

The Joy of QRP

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The St. Louis QRP Society

Home of QRP enthusiasts in the St. Louis metro area since 1987

The Joy of QRP

Or... “Life is *not* too short for QRP after all!”

What is “QRP”?

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- “Shall I reduce power?”
- “Please reduce your power.”

But *WHY* QRP?

- FCC Part 97: Sec. 97.313: “An amateur station must use the minimum transmitter power necessary to carry out the desired communications”
- Save power and/or use light, portable power sources (batteries, solar)
- Less power means simpler gear: lighter, lower cost, simpler to build
- Learn about electronics, kit building, and more
- Enter contests in QRP categories

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It's fun!

What do we really mean when we say “QRP”?

- CW operation at 5 watts output or less
- SSB operation at 10 watts PEP or less
- QRPp refers to operating at less than 1 watt:
also known as “milliwatting”

“Life’s too short for QRP”

Life's Too Short For Lots of Things!

- EME (Moon bounce)
- Golf
- Running marathons
- Being a Cub fan
- It's all a matter of personal preference – do what you enjoy

Q: What rig should I start with?

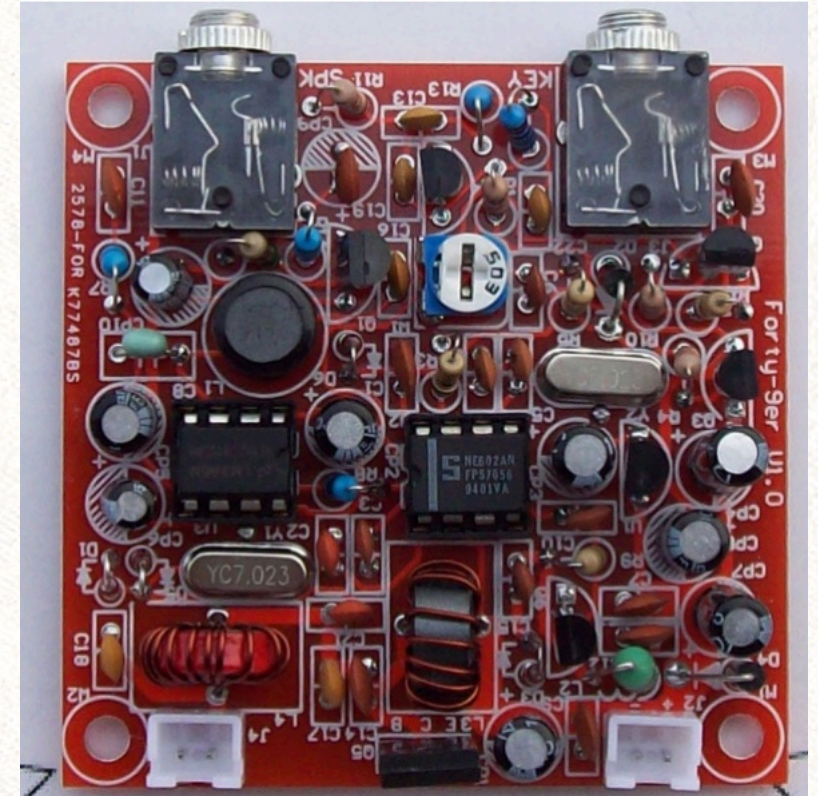
- A: Start with what you already have!
- Commercial QRO Rigs
- QRP-specific
- Portable, kits...

Start simple: Turn it down!



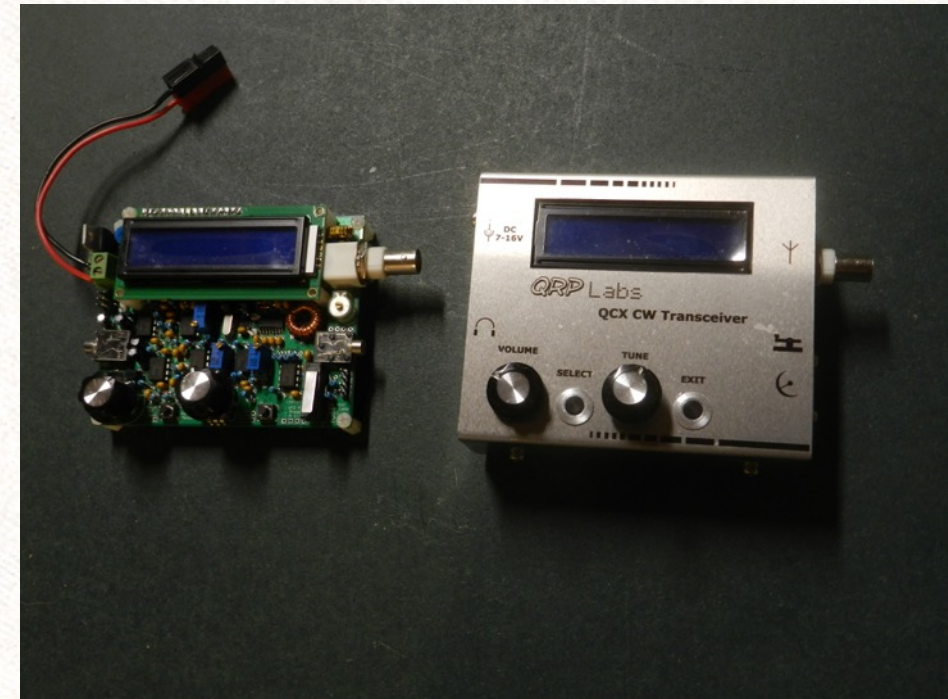
40-9er (aka 49'er)... Pixie... etc.

- 40-9er is a legendary QRP rig designed by Wayne Burdick N6KR
- 40 meters – 9V battery powered
- Pixie was designed by George Burt GM3OXX
- A good first choice for the new ham? Maybe not...



QCX by QRP Labs

- <http://www.qrp-labs.com>
- Single Band CW Transceiver - \$49
- Original designed by Hans Summers G0UPL as a project for for young hams and prospective hams in Europe
- Synthesized dual VFOs, digital readout, RIT
- Choice of band:
80, 60, 40, 30, 20, 17
- 3 to 5 Watts
- Display with CW decode, S Meter, V
- Full-featured memory keyer
- Built-in straight key
- Built-in test equipment
- Signal generator
- Voltmeter
- RF power meter
- Frequency counter



Hilltopper 40 by Four States QRP Group

- <http://www.4sqrp.com>
- Single Conversion CW Superhet — \$99
- Full QSK
- Full 5 Watts
- Full Featured Keyer with on-the-fly CW speed adjustment control
- Pre-installed SMT ICs; remainder are **all through-hole** parts
- All jacks and connectors are board-mounted
- DDS VFO with Frequency Readout in CW
- Also available for 20 Meters



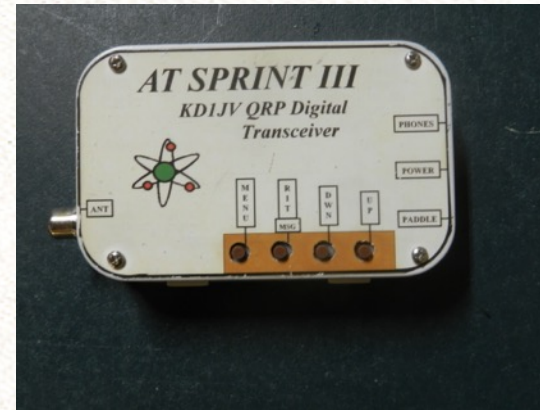
μBITX V6

- <http://www.hfsignals.com>
- Founded by Ashhar Farhan VU2ESE to encourage people all over the world to become active in Amateur Radio and electronic self-learning
- μBITX is an Arduino based general coverage transceiver kit. Broadcast band to 10 meter coverage
- SSB and CW with up to 10 Watts
- Pre-built board with all onboard components mounted and tested. User mounts controls and input/ output jacks on enclosure of choice
- Dual VFOs, RIT, CW Speed and Sideband selection
- \$150 - \$200



ATS-3 and Mountain Topper

- <http://lnrprecision.com>
- Steve Weber KD1JV - designed radios are legendary and include the ATS-3/ATS-4 and derivatives now produced and sold by LNR
- ULTRA SMALL - Very low current drain.
- A favorite on the Appalachian Trail and by backpackers
- Multi-band, **5 Watts**
- Digital VFO, Full-featured keyer
- \$299 - \$399



Yaesu FT-818 / FT-817

- <https://www.yaesu.com/>
- Bands: HF160-10 + 6m + 2m + 70cm
- SSB, CW, AM, FM, Digital modes
- 6 Watts
- Built-in battery
- Extremely popular with satellite ops



Elecraft KX2 and KX3

- <https://elecraft.com/collections/kx-line>
- Performance and features that rivals or exceeds many “Big Rigs”
- Can be built as modular “no solder” kit or Factory Assembled
- KX3: 160 – 6 Meters with optional 2m. 15 Watts
- KX2: 80 – 10 Meters. 10 Watts – Half the size of KX3, with built in mic. Can be used as handheld with optional loaded whip ant
- Optional internal antenna tuner
- Optional 100 Watt external amplifier



Getting Started — Antennas

Q: What type of antenna do I need?

- A: Start with what you have!
- Don't let "perfect" be the enemy of "good enough"
- Whenever possible, do what you can to minimize loss
- Whenever possible, do what you can to maximize gain

Q: What type of antenna do I need?

- Dipole or inverted-V
- End-fed half wave
- Mag loops
- Monster antennas *rock!* If you have a tower-mounted Yagi... have fun!

Getting Started — QTH

Q: Where should I operate QRP?

- Anywhere!
- Start at home
- Take it on the road...





www.n3fjp.com

N3FJP's Amateur Contact Log 6.6

File Edit Settings Clear CallBook List Search Awards eLogs Recall Net View Help

Recent Contacts

Rec#	Call	Date / Time	Band	Mode	Power	Snt	Rec	Off	Country	ST	County	Name	MY_SIG	S	R	Comments
3	WASPA	2020/1/20 21:49	40	CW	5	599	579	21:49	USA	MI		INTERNATL	WWFF	N	N	INTERNATION
2	KOSP	2020/1/20 21:47	40	CW	5	599	559	21:48	USA	MI		THOMAS	WWFF	N	N	THOMAS D JE
1	ND11	2020/1/20 21:36	40	CW	5	569	539	21:45	USA	VT		TRAVIS	WWFF	N	N	TRAVIS H REC

CW F (CHL)

F1: CQ WWFF CQ

F2: S UR *

F3: TU MEE

F4:

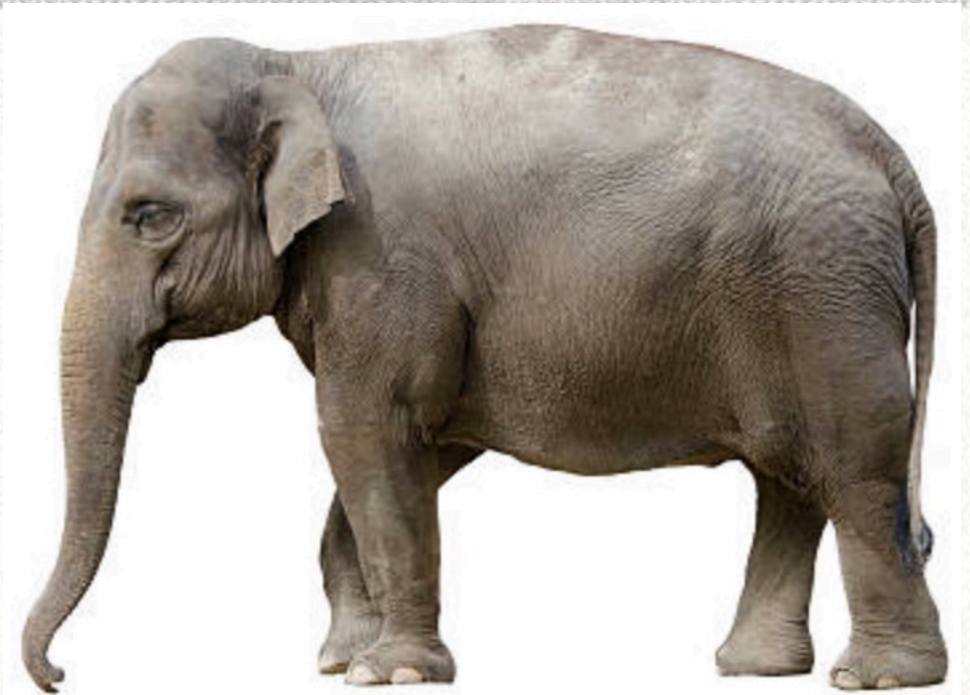
How did I do?

QSO	id ▾	Date	Time	Callsign	Band	St...	Freque...	Mo...	TX	RX
1	497	1/20/20	2222	K6PAM	40m	CA	7,033.0	CW	559	579
2	496	1/20/20	2219	VE2GT	40m	QC	7,033.0	CW	579	55...
3	495	1/20/20	2217	VE9VIC	40m	NB	7,033.0	CW	439	449
4	494	1/20/20	2214	N9MM	40m	TX	7,033.0	CW	599	599
5	493	1/20/20	2213	K4DS	40m	GA	7,033.0	CW	589	579
6	492	1/20/20	2212	K0EAP	40m	MN	7,033.0	CW	599	599
7	491	1/20/20	2209	W6LEN	40m	CA	7,033.0	CW	579	579
8	490	1/20/20	2206	F6EOC	40m		7,033.0	CW	559	449
9	489	1/20/20	2201	VE2WFF	40m	QC	7,033.0	CW	599	599
10	488	1/20/20	2157	KO4SB	40m	AL	7,033.0	CW	599	599
11	487	1/20/20	2149	WA8IPA	40m	MI	7,033.0	CW	599	579
12	486	1/20/20	2148	KG8P	40m	MI	7,033.0	CW	599	559
13	485	1/20/20	2145	ND1I	40m	VT	7,033.0	CW	569	539
14	484	1/12/20	0344	NO6T	40m	CA	7.025.0	CW		

- **Alabama**
- **California**
- **Texas**
- **Georgia**
- **Michigan**
- **Minnesota**
- **Vermont**
- **Quebec**
- **New Brunswick**
- **France**



The elephant in the room



What about FT8?

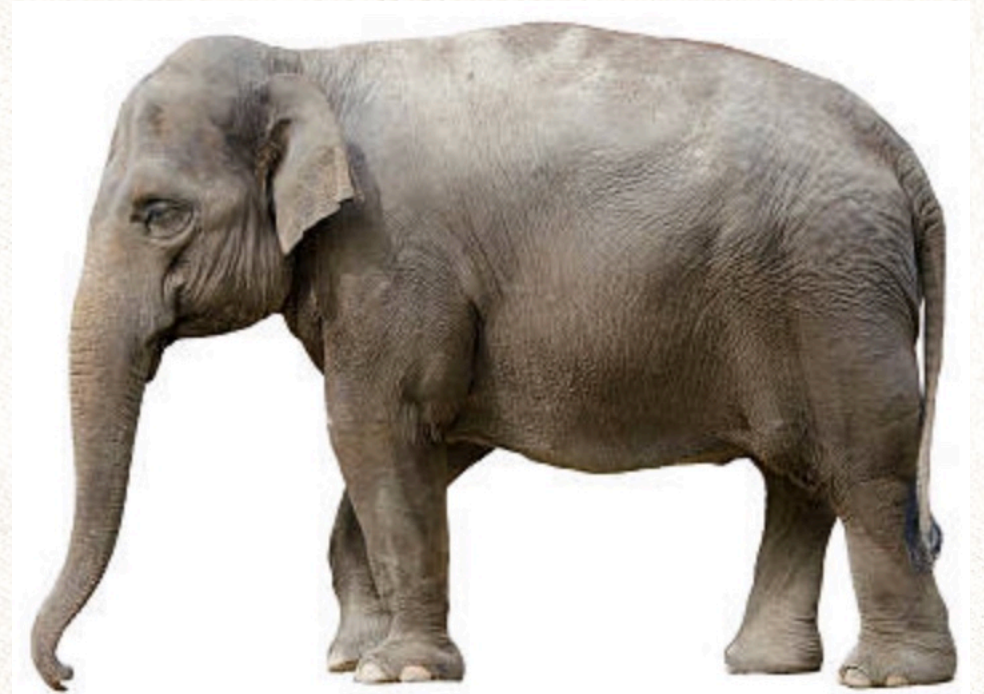
“JT modes remind me of stamp collecting... only not as personal.”

Seriously now... these modes excel at low power.

QRP and the “Operating Mode Spectrum”

SSB – CW – FT8

Ham radio is a big tent
and there's plenty to do.
Try something new!



QRP SSB Contacts

- 10 Watts SSB — honest 58 signal report

K, United States Of America

1/ 8/2020	02:33:00	KW8N	7,188.9	SSB	59	58	Robert	QTH		
Date	Time	Callsign	kHz 40m	Mode	TX	RX	Name	QTH		
OH	4 , 6, 8 or 10	CC-NNN	Manager Call	W	W	W	4	8	10	Phone Fray contact - just for fun.
State	Locator	IOTA	Manager	QSL	LoTW	eQSL	CQ	ITU	Power	QSO Note
No Satellite				User_1	User_2	User_3	User_4			
Satellite			Mode	RX Band	User_1	User_2	User_3	User_4		
??										
US County:										

DXCC credits granted IOTA credits granted

Cancel Save

There's No Better Time to Learn CW

- CW Ops' CW Academy: <http://cwops.org>

Small groups meet via web conference



- FISTS Club: <http://fistsna.org>

Membership currently **free** for 2 years

"Code Buddy" program



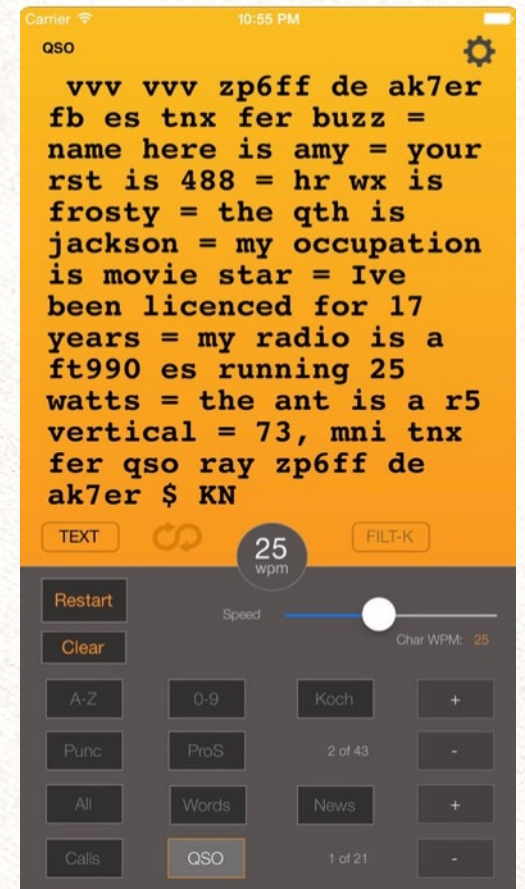
- Learn CW Online: <http://lcwo.net>

Great way to "do it yourself"



There's No Better Time to Learn CW

- Browser app
 - Morse Camp: <http://morse.camp>
- Windows apps
 - Morse Trainer
 - Morse Runner
 - RufzXP
- Smart phone apps
 - Ham Morse

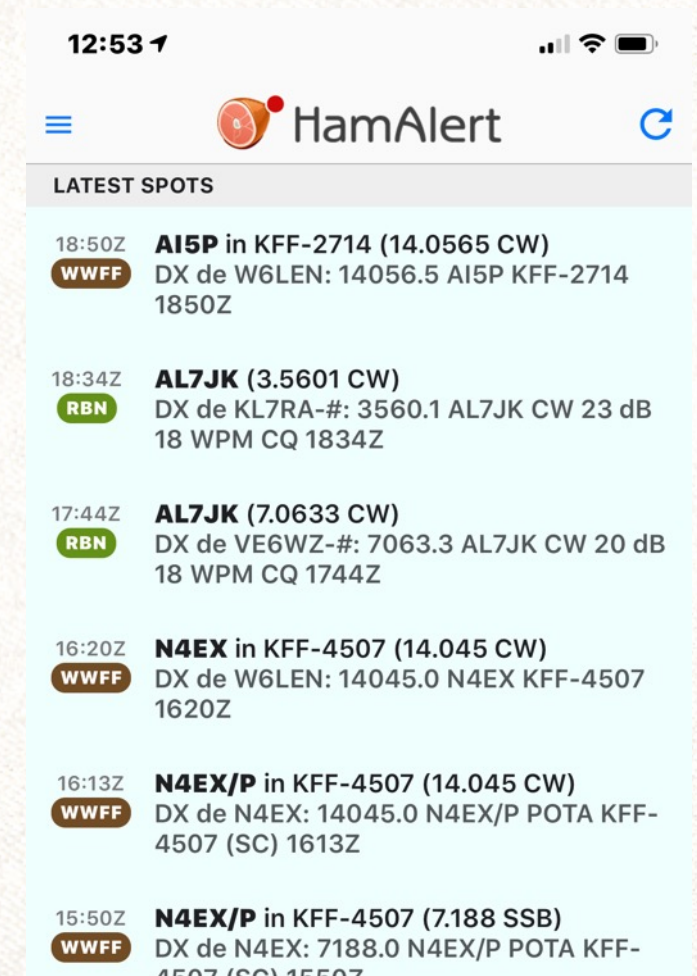


QRP Clubs, Organizations

- St. Louis QRP Society: <http://slqs.net>
- 4 State QRP Group: <http://4sgrp.com>
- QRP ARCI: <http://qrparci.org>
(Lots of great QRP links on their web site...)
- North American QRP CW Club: <http://naqcc.info>
- SLSRC: <http://slsrc.org> -- not QRP-specific, but active St. Louis area club with mentoring, new ham support

QRP Events

- SOTA – Summits On The Air:
<http://sota.org.uk>
- WWFF: <http://wwffkff.wordpress.com>
- HamAlert: <http://www.hamalert.org>
- Most any contest
(<http://contestcalendar.com>)
- State QSO Parties



QRP Field Day



“But I am not interested in contesting!”



- Contesting is a ***super*** way to learn what you can do at QRP power levels
- You can listen first, then call
- The other guy ***wants to get you in his log*** and won't ask you how much power you're using
- NAQCC Sprint got me hooked!

Homework: Reverse Beacon Network (RBN)

- DO try this at home!
- Go to <http://reversebeacon.net>
- Turn down your QRO rig's power to QRP levels
- Send out "TEST DE <yourcall> <yourcall> <yourcall>" (use a memory keyer if you're a novice CW op)
- See who heard you – you might be surprised!

Thank you!

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