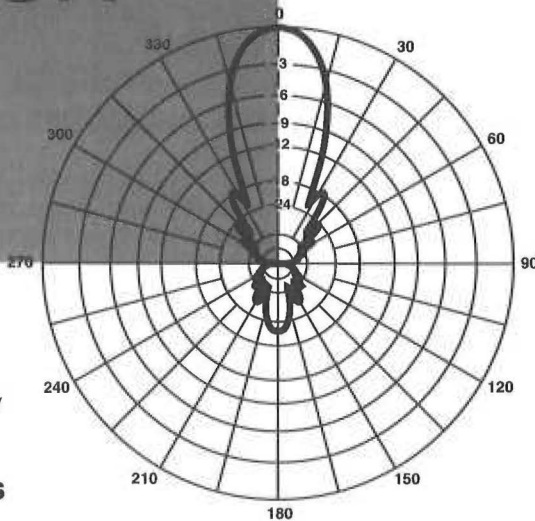


# THE ARRL ANTENNA BOOK



## Editor

R. Dean Straw, N6BV

## Contributing Editors

Gerald L. Hall, K1TD

Brian Beezley, K6STI

## Production

Shelly Bloom, WB1ENT

Sue Fagan

Steffie Nelson, KA1IFB

David Pingree, N1NAS

Dianna Roy

Joe Shea

### THE COVER

**Left photo:** SK0UX, in Stockholm, Sweden: A 100-ft tower with 5-el 20-meter beam, a VHF/UHF tower and a 60-ft tower with a log-periodic beam for 10, 12, 15, 17 and 20 meters. *Photo courtesy Henryk Kotowski, SM0JHF.*

**Right photo:** The W0UN antenna farm, La Salle, Colorado. A 160-foot rotating tower (left side of photo) provides plenty of room for the four beams: 4-el 40-m at 160 ft, 7-el 15-m at 120 ft, another 4-el 40-m at 80 ft and another 7-el 15-m at 40 ft. The 85-ft tower holds a 4-el 40-m beam at 85 ft. For good measure, the telephone pole at the far right holds an 8-el 15-m beam at 58 ft. *Photo courtesy John Brosnahan, W0UN.*

**Cover design:** Sue Fagan



Published by

**The American Radio Relay League**

Newington, CT 06111

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Printed in USA

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Library of Congress Catalog Card Number:  
55-8966

17th Edition  
Second Printing, 1994

ISBN: 0-87259-473-4

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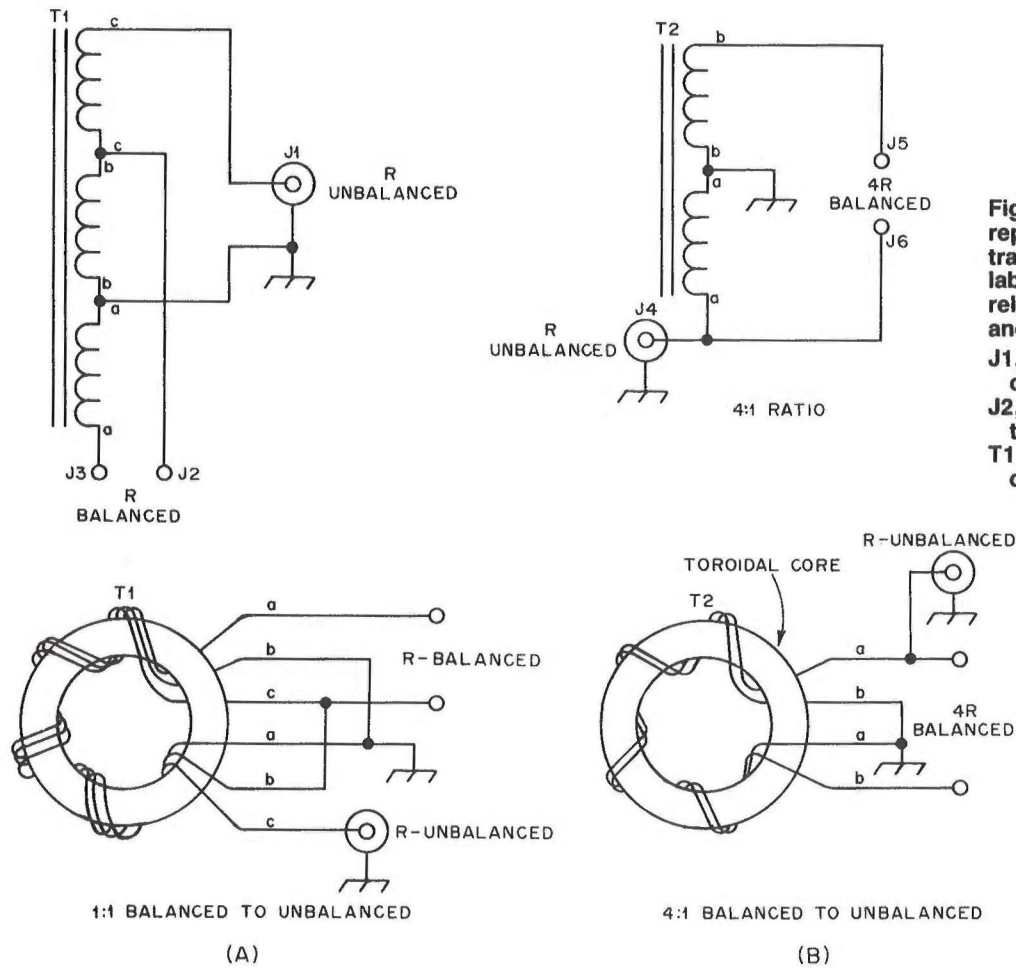
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# Broadband Toroidal Baluns

Air-wound balun transformers are somewhat bulky when designed for operation in the 1.8- to 30-MHz range. A more compact broadband transformer can be realized by using toroidal ferrite core material as the foundation for bifilar-

wound coil balun transformers. Two such baluns are described here.

In Fig 25A, a 1:1 ratio balanced to unbalanced line transformer is shown. This transformer is useful in converting



**Fig 25—Schematic and pictorial representations of the balun transformers. The windings are labeled a, b and c to show the relationship between the pictorial and schematic illustrations.**

**J1, J4—SO-239-type coax connectors or similar.  
J2, J3, J5, J6—Steatite feed-through bushings.  
T1, T2—Wound on CF-123 toroid cores (see text).**

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