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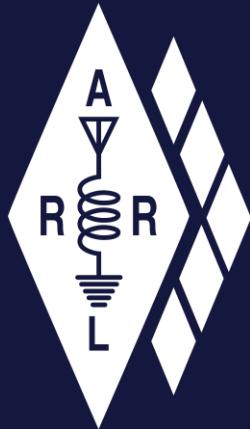
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On the Air Live: How to Use Your HT Part 2, APRS

wgreene@ARRL.org

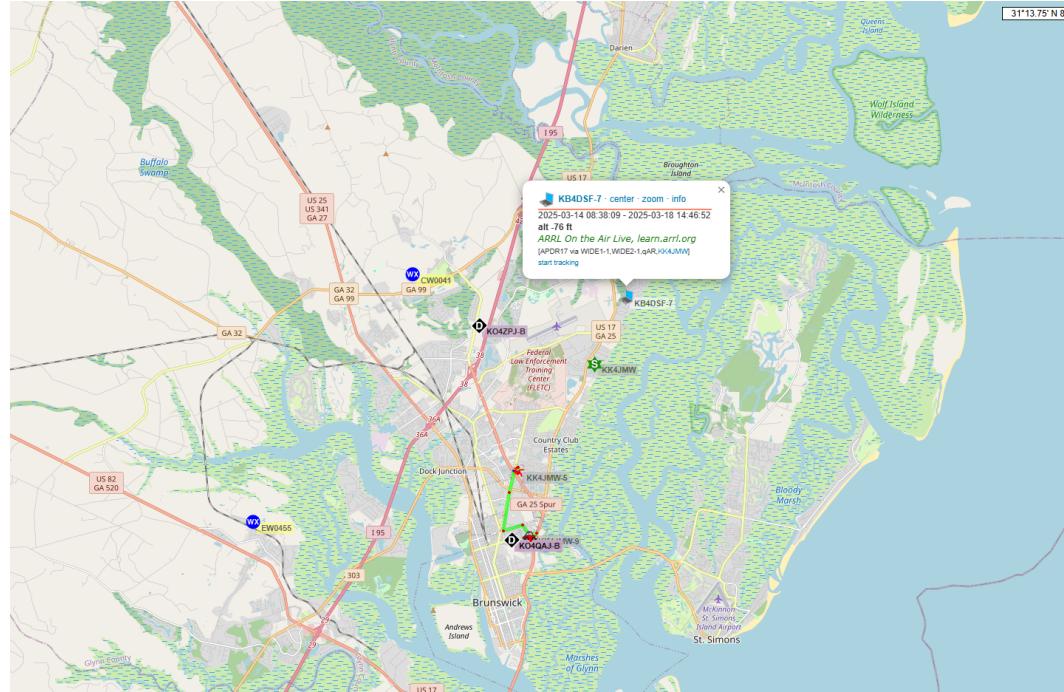


ARRL
The National Association for
Amateur Radio®



To Cover

- Data Modes with the HT
- Soundcards and TNCs
 - Hardware and Software TNCs
- What is APRS
- APRS.FI
- APRS from a computer
- APRS from a smartphone



Data Modes with the HT

- Computing Device
- Soundcard or TNC
- Efficient communication
- Fast, accurate data transfer
- Transfer files
- Text communication
- Pass location information
 - GPS
 - Lat/Long
 - What Three Words



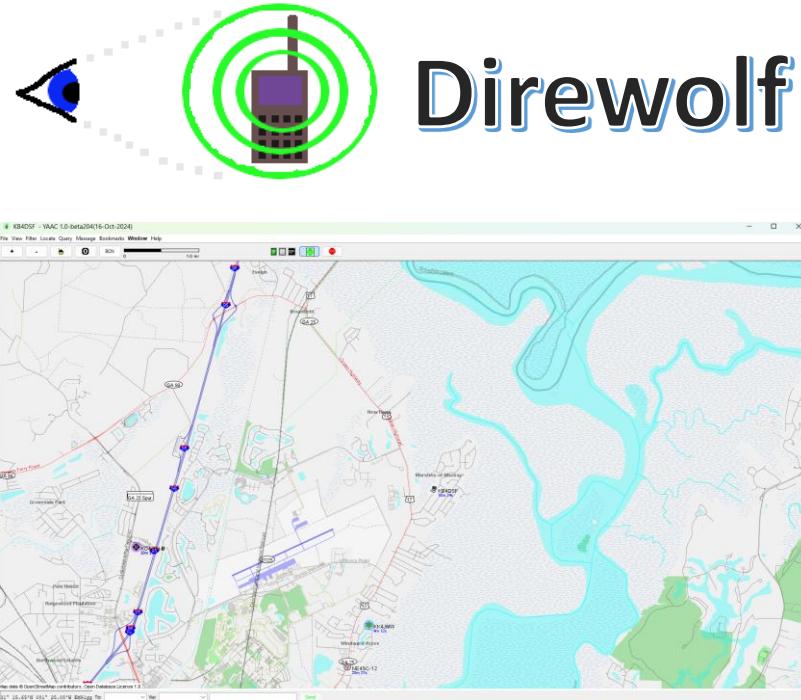
Soundcards and TNCs

- Transmitted data is converted to audio via a soundcard or a Terminal Node Controller
- Soundcards can operate any data mode including packet radio and APRS
 - Can also be used for SSTV
- Terminal Node Controllers are specific to packet radio to include APRS
 - Hardware and software TNCs



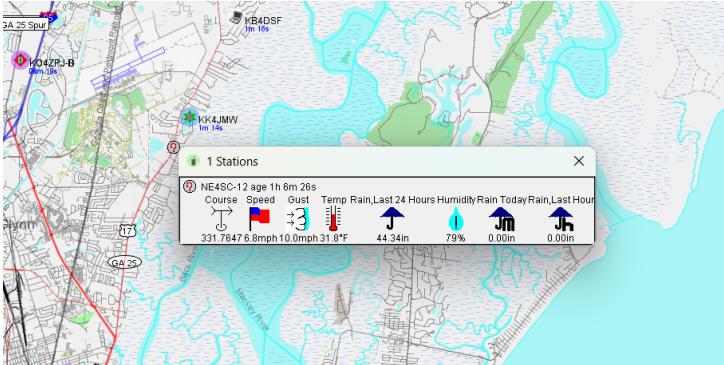
Software

- YAAC
 - Yet Another APRS Client
- Direwolf
 - Software TNC
- APRS-IS Passcode
 - n5dux.com/ham/aprs-passcode/
- Pinpoint APRS: pinpointaprs.com
 - Windows
- Xastir APRS: xastir.org
 - Linux
- Soundmodem: uz7.ho.ua/packetradio.htm
 - Software TNC
- AGWPE: Soundpacket.org/2agwget.aspx
 - Software TNC



Automatic Packet Reporting System

- APRS: a two-way tactical real-time digital communications system
- Data is broken into specified packets and reassembled on the receiving end
- Data can include:
 - GPS location
 - Text messages
 - Weather data



Messages

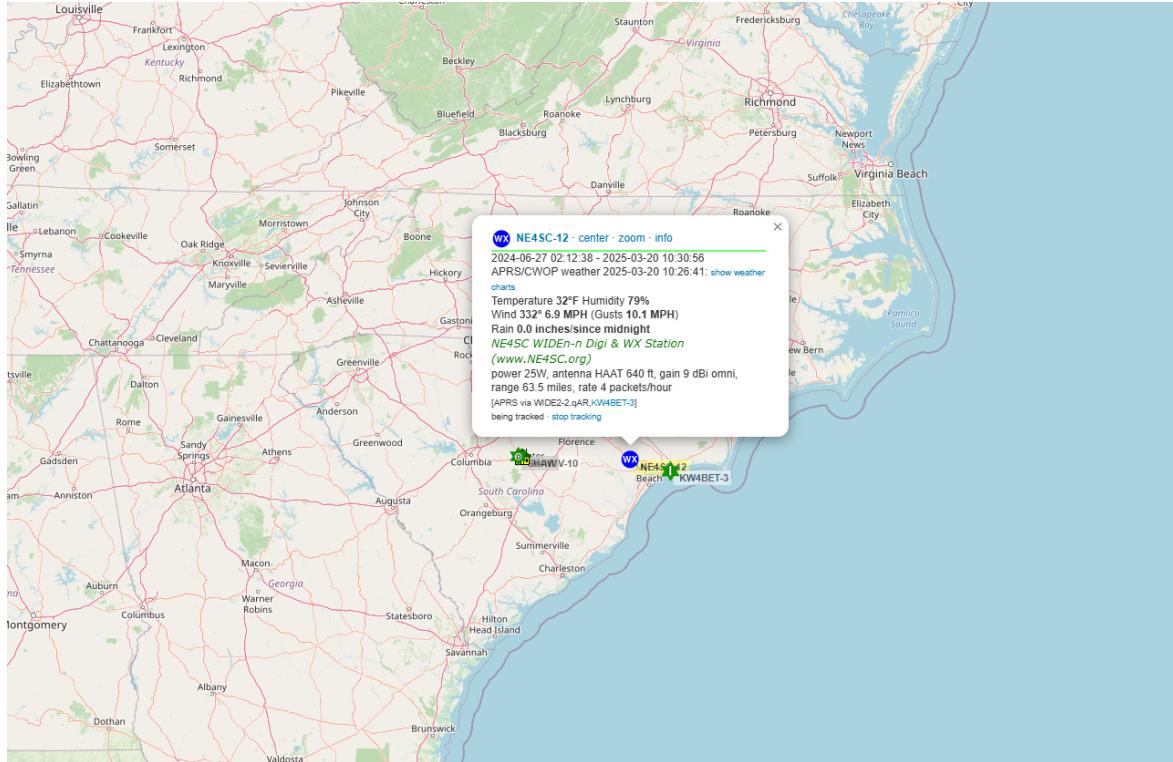
File View Filter Query Message Window Help

Show every message (not just addressed to this station)

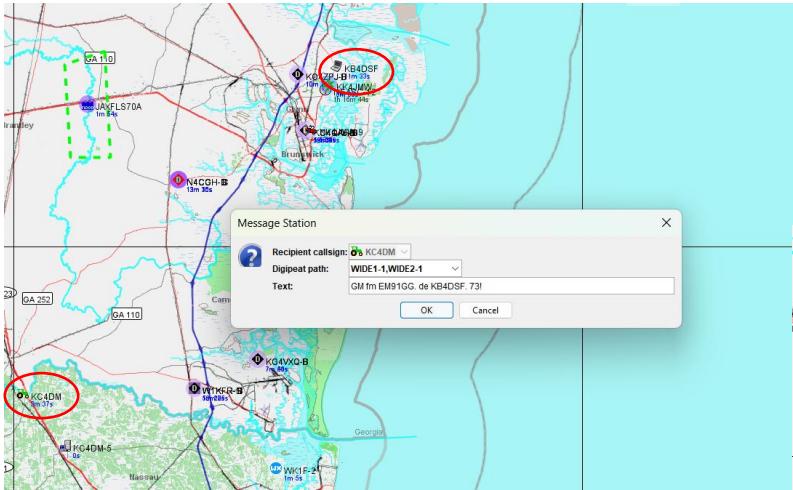
Date/Time	Sender	Addressee	Text	Seq#	Clear
20/Mar/2025 09:48:51	ANSVR/R	KB4DSF	N:HOTG Removed From Group	YF)	Clear
20/Mar/2025 09:48:49	KB4DSF	ANSVR/R	U HOTG	M0002	Clear
20/Mar/2025 09:48:49	ANSVR/R	KB4DSF	N:HOTG Removed From Group	YF)	Clear
20/Mar/2025 09:48:47	KB4DSF	ANSVR/R	U HOTG	M0002	Clear
20/Mar/2025 09:47:43	APRSPH	KB4DSF	Logged 0320 1347Z https://aprspsh.net/aprsthursday-KC80W...		Clear
20/Mar/2025 09:47:43	ANSVR/R	KB4DSF	N:HOTG 120 Messages Sent	YE)	Clear
20/Mar/2025 09:47:42	PU2MUS.	KB4DSF	AA73 de Marco, Santos/SP/Brasil		Clear
20/Mar/2025 09:47:37	APRSPH	KB4DSF	Logged 0320 1347Z https://aprspsh.net/aprsthursday-KC80W...		Clear
20/Mar/2025 09:47:36	ANSVR/R	KB4DSF	N:HOTG 120 Messages Sent	YE)	Clear
20/Mar/2025 09:47:36	PU2MUS.	KB4DSF	AA73 de Marco, Santos/SP/Brasil		Clear
20/Mar/2025 09:47:36	KB4DSF	ANSVR/R	CO:HOTG Happy APRS Thursday!	M0001	Clear
20/Mar/2025 09:47:33	KB4DSF	ANSVR/R	CO:HOTG Happy APRS Thursday!	M0001	Clear
20/Mar/2025 09:00:17	ANSVR/R	N2EDX-7	Duplicate (retry?) request suppressed		Clear
20/Mar/2025 08:59:19	ANSVR/R	N2EDX-7	N:HOTG Removed From Group	WG)	Clear
20/Mar/2025 08:58:20	VE3PTU-	N2EDX-7	N:HOTG happy aprsthursday 73 ve3ptu		Clear
20/Mar/2025 08:58:12	N5NDC-7	N2EDX-7	N:HOTG #APRSThursday 73 de N5NDC in East Texas EM22od		Clear
20/Mar/2025 08:57:13	N5NDC-7	N2EDX-7	N:HOTG #APRSThursday 73 de N5NDC in East Texas EM22od		Clear
20/Mar/2025 08:56:11	KE0CSL-N2EDX-7	N2EDX-7	N:HOTG Lincoln NE		Clear
20/Mar/2025 08:53:52	KG5DW	N2EDX-7	N:HOTG Hello from Del Ray Beach FL I am from houston TX		Clear
20/Mar/2025 08:52:48	KJ5JK-14	N2EDX-7	N:HOTG Howdy!		Clear
20/Mar/2025 08:45:40	APRSPH	N2EDX-7	Logged 0320 1245Z https://aprspsh.net/aprsthursday-KC80W...		Clear
20/Mar/2025 08:45:39	ANSVR/R	N2EDX-7	N:HOTG 109 Messages Sent	VV)	Clear
20/Mar/2025 08:45:38	PU2MUS.	N2EDX-7	AA73 de Marco, Santos/SP/Brasil		Clear

Automatic Packet Reporting System

Weather station info
on APRS.fi

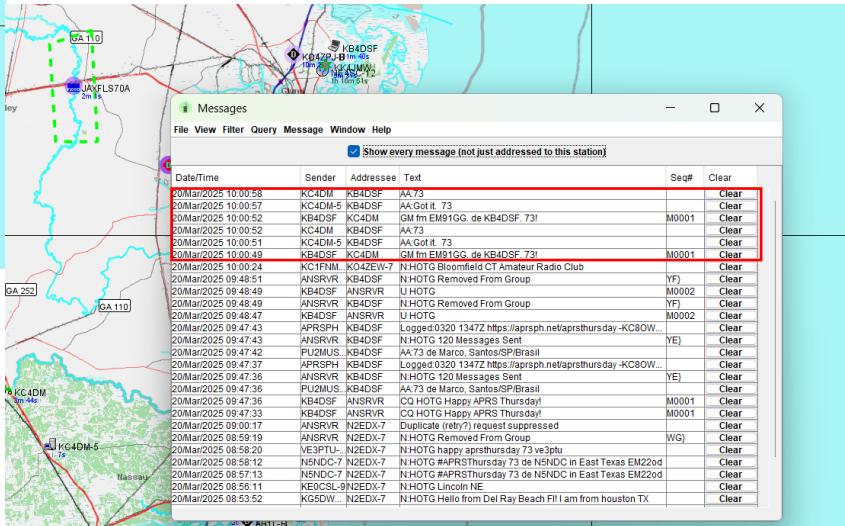


Automatic Packet Reporting System



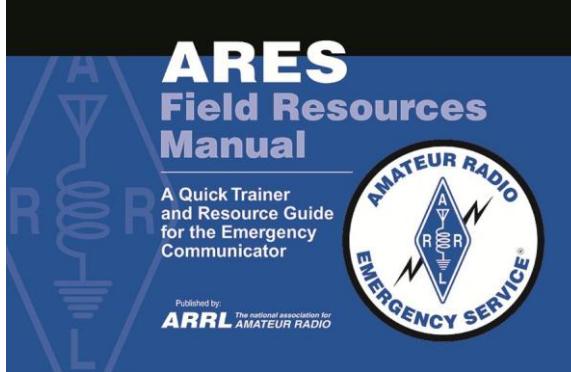
Just over 47 miles

APRS text messaging



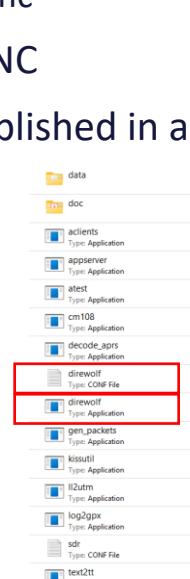
Automatic Packet Reporting System

- APRS use cases:
- Emcomm Events:
 - Messaging
 - Asset tracking
 - Storm spotters
- Weather reporting
- Track participants during parades, races, etc
- Messaging and passing location reports while hiking

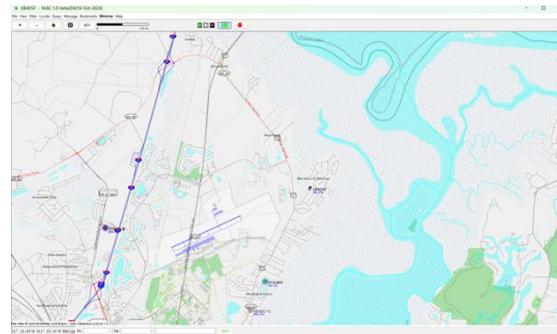
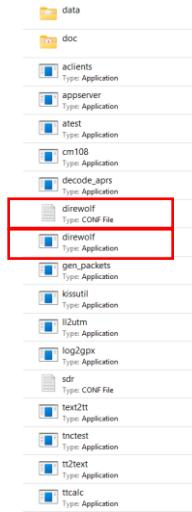


Direwolf, YAAC, Digirig Lite

- DIGIrig Lite is a soundcard
 - Not a TNC nor APRS specific
- Direwolf is a software TNC
- Direwolf setup is accomplished in a config file
 - Audio devices
 - Callsign
- Open application first
- Determine soundcard
- Close application
- Open config file
 - Soundcard
 - Callsign

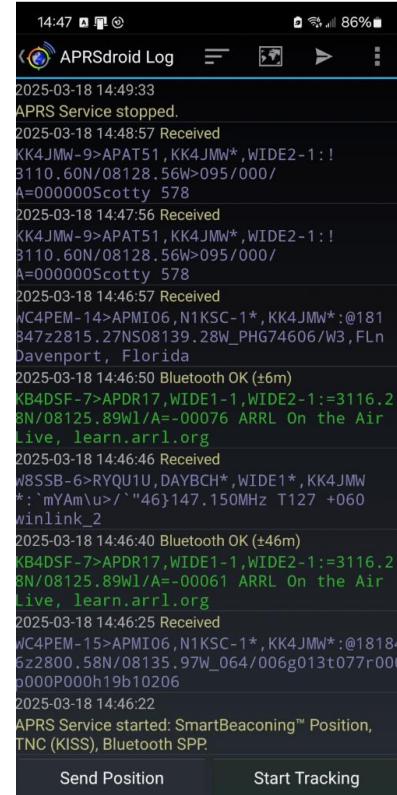


data
doc
clients
appserver
atest
cm108
decode_aprs
direwolf
gen_packets
ksutil
ll2utm
log2gpx
sdr
tex2ttr
tnctest
tt2text
ttcalc



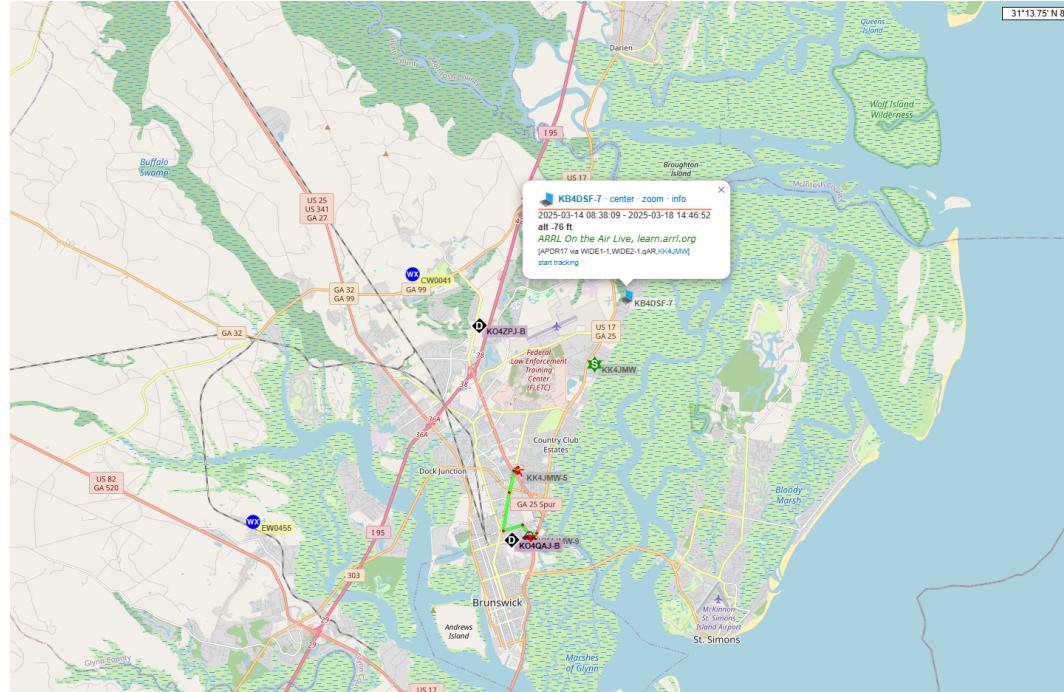
Mobilinkd, APRSdroid

- Hardware TNC
 - Packet and APRS specific
 - mobilinkd.com
 - No software TNC required
- Bluetooth connection to smartphone
- APRSdroid
 - Android
 - aprsdroid.org
 - na7q.com/aprsdroid-osm
- APRS.FI
 - IOS, on the App Store

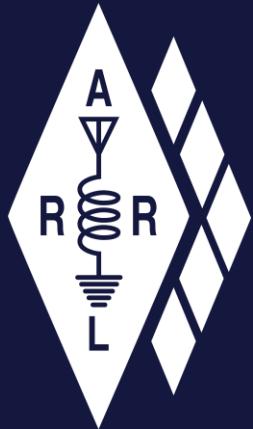


April OTA Live

- APRS Network Deep Dive
 - Trackers and beacons
 - Digipeaters and iGates
 - APRS path identification
- Messaging
 - Text direct to radio
 - Store and Forward
 - SMS
 - Email
 - Winlink



Thank You!



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