

# The *ARRL Handbook for Radio Communications*

A book review by Bruce VK2DEQ

How things change! Back in the 1950s and early 1960s, the PMG's handbook for experimental wireless (amateur radio) stations stated that the qualifications required for the technical part of the exam was "an elementary knowledge of wireless telegraphy and wireless telephony and electrical principles" and suggested that suitable references were the *ARRL Handbook* and/or sections of the *Admiralty Handbook of Wireless Telephony*. To qualify, candidates were required to complete a two-and-half-hour written paper answering seven (from nine) questions. The advice to anyone wanting to obtain their AOC (Amateur Operators Certificate of Proficiency) was "If you know everything in the ARRL Handbook you should be OK". Taking that advice, I purchased my first (but not last) ARRL Handbook (the 36<sup>th</sup> Edition?).

The 2023 edition of the *ARRL Handbook for Radio Communications* is the 100<sup>th</sup> edition of this publication and is often referred to as Handbook 100. The ARRL Handbooks are written by radio amateurs who are experts in their field and now share their knowledge and experiences with others. These Handbooks have been the standard reference for radio amateurs and are also used by professional people working in the electronic communications industry.



Just like the previous editions of the Handbook, HB100 provides the reader with a good balance between basic know-how and an introduction to advanced RF communications topics. From basic theory and simple projects to advanced topics, each chapter gives an understanding of the subject and practical information about circuit design, equipment construction and safety practices. This new edition has been extensively revised to update and expand the content. HB100 is published as either a single volume hardcover edition or as a six-volume softcover edition. The 27 chapter headings are:

<b>Volume 1 – Fundamentals of Radio Electronics</b> <ul style="list-style-type: none"><li>• What is Amateur Radio</li><li>• Electrical Fundamentals</li><li>• Radio Fundamentals</li><li>• Circuits and Components</li></ul>	<b>Volume 2 – Principles of Radio Technology Part 1</b> <ul style="list-style-type: none"><li>• RF Techniques</li><li>• Electronic Design Automation</li><li>• Power Sources</li><li>• DSP and SDR Fundamentals</li><li>• Oscillators and Synthesizers</li><li>• Analog and Digital Filtering</li><li>• Modulation</li></ul>	<b>Volume 3- Principles of Radio Technology Part 2</b> <ul style="list-style-type: none"><li>• Receiving</li><li>• Transmitting</li><li>• Transceiver Design Topics</li><li>• Digital Protocols and Modes</li><li>• Amateur Radio Data Platforms</li><li>• RF Power Amplifiers</li><li>• Repeater Systems</li></ul>
<b>Volume 4 – Radio Propagation and Antenna Systems</b> <ul style="list-style-type: none"><li>• Propagation of Radio Signals</li><li>• Transmission Lines</li><li>• Antennas</li></ul>	<b>Volume 5 – Safe Practices and Station Construction</b> <ul style="list-style-type: none"><li>• Safe Practices</li><li>• Construction Techniques</li><li>• Assembling a Station</li></ul>	<b>Volume 6 – Test Equipment, Troubleshooting and RFI</b> <ul style="list-style-type: none"><li>• Test Equipment and Measurement</li><li>• Troubleshooting and maintenance</li><li>• RFI and EMC</li></ul>

Each chapter ends with extensive references, a bibliography and details of website links.

Purchasers of the print edition of HB100 can download additional material and supplementary information (including articles from QST, QEX and other sources), several software packages and extra files with details on building and testing projects.

I purchased the paperback six-volume edition of HB100 directly from the ARRL website. It arrived (using standard postage) well wrapped and in perfect condition three weeks later.