
**B1-2K, B1-4K, and B1-5K
CURRENT BALUNS**

by The RADIO WORKS

Where Amateur Radio is a contact sport!

PRELIMINARY

The RADIO WORKS

**BOX 6159
PORTSMOUTH, VA 23703
(804) 484-0140**

Manual Price \$3

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B1-2K, B1-4K and B1-5K BALUNS

The B1 Series are the best low cost 1:1 baluns available.

SPECIFICATIONS

Balun type:	Current
Ratio:	1:1
Design Impedance:	50 Ohms
Design Bandwidth:	80 - 10 M
Coupling coefficient:	(100%)
Power loss in dB:	nil
Power handling:	B1-2K 1500 W (SWR <3:1) B1-4K >>1500 W (SWR <3:1) B1-5K >>2500 W (SWR <3:1)

This is a Current-type(c) balun, a type which performs well even when conditions are not ideal.

The B1 balun follows the same traditions of uncompromising performance set by the incomparable C1 and B4 baluns. The B1's core uses a nearly twice the ferrite of other baluns. Only the RADIO WORKS's design brings the wires from the balun's windings directly outside the case so they may be soldered directly to the antenna wire.

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NO CHANCE OF POOR CONNECTIONS
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Solder the two wires from the balun directly to your antenna.

Lightning protection is NOT built-in. The spark-gap type lightning device used in other baluns is totally ineffective. The high winding reactance of the B1 balun does provide a first line of defense. For best results, a properly installed Alpha Delta gas discharge device is suggested.

INSTALLATION:

There are no special mounting requirements other than observing the cautions on the next page. I do suggest strain relief for long unsupported transmission lines.

WEATHERPROOFING:

The B1 balun's case is sealed with waterproof material. You must seal the coaxial connectors exposed to the weather to avoid contamination. Use CoaxSeal for best results.

Note:

Use a small amount of coax seal to seal the wires as they enter the balun case. This will prevent moisture from entering or condensing inside the balun's case.

Should moisture enter the balun's case, the weatherproofing material inside the case will prevent damage to the internal components. Adding the CoaxSeal to seal the wire entry point simply prevents moisture buildup inside the case.

CAUTION

This section is included to help you make your antenna installation safe. The following cautions are general and they apply to all antenna and balun installations; they are not specific to this particular antenna, balun, or accessory.

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HAZARDS This antenna or antenna component is USER INSTALLED. The RADIO WORKS has no control over its installation. Before you begin, you should be qualified and fully aware of the CONSEQUENCES and DANGERS involved in balun, antenna, and transmission line installations.

If you are not totally familiar with SAFE antenna and balun installation practices, GET COMPETENT HELP and ADVICE before installing this antenna, antenna part or accessory.

POWER LINES DO NOT erect any antenna or tower (or part of an antenna, such as a balun or transmission line) near POWER LINES, POWER POLES, OR ANYTHING ASSOCIATED WITH THEM. THIS INCLUDES THE LINES THAT RUN FROM A POWER POLE TO A BUILDING. Mount your antenna in such a way that it CANNOT fall (or be blown by high winds) into power lines.

LIGHTNING LIGHTNING is providential and provisions must be made for it. Use appropriate LIGHTNING protection and install it in accordance with the instructions supplied with the device. Better yet, disconnect all your antennas from your equipment and disconnect your equipment from the power lines during weather that is likely to produce lightning.

SHOCK Extremely HIGH VOLTAGES may exist on certain parts of antennas, including baluns. This represents a possible SHOCK or FIRE HAZARD! It is not a fault of the design, or the designer. It is a consequence of the physical laws involved. ALL antennas will develop HIGH VOLTAGES at some point on their physical structure. Extremely HIGH VOLTAGES can occur in some antenna designs even when applying low transmitter power. Be certain that your antenna installation provides for this potential HAZARD. Locate all parts of the antenna well out of the reach of people. It is also desirable and proper installation practice to keep all antenna components way from any object not made of insulating material.

Weather Sealing Baluns, Line Isolators, & Dedicated Matching Units

Each RADIO WORKS balun is either potted in solid plastic or expansive foam. All critical components are completely protected even if water enters the balun's case.

Moisture can enter the balun case only through the holes where the wires emanate. You can completely seal your balun by putting a small amount of CoaxSeal around wires leaving the case. Press the CoaxSeal firmly around the wire and against the case. Make sure the coax seal 'wets' (or sticks) to both the wire and the case. This will insure a weather tight seal.

Always protect all coaxial connectors with CoaxSeal.

Bl-2K	Seal 2 output leads + Coax Connector
Bl-4K	Seal 2 output leads + Coax Connector
Bl-5K	Seal 2 output leads + Coax Connector
Cl-2K	Seal 2 Coax Connectors
C75-4K	Seal 2 Coax Connectors
B4-1.5K	Seal 2 output leads + Coax Connector
B4-2K	Seal 2 output leads + Coax Connector
B4-2KX	Seal 2 output leads + Coax Connector
4K-LI	Seal 2 Coax Connectors
RemoteBalun	Seal 2 output leads + Coax Connector
Yl-4K	Seal 2 output leads + Coax Connector
Carolina Windom	All wires and connectors + vertical radiator
New G5RV	Seal 2 output leads + Coax Connector
Classic G5RV	Coax connector
BigSig Loop	2 wires on DMU + Coax connector
SuperLoop	2 wires at DMU + Coax connector on stub
InTreeVert	Vertical radiator + coax connector
VHF/UHF InTreeVert	Coax connector
Universal	No weatherproofing needed

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