

NEW PRODUCTS

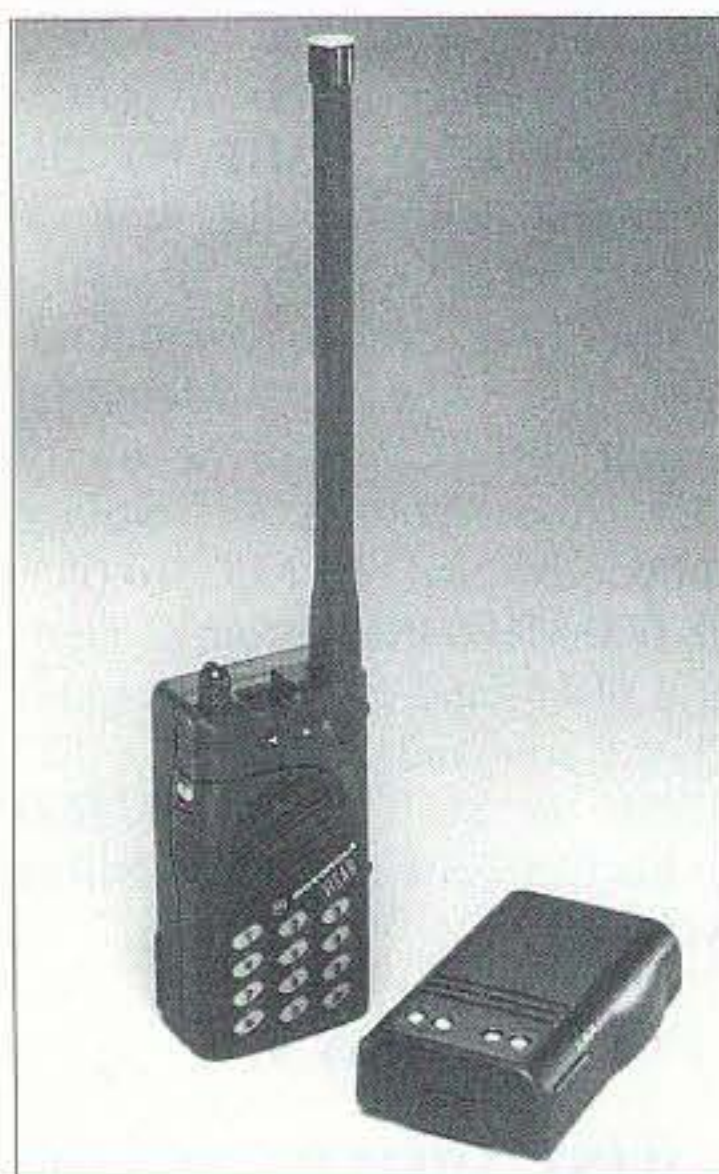
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VISAR Replacement Battery and Eliminator

Battery on that HT going dead in the middle of your first QSO after a night on the charger? W & W Associates has announced the addition of the VISAR replacement battery and eliminator to the extensive line of Two-Way batteries. The batteries are available in 7.5V @ 2000mAh and 7.5V @ 1200mAh.

W & W also now stocks batteries for the Yaesu FT-10R/40R, the Icom series IC-W31, IC-21A, IC-T22A, IC-T42A and Alinco DJ190/DJ-G5.

W & W can be reached at (516)942-0011 and is located at 800 South Broadway, Hicksville NY 11801-5017.



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Radio Bookshop

Phone 800-274-7373 or 603-924-0058, FAX 603-924-8613, or see order form on page 88 for ordering information.

UE220 **The Easy Wire Antenna Handbook** by Dave Ingram K4TWJ. All of the needed dimensions for a full range of easy to build and erect "sky wires." \$9.95

WGP87034 **All About Cubical Quad Antennas** by William Orr and Stuart Cowan "The Classic" on Quad design, theory, construction, operation. New feed and matching systems. New data. \$11.95

TAB 3270P **Practical Antenna Handbook**—2nd edition by Jos. Carr. This 560-page book is a treasure. Starts with fundamentals, explains propagation of all kinds, and provides a ton of easy antenna projects. \$26.95

AR4734 **ARRL Antenna Book**. Best and most highly regarded info on antenna fundamentals, transmission lines, design, and construction of wire antennas. \$30.00

WGP87107 **All About Vertical Antennas** by William Orr. Comprehensive coverage of amateur communications. \$11.95

WGP87042 **Beam Antenna Handbook** by William Orr and Stuart Cowan. Everything you need to know about beam design, construction, and operation. \$11.95

WGP87077 **Simple, Low-Cost Wire Antennas For Radio Amateurs** by William Orr and Stuart Cowan. Low-cost, multi-band antennas; inexpensive beams, "invisible" antennas for hams in "tough" locations. \$11.95

AR4661 **ARRL's Antennas & Techniques for Low-Band DXing** can be your ticket to low-band success. \$20.00

Number 86 on your Feedback card

The Tee Antenna

Short of room? This antenna may be just your size.

Joseph J. Carr K4IPV
P.O. Box 1099
Falls Church VA 22041

The low frequency bands are a bit of a problem for ham operators and shortwave listeners because longer antennas are required on those bands. For example, while a half wavelength dipole is only about 65 feet long on 40 meters and 126 feet long on 75/80 meters, you need 253 feet on 160 meters. Our SWL friends also have the same problem if they want to use a resonant antenna on the "tropical bands." Note: transmitters are more sensitive to the high VSWR that off-resonance antennas exhibit than receivers.

Real estate ain't getting any cheaper, so buying a 40-acre spread is probably not in most of our futures. *That* solution to the low frequency antenna problem is a non-starter.

One solution to the problem is the Tee-antenna shown in **Fig. 1**. This antenna uses two lengths of 300-ohm twin-lead to make a

horizontal section ("A") and a vertical section ("B"). Note that this antenna looks superficially like a folded dipole, but it's: a) only about half as long as a folded dipole, and b) the conductors are continuous, rather than having the feedline drive the antenna in a balanced manner. This antenna is unbalanced.

The horizontal section length (in feet) is found from:

$$A_{\text{feet}} = 270/F_{\text{MHz}} \quad (1)$$

While the vertical section is found from:

$$B_{\text{feet}} = 270V/F_{\text{MHz}} \quad (2)$$

Where: *A* and *B* are the lengths in feet, F_{MHz} is the frequency in megahertz, and *V* is the velocity factor of the twin-lead transmission line (typically 0.82 for television-antenna-style twin-lead). 73

Examples of the antenna lengths:

Frequency	A	B
7200 kHz	37.5'	30.75'
3750 kHz	72'	59'
1850 kHz	146'	120'

Win Fame and Fortune!

You can become world famous overnight just by getting an article published in 73! Have you designed and build something hams would like to know about? Have you put together a kit which really deserves to be better known? Have you had an interesting ham adventure? How about a DXpedition? My answer to any of these questions you answer "no" to is why not? W2NSD/1

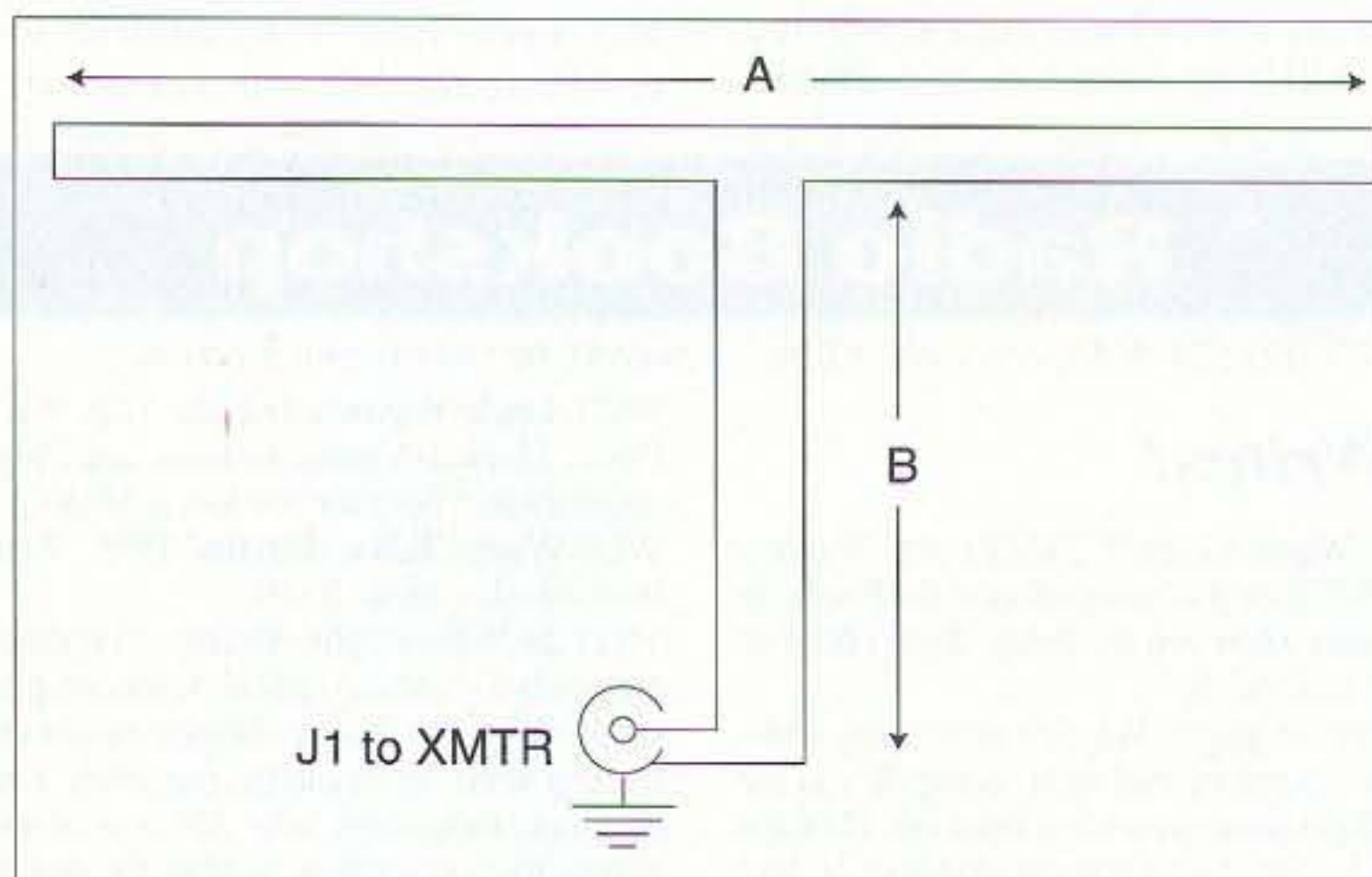


Fig. 1. While it looks like a folded dipole, it's only about half as long!