

# Homebrew 2014

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# Astron Power Supply



- These have many problems, ref. <http://www.repeater-builder.com/astron/astron-intro-stuff.html>
- Intermittent crowbar problem
- Pass transistor mounting screws were loose
- Added split lockwasher under each screw

# Astron Power Supply

- **Too hot** after several hours operation
- Added junkbox fans onto heatsinks

Fans wired in series, so they are quiet



# Equipment Shelf



- K2 only needed shelf 10" deep
- K3 needed shelf 14" deep
- KPA500 + Accessory Cable > 14".

# PVC Rack Mount

20' PVC + 24 "T" for \$20

antenna switch

KAT500 tuner

KPA500 amplifier

K3 transceiver



# PVC Rack Mount

Smaller, lighter, cheaper  
vs. metal rack

transceiver tilted for  
easier viewing



# PVC Rack Mount

Can be spun around to work on cables.

## Accessory Power Relay

K3's 12V output only rated 1A

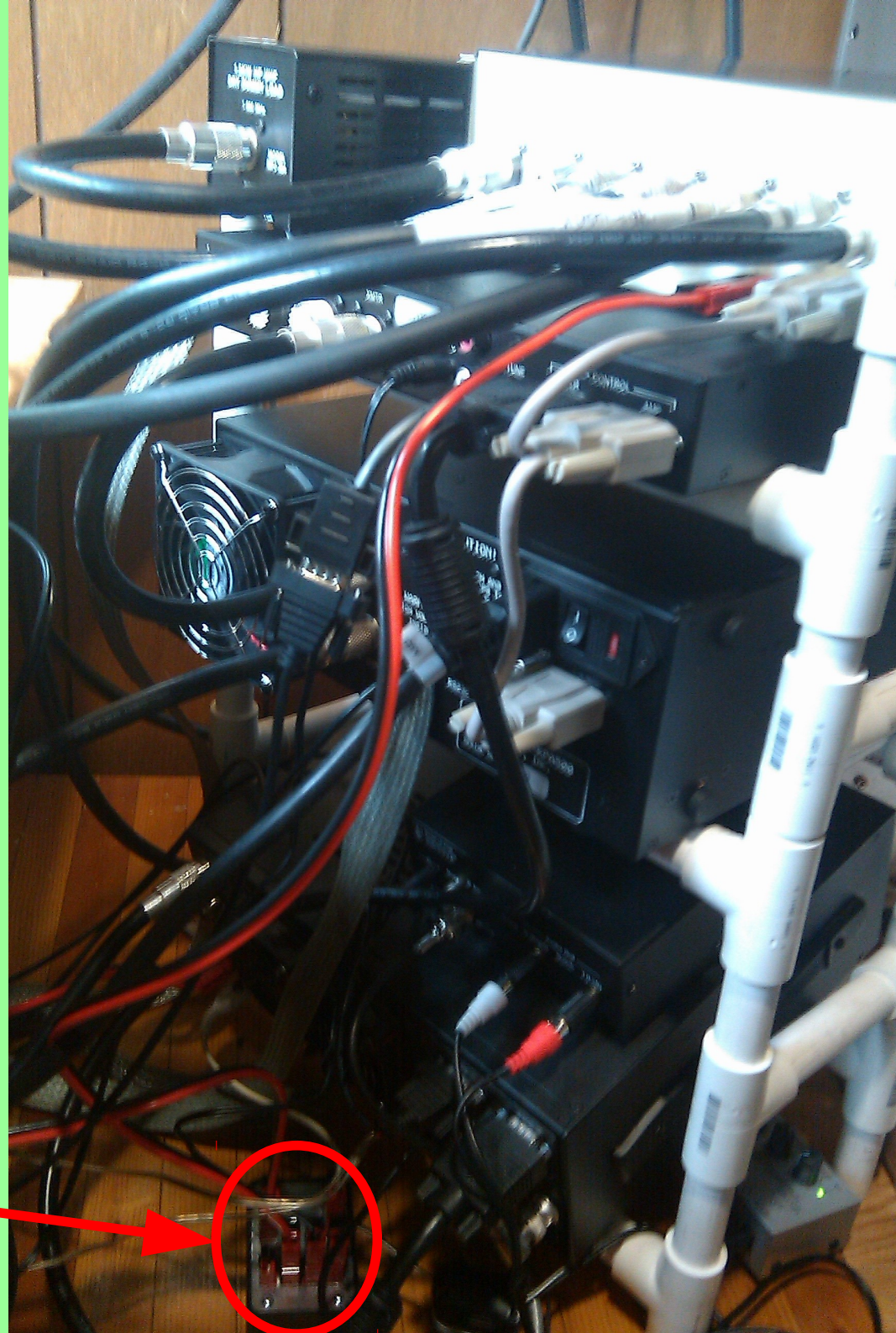
12V relay with 4 PowerPole outputs:

KAT500 antenna tuner

Band-sensing antenna switch

LPPAN-2 rcvr for panadapter

Headphone amplifier



# LOTW log scripts

- Log a QSO, obtaining band-mode from rig
- Upload & download logs to LOTW
- Search log for multiple regular expressions

```
jtn@ac6sl15: ~/src/QSOMAP
File Edit Tabs Help
jtn@ac6sl15:~/src/QSOMAP$ ./lotw w1aw/3 de,
W1AW/3 10M 28.05697 CW CW 20141126 172900 Y 20141211 291 UNITED STATES OF AMERICA Current W3 Y 5 8 FM29 DE DE,NEW CASTLE
W1AW/3 12M 24.90192 CW CW 20141202 160300 Y 20141209 291 UNITED STATES OF AMERICA Current W3 Y 5 8 FM29 DE DE,KENT
W1AW/3 17M 18.08899 CW CW 20141127 211300 Y 20141209 291 UNITED STATES OF AMERICA Current W3 Y 5 8 FM29 DE DE,NEW CASTLE
W1AW/3 20M 14.03100 CW CW 20141202 211800 Y 20141209 291 UNITED STATES OF AMERICA Current W3 Y 5 8 FM28 DE DE,SUSSEX
jtn@ac6sl15:~/src/QSOMAP$
```

# LOTW log scripts

- Search log for multiple regular expressions

```
jtn@ac6sl11:~/src/QSOMAP$ ./lotw 'ew8o|belarus'
EU7A 10M CW CW 20140325 165500 Y 20140404 27 BELARUS Current EU7 Y
EU7A 12M CW CW 20140311 172000 Y 20140404 27 BELARUS Current EU7 Y
EW80 15M CW CW 20140408 151500 N
EW80 17M 18.07197 CW CW 20141112 150500 N
EU7A 17M CW CW 20140515 153000 Y 20140610 27 BELARUS Current EU7 Y
EW80 20M CW CW 20100713 043100 N
EW80 20M CW CW 20110516 044100 N
EW80 20M CW CW 20110812 042800 N
EW1BA 20M CW CW 20110902 035400 Y 20110906 27 BELARUS Current Y 16 29 K033qm
EV2014WHC 20M CW CW 20140522 040900 Y 20140714 27 BELARUS Current EV2014 Y
jtn@ac6sl11:~/src/QSOMAP$ █
```

# LOTW log scripts

```
jtn@ac6sl11:~/src/QSOMAP$ ./lotw --report
```

Mixed: 205

PHONE: 19

DATA: 13

CW: 205

160M: 2

80M: 2

40M: 49

30M: 55

20M: 135

17M: 88

15M: 126

12M: 80

10M: 103

Challenge: 640

CANADA: AB BC MB NB NL NS NT NU ON PE QC SK YT

UNITED\_STATES\_OF\_AMERICA: AK AL AR AZ CA CO CT DC DE FL GA HI IA ID IL IN KS KY LA MA MD ME MI MN MO MS MT N  
C ND NE NH NJ NM NV NY OH OK OR PA RI SC SD TN TX UT VA VT WA WI WV WY

EUROPEAN\_RUSSIA: AD AO AR BO BR CN CU DA IN IV KB KC KG KI KL KM KR KS KU LO LP MA MD MO MR MU NN NO NV OR P  
E PS RA RO SA SM SO SP SR ST TA TB TL TV UD UL VG VL VO VR YR

ASIATIC\_RUSSIA: AB AL AM BA BU CB CK CT EA EV GA HK HM IR KE KK KN KO KP KT KY MG NS OB OM PK PM SL SV TM TN  
TO TU UO YA YN

CHINA: AH BJ CQ FJ GD GS GX GZ HA HB HE HI HK HL HN JL JS JX LN MC NM NX QH SC SD SH SN SX TJ TW XJ XZ YN ZJ

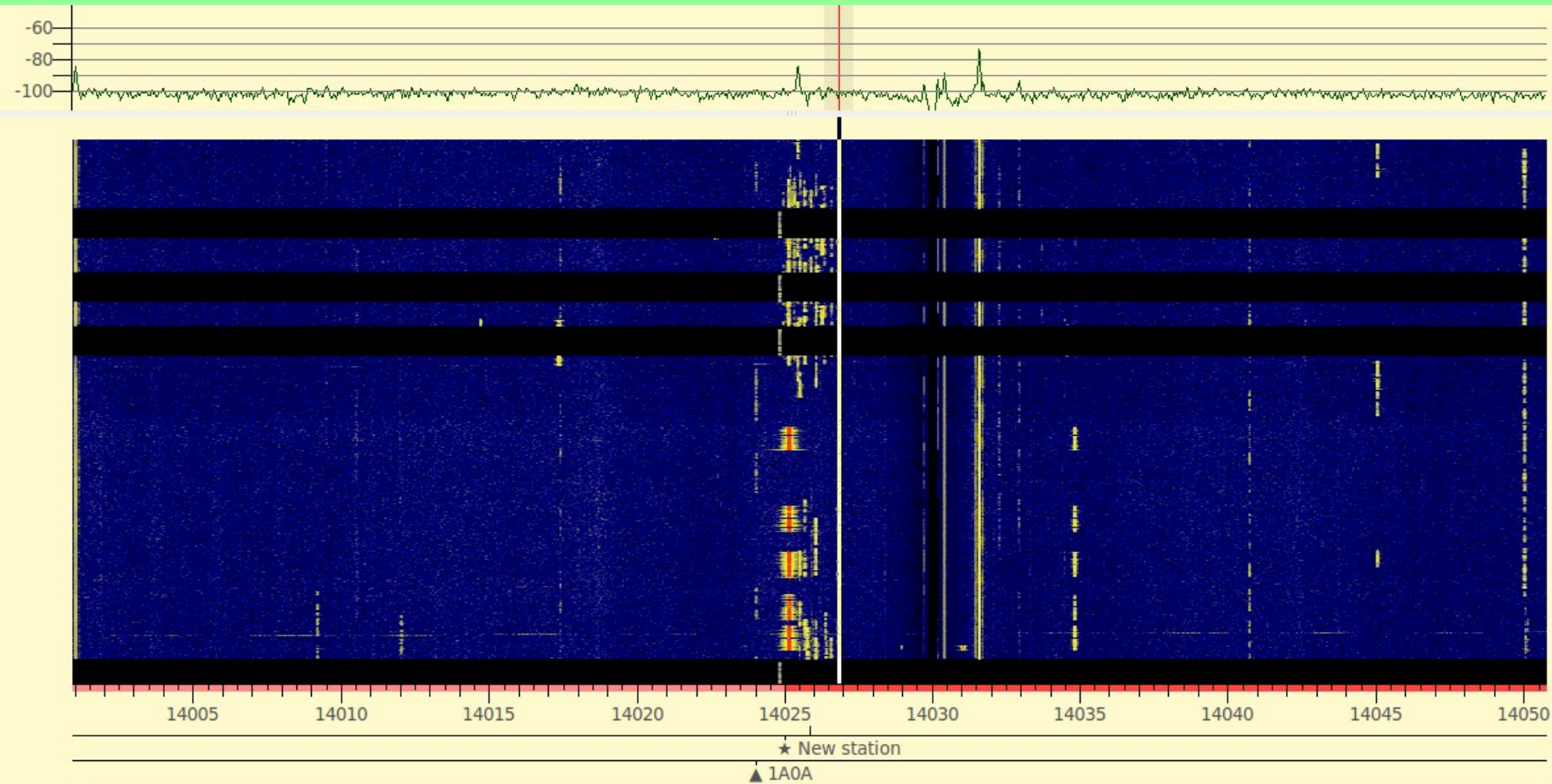
AUSTRALIA: ACT NSW NT QLD SA TAS VIC WA

QSLs/QSOs: 47%

```
jtn@ac6sl11:~/src/QSOMAP$ █
```

# quisk panadapter

- L-click sets RCV freq, R-click sets XMT freq
- 2 color cursors on panadapter still TBD



Vol 14 026 880 Hz

Audio 160 80 60 40 30 20 17 15 12 10 Time

Mute AGC NB Notch RfGain Ant 1 Test 1

Spot Split FDX PTT VOX File

CWL LSB AM FM DGT-U

200 400 600 1000 1500 1000

Graph WFall Scope Config RX Filter Help

RIT 600 S1 -87.42 dB

Ys Yz Zo

# Resonant speakers for CW

- Peak ~700 Hz
- All Junkbox parts
- 2" speakers
- ABS pipe & Y
- Old CD case for base
- Tapped holes for speaker connection



# 2015 projects

- Computer control of rotator MDS RC1-Y
- More antennas, esp. 30m + 40m hexbeam
- More computer screens
- More integration with quisk panadapter