

Police Amateur Radio Team

May 19, 2026



Agenda



- **Introductions**
- **Club Reports & News**

- **Heathkit Projects and Memories**
 - **by PART Members**
- **Field Day 2026 - Digital Station Preview**

- **Parting Shots (small topics)**
- **Closing / Next Meeting**

Introductions

Please share your name, call, and location

If it's your first time here - what brought you in?

Club Reports & News



Membership Report

2026 Membership 19-May'26 (on 19-May'26)

Type	Price	Income	Individuals	New	Renew	Households	New	Renew	ARRL	ARRL Life
Full	\$25.00	\$625.00	25	2	23	25	2	23	21	2
Senior	\$15.00	\$690.00	46	3	43	46	3	43	34	5
Family	\$30.00	\$210.00	16	2	14	7	1	6	11	6
Student	\$0.00	\$0.00	2	0	2	2	0	2	0	0
Associate	\$10.00	\$10.00	1	0	1	1	0	1	0	0
Intro	\$0.00	\$0.00	2	2	0	2	2	0	0	0
Grand Total		\$1,535.00	92	9	83	83	8	75	66	13

Input data
Calculations

***Renew your PART membership for 2026!
Also, join ARRL or renew through PART!***



Treasurer's Report

From 21-Apr-26 To 18-May-26

On 19-May-26

		PART			Total	
General	Kit		Repeater	Minecraft		
\$12,514.98	\$1,010.32	\$13,525.30	\$9,922.46	\$3,149.84	\$26,597.60	Old Bal.
\$100.00	\$0.00	\$100.00	\$0.00	\$0.00	\$100.00	Income
-\$100.00	\$0.00	-\$100.00	-\$320.00	\$0.00	-\$420.00	Expenses
\$0.00	\$0.00	\$0.00	-\$320.00	\$0.00	-\$320.00	Net
\$12,514.98	\$1,010.32	\$13,525.30	\$9,602.46	\$3,149.84	\$26,277.60	New Bal.
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	Sub. Rec.
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	Sub. Pay.
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	Sub. Net
\$12,514.98	\$1,010.32	\$13,525.30	\$9,602.46	\$3,149.84	\$26,277.60	Sub. Bal
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	Acc. Rec.
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	Acc. Pay.
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	Net Cred.
\$12,514.98	\$1,010.32	\$13,525.30	\$9,602.46	\$3,149.84	\$26,277.60	Net Worth
\$0.00	\$0.00	\$0.00	-\$320.00	\$0.00	-\$320.00	Gain/Loss

Input data
Calculations

Field Day Planning Update

April 2026

Andy KB1OIQ

Dates



- Friday, June 26: Antenna Installation
- Saturday, June 27:
 - setup stations in the morning
 - Operation begins at 2PM sharp
- Sunday, June 28:
 - Operation ends at 2PM sharp!
 - Tear down tents, cleanup, take down antennas, etc.
 - Clean up the site and depart as quickly as possible

2026 Field Day Digital Station Proposal

Expose both hams and non-hams to see the fun of digital ops!

Carl Howe, WG1V
Dan Tang, K1GLV

The 2025 Digital Station

- Last year, the digital station achieved a new high score for its mode AND the longest DX award
- That was done using a relatively simple station: an ICOM IC-7300 hybrid transceiver connected by USB to a single laptop
- This had limitations from a participation and public relations point of view
 - USB connections are problematic due to RFI
 - We have several pieces of software we have to run at once
 - Small screens make it difficult for the operator to work all that software
 - Observers can't easily see what's happening – it all looks too complicated to understand

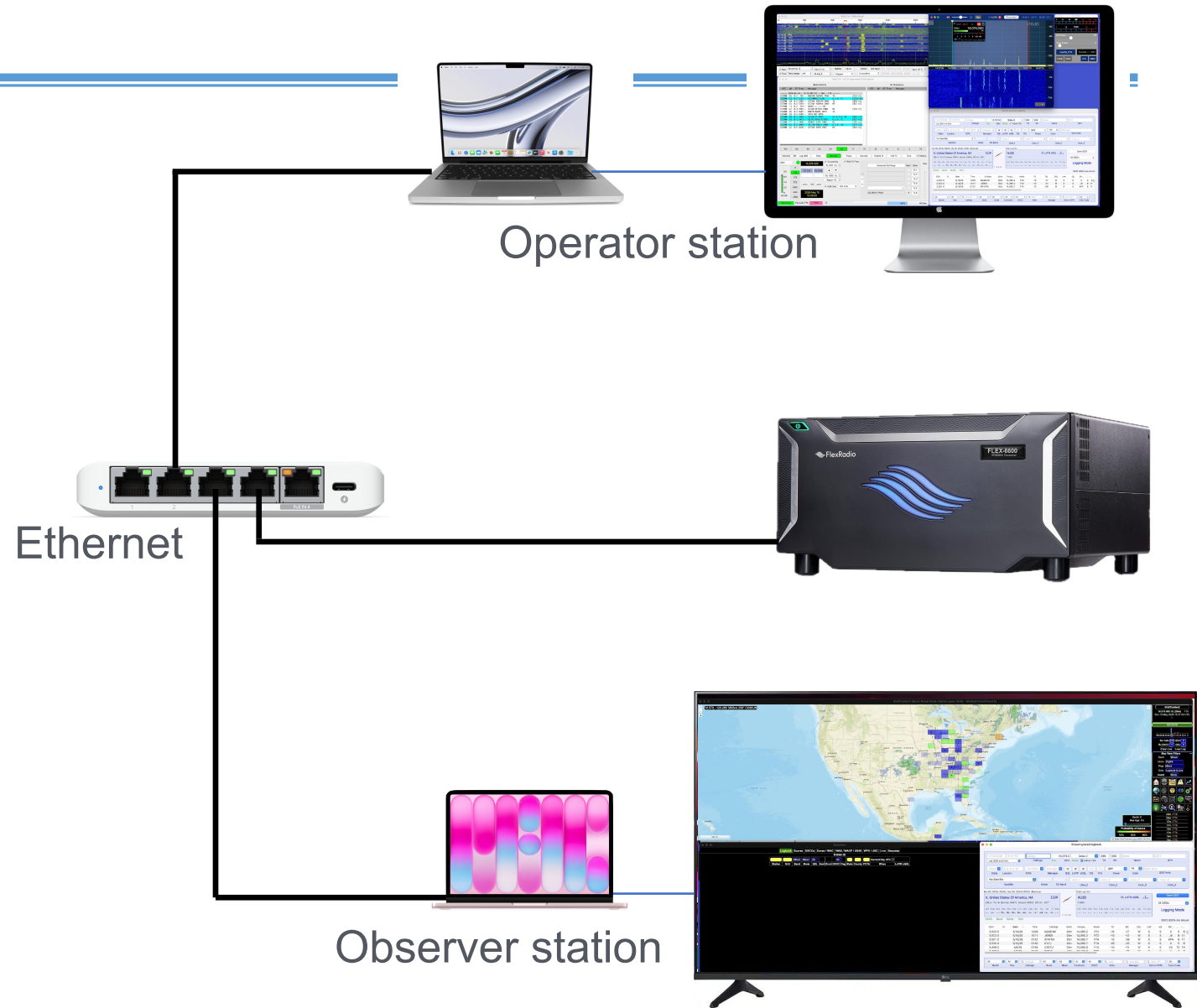
Digital is a great mode for Field Day

- All digital contacts count 2 points, the same as CW!
- If you are new to digital, use FT8 mode. A full QSO takes about 1 minute
- Most digital stations run FT8, which allows 60 QSOs per hour
- Advanced stations run FT4 at 120 QSOs per hour, but also requires faster reflexes to decide which stations to work
- NEW!!! This year we will try running FT2, which allows 240 QSOs per hour!!!
- Use whichever one you feel most comfortable with
- Be aware that our logging software considers the three FT modes distinct, but ARRL considers them all “digital”, meaning we will see dupes from stations running all three modes. The dupes will be ignored without penalties
 - *6.3. Field Day contacts are allowed using Phone, CW and Digital (non-CW) modes. Stations can be worked once per band per mode under this rule.*
 - *6.7. All non-CW digital contacts are equivalent.*

Embracing Digital in 2026

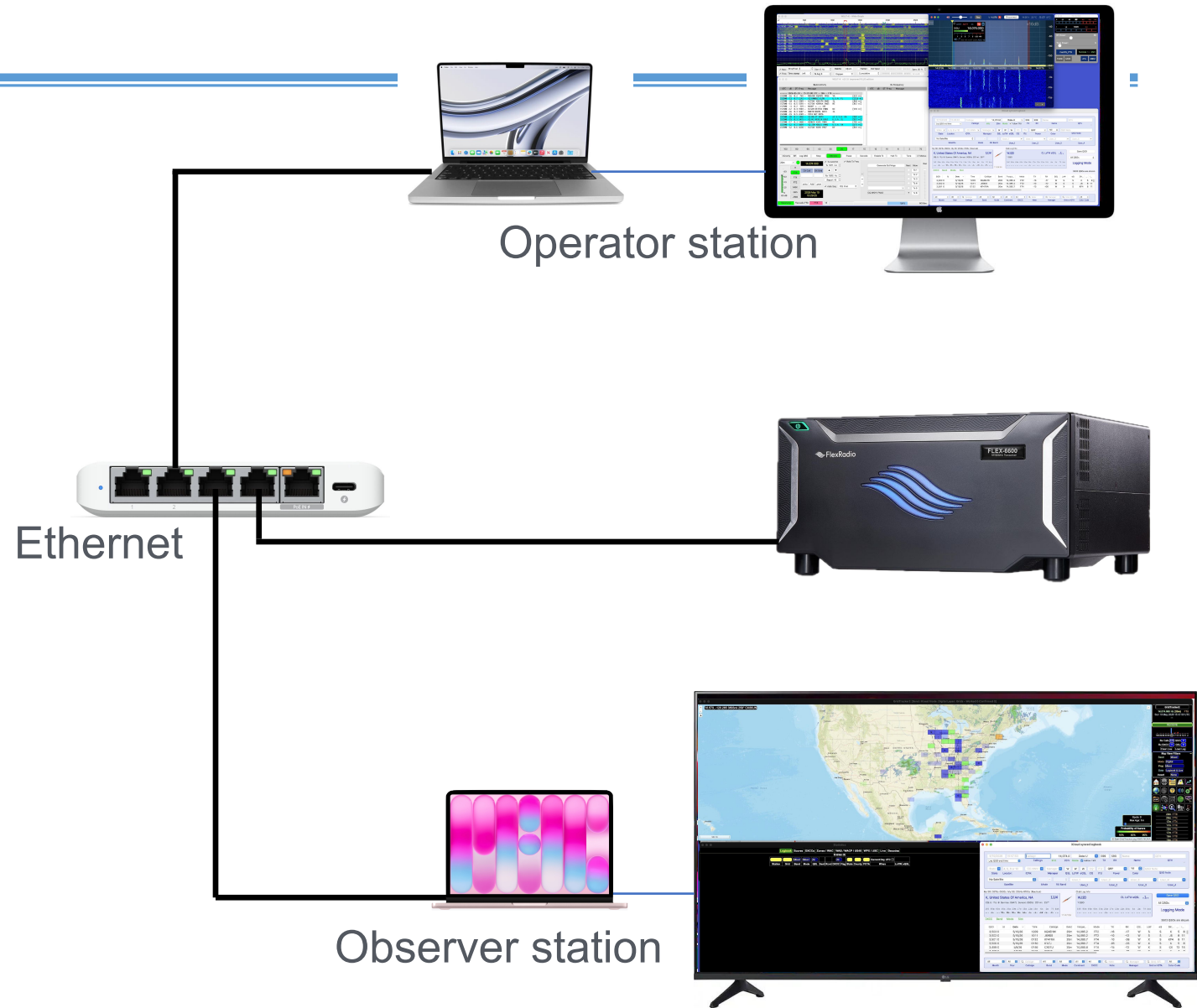
I propose we can improve this year by employing:

- An all-digital SDR transceiver, the FlexRadio 6600
- An Ethernet LAN to support the transceiver and 2 computers
 - An operator laptop with a 27-inch external display
 - An observer computer with a 50-inch external display



Why two computers for one station?

- Different displays for operators and observers
- Operating can be done from either computer in case of primary computer failure
- Redundant logging in case of logging issues



A modern SDR rig: FlexRadio 6600

- No front panel!!
- SmartSDR software runs all transceiver functions over ethernet
- All-band 160m-6m SDR transceiver
- 100 watts max output, which we'll run at 50% (50 watts)
- Can serve multiple computers simultaneously



What does the operator see?

WSJT-X operator panel

The screenshot shows the WSJT-X operator panel. At the top is a 'Wide Graph' displaying a waterfall plot of the 20m band. Below the graph is a table of 'Band Activity' with columns for UTC, dB, DT, Freq, and Message. The table lists several stations, with some highlighted in blue. At the bottom of the panel are various controls including a frequency display (14.074 000), a power meter, and buttons for 'Monitor', 'Erase', 'Decode', 'Enable Tx', and 'Halt Tx'.

UTC	dB	DT	Freq	Message	UTC	dB	DT	Freq	Message
2026-05-10	-16	0.2	765	NB9JDX KQ4NFI FM16 VA [523 mi]					
152900	-11	0.7	1142	CQ KN0BLE EL98 U.S.A. FL [1116 mi]					
152900	-10	0.2	2369	KJ7SAY KD9JFH EN62 IL [816 mi]					
152900	-11	0.5	1593	KJ7SAY KD9VUK EN63 WI [812 mi]					
152900	-1	0.2	329	W4DBT <...> -05					
152900	-12	0.4	1903	RL3AM KF4YUS FM06 NC [594 mi]					
152900	-16	0.3	1687	N08TN W9ZPL RR73 IL					
152900	-15	0.5	2289	POTA NOT MOTA					
152900	-20	0.2	1446	CQ W4LJT EM73 o1 U.S.A. GA [982 mi]					
152900	-15	0.3	1475	CQ MI KE9EJX EN52 U.S.A. IL [917 mi]					
152900	-17	0.3	1460	K89NV KS4S FM04 NC [701 mi]					
152900	-12	0.2	1099	CQ 250 K0LLE EM96 U.S.A. VA [675 mi]					
152900	-12	0.6	1638	KJ7SAY WI4B EM67 KY [914 mi]					

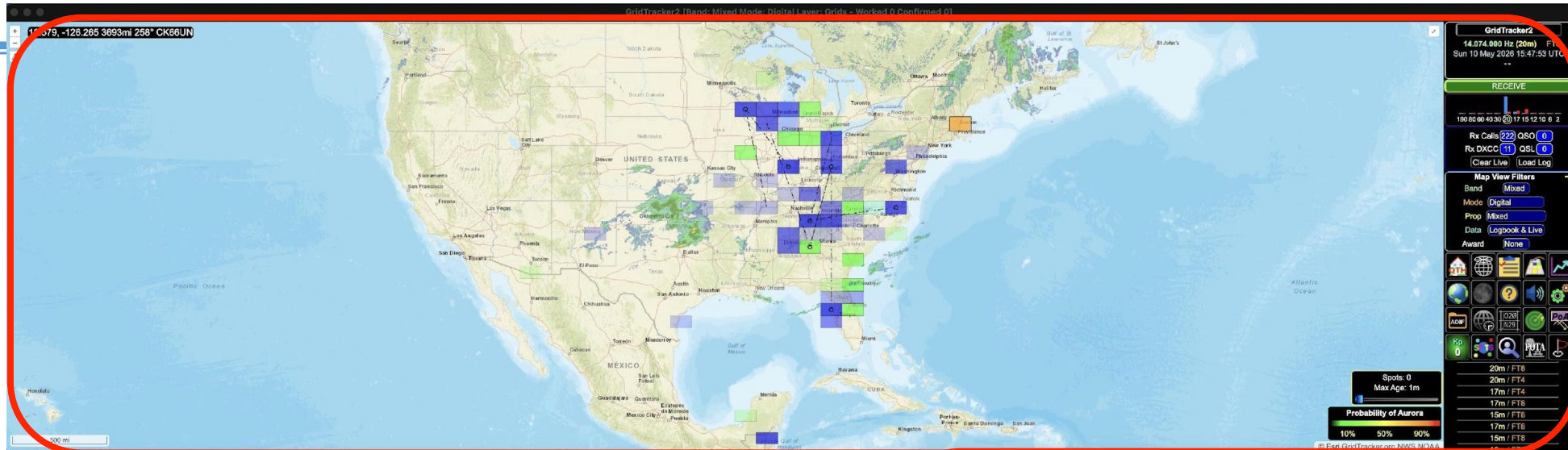
Radio controls

The screenshot shows the radio controls interface. At the top, it displays the current frequency (14.074 MHz) and various status indicators. Below this is a large waterfall plot showing the signal spectrum. To the right of the plot are several control panels, including a 'TX Control' panel with a power meter and buttons for 'TUNE', 'MOX', 'ATU', and 'MEM'. At the bottom of the interface is a logging panel with fields for 'Callsign', 'QTH', and 'QSO Note', and a table of recent QSOs.

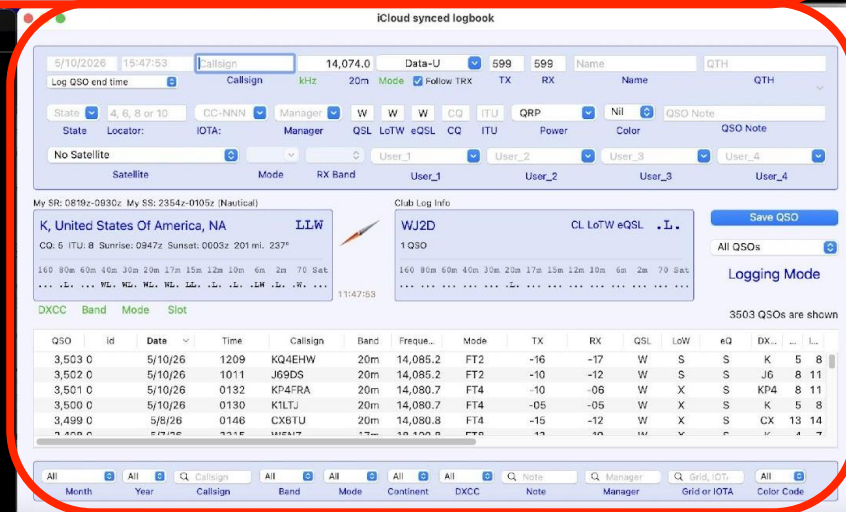
QSO	id	Date	Time	Callsign	Band	Freq...	Mode	TX	RX	QSL	LoW	eQ	DX...
3,503	0	5/10/26	1209	KQ4EHW	20m	14,085.2	FT2	-16	-17	W	S	S	K	5	8
3,502	0	5/10/26	1011	J69DS	20m	14,085.2	FT2	-10	-12	W	S	S	J6	8	11
3,501	0	5/10/26	0132	KP4FRA	20m	14,080.7	FT4	-10	-06	W	X	S	KP4	8	11

What do observers see?

Gridtracker map



Real-time stats



Mirrored Log

Because this runs on a separate computer, observers can interact with the map and log

Don't be afraid to give digital a shot!

- We love to have new operators!
- We trained several hams to operate last year who had never done digital before
- It's really pretty easy and addictive!
- FT8 allows new ops to try out digital, while FT4 and FT2 allow experienced ops to rack up QSOs!
- Let's go for a new record!

Heathkit (plus?) Show-and-Tell

PART of Westford members

Heathkit HW-8 (by George K1IG)



Heathkit HW-8



- ~ 1.5 watts output
- 80/40/20/15 meters
- 15 K sold
- Direct conversion receiver
- Many mods
- \$129.95 (1977)
 - \$714 (2026)

great CW kits from Heath

Your best value in Ham radio starts with a do-it-yourself Heathkit rig. Communicate with the world... start yourself on a rewarding Ham radio hobby today!



Heathkit HW-8 — we've improved the world's most popular QRP Transceiver

HW-8 SPECIFICATIONS

TRANSMITTER:

DC Power Input: 3.5 watts (80 M); 3.0 watts (40 M); 3.0 watts (20 M); 2.5 watts (15 M).
Frequency Control: built-in VFO.
Output Impedance: 50 Ω , unbalanced.
Spurious & Harmonic Levels: -35 dB or better.
Offset Frequency: approx. -750 Hz, fixed on all bands.

RECEIVER:

Sensitivity: 0.2 μ V for readable signal; 1 μ V or less for 10 dB S+N/N.
Selectivity: wide, -750 Hz @ -6 dB narrow, -375 Hz @ -6 dB.
Audio Output Impedance: 1000 Ω , nominal.

GENERAL:

Frequency Coverage: 3.5-3.75 (80 M); 7-7.25 (40 M); 14-14.25 (20 M); 21-21.25 MHz (15 M).
Frequency Stability: less than 100 Hz/hour drift after 30 min. warmup.
Power Requirement: 12-16 VDC, 90 mA, receive; 430 mA, transmit.
Dimensions: 9 $\frac{1}{4}$ " x 8 $\frac{1}{2}$ " x 4 $\frac{1}{4}$ ".
Net Weight: 4 lbs.

- **Improved receiver section**
- **Better frequency coverage**
- **Front panel Relative Power Meter**

We've made the world's most popular low-power CW transceiver even better! To the Heathkit HW-7 — we have added more bands, more features and a super new receiver section that's the best in its class. The famous HW-7 QRP Transceiver helped thousands of hams work the world on a couple of watts — and on a budget. Now, in the same value conscious tradition, Heath announces the HW-8. Pushbuttons instantly select any of the four bands — 3.5-3.75; 7-7.25; 14-14.25 and 21-21.25 MHz. Crystal heterodyne circuitry allows easy frequency tuning with a *single* dial scale for all four bands, excellent stability and fixed CW offset. Other features include adjustable sidetone volume, relative power meter, diode band switching and break-in keying with adjustable T/R delay, and RF gain control.

The direct-conversion receiver boasts dramatically improved resistance to overload and reduced microphonics and hum thanks

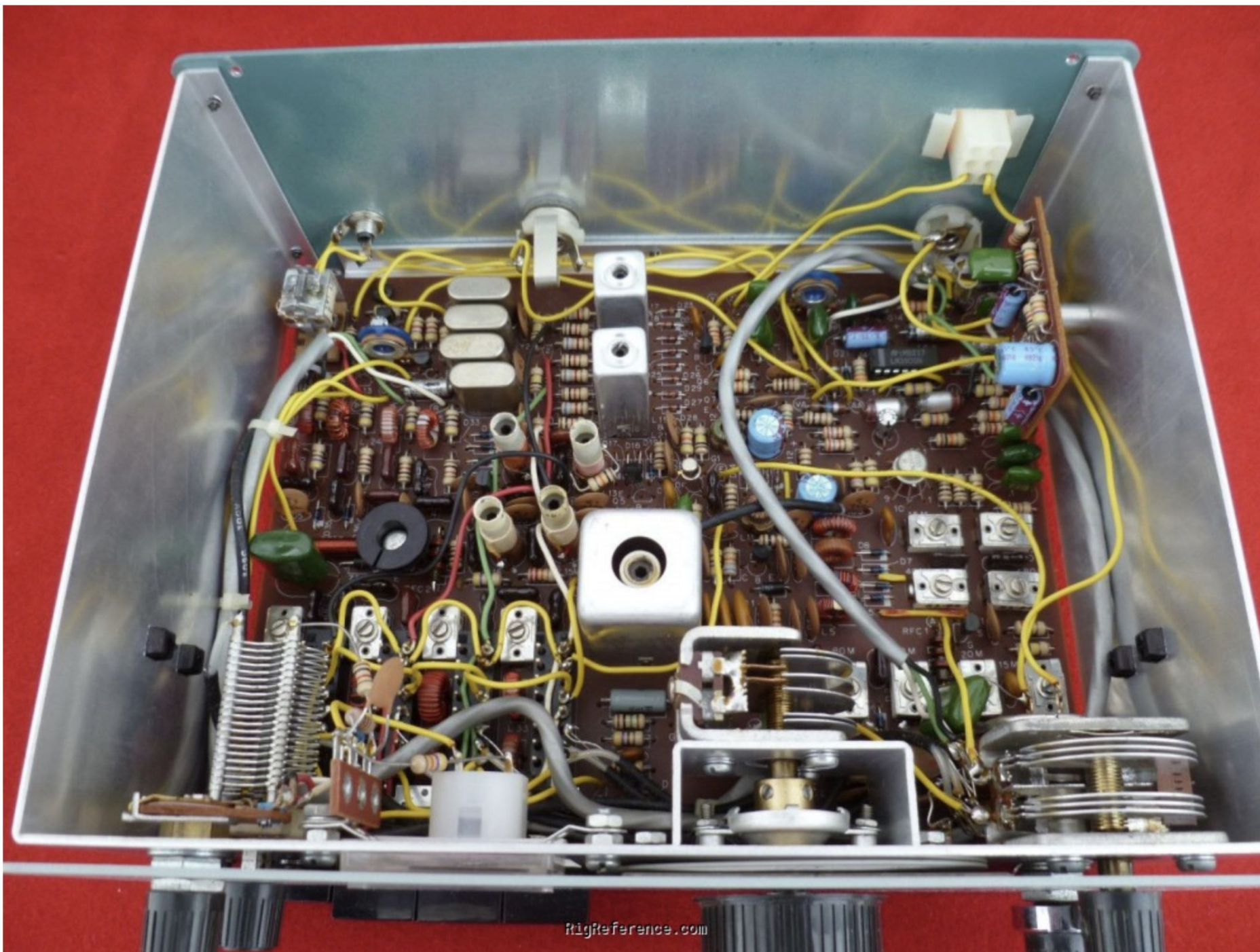
to a new RF amplifier stage and a two-position active audio filter. Its improved selectivity gives the HW-8 the finest receiver section in its price class. You get solid copy from all over with readable signals from as little as 0.2 μ V; 1 μ V or less produces 10 dB S+N/N! The HW-8 can be operated from its optional AC power supply or 12 VDC — great for vacationing or emergencies. Has built-in headphone jack, adjustable AF gain, preselector and tune controls.

Now's the time to get into the fun and challenge of low-power CW operation. Order your HW-8 today.

Kit HW-8, Shpg. wt. 7 lbs. 129.95

Kit HWA-7-1, AC Power Supply,
Shpg. wt. 3 lbs. 14.95

Last Call! HW-7 3-band QRP CW Transceiver **\$89⁹⁵**



Heath Q-multiplier, AT-1, AR-1 (Bob, W1IS, ex-WN1EBW)

here is a Heath Q-multiplier on top of the Hallicrafters receiver, a Heath AT-1 below and a Heath AR-1 next to the key.

The YL is PART member W1MGA when she was WN1MGA.

Thanks & 73,
Bob, W1IS, ex WN1EBW-
QSL csard in the photo.



The Heathkit DX-40



Gary Budiansky
WA1MCR
May 19, 2026
P.A.R.T. Radio
Club

DX-40 Specifications

- **The DX-40 was first advertised in January 1958; Price= \$64.95**
- **80 meters □ 10 meters**
- **75 Watt CW/ 60 Watt Peak Input Power
Screen Modulated AM**
- **Ideal for 1958 Novice- had 3 crystal sockets + VFO input jack**
- **Single 6146 Final RF Amplifier**
- **Dual 6CL6 Oscillator provided input signal to RF Amplifier**
- **12AX7 Speech Amplifier for AM**

Radio WA2PAX (1961)

- General Class
- DX-40 Transmitter with modified ARC-5 VFO
- Hammarland HQ-170 Receiver
- External AM Modulator from QST
- 40 - 20 - 15 - 10 Meter Dipole on 5th Floor Apartment Roof
- Configuration worked very well in New York City

Heathkit GR-54 Deluxe (Rick, W1RAG)

I'll bring the [Heathkit GR-54 Deluxe](#) general coverage receiver I built in 1970.

Thanks to all the
presenters!

Parting Shots

Apple Blossom Parade Support




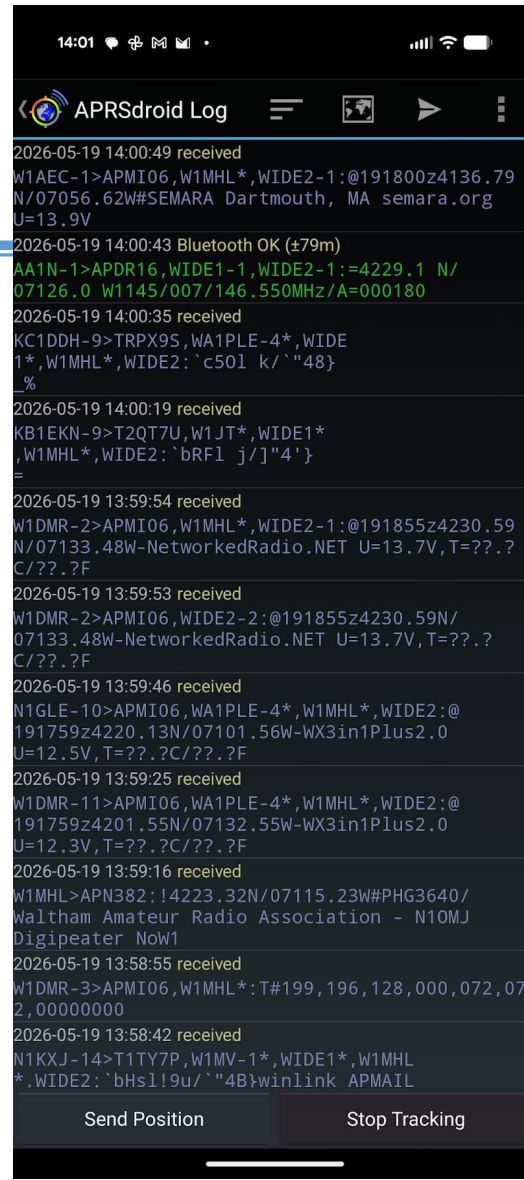
Open Mic - AA1N

- Auction report
 - Raised over \$2200 for the club through auction of AC1DJ and other materials
 - Did folks like the web format auction?

- DigiPi project

- Self-contained RasPi image with many common digi-mode programs
- WiFi hotspot and web-driven interface, with VNC access to UIs
- (project by KM6LYW - see web/YT)

DigiPi AA1N 	
APRS TNC/igate	<input type="checkbox"/>
APRS HF TNC/igate	<input type="checkbox"/>
APRS Digipeater	<input type="checkbox"/>
APRS GPS Tracker	<input type="checkbox"/>
APRS WebChat	<input type="checkbox"/>
AX.25 Node Network	<input type="checkbox"/>
Winlink Email Server	<input type="checkbox"/>
Pat Winlink Email Client	<input type="checkbox"/>
ARDOP Modem	<input type="checkbox"/>
WSJTX FT8	<input type="checkbox"/>
Slow Scan TV	<input type="checkbox"/>
FLDigi	<input type="checkbox"/>
JS8Call	<input type="checkbox"/>





Open Mic - KA1ULN

- Niece got to operate in Morocco!

Country list

Cont.	CG	Prefix	Entity	Cont.	CG	Prefix	Entity	Cont.	CG	Prefix	Entity	Cont.	CG	Prefix	Entity
NA	8	KP1	Romania Island	SA	8	PA	Netherlands	EU	14	TZ	Tanzania	OC	31	UA3/UA4	Austria, Russia
NA	8	KP2	US Virgin Islands	NA	8	PJ2	Costa Rica	SA	9	T36	Western Kiribati	OC	31	UJ	Uzbekistan
NA	8	KP3/KP4	Pharos Islands	NA	8	PJ4	San Marino	SA	9	T31	Central Kiribati	OC	31	UN	Kazakhstan
AS	25	KPS	Christmas Island	NA	8	PJ5/PJ6	Shaba & Sanki East Africa	NA	8	T32	Eastern Kiribati	OC	31	UT	Ukraine
OC	27	LA	Norway	EU	14	PJ7	Saint Martin	NA	8	T33	Norfolk Island	OC	31	VZ	Antigua & Barbuda
AS	27	LU	Argentina	SA	13	PJ8	Brunei	NA	8	T34	Somalia	AF	37	V3	Bahamas
AS	23	LX	Luxembourg	EU	14	PP8P	Fernando de Noronha	SA	11	T7	San Marino	EU	15	V4	Saint Kitts & Nevis
EU	45	LY	Lithuania	EU	15	PP8S	St. Peter and Paul Rocks	SA	11	T8	Palau	EU	15	V5	Maldives
EU	46	LZ	Bulgaria	EU	29	PP8T	Tyrrhenia & Martin Vax Is	SA	11	T9	Turkey	EU	15	V6	Norfolk Island
AS	29	OA	Polyn	SA	15	PJ2	Suriname	SA	9	T8	Palau	EU	15	V7	Marshall Islands
NA	5	OD	Lebanon	AS	29	RP8P	French_Saint_Land	EU	45	T5	Guatemala	NA	7	V8	Burundi
NA	8	OE	Austria	EU	15	82	Bangladesh	AF	35	T2	Costa Rica	NA	7	V9	Canada
EU	15	OF	France	EU	15	85	Sierra Leone	AS	22	T9	Cuba Island	NA	7	V8	Australia
OC	31	OH	Aland Islands	EU	15	87	Seppeltown Islands	EU	15	T2	Comoros	AF	36	V9	French Island
OC	31	OH8	Marshall Isd	EU	15	88	San Tome & Principe	AF	36	T6	Comoros	EU	15	V93	Macao Island
OC	31	OK,DL	Czech Republic	EU	15	88	Sweden	EU	14	T8	Republic of Congo	AF	36	V93C	Cocos (Keeling) Islands
OC	31	OM	Slovak Republic	EU	15	8P	Egypt	EU	14	T8	Republic of Congo	AF	36	V93B	Lord Howe Island
OC	31	ON	Belgium	EU	14	8T	Sudan	AF	15	T8	Cuba	AF	36	V93M	Madagascar
OC	31	OO	Denmark	NA	40	8U	Egypt	AF	34	T1	Chad	AF	36	V93N	Norfolk Island
OC	31	OP	Faroe Islands	EU	14	8V	Ghana	AF	34	T0	Cote d'Ivoire	AF	36	V93W	Norfolk Island
OC	31	OQ	Greenland	EU	14	8W	Mauritania	EU	25	T2	Spain	AF	35	V93X	Christmas Island
OC	31	OR	Iceland	OC	28	8V5	Dominican	EU	25	T2	Spain	AF	35	V93Z	Anguilla
OC	31	OS	Denmark	OC	28	8V6	Cuba	EU	25	GA	European Russia	EU	15	V93A	Montserrat
OC	31	OT	Poland	AS	25	8V8	Chad	EU	15	UA2	Subsahara	NA	8	V93B	British Virgin Islands
OC	31	OU	Austria	AS	25	8V9	Chad	EU	15	UA2	Subsahara	NA	8	V93C	British Virgin Islands
NA	1	PH,MM	Philippines	AS	25	8W	Chad	EU	15	UA2	Subsahara	NA	8	V93D	British Virgin Islands

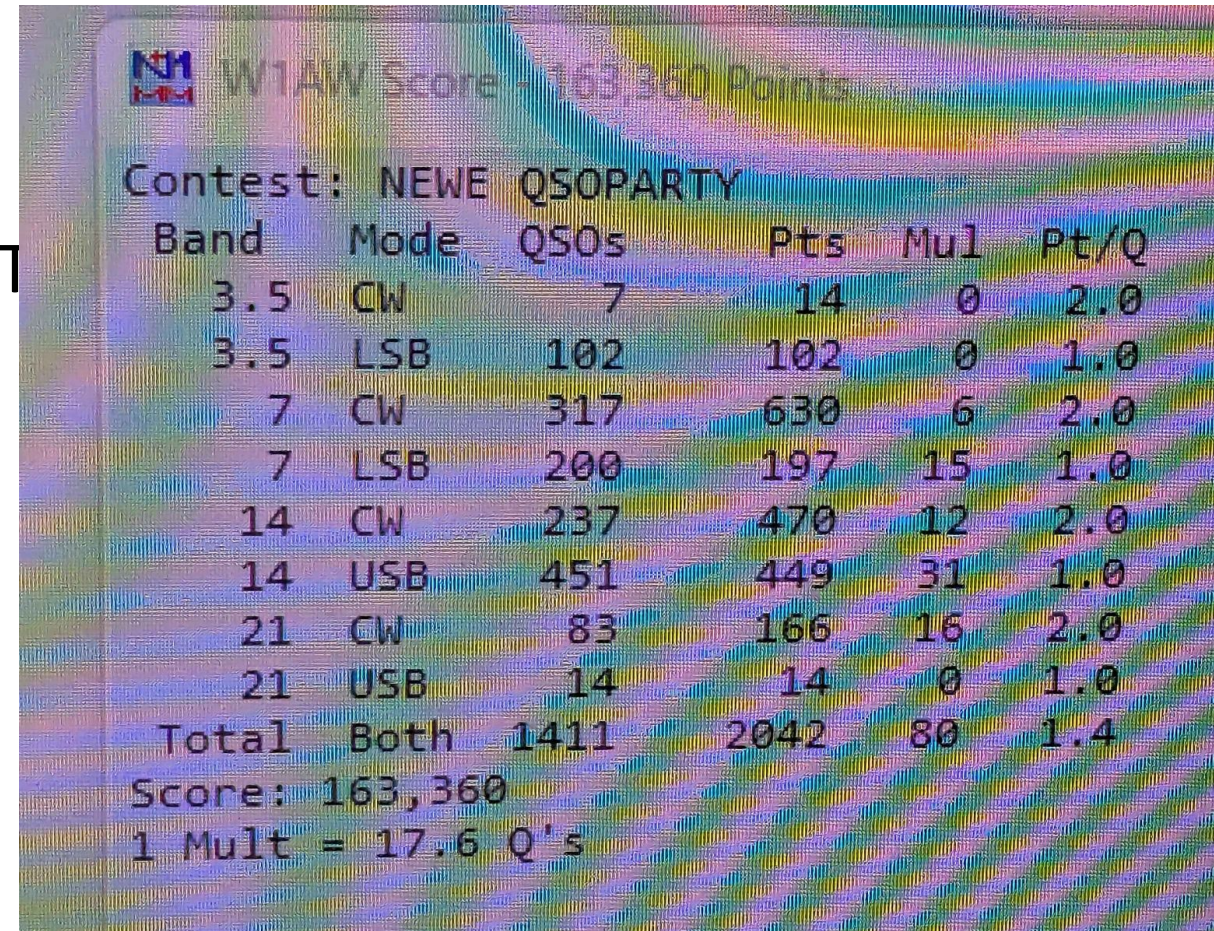


KA1ULN at CN8MC



New England QSO Party - May 2-3

- Adam AA1N and Matt W1ZL joined Max N4ML at ARRL HQ - W1AW!
 -
- Operated Saturday 4PM - midnight ET working three separate bands in SSB and CW
- Total >1400 QSOs and 80 multipliers (state/province/countries)
 - ~160k points at end of Saturday

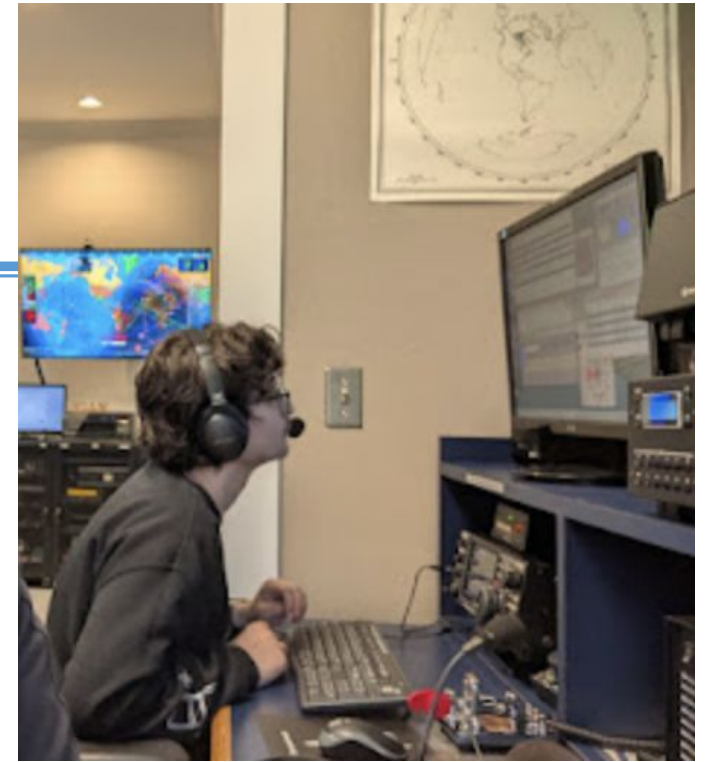


W1AW Score - 163,360 Points

Contest: NEWE QSO PARTY

Band	Mode	QSOs	Pts	Mult	Pt/Q
3.5	CW	7	14	0	2.0
3.5	LSB	102	102	0	1.0
7	CW	317	630	6	2.0
7	LSB	200	197	15	1.0
14	CW	237	470	12	2.0
14	USB	451	449	31	1.0
21	CW	83	166	16	2.0
21	USB	14	14	0	1.0
Total	Both	1411	2042	80	1.4

Score: 163,360
1 Mult = 17.6 Q's



Next Meeting



- **Tuesday, June 16**

- **Field Day Prep!**



Monthly Club Breakfast

First Saturday 8 AM

[Paul's Diner](#)

6 Carlisle Road

Westford, MA



Weekly Club Breakfast

Every Wednesday 8 AM

[Four Sisters Owl Diner](#)

244 Appleton Street

Lowell, MA



Nightly 10 Meter Net

Every night (especially Wednesday) there's an informal rag-chew on 28.400 MHz SSB. If you don't hear anyone, put out a call and see who's there!

**Always looking for Topics!!!
(make a suggestion or nominate a speaker)**