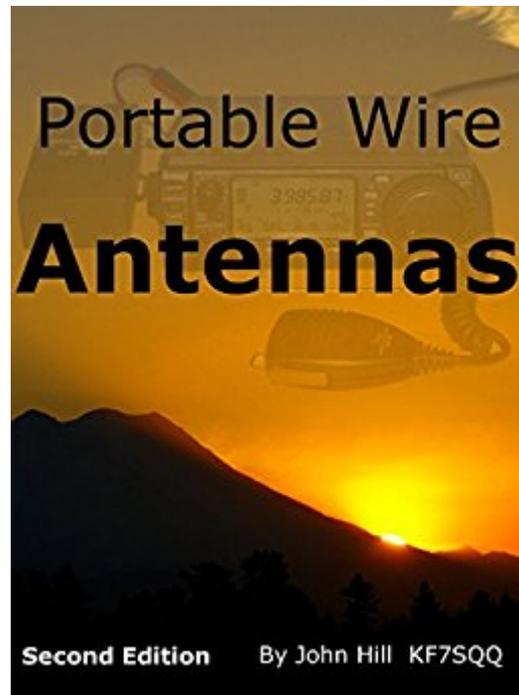


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# Portable Wire Antennas



## Synopsis

Second Edition - March 31, 2015 - 10 additional chapters added including information on traveling wave antennas, directional broadband antennas, long wire antennas, high signal to noise ratio receiving antennas and high gain DX antennas that can be field deployed for emergency or recreational use. An additional modular wire antenna kit is described that covers all of the antenna designs in the book in variations that cover 160-10 meters. This is not a book on antenna theory. It does provide clear easily understood explanations on the principles of antenna operation, transmission line considerations, impedance matching, baluns, tuners, and the pros and cons of different types and configurations of wire antennas. This book is written with the intention of enabling a new comer to amateur radio to understand the theory and practical considerations of this subject without getting lost in mathematics and complex theory. Portable, reliable HF communication is required for emergency management, expedition communications and recreational uses. This book is about selecting and constructing portable HF wire antennas that will provide maximum performance with low power, light weight and low bulk. All the information required to assemble antennas and antenna kits that can be deployed in multiple configurations is provided. Special attention is given to wire antennas deployed at low heights above ground, a situation confronted by operators on the move. Special attention is also given to NVIS (Near Vertical Incident Skywave) communications, which is also optimum with low antenna elevation. NVIS propagation enables communications in the 50-500 mile range regardless of terrain and independent of repeaters. With two or three low suspension points (8-20 ft.), one can deploy wire antennas that cover the 160-30 meter bands (those capable of NVIS propagation) with performance optimized for NVIS communication. With a single high suspension point that can be improvised from one or two tall trees, buildings or cliff faces and one of the antenna launch systems described here, one can deploy multiple antenna options that can be configured from the modular antenna kit. These include inverted V resonant or random wire dipoles, long wire antennas, sloper dipoles and inverted L antennas for efficient all-band regional use. It also covers terminated V beam and inverted half rhombic beam antennas optimized for 20-10 meters while being broad band (no tuner required), low noise gain equal to or greater than a high dipole. With two medium to high suspension points (15-80 ft. depending on the band), one can install half square wire antennas that produce high gain low angle radiation that is optimum for DX operation. Dropping one of the wire curtains converts the same antenna into a general coverage multi-band inverted L. With the versatility of the modular antenna components described here, one can quickly assemble, deploy and dis-assemble and roll up high performance wire antennas that are adaptable to nearly any operating environment and

communications objective.

## **Book Information**

File Size: 3280 KB

Print Length: 134 pages

Publisher: Clear Springs Press, LLC; 2.11 edition (April 16, 2014)

Publication Date: April 16, 2014

Sold by: Digital Services LLC

Language: English

ASIN: B00JRIZ16O

Text-to-Speech: Enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Not Enabled

Enhanced Typesetting: Not Enabled

Best Sellers Rank: #73,943 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #15 in Kindle Store > Kindle eBooks > Engineering & Transportation > Engineering > Telecommunications > Radio & Wireless #15 in Books > Engineering & Transportation > Engineering > Telecommunications & Sensors > Radio #16 in Books > Crafts, Hobbies & Home > Crafts & Hobbies > Radio Operation

## **Customer Reviews**

This book is written for the Radio Amateur reader, and, as such, it contains a large amount of practical Antenna design information for the "Ham" community. Possibly the strongest descriptor of the book is that it is near encyclopedic in its coverage of wire antennas. For each configuration discussed the author includes simple sketches, and often, practical suggestions for how to get the most out of the configuration. This reviewer has a professional background in antenna design, and I am happy to say that nothing was found in this book which appears incorrect or bad advice. On the other hand, nothing much new was found, either! Rather, the book is a comprehensive descriptive review of many different antenna configurations and designs, some of which have received little attention in recent years. Antenna design for an amateur station often is a search for a best compromise between desired performance, physical limitations, available space, frequency coverage and similar practical considerations. In the search for the best compromise for any specific installation, this book will provide the non professional reader with a comprehensive overview of the

many possibilities and assist the radio amateur reader in considering the full field of possible solutions to a specific set of practical limitations.

This book is a good resource. The author did a great job of writing so a newcomer to ham radio can understand radio antennas to a good working degree. I would recommend it to any new ham or student of the subject.

Ultimately one of the more practical approaches to wire antenna construction. The theory is greatly simplified, but clear. The pay-off is the meticulously specified "antenna kit," described by the author. Well worth the time to read.

Descriptions and theory of simple and inexpensive wire antennas. Practical applications, construction methods along with ready to understand reasons why these antennas work in various situations.

built two antennas based upon the book designs. 1.2 to 1 SWR on 40 meters 1.1 on the other antenna on 20 meters ..power output 600watt ..rig is Yaesu FT-991.. Super book. one is vertical with ground radials, and other is 1/2 wave end fed with transformer..Great Book

Besides having technical explanations, the author give cook book style recipes for many antennas. I really think this book was well worth the small price.

I hesitated to buy this book, as I've purchased a couple "antenna manuals" and have been previously disappointed. Not this time! The author has left me with a broad range of ideas I actually understand, exact instructions on how to make the antennas work, and sound advice on how (and why) to choose them. Don't hesitate to purchase this manual if you wish to learn antenna theory and design without a PhD in electrical engineering. I'll be ordering a paper copy to keep handy in the ham shack.

Had to read this a couple of times to absorb enough of the technical information enough to make an antenna decision. Book is detailed and logical, easily followed just technically dense.

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