Why Rig Control?

Fluid Tech Services, LLC

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AD8JL
DECEMBER, 2025

PURPOSE

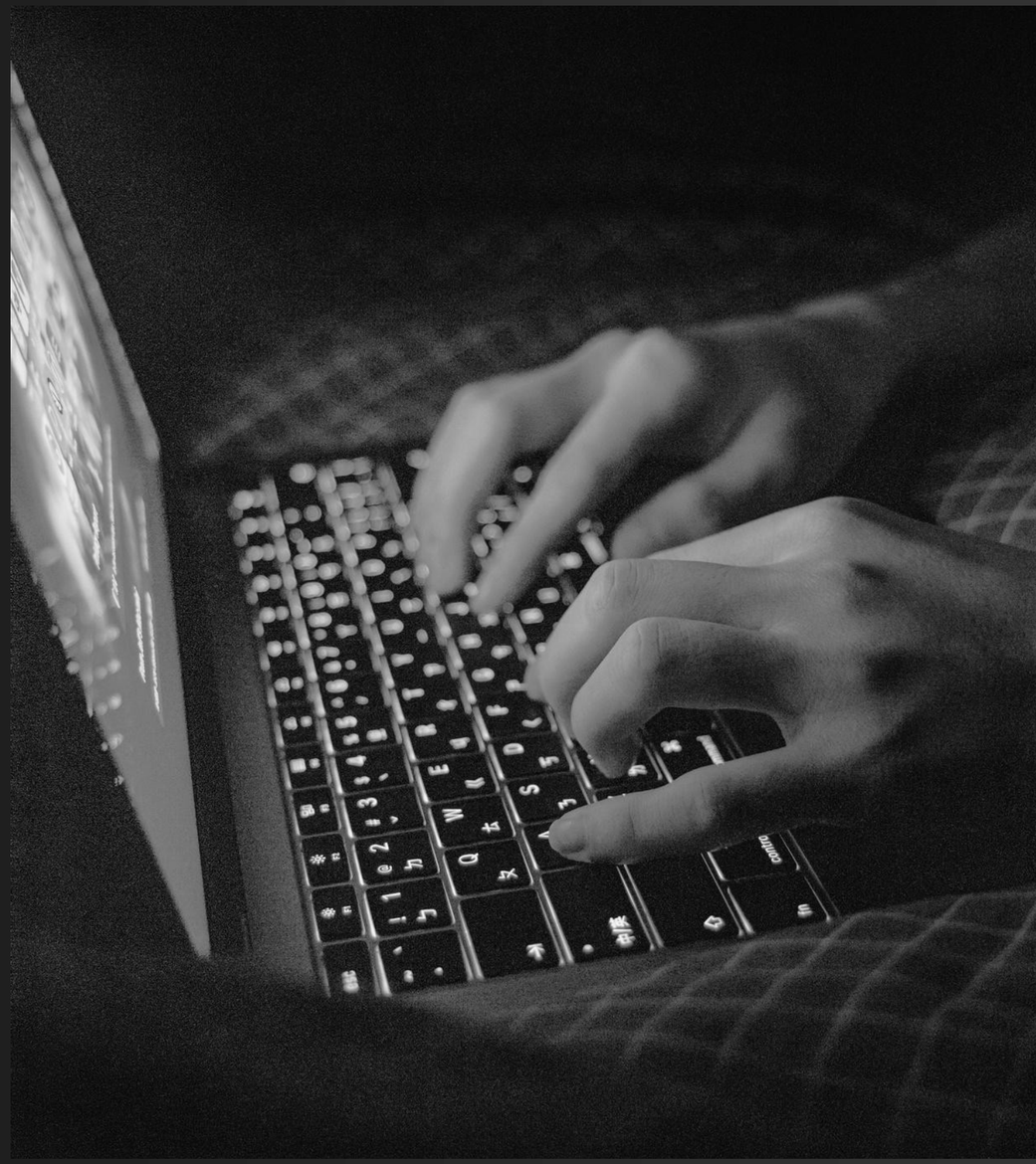
Inspirational

- None: What can you do first?

Aspirational

- Some: What can you do further?

Primarily HF, but VHF/UHF included



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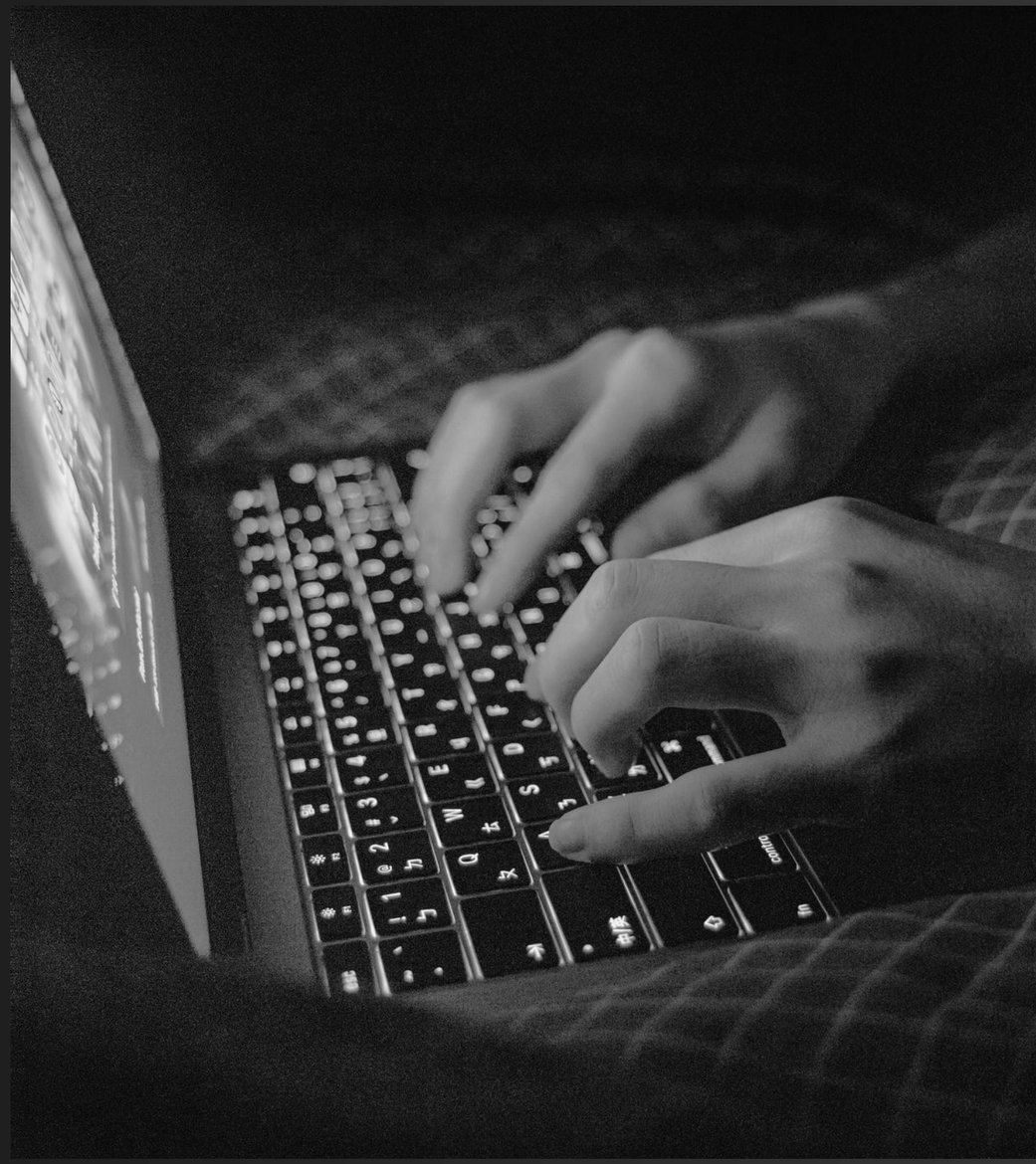
CONTENTS

- What can it do?
- How does it work?
- What do I need?
  - Hardware
  - Tools (Software)



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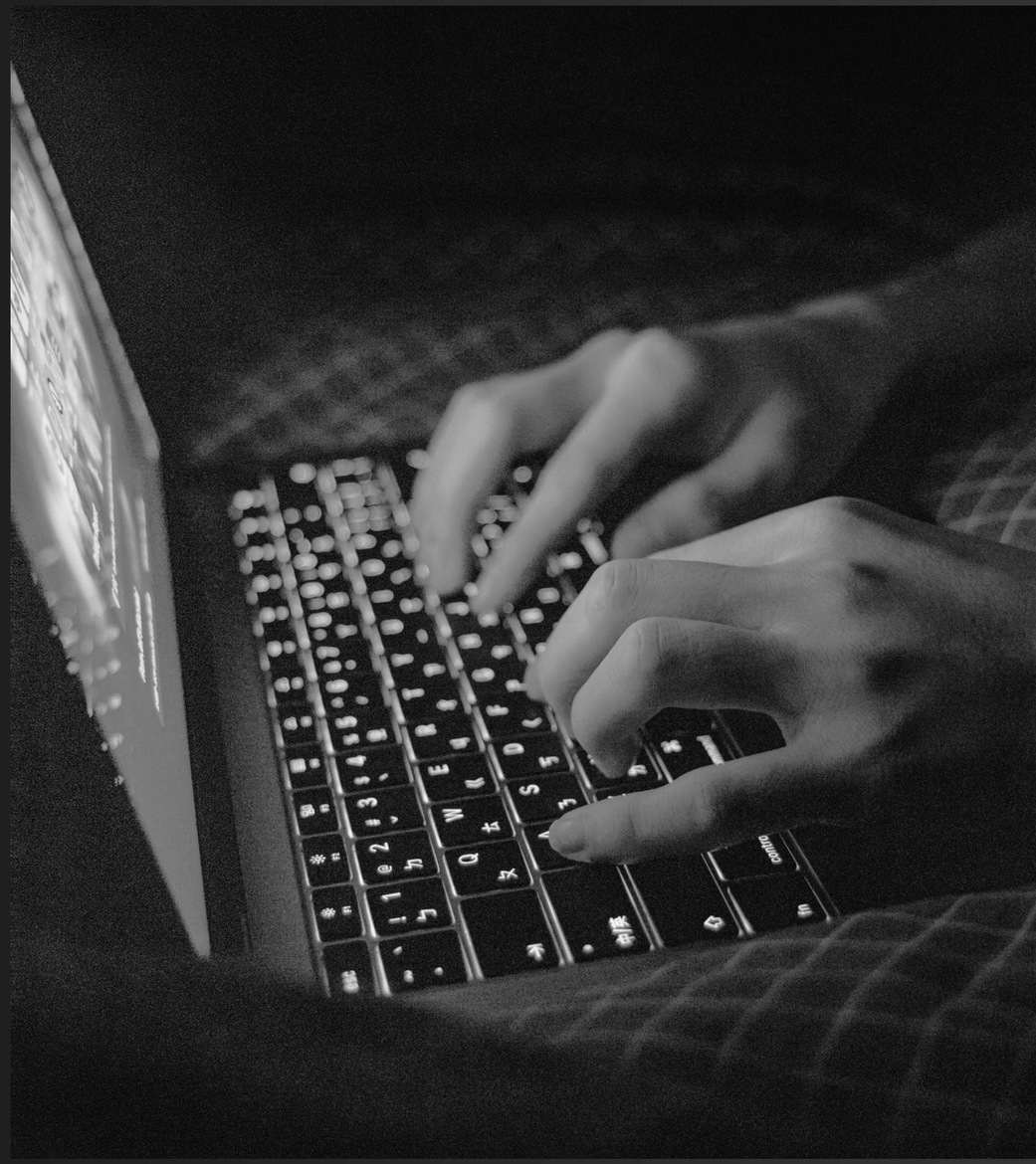
FOCUS

- Why you should choose!
- Next steps
  - Takeaways
  - Resources



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WHY NOT?

Why haven’t you moved forward with Rig Control yet?

We will give you the comfort and confidence to take the next step!

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What can Rig Control do?

Makes what you already do:

- Easier
- Faster
- Better

Add new capabilities

- New locations
- New modes

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Spin the Dial

In the shack:

- KB / Mouse / LARGE screen!
- No more menus!

Outside the shack

- In your recliner (or deck)
- Around the world!

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Your Assistant

Logging

- Lookup
- QSL (Awards!)

DX Hunting

- Spotting

HamClock :)

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On the Air

CW

- Keyboard to CW
- Contest Monster!

Add lots of data modes

- Data pan adapter

Even helps with voice

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Data Modes

Old is new again! (and easy!)

Person-to-person

- RTTY: Great to start!
- PSK31, JS8Call

Messaging

- HF Packet, Winlink

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New Modes

Automated Signal Reporting (& PSA)

- FT8
  - QSO or PSK Reporter
- WSPR
  - Experimentation / A/B!

Voice: FreeDV

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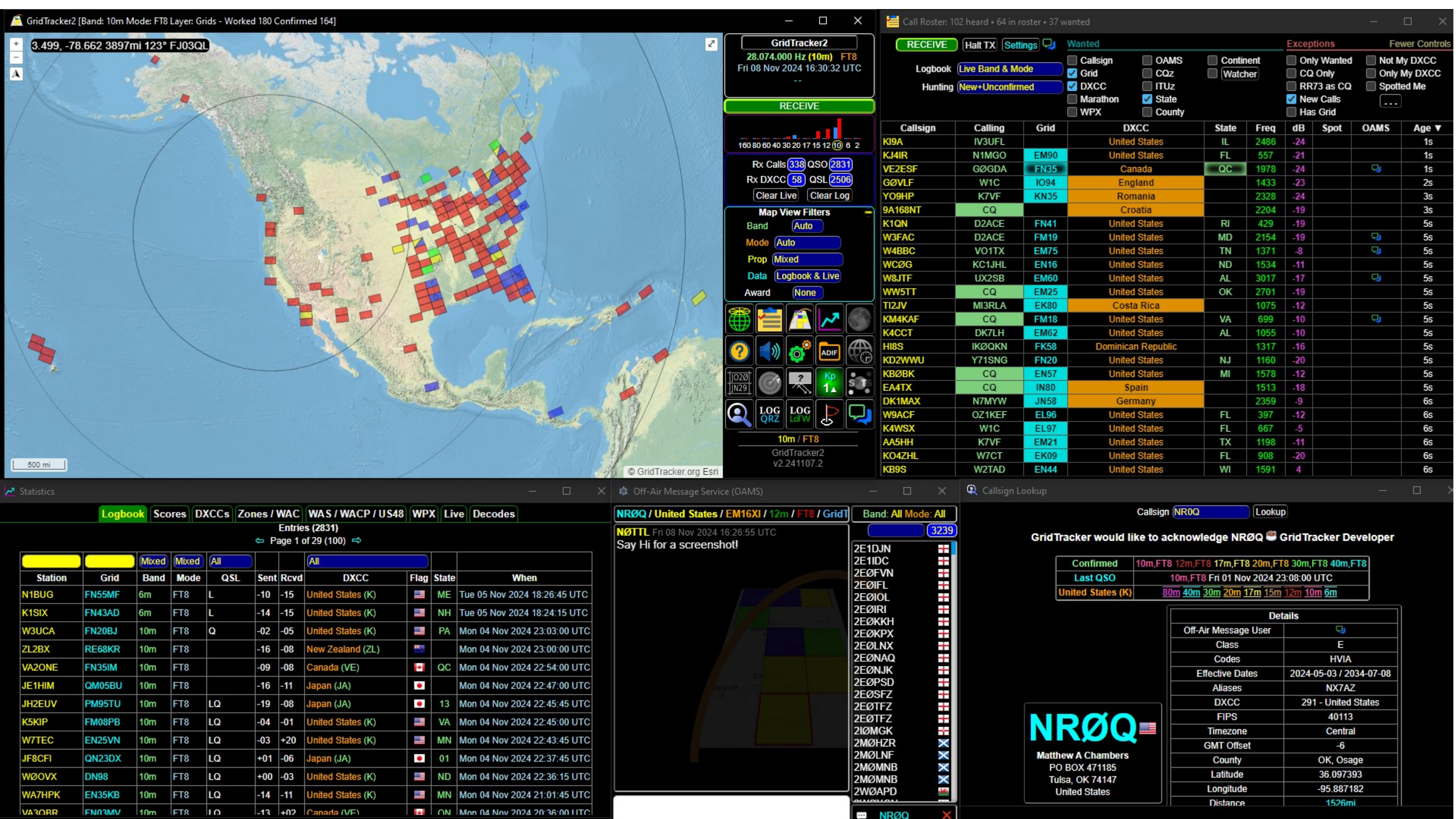
GridTracker2 [Band: 10m Mode: FT8 Layer: Grids - Worked 180 Confirmed 164]
3.499, -78.662 3897mi 123° FJ03QL
500 mi
© GridTracker.org Esri
GridTracker2
28.074.000 Hz (10m) FT8
Fri 08 Nov 2024 16:30:32 UTC
RECEIVE
160 80 60 40 30 20 17 15 12 10 6 2
Rx Calls 338 QSO 2831
Rx DXCC 58 QSL 2506
Clear Live Clear Log
Map View Filters
Band Auto
Mode Auto
Prop Mixed
Data Logbook & Live
Award None
10m / FT8
GridTracker2
v2.241107.2
Call Roster: 102 heard • 64 in roster • 37 wanted
RECEIVE Halt TX Settings
Logbook Live Band & Mode
Hunting New+Unconfirmed
Wanted
Callsign OAMS Continent
Grid CQz Watcher
DXCC ITUz
Marathon State
WPX County
Exceptions
Only Wanted Not My DXCC
CQ Only Only My DXCC
RR73 as CQ Spotted Me
New Calls
Has Grid
Fewer Controls
Callsign Calling Grid DXCC State Freq dB Spot OAMS Age ▼
KI9A IV3UFL United States IL 2486 -24 1s
KJ4IR N1MGO EM90 United States FL 557 -21 1s
VE2ESF GØGDA FN35 Canada QC 1978 -24 1s
GØVLF W1C IO94 England 1433 -23 2s
YO9HP K7VF KN35 Romania 2328 -24 3s
9A168NT CQ Croatia 2204 -19 3s
K1QN D2ACE FN41 United States RI 429 -19 5s
W3FAC D2ACE FM19 United States MD 2154 -19 5s
W4BBC VO1TX EM75 United States TN 1371 -8 5s
WCØG KC1JHL EN16 United States ND 1534 -11 5s
W8JTF UX2SB EM60 United States AL 3017 -17 5s
WW5TT CQ EM25 United States OK 2701 -19 5s
TI2JV MI3RLA EK80 Costa Rica 1075 -12 5s
KM4KAF CQ FM18 United States VA 699 -10 5s
K4CCT DK7LH EM62 United States AL 1055 -10 5s
HI8S IKØQKN FK58 Dominican Republic 1317 -16 5s
KD2WWU Y71SNG FN20 United States NJ 1160 -20 5s
KBØBK CQ EN57 United States MI 1578 -12 5s
EA4TX CQ IN80 Spain 1513 -18 5s
DK1MAX N7MYW JN58 Germany 2359 -9 6s
W9ACF OZ1KEF EL96 United States FL 397 -12 6s
K4WSX W1C EL97 United States FL 667 -5 6s
AA5HH K7VF EM21 United States TX 1198 -11 6s
KO4ZHL W7CT EK09 United States FL 908 -20 6s
KB9S W2TAD EN44 United States WI 1591 4 6s
Statistics
Logbook Scores DXCCs Zones / WAC WAS / WACP / US48 WPX Live Decodes
Entries (2831)
Page 1 of 29 (100)
Station Grid Band Mode QSL Sent Rcvd DXCC Flag State When
N1BUG FN55MF 6m FT8 L -10 -15 United States (K) ME Tue 05 Nov 2024 18:26:45 UTC
K1SIX FN43AD 6m FT8 L -14 -15 United States (K) NH Tue 05 Nov 2024 18:24:15 UTC
W3UCA FN20BJ 10m FT8 Q -02 -05 United States (K) PA Mon 04 Nov 2024 23:03:00 UTC
ZL2BX RE68KR 10m FT8 -16 -08 New Zealand (ZL) Mon 04 Nov 2024 23:00:00 UTC
VA2ONE FN35IM 10m FT8 -09 -08 Canada (VE) QC Mon 04 Nov 2024 22:54:00 UTC
JE1HIM QM05BU 10m FT8 -16 -11 Japan (JA) Mon 04 Nov 2024 22:47:00 UTC
JH2EUV PM95TU 10m FT8 LQ -19 -08 Japan (JA) 13 Mon 04 Nov 2024 22:45:45 UTC
K5KIP FM08PB 10m FT8 LQ -04 -01 United States (K) VA Mon 04 Nov 2024 22:45:00 UTC
W7TEC EN25VN 10m FT8 LQ -03 +20 United States (K) MN Mon 04 Nov 2024 22:43:45 UTC
JF8CFI QN23DX 10m FT8 LQ +01 -06 Japan (JA) 01 Mon 04 Nov 2024 22:37:45 UTC
WØOVX DN98 10m FT8 LQ +00 -03 United States (K) ND Mon 04 Nov 2024 22:36:15 UTC
WA7HPK EN35KB 10m FT8 LQ -14 -11 United States (K) MN Mon 04 Nov 2024 21:01:45 UTC
Off-Air Message Service (OAMS)
NRØQ / United States / EM16XI / 12m / FT8 / GridT
NØTTL Fri 08 Nov 2024 16:26:55 UTC
Say Hi for a screenshot!
Band: All Mode: All
3239
2E1DJN
2E1IDC
2EØFVN
2EØIFL
2EØIOL
2EØIRI
2EØKKH
2EØKPX
2EØLNX
2EØNAQ
2EØNJK
2EØPSD
2EØSFZ
2EØTFZ
2EØTFZ
2IØMGK
2MØHZR
2MØLNF
2MØMNB
2MØMNB
2WØAPD
NRØQ
Callsign Lookup
Callsign NR0Q Lookup
GridTracker would like to acknowledge NRØQ GridTracker Developer
Confirmed 10m,FT8 12m,FT8 17m,FT8 20m,FT8 30m,FT8 40m,FT8
Last QSO 10m,FT8 Fri 01 Nov 2024 23:08:00 UTC
United States (K) 80m 40m 30m 20m 17m 15m 12m 10m 6m
Details
Off-Air Message User
Class E
Codes HVIA
Effective Dates 2024-05-03 / 2034-07-08
Aliases NX7AZ
DXCC 291 - United States
FIPS 40113
Timezone Central
GMT Offset -6
County OK, Osage
Latitude 36.097393
Longitude -95.887182
Distance 1526mi
NRØQ
Matthew A Chambers
PO BOX 471185
Tulsa, OK 74147
United States

PSKReporter Map - — Mozilla Firefox

pskreporter.info/pskmap.html

gridtracker screenshots

On all bands, show signals, sent/rcvd by, the callsign, using all modes over the last 12 hours Go! Display options Permalink

Automatic refresh in 4 minutes. Large markers are monitors.

There are 6316 active monitors: 1639 on 40m, 1467 on 20m, 1218 on 10m, 985 on 15m, 808 on 30m, 741 on 17m, 679 on 80m, 551 on 12m, 294 on 6m, 264 on 2m, 241 on 160m, 237 on 60m, 50 on 600m, 49 on unknown, 48 on 11m, 26 on 2200m, 26 on 70cm, 22 on 2.4Ghz, 14 on 10Ghz, 6 on 23cm, 2 on 8m, 1 on 4m, 1 on uhf. Legend

Statistics — Comments to Philip Gladstone — Online discussions — Reception records: 62 837 825 505 — Hosting by East Serv Networks, LLC

PSKREPORTER.INFO

VHF/UHF

SSB? All of the above…

Packet – CMN MI7 Statewide!

Winlink gateway too!

Analog to Digital (DMR, Fusion)

Hotspot (MMDVM)

AllStarLink

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TAKEAWAYS

Make your current use better

Give you new tools!

- Spin dial: shack or remote
- Logging, DX, spotting
- Traditional: CW / SSB / Data
- New: Chat, Voice, Data
  - And yes, signal reporting

VHF too!

- APRS/Packet/Hotspot/ASL

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How Rig Control works

Know your terms

Know the layers

Rig Control details

- Radio Management
- Audio Management

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Know your Terms

"Rig Control" – Multiple items

- Radio Management
- Audio Management

Do not need both!

- But you'll **want** both...

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Know your Layers

Physical

- Radio, Computer, Cables

Tools

- Software you use

That’s the minimum

- But you’ll **want** more...

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Radio Management

Start with what you have

- Radio and Logging
- Works, but what about more?

No one wants to share!

- Serial: Exclusive access
- Logging **and** control? New modes?

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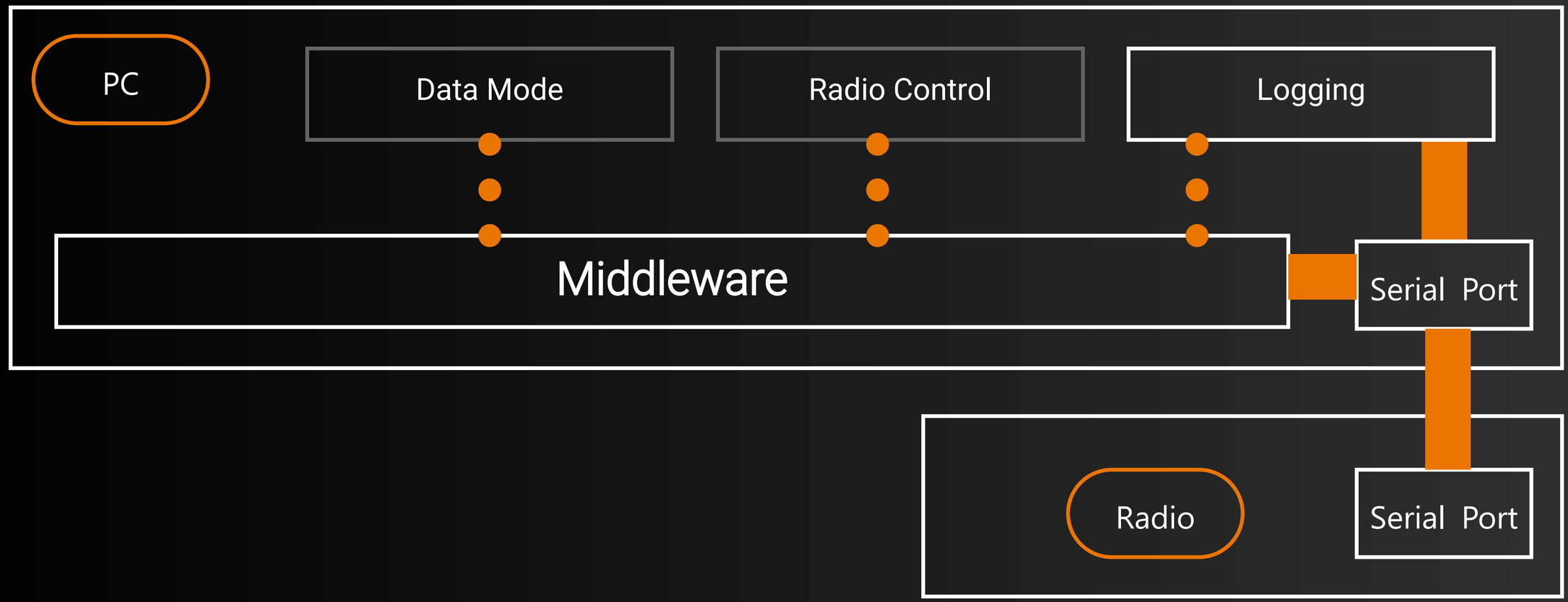
Learn to share!



Middleware

Start with what you have

- Radio and Logging: simple
- Remote / Contesting / SO2R: not simple!

Important decision

- Ignore direct-to-radio
- Spoiler: use Hamlib (and flRig)

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Audio Management

Radio: Line in/out (USB, DIN, 3.5mm)

PC: Some sort of USB soundcard

Tools: All use soundcard

- Pick what excites you

Sharing is not an issue

- OS has shared audio for decades...

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Push to Talk

Gotta push that button!

- OS can’t help you here…

Much less of an issue

- Tools won’t share radio audio
- Middleware can work
  - But we can probably do better...

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TAKEAWAYS

Rig Control = Radio & Audio Management

Three layers: Physial, tools, middleware

Start with radio: What does it have for...

- Radio Management
- Audio Managment and PTT

Next, tools: What do they support for…

- Radio Management / Middleware

What excites you now – and next?

- Plan for both from the beginning

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What does Rig Control need?

Focused on “Big 3”

Features, not specifics

Nothing budget can’t solve

- More money, less details
- DIY: You <u>need</u> <u>your</u> details

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Inspirational and Aspirational

Why, not how…

But here’s a preview of how anyway.

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Hardware for Rig Control

Radio management

Audio management

Push to Talk

Differentiators

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TAKEAWAYS

USB Port on radio? Ready to go!

Money solves issues: buy premade

- Value: XGGComms.com
- Simple: Signalink USB
- Want it all: Rigblaster Advantage

DIY? You must know **all** the details

- Radio control: serial interface details
- Audio: line in/out cables & PTT details

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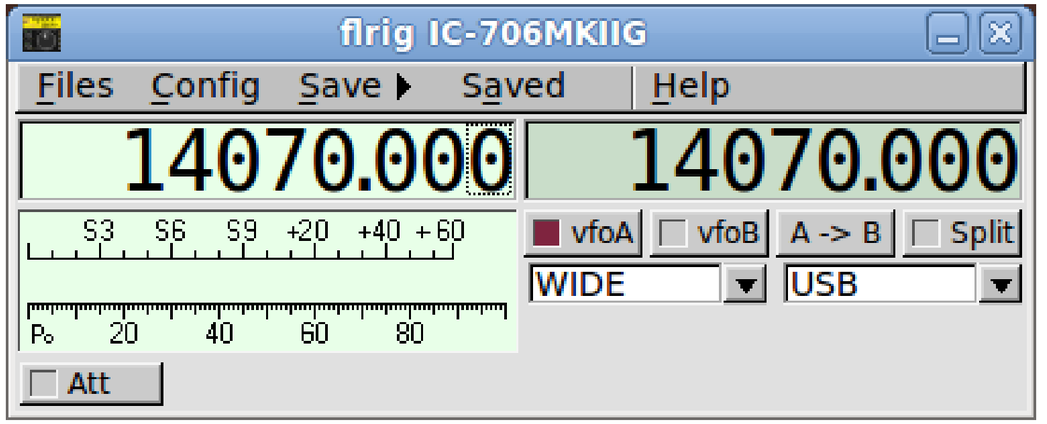
TAKEAWAYS

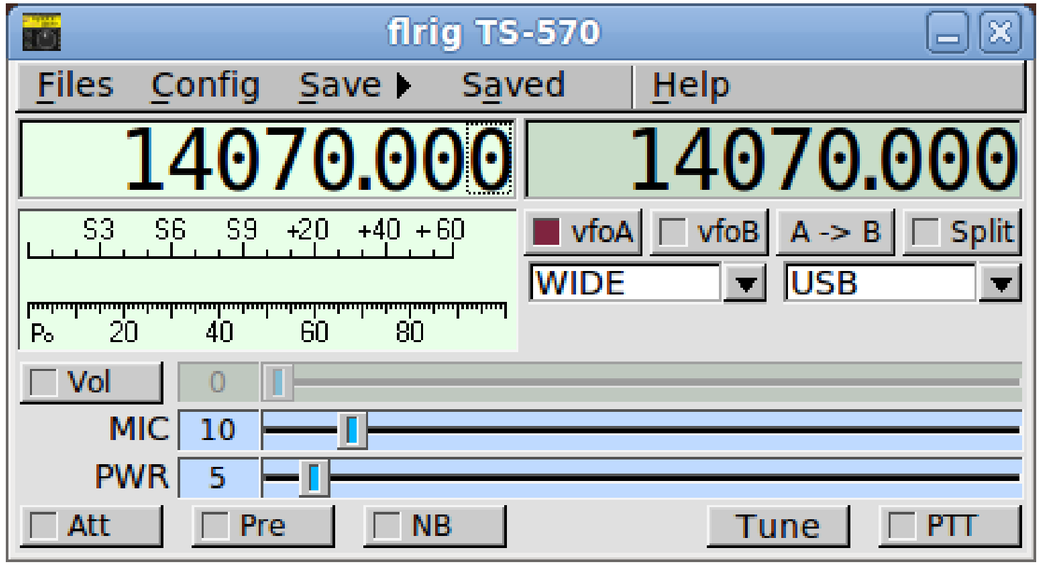
Radio control: almost always serial port

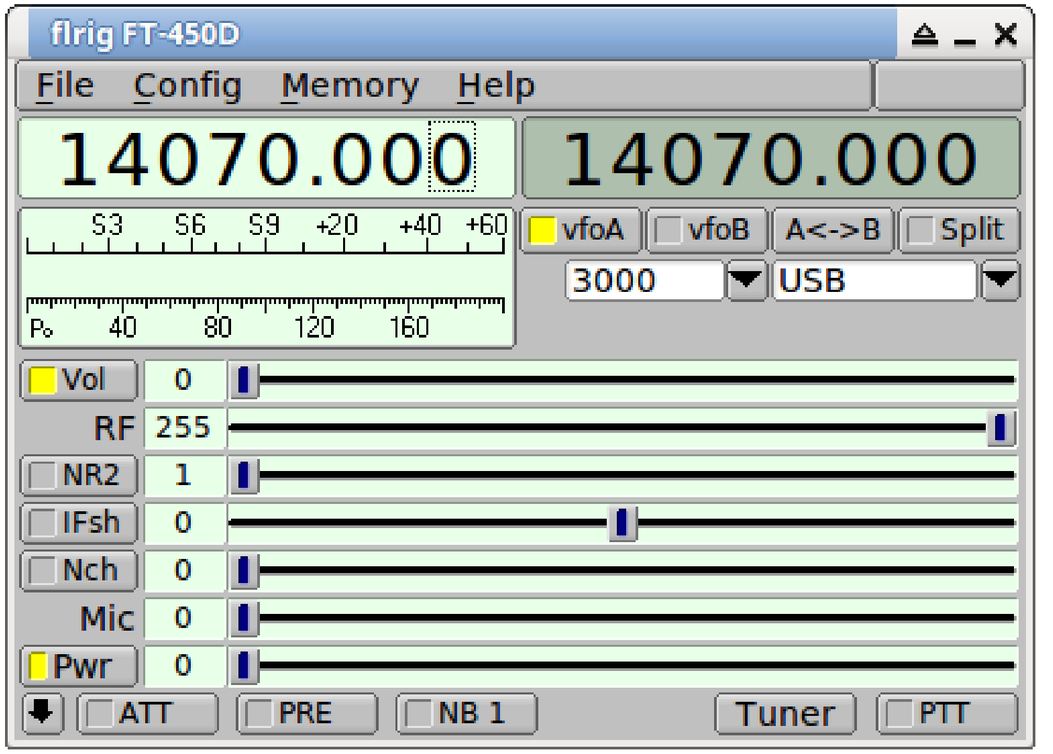
- Just have to find it – and cable to it…
- Icom CI-V: Just buy the adapter
- Pre-millenium: check for capability

Audio: find that line in/out on back

- DIN to USB sound card of some sort
- Watch for radio-specific issues
- Handle the PTT separately


flrig IC-706MKIIG
Files Config Save Saved Help
14070.000
14070.000
S3 S6 S9 +20 +40 +60
Po 20 40 60 80
vfoA vfoB A -> B Split
WIDE
USB
Att


flrig TS-570
Files Config Save Saved Help
14070.000
14070.000
S3 S6 S9 +20 +40 +60
Po 20 40 60 80
vfoA vfoB A -> B Split
WIDE
USB
Vol 0
MIC 10
PWR 5
Att Pre NB Tune PTT


flrig FT-450D
File Config Memory Help
14070.000
14070.000
S3 S6 S9 +20 +40 +60
Po 40 80 120 160
vfoA vfoB A<->B Split
3000
USB
Vol 0
RF 255
NR2 1
IFsh 0
Nch 0
Mic 0
Pwr 0
ATT PRE NB 1 Tuner PTT

TAKEAWAYS

PTT Possibilities

- Serial port (Shared or dedicated)
  - Hassle, but works
- Control command
  - Less hassle, reasonably effective
- VOX
  - Needs radio support or external device
  - Simple, reliable, effective

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TAKEAWAYS

Differentiatiors

- How much DIY (if any)
- Fixed radio model or reconfigurable
- Integrated soundcard
- Front-panel controls
- PTT capabilities
- Audio routing
- Combined control and audio

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Software Tools for Rig Control

User-facing tools

- The fun part!

Middleware

- The dull – but vital – part

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TAKEAWAYS

Understand needs of you!

- What can your current tools do?
- What are you excited to add?

Understand needs of tools

- Read radio status (e.g. logging)
- Change radio status (e.g. radio control)
- Transmit/Receive audio (e.g. new mode)

Understand sharing issues

- Radios don’t share: you need a manager

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TAKEAWAYS

I’m not picky, but I just want it to work!

- N1MM for heavy contesters
- HRD for everyone else

I’m picky, but I’m willing to work for it!

- Radio control: flRig (& Middleware)
- Logging: Log4OM2 (& Hamlib)
  - The two actually improve each other!
- New mode: FT8 or flDigi
  - Go for both!

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TAKEAWAYS

Other options for special cases

OmniRig

- Simple and easy, but less tool support
  - Hamlib has new mindshare
  - FreeDV only supports Hamlib

Virtual Serial Ports

- Works with virtually anything
- Complex, with its own issues
- Perfect for filling missing corner cases

KEY TAKEAWAYS

What can it do?

- Make your current tools better
- Give you new tools!

How does it work?

- Two areas: radio control and audio
- Three layers: physical, tools and middleware

What do I need

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KEY TAKEAWAYS

What do I need?

- Computer: Serial port and soundcard
- Radio: serial cable or adapter; audio cable or external interface

- Software: All-in-one logging, or
- Radio control (flRig), logging (Log4OM2), and new mode (flDigi)

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GOT QUESTIONS?

Email

- tmassey@fluidtechservices.com

Website

- https://www.flluidtechservices.com

QRZ

- Calllsign: AD8JL

Presentation Home:

https://www.fluidtechservices.com/go/ar/whyrigcontrol

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