Rugby Amateur Transmitting Society [RATS]

Digital Amateur Television
20210403

Inc. DATV Activity w/e 20210320

- Purpose
- DATV Activity summary
- Live reception demo
- Transport stream discussion
- Comparison with DVB transport stream

Purpose

- To promote activity between ATV stations
- Enabling testing & contacts to be made
- Proving ideas, designs and equipment
- Dates provided by the BATC

DATV – Digital ATV

- DVB-S / DVB-S2
- UHF Amateur bands
- Eg: 437MHz

- Transport Stream (TS)
- Video & associated metadata

Equipment


DVB
MiniTuner
Serit FTS-4334LU
Frequency 143 MHz → 2450 MHz
Symbol rate 33ks → 30Ms
Modulation DVB-S / DVB-S2
ian@m0ijs.net
DVB
Portsdown 2020
Standalone
ian@m0ijs.net


DVB
Portsdown 2020
Standalone

Receive Station
RATS Clubhouse

Beam heading
221°

2Mtr ATV
talkback
144.750MHz FM

Minituner
Version 2

70cm BP Filter
& Preamplifier

RATS Activity Summary

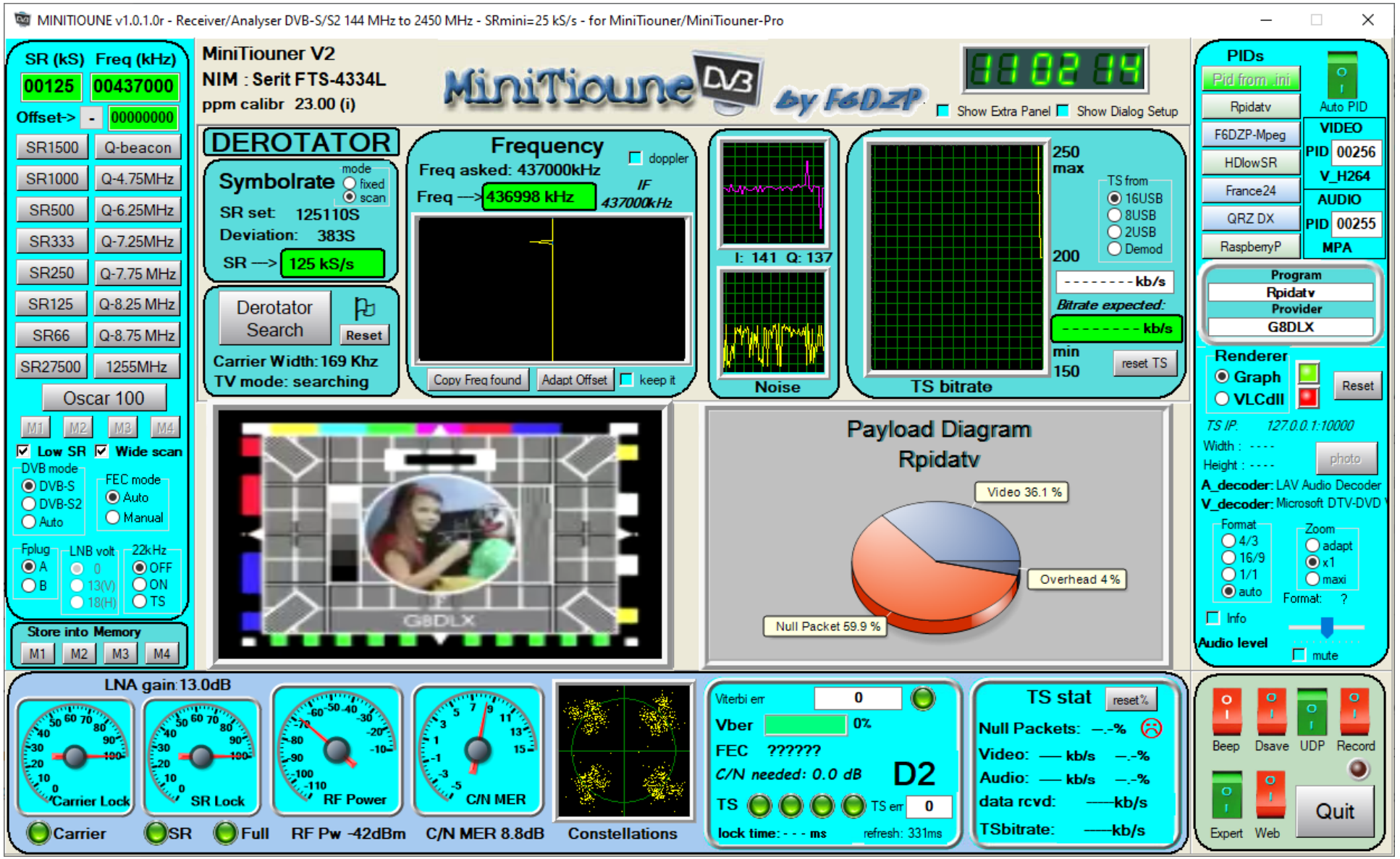
Ian M0IJS, Mike G8DLX, Geoff G3TQF. Saturday 20th March 10:00 ~ 12:00.
Goals were to establish contact across town between Mike, RATS and Geoff. These three points plot a line on the map. Other interested parties included Phil 2E0VEZ in IO92jh, Willoughby.
A receive station at the RATS clubhouse (IO92jj) was operated by M0IJS.
Talkback via 2Mtrs was successful between participating RATS stations although no others were heard during the session. Talkback at the RATS clubhouse was vertically polarised via a white stick collinear. A fault was detected on the 2Mtr beam which would have ordinarily been used.
Mike in Bilton (IO92ii) sent DATV using his Portsdown 2018 platform. PA provided by a Mitsubishi 30W module built within a kit from Minikits. LPF either side and 4.5W driven to an 8Ele horizontal beam.

Rx Screen shots

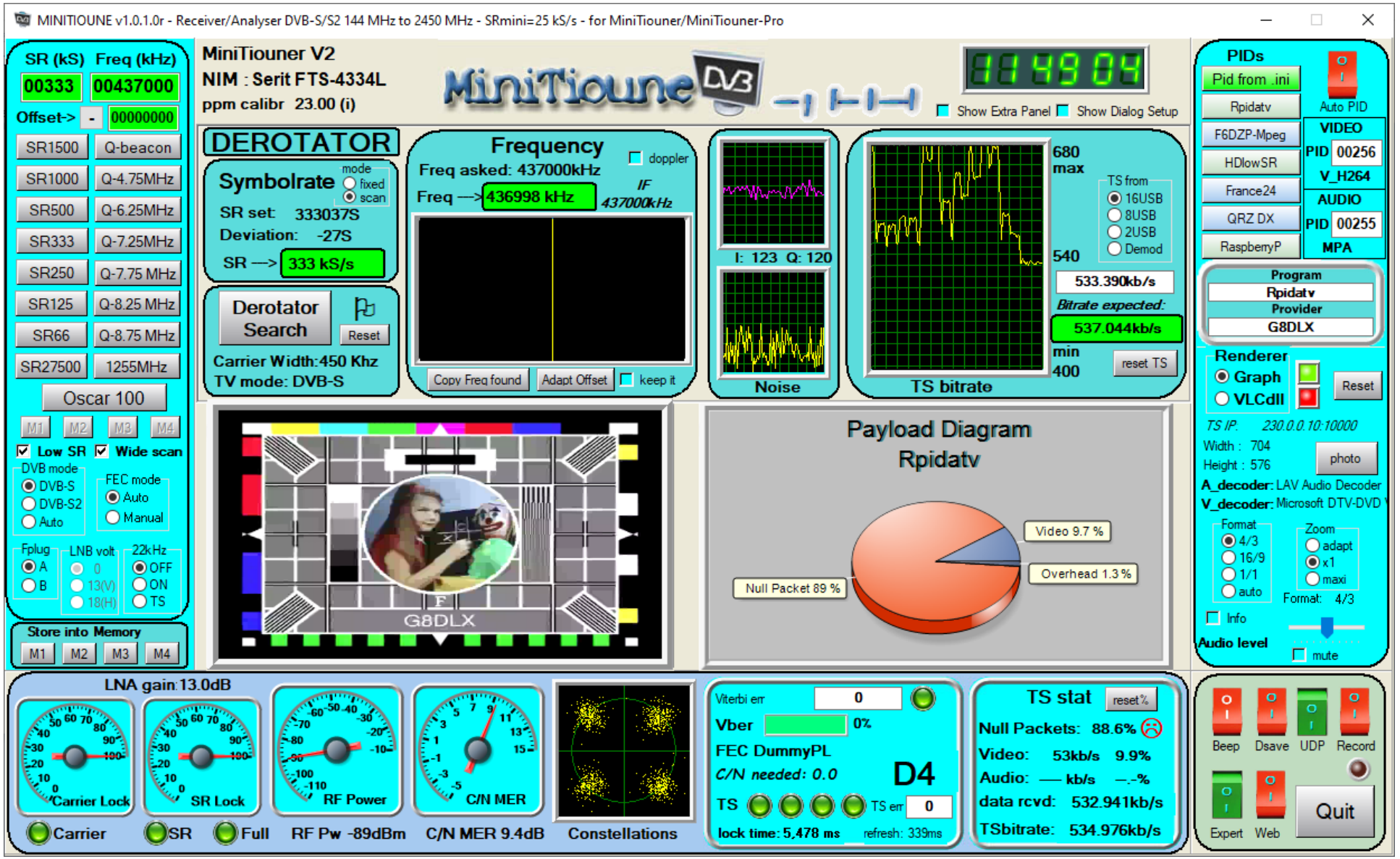
Ref	Description
1	Mike G8DLX, 125kS, Test card
2	Mike G8DLX, 333kS, Test card
3	Mike G8DLX, 333kS, Camera

Locations

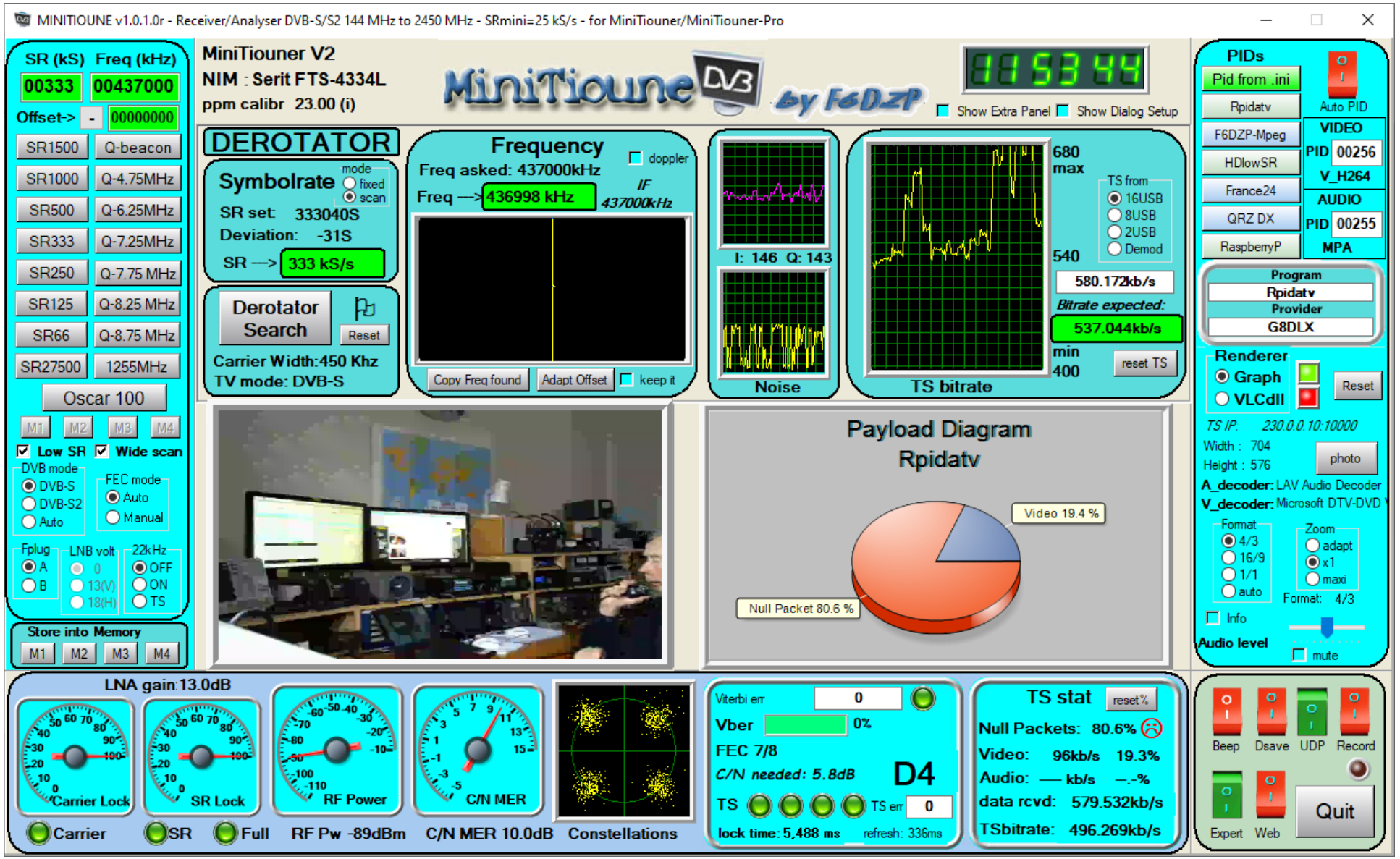
M0IJS	IO92jj (Brownsover, Rugby)
G8DLX	IO92ii (Bilton, Rugby)
G3TQF	IO91jj (Newton, Rugby)



Rx Screenshot 1



Rx Screenshot 2

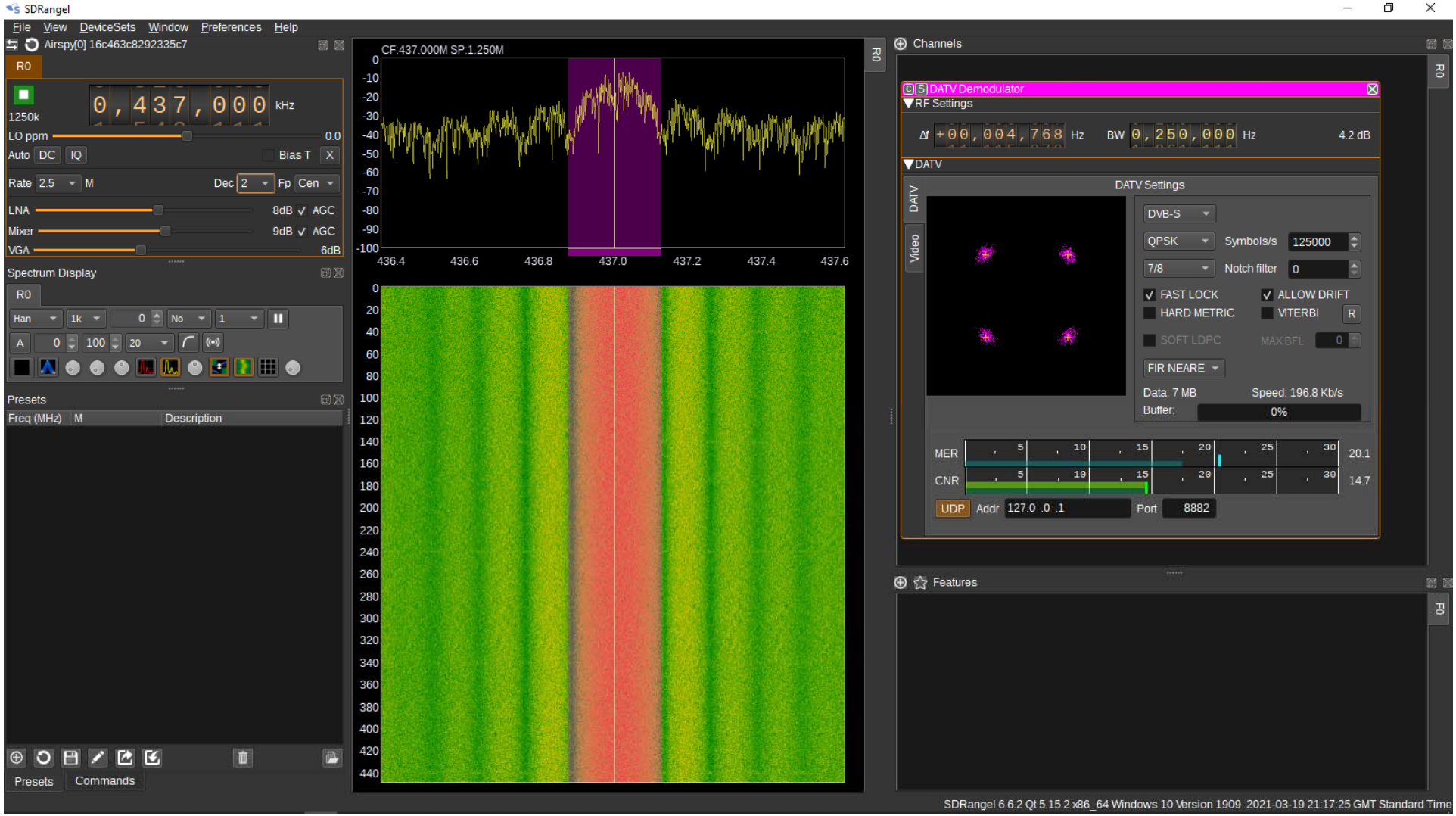


Rx Screenshot 3

How to get involved!

Whilst the examples here show a transmission across town – you can do the same with a Raspberry Pi across your shack.

Receive can be done using a dedicated Tuner/Demodulator, or as Geoff G3TQF has shown, with an Airspy and SDRangel.



SDRangel DATV demod view

SDRangel DATV video view

Follow on activities

- Build a Portsdown 2020!
- Use SDRangel to decode DATV
- Regular discussions between
  - Mike G8DLX
  - Geoff G3TQF
  - Ian M0IJS
  - Phil 2E0VEZ

RATS DATV

Backup Material

Minituner


BATC
DVB
MiniTuner
Serit FTS-4334LU
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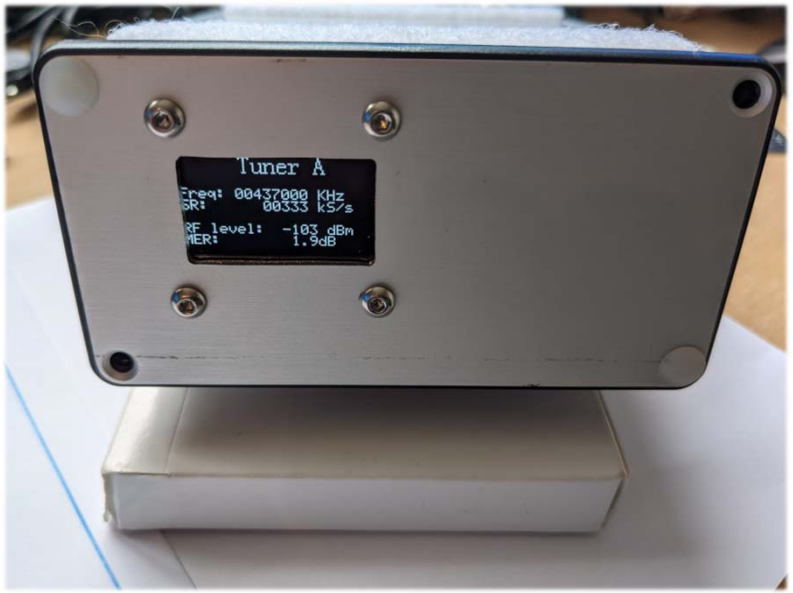
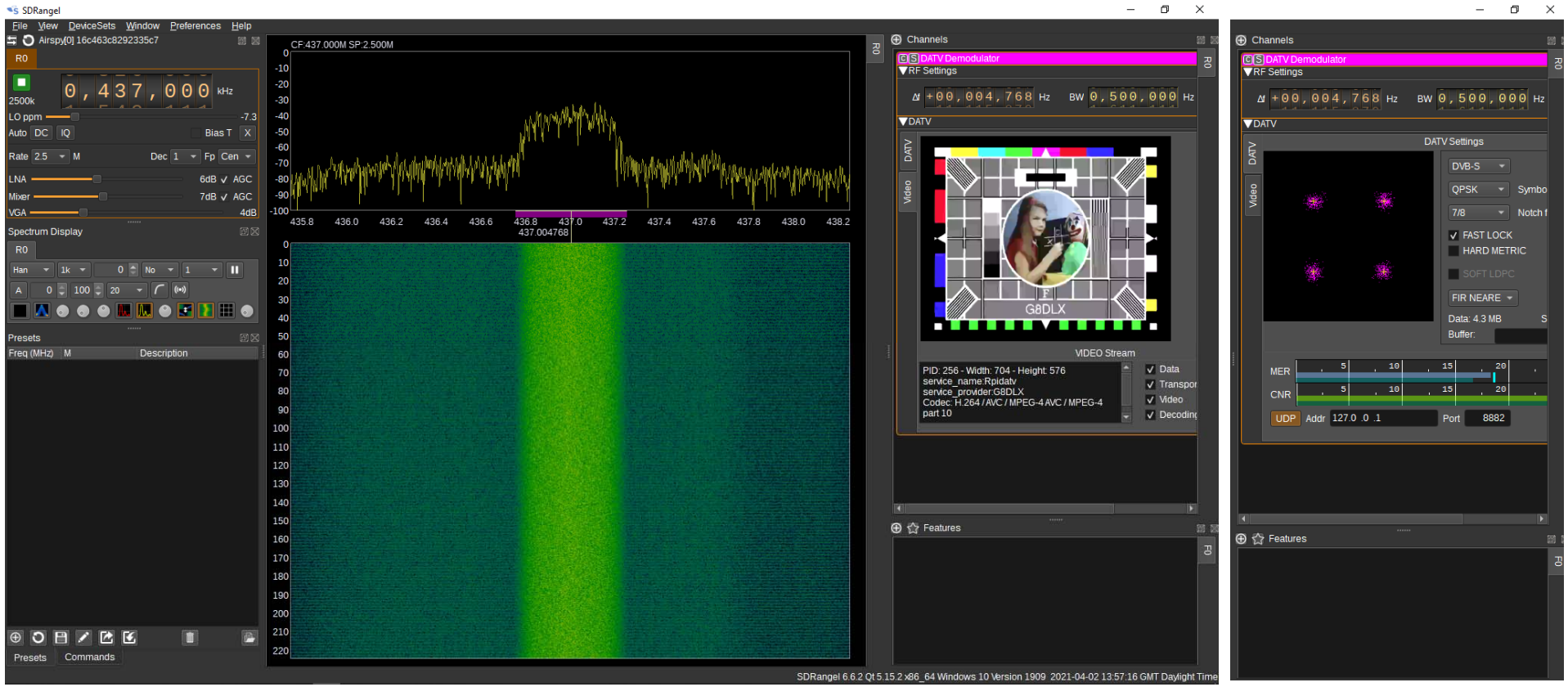
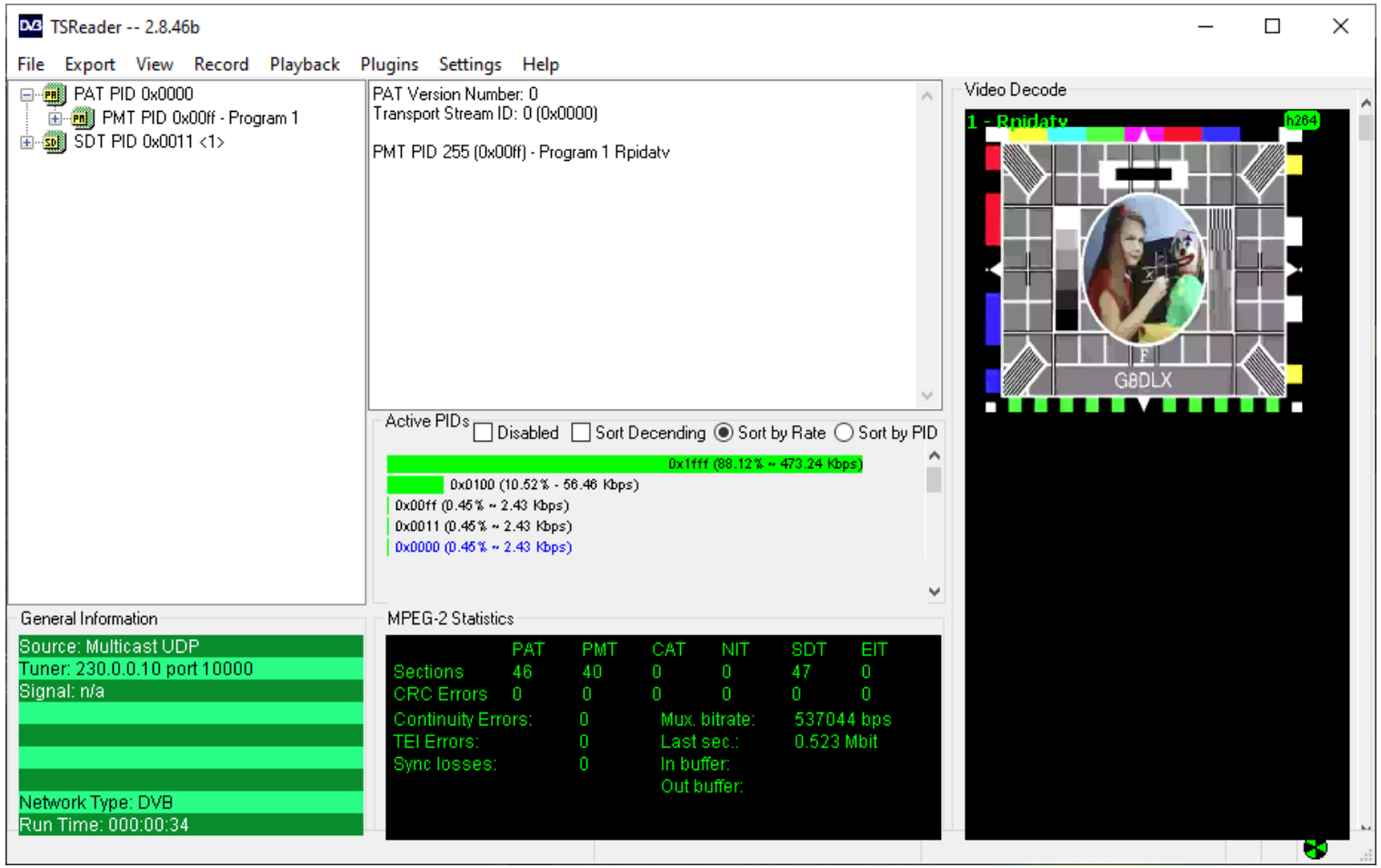
ian@m0ijs.net


Tuner A
Freq: 00437000 KHz
SR: 00333 kS/s
RF level: -103 dBm
MER: 1.9dB

20210402 G8DLX / M0IJS



20210402 G8DLX / M0IJS



20210402 G8DLX / M0IJS