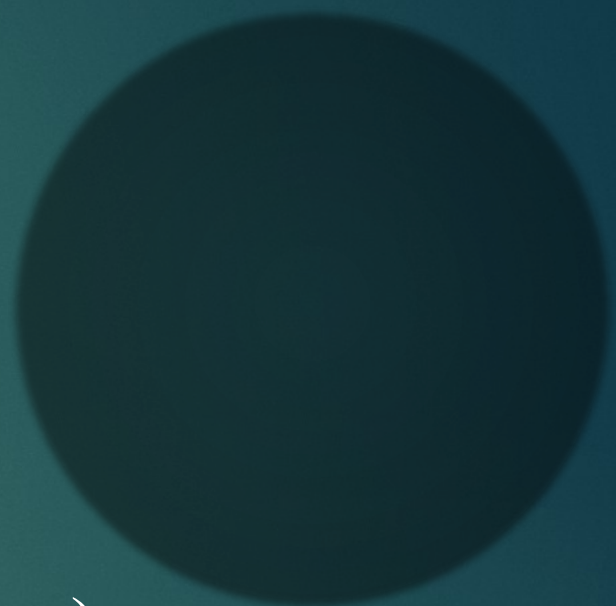
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During “Fills”, only send what is asked for.

- Runner: “Your class? Your class?”
- Reply “2 Alpha, 2 Alpha” -- nothing else
- Send information twice this time because they had trouble getting it the first time
- Do not send “W4CAE” or “Sierra Charlie” again because they may think they have either your call or section wrong.

- Sound excited. Make them believe you are hungry for another contact
- Stay focused on maintaining rate
- Be the “Little Engine That Could”... “I know I can”. Don’t let QRM, QSB, QRN or your doubt stop you from making that contact
- If you have to leave the operating station for a few minutes get someone to take over while you are gone
- Watch how others around you are doing. Encourage each other

## Station To Station Interference

- Radios with high RMDR desirable
  - Antennas
    - Far from each other
    - Use cross polarization
  - Band Pass Filters
    - After the filters (SWR consideration)
    - Cheaper only 15-20 dB. Higher quality have 30+
  - Harmonics band to band
- 

# The Radio – Using in a Contest

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## Preamplifiers

- Normally bad in crowded bands.
- Cause unnecessary receiver noise when strong signals around
- Raise noise along with signal actually making copy worse on lower bands. (40, 80 and 160)
- Can use on quieter higher bands. (10, 15 and sometimes 20)

## Attenuation and RF Gain

- **OFTEN GOOD TO USE!** Reduce effects of QRM and overload on the receiver
- Normally adjust rig so band noise barely heard
  - Improves S/N ratio making weaker signals easier to hear through noise.
  - Less fatigue on your ears

# The Radio – Using in a Contest

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## **Audio Transmit Compression**

- Gives you 3 or 4 dB signal strength increase
- Mis-adjusted will cause splatter and wasted power

## **Transmit Audio**

- Our ears get most information from speech between 500 and 2500 Hz.
- Use microphone elements or transmit equalizers to reduce low frequency speech (below 500 hz)

## **Noise Blanker**

- Turn off unless absolutely needed
- Significantly reduces ability of receiver to combat QRM

# The Radio – Using in a Contest

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- AGC – Fast
- CW Side tone
  - Lower is best
  - Helps distinguish between multiple callers more easily
- SSB Receive Equalizer
  - The frequency range giving the most audio intelligibility is 500 to 3000 Hz
  - Consider setting receive equalizer to enhance that range
- DSP for noise reduction
  - Better if leave it off and use RF gain control
  - Not always true with newer radios though

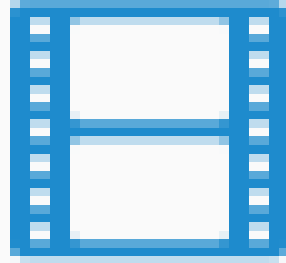
# How can I help improve our score?

## Once Field Day begins:

- Antennas are what they are until next year
- Power is what it is until next year
- Bonus point activities have already been decided and planned for or are beyond our control
- *That leaves use of operating time and operator skills as biggest factor still in our control*

# Video – W3LPL

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W3LPL running 20 Meters at W3AO Field Day 2004  
<https://www.youtube.com/watch?v=77UPoAD4lj0>

# Ask Questions!!!

- An unspoken goal of every Field Day is to help people new to portable and emergency operations learn
- Sometimes this is the only place people have the opportunity to experience HF operating
- No one gets everything right their first time. Sit down at the station, make some mistakes, learn, and have some fun! Help with setup and take down.

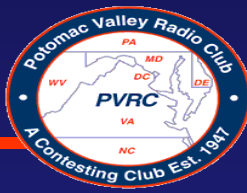


Contest style operating to achieve  
more Field Day points

# Keeping the rate: CQ a lot

- CQ whenever possible
- An average CQ rate is usually better than a good S&P rate
- More than half of stations in contest never CQ
- CQing *seems* slower than S&P – watch rate meter
- Smaller stations
  - Try CQs higher in band
  - ~~CQ 2<sup>nd</sup> day in DX contests, Sunday afternoon in Sweepstakes~~
  - Don't waste time in frequency fights

# more Best Practices . . .



## Running - continued

- **If another station calls CQ on your frequency,** try **"QRL"** or "Frequency in use, please **QSY**"
- **Don't engage in extended frequency fights**  
**If QRL/QSY fails,** it almost always pays to **move**  
Sometimes you can move **up or down a bit** in order to lessen the QRM and still hang on to "your" frequency
- **NEVER NEVER NEVER acknowledge a "jammer".**  
NEVER. Just **keep your pace**, and don't change your tone of voice on phone or even synchronize your calls to his QRM.  
Often throwing in a few fake Q's will discourage the jammer

*The Complete Best Practices Collection  
Appears in Appendix A*

Skip SO2R  
Jump to  
Practices List

Skip SO2R  
Jump to  
Loggers

Skip Loggers  
Jump to  
Conclusion



# Maximizing Score

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S&P

- Turn your VFO knob and find them
- **Keep the dial moving**
- If you can't get a running station after 2 or 3 calls, seriously consider moving on. You are wasting BIC\* time. Come back to them later

(\*BIC = "Butt In Chair")

What is the biggest asset at  
your operating station?

You!!!

# Operating Skills

Why contesting is called Radiosport

## V47T



- V47T (N2NT) averaged 170 contacts an hour for 48 hours. He did not have the highest rate in the contest.

What was *your* rate at last Field Day?  
How many hours were you operating?

# Summary

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- Field Day's purpose is to practice communication skills
  - Practice efficiency
  - Learn to adjust radio
- Ask Questions! Participate! Learn or Proactively Teach!
- Help set up and take down. Learn what's involved in erecting a station.
- Think "Safety" throughout the deployment

YOU are the most important Field Day resource

# References:

- What is Field Day?  
ARRL
- Radio Contesting, Moving To The Next Level: Ideas  
for Improving Your Score by Gary Sutcliff,  
W9XT
- Contesting Tips for Little Pistols  
Dan Zeitlin K2YWE
- K4NAB web site Field Day photo gallery