

# QRP OPERATIONS

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# AGENDA

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**What is QRP?**

**Advantages of QRP**

**Equipment**

**Radios**

**Antennas**

**Power Source**

**Summary and why go QRP?**

# WHAT IS QRP

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**QRP is one of the Q codes used in amateur radio**

**QRP means “Please reduce Operating Power”**

**It has however become synonymous with low power operations**

**There is no formal agreement but most societies and award managers only permit 5w output.**

# ADVANTAGES OF QRP

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**Reduction of health risks when using low power**

**Low power output means low power input. TX can run for hours**

**Less heat generation**

**Environmentally friendly**

**Can be for disaster recovery and emergency communications**

**Compact format so easily transportable**

**Reduced RFI to other stations**

# EQUIPMENT – THE QRP RADIO

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**Three features required for easy QRP operation**

**Small size format = lighter weight**

**Ease of use**

**Good audio Quality**

# QRP RADIO EXAMPLES

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Three mainstream commercial radios from Yaesu, Elecraft and Icom



# QRP RADIO EXAMPLES

Other options come in both ready made and kit format from XEIGU, QRP Labs and many others



# QRP ANTENNAS

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**There really is no such thing as a QRP antenna but more an antenna not designed to take high power.**

**The antenna is vital in QRP operation**

**Try to use minimum half wave if possible full wave dipole**

**Height is your friend**

**You may need a Commercial band filter**





# QRP ANTENNA EXAMPLES

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## End Fed Half wave

66' wire, 49:1 Matching transformer tunes to 40,20 and 10

## End Fed random Length Wire

9:1 transformer, tuner and counterpoise needed

## Centerfed 40m dipole with twin lead (ladderline)

1:1 balun, tuner and will work all bands 40m to 6m

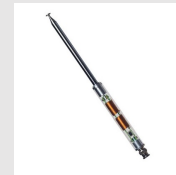
## Magnetic Loop

Can be heavy and large and expensive



## Short loaded Whip

Probably poorest selection but very portable



# QRP POWER SOURCES

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## **Standard Car Battery**

**Heavy to carry, contain acids good load capability**

## **NiCad Rechargeable**

**Medium Weight and size,**

## **LiFePo Batteries**

**Best compromise, lighter and longer cycle life**

## **Powerpacks with PID Controller**

**Lightweight option, Can power 5w TX for 12 hrs, cheaper**

## **Solar backup**

**Only good for back up, needs controller to operate**

# SUMMARY AND WHY GO QRP

Relatively low cost operations on HF

Can be used in remote locations or on vacations (SOTA, POTA) and also discrete locations (HOA sensitive areas etc.)

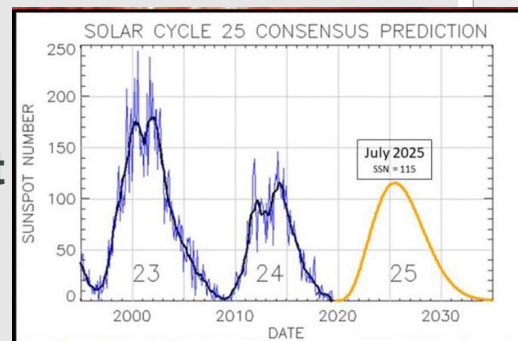
Lots of support for QRP on the web  
[www.qrpacci.org](http://www.qrpacci.org)

Good introduction to DIY and BYO !

It really is fun !! Aiming for 1000 km per watt

Band	CW	Phone
160m	1810 kHz	1910 kHz
	1843 kHz	
80m	3560 kHz	3985 kHz
		3690 kHz
60m		5346.5 kHz (Ch2)
40m	7030 kHz	7090 kHz
	7122 kHz	7285 kHz
30m	10106 kHz	
	10116 kHz	
20m	14060 kHz	14285 kHz
17m	18096 kHz	18130 kHz
15m	21060 kHz	21285 kHz
		21385 kHz
12m	24906 kHz	24950 kHz
10m	28060 kHz	28365 kHz
		28385 kHz
6m	50096 kHz	50185 kHz
2m	144060 kHz	144285 kHz

Frequencies in *italics* indicate a preference in Europe.  
 Digital modes - keep to higher end of usual frequencies.



# THANK YOU

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QRP ARCI Membership No. 17310

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