

# TECHS ON HF 10M FT8 FUN

NCRC JULY 14, 2025

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# WHAT WE WILL DISCUSS

- A bit about NCRC Technicians
- Technician HF privileges
- HF Propagation
- 10-meter propagation
- What is FT8
- QMX+ 5-watt all band/mode transceiver
- Antenna (Dipole)
- Power Supply (Battery Pack)
- Using your 10-meter FT8 rig for POTA
- Resources/References



# NCRC TECHNICIANS

Out of 150 members, 39 are technicians – About one quarter of our membership

NCRC has daily VHF nets on our W1SYE analog repeater

We have weekly DSTAR nets on our W1AAD DSTAR repeater

Frequent on-air HF events like Field Day and Parks On The Air

# WHAT OUR TECHNICIANS CAN DO



Most Technicians are happy to use local repeaters to chat with friends

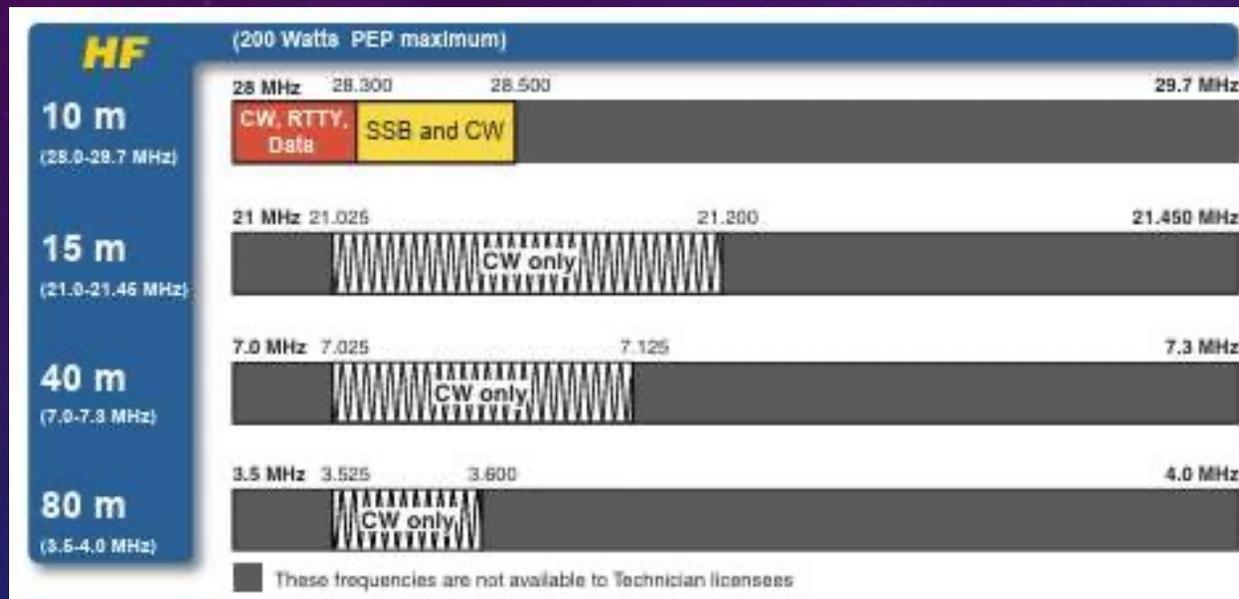


A few might experiment with Satellites like the ISS



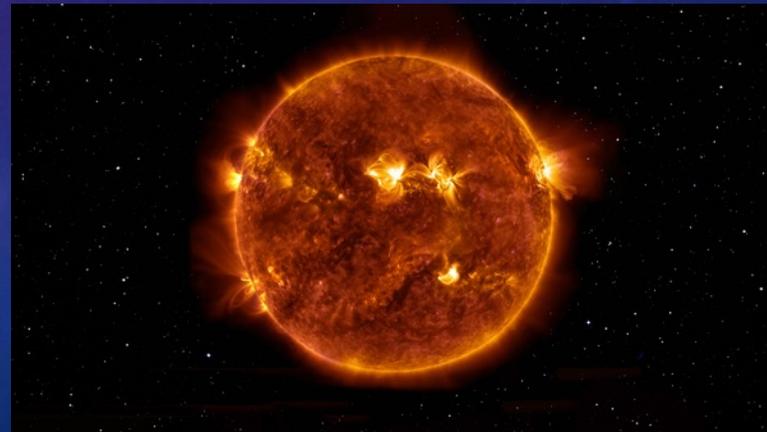
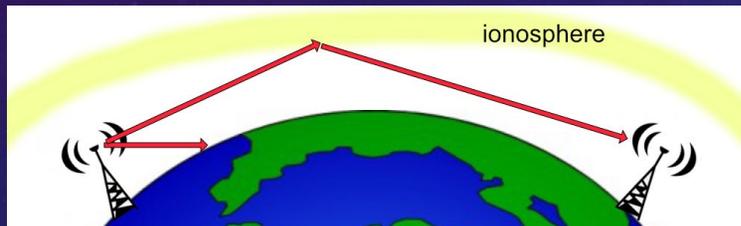
High Frequency (HF: 3MHz to 30MHz) opens up the world!

# TECHNICIAN HF BAND PRIVILEGES



# WHY HIGH FREQUENCY (HF) IS SO FUN

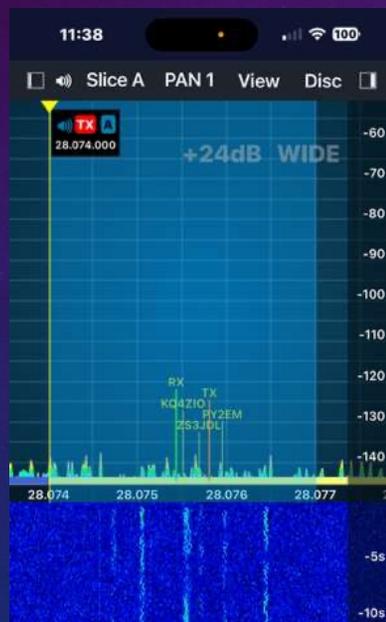
- Signals bounce off the Ionosphere (sometimes several times) to allow communication beyond the visible horizon.
- HF Propagation is highly influenced by the sun. In general, it is easier to communicate long distances during periods of high solar activity.



# 10-METER PROPAGATION

- You will find FT8 Signals on 10-Meters during daylight hours, mostly between 11 AM and 4 PM during periods of high solar activity

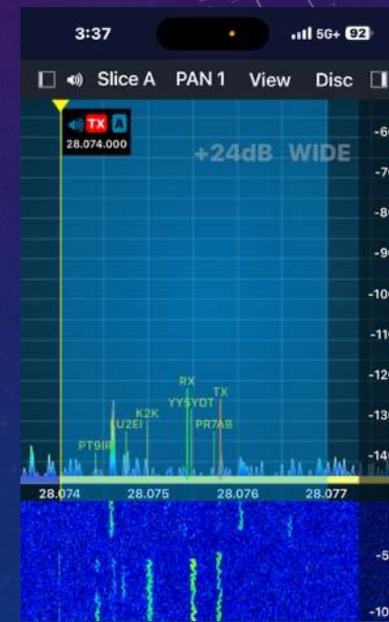
We are at the peak of Solar Cycle 25



11:30 AM

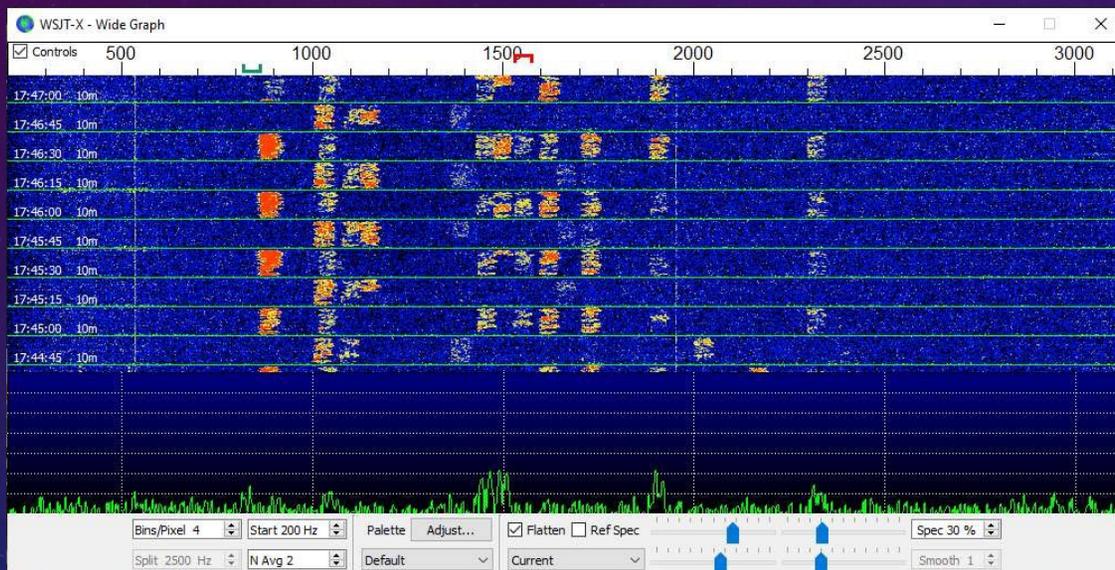


1:30 PM



3:30 PM

# FT8 ON 10-METERS ~ 1:30 PM (A DOZEN STATIONS)



----- 10m									
174715	-1	0.1	1010	~	CQ	PY2SAO	GG66		
174715	-4	0.1	1131	~	SM7MDO	PY2PMC	GG66		
174715	-12	-0.0	1088	~	CQ	LW2EII	FF77		
174715	-20	0.1	1637	~	CQ	LU7DZ	GF11		
----- 10m									
174730	-3	0.1	1599	~	CQ	PP5CF	GG52		
174730	9	0.1	867	~	N6ZDH	LW6DLS	-17		
174730	-5	0.1	1479	~	KQ4IVE	CX7CB	-11		
174730	-8	0.1	1889	~	CQ	PY4CZ	GG78		
174730	-9	0.1	2302	~	W6GRE	LU2PWY	-11		
174730	-12	0.1	1020	~	CQ	LU9RBE	FG71		
174730	-11	0.2	1432	~	ON7DMQ	LU6JAM	RR73		
----- 10m									

## FT8 DIGITAL MODE

- Released by Joe Taylor/Steve Franke in 2017
- Designed for weak signal communications (low power, marginal antennas, poor propagation)
- Stations listen for 15 seconds and transmit for 15 seconds. Complete QSO takes 1m30s
- Need a radio, digital interface, computer
- Runs on simple laptops (PC, Mac, Linux)
- It is part of the WSJT-X software suite (free)

Ideal for low power (QRP)  
And 10-meter band work!

Requires 1/8 power of CW  
1/32 power of SSB

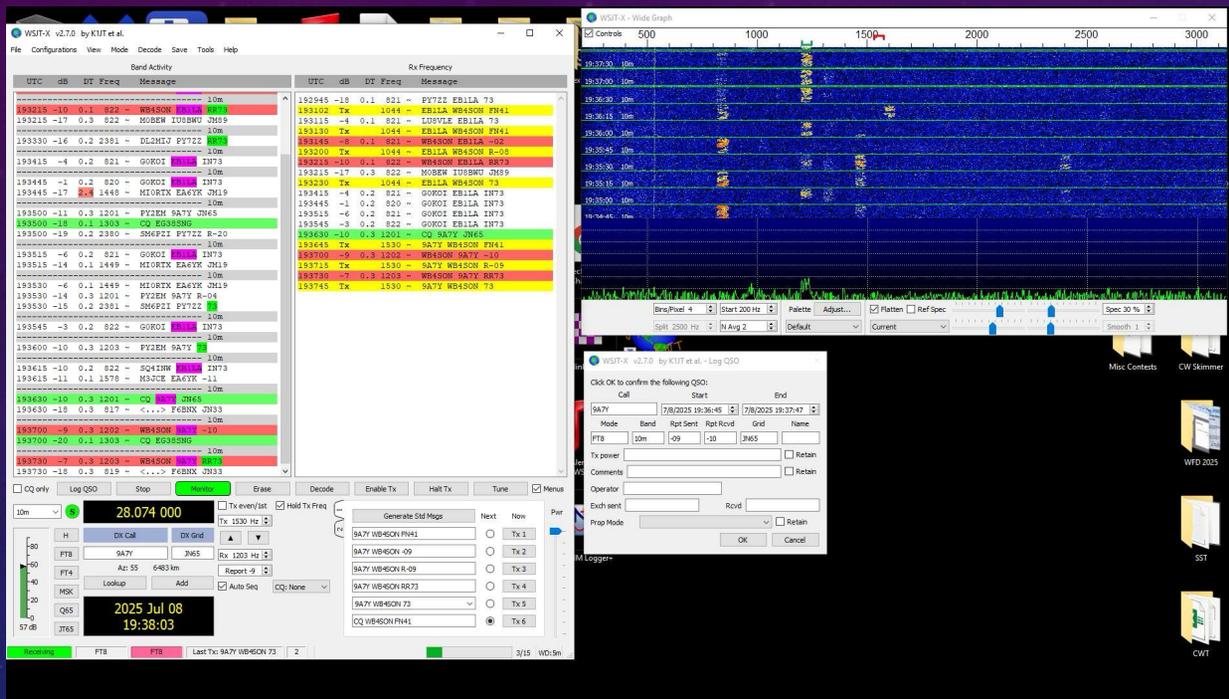
## A TYPICAL FT8 CONTACT TAKES 1MIN 30SEC

- CQ 9A7Y JN65
  - 9A7Y WB4SON FN41
- WB4SON 9A7Y -10
  - 9A7Y WB4SON R-09
- WB4SON 9A7Y RR73
  - 9A7Y WB4SON 73

193630	-10	0.3	1201	~	CQ 9A7Y JN65
193645	Tx		1530	~	9A7Y WB4SON FN41
193700	-9	0.3	1202	~	WB4SON 9A7Y -10
193715	Tx		1530	~	9A7Y WB4SON R-09
193730	-7	0.3	1203	~	WB4SON 9A7Y RR73
193745	Tx		1530	~	9A7Y WB4SON 73

Actual 10-m Contact with  
Croatia 3:36 PM using WSJT-X

# WHAT THE WSJT-X SUITE LOOKS LIKE



- Left Side is main program
- Upper Right is Waterfall
- Box in the Middle for logging

Double Click station calling CQ to initiate a contact. The rest is automatic!

# QRP LABS QMX+ TRANSCEIVER

- 160m to 6m 5-watt (QRP) radio, all modes, with built in rig control and sound card!
- \$125 for the kit from [qrp-labs.com](http://qrp-labs.com)
  - +\$25 Enclosure
  - +\$60 Assembled by factory (3-4 months)
  - +\$20 International shipping
- All Surface Mount pre-soldered ~ 20 hours to build
  - 32 Caps
  - 19 Inductors (wound by hand)
  - 66 Mechanical parts



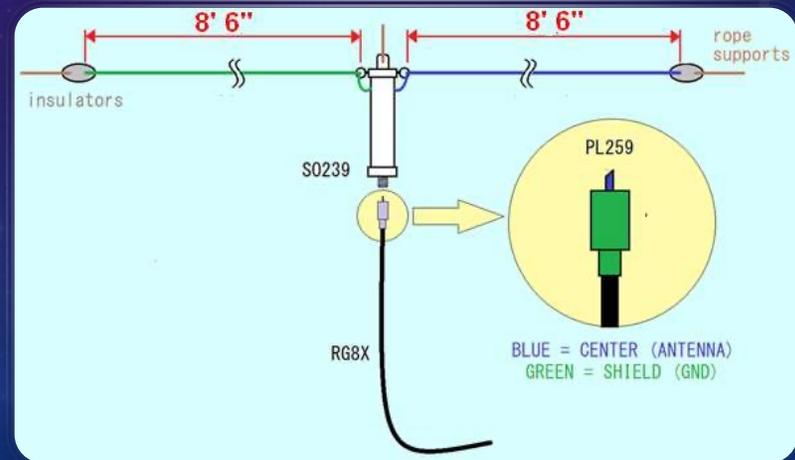
# A POWER SUPPLY FOR YOUR QRP RADIO

- Small Battery holder with DC Barrel Connector
- Holds 8xAA batteries (Rechargeable NMH)
- QMX+ requires 80ma Receive  
700ma Xmit at less than 12v



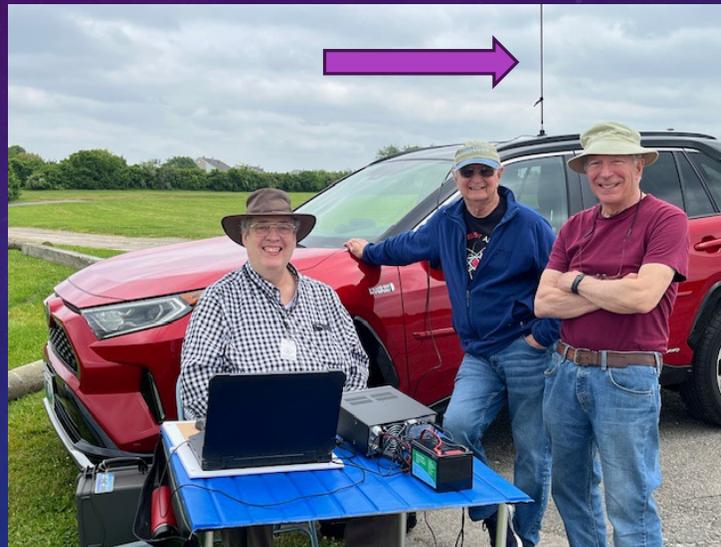
## AN ANTENNA FOR YOUR 10-METER RADIO

- Dipole – about 17'
- Center insulator and connector for coax
- End insulators
- \$40-50 from eBay



# FT8 QRP PARKS ON THE AIR

- A 10-meter antenna with a magnetic mount base placed on your vehicle roof is a great antenna for Parks On The Air (POTA)
  - Consider a Shark S-FM10 (Amazon \$47) antenna
  - A Tram 240-B (Amazon \$31) mag mount with 3/8x24 socket



# RESOURCES

- WSJT-X Software: <https://wsjt.sourceforge.io/wsjtx.html>
- WSJT Groups.io: <https://wsjtx.groups.io/g/main>
- QRP Labs QMX+: <https://qrp-labs.com/>
- QRP Labs Groups.io: <https://groups.io/g/QRPLabs>
- QRP Labs YouTube Channel: <https://www.youtube.com/@QRPLabs>
- Dipole Antenna: <https://www.ebay.com/itm/126337049114>
- Battery Holder: <https://www.amazon.com/dp/B09LTSNJTW>
- Whip Antenna: <https://www.amazon.com/dp/B0875S2NVV>
- Mag Mount: <https://www.amazon.com/dp/B013HHINDS>