ELECRAFT BL1 WIDEBAND 4:1 BALUN

Rev B, November 10, 2006

The Elecraft BL1 is a general-purpose wideband balun with a 4:1 impedance ratio. It is intended to match balanced feedlines to the unbalanced antenna connection of an Elecraft or other manufacturer's transceiver or antenna tuner.

Specifications

Power Rating	150 watts maximum.
Bandwidth	Input VSWR less than 1.2 when connected to a 200 resistive load, 500 kHz to 55 MHz.

Assembly

❑ Perform an inventory of all parts in the kit.

Parts List

1 Balun Printed Circuit Board
20 inches of Balun Wire, brown or white sheath
3 Right-Angle Output Terminals
6 #6 Flat Washers

1 Right-Angle PC – mount BNC Connector
3 Thumb Screws
4 Self-Adhesive Mounting Feet

❑ Install J1, the BNC connector, in the position indicated on the PC board silkscreen

❑ Cut the sheathed twisted pair cable into two 10-inch (25.4 cm.) lengths.

❑ Wind 3 turns of the cable through each of the balun core holes. The wire will completely fill the holes in the balun core. Leave about 1 inch (2.54 cm.) of cable exposed. Wind the turns tightly. The wire should be flat against the core. You will have to use a small screwdriver to press each turn against the inside of the core opening to get the third turn through. A few drops of rubbing alchohol as a lubricant can help get the last turn through. Be patient, it can be done. Use the photo as a guide

❑ Trim the cable (4 places) to about 1 inch (2.54 cm.).

❑ Remove the outer sheath from the trimmed ends of the cable and then strip the conductors so only about ¼ inch (6.3 mm.) of the RED and WHITE colored insulation is exposed.

❑ Lightly tin the exposed end of each wire.

❑ Mount the completed transformer in the space indicated on the PCB. Starting with the end of the board with the BNC connector pass each wire through the hole marked with its color and solder these four wires to the board.

❑ At the opposite end of the board, solder the "A" side RED wire to the hole labeled "REDA" and the WHITE wire to the hole labeled "WHTA 4:1".

❑ Solder the "B" side RED wire to the hole labeled "REDB" and the WHITE wire to the hole labeled "WHTB 4:1".

❑ Install the right angle output terminals in the 3 places indicated on the PCB.

❑ Install a thumb screw and 2 flat washers into each right angle output terminal

❑ Turn the PCB over and install mounting feet as shown in the photo.

T1

RF INPUT
J1

1

RED
RED

RED
WHT
RED

GND

WHT

WHT
WHT

2

REV B

RED

J1

WHT

GND

REDB 1:1

WHTA 4:1

REDB 4:1

WHTA 1:1

WHTB

WHT

RED

© ELECRAFT 2004

RF INPUT