

W1WAB

APRS – Automatic Packet Reporting System

What is APRS?

**Soundcards become TNCs
Getting started**

**Pinpoint Demo
APRS Droid Demo
Messages / Radiograms / Emails / Texts**

What's APRS?

- real time digital information communications in the local area.
 - Global Positioning System (GPS) Lat/Long coordinates,
weather station data, text messages, announcements
- transmitted as a “packet” on a single shared frequency repeated locally by area relay stations (digipeaters)
- track emergency response teams, sporting events (bike races), hikers, weather balloons, or personal reasons

What's a packet?

-- Information string (Lat/Long, speed, power, temp)
with a from/to address --translated to an audible sound.



```
Rx: fm K2YYD-1 to APU25N-0 via W2AEE-0,NE2E-15,WIDE2-1  
=4047.33N/07330.36W-Email K2YYD@arrl.net {UIV32N}
```

```
Rx: fm AC2NJ-15 to BEACON-0 via N3XKU-15,KA2RLM-15,NE2E  
!3939.06NS07448.21W# AC2NJ Atlantic County R.A.C.E.S.
```


Process?

Radios connected to ‘terminal node controllers’ (TNC) ... mini computers converting sounds to data packets

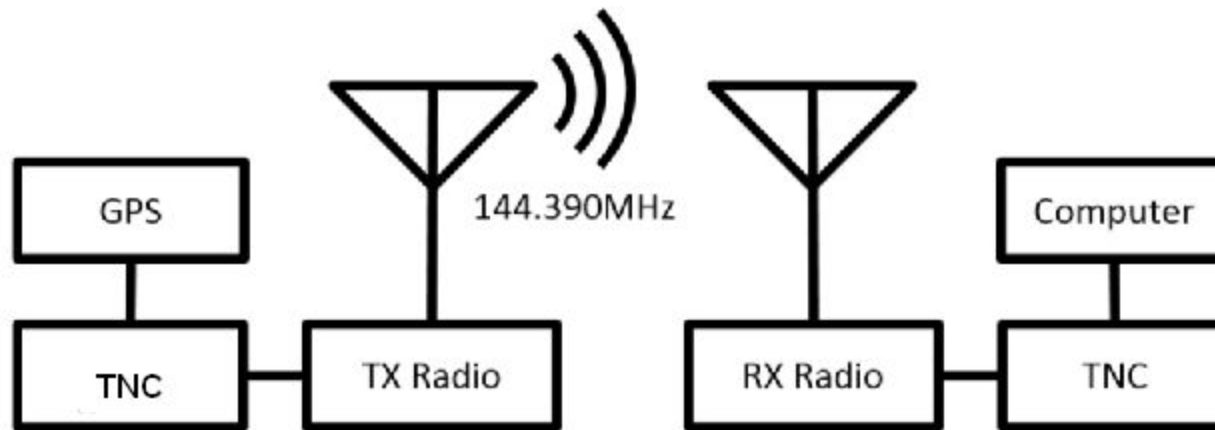
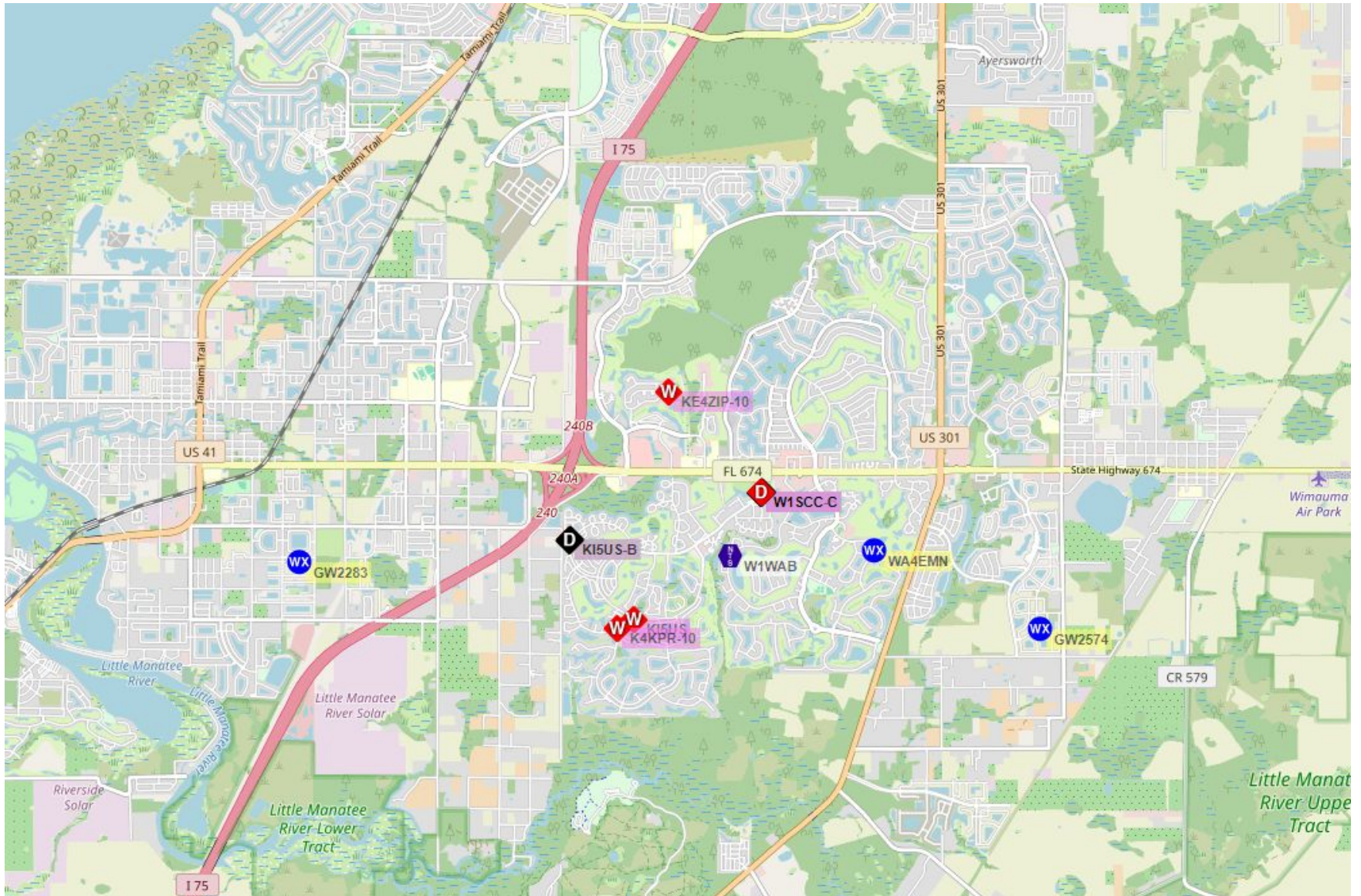


Fig. 2. Block diagram of example APRS System end to end [12]

Didn't take long for base stations to ‘relay’ received “packet” information to the internet (APRS-IS system)

APRS – APRS-IS

On the Internet – aprs.fi



Equipment?



Equipment?



Equipment?



Equipment?



10 watt CERT tracker boxes

Soundcards as TNCs?

SoundModem by UZ7HO - Ver 0.97b - [AFSK AX.25 1200bd]

Settings View Clear monitor Calibration About

A: [AFSK AX.25 1200bd] 1701 DCD threshold Hold pointers

```

1:Fm KE4AZZ To CQ Via RS0ISS* <UI R Pid=F0 Len=31> [22:30:56R] [+++]
@300330z2702.06N/08209.93S0ISS

1:Fm WB2MNF To CQ Via RS0ISS <UI C Pid=F0 Len=61> [22:31:08T]
:Heard :KD2NEB-7,K4KDR-6,N1NCB-1,N2QKV,K1WY,KE4AZZ{UISS54}
1:Fm WB2MNF To CQ Via RS0ISS* <UI C Pid=F0 Len=61> [22:31:10R] [+++]
:Heard :KD2NEB-7,K4KDR-6,N1NCB-1,N2QKV,K1WY,KE4AZZ{UISS54}
1:Fm KD2NZS-7 To SY4S7S Via WIDE1-1,WIDE2-1 <UI R Pid=F0 Len=31> [22:31:20R] [+++]
`g_S!INK\>"4G}Kenwood TH-D72A=

1:Fm WB2MNF To CQ Via RS0ISS <UI C Pid=F0 Len=46> [22:31:23T]
=3950.56N/07506.44W-73' Via Satellite {UISS54}
1:Fm N2QKV To CQ Via RS0ISS* <UI R Pid=F0 Len=13> [22:31:28R] [+++]
:K4KDR-6 :73
1:Fm WB2MNF To CQ Via RS0ISS <UI C Pid=F0 Len=70> [22:31:40T]
:Heard :KD2NEB-7,K4KDR-6,N1NCB-1,N2QKV,K1WY,KE4AZZ,KD2NZS-7{UISS54}
1:Fm WB2MNF To CQ Via RS0ISS <UI C Pid=F0 Len=70> [22:31:42R] [+-]
:Heard :KD2NEB-7,K4KDR-6,N1NCB-1,N2QKV,K1WY,KE4AZZ,KD2NZS-7{UISS54}
1:Fm KE4AZZ To CQ Via RS0ISS* <UI R Pid=F0 Len=74> [22:31:54R] [+++]
@300331z2702.06N/08209.93W_340/008g010t055r000p000P000h57b10375+de KE4AZZ
    
```

MyCall	DestCall	Status	Sent pkts	Sent bytes	Rcvd pkts	Rcvd bytes	Rcvd FC	CPS TX	CPS RX	Direction

1000 2000 3000 4000

Obtain credentials?

Obtain your APRS Passcode

- <https://apps.magicbug.co.uk/passcode/>

APRS Passcode Generator

Important: Do not use fake callsigns to inject content into the APRS-IS network you will likely get banned.

Callsign

Technical Example of Passcode Generation using PHP

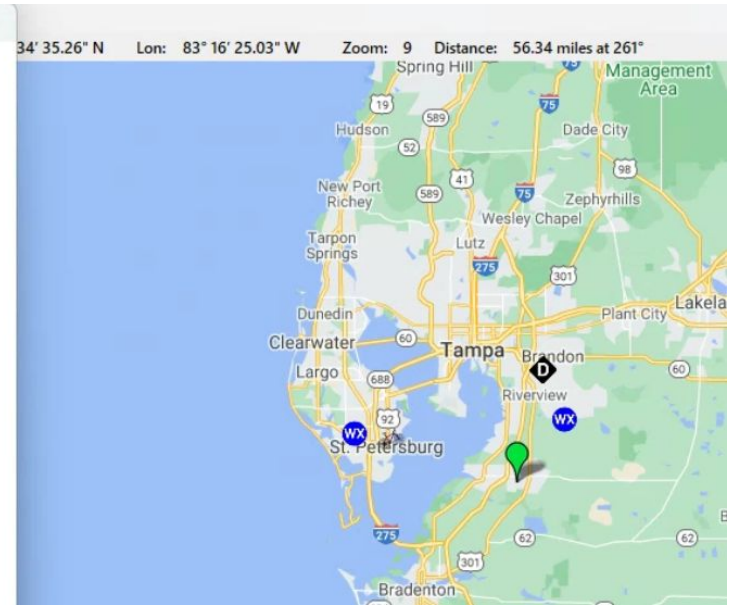
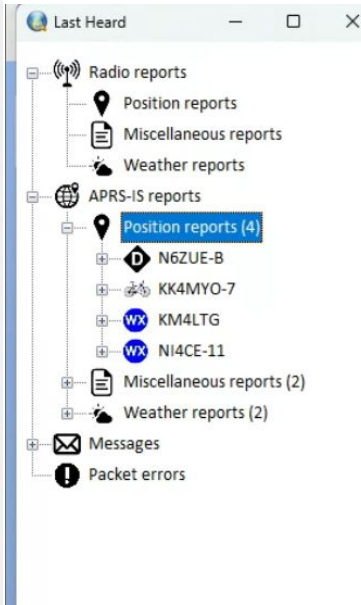
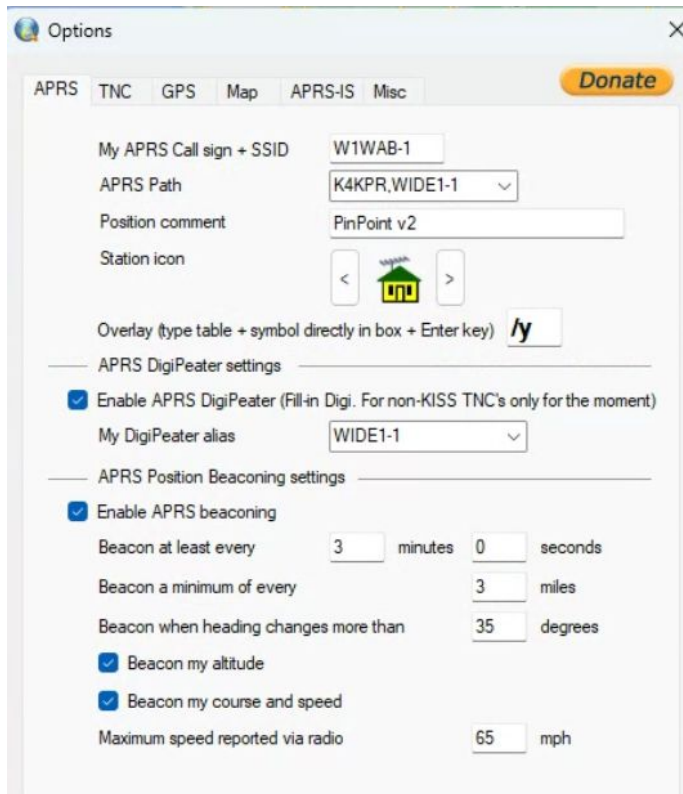
Source code available on [Github](#)

This tool was developed by Peter Goodhall [2M0SQL](#) who also runs [magicbug](#)

APRS – How to get started?

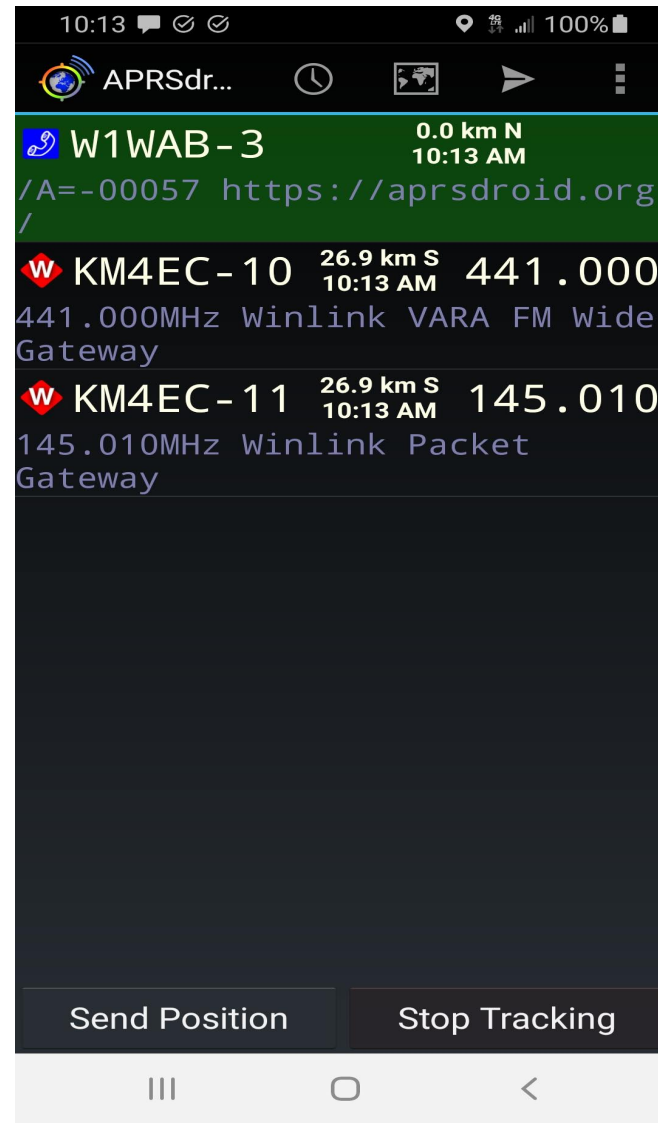
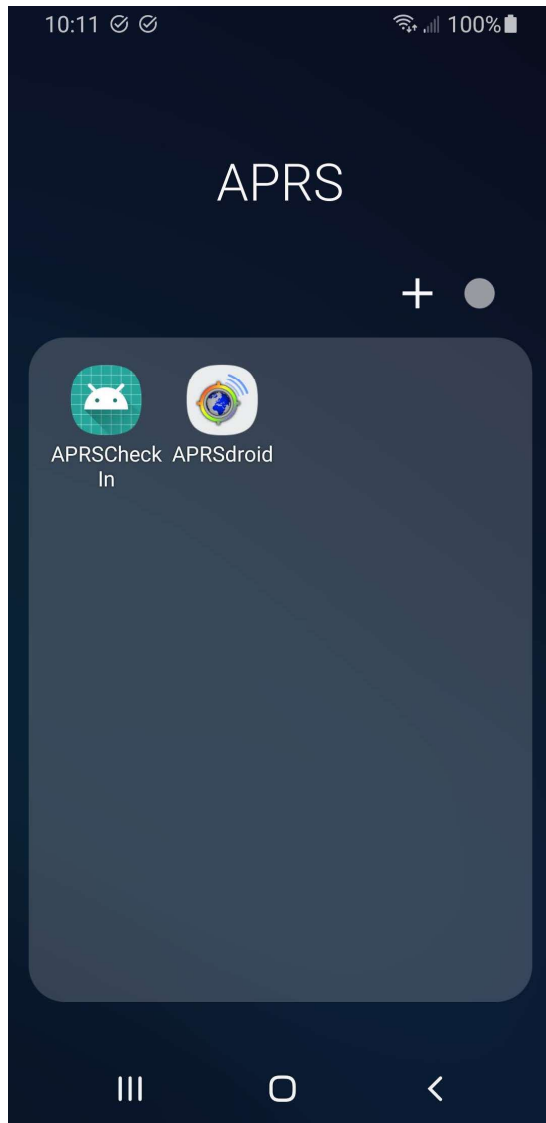
Download Pinpoint

- <https://www.pinpointaprs.com/>



APRS – How to get started?

Cell phone? Try APRS Check-in or APRS Droid



Different SSIDs used for each radio

APRS – How to get started?

APRS Droid Map / Messages

W1WAB messages

from	to	time		message
W1WAB	W1WAB-3	03/29 14:52:03z	Send another	Hi right back!
W1WAB-3	W1WAB	03/29 14:51:38z	Reply	Hi! {1

Reply via findu.com

Other things to do with APRS

Messages

Texts to cell #



<https://msgte.org/ug-sending-messages/>

Email

<https://www.aprs-is.net/Email.aspx>

NTS messages

<https://nts2.arrl.org/ntsgte-an-aprs-nts-gateway/>
(W1WAB-5 mailbox)

APRS

Questions?