

# INSTRUCTION MANUAL

**ORDER NO. 242**

**Model BN-86 Balun**

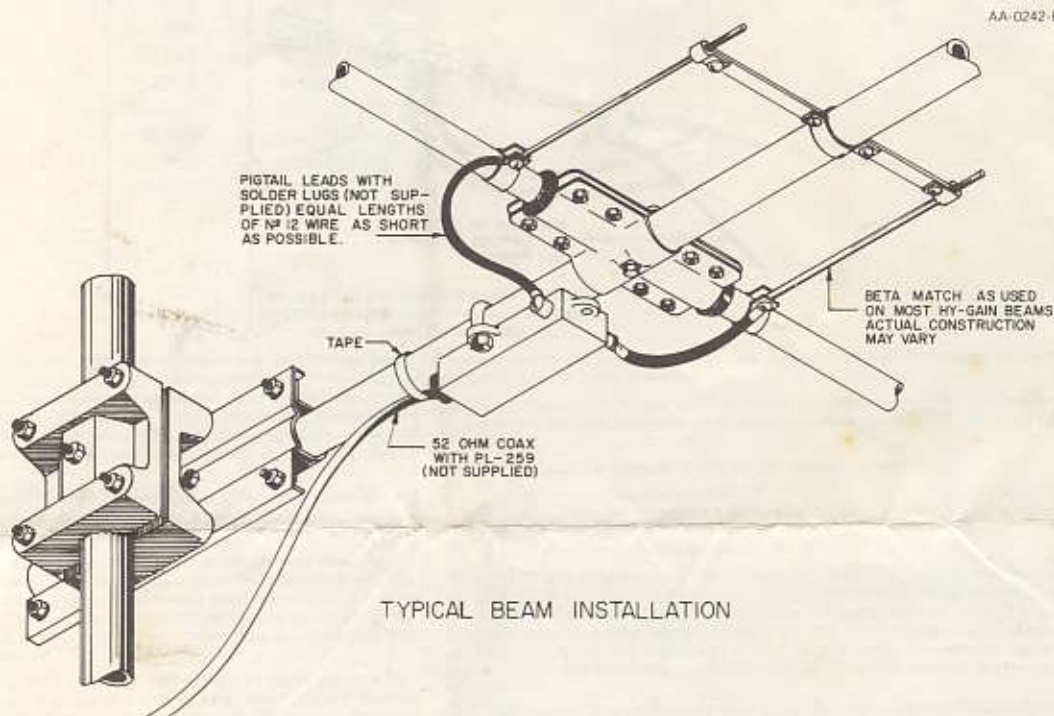
PN 804217

## Description

This balun is a ferrite, balanced to unbalanced, antenna matching device. With a transformation ratio of 1:1, the balun will couple into any 52-ohm balanced system such as dipoles, multiband doublets and beam antennas.

## CAUTION

*Do not use this balun with any matchboxes, antenna tuners, trans-matches or other such device. When the balun is used with such a device, out of resonance operation causes the break-down voltage of the balun to be exceeded. This is due to the extremely high standing wave voltage present on the feedline.*



## Mounting on Boom or Mast

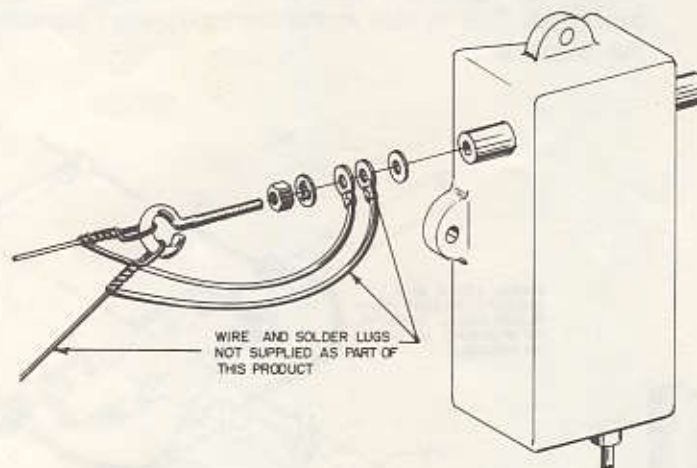
- ( ) Place U-bolt around mast or boom — diameter  $1\frac{3}{8}$ " to  $2\frac{3}{8}$ "
- ( ) Place balun against mast or boom and insert the U-bolt through holes on sides of balun.
- ( ) Tighten nuts securely.
- ( ) Connect leads to driven element.
- ( ) Connect coax to receptacle on balun.

**NOTE:** Fasten the balun as close as possible to the driven element. Leads from the two terminal outputs to the driven element should not exceed either 7" or existing lengths of the coax leads. Longer lengths will lower the resonant frequency of the antenna system.

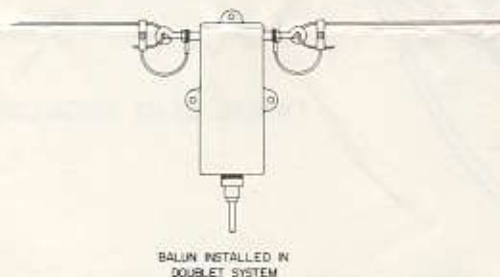
### Mounting in a Doublet System

- ( ) Insert two eyebolts in brass fittings at top of balun.
- ( ) Hook doublet wires to eyebolts (the balun replaces the insulator completely).
- ( ) Connect coax to receptacle on balun.

AA-0242-A-002



AA-0242-A-003



**NOTE:** An ohmmeter check of the balun at all points will show a DC short. *This is normal!* This is not a short with respect to RF energy at the balun's design frequency.

### Weatherproofing

The coaxial connection should be weatherproofed with some material such as neoprene.



## Specifications

### Mechanical —

Weight .....	1 lb.
Dimensions .....	3 1/4" x 6 1/4"
Input receptacle .....	SO-239
Output receptacle .....	standard terminal lugs
Weather protection .....	weatherproof housing with condensing drain opening
Housing material .....	high impact injection molded, Cylolac plastic

### Electrical —

Impedance .....	52 ohms
Frequency range .....	3 to 30 MHz
Insertion loss .....	negligible
Power handling capabilities .....	2 kW PEP

## Parts List

Part No.	Description	Qty
873424	balun assembly	1
873466	Parts Pack	1
541363	U-bolt, 10-24 x 2 1/2" x 2 3/4"	1
547260	eyebolt, 1/4"-20	2
556960	nut, 1/4"-20 hex	4
556970	nut, 10-24 hex	2
567110	lockwasher, 1/4"	4
505540	screw, 1/4"-20 x 3/8" hex	2

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This warranty applies only to the original consumer purchaser. Upon receipt of equipment, the buyer is responsible for checking the contents for damage. Any shipping damage should be referred to the carrier.

This warranty does not apply to any Hy-Gain products which have been repaired, worked on, or altered by persons not authorized by Hy-Gain to do so, or products the stability or reliability of which have been injured by such repair, or which have been the subject of misuse, negligence, or accident. Neither does this warranty apply to any of our products which has been connected, installed, used, or otherwise adjusted other than in accordance with instructions furnished by Hy-Gain.

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All claims of defect or shortage should be sent postage prepaid to:

Hy-Gain Warranty Service  
Hy-Gain Electronics Corporation  
4900 Superior Avenue  
Lincoln, Nebraska 68504

To speed up your claim you should mail the warranty card in immediately, though it is not a condition of this warranty. This places your name on file and speeds up handling of any claim you may have in the future. However, if for some reason you do not mail in the card, a copy of a document, such as a sales receipt, recording the date, place, and proof of purchase will, if satisfactory to the service department, also serve to establish your warranty rights. Your warranty claim should include all pertinent details, along with the part or item numbers involved.

All products subject to repair or replacement under such warranty must be mailed or returned to the above Hy-Gain Electronics Warranty Service Station, transportation prepaid by the purchaser within ninety days from the date of purchase by the original consumer purchaser. We suggest that you notify the Warranty Service Station and obtain prior authorization before you return the product. Unexpected returns are greatly delayed in handling. These delays can be avoided by writing in advance and furnishing the necessary information.

Hy-Gain reserves the right to ship new and/or improved products which are similar to the form, fit, and function of products originally ordered or purchased.

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