

SOTA VK3 Conference 2016

- Introduction to SOTA -



Glenn Sneddon
VK3YY

VK3HRA VK3ZPF VK3YY

12.07.2014
Photo: VK3HRA
Talbot Peak Trip

SOTA – What is it?



- Summits On The Air

- Launched in 2002 in the United Kingdom
- Concept by Richard G3CWI and John G3WGV
- Award scheme for Radio Amateurs and SWLs
- Based on portable operation from mountains
- World wide, about 50 countries and 100 associations
- Commenced in VK3 in 2012, all other states now up except VK0. Introduced to VK by Wayne VK3WAM
- For all levels of fitness
- Not designed as a contest, work at own pace!!

SOTA – Awards / Certificates

– Chaser: awarded for working mountain Activators

- Various levels of Chaser Certificates
- 1000 point “Shack Sloth” Trophy

– Activator: awarded for activating mountains

- 4 contacts needed to claim the activator points
- Various levels of Activator Certificates
- 1000 point “Mountain Goat” Trophy
- Summit to Summit
- Mountain Explorer – activating several associations
- Mountain Hunter – chasing several associations

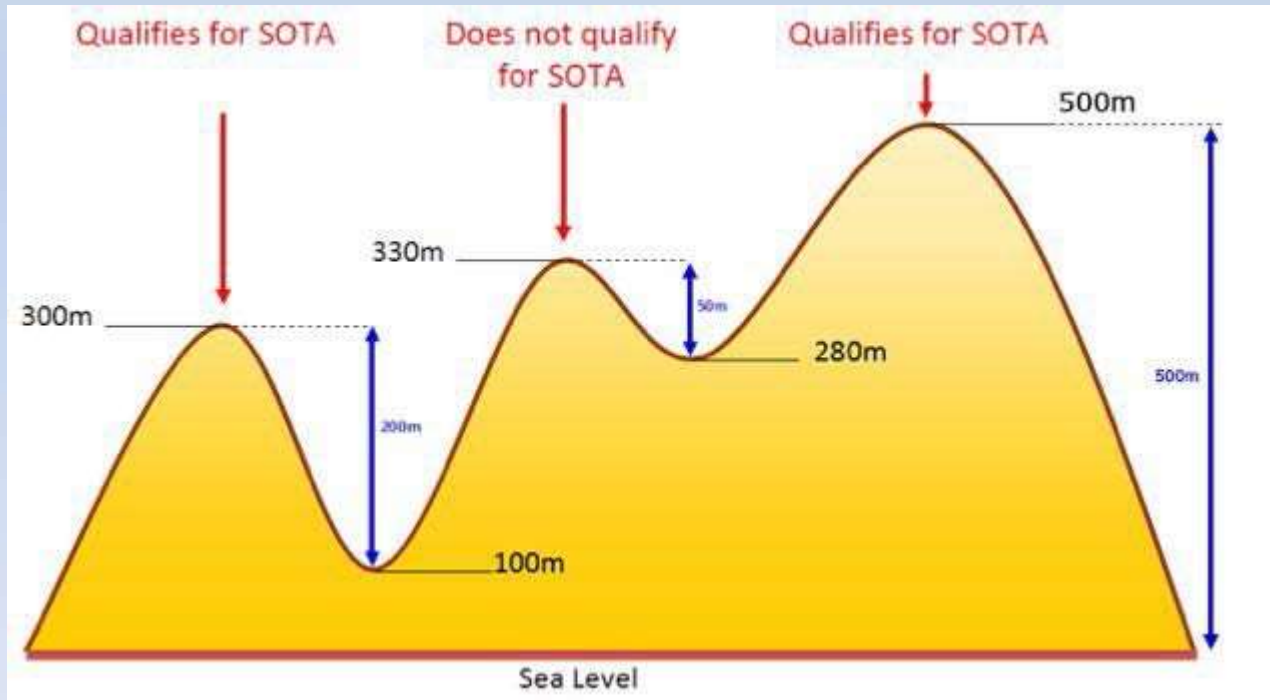
– Points:

- Summits score 1 to 10 points based on altitude scaled to Assoc.



SOTA – Summits

- Many summits to choose from!
- VK3 alone has in excess of 600 registered summits
- To qualify, summit must have prominence of 150m



SOTA – Information



- www.sota.org.uk on the web
- Here you will find general rules and guidelines for the Associations such as VK3.
- Countries are broken down to associations
- Australian associations by call areas, VK1, VK2 etc.
- Each association as regions, ie. VK3 has 8.
- <http://www.sota.org.uk/Associations/viewAssociation/prefix/VK3> for regions, summits and manual.
- Blogs good source of summit access etc.

SOTA – Summits

- Summit Identifiers: ie. Mt Matlock VK3/VC-001
- VK3 indicates the association
- VC indicates Victorian Central region
- 001 is the summit number
- From the summit database on the web:

Region: VC - Victoria - Central Region

Region Manager: Wayne Merry, VK3WAM

The Region currently has qualifying summits.

Code	Name	Alt(m)	Points
VK3/VC-001	Mt Matlock	1372	8
VK3/VC-002	Mt Donna Buang	1259	8
VK3/VC-003	Mt Ritchie	1255	8
VK3/VC-004	Mt Observation	1201	8
VK3/VC-005	Mt Vinegar	1069	6
VK3/VC-006	Mt St Leonard	1012	6

SOTA – Spotting and Alerts

- Sotawatch on line at www.sotawatch.org
- Typical spots screen

 **SOTAwatch2** Logged in as VK

[Home](#) | [Spots](#) | [Alerts](#) | [Summits](#) | [Reflector](#) | [Website](#) | [Database](#) | [Video](#)
[Photos](#) | [Recent Info](#) | [Shop](#) | [Mapping](#) | [Facebook](#)

This page refreshes every 1 minute. Last updated 03:00:00 UTC.

Latest Spots

>> [more spots](#) | [new spot](#)

Thu 17:36	EA8/G6WRW/P on EA8/LA-026 CQ (Posted by G6WRW)	18.143 ssb
Thu 17:23	WX4ET on W4T/RV-016 Calling CQ now from Clinch Mountain. 5.8 into Bristol, TN (Posted by KJ4ZFK)	7.268 ssb
Thu 17:17	KG6CIH on W1/GM-040 *gone now. sorry so quick. brrr! - via SOTA Spotter (Posted by KG6CIH)	146.52 fm
Thu 17:06	EA8/G6WRW/P on EA8/LA-026 Very difficult hr in SE UK - 31-33. 17M should be better... (Posted by G6TUH)	14.282 ssb
Thu 17:03	EA8/G6WRW/P on EA8/LA-026 CQ (Posted by G6WRW)	14.282 ssb
Thu 16:48	KG6CIH on W1/GM-040 * - via SOTA Spotter (Posted by KG6CIH)	146.52 fm

SOTA – Spotting and Alerts

- Sotawatch on line at www.sotawatch.org
- Typical Alerts screen

Upcoming Activations >> [more alerts](#) | [new alert](#)

Fri 08:30	DL/HB9BQU/P on DM/BW-298 +/- 1h, also grv 145.500 and APRS with new Handy! (Posted by HB9BQU)	7-cw, 10-cw
Fri 12:00	IW2NHE/P on I/LO-340 TIME CAN VARY +1 H DEPEND ON WEATHER (Posted by IW2NHE)	14.285ssb-144.300ssb-18.165ssb
Fri 12:30	DL6FBK on DM/HE-333 (Posted by DL6FBK)	14-cw, 10-cw, 7-ssb
Fri 17:00	AB3TQ on W3/PH-001 last attempt fell apart - hf ssb for a few hours on nice day (Posted by AB3TQ)	14-ssb
Fri 17:00	WB7ENX on W7A/MN-143 2m FM plus 10-20-40 SSB (Posted by WB7ENX)	144.410-fm, 7-ssb, 14-ssb, 28-ssb
Fri 17:00	AD4IE on W4C/EM-032 With XYL so time will vary (Posted by AD4IE)	7-cw, 14-cw, 28-cw

SOTA – Logging

- Sotawatch on line at www.sotawatch.org
- Typical logging screen
- Activator log, chaser log, summit to summit log

VK3YY

[Show All QSOs](#)

Year filter : -Last 12 Months- Order : Jan - Dec Show Analysis [Show!](#)

Date	Summit	Call Used	QSOs	Points	Bonus Points	Total	Show log	Delete	Download
06/Dec/2014	VK3/VN-001 (Mt Torbreck)	VK3YY	11	10	0	10	Show log	Delete	Download
07/Dec/2014	VK3/VN-004 (Bill Head)	VK3YY	9	8	0	18	Show log	Delete	Download
20/Dec/2014	VK3/VE-203 (VK3/VE-203)	VK3YY	13	4	0	22	Show log	Delete	Download
21/Dec/2014	VK3/VE-132 (Mt Strathbogie)	VK3YY	19	6	0	28	Show log	Delete	Download
21/Dec/2014	VK3/VE-140 (VK3/VE-140)	VK3YY	6	6	0	34	Show log	Delete	Download
21/Dec/2014	VK3/VE-157 (Mt Samaria)	VK3YY	8	6	0	40	Show log	Delete	Download
28/Dec/2014	VK3/VT-002 (Mt Reynard)	VK3YY	13	10	0	50	Show log	Delete	Download
28/Dec/2014	VK3/VT-003 (Picture Point Range)	VK3YY	23	10	0	60	Show log	Delete	Download
28/Dec/2014	VK3/VT-011 (Mt Tambortitha)	VK3YY	9	10	0	70	Show log	Delete	Download
29/Dec/2014	VK3/VT-004 (Bryces Plain)	VK3YY	6	10	0	80	Show log	Delete	Download
30/Dec/2014	VK3/VT-034 (VK3/VT-034)	VK3YY	8	6	0	86	Show log	Delete	Download
31/Dec/2014	VK3/VT-040 (Spion Kopje)	VK3YY	34	4	0	90	Show log	Delete	Download
01/Jan/2015	VK3/VT-026 (Mt Toorong Range)	VK3YY	24	8	0	98	Show log	Delete	Download
01/Jan/2015	VK3/VT-040 (Spion Kopje)	VK3YY	26	4	0	102	Show log	Delete	Download
11/Jan/2015	VK3/VT-060 (Mt Oberon)	VV3YY	11	2	0	104	Show log	Delete	Download
21/Jan/2015	VK3/VT-076 (Mount Haddle)	VK3YY	11	1	0	105	Show log	Delete	Download

SOTA – Logging

- Sotawatch on line at www.sotawatch.org
- Many views of data possible

Filter :

Position	Activator Callsign	Summits	Points	Seasonal Bonus	Total Score	Avg. points per Expedition	View Log
1	VK3PF	259	1648	132	1780	6.87	View
2	VK3WAM	280	1671	96	1767	6.31	View
3	VK3MCD	189	1181	138	1319	6.98	View
4	VK3HRA	226	1121	87	1208	5.35	View
5	VK3YY	176	1047	63	1110	6.31	View
6	VK3EQ	146	903	159	1062	7.27	View
7	VK3KAB	130	964	51	1015	7.81	View
8	VK3CAT	108	610	69	679	6.29	View
9	VK3BYD	94	570	39	609	6.48	View
10	VK3XDM	78	515	93	608	7.79	View
11	VK3MRG	110	556	51	607	5.52	View
12	VK3ANL	108	407	9	416	3.85	View
13	VK3EK	58	333	0	333	5.74	View
14	VK3ZPF	90	307	21	328	3.64	View
15	VK3IL	27	250	57	307	11.37	View
16	VK3ASC	46	237	3	240	5.22	View
17	VK3AFW	55	215	6	221	4.02	View
18	VK3TCX	35	208	9	217	6.20	View
19	VK3FTRV	34	209	3	212	6.24	View
20	VK3XL	42	207	0	207	4.93	View
21	VK3BQ	45	179	3	182	4.04	View
22	VK3ATB	14	120	15	135	9.64	View

SOTA – General Rules / Guidelines

- Activation within 25 vertical metres of summit
- Activation not to rely on a vehicle for power
- Equipment to be completely separate from vehicle
- Activator claims points from summit once per calendar year
- Chaser claims points from a summit every UTC day
- Activator working another activator gets Summit to Summit points
- UTC rollover issues !

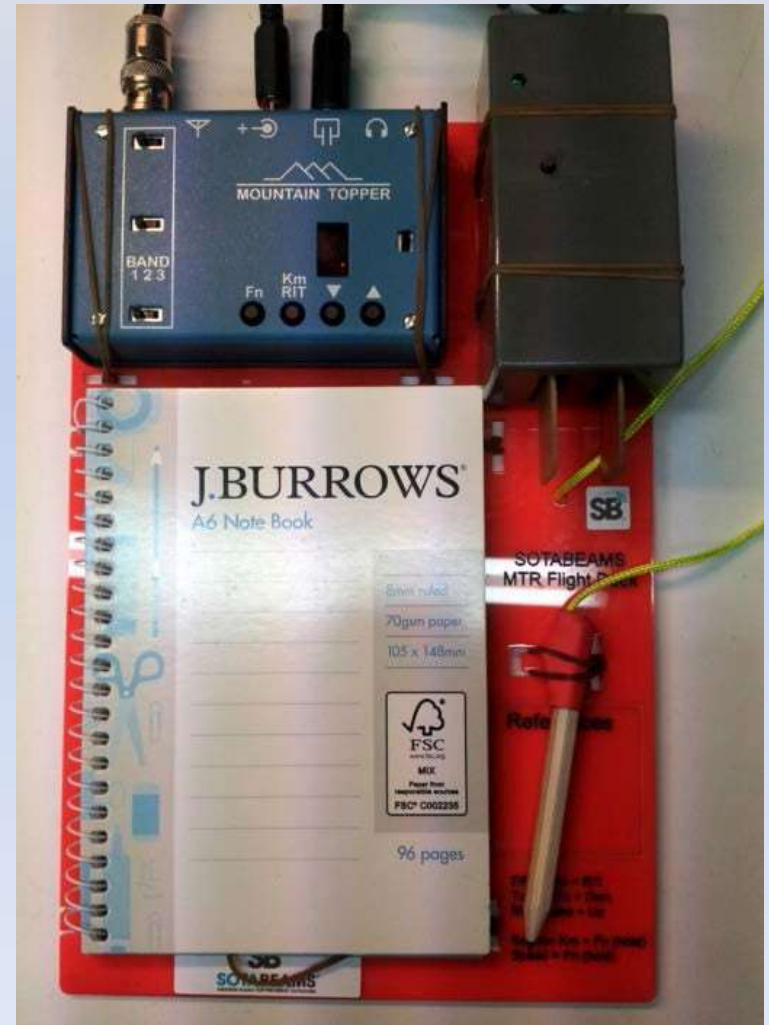
SOTA – Typical Equipment

- FT817, Elecraft KX3, FT857, IC703 etc. common radios
- KD1JV kit radios such as Mountain Topper V2
- Antennas often use Squid Poles for support
- 7 metre Squid Poles common
- Centre Fed Linked dipoles good all around antenna
- End Fed Half Wave popular (easy set up)
- Lithium Polymer (LiPo) or Lithium Nano Phosphate (LiFePo) batteries common
- CW main mode overseas, mainly SSB in VK although CW gaining momentum.

SOTA – Typical Equipment

CW KD1JV kit radio - Mountain Topper V2

Multimode Multiband FT817



SOTA – Typical Equipment

– Lightweight if hiking!

Matcher

Antenna

Battery

40m rig



SOTA Antenna

- Squid Pole:
 - Various sizes and weights on Ebay
 - For longer hikes – 4.5 Metre 200 gram
 - Shorter hikes – 7 metre 700 gram (BCF)
 - Near car – 7 metre Haverford 1200 gm
 - Lots of other uses for squid poles too.
 - Balls out of trees
 - Model planes out of trees
 - Aerial photos etc.



End Fed 40/20/10m Antenna

- Features:

- Fast to deploy !
- Multi band with no links / switches
- Lightweight!

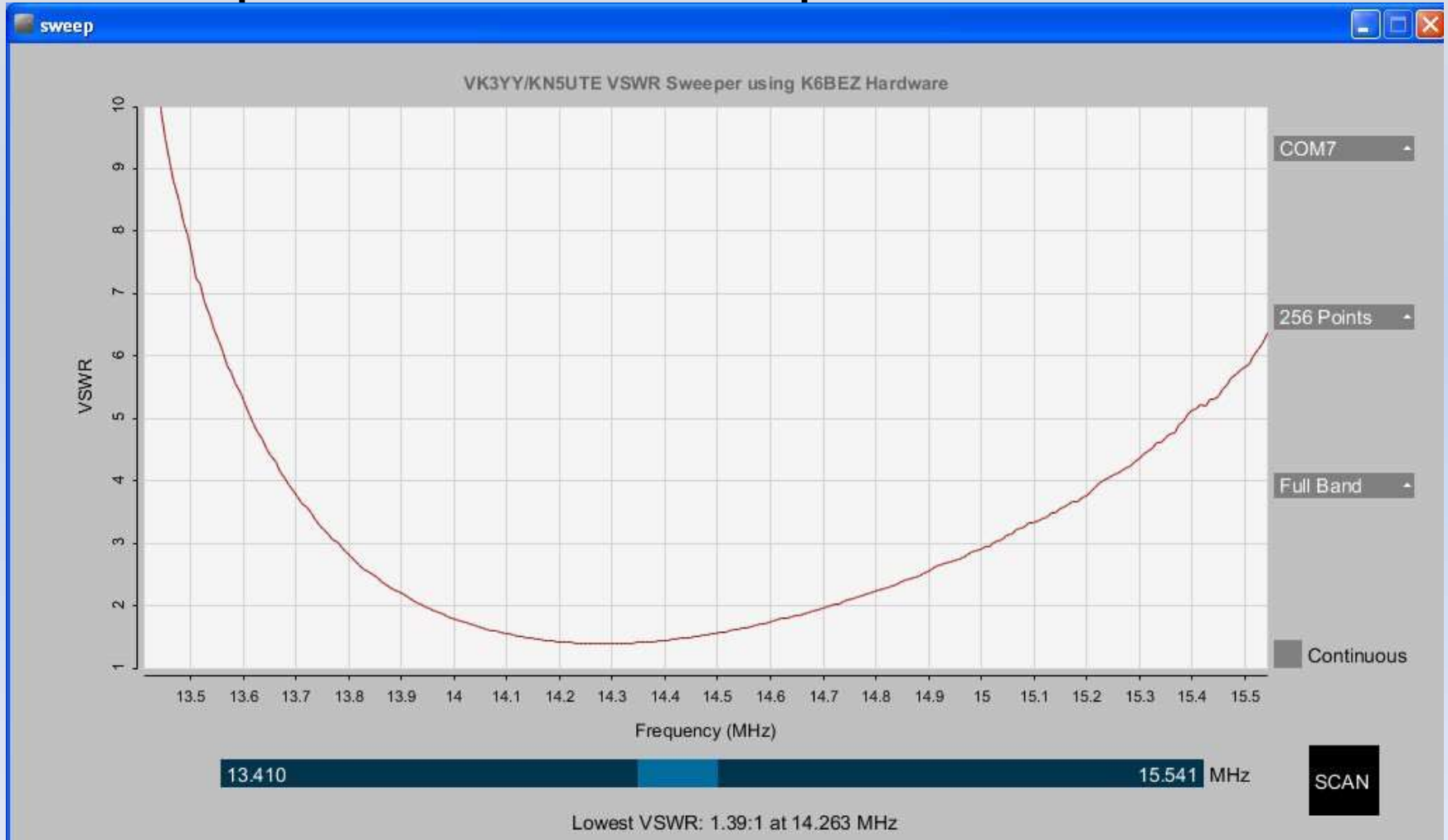
- Design

- Based on well known PAR End Fed concept
- End Fed half wave on 40m with loading coil
- End Fed half wave on 20m loading coil is choke
- End Fed full wave on 10m



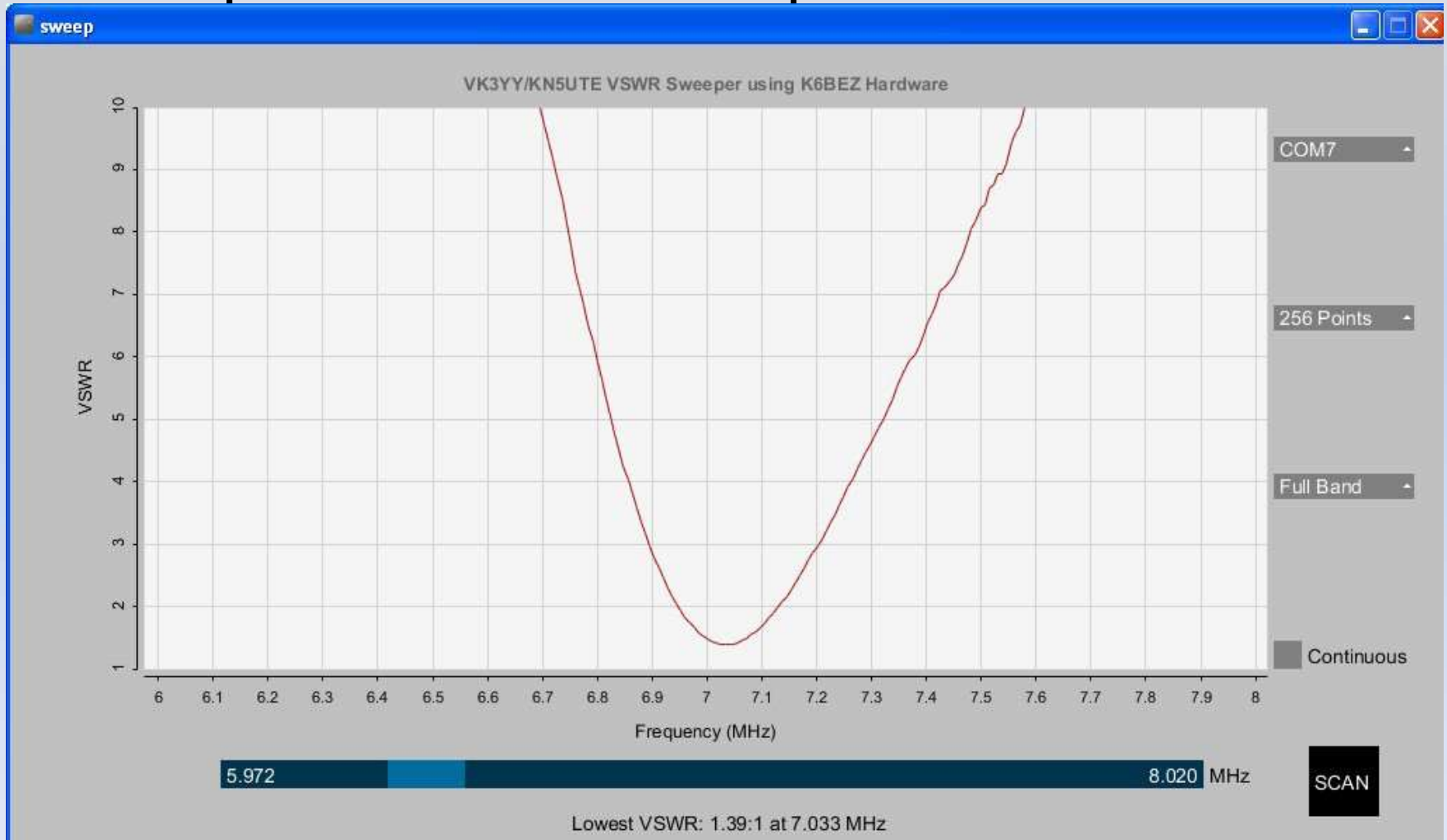
End Fed 40/20/10m Antenna

- Some plots from HB Sweeper- 20m



End Fed 40/20/10m Antenna

- Some plots from HB Sweeper- 40m



Dipole 40/20/12 /10m Antenna

- Switched Dipole:
 - A bit slower to deploy
 - Consistent performance
 - Baseline antenna



Batteries

- Lithium Polymer (LiPo) or (LiFePo4)
 - Lightweight!
 - High energy to weight ratio
 - Special balance chargers required
 - Handle with care! High current capability!
 - LiPo good for FT817 @ 11.1 V nominal, 3 cell
 - LiFe good for FT857, IC706 @ 13.2V, 4 cell



SOTA Boots

- Compact Amplifier:

- LiPo 3 cell battery
- ~ 50 Watts
- 40 / 20m
- 80 x 155 x 30 mm
- Homebrew



- Compact Amplifier

- LiPo 3 cell battery
- 75 x 112 x 30mm
- 25 Watts
- 20 / 15 / 10m
- Homebrew



Things to take – Longer activations

- First Aid kit, hat, sunscreen and insect repellent
- GPS ie. Garmin E30
- Water, lots for longer hikes
- Emergency shelter (Bothy Bag) 300 grams
- Compass and paper back up maps
- Phone
- Food
- Wet weather gear, rain jacket, gloves, beany, gaiters
- Torch
- Log book and pencils
- 2m Hand Held



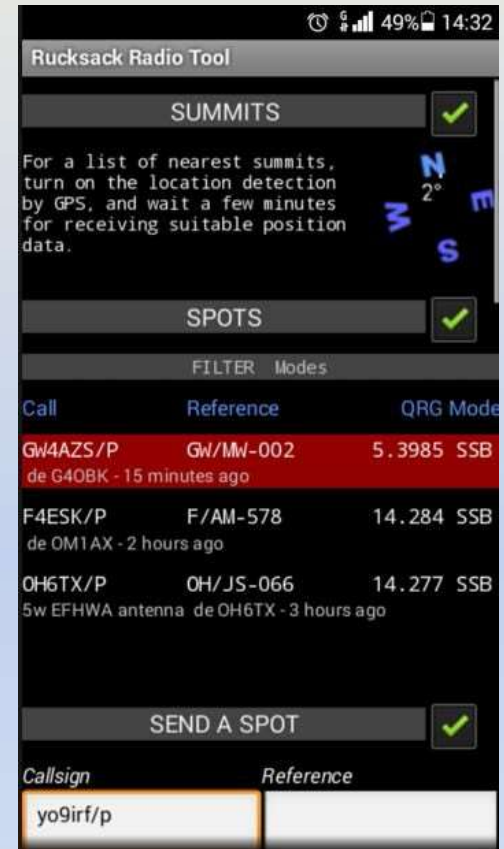
Things to take – Longer activations

- HF radio and batteries (keep it light)
- HF antennas, long high wire antennas best, linked or EFHW Dipole
- Copy of licence, a SOTA document
- Squid pole, Bungy straps or throw weight if trees
- Tent etc. for overnight hikes
- Decent backpack
- Walking poles (antenna anchor)
- Let someone know where you are going!
- Post an alert on SOTAWatch



SOTA Apps

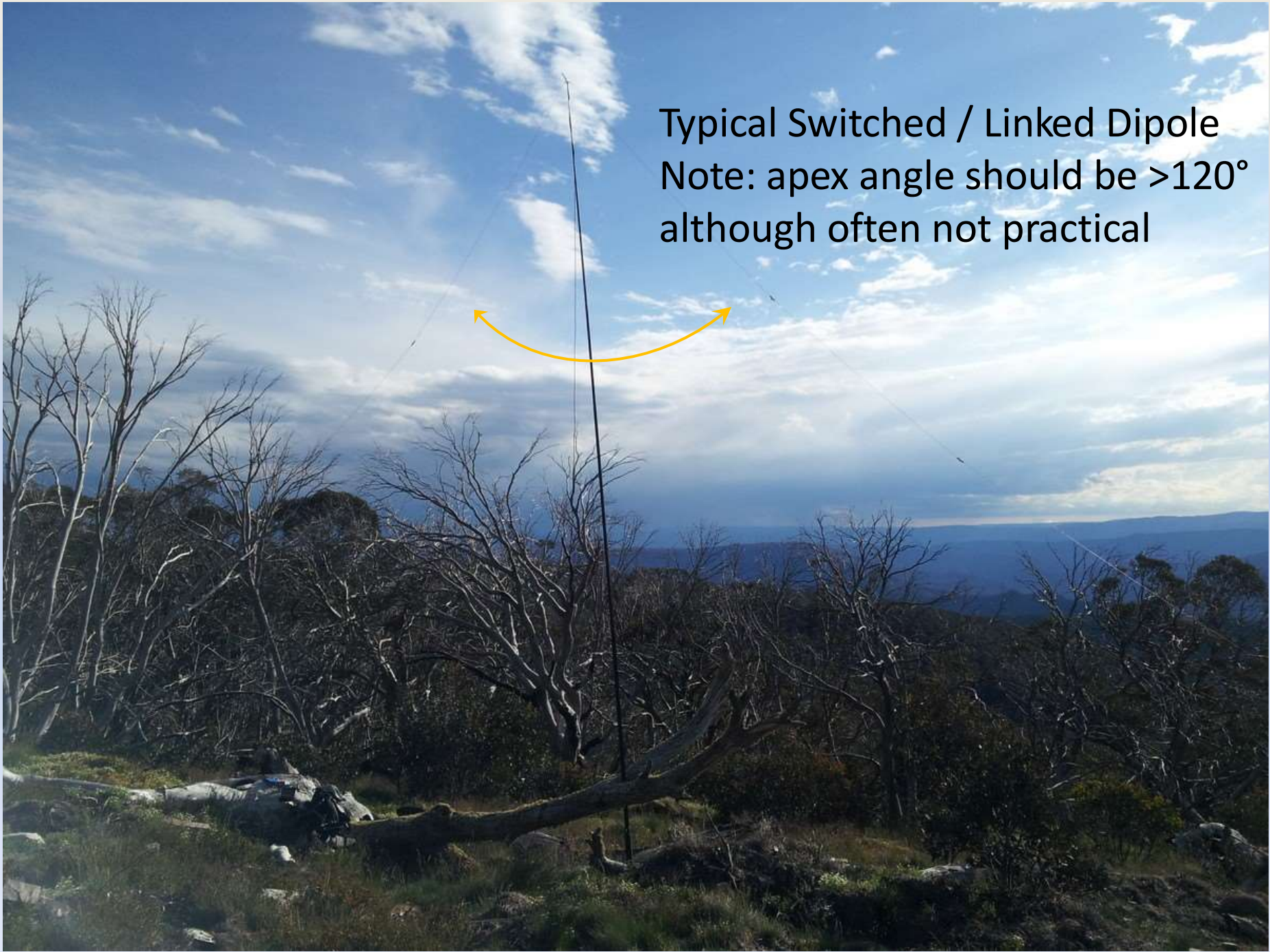
- Android
 - **VK3ZPF Port-a-log**
 - Rucksack Radio Tool
 - SOTALogger
 - SOTA Spotter
 - SOTA Finder
 - SOTA Watch
 - Androzic with DSE Maps (free download)
 - SMS Spotter
- Apple
 - SOTA Goat
 - Must be more, but I am an Android guy



Cold Weather!



Typical Switched / Linked Dipole
Note: apex angle should be $>120^\circ$
although often not practical



Mt Samaria Activation



South Korea Activation

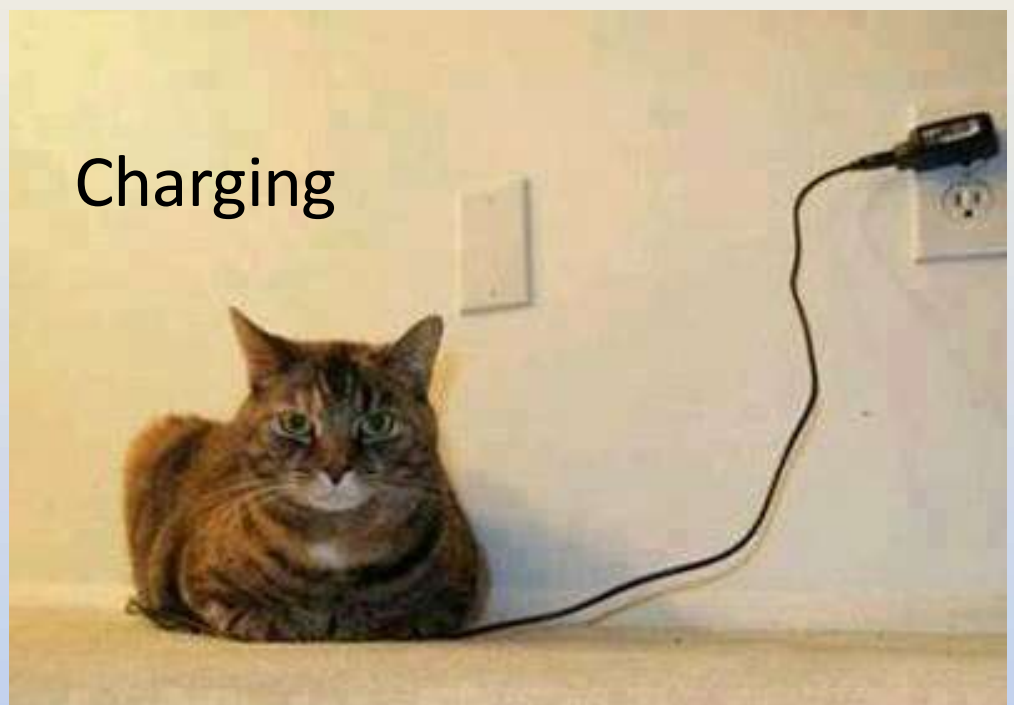


Further Information

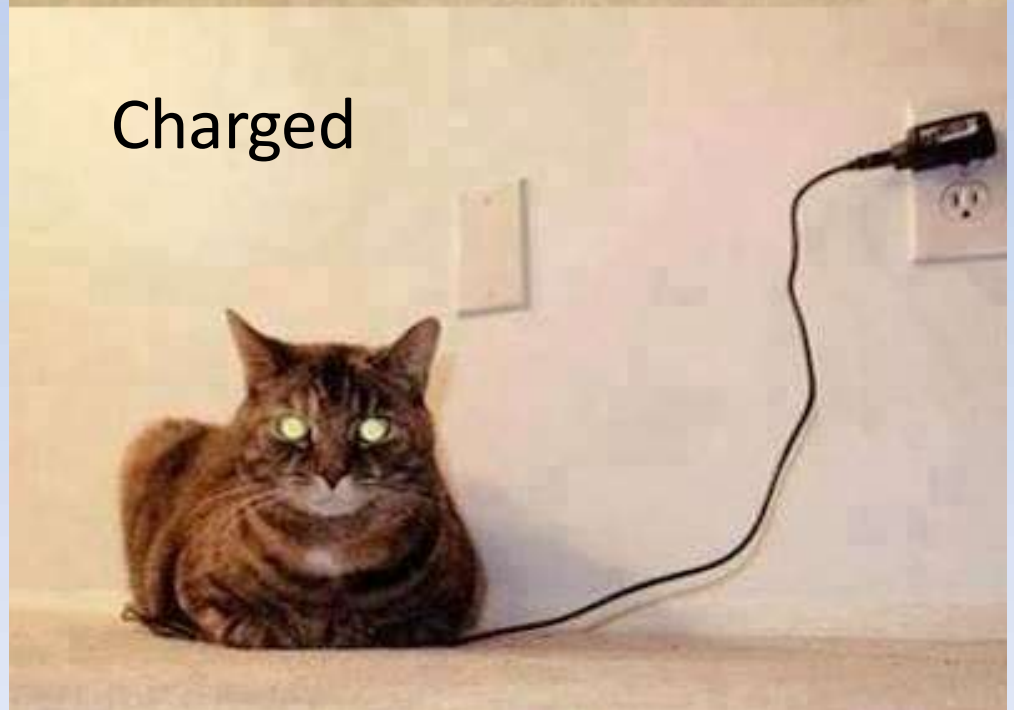
- Credits:
 - A beginners guide to SOTA, VK5 Parks Award, KRMNPA, & WWFF by Paul VK5PAS –VK SOTA Yahoo Group Files
- Useful links
 - www.sotawatch.org for “Spots” and “Alerts”
 - VK3 Association Reference Manual and summits
<http://www.sota.org.uk/Associations/viewAssociation/prefix/VK3>
 - For logging and summits database: <http://www.sotadata.org.uk/>
 - Parks n Peaks by Allen VK3HRA <http://www.parksnpeaks.org/>
 - VK SOTA Yahoo Group https://au.groups.yahoo.com/neo/groups/SOTA_Australia/info
 - Port-a-log by VK3ZPF
https://au.groups.yahoo.com/neo/groups/vk3zpf_logger/info
 - SOTA Blogs, too many to mention!
 - Forest Explorer for VK3 maps
<http://nremap-sc.nre.vic.gov.au/MapShare.v2/imf.jsp?site=forestexplorer>
 - Linked dipole calculator <http://www.sotamaps.org/extras.php>
 - Batteries http://batteryuniversity.com/learn/article/types_of_lithium_ion

How to tell when your cat is charged

Charging



Charged



SOTA Conference 2016

Four years in review
13 Feb 2016
Wayne VK3WAM



Four years of SOTA in VK

- VK3 First on 1 Feb 2012, VK5 next, 1 Oct 2012
- VK1 on 1 Feb 2013, VK9 on 1 May 2013
- VK2 and VK4 on 1 Sept 2013
- VK8 on 1 Mar 2014, VK6 on 1 Sept 2014
- VK7 on 1 Oct 2014
- VK0 on ?



Anyone interested in SOTA?

	2012	2013	2014	2015
Activator points	1,249	6,717	11,473	11,795
Activators	19	95	126	139
Activations	212	1,479	2,323	2,284
Activations per activator	11.16	15.57	18.44	16.43



Anyone interested in SOTA?

	2012	2013	2014	2015
Logged chasers	40	137	193	190
Chaser points	4,155	77,706	160,877	119,625
CW activator points	169	415	2,854	2,573
CW activations	28	82	272	460
CW activations per activator	5.6	7.45	14.32	17.69



Anyone interested in SOTA?

Chaser points	2012	2013	2014	2015
80m	14	3	3	338
40m	3,918	72,485	140,226	104,946
30m	0	247	1,731	680
20m	34	1,859	14,952	7,286
17m	0	21	236	175
15m	8	41	335	1065
12m	0	421	958	20
10m	0	28	147	2,254
6m	0	22	84	868
2m	221	3,117	1,824	2,405
70cm	1	14	94	77
23cm	0	0	0*	1



VK3

- Started on 1 Feb 2012 with 609 summits
- Today is 628 summits – small adjustment coming
- 390 of these have been activated once or more (30 new ones in 2015), 238 never been activated
- 308 activated at least twice
- Most popular summit: Mt Donna Buang VK3/VC-002 with 85 activations
 - Next Mt Macedon VK3/VC-007 with 64



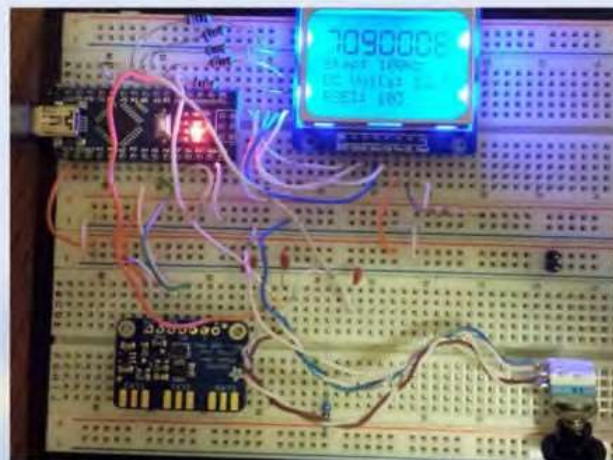
SOTA VK3 Conference 2016

- Homebrew 40m QRP TXCVR -
- Homebrew 10/12/15m Amp -

Glenn Sneddon
VK3YY

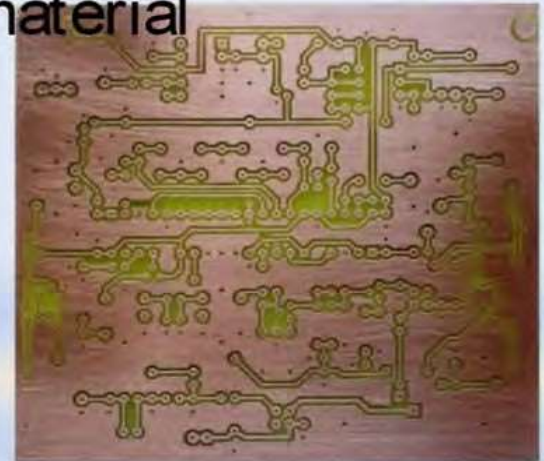
40m QRP Transceiver

- Requirements
 - About 300 grams weight
 - Under 50mA receive
 - Run from 3SLipo pack
 - 5 Watts RF output
 - Internal Speaker
 - 100 x 100 x 30 mm size
 - SSB and CW



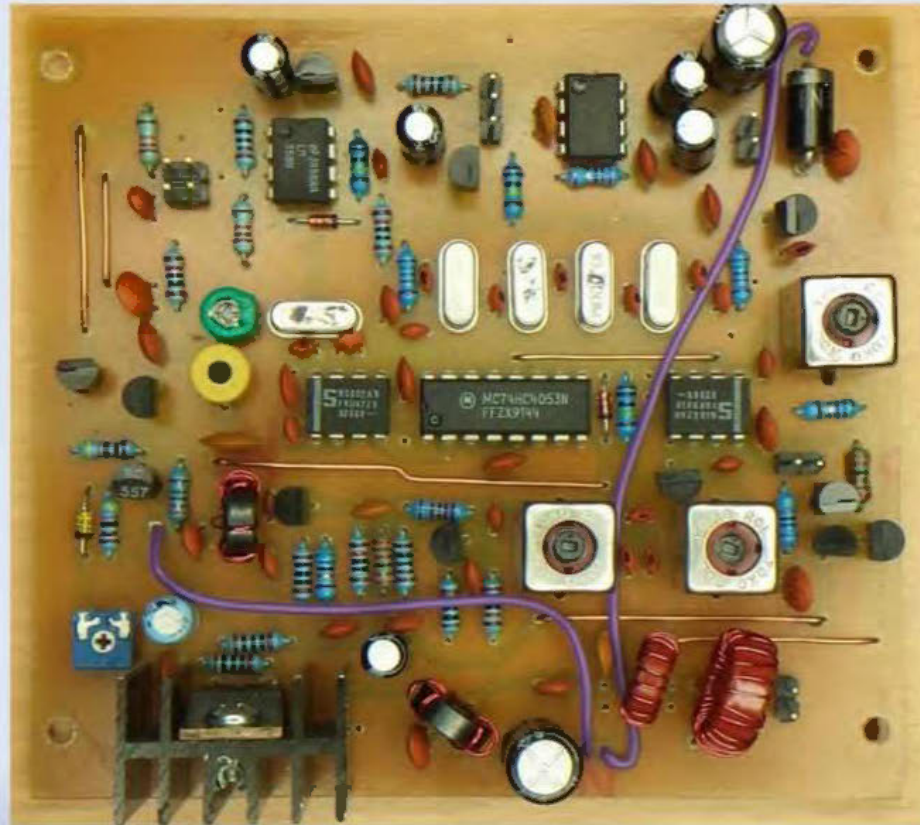
40m QRP Transceiver

- Design
 - Another KD1J design, changed from 80 to 40
<http://kd1jv.qrpradio.com/ssbrig/SSB.HTM>
 - Added an S5351 VFO
 - Added Arduino Nano and Nokia 5110 display
 - Lightweight case made from PCB material
 - Size met
 - Tuned by rotary encoder



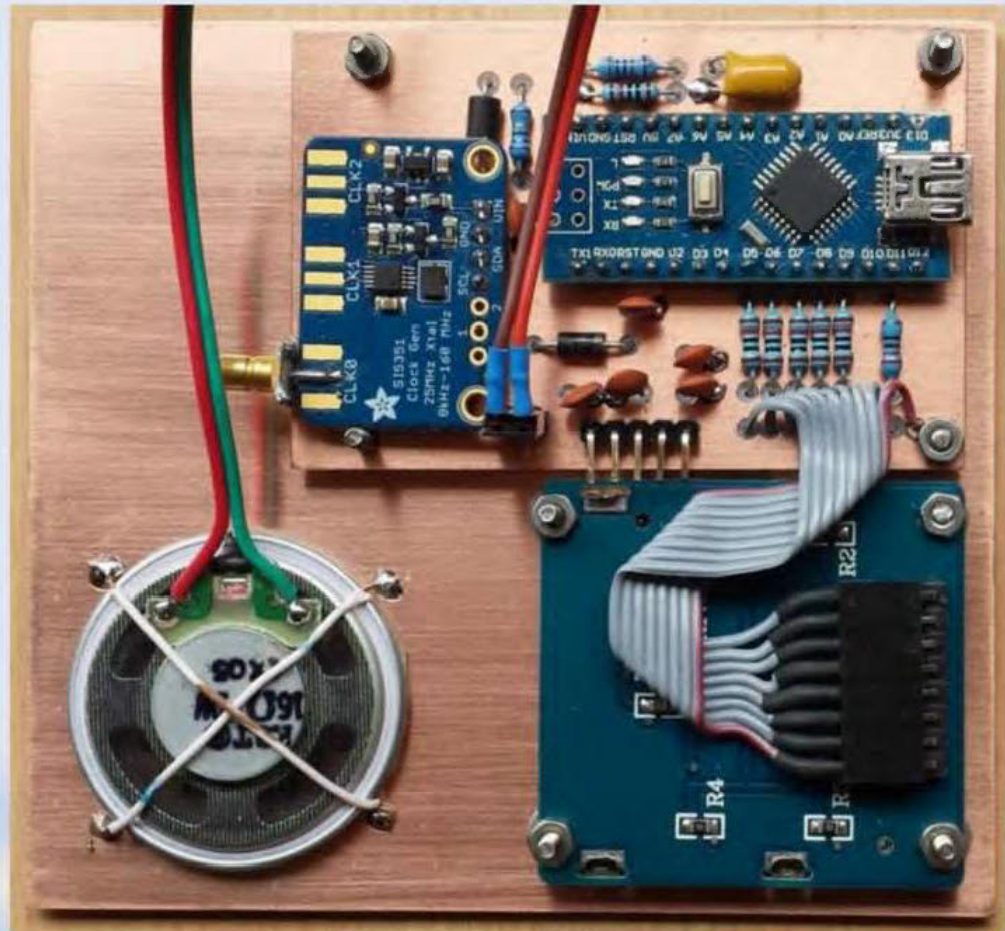
40m QRP Transceiver

- RF Board
- CMOS switches for TX/RX



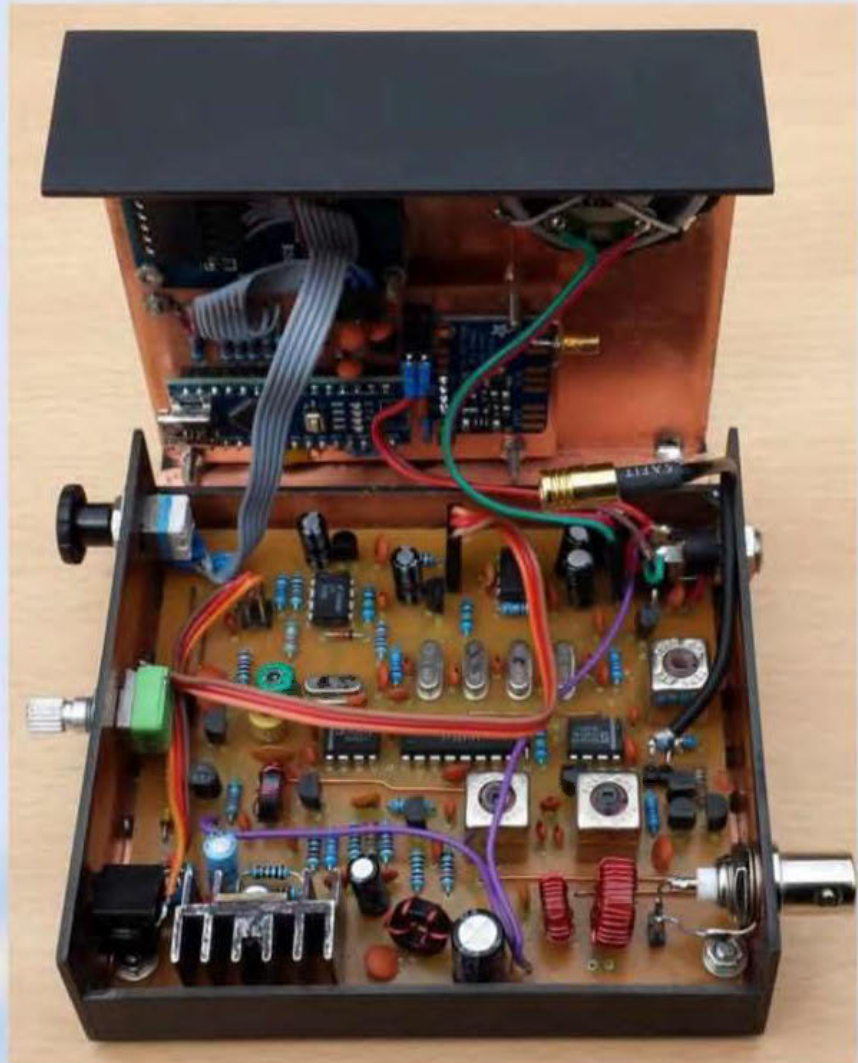
40m QRP Transceiver

- Controller
- VFO
- Display
- Mounted in lid



40m QRP Transceiver

- The Innards



40m QRP Transceiver

- Completed Rig
- 273 grams



40m QRP Transceiver

- Links

- Blog of project:

- <https://vk3yy.wordpress.com/2015/09/19/80-metre-portable-qrp-rig/>

- KD1JV RF board

- <http://kd1jv.qrpradio.com/ssbrig/SSB.HTM>

- Etherkit S5351 drivers for Arduino

- <https://github.com/etherkit/S5351Arduino>

- Adafruit S5351 breakout board

- <https://learn.adafruit.com/adafruit-si5351-clock-generator-breakout/overview>

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40m QRP Transceiver

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-

10/ 12/ 15 m Compact Amplifier

- Requirements
 - At least 25 Watts output
 - Run from 3SLipo pack
 - Compact
 - Lightweight, less than 500 grams
 - SSB
 - Specifically for an overseas SOTA activation

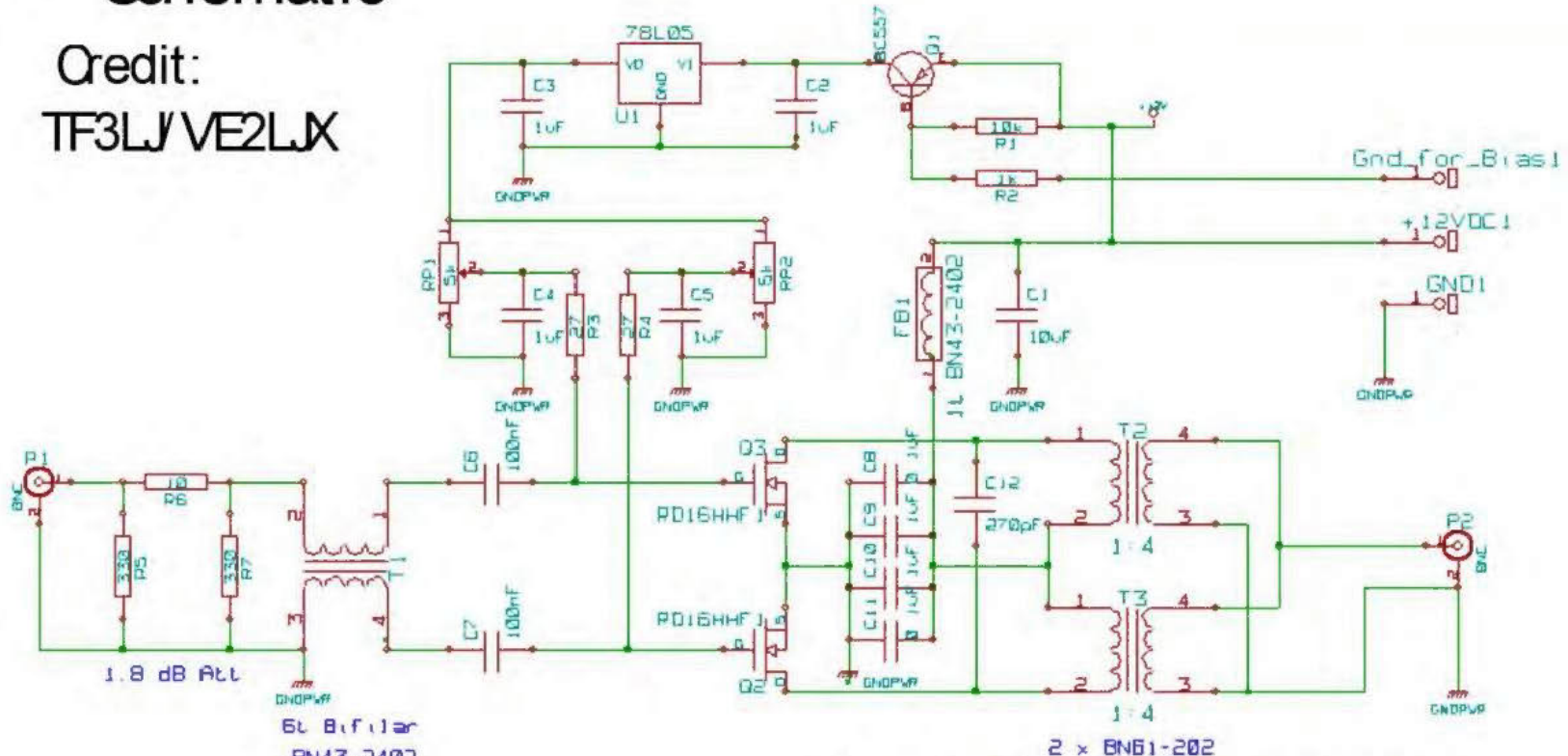
10/ 12/ 15 m Compact Amplifier

- Design
 - Based on TF3LJ/ VE2LJX design
 - Uses Mitsubishi RD16HFF1 Fets in push pull
 - Added Bar graph RF out / Voltage display
 - Display uses LM3914 dot bar driver
 - Heatsinking minimal, compromise for weight
 - Aluminium chassis, angle extrusion and sheet
 - Size 75 x 110 x 30 mm
 - Compromise Low Pass Filter, good on 10/ 12/ 15

10/12/15 m Compact Amplifier

- Schematic

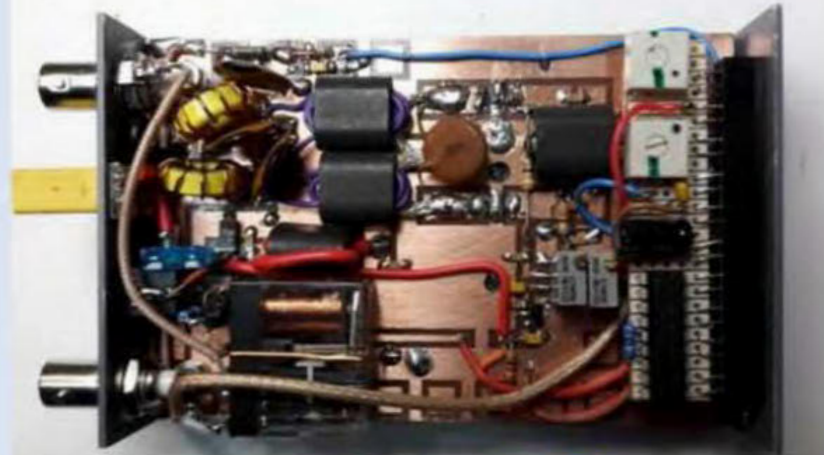
Credit:
TF3LJ/VE2LJX



primary is 1 turn, 1mm thick multi-stranded silver coated wire (20 strands), thin insulation
secondary is 4 turns, 24AWG hookup wire alternately the secondary can be 4 times 4 turns of 30AWG Kynar (wirewrap wire, wound in parallel).

10/ 12/ 15 m Compact Amplifier

- The Innards



10/ 12/ 15 m Compact Amplifier

- Finished Amp
 - Did the job for O/S activation, worked back to VK2/3 & 6
 - RF out between 22- 25 Watts SSB, more saturated.
 - Does get hot in 35° temps!
 - Runs well of one 2200mAh 3 cell Lipo
 - A bit more power would be nice

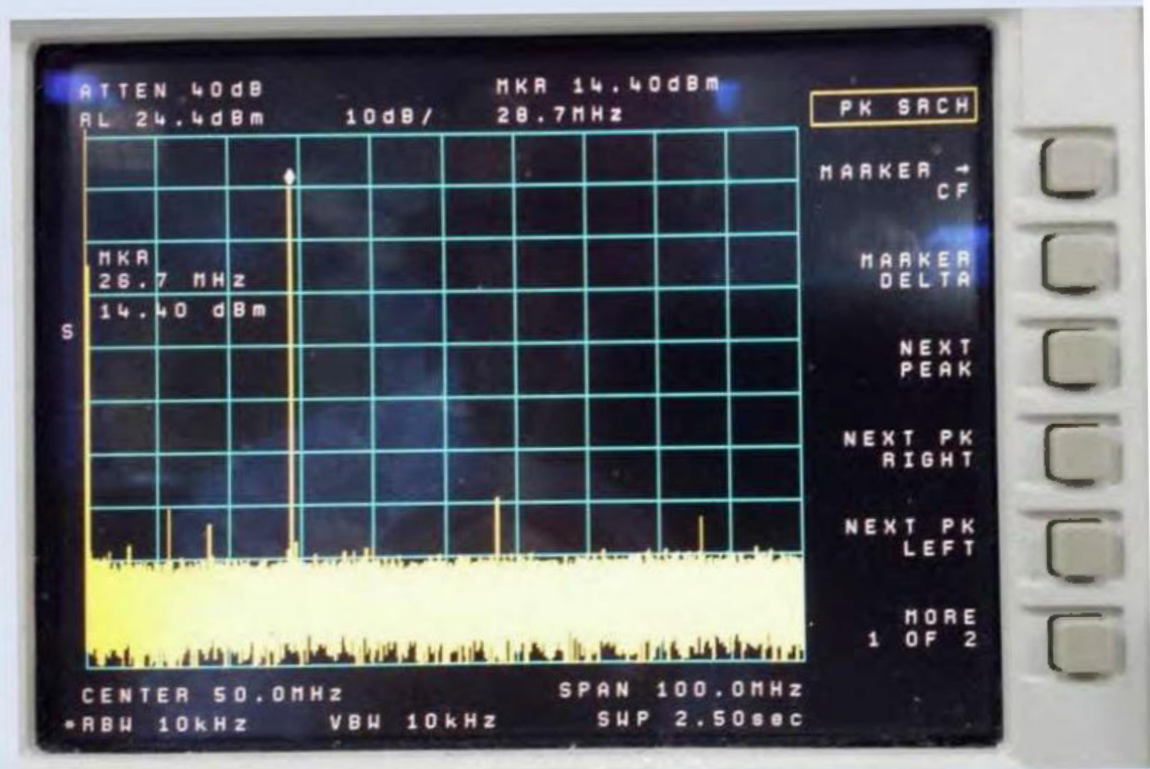


10/ 12/ 15 m Compact Amplifier

- Analyser Plot
28MHz +44dBm

2nd Harm. -60dB

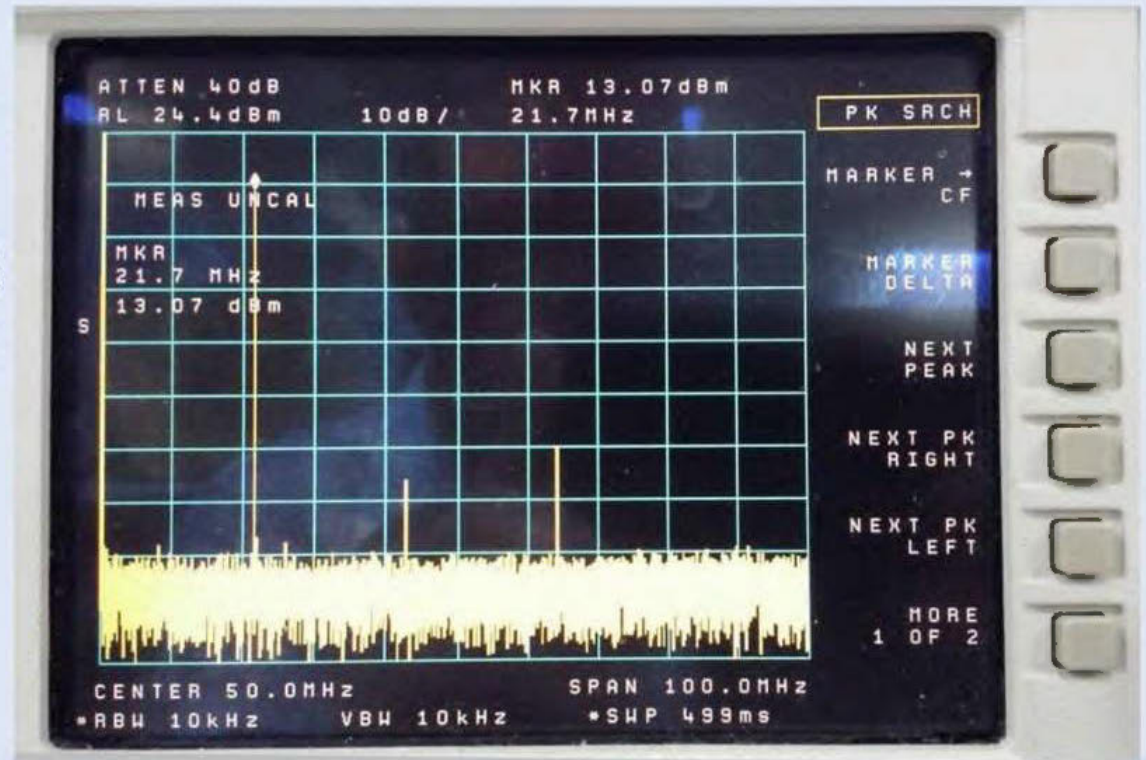
3rd Harm. -63dB



10/ 12/ 15 m Compact Amplifier

- Analyser Plot
21MHz +43dBm

2nd Harm. -56dB
3rd Harm. -50dB



10/12/15 m Compact Amplifier

- In use with FT-817



10/ 12/ 15 m Compact Amplifier

- Links:

- Project Blog

- <https://vk3yy.wordpress.com/2015/06/07/yet-another-amp-for-the-817/>

- TF3LJ/ VE2LJX design

- https://sites.google.com/site/lofturj/softrock6_3

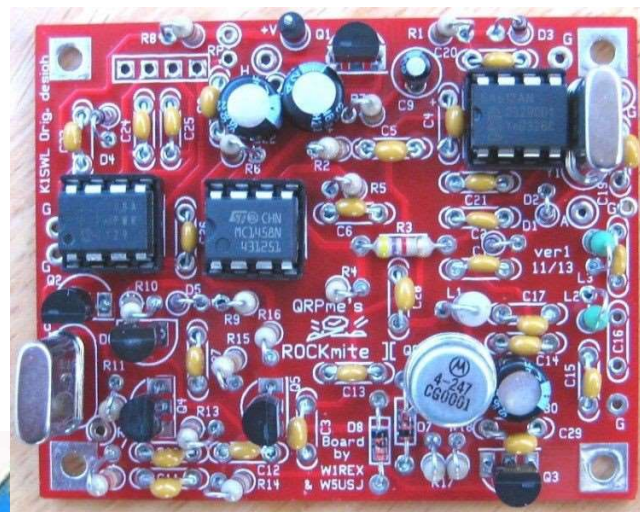
- VK3IL design for KN-Q7a

- <http://vk3il.net/projects/kn-q7a-mods/>

The End!



BOULDERS, ROCKS AND ROCKMITES WITH SOME FROG SOUNDS.



Ron Cook
VK3AFW

KEEPING IT SIMPLE AND CHEAP

There has been a fascination for a hundred years. with making the simplest working transceiver Crystal control has been the gold standard for frequency stability and knowing where in the band you are since the mid 1920's.

LC oscillators offer frequency agility but require larger components and excellent mechanical design to be able to be used in the field. Requires some construction skill to do properly.

TWO TRANSISTORS GOOD, FOUR TRANSISTORS BETTER

Over the years many amateurs have built two tube transceivers and then 2 and 4 transistor transceivers.

Good results are only possible with crystal control.

The early versions had various names but “Pixie” stuck with the basic design.

The latest version is called a Rockmite – the Chinese have their own names for their offerings

CHINESE CHEAPIES

The basic transceiver consists of a crystal oscillator and a keyed PA.

The receiver is direct conversion.

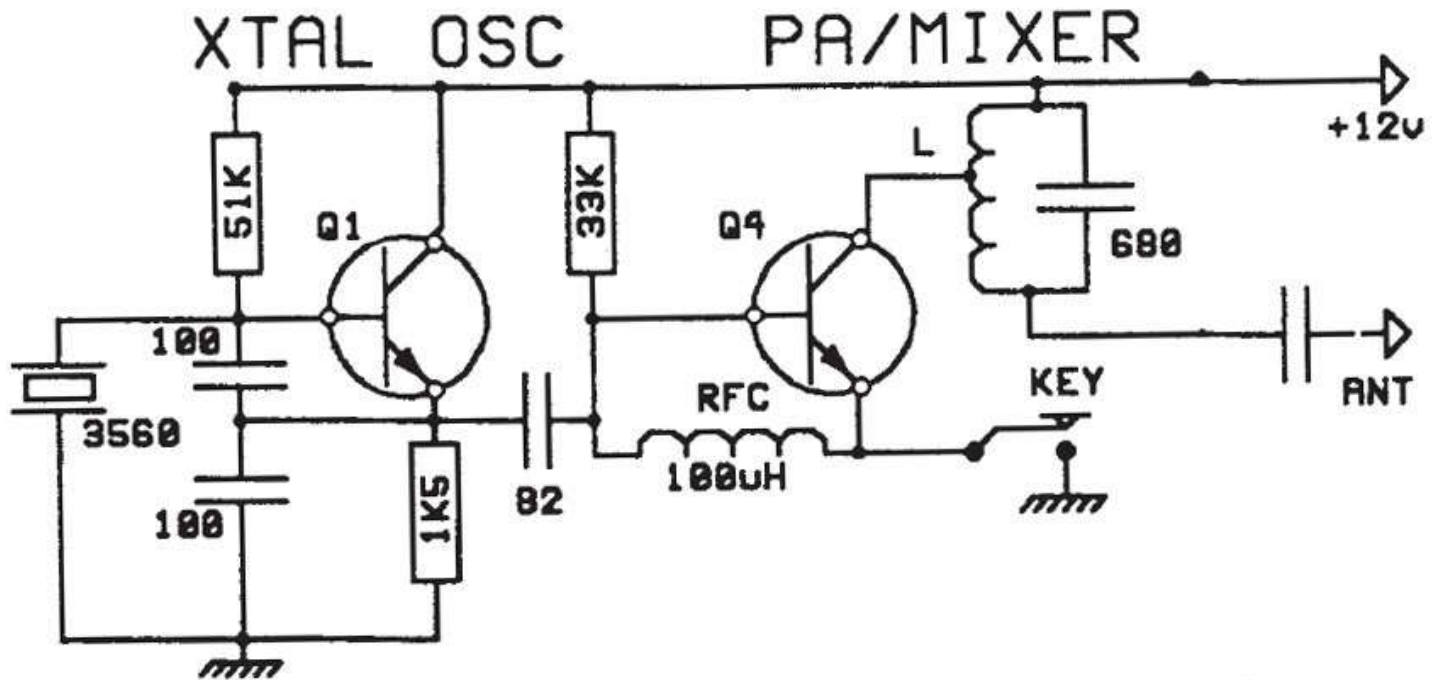
The Chinese are now offering basic Pixie kits for as little as USD 3.31 posted. See E-Bay.

There are numerous variants with the better ones costing about USD50.

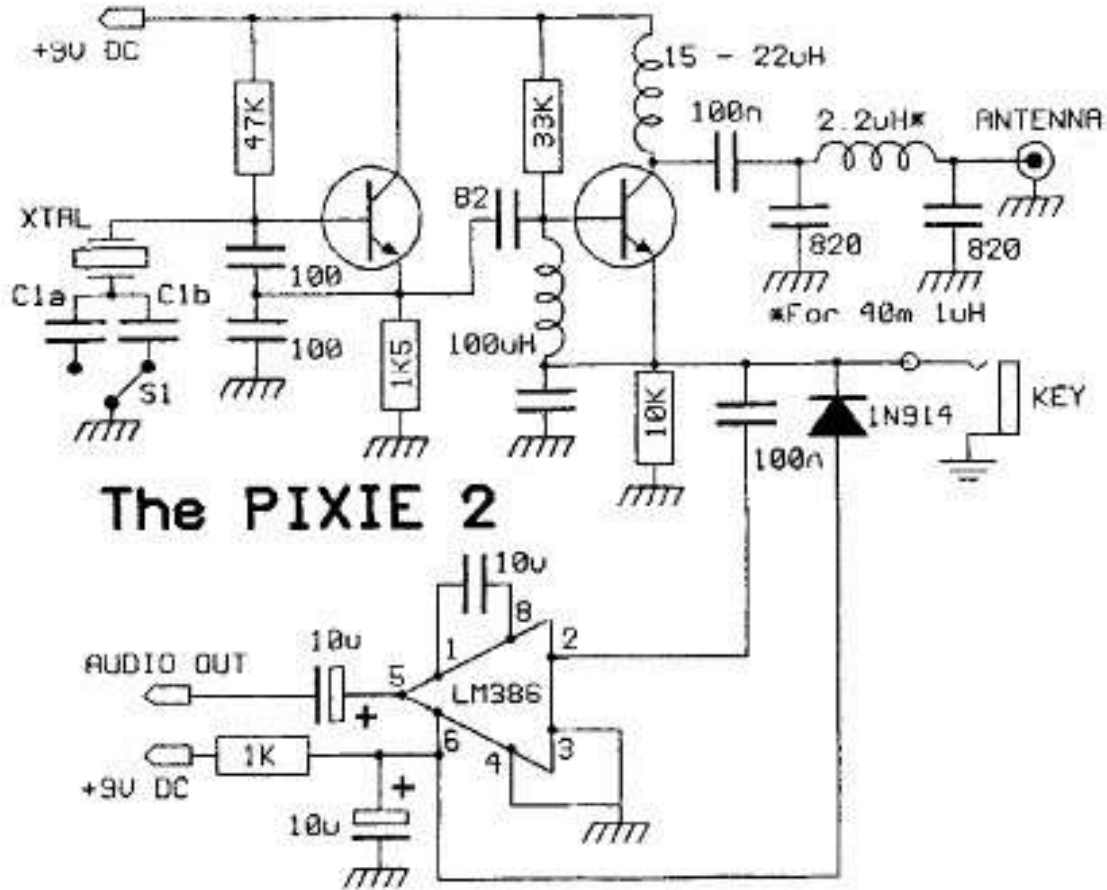
Power out varies from 400 mW to maybe 3 W. One claims 8 W

Rx MDS claimed to be as low as 0.3 uV for some units.

BASIC TRANSMITTER



THE PIXIE 2



The PIXIE 2

The Pixie 2 transceiver.

Rx offset with switch.
No sidetone.

THE PIXIE 2

The transmitter

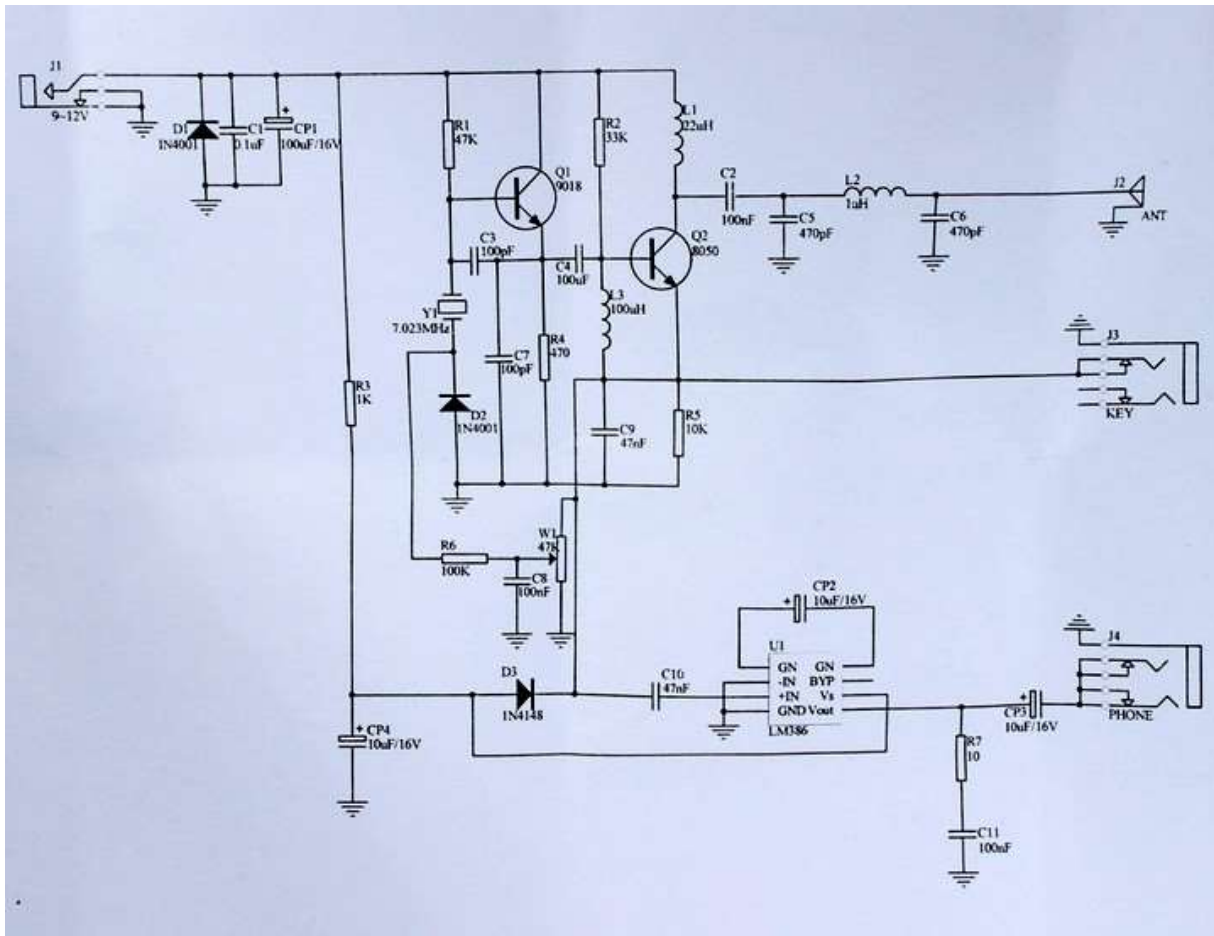
- Simple and minimal power drain
- 9 V supply sufficient but can be used with up to 14 V
- Power is 6 to 10 dB down on FT817 's 5 W
- Heatsinking is require for PA
- Oscillator-PA design gives good isolation of oscillator from load variations.
- With care keying is clean and note is pure.

THE PIXIE 2

The receiver.

- The PA transistor becomes a synchronous switch, switching being done at the oscillator drive frequency.
- Signals present at the collector are mixed with the LO and the audio beat appears across the emitter resistor.
- Enough audio gain is required to drive a pair of headphones. Modern noise cancelling headphones help boost the audio and drop the wind noise.

CHINESE PIXIE 2



The Chinese Pixie Tcvt schematic.

It features rx offset but not sidetone for sending.

CHINESE PIXIE 2

Specification :

Power supply: DC 9V-14V

Antenna: 50 ohm, unbalanced

Receiving quiescent current: 10mA @ 9V

Transmit power: 0.8W @ 9V, 1.2W @ 12V

Current drain estimated 200 mA

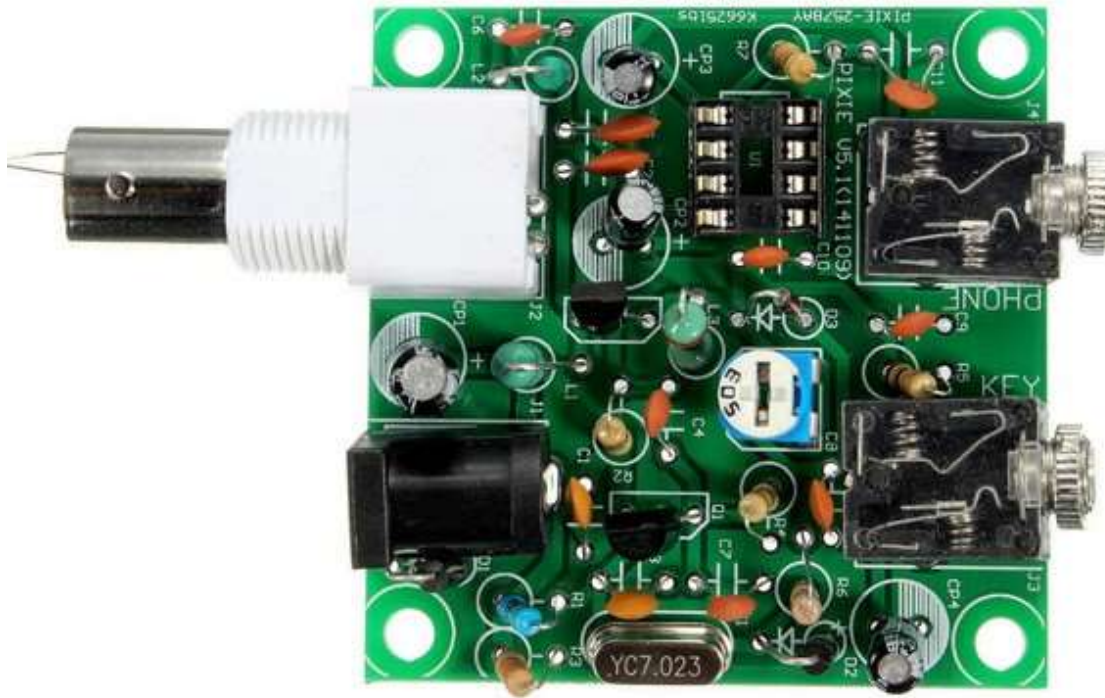
Frequency range:

emission 7.023MHz,

receiving 7.023-7.026MHz (7.023MHz crystal)

Working Mode: CW

CHINESE PIXIE 2



The Chinese
Pixie Tcvt.

Supply your
own tuna tin
or other box.
Add
sidetone if
you must.

CHINESE PIXIE 2

All these transceivers can be built for 80, 40, 30, 20 m. Just change the crystal and LP filter components.

In VK 40 m is the best bet for SOTA and field operation.

Operation at higher frequencies would be possible with a slight change to the oscillator and different PA transistor to maintain useful power levels.

IMPROVING THE BASIC PIXIE 2

The tx frequency is offset automatically on receive to get a pleasing beat note.

Adding a keyed audio oscillator provides side tone for sending.

A varacap diode can be added to allow for about 1 kHz QSY on 40 m.

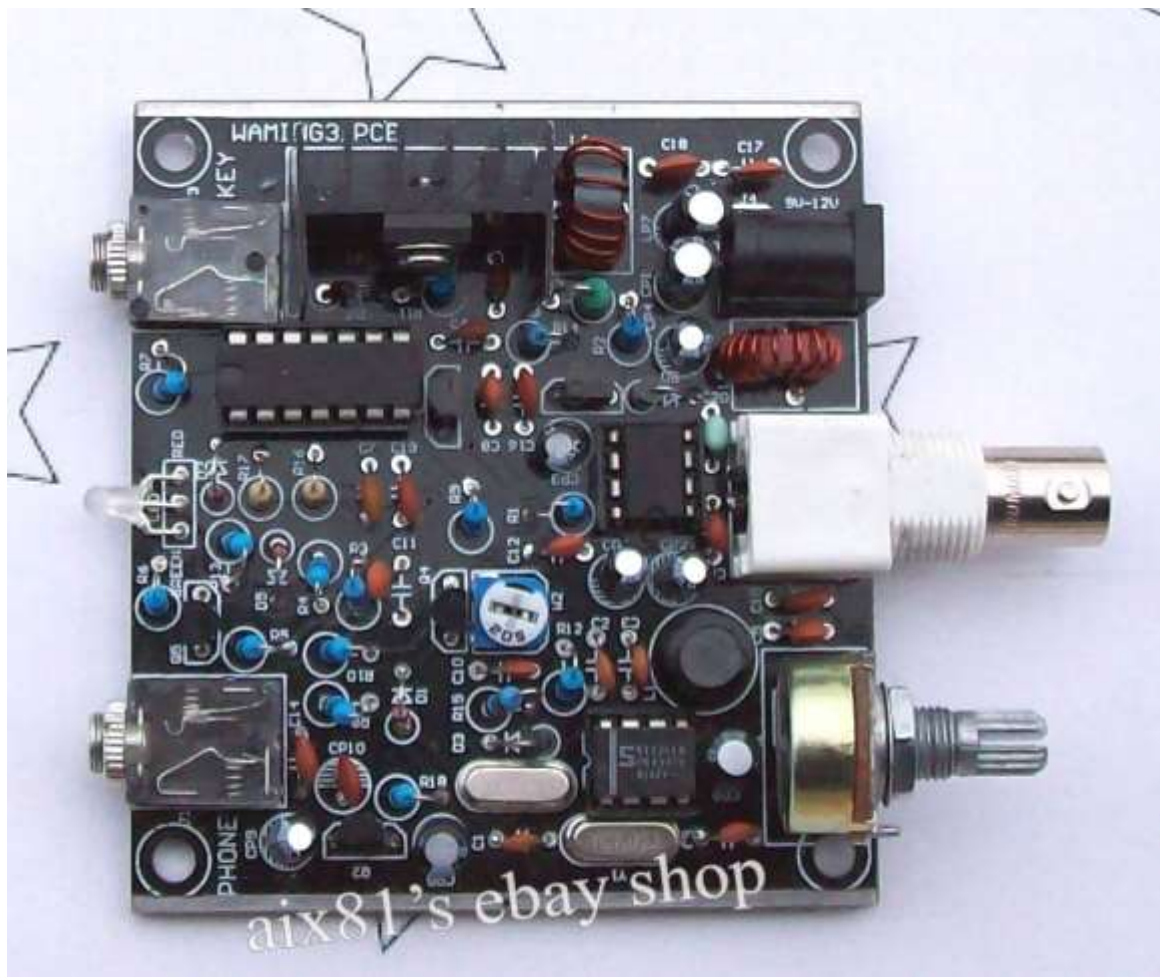
IMPROVING THE BASIC PIXIE 2

Replace the basic switching detector with a balanced product detector to improve sensitivity and improve out of band rejection..

The receiver is still going to prone to rectification of AM stations when a full size dipole is connected. Need to add a tuned circuit or a series crystal or a high pass filter.

A microprocessor can perform all control functions, side tone plus iambic keying for a paddle.

FROG SOUNDS VERSION



Frog Sounds. A Chinese Pixie with side tone.

Cost USD 10.

FROG SOUNDS

SPEC:

Power supply: 9V-14V (Recommended 12 V linear regulated power supply)

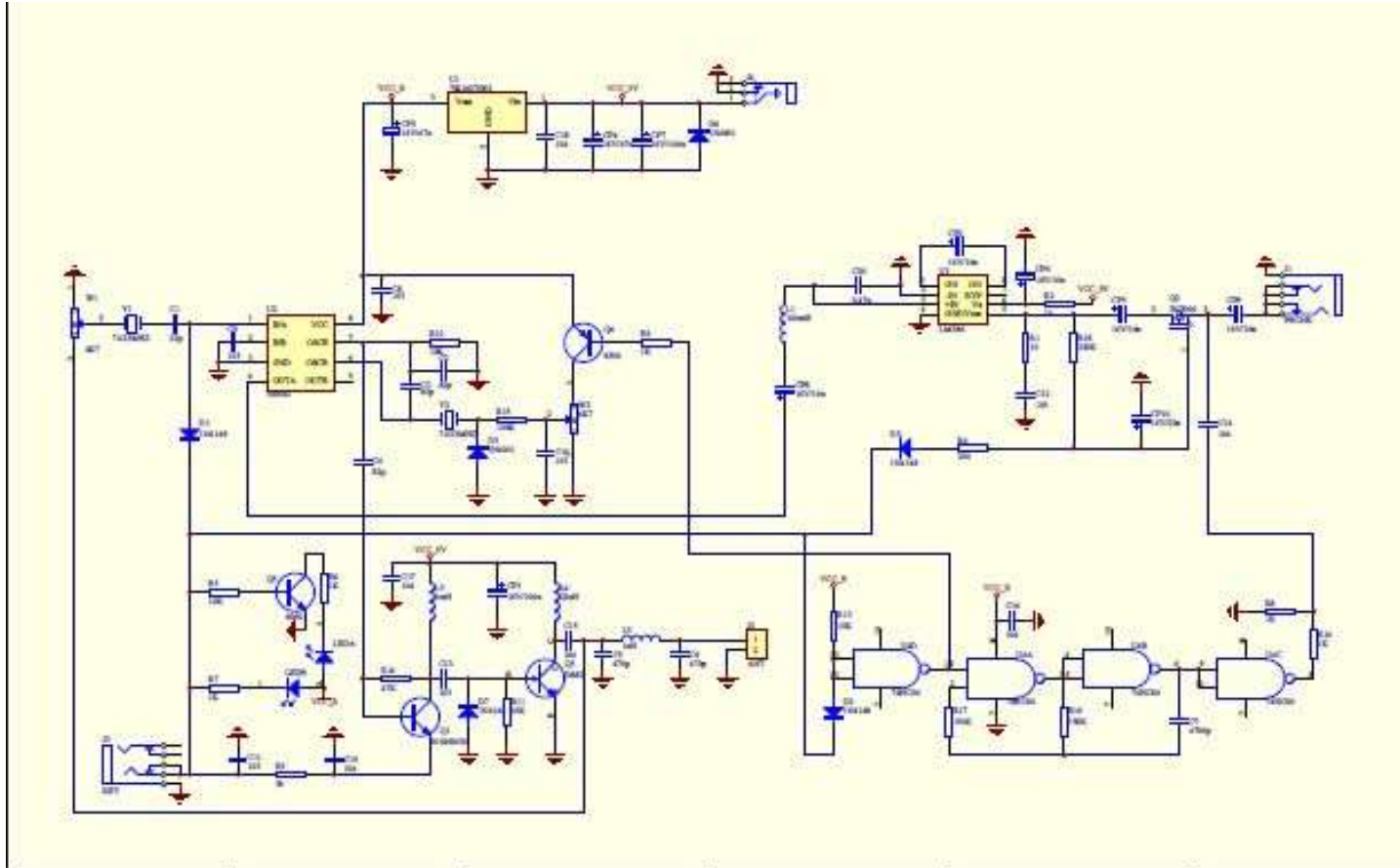
Antenna: 50 ohm, unbalanced

Transmission power: 2W (9V Power), 3W (12V power)

Frequency: transmitter local oscillator frequency: 7023 kHz;
receive local oscillator frequency: about 7023-7026 kHz

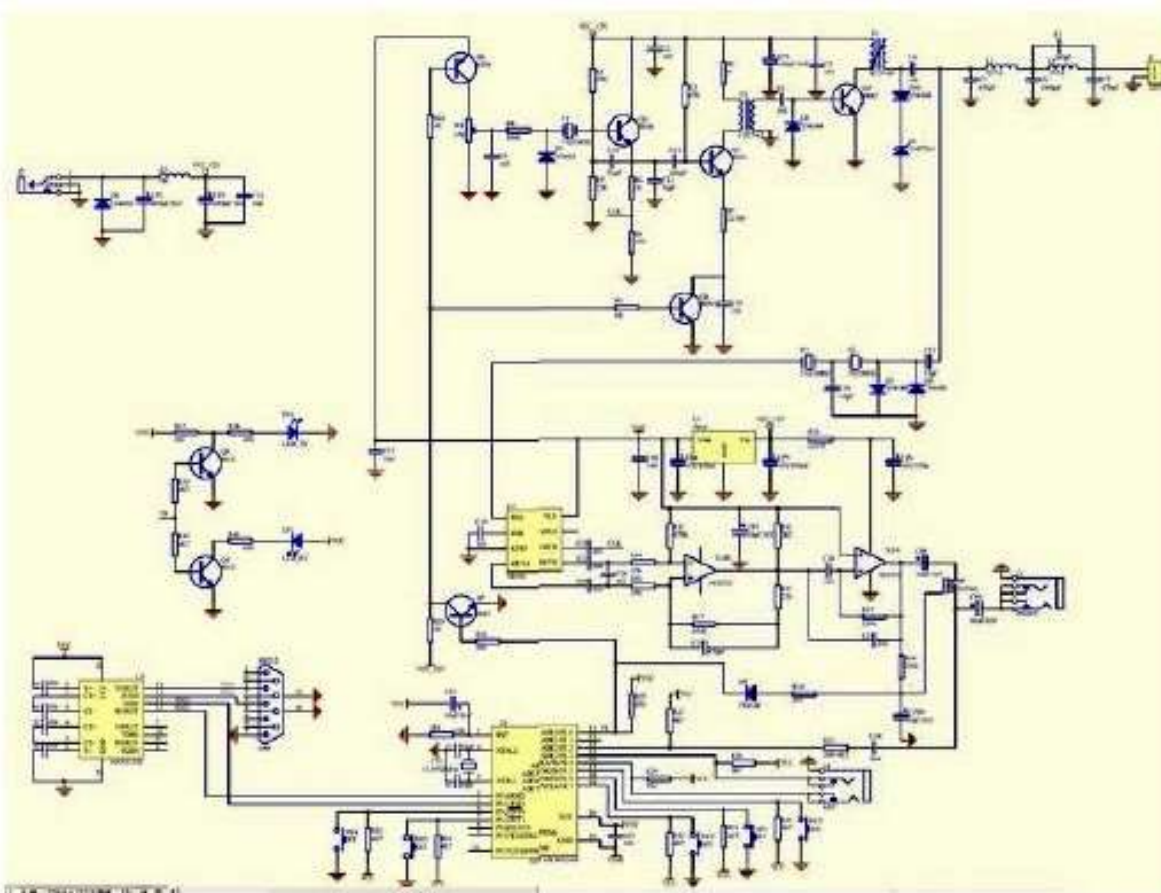
Operating mode: CW

FROG SOUNDS



Frog Sounds Circuit. A Chinese Pixie with side tone and 1.8 - 3 W out.

THE OCTOPUS SUPER PIXIE



The Octopus. A Chinese Pixie with side tone and claimed 8 W out.

Cost USD 25.

THE OCTOPUS SUPER PIXIE

Spec:

Power supply: 12V battery or linear regulated power supply (recommended)

Antenna: 50 ohm, unbalanced

Transmit power: 6W (9V power supply), 8W (12V power supply)

Frequency: transmitter local oscillator

frequency: 7023 kHz;

receive local oscillator frequency: about 7023-7026 KHz

Operating mode: CW

Lots of buttons for extra functions.

THE ROCKMITE

- Double-sided PCB 2.0" x 2.5", plated-thru-holes, solder masked & silk screened for easy assembly
 - Same size and mounting holes as the original so mint tin friendly
 - 0.5 W power output at 13V supply
 - Supply voltage range 12-15V
 - Available frequencies:
80m will be shipped with 3560 (or 3579 if specified)
40m crystals available are: 7015, 7028, 7030, 7040, 7114 & 7122 specify which when ordering!
- Extra functions via menu system

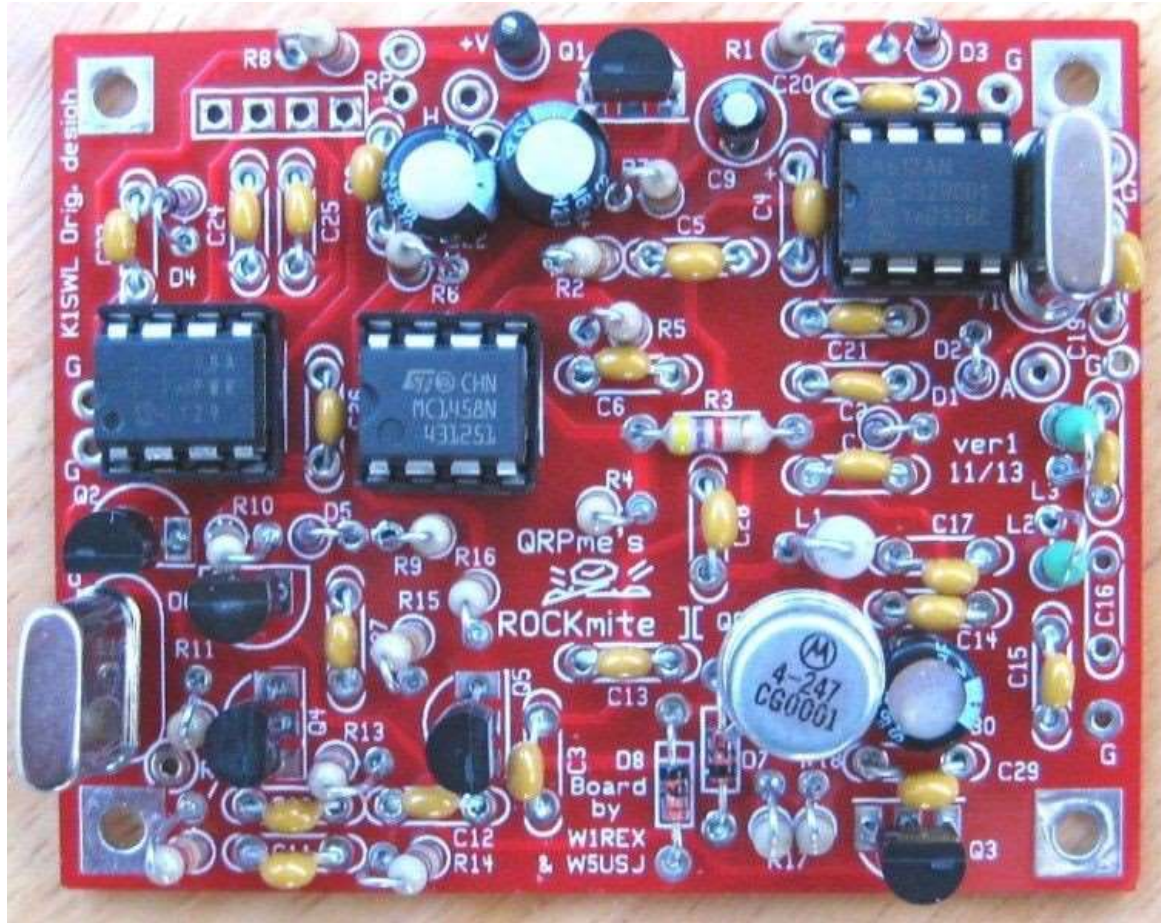
THE ROCKMITE

30m crystals available are: 10106, 10116 PLEASE SPECIFY WHICH WHEN ORDERING!

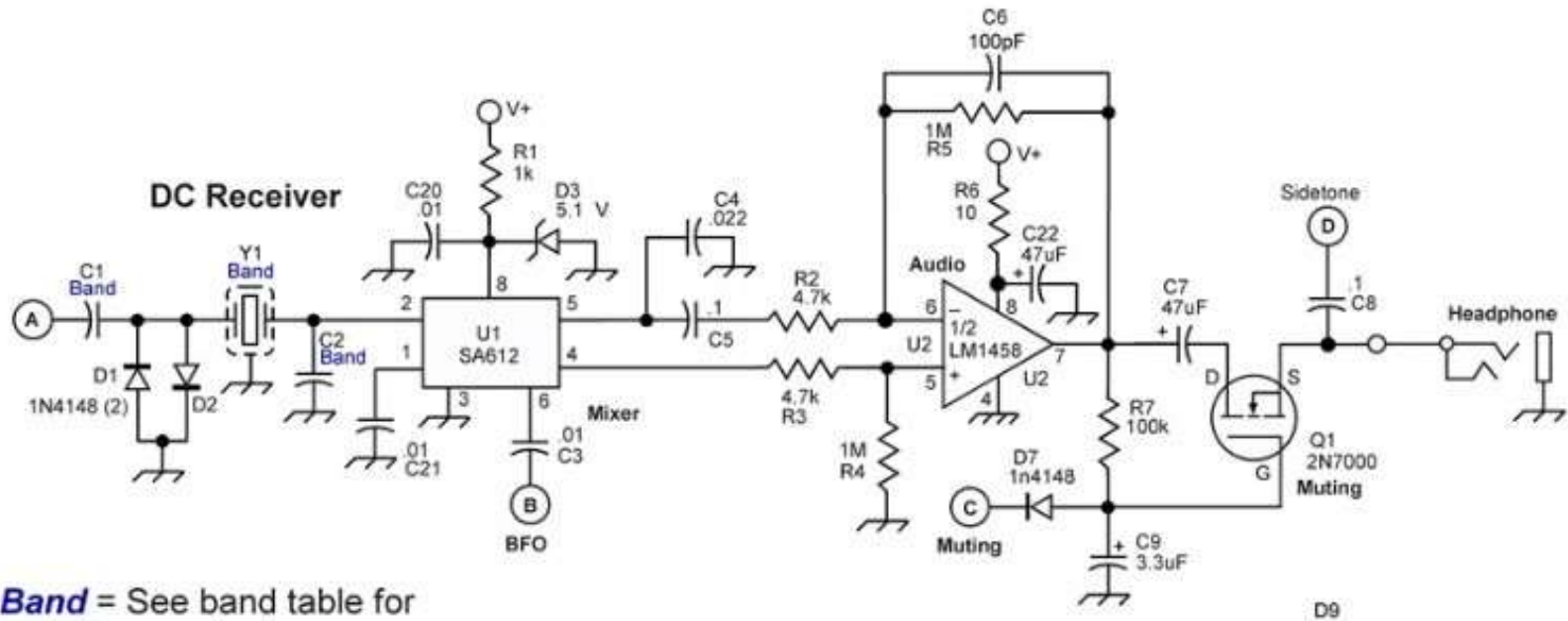
20m kits will be shipped with 14060 crystals

- Automatic T/R offset, reversible
- Built-in custom version of Ham Gadgets PicoKeyer-RM Iambic keyer, 5-40 WPM
- Built in side tone, approx. 700Hz

THE ROCKMITE



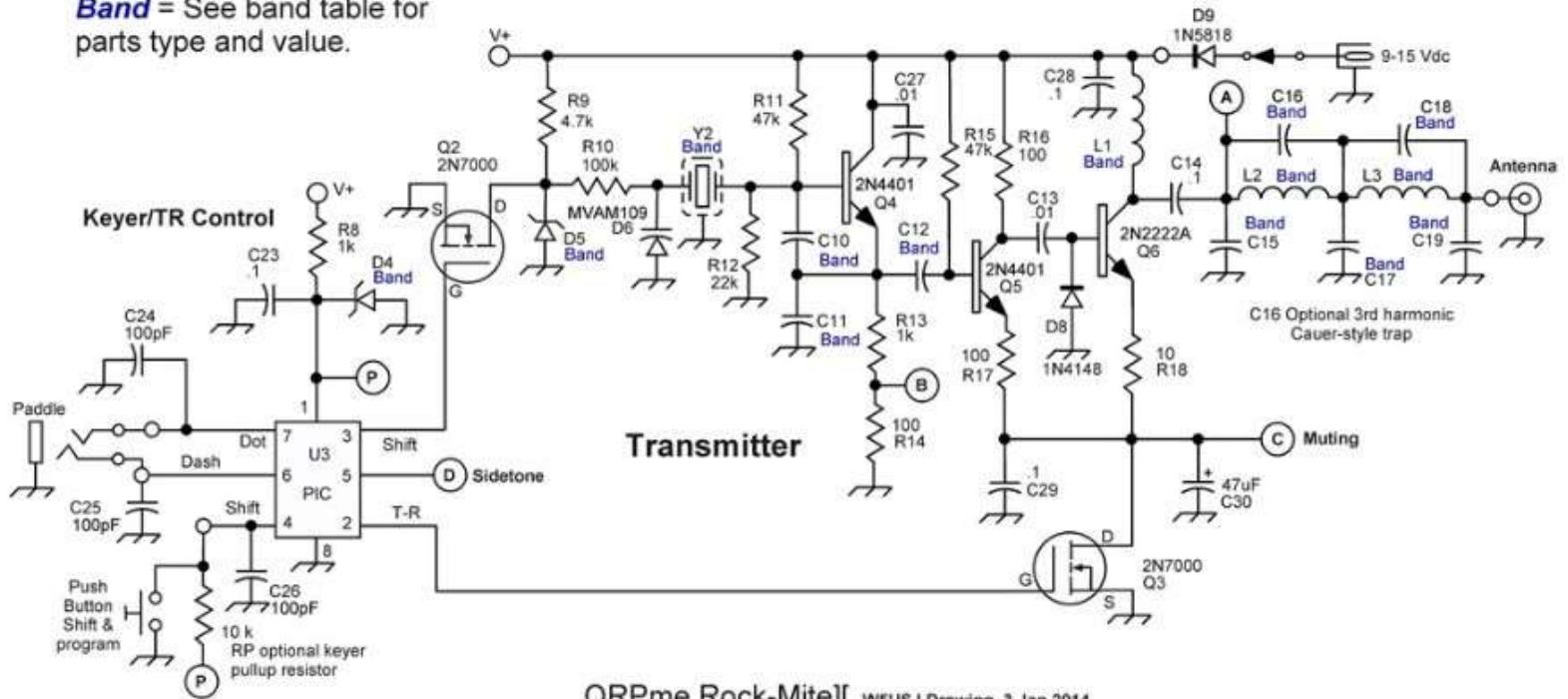
THE ROCKMITE



Band = See band table for parts type and value.

THE ROCKMITE

Band = See band table for parts type and value.



THE ROCKMITE VS THE REST

The Rockmite is the end of the evolution of the simple 4 transistor transceiver.

It still lacks a bit with power level – worth changing the PA chip and optimizing the matching to get above the 1 W level.

Even with the crystal filter in the front end selectivity is not great and break through still occurs.

Sensitivity is marginal at best.

Hover at an all up cost with box of around \$25 a Frog Sounds version of the pixie is good value.

The Rockmite was fair value until the AUD sank but it is still an economic if basic HF CW transceiver.

CONCLUSIONS

The Pixie is the lowest cost transceiver you can buy, albeit a kit. For a couple of dollars you can add sidetone. It is the 1980 circuit updated.

The Frog Sounds version is a step up with sidetone, higher power and a balanced demodulator.

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CONCLUSIONS

The Octopus has higher power and more bells and whistles.

The Rockmite is probably the best design but could benefit from a 3dB lift in power.

All these rigs are viable for the SOTA activator with a dipole and good conditions.

THE END





12.07.2015

SOTA Website - <http://www.sota.org.uk>

Changes are in process for SOTA Website

- **Spotlite or the RssFeed have changed:**

- <http://old.sota.org.uk/Spotlite/spot47>

- <http://old.sota.org.uk/RssFeed32>

- **These URLs will work for now and for some time afterwards.**

- **API**

- **Currently test code for association summit details is valid**

- <http://parksnpeaks.org/test/testSOTAAPI.php>

- <http://www.sota.org.uk/Summit/VK3/VW-001>

- **Expecting SPOT and Alert interface nowish**

Latest SOTA Spots

21:20	AK5SD on W5T/ST-010	14.062 cw
20:56	KD7WB on W6/SC-187	14.061 cw
20:51	AK5SD on W5T/ST-010	21.375 ssb
20:43	AK5SD on W5T/ST-010	7.270 ssb
20:41	N57P on W7O/WV-078	14.0615 CW
20:41	KX0R on W0C/FR-056	18.0929 CW
20:39	N57P on W7O/WV-078	7.032 cw
	KX0R on W0C/FR-056	7.033 cw
20:17	N0TA on W0C/FR-056	14.0626
20:13	AC1Z on W1/NL-022	7.032 cw

>> See more on [SOTAwatch](#)

VK3ZPF Android SOTA logger

- Captures QSO info including time, call sign, name, location, signal reports, mode, rig and power
- Uses the inbuilt GPS, where fitted, to determine the [Maidenhead locator](#)
- Outputs version 2.0 [CSV file format](#) compatible with [SOTA database](#) uploads for activate and chase logs
- Outputs [ADIF 3.0.4 file format](#) compatible with mainstream logging programs
- Displays distance and compass bearing from major landmark – VK capital cities
- Includes locator, SOTA reference, VKFF reference and GPS location in comments field of ADIF file
- Writes new files for each local calendar day
- Has shortcuts for most VK call sign prefixes or numbers zero – nine for faster DX entry
- Three operating modes – SOTA, portable and QTHR
- Has scroll list of QSOs, latest at top, for quick review



<http://vk3zpf.com/vk3zpf-sota-logger-app>

ParksnPeaks Update

- SOTA Database
 - Expanded to all SOTA
 - Multi-select spotting
- Inclusion of WWFF for ZL
- Tools
 - GPS POI file create
 - KML
 - ADIF file processing
 - WWFF & SOTA upload
- DXCluster
 - Sending spots into DXCluster network
 - Available for logging software

26.04.2015

Database Updates

- Entire SOTA Database
 - Required updated spotting selection
- WWFF -1130 Parks
 - Additional 130 VKFF updates 2015
 - All the SA Conservation are now WWFF
 - 21 ZLFF Parks
 - Associated Spotting



Tools

Developed to assist with planning both pre and post activations

- Process ADIF file for WWFF & SOTA log submission.
 - Submitt SOTA logs to Paul VK5PAS for WWFF
- Download local sites in KML format.
 - Google Earth View
- Download POI File in CSV,KML or RTE format.
 - Import into GPS

GPS File

Extracts data from SOTA and WWFF tables to create POI files

<http://www.garmin.com/us/maps/poiloader>

To Import into GPS;

Connect SPD to computer → 'Garmin PIO Loader' → Select file

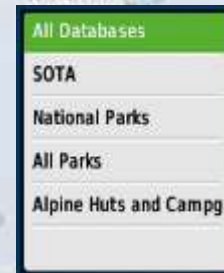
On GPS;

'Where To' → 'Extras' → Select Database



Garmin POI Loader

import



ADIF File Processing

ADIF has two fields of interest;

MY_SOTA_REF – The logging stations reference

SOTA_REF – the contacted stations SOTA reference

And one we could exploit;

MY_SIG – The logging stations special activity or interest group.

SIG – the name of the contacted station's special activity or interest group

- SOTA CSV import
 - Creates a file for import into SOTA Database
 - Single file for two imports.
- WWFF CSV import
 - Use the "my_sota" field to match to a WWFF using [SOTA Ref to WWFFID](#) data.
 - Send to Paul VK5PAS (don't change the extension)

06.03.2015

http://www.adif.org/304/ADIF_304.htm

DXCluster has tuned to HL5FEI 347°/167° 8,351 km 2016-02-10 09:35:54 VK3ARH v5.63

Radio Rotor


Kenwood TS-850

7.00500 VFO B

21.00650 CW

Split Off

Keyer



HL5FEI - Republic Of Korea

Call HL5FEI Time On 2016-02-10 09:34:13

Local Time Off

First YOUNG-WOO MHz 7.00500 40M Mode CW

Last KIM Power 95 RSTS 559 RSTR 559

Street 101-1805 Hansol Apt, 90... Grid PM46ea Locator iNet LL

City Gyengsangbuk-do ITU 44 IOTA 10/10

County SOTA SKCC

State QSL Via Mail, Beuro, LoTW CQ 25

Country South Korea 39843 DXCC 137 Republic of Korea

Email ywkim9988@gmail.com URL http://www.qrz.com/xml/current/...

Notes DX de BG3IAY

Look Up Previous Time On Time Off Log QSO Beam R + Stacking

Log Map Bands DXClusters Schedules Awards Memories QSL History Labels

1 of 4266 QSOs selected in MacLoggerDX.sql

Selected Delete DXCC: 034/000 WAZ: 014/000

VUCC: 010/000 WAS: 005/000

IOTA: 022/000

Time On	Call Sign	SOTA	My SOTA	First Name	Last Name	Rx Freq	Mode	RST S	RST R	Grid Square	Comments
-27 02:36:35	VK1AI/Z			JIM	SAYERS	7.14400	LSB	58	58	PG66pa	WWFF Kosciusko Natic
-26 09:53:37	VK6FLEW/P	VK6/SW-039		Lewis	Kemp	7.14500	LSB	52	52	OF78vd	
-26 00:30:59	VK2HRX		VKFF-0743	Compton	Allen	14.31000	USB	45	31	QF56ne	
-26 00:25:19	VK7VAZ		VKFF-0743	Adam	Mollineaux	7.09500	LSB	58	57	QE36wv	
-26 00:23:49	VK3FQSO		VKFF-0743	Amanda	Bauer	7.09500	LSB	55	43	QF13tn	
-26 00:21:13	VK3PMG		VKFF-0743	Michael	Geraghty	7.09500	LSB	56	43	QF12jw	
-26 00:19:47	VK2VW	VKFF-0743	VKFF-0743	Brett	Churchyard	7.09500	LSB	58	52	QG50ef	
-26 00:18:00	VK7CW		VKFF-0743	Steve	Salvia	7.09500	LSB	59	57	QE28tt	
-26 00:16:28	VK2IO	VK2/IL-017	VKFF-0743	Gerard	HILL	7.09500	LSB	55	55	QF56lg	WWFF Royal National P
-26 00:04:00	AX5ZRY		VKFF-0743	Richard	Way	7.11000	LSB	57	58	PF85vf	WWFF Roonka Conserv
-25 23:50:33	AX2IB	VK3/VE-076	VKFF-0743	Bernard	Kates	7.02800	CW	579	559	QF33lx	
-25 23:37:31	AX5FANA		VKFF-0743	Adrian	Addison	7.09000	LSB	57	59	PF85vr	
-25 01:50:51	VK2IO	VK2/IL-003		Gerard	HILL	7.03200	CW	559	589	QF56lg	
-24 23:09:42	VK3FOWL			Julie	Gonzales	7.09500	LSB	59	59	QF22nc	WWFF Enfield State Par
-24 23:06:49	VK3YSP/P			Joe	Gonzales	7.09500	LSB	59	59	QF22nc	WWFF Enfield State Par
-24 10:53:23	VK6ADF/P			PHIL	HECKINGBOTTOM	7.14400	LSB	57	58	OF88ma	WWFF Moore River Nat
-24 07:09:01	VK2IO/P	VK2/SY-002		Gerard	HILL	7.09000	LSB	57	59	QF56lg	(VKFF-0041) in Blue Mo
-24 07:08:08	VK1MA	VK2/ST-017		Matt	McNeil	7.09500	LSB	59	59	QF44mt	

09:35

PDF

Allen PRESE...016.pdf

LEARN CW WITH 3AFW.pdf

DOCX

new VK5 Parks.docx

PDF

MELBOURNE SOTA...gram.pdf

DXCluster has tuned to JT1AA Rotor

acLocne U ORZ XMI

336°/156° 10,206 2016-02-10 09:42:36 VK3ARH v5.63

Contest

Kenwood TS-850

21.02000

21.00650

VFO B C
CW C
Split Off C
Keyer

ca. JnAA
Loca: Gantulga
First Gantulga
Las Ts
Stree. P.O. Box 233
Ci Ulaanbaatar-24
Cour t,
Sta.e
Count! Mongolia
En>a. jt1aa@yahoo.com
Notes

Time On 2016-02-10 09:39:29
Time O
M z 21.02000 15M vIode CW
Poffler 95 STS 559 STR 559
Grd ON37kw Locator iNet LL
ITU 32 0.A *0110
SOTA SKCC
QSL v/ia LoTW CO 23
DXCC 363 Mongolia
UR - <http://www.qrz.com/xmVcurrentV...>
DA de DJ9VS

Look Up Previous Time On Time Off Log aSO Beam A + Stacking

Map Bands DXClusters Schedules Awards Memories OSL History Labels

10 Records Exported from MacLoggerDX.sql

Selected	Date	DXCC: 034/000	WAZ.: 014/000								
D'SPlay		VUCC: 010/000	WAS: 005/000								
		OTA: 022/000									
	a.	a.	a.								
	Unconfirmed										
Time On	Call Sign	SOTA	My SOTA	First Name	Last Name	Rx Freq	Mode	RST S	RST R	Grid Square	Comments
-30 06:1139	VK2HPN		VK3/VW-022	Philip	Not	7.09000	LSB	58	41	QF43vh	
-30 06:09 06	VK7CW		VK3/VW-022	Steve	Salvia	7.09000	LSB	59	58	QE28tt	
-30 06:00 02	VK2YW		VK3/VW-022	John	EYLES	7.09000	LSB	58	31	QF34qu	
-30 06:04 27	VK51S		VK3/VW-022	Jan	SUTCLIFFE	7.09000	LSB	58	57	PF96ct	
-30 06:00 09	VK5WG		VK3/VW-022	NG	GOVAN	7.09000	LSB	58	55	PG66pa	
-30 04:06 43	VK5WG		VK3/VW-020	NG	GOVAN	7.09500	LSB	57	44	PG66pa	
-30 04:05 09	VK51S		VK3/VW-020	Jan	SUTCLIFFE	7.09500	LSB	58	57	PF96ct	
-30 04:04 33	VK3PF		VK3/VW-020	Peter	Freeman	7.09500	LSB	57	43	QF31fq	
-30 03:50 23	VK4AAC		VK3/VW-020	Robert N	Janoska	7.14400	LSB	57	53	QG62mq	WWFF Wills Creek Cons
-30 03:40 10	VK3WE	VK3NG-127	VK3/VW-020	Rhett	Donnan	7.09000	LSB	53	51	QF32se	
-30 01:1 24	VK210	VK2/HU-047	VK3/VW-012	Gerard	HILL	4.06200	CW	599	579	QF56tg	
-30 02:2 33	VK3PF		VK3/VW-012	Peter	Freeman	7.09000	LSB	58	53	QF31fq	
-30 01:8 49	VK2HPN		VK3/VW-012	Philip	Not	7.09000	LSB	51	51	QF43vh	
-30 01:0 05	VK5WG		VK3/VW-012	NG	GOVAN	7.09000	LSB	58	55	PG66pa	
-30 01:5 29	VK51S		VK3/VW-012	Jan	SUTCLIFFE	7.09000	LSB	59	54	PF96ct	
-30 01:4 09	VK7CW		VK3/VW-012	Steve	Salvia	7.09000	LSB	58	41	QE28tt	
-30 00:57 41	VK4AAC		VK3/VW-012	Robert N	Janoska	7.14400	LSB	58	57	QG62mq	WWFF Wills Creek cons

VK

Apps Bookmarks

Spots VK

Status

Last Update

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Current

UTC Wed, 10 Feb 2016 04:26:00
Posted by
• VKFF

UTC Wed, 10 Feb 2016 04:26:00
• VKFF

UTC Wed, 10 Feb 2016 04:26:00

Allen

marks

PDF

Allen
PRESE...016.pdf

DOCX

new VK5
Parks.docx

PDF

MELBOURNE
SOTA...gram.pdf

DXCluster has tuned to JT1AA 336°/156° 10,206 2016-02-10 09:46:42 VK3ARH v5.63

Radio Rotor
Kenwood TS-850
21.02000
21.00650

VFO B C
CW C
Split Off C
Keyer

Ca. **JnAA**
Looa:
First Gantulga
Las Ts
Stree. P.O. Box 233
Ci Ulaanbaatar-24
Court,
Stae
Count! Mongolia
En>a. jt1aa@yahoo.com
Notes

Time On 2016-02-10 09:39:29
Time O
M z 15M vmode CW
Power 95 STS 559 STR 559
Grd ON37kw Locator iNet LL
ITU 32 0.A *0110
SOTA SKCC
QSL via LoTW CO 23
DXCC 363 Mongolia
UR - <http://www.qrz.com/xmVcurrenV...>
DA de DJ9VS

Look Up Previous Time On Time Off Log as o Beam A + Stacking

Log Map Bands DXClusters Schedules Awards Memories OSL History Labels

1 of 4266 QSOs selected in MacLoggerDX.sql

Selected Delete DXCC:034/000 WAZ.: 014/000
Buy VUCC:010/000
WAS:005/000 D

Add Spot	D	1eOn	Call sign	SOTA	My SOTA	First Name	Last Name	Rx Freq	Mode	AST S	AST R	Grid Square	Comments
30 06:189			VK2HPN		VK3/VW-022	Phillip	Nobe	7.09000	LSB	58	41	QF43vh	
30 06:0906			VK7CW		VK3/VW-022	Steve	Saa	7.09000	LSB	59	58	QE28tt	
30 06:0612			VK2YW		VK3/VW-022	John	EYLES	7.09000	LSB	58	31	QF34qu	
30 06:04:27			VK51S		VK3/VW-022	bn	SUTCLIFFE	7.09000	LSB	58	57	PF96ct	
30 06:029			VK5WG		VK3/VW-022	NG	GOVAN	7.09000	LSB	58	55	PG66pa	
30 04:0643			VK5WG		VK3/VW-020	NG	GOVAN	7.09500	LSB	57	44	PG66pa	
30 04:0509			VK51S		VK3/VW-020	bn	SUTCLIFFE	7.09500	LSB	58	57	PF96ct	
30 04:0433			VK3PF		VK3/VW-020	Peter	Freeman	7.09500	LSB	57	43	QF31fq	
30 03:50:23			VK4AAC		VK3/VW-020	Robert N	Janoska	7.44400	LSB	57	53	OG62mq	WWFF Wills Creek ConS<
30 03:41:0			VK3WE	VK3NG-27	VK3/VW-020	Rhett	Donran	7.09000	LSB	53	51	QF32se	
30 01:41:2.4			VK210	VK2/HU-047	VK3/VW-012	Gerard	HLL	14.06200	CW	599	579	QF561g	
30 01:22:			VK3PF		VK3/VW-012	Peter	Freeman	7.09000	LSB	58	53	QF31fq	
30 01:149			VK2HPN		VK3/VW-012	Phillip	Nobe	7.09000	LSB	51	51	QF43vh	
30 01:166			VK5WG		VK3/VW-012	NG	GOVAN	7.09000	LSB	58	55	PG66pa	
30 01:15:29			VK51S		VK3/VW-012	bn	SUTCLIFFE	7.09000	LSB	59	54	PF96ct	
30 01:1409			VK7CW		VK3/VW-012	Steve	Saa	7.09000	LSB	58	41	QE28tt	
30 00:5741			VK4AAC		VK3/VW-012	Robert N	Janoska	7.44400	LSB	58	57	OG62mq	WWFF Wills Creek ConS<
-29 04:4511			VK2QR	VK2/SW-035		ROBERT	MACKIE	7.08500	LSB	59	59	QF44cq	

VK-
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• VKFF
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• VKFF
UTCWed, k
• VKFF

Allen
marks
DOCX
new VK5 Parks.docx
PDF
MELBOURNE SOTA...gram.pdf

dxcluster.parksnpeaks.org 7300

- Running DXSpider by XXXXX
 - DXSpider V1.55 build 0.171
 - Collection of Perl scripts
 - Centos Linux 2.6.32-042stab111.11
 - As per the manual
- Logging Software
 - dxcluster.parksnpeaks.org:7300
- Telnet
 - telnet dxcluster.parksnpeaks.org 7300

```
allen@~$ telnet dxcluster.parksnpeaks.org 7300
Trying 101.0.67.135...
Connected to dxcluster.parksnpeaks.org.
Escape character is '^]'.
login: vk3arh
vk3arh
Hello VK3ARH, this is VK3HRA-2 in Ballarat Victoria
running DXSpider V1.55 build 0.171
Cluster: 413 nodes, 4 local / 3393 total users. Max users 7864. Uptime 33 15:33
Please enter your name, set/name <your name>
Please enter your QTH, set/qth <your qth>
Please enter your location with set/location or set/qra
Please enter your Home Node, set/homenode <your home DX Cluster>
VK3ARH de VK3HRA-2 8-Feb-2016 0704Z dxspider >
set/name Allen
set/name Allen
Your name is now "Allen"
VK3ARH de VK3HRA-2 8-Feb-2016 0704Z dxspider >
set/QTH Lal Lal
set/QTH Lal Lal
Your QTH is now "Lal Lal"
VK3ARH de VK3HRA-2 8-Feb-2016 0705Z dxspider >
DX de JK1JXB: 20450.0 UA3GEN tnx Slowo 0704Z
```


ParksnPeaks DXCluster(VK3HRA-2)

[ParksnPeaks](#) maintains this DXCluster node to support the spotting of WWFF and SOTA activity into the DXCluster network.

This can be used as a feed for logging software or you can also login into the node via telnet using your callsign at dxcluster.parksnpeaks.org:2300

DX Call	Frequency	Date/Time (UTC)	Spotter	Comments
E5BNQ	7.13500	12-Feb-2016 10:03	E5BNQ	73
I00RM	14.23600	12-Feb-2016 10:03	I00FSC	GIUBILEO 3 PT
SV2OXS/P	14.28500	12-Feb-2016 10:03	SV2HSZ	SOTA SV/TL-022
7P8C	21.01510	12-Feb-2016 10:03	SV3FLU	up
EK7DX	28.01700	12-Feb-2016 10:02	QMB0E	eq eq eq
US2ICR	14.07000	12-Feb-2016 10:02	F4CUO	73
EX2V	28.48030	12-Feb-2016 10:02	IZ5ASZ	
SV7TH	28.46000	12-Feb-2016 10:02	D09RWG	59+Listen10up-73Robert
TP30CE	14.19500	12-Feb-2016 10:02	JR3IXB	
7P8C	18.15000	12-Feb-2016 10:01	OE4JHW	weak but workable, good ears
A61SM	28.40000	12-Feb-2016 10:01	D01OH	
SV2OXS/P	14.28500	12-Feb-2016 10:01	SV2RMK	SOTA Activation SV/TL-022
HB9DOM/P	28.45700	12-Feb-2016 10:00	HB9DOM	SOTA HB/SZ-038
UA4YA/P	14.01970	12-Feb-2016 10:00	RC4R	CU-06
YK8NSB	28.12100	12-Feb-2016 10:00	D02SW	bpsk31 tnx qso 73
TP30CE	14.19500	12-Feb-2016 10:00	RK7C	tnx QSO
BA4H	7.02300	12-Feb-2016 10:00	W3LPL	Heard in WA
UB50/M	14.17700	12-Feb-2016 09:59	RW1C	RDA KU-11
HB9RDE	21.27510	12-Feb-2016 09:59	UA4WSA	
UN8CR	21.21500	12-Feb-2016 09:59	UN8CR	5 OCEAN
FK8CE	14.02220	12-Feb-2016 09:58	W3LPL	Heard in PA
3Z5IGRV	7.14790	12-Feb-2016 09:58	SO7EOH	73! Dzieki za 5 pkt.
PT7BI	14.17000	12-Feb-2016 09:58	IZ1CJZ	in company .p2csm .p2gti
PD5JK	29.65000	12-Feb-2016 09:58	PD1JKS	dutch rp in 29.550 out 29.650
CN2JE	28.47700	12-Feb-2016 09:58	HB0WR	5/9 tnx
EI4IT	18.13300	12-Feb-2016 09:58	SP5TA	tnx QSO
ON5SWAP/P	7.09900	12-Feb-2016 09:58	ON3LX	ONFF-214
I00RM	14.23600	12-Feb-2016 09:58	RK7C	tnx QSO
SY2BIK/P	145.37500	12-Feb-2016 09:57	SV2RMK	SOTA SV/TL-022
UY4IE	21.23200	12-Feb-2016 09:57	UA4WSA	

[back to ParksPeaks](#)

DXCluster has tuned to EV1A @:!:j!@ Ao-or

312°/132° 14,963 2016-02-09 10:24 VK3ARH v5.63

DX Contest

Kenwood TS-850

21.29120

VFO A
US!!
Sphr Off
Keyer

7.03200



EV1A - Belarus.

Ca EV1R
 Loca
 Firs Alexander
 Las Pantchenko
 Stme P.O. Box 422
 Cir. Minsk
 Cour>|
 Sta.a
 Coun JI Belarus 220050
 Ema eu1pa@yahoo.com
 otes

Time On 2016-02-09 10:23:55
 Time Off
 M 2129120 15M Mode USB
 Po"er 95 RSTS 41 RSTR 31
 Gr d K 033tu
 Tu 29 OTA 10/10
 SOTA SKCC
 QSL'v a ONLY LOTW OR DIREC... CO 16
 DXCC 27 Be arus
 UR- http://www.qrz.com/xmVcurrenV...
 D. de VK7FR.JG

Look Up PreVIOUS Time On Time Off LogOSO Beam A + Stacking

Log Map Bands 3mm | Schedvtes Awards Memories QSL History Labels

Auto Connect OX de Z3KGJ: 1441210 SM2A tnx EME qso 1024Z JN65 (7611116)

Cluster Spots

- UTC Tue 10:31
- Tue 10:50
- Tue 09:54:14
- Tue 09:54:07
- Tue 09:47:04
- Tue 09:16:04
- Tue 09:48:4
- Tue 09:38:03
- Tue 09:31:05
- Tue 09:30:08
- Tue 09:28:27

UTC	Call	OX de	Frequency	Name	Band	Mode	SOTA	Country	Comments
		VK3BY	28.49000	Walter FRud	DM	USB		European Russia	beam'
		VK7FAJG	212920	Alexander				Belarus	
		VK3BY	28.48000	Jason	10M	USB		Australia	vkking i
		VK3BY	28.02200	Erk	10M	CW		Netherlands	thanks
		VK7FRJG	21.26010		15M	USB		England	QSO J
		H44M\$	28.39300	Bernhard M	10M	USB		Solomon Islands	cq
		VK2LAW	28.47000		DM	USB		Australia	cq dx l
		VK3BY	28.48000	Oleg G.	10M	USB		European Russia	band o
		VK4FSRD	21.26000		15M	USB		England	weak ir
		VK2GV	28.45700		10M	USB		Serbia	Great
		VK2KTT	1423700		20M			Spain	519in \
		VK2LAW	28.45300		USB	DM		Serbia	Cant h

VK3HRA dXcJU\$...

Connected

Auto Tune

AUto Lockup

Command-S

Spoi

i!J 160M i!J ISM

i!J SOM 12M

- 60M a 10-,

i!J 40M 6<.

i!J 30M 2M

i!J 20M r 70cm

' 1 17M Follow

i!J PhOno a cvl

- o.>ta a L.oc31

USB

Questions ?



SOTA ESSENTIALS



VK3CAT

THE ACTIVATOR

- Best to have everything prepared the night before an activation.
- Check and double check the required items. Have a check list.
- Start the activation as fresh as possible.
- Prepare drinks and snacks
- Pace yourself.
- Be prepared for the unexpected.

GETTING TO THE SUMMIT

- Suitable means of transportation for the expected conditions.
 - Built up areas and bitumen roads need minimal preparation.
 - Road side service such as RACV road side assist and Total care are good options.
 - Vehicle should be in sound mechanical condition.
-
- Remote areas should consider items to aid mechanical breakdown.
 - A good spare tyre and suitable equipment to change.
 - Fire extinguisher.
 - Chain saw and PPE.
 - Back up food, water and even a blanket.
 - Basic tool kit consisting of screw drivers, pliers and spanners.
 - Vehicle spares such as replacement belts, hoses and ignition parts if applicable.
 - Spare fluids such as engine oil and brake fluid.

IN THE PACK

Firstly a suitable and sturdy back pack. Different options for day & multiple day trips. I find this 55 litre one about right. It has a frame that reduces back sweating. Zip quality is questionable.

- Water, snacks, first aid kit.
- Some extra clothing. Layered. Warm hat, gloves.
- Insect repellent & sun block.
- Compass and map.
- HF radio, microphone, CW key, headphones, battery and connections.
- Antenna, feed line, mast or mounting equipment.
- Adapters and cables. Keep to a minimum as they are easily misplaced. Leave connected if possible.
- Back up battery.
- Mobile phone. Telstra Blue Tick is best.
- Booster battery for phone and USB cable if out for a long period.
- Duct tape.
- Ground mat (multiple uses). May even consider some sort of shelter.
- Hand held GPS and spare batteries (better than a phone GPS!)
- Log book, writing equipment and spares.

MORE STUFF TO CARRY

- EPIRB or personal tracker. V/UHF hand held.
- Torch Whistle Lighter or matches.
- Pocket knife / multi tool.
- Consider toilet paper and waste disposal.

What to wear

- Sturdy foot wear.
 - Gaiters to prevent grass seeds, leeches, wet conditions. Various types.
 - Suitable clothing for the expected conditions.
 - Walking poles.
 - Hat.
 - Sun Glasses, reading glasses..
 - Handkerchief.
-
- Show and tell demo with packs available on the day.
-
- Refer to the VK3 ARM Document
Sections 2.5 and 2.6 on mapping and safety.

What Else?

- Tell someone responsible where you are going and expect to be back.
- Provide that person with written details of your planned activation.
- Arrange a contact sked at an expected return to civilisation time.
- Tell that same person of your return, or if delayed.
- Have a procedure established if you do not contact your “person”.
- Have an idea of alternate exit routes.
- Know where to find facilities for help. Local stores, hospital, fuel.
- Have the Emergency+ and Fire Ready APPS on your phone.
- Have FUN!



Tourist: Car hit corner too fast



Another unexpected event

Activating SOTA Overseas

Things I've learnt

Andrew Ryan
VK3ARR
SOTA MT

A meme featuring the character Moss from the British sitcom 'The IT Crowd'. He is wearing his signature red beret and glasses, looking directly at the camera with a serious expression. He is holding a clear glass with a straw, which contains a small amount of white liquid, presumably milk. The background is dark and out of focus, suggesting an office or breakroom setting.

**I CAME HERE TO DRINK MILK AND
ACTIVATE SOTA**

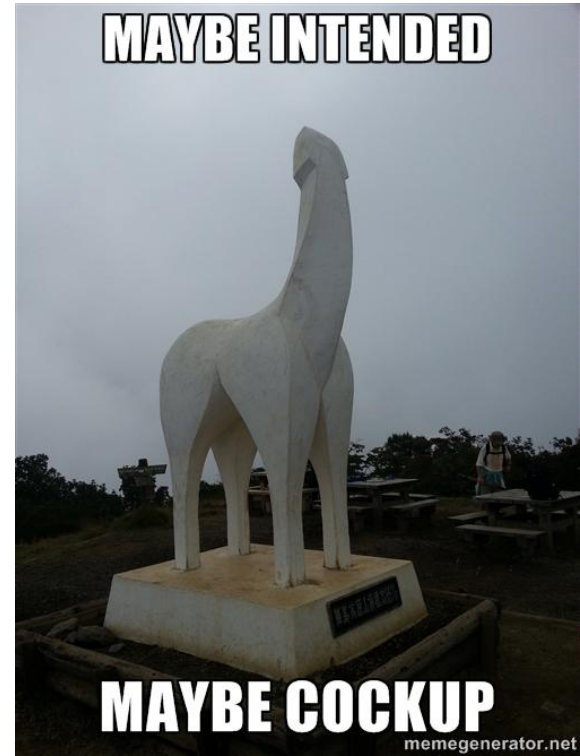
**AND I JUST FINISHED MY
MILK**

Activating overseas

- Benefits
- The rules
- Pitfalls
- Equipment
- Batteries
- Baggage handlers
- Anything else I've learnt

Benefits

- Taking a road trip when you travel has a range of benefits
 - Beats sitting in a hotel bar drinking! (just)
 - A surefire cure for jetlag (if you wake up in time)
 - You get to see things you never thought you would:

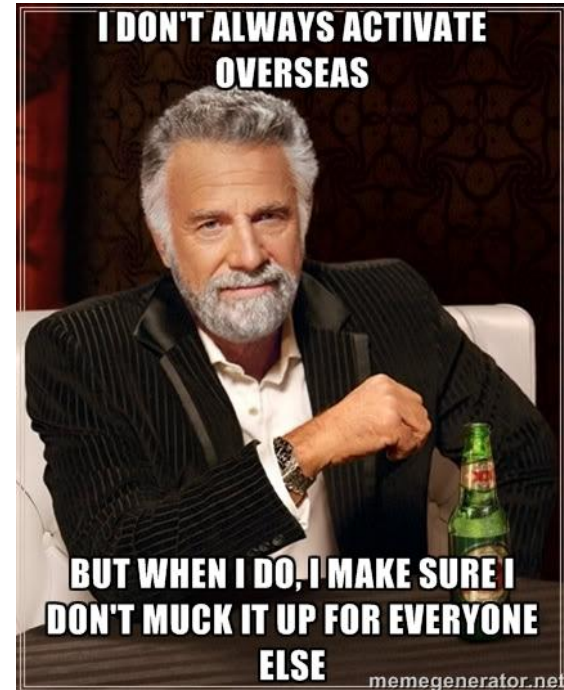


The Rules

- CEPT TR61/1 allows overseas operations for Advanced license holders.
 - For Standard licensees, some CEPT countries will issue a restricted license under TR61/
 - For Foundation licensees, it's time to upgrade!
 - **Note:** some countries license under CEPT, but require additional steps (cf. South Africa)
- Other countries will require reciprocal licensing
 - Very useful for Standard licensees (eg, NZ, Germany, Denmark, France, UK)
 - Passport, ACMA license and often WIA certificate are needed for most applications.
 - Japan
 - Up to 1 year license, some faff, but generally easy to get.
 - Korea
 - 5 year licenses issued, easy to get.
 - Singapore
 - 3 month temporary license, difficulty like pulling teeth.

The Rules

- Not all countries allow portable operations, or place restrictions on portable operations
 - Frequency, power, mode, location
- Don't assume because it's OK in VK, it's OK
 - eg, 30m SSB is banned in Region 1.
 - Unless you're south of the equator
 - But only during the day



Pitfalls

- Choosing summits
 - Pick summits that have already been activated.
 - Favour summits that have easy access
- Jetlag
 - 20 hours in an aeroplane takes it out of you!
 - You're more dehydrated than you realise
 - You're more tired than you think
- Weather
 - It's summer here in the Southern Hemisphere. It's winter in the Northern Hemisphere
 - Snow exists for longer at higher altitudes (duh!)
 - Winter means shorter days, and depending on latitude, this can result in quick sunsets
 - Know when sunset is!



Equipment

- Some countries place restrictions on types of equipment
 - In VK, Foundation licensees can't use homebrew
 - In Japan, it needs to be complianced
 - In Korea, it's basically banned
- Try to use commercially available (and common) transceivers.
 - Watch for bandplans - particularly on 2m and 70cm - which can render your device illegal
- Keep an eye out for countries that require import permits for radio equipment
 - Eg, China, Hong Kong, Dubai
- Standard Squid poles are oversized luggage - get a travel version, or invest in other antenna types (eg, verticals)

Batteries

- Lithium batteries are restricted in their carriage on aircraft
 - <100Wh in carry-on, <160Wh in carry-on with permission from airline
- SLABs are also restricted
 - <100Wh strictly.
 - If you're still using SLABs, you may also have to convince someone you're mentally competent to fly!
- This topic seems to come up regularly on the reflectors
 - <https://vk3arr.wordpress.com/2014/04/14/travelling-with-lithium-batteries/>
- Airlines care quite a lot about this right now
 - Hoverboards catching fire
 - Laptops catching fire
 - Dreamliners catching fire

Baggage Handlers

- When I travel, I put almost all of my equipment into checked luggage.
 - Easier to travel, but at the mercy of the baggage handlers.
- **Demo:** Andrew's Guide to Packing

Anything else?

- Nothing compares to your first contact in a new association
 - Particularly if you are pressed for time, you're in a suit, and you've walked 2kms through mist and wind to get there.
- Activating overseas is not that different to activating at home, but errors made are magnified.
 - Self-spotting may require data roaming; not all providers have roaming coverage
 - The cable is left behind in the car, but the car is at the airport (not on the same continent)
 - The antenna breaks on the first summit.
- Safety
 - Know the local emergency numbers
 - Plan everything, preferably to the minute.

Questions?

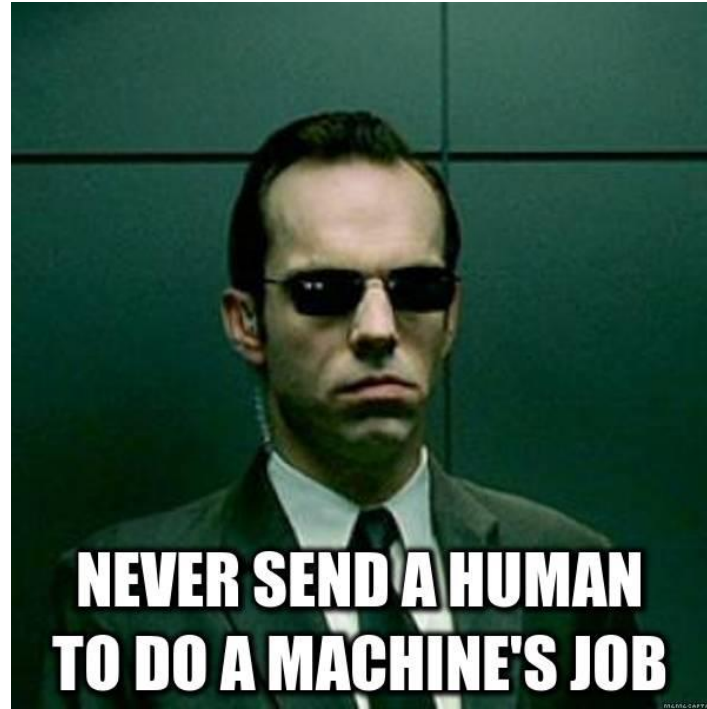


SOTA Mapping

A Journey Through GIS to bliss

Andrew Ryan
VK3ARR
SOTA MT

The overarching principle



Preparing a new association

- Find a local AM
- Generate summit list
- Produce ARM
- Launch

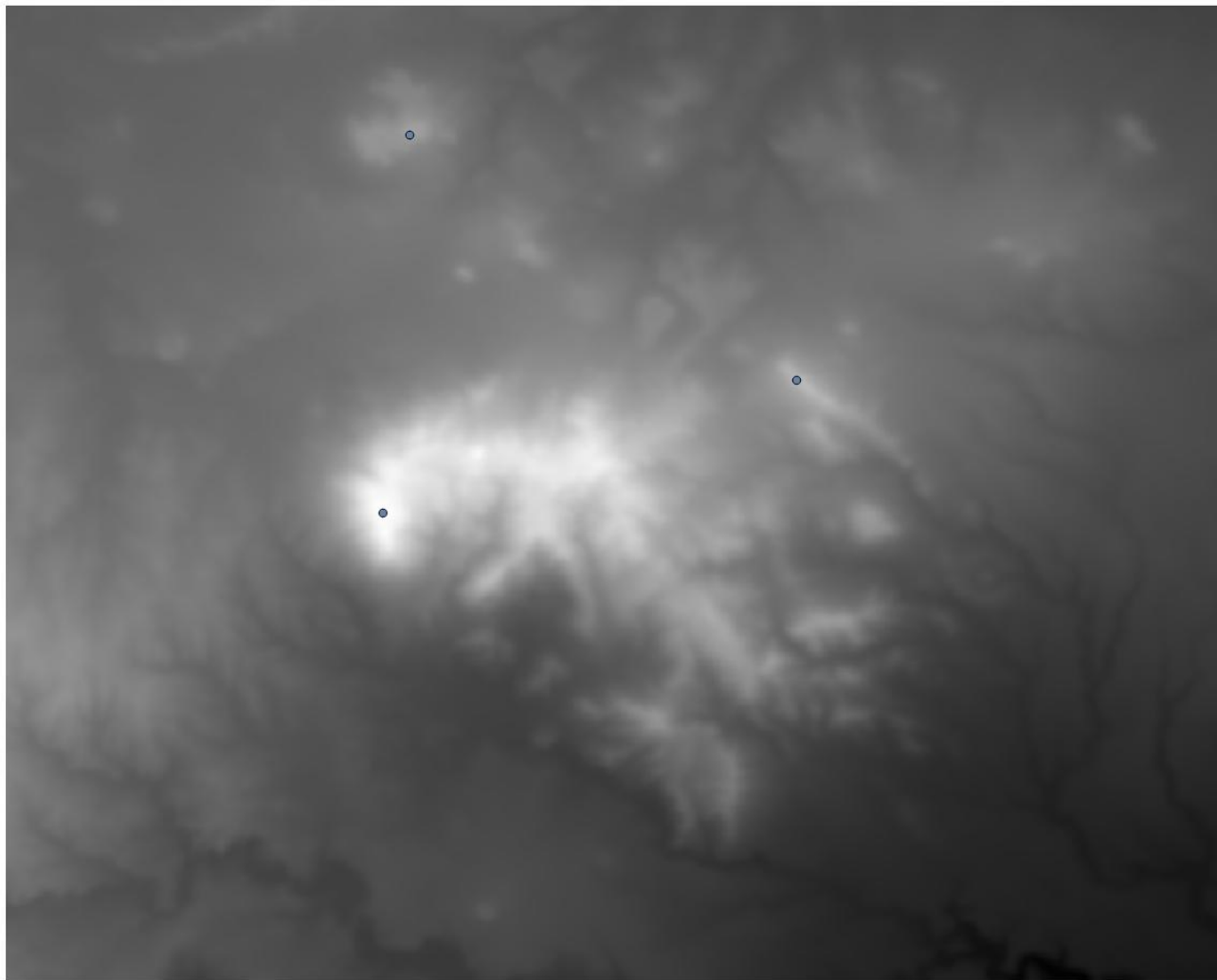
Preparing a new association (time taken)

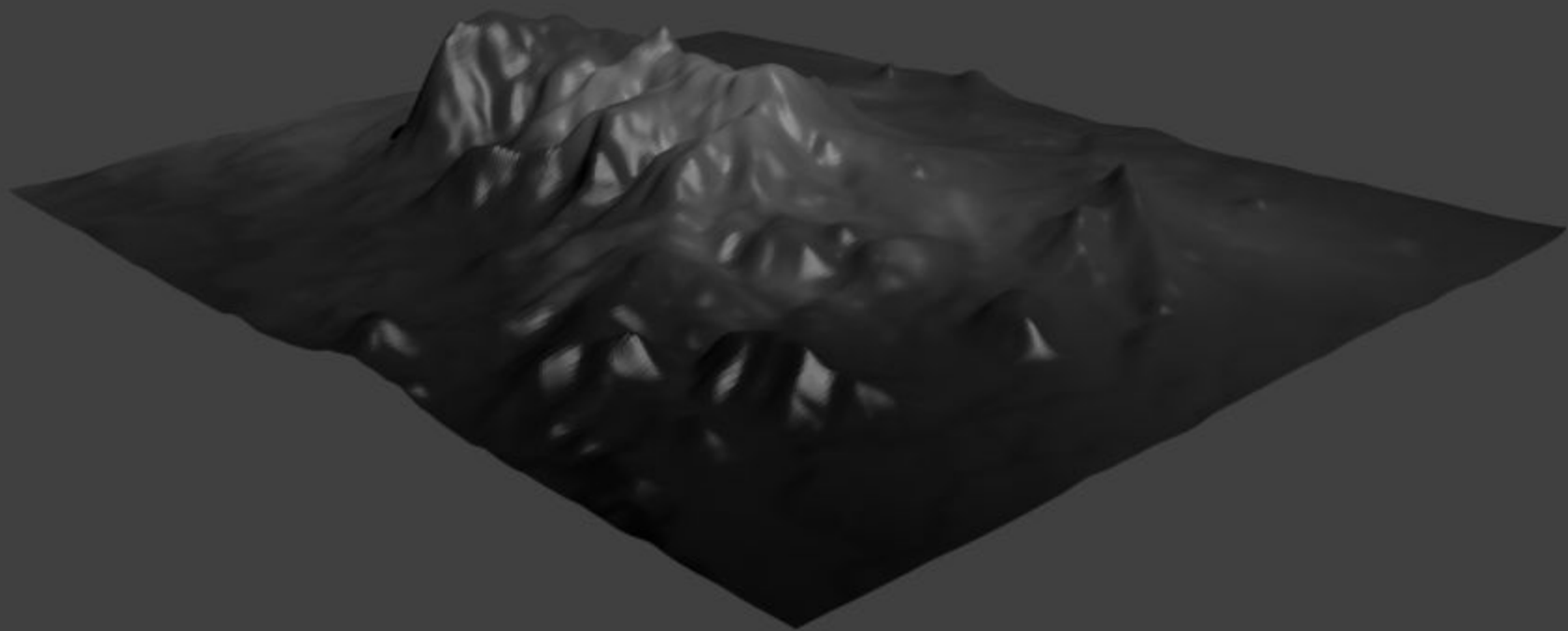
- Find a local AM (0.0001%)
- Generate summit list (99%)
- Produce ARM (0.5%)
- Launch (0.4999%)



Summit list preparation - Finding Candidates

- All new associations are to be provided with SRTM analysis via tools such as LandSerf.
- SRTM = Shuttle Radar Topography Mission
 - Covers 60N Latitude to 60S Latitude
 - Accuracy ~30m horizontally, 10-25m vertically
 - Output is called a DEM - Digital Elevation Model
- Other DEM data exists, eg High resolution LIDAR data for Spain.
- A DEM often comes in a “raster” format, like GeoTIFF.
 - Like a regular TIFF, but it knows where it is!

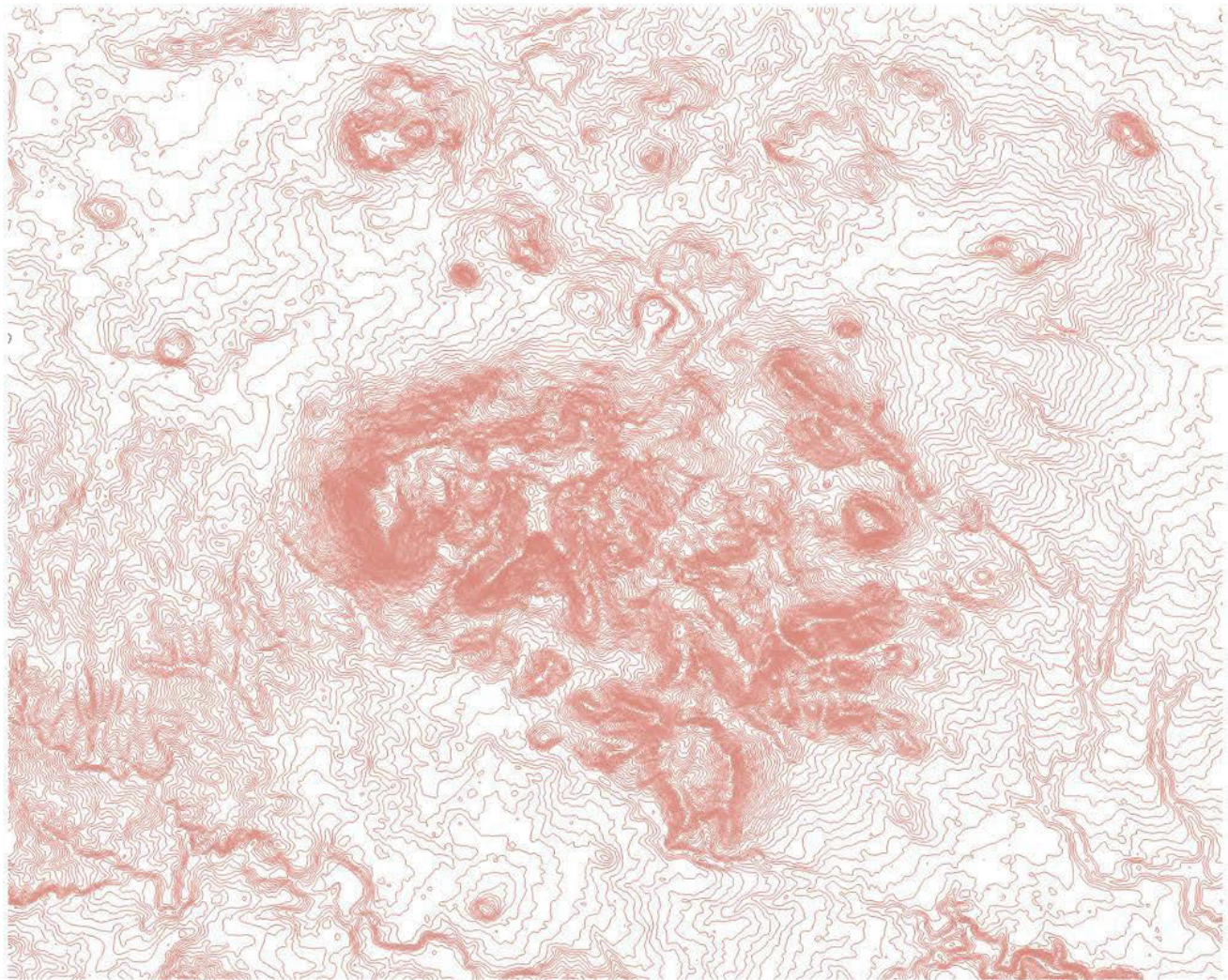




Summit list preparation - Finding Candidates

- The process of DEM analysis is called Orometry
 - Classify terrain into Ridge, Channel, Saddle, Summit, Pit or Slope.
 - Analysis is then performed by scanning ridgelines up from saddles.
 - Prone to some errors, can need a lot of memory to process.
- Cheats way: automatic analysis via contours (eg, using GDAL tools)
 - `gdal_contour -a elev -i 5.0 input_dem.tif output_shapefile`
 - Less accurate, and can be slower
 - But, can deal with larger datasets





Summit list preparation - Finding Candidates

- The contours are inserted and processed in PostGIS
 - a PostgreSQL database with Geographic Information System (GIS) extensions
- This establishes a parent-child relationship between different contours.
- Insert this into an “upside down tree” of parent nodes
 - find all the parents with no children (“summits”)
 - For each child mark the parent as belonging to the summit being checked
 - Stop when you reach a parent that’s already marked as belonging to another summit (“saddle”)
 - Calculate summit location within summit contour, output the location and saddle height
- Success!!??!

Summit list preparation - Finding Candidates

- Up to now, things look rosy - we've got summit locations and saddle heights - what else do we need??
 - Hint: A healthy dose of reality
- DEM data has problems
 - It's not supremely accurate vertically or horizontally
 - Elevation data needs to be checked.
 - Nodata pixels can seriously impact orometry and contours
- Each summit still has to be map checked
 - That's the slow bit!

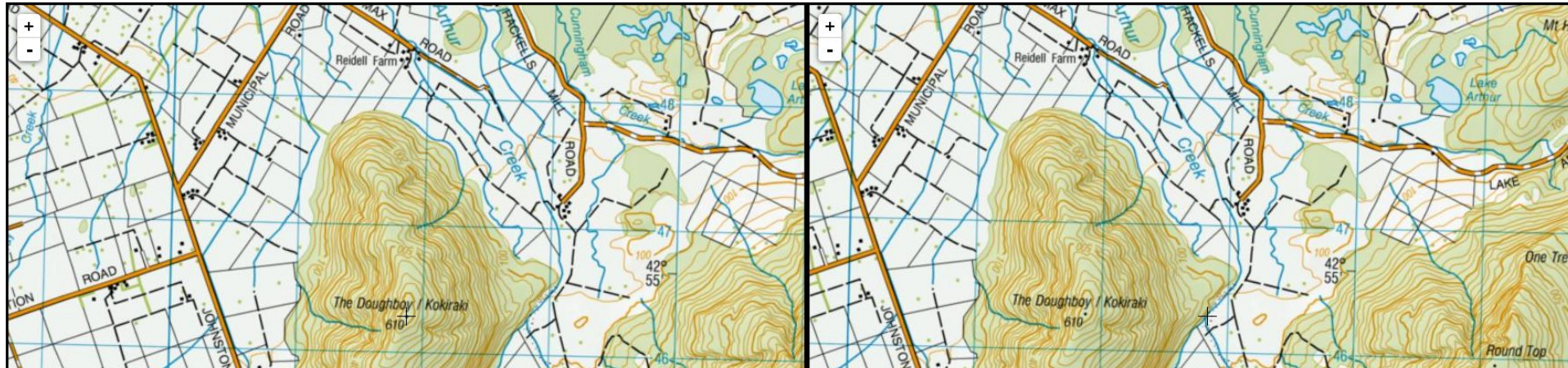


Summit list preparation - Mapping Candidates

- Let's speed up the summit mapping process too!
 - We have a list of summits, we can present them to the user to be checked.

Summit: Saddle:

Elevation:



Summit list preparation - Post processing

- After mapping, we use the DEM (or other available sources) to update saddle heights
- Merge the data against any name lists
 - I call this 'gazetting'
- Mark all the summits that have no name
 - Will inherit SOTA reference
- Name the rest.
- Finally, do this all in the PostGIS database, so you can export it into the Summits List and ARM for the SOTA MT.

Some rough facts

- A skilled surveyor can survey about 70-100 summits an hour
 - Some even keep their sanity!
- Between Japan and New Zealand, this approach has surveyed over 10,000 summits.
 - Japan took one person about a year (5,276 summits in 4 associations)
 - New Zealand took five people about 3 months (5,500 summits in 2 associations)
 - E5, 9V and ZL7-9 were all surveyed using similar methods in one or two days

Questions?

