

# HOW LOW IN POWER CAN YOU GO ON QRP CW AND MAINTAIN CONTACT?

The QRP 5-Watt Step Attenuator & Dummy Load Kit (QRP SADL) enables you to reduce power by  $\frac{1}{2}$  in 15-steps to as little as 0.2 mW. It installs in-line between your rig and antenna. “Can You Copy Me Now?”

# QRP 5-Watt Step-Attenuator & Dummy Load Kit



Xtal Set Society, [www.midnightscience.com](http://www.midnightscience.com)

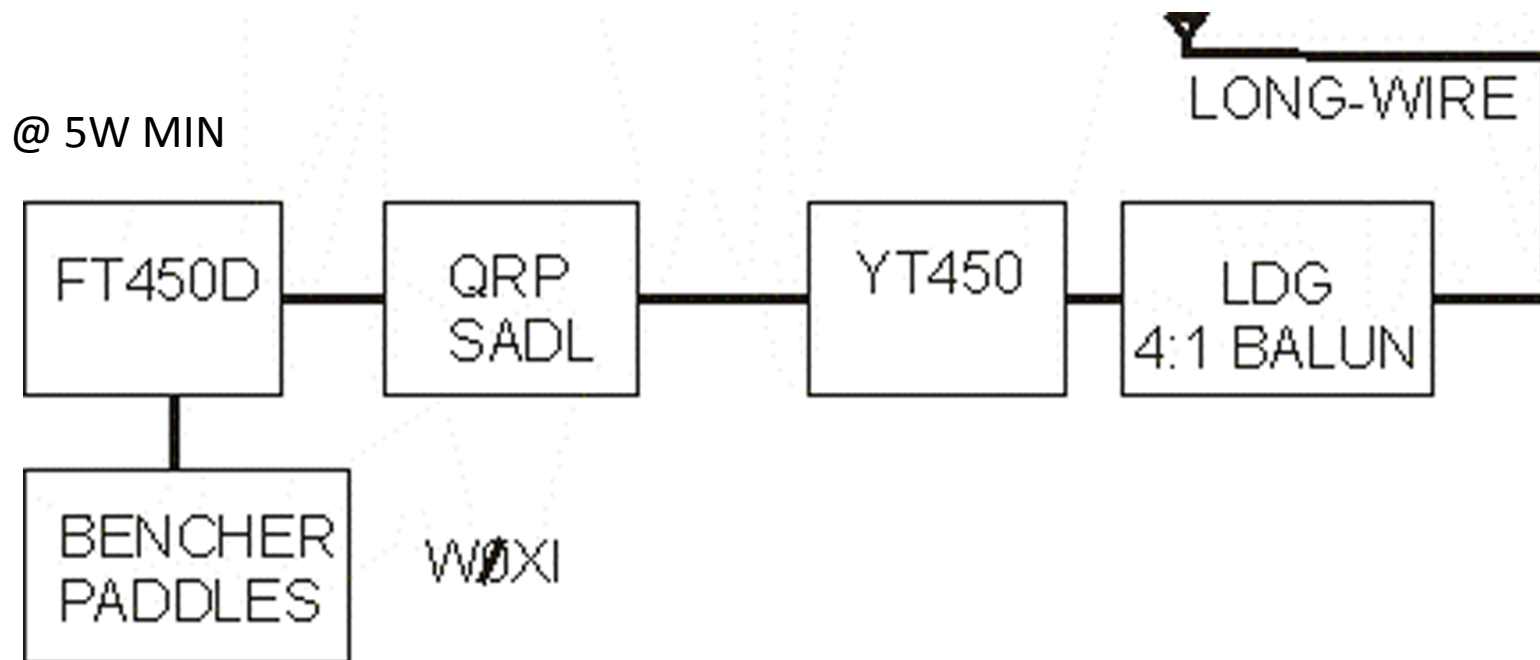
# Can Reduce Power in 15 Steps

					<u>-6dB</u>	<u>-6dB</u>	<u>-6dB</u>	<u>-3dB</u>	
<u>Watts Out</u>	<u>Vrms</u>	<u>Vpp</u>		<u>input</u>	<u>attn 1</u>	<u>attn2</u>	<u>attn3</u>	<u>attn4</u>	<u>STEPS</u>
5.0000	15.81	44.71	>>	5W	OFF	OFF	OFF	OFF	0
2.5000	11.18	31.62	>>	5W	OFF	OFF	OFF	ON	1
1.2500	7.91	22.36	>>	5W	OFF	OFF	ON	OFF	2
0.6250	5.59	15.81	>>	5W	OFF	OFF	ON	ON	3
0.3125	3.95	11.18	>>	5W	OFF	ON	OFF	OFF	4
0.1563	2.80	7.90	>>	5W	OFF	ON	OFF	ON	5
0.0781	1.98	5.59	>>	5W	OFF	ON	ON	OFF	6
0.0391	1.40	3.95	>>	5W	OFF	ON	ON	ON	7
0.0195	0.99	2.79	>>	5W	ON	OFF	OFF	OFF	8
0.0098	0.70	1.98	>>	5W	ON	OFF	OFF	ON	9
0.0049	0.49	1.40	>>	5W	ON	OFF	ON	OFF	10
0.0024	0.35	0.99	>>	5W	ON	OFF	ON	OFF	11
0.0012	0.25	0.70	>>	5W	ON	ON	OFF	OFF	12
0.0006	0.17	0.49	>>	5W	ON	ON	OFF	ON	13
0.0003	0.12	0.35	>>	5W	ON	ON	ON	OFF	14
0.0002	0.09	0.25	>>	5W	ON	ON	ON	ON	15

# How to Operate QCN?

- Inform contact that you'll reduce power,
- Reduce power by one step to 2.5 W and toggle to RX bypass,
- Receive confirmation of continued reception,
- Repeat steps 2 & 3 until contact cannot copy,
- Increase power 1 or 2 steps and finish QSO.

# Here's How I Use My QRP-SADL



# Changing Reduction Pads

- If you wish to repopulate the step attenuator pads with different attenuations and/or with a different system resistance than 50 ohms, you can spread sheet the following formulas.

$$R_1 = R \frac{V_{in} + V_o}{V_{in} - V_{out}}, \text{ where } R_1 \text{ is the value for the shunt resistors of a pad.}$$

$$R_2 = \frac{(V_{in} - V_{out})}{V_{in}} \frac{RR_1}{R_1 - R}, \text{ where } R_2 \text{ is the series resistor, } R=50 \text{ ohms.}$$

# How to Order

- **QRP SADL Kit, \$49.95.**
- **QRP SADL Kit W/O Case, \$41.95.**
- **QRP SADL Kit with PCB & Manual Only, \$24.95.**

Orders may be placed or additional information obtained via our website catalog at [www.midnightscience.com](http://www.midnightscience.com) or by phone at (405-517-7347)