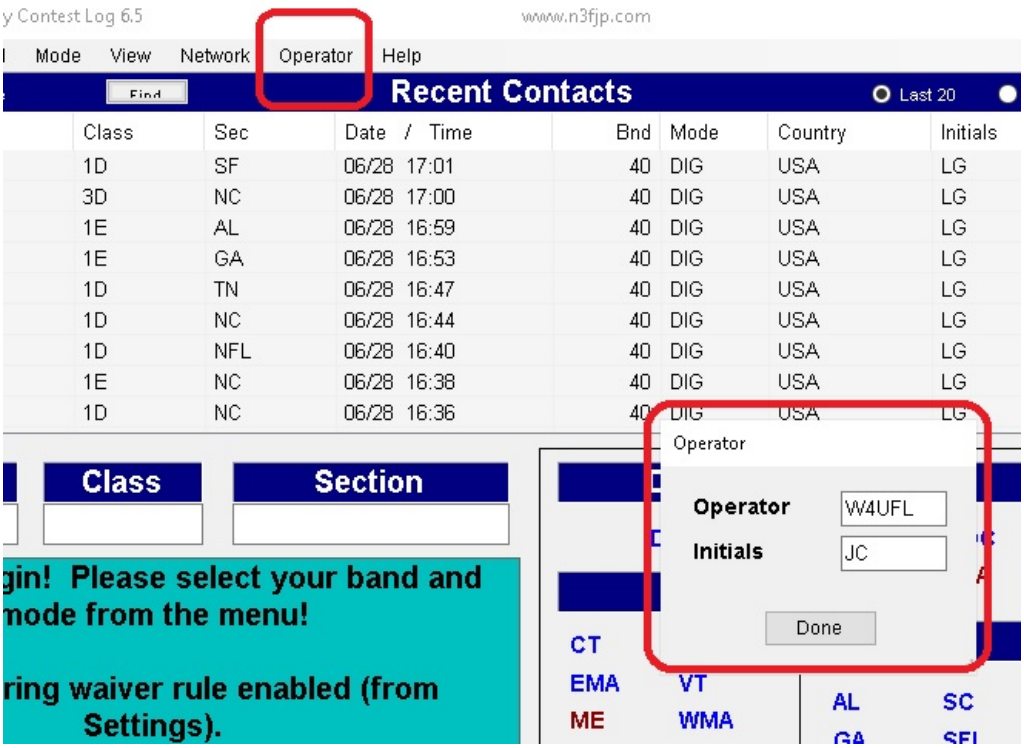
FIELD DAY CONTACT SUGGESTIONS: SINGLE SIDE BAND
Alachua County ARES(R) / NFARC

Enter yourself as the operator into the Logging System -- click "Operator" and enter call and initials:



Set your BAND and MODE -- Click on BAND to pick the band, and click on MODE to select SSB.

ICOM SETTINGS FOR SSB VOICE		
ITEM	CHOICE	COMMENT
MODE	Select LSB or USB as appropriate for Band **LSB = 80m / 40m** **USB = 20m and up.** Touch the current mode (USB LSB, whatever it is) on the screen and you'll get the options	NOTE: do not have the PACTOR modem plugged in, EOC inside station. Unplug its DIN connector, back panel.
How to Tune the Antenna Tuner	Put any amplifier into BAREFOOT MODE. **Press the TUNER button** left hand side of ICOM 7300 and watch the antenna tuner adjust.	

You can use right up to 150 Watts output SSB with our amplifiers. . Measuring PEAK SSB output is devilishly difficult. We do not use ALC from the vacuum tube amplifier back to the transceiver due to differences in their voltage preference. ALC is automatic on the ICOM 7300 to the set power that you have chosen and this is our best mechanism for limiting our power.

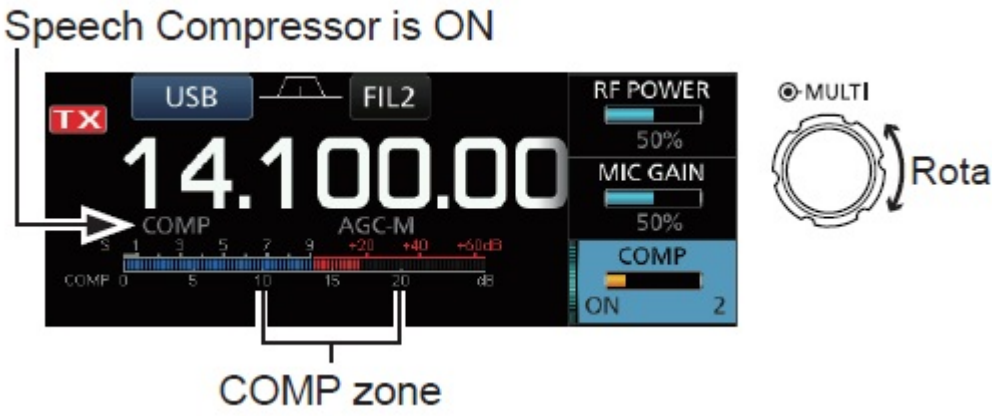
Our best tune-up sequence is to

a) **Tune the Antenna Tuner** using the Icom 7300 alone (amplifier in barefoot mode) Now the station sees 50 ohms.

NOTE

The ICOM 7300 is able to operate 100W output SSB without any problems for long periods of time. There isn't that much difference between 100W and 150W. So if using the amplifier is an obstacle to your operating -- SKIP IT! Instead, turn up the power output setting on the ICOM7300 to 100% and adjust your voice/mic/etc to have the ALC in the blue region (0-50% on the scale):

Consider turning on COMPression to modest levels, and then keep the ALC to this range:



Likely the MOST useful trick is to have your companion station LISTEN TO YOUR SIGNAL and confirm that you SOUND OK.

b) **Pre-Set the Amplifier LOAD Capacitor** as per the pen markings on the front panel, and basically don't bother futher with it.
c) **Pre-Set the Amplifier TUNE Capacitor** per the markings and the band you're using. We will more finely adjust this as it is important.
d) **Enable** the Amplifier,
e) Generate a steady signal from the transceiver by *either*

- using RTTY and pressing the TRANMIT button[1], or
- using CW and a holding down a key, (PREFERRED)

and **adjust the amplifier TUNE capacitor for peak OUTPUT RF** -- noting the power (WATTS) on the power output monitor.

Adjusting that amplifier TUNE capacitor for peak OUTPUT RF is the single most important step. Once that is done reasonably well, this amplifier is so tough you just can't hurt it or distort at these piddling 150W output levels.

f) **Adjust the 7300 output power level to get the OUTPUT RF = 150 Watts.** (You can adjust the 7300 output power in real time while sending a tone.) *From this point on, the Icom 7300's internal ALC will try to maintain this maximum output power.*

g) Switch to the upper/lower Single Side Band of your choice, use either zero compression or 1 or 2 compression and you will basically be at the right power level. The needles of analog instruments don't follow very well. You may get some relative infomration from the LED's of the LDG auto tuner, since they move quickly.

TYPICAL POWER SETTINGS		
Total Output Power	150 Watts (peak) into a TUNED antenna tuner presenting roughly 50 ohms impedance to the station. *100 W (peak) if only using the 7300 and no amplifier.*	This is the power class we are using for our operation. Our power measurements are inexact and only accurate when the TUNER is tuned to present 50 ohms to the station.
Typical CW or RTTY 7300 % power needed to	With no bandpass filter: 80Meter CW: approx 24% (24	80 meters has a little more loss in the cathode inductor

1 BRIEF RTTY to tune up the amplifier is likely accepatble under 97.307(b): (b) A station may transmit a test emission on any frequency authorized to the control operator for brief periods for experimental purposes, except that no pulse modulation emission may be transmitted on any frequency where pulse is not specifically authorized and no SS modulation emission may be transmitted on any frequency where SS is not specifically authorized.

excite the amplifier to 150 watts output	watts from transmitter) 20Meter CW: approx 15% With Bandpass Filter:	which was undersized by Heathkit.
Typical **SB-200 amplifier plate current reading** when the amplifier is tuned correctly and producing 150 watts output from a STEADY TONE	Approx 200-220 mA YOU WONT SEE THIS WHEN TALKING.	80 mA of the current is just DC idling current. "Efficiency" isn't very high at this low power level. But this is what keeps it LINEAR.

CONTEST SAVVY: MAKING CONTACTS

GOOD DISCUSSSIONS OF SAVVY VOICE TECHNIQUE:

1. Skip to the voice part: https://www.qsl.net/ta1dx/afet/fieldnedir.htm
2. Starting on page 3: http://w4ava.org/articles/Field Day Reference Guide.pdf

Two methods: Hold a frequency and call CQ Field Day to get people to come to you, or "hunt and pounce" by listening for others calling CQ and quickly answering them. To hold a frequency you have to keep a strong signal and keep talking -- if you are absent for a bit someone else will take the clear spot! To hunt and pounce you have to move around quickly. If you move in tiny frequency increments, retuning of antenna and transmitter aren't crucial. When you move more than 50kHz time to retune a bit.

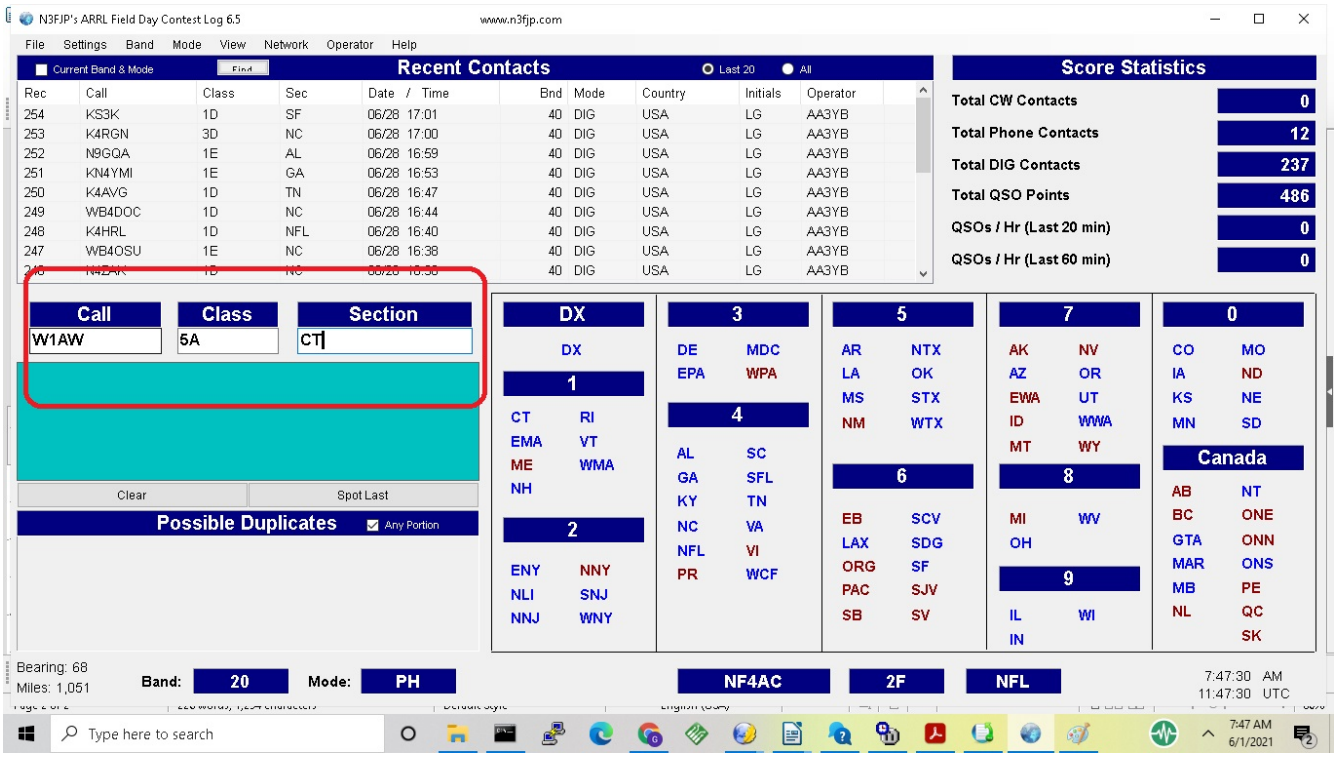
Here is an example of a typical Field Day phone exchange:[2]

- **NF4AC** "*CQ Field Day, November Foxtrot Four Alpha Charlie NF4AC Field Day"*
- **W1AW**: "*Whiskey One Alpha Whiskey"*
- **NF4AC** :"*W1AW, Copy my Two Foxtrot, Northern Florida"*
- **W1AW**:"*QSL. Copy my Five Alpha, Connecticut"*
- **NF4AC**:"*QSL, Thanks. This is NF4AC. Field Day." -- and you're ready for the next station!*

After each QSO enter the QSO into the N3FJP Field Day Contest Log -- when you hit "enter" after the Section it will be entered. You can go back and edit or delete any entry by clicking on it. The Abbreviations are in the table right there on the screen for all the Sections. Use DX for any foreign stations.

2 Paraphrased from N6NA River City Amateur Radio Communications Society tips, http://www.n6na.org/fieldday/field-day-prep

POSSIBLE VOICE CANNED TEXTS	
1	(Long CQ) CQ Field Day CQ Field Day November Foxtrot 4 Alpha Charlie NF4AC Field Day Over
2	(Short CQ) CQ Field Day November Foxtrot 4 Alpha Charlie Over
3	(Exchange) Copy my 2 Foxtrot 2 Foxtrot Northern Florida Northern Florida Over
4	QSL Copy my 2 Foxtrot 2Foxtrot Northern Florida Northern Florida Over
5	QSL Thanks This is November Foxtrot 4 Alpha Charlie Field Day Over
6	
7	



Bandpass Filters: We have bandpass filters that you can insert between the TRANSCEIVER and the AMPLIFIER. They aren't meant for the output power of the AMPLIFIER. They will reduce interference to your receiver from another station on a different band, and they can help to reduce interference you might give to another station. **They are not required**, but may be helpful when one transmitter is on 80M CW and the other on 75M SSB....or when two stations are on bands harmonically related, like 40M and 20M.

Amateurs wishing to operate on either 2,200 or 630 meters must first register with the Utilities Technology Council online at **https://utc.org/pic-database-amateur-notification-process/**. You need only register once for each band.

2,200 Meters (135 kHz)

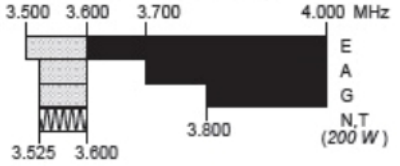
630 Meters (472 kHz)

5 W EIRP maximum, except in Alaska within 496 miles of Russia where the power limit is 1 W EIRP.

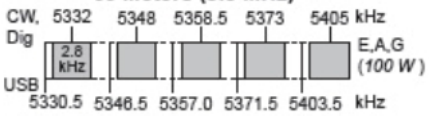
160 Meters (1.8 MHz)

Avoid interference to radiolocation operations from 1.900 to 2.000 MHz

80 Meters (3.5 MHz)

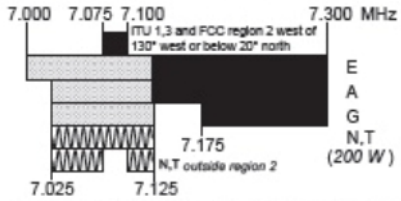


60 Meters (5.3 MHz)



General, Advanced, and Amateur Extra licensees may operate on these five channels on a secondary basis with a maximum effective radiated power (ERP) of 100 W PEP relative to a half-wave dipole. Permitted operating modes include upper sideband voice (USB), CW, RTTY, PSK31 and other digital modes such as PACTOR III. Only one signal at a time is permitted on any channel.

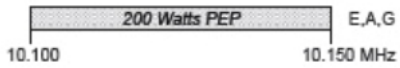
40 Meters (7 MHz)



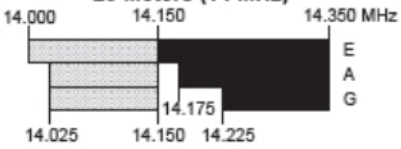
See Sections 97.305(c), 97.307(f)(11) and 97.301(e). These exemptions do not apply to stations in the continental US.

30 Meters (10.1 MHz)

Avoid interference to fixed services outside the US.

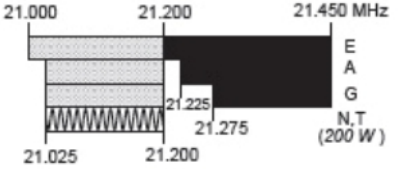


20 Meters (14 MHz)



17 Meters (18 MHz)

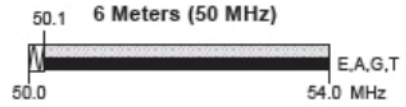
15 Meters (21 MHz)



12 Meters (24 MHz)

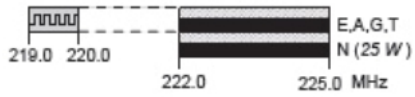
10 Meters (28 MHz)

6 Meters (50 MHz)



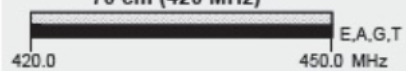
2 Meters (144 MHz)

1.25 Meters (222 MHz)

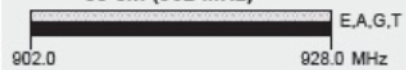


*Geographical and power restrictions may apply to all bands above 420 MHz. See *The ARRL Operating Manual* for information about your area.

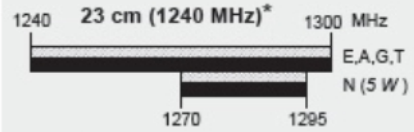
70 cm (420 MHz)*



33 cm (902 MHz)*



23 cm (1240 MHz)*



All licensees except Novices are authorized all modes on the following frequencies:

2300-2310 MHz	10.0-10.5 GHz ‡	122.25-123.0 GHz
2390-2450 MHz	24.0-24.25 GHz	134-141 GHz
3300-3500 MHz	47.0-47.2 GHz	241-250 GHz
5650-5925 MHz	76.0-81.0 GHz	All above 275 GHz

‡ No pulse emissions

KEY

Note:
CW operation is permitted throughout all amateur bands.

MCW is authorized above 50.1 MHz, except for 144.0-144.1 and 219-220 MHz.

Test transmissions are authorized above 51 MHz, except for 219-220 MHz

= RTTY and data
= phone and image
= CW *only*
= SSB phone
= USB phone, CW, RTTY, and data.
= Fixed digital message forwarding systems *only*

E = Amateur Extra
A = Advanced
G = General
T = Technician
N = Novice

See *ARRLWeb at* **www.arrl.org** for detailed band plans.

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