

November 1 - December 31, 1995

GROVE

Catalog & Buyer's Guide®

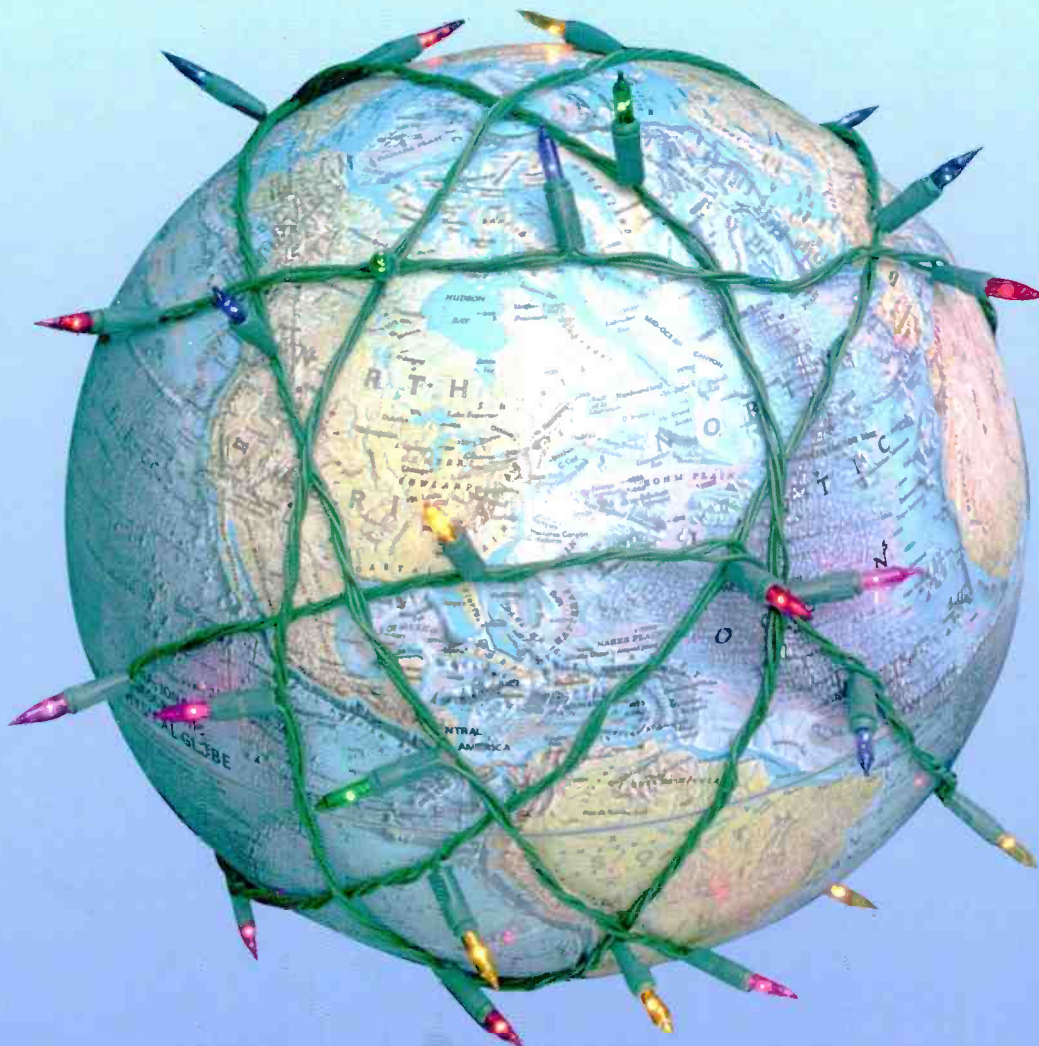
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please don't let it drop!*



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We're **Wired** for Christmas...



Why? Because We're on the **INTERNET!**

We realize that many of you are accessing the World Wide Web for information . . . and for fun. So, we've created Grove's on-line pages to give you more access to our company—more service and more up-to-the-minute information. In fact, we'll be able to serve you faster with communications to our technical, order line and writing staff; special product announcements and pricing; plus all the other fun you expect in a World Wide Web site.

So, whether you like Grove best for publications like *Satellite Times* or *Monitoring Times*, or the great selections and prices in the Grove Catalog and Buyer's Guide (check us for great Christmas ideas!), or the technical services that back all of our products, we invite you to experience Grove on-line.

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Grove Enterprises, 300 S. Hwy. 64 W.
Brasstown, N.C. 28902
1-800-438-8155





**Grove Enterprises, Inc., P.O. Box 98,
300 S. Highway 64 West, Brasstown, NC 28902**

November 1-December 31, 1995

The severe Atlantic storm season showed once again the importance of radio in the establishment of emergency communications. Shortwave was often the only reliable medium for exchanging relief messages. In an age of emerging new technologies, we are often reminded of the superiority and dependability of traditional modes.

But this is not to imply that there is no room for improvement; digital signal processing (DSP) shows great promise for clearer radio reception, while the lowering cost and increasing performance of LCD modules invite more informational display on receiver panels.

With the continuing soft economy, Grove Enterprises has adopted a helpful trade-in policy. We are accepting a wide array of recent receivers and scanners in exchange for new equipment at considerable savings. We carefully check out the trade-ins, making any necessary repairs, and offer them at low cost, including warranty, to budget-conscious listeners. If you would like a bargain in a used scanner or receiver, call toll-free 800-438-8155. If you would like to trade in a piece of equipment, call 704-837-7081.

Our continuing support of radio does not mean that we are ignoring the enormously important impact of the computer age. Yes, computers do cause noise in nearby receiving equipment but, properly installed, the interference can be minimized, and there is no denying the power and utility of the computer.

In keeping with our reputation as the leader in informational monitoring, we have taken a giant—and expensive—step forward. Grove Enterprises is now an Internet service provider (ISP), with our own World Wide Web page; we will be offering key clients the opportunity to reach 45 million potential customers and offering you news-breaking information with real-time updates unavailable in the print media.

Would you like to see the Grove catalog, Monitoring Times and Satellite Times on line? Shall we offer competitive products as well? How about collectibles or even non-radio items? Are you comfortable giving us your credit card number over the Internet? We are eager to hear your thoughts on this exciting, new informational medium; please send your e-mail comments to our address: feedback@grove.net. We look forward to hearing from you.

For the gift-giving season, we have featured a number of "stocking-stuffers" to please radio hobbyists of all persuasions. Our technical support personnel are trained to help you make an appropriate selection.

And finally, but certainly not lastly, we wish all of our friends the happiest of holiday seasons. In a world ripped by conflict, may you find peace and happiness in the days ahead.

Bob and Judy Grove

The Grove Catalog/Buyers' Guide is a publication of Grove Enterprises, Inc., ©1995, Brasstown, North Carolina.

Order With Confidence

Grove Enterprises prides itself on offering quality products at reasonable prices AND outstanding technical support. In the rare event you should experience some kind of problem with any of the products we manufacture or sell, or should you have a complaint, please call us first at 1-800-438-8155 and we'll do everything we can to keep you as a satisfied customer. **ALL PRICES ARE SUBJECT TO CHANGE!**

Occasionally a customer will order a product that turns out not to be what he wanted or, perhaps, expected. Simply call our toll-free number, 1-800-438-8155 within thirty (30) days of shipping and we will gladly credit your future purchases, or we'll issue you a refund (less shipping charges)—your choice!

ALL RETURNED ITEMS MUST HAVE A RETURN AUTHORIZATION NUMBER OR ELSE THE RETURN IS SUBJECT TO A RESTOCKING FEE BASED ON THE INVOICE VALUE: \$0-\$500 - \$15; \$501-1000 - \$25; \$1000+ - \$35. BE SURE TO REQUEST A RETURN AUTHORIZATION NUMBER FROM A CUSTOMER SERVICE REPRESENTATIVE!

Any product returned in not-as-new condition will be assessed a fair refurbishing charge. Be sure to include the authorization number as a restocking fee must be assessed (see above) for products returned without authorization. Special order items cannot be returned.

Shipping Damages:

Should you receive a damaged shipping carton, ask the UPS driver to wait while you inspect the contents. **IF there is damage, refuse the package and immediately call your local/regional UPS office.**

Canadian Shipments:

All Canadian shipments are subject to duties and GST tax. These charges are the responsibility of the purchaser and not Grove Enterprises

Limited Warranty:

All equipment manufactured by Grove Enterprises is warranted to the original purchaser to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase as shown on the purchaser's receipt. Grove Enterprises may, under this warranty, either repair or replace (at our option) any part which proves defective in material or workmanship, provided the unit has not been modified in any manner or field repairs attempted. Please call us at 1-800-



438-8155 for a return authorization number and shipping instructions before returning any item for warranty repair.

Grove Enterprises assumes no responsibility for damages or penalties incurred resulting from the use of this product in a manner or location other than that for which it is intended.

All customer-owned equipment repaired by Grove Enterprises is warranted for a period of 90 days from the date shown on the customer receipt. The warranty is not transferrable. Modifications to the equipment may void the original manufacturer's warranty.

Radio Shack® Equipment:

Should any equipment manufactured by Radio Shack® and sold to you through Grove Enterprises fail within a period of one year from the shipping date, the unit must be returned to Grove Enterprises for warranty repair. Please call us at 1-800-438-8155 for return instructions.

Other Warranties:

On items not manufactured by Grove Enterprises or Radio Shack®, (ICOM, Uniden, Sony, etc.), please check your service manual for instructions or call us at 1-800-438-8155 for the name, address or telephone number for the repair center nearest you.

Grove Phone Line Services:

ORDER LINE ONLY
800-438-8155
(M-F, 8:00am-6:00pm Eastern)

TECHNICAL/REPAIR SERVICE
704-837-7081
(M-F, 8:30am-4:30pm Eastern)

BUSINESS OFFICE
704-837-9200
(M-F, 8am-5:00pm Eastern)

DATA LINE/FAX SERVICE
704-837-2216
(24 hours/day, 7 days/week)

INTERNET SITE
www.grove.net

BULLETIN BOARD SYSTEM

Grove Enterprises has an advanced computer bulletin board system available **Monday-Friday from 5:30pm-8am (non-business hours), and 24 hours/day on weekends.**

The BBS is free and is available to all people. All phone numbers operate at 300-14,400 BPS:

704-837-9200 704-837-5957
704-837-7081 704-837-5183

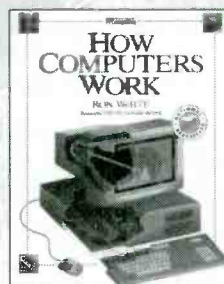
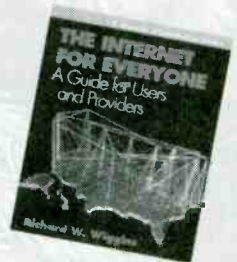


INTERNET CHRISTMAS IDEAS

Great gifts to help those you love get plugged into the communications wave of the future.

Left to right, top to bottom:

- **Sub-Compact Extension Speaker.** Perfect for computer audio/internet phone applications. Comes with 7-foot cord and 1/8" miniplug. Order SPK 14, only **\$7.95** (free shipping!)
- **Clip-on Studio Mike.** Use for presentations, lecturing, tape recording and internet phone. Ten-foot cord with 1/8" plug. Order MIC 3, only **\$19.95** plus \$1.50 First Class Mail Shipping.
- **Surge Protectors.** Protect your delicate electronic equipment. Choose from single-outlet or six-outlet model. Order LAR 2 (single), only **\$3.95** plus \$1.50 First Class Mail Shipping. Order LAR 3 (six outlets), only **\$4.95** plus \$2.00 First Class Mail Shipping.
- **The Internet for Windows for Dummies Starter Kit.** Helps you get online fast and effectively. Order BOK 38, only **\$39.95** plus \$3.00 bookrate shipping.
- **The Internet.** An insightful look at the new "highway to the future"—and good reference book for beginners and intermediate level surfers. Order BOK 37, only **\$24.95** plus \$3.00 bookrate shipping.
- **The Internet for Everyone.** A guide for the more advanced user. Delves into the inner workings of networks and the internet. Order BOK 36, only **\$29.95** plus \$3.00 bookrate shipping.
- **Internet Starter Kit for Macintosh.** Geared for Macintosh users, this book is packed with tons of useful information and software to help you get started on Internet. Order BOK 31, only **\$29.95** plus \$3.00 bookrate shipping.
- **How Computers Work.** A lavishly color-illustrated book explaining the components and the computer and its peripherals. Easy to read and understand. Order BOK 17, only **\$22.95** plus \$3.00 bookrate shipping.
- **Internet Boot Camp Video.** This informative and entertaining video provides step-by-step instructions and software needed to launch yourself on the internet. Configured for the Grovelink network. Please specify IBM (TAP 1) or Mac (TAP 2). Only **\$29.95** plus \$3.00 bookrate shipping.



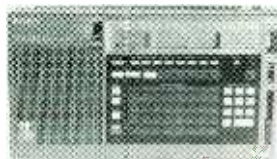
Visit our web site and check out our daily specials:

www.grove.net

Choosing a Shortwave Receiver

WHEN YOU SELECT A SHORTWAVE RECEIVER, consider several factors:

- (1) Do you need portability? Small radios are convenient carry-alongs, but their performance is always inferior to the pricier desktop radios.
- (2) Is battery operation of paramount importance? If power outages are frequent, the battery option may be important.
- (3) Is price a serious consideration? Performance generally improves as price goes up, but it isn't proportional. Check the specifications.
- (4) Will you be using an external antenna? This is always the better choice, but the resultant stronger signals will cause problems in cheaper radios.
- (5) Do you intend to listen to hams and other communicators? Single sideband (SSB) mode is mandatory.
- (6) Is this to be a primary or a backup receiver? You may wish to relax on specifications slightly if you already have a high-performance receiver.
- (7) Are you located near a powerful broadcasting transmitter? Plastic cabinets



Sony ICF2010

and poorly-designed circuitry invite serious strong-signal-interference problems.

Among portables, the Sony ICF-2010 still remains the top contender as the most cost-effective radio. Not only does it offer decent sensitivity, selectivity and loudspeaker audio, but it offers synchronous detection, very useful for weak-and fading-signal shortwave reception. It includes the FM broadcast band and even listenable aircraft band reception, an unusual bonus in portables.

Among the small shortwave portables, consider the Sony SW30 for broadcast-only reception (no SSB) at low cost, or the recently-released SW7600G with synchronous detection and SSB—a fast seller.

For superb audio quality, the Grudig Satellit 700 is the pick.

For serious listening, the new Drake R8A offers improved performance over the former leader, their own R8! Or try their new SW8 with improved sensitivity, battery/desktop/portable operation, excellent SSB performance, synchronous detection, all at an attractive price between that of the low-cost portables and the more expensive desktops.



Drake R8A

Shortwave Antennas and Accessories

WHILE IT IS TRUE THAT ANY LENGTH OF WIRE will pick up signals, a well planned antenna installation will pick them up better. The greatest efficiency of an antenna occurs when its electrical length matches that of the incoming radio wave (resonance). For a given length this only occurs at one frequency and related multiples. It is the job of the antenna designer to come up with the best combination of characteristics for wide frequency coverage.

The "bigger the better" concept has its limitations. Once an antenna is large enough to hear signals above the noise generated by the receiver's own circuitry, further strength is unnecessary. For most applications 20-75 feet is plenty long enough; in fact, doubling the length of a matched antenna will improve signals by only 3 decibels—half an S unit and barely discernible.

Impedance matching (standing wave ratio- SWR) may be important for transmitting, but is of virtually no concern in receiving. While a perfect match between an antenna and receiver will deliver the greatest signal strength, the background atmospheric noise (hiss and static) will increase proportionately. The net result will be a high S-meter reading, but no better signal readability above the noise.

A wire antenna may be thick or thin, made of any metal, insulated or uninsulated, stranded or solid; it will hear all signals the same. Choose your wire for strength, solderability and corrosion resistance.

An antenna should be as high as possible and away from large metal surfaces and electrical power lines to avoid electrical noise pickup and shock hazard. Indoor antennas often pick up noise from household appliances, although loop antennas may be rotated for minimum interference.

Recommended Antennas

For shortwave reception, it's hard to beat an elevated dipole. In actual field tests the low-cost Grove Skywire (ANT-2) repeatedly equalled or outperformed any other receiving antenna on the market including

expensive trap dipoles.

Trap dipoles are designed to work best on certain ranges like the broadcast or ham bands, often compromising the remaining frequency ranges. Why buy a general coverage receiver, then reduce its capability with a frequency-restricting antenna?

For medium and longwave reception, the operator may wish to disconnect the ground side of the feedline, thus allowing the feedline to become part of the antenna for added length and improved low frequency signal strengths.

Directional antennas concentrate incoming signals ("gain") from one direction while rejecting interfering signals from other directions.

The large capture area (aperture) of a big antenna overcomes poor sensitivity in old receivers by providing stronger signals, but modern receivers have excellent sensitivity and require smaller antennas.

Active antennas are nothing more than short vertical elements attached to an amplifier to approximate the signal levels delivered by a full-size antenna. Untuned amplifiers are vulnerable to strong signal overload because of limited dynamic range. This produces gain compression (apparent lack of sensitivity) and intermodulation ("intermod"—the mixing of signal frequencies heard as spurious signals throughout the listening range).

Some active antennas, including the Grove Hidden Antenna system, overcome this shortcoming by including a preselector which selects the desired frequency and attenuates all others.

Because of their indoor location, complexity, vulnerabilities and cost, active antennas should be chosen only when adequate outdoor antennas are not possible.

If an antenna intercepts enough signal voltage to overcome losses and noise in the receiver, no amount of amplification will make the signal easier to copy, just louder—along with louder background noise.

Feedline

A wire run from your receiver to a nearby tree may produce excellent reception, but it is susceptible to electrical noise pickup from nearby appliances; use coaxial cable for your antenna lead-in. For reception

below 30 MHz, virtually any well-shielded coax like RG-58/U, RG-59/U, RG-6/U or RG-8/U is satisfactory for runs up to at least 100 feet.

Preselectors

A preselector can be thought of as a frequency-adjustable gate for radio signals; its purpose is to pass desired signal frequencies while rejecting all others. Installed between the antenna line and receiver, it eliminates intermodulation, image interference and desensitization caused by strong signals in economy receivers. It is not an impedance matching device.

An amplified preselector not only passes those desired signals, but amplifies them as well, often improving reception when the antenna is small or indoors.

Grounding

A connection to an earth ground rarely makes signals stronger, but will lessen the hazard of electrical shock and may reduce electrical line noise interference or AC hum on received signals.

An effective ground consists of a short length of heavy gauge wire (or coax cable shield) connected to a single metal pipe or rod driven at least eight feet into moist soil. Dry soil or sand is worthless as a ground. A metal (not PVC) cold water pipe may work, but hot water pipes are usually caulked at the water heater, electrically insulating them. As a last resort, connect your ground wire to the screw holding on the wall plate over the AC outlet.

Equipment chassis should be commonly tied together by a single ground wire to reduce common mode hum. Experiment with different grounding combinations for best results.

The old-fashioned gap-type lightning arrestors so common during the vacuum tube era are no longer adequate; transistors burn out at voltages much lower than an air gap can protect. Offering much better protection are the new gas-charge types such as the Grove LA1 and Alpha Delta TransiTrap.

While nothing can guarantee protection from a direct lightning strike (always disconnect your antenna from your equipment during storm season), these devices will harmlessly short-circuit any voltages induced on the antenna by close strikes.

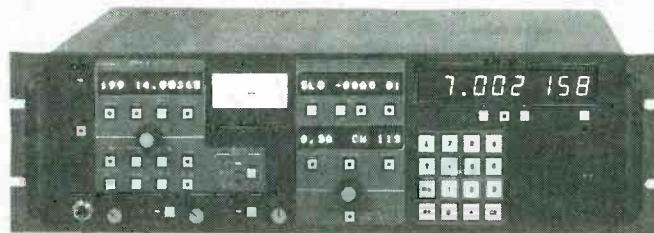


Grove Skywire



Don't you deserve the luxury of Watkins-Johnson?

WATKINS-JOHNSON HF1000



For the first time in recent history, a leading manufacturer of equipment for the federal government has made available the most advanced receiver on the consumer market.

Designed for a super-secret monitoring agency, the HF1000 offers unsurpassed features and performance, like 1 hertz tuning and display readout, +30 dBm third-order intercept, DSP filtering with 58 bandwidths, RS232 and CSMA control ports, built-in self test, 5 kHz-30 MHz continuous tuning, ten step noise blanker, excellent filter shape factor, low-distortion AM synchronous detection, internal speaker and much, much more.

This is a receiver for the discriminating listener, the consummate DXer, the true professional who wants the best there is.

RCV 18 Only \$3799

\$23.50 UPS
\$25.50 US Priority Mail
\$35 Canadian A
\$35 Canadian UPS

ACCESSORIES:

- ACC 85 Preselector \$589.95
- ANT 2 Grove Skywire antenna \$39.95
- ANT 24 Dymek active antenna \$179.95
- SFT 2 ScanCat Gold software \$94.95
- SPK 13 Grove Sound Enhancer \$199.95

See Shortwave Product Comparisons and Specifications on pages 22-23!



R8-A Communications Receiver

*The successor to the famous R8 is here—
Why pay more when the best costs less?*

The Drake R8 has been internationally respected for its excellent audio, frequency agility (100 kHz-30 MHz, expandable to 33-55 and 108-174 MHz with optional converter), friendly control panel, synchronous detection, noise blanker, passband tuning, preamp/attenuator selection, universal power supply, dual clock timers, giant display, five filter bandwidths and six receiving modes. Now Drake has added over a dozen important improvements to their legend R8 receiver, including:

- Single-keypress mode and bandwidth selection
- Alphanumeric display of station identification
- Improved overload immunity
- 440 memory records
- Rapid scanning
- Enhanced tone control
- Tighter frequency stability
- Strong metal tilt bail
- Expanded-function RS232 computer control
- Removable/replaceable line cord

Order RCV 3

Grove discount price only \$1068⁹⁵

\$17 UPS
\$29 US Priority Mail
\$26 Canadian UPS
\$35.50 Canadian APP

Retail \$1099.⁹⁵

ACCESSORIES:

- ACC 43 VHF converter \$209.95
- ANT2 Grove Skywire antenna \$39.95
- ANT 24 Dymek active antenna \$179.95
- Installation Fee \$20.00
- MAN 2 Service manual \$39.95
- SPK 2 External speaker \$48.95
plus \$6 UPS
- SPK 13 Grove Sound Enhancer \$199.95





GREAT WORLD BAND RECEIVER FROM R.L. DRAKE

Not only continuous coverage 500 kHz-30 MHz, but 87-108 MHz FM broadcast (stereo at headphone jack) and 116-136 MHz aircraft as well! Standard and synchronous detection AM, upper and lower sideband on medium and short wave, direct frequency entry keypad, 0.5 microvolt sensitivity, dual 6/4 kHz selectivity on AM, sharp 2.3 kHz selectivity on SSB. Up-conversion eliminates images while +10 dB intercept point suppresses intermod. Also, the current upgrade comes with a continuous amplified whip antenna

A compact 11" wide by 5-1/4" high and weighing a scant 10 pounds, the SW8 runs on optional internal batteries or its supplied AC adaptor. High-contrast, backlit LCD display provides 100 Hz tuning accuracy. Dual-mode clock timer and 70 scannable memories round out the key features of this welcome

Order RCV 19

Grove discount price only **\$689⁹⁵**

ACCESSORIES:

ANT 2 Grove Skywire antenna	\$39.95	\$14 UPS
ANT 3 Grove Mini Skywire antenna	\$29.95	\$23.50 US Priority Mail
ANT 24 Dymek active antenna	\$179.95	\$21 Canadian UPS
SPK 13 Grove Sound Enhancer	\$199.95	\$28 Canadian APP



ICOM, Simply The Best



Global Positioning System

ICOM GP-22

Use the same precision satellites that helped us win the Gulf War. This tiny (2-1/2" x 5-1/4", 11 oz) earth station fits in the palm of your hand! The easy-to-read digital display reveals bearing information from up to five earth-orbiting satellites, providing your latitude and longitude to within 300 feet (limited by the Department of Defense).

Easy to use. Track your direction or return to a precise location. Create a route. Confirm your waypoints. Compute estimated time of arrival (ETA). Display heading, speed, bearing and range. Compute world and local time.

Powered by rechargeable battery pack. Includes carrying case, cigarette lighter power cord, AC wall adaptor/charger, illustrated instruction book. Prices subject to change due to yen fluctuations.

ACCESSORIES:

BAT 1 AA Alkaline Batteries	\$.79
BAT 13 Rechargeable Nicad batteries	\$2.75

Special Sale Price

GPS 22 \$499⁹⁵

\$9 UPS
\$13 Priority Mail
\$15 Canadian UPS
\$16.50 Canadian APP



ICOM R-71A

Order Now, Only a Few Left!

This receiver is as professional as it looks. The brilliant fluorescent display provides frequency information down to tenths of a kilohertz and alerts the listener to other dial settings (mode, memory, channel, VRO).

Signal resolution of 10 Hz eliminates the need for RIT, even on SSB or RTTY mode and may be scanned or searched. An effective noise blander has adjustable controls for optimum reduction of a wide variety of impulse noises, from power line hash to the Russian woodpecker.

Filter selectivities of 6, 2.3 and 0.5 kHz are provided; you may add one more for use in any mode. This latest version also reintroduces passband tuning.

Of interest to the visually impaired is the optional EX-310 speech synthesizer which announces the displayed frequency in English. See detailed specifications on pp. 22-23. Prices subject to change due to yen fluctuations.

OPTIONAL ACCESSORIES

<i>One or more accessories installed w/radio -- \$20</i>	
ACC 1 EX257 FM mode detector	\$91.95
ACC 4 CR64 high stability crystal	\$114.95
ACC 7 EX310 voice synthesizer	\$85.95
ACC 8 FL32A CW narrow filter	\$86.95
ACC 9* FL44A SSB filter	\$178.95
ACC 10* FL63A CW narrow filter	\$59.95
<i>*Use only one filter</i>	
ACC 12 RC11 remote control	\$109.95
ACC 73* UX14 Level converter	\$96.95
ACC 74* CT-17 computer interface	\$144.95
<i>*Must use ACC73 & ACC74 together</i>	
ANT 2 Grove Skywire antenna	\$39.95
ANT 24 Dymek active antenna	\$179.95
BRK 4 MB12 mobile mount bracket	\$25.95
DCC 1 DC Power kit EX299	\$32.95
MAN 1 Service manual	\$50.00
SFT 2 Scancat Gold software	\$94.95
SPK 1 SP3 speaker (plus \$7.50 UPS)	\$101.95
SPK 13 Grove Sound Enhancer	\$199.95
WP01 RDI White Paper®	\$5.95

RCV 6

Only \$1229⁹⁵

\$18 UPS
\$31 US Priority Mail
\$39.50 Canadian APP
\$30 Canadian UPS



GE Superadio III

NEW!

**Premium Portable for
Medium Wave DX'ing**

The GE Superadio series has been a popular receiver for AM/FM DXers for years. The smooth vernier dial features tuned RF on both AM and FM, while a ceramic IF filter and 7 tuned

IF circuits provide outstanding selectivity. The two-way speaker system with separate bass, treble and loudness controls assures solid, clean sound, and the drift-cancelling, automatic frequency control (AFC) circuit can be switched out for weak-signal hunting. The internal AM loop and FM whip antennas provide convenient portability, while external antenna jacks accommodate your long-distance antennas.

Expertly designed and handsomely crafted, the GE Superadio III is powered by 120 VAC or six internal D cells (optional) with over 400 hours battery life!



ACCESSORIES:

- ANT 3 Grove Mini-Skywire \$29.95
- ANT 17 Amplified SW ant. \$24.95
- ANT 21 Select-A-Tenna \$65.95
- ANT 31 Kiwa Loop Antenna \$349.95
- BAT 1 AA cell alkaline bat. \$1.79ea
- BAT 2 D cell alkaline bat. \$1.19ea
- SPK 13 Grove Sound Enhancer.. \$199.95

Order RCV 5

Only \$59⁹⁵

- \$9 UPS
- \$16.50 US Priority Mail
- \$20.50 Canadian APP
- \$18 Canadian UPS

Super Value and Performance from **SANGEAN**

Top-of-the-line With Built-In Cassette Recorder

SANGEAN ATS-818CS

Imagine—record your favorite programs automatically with the dual-zone clock timer on any frequency from 150 kHz through 30 MHz, 87.5-108 MHz FM as well! This impressive portable has SSB and CW reception, 45 memory channels, wide/narrow filter selectivity, signal strength indicator, AC wall adaptor and more! See detailed specifications on pp. 22-23. Requires 4 D cells.



Order RCV 9

Only \$219⁹⁵

Retail \$399

- \$9 UPS
- \$16.50 US Priority Mail
- \$20.50 Canadian APP
- \$18 Canadian UPS

ACCESSORIES:

- ANT 3 Grove Mini Skywire antenna \$29.95
- ANT 21 Select-A-Tenna \$65.95
- ANT 17 Amp. SW antenna \$24.95
- BAT 2 D cell alkaline bat. \$1.19 ea
- SPK 11 Naval HTS speaker \$34.95

SONY ICF-SW7600G

It was inevitable. The early models ICF 2002 and 2003 have been replaced by a tiny marvel with synchronous AM detection, SSB, and even FM stereo coverage! Measuring just over 7 inches wide and weighing 22 ounces, the SW7600G is loaded with features! DX/local switch reduces "pumping" on strong SSB signals; power switch lock prevents accidental battery depletion during transport.

Continuous 150 kHz-29.995 MHz frequency coverage plus 87.6-108 MHz FM headphone stereo, pushbutton tuning, tone control, external antenna jack, clock timer with sleep function, tilt bracket, keyboard lock, direct-entry keypad and 22 scannable memory channels keynote the high-tech features of this potent portable! See pp. 22-23 for more details. Requires 4 AA cell batteries.

**HIGH SENSITIVITY
PLUS SYNCHRONOUS
DETECTION!**



ACCESSORIES:

- ANT2 Select-A-Tenna \$65.95
- ANT 17 Amp. SW antenna \$24.95
- BAT 1 AA alkaline bat. \$1.79ea
- PWR 9 AC adaptor \$19.95
- SPK 11 Naval HTS speaker \$34.95

Order RCV 11

Only \$199⁹⁵

Retail \$249⁹⁵

- \$9 UPS
- \$14 US Priority Mail
- \$16 Canadian UPS
- \$15.50 Canadian APP



SONY ICF-SW100

Powerful Shirt-pocket Shortwave Radio



Only 4-3/8" W x 2-7/8"H x 15/16" D

Incredible! Imagine compressing the popular functions of the mighty Sony ICF2010 into a shirt-pocket radio! This tiny titan offers continuous 150 kHz-30 MHz and 76-108 MHz FM frequency ranges, Sony's famous synchronous detection, USB/LSB reception, 100 Hz tuning steps, 50 memory presets, 24 hour clock/timer, world time computer, stations name display, illuminated LCD, and much, much more.

AC adaptor, stereo earphones, active antenna, soft carrying case, station directory, and full instruction manual included at no extra charge! Two AA batteries required.

See detailed specifications on pp. 22-23.



Order RCV 24
Only \$359⁹⁵

\$9 UPS
\$17 US Priority Mail
\$18.50 Canadian APP
\$21 Canadian UPS

ACCESSORIES:

ANT 17 amplified SW antenna \$24.95
ANT 21 Select-A-Tenna \$65.95
BAT 1 AA alkaline batteries \$7.99 ea
SPK 13 Grove Sound Enhancer \$199.95

SONY ICF-SW77

Compare with the
Sony ICF-2010

For those who have been looking for the next step up, it's here! The new Sony ICF-SW77 has all of the features of the popular ICF-2010 (except air band), plus: front panel tuning dial, separate bass and treble controls, 162 non-volatile memory channels, stereo FM (headphones), station name display, 50 Hz fine tuning steps, broadcasting time display, 24 hour/local time clock, and 5-event timer. It comes complete with an AC adaptor, stereo earphones, ear pads, carrying belt, compact antenna, external antenna adaptor, manual. See specifications on pp. 22-23. Requires 4 C cell batteries.



Order RCV 10
Only \$469⁹⁵

\$9 UPS
\$18 US Priority Mail
\$20.50 Canadian APP
\$18 Canadian UPS

Retail ~~\$549⁹⁵~~

ACCESSORIES:

ANT 3 Grove Mini Skywire antenna \$29.95
ANT 17 Amplified SW antenna \$24.95
ANT 21 Select-A-Tenna \$65.95
BAT 3 C cell alkaline batteries \$1.09ea
SPK 13 Grove Sound Enhancer \$199.95

Superb value
on a super
portable!



SONY ICF-SW30

Looking for an uncomplicated, high-performance, low cost portable? It's the new Sony ICF-SW30! Replacing the popular ICF-SW7601, this broadcast-only (no SSB) radio features double conversion, high selectivity and excellent sensitivity to bring in distant stations.

Battery powered with level indicator, dual-zone 24-hour clock, temporary memory during battery change, 15 memory channels (5 for each band), signal seeking (autosearch in 1 kHz steps), and pushbutton tuning. Travel power lock prevents accidental turn-on. Offers FM stereo with earphones (not included). See specifications: pp. 22-23. Requires 3 AA cell batteries.



Order RCV 21
Only \$112⁹⁵

\$6.50 UPS
\$5.50 US Priority Mail
\$8.50 Canadian APP
\$12 Canadian UPS

ACCESSORIES:

ANT 17 Amplified SW antenna \$24.95
ANT 21 Select-A-Tenna \$65.95
BAT 1 AA alkaline batteries \$7.99 ea
PWR 7 AC adaptor \$19.95
SPK 11 Naval HTS speaker \$34.95

Retail ~~\$129⁹⁵~~



SONY ICF-2010

This is a full-featured radio for the serious shortwave listener—with a reputation of distinction among the “powerful portables.”

Synchronous detection allows interference-free reception on many stations difficult to hear on other radios. Narrow/wide selectivity switching; clock/timer allows up to 4 automatic on/off cycles per day for frequencies and times of your choice; 10-step LED signal strength meter, audio tone selection for speech or music; and 10 station direct-access keyboard combine to make this Sony product a remarkable value for beginners or seasoned SWL's.

Frequency range includes 150 kHz-30MHz, 76-108, and 116-136 MHz. See pp. 22-23 for more detailed specifications. Requires 3D/2AA cell batteries.

This is the world's most popular shortwave radio, and it comes complete with AC adaptor, earphone, shoulder strap, wire antenna, external antenna adaptor/plug, and SW handbook.

Order RCV 2
Only \$349⁹⁵

Retail ~~\$459⁹⁵~~

\$9 UPS
\$17 US Priority Mail
\$18.50 Canadian APP
\$18 Canadian UPS

ACCESSORIES:

- ANT 3 Grove Mini-Skywire \$29.95
- ANT 17 Amplified SW ant. \$24.95
- Ant 21 Select-A-Tenna \$65.95
- WP04 RDI WHITE PAPER® \$5.95
- BAT 1 AA cell alkaline bat. \$1.19ea
- BAT 2 D cell alkaline bat. \$1.19ea
- SPK 13 Grove Sound Enhancer .. \$199.95

GRUNDIG

Luxury Portable

SATELLIT 700



RCV 23
Only \$499⁹⁵

\$9 UPS
\$16 US Priority Mail
\$18 Canadian APP
\$11.50 Canadian UPS

Grundig's decades of quality radio manufacturing culminate in the Satellit 700, a high performance portable at an affordable price!

Separate bass and treble controls coupled with the large internal speaker produce the best audio we've heard in any contemporary shortwave portable!

Continuous frequency coverage 150-353 kHz longwave, 528-30,000 kHz medium and shortwave, 87.5-108 MHz FM broadcast. USB/LSB selection on utilities, with 100 Hz tuning steps and infinite-resolution RIT (clarifier) for fine tuning. Straightforward keyboard entry makes frequency selection a snap!

Wide and narrow filters provide excellent audio quality and adjacent channel interference rejection, while synchronous detection with automatic USB/LSB tracking improves single-signal response.

120 factory preset frequencies with station names on the giant LCD display allows instant selection of favorite stations. Automatic bandscanning searches for active frequencies. Requires 4 D cell batteries.

ACCESSORIES:

- ANT 3 Grove Mini-Skywire \$29.95
- ANT 21 Select-A-Tenna \$65.95
- BAT 2 D cell alkaline bat \$1.19ea
- SPK 13 Grove Sound Enhancer \$199.95

See comparisons and specifications for these products on pp. 22-23

Yacht Boy 400

Portable Shortwave Receiver

Order RCV 22
Special Sale Price
Only \$199⁹⁵
Retail ~~\$270⁹⁵~~

\$9 UPS
\$16 US Priority Mail
\$18 Canadian APP
\$11.50 Canadian UPS



It's always a pleasure to introduce a really good, low-cost product—and that's just what Grundig's newest entry is. With AM/FM stereo and continuous shortwave frequency coverage from 1.7-30 MHz in 5 or 1 kHz tuning increments, SSB, infinite fine tuning, FM broadcast reception, and battery or AC power convenience, the 400 also offers 40 scannable memories and simple pushbutton tuning.

A giant, backlit LCD shows frequency, dual-zone 24 hour clock, battery condition, even a bargraph for received signal strength! Dual bandwidth selectivity allows sharp rejection of adjacent frequency interference, while high sensitivity assures weak signal reception, even with the convenient telescoping whip. Requires 6 AA cell batteries.

This compact marvel is ideal for dependable backup during power outages and as a suitcase companion during that next trip.

"The best compact shortwave portable we have tested"..."The best sounding audio we have come across in a compact portable."

(Larry Magne, Monitoring Times, August 1993)

ACCESSORIES:

- ANT 3 Grove Mini-Skywire \$29.95
- ANT 17 amp. SW antenna \$24.95
- ANT 21 Select-A-Tenna \$65.95
- BAT 1 AA alkaline batteries. \$1.19ea
- PWR 8 AC adaptor \$7.95
- SPK 11 Naval HTS speaker .. \$34.95



Decode like the Pros with **Universal Decoders**

M-400 *Universal Decoder*

Access an entire dimension of coded communication signals.



NEW VERSION 2! Now with Super POCSAG, 1200 baud, simple, pushbutton mode selection, this self-contained, compact, menu-driven decoder, when connected to your scanner's or VHF/UHF receiver's external speaker jack, will reveal CTCSS (PL) sub-audible tones, DCS (DPL) squelch tones, POCSAG and GOLAY digital paging messages, DTMF (Touch Tone*) telephone numbers, even air-to-ground ACARS digital aircraft messages!

Connected to your shortwave receiver (SSB mode), you can read RTTY, SITOR, FEC-A, SWED-ARQ, and even FAX pictures when used with a printer! There is no Morse code or packet capability. A jack is included to attach an external speaker so that you can still listen if your internal speaker is disconnected when using the M-400.

Input jacks provided for either audio or discriminator interconnect. AC wall adaptor, full manual and pair of 1/8" (3.5 mm) plugs included. *Parallel printer allows full page hardcopy.*

Order DEM9
Only **\$399⁹⁵**

\$9 UPS
\$18 US Priority Mail
\$20.50 Canadian APP
\$22 Canadian UPS

SPECIFICATIONS

MODES: Baudot (45, 50, 57, 100 baud)
ASCII (75, 110, 150 baud)
SITOR A & B (Automatically selected)
FEC-A (96 & 144 baud)
SWED-ARQ (S, M and L lengths)
FAX (120 LPM/576 IOC, to parallel printer port)
Paging (GOLAY, POCSAG)
ACARS
Encoded squelch (CTCSS, all 41 frequencies; DCS, all 104 codes)
Tone dialing (DTMF, all 16 digits)
FILTER: Low tone (mark) 1275 Hz
Shifts: 170, 425, 850 Hz; plus 100-1000 Hz variable
INPUTS: Speaker, 4-16 ohms @ 100 mW max.
Discriminator, 10K ohms @ 0.25 V max.
OUTPUT: ASCII 8 bit Centronics standard, DB25 connector
DISPLAY: Two-line, 20 characters each, 5/7 dot matrix LCD
POWER REQUIRED: 11-16 VDC @ 200 mA, AC adaptor included
SIZE: 8-3/4"W x 2-1/2"D x 8"D
WEIGHT: 2 lbs



UNIVERSAL **M8000** MULTIMODE DECODER

Copy Morse Code, RTTY, ASCII, TOR (FEC and ARQ) and much more—right off the air!

New Version 5 now includes three new modes: PACTOR, ARQ6-90 and ACARS. Nothing could be simpler: plug the new M8000 into your receiver's or scanner's speaker or earphone jack, connect a printer or VGA color monitor, and copy Morse code, RTTY, ASCII, TOR (FEC and ARQ), packet, FDM, Russian Cyrillic, bit inversion, facsimile and even piccolo—all off the air! The M8000 will even automatically tune its filters!

Ideal for testing data transmissions—reads digital pager transmissions (GOLAY and POCSAG) when connected to any scanner (unlawful for unauthorized listening!). Print squelch prevents noise from generating garbled messages, while internal displays alert you to baud rates, control characters, tuning graphs and other information, all in 16 vibrant colors!

Operates on 120 or 240 VAC, 50/60 Hz, and measures 16-3/8"W x 3-1/2"H x 12-3/4"D. Truly a remarkable monitoring accessory for the serious utilities enthusiast.



SPECIFICATIONS

RECEPTION MODES:

- Morse (5-120 WPM)
- RTTY (45/50/57/75/100 baud and 20-250 baud non-standard)
- ASCII (75/110/150/300/600/1050/1200/1800 baud)
- SITOR (A/B/AMTOR A/AMTOR B/ARQTOR/FECTOR)
- FDM/VFT (8/12/16/24 channel)
- Piccolo
- TDM/ARQ (M2/M4/E/E3/S/SWED)
- FEC (A/S)
- Packet (300/1200 baud)
- Pager (Golay/POCSAG)
- Facsimile (60/90/120/240 LPM, AM/FM)
- Cyrillic (Russian third shift)
- **NEW VERSION 5 NOW INCLUDES PACTOR, ARQ6-90 AND ACARS!**

Order DEM6
Only **\$1349⁹⁵**
Retail ~~\$1389⁹⁵~~

ACCESSORIES:

ACC 153 Serial port adapter	\$24.95	\$11.50 UPS
BRK 6 19" rack panel mount kit	\$19.95	\$21 US Priority Mail
SFT 3 COPYCAT-PRO terminal software .	\$79.95	\$35.50 Canadian APP
		\$25.50 Canadian UPS

UPS 2nd Day Air at Ground Rates on All Products



THE GROVE SKYWIRE SHORTWAVE ANTENNA

Outdoor dipole provides worldwide shortwave reception!

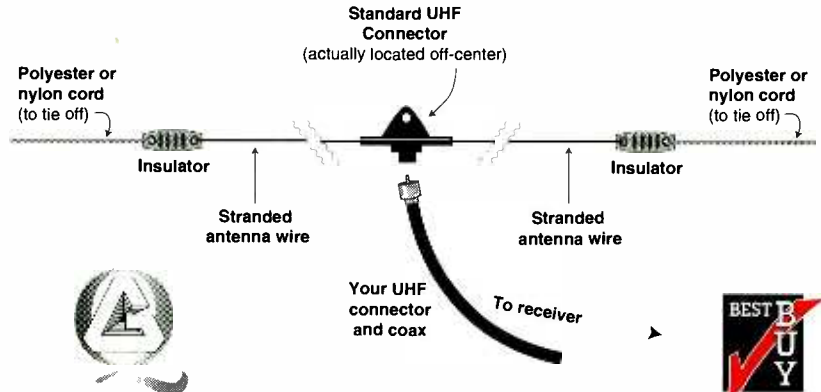
High performance and low cost—an unbeatable combination! Why restrict your frequency coverage with the gaps found in expensive trap dipoles or unpredictable random wire when you can get unsurpassed full-frequency reception with the Grove Skywire?

Comes assembled with Budwig center connector ready for your PL-259 (UHF male) equipped coaxial cable (50 or 75 ohm, see page 32); includes two professional porcelain end insulators and complete instructions.

ATTENTION HOME EXPERIMENTERS:

Build your own SW dipole! Order ACC101 (Budwig center connector) for only \$9.95 and add your own wire to construct a SW dipole!

HAMS! Ideal for transmitting when used with a transmatch. (1.8-30 MHz at up to 250 watts)



SPECIFICATIONS:

- Length: 66 feet
- Feedpoint impedance: 50 or 75 ohm (nominal)
- Feedpoint location: 22 feet from end
- Elements: 18 AWG (16 x 30) bare stranded copper
- Connector housing: Heavy duty black phenolic

Order ANT 2
Only \$39⁹⁵

- \$6 UPS
- \$5.50 US Priority Mail
- \$7 Canadian APP
- \$10 Canadian UPS

A Shortwave Sampler

©Grove Enterprises, Inc. 1995
(Frequencies in kilohertz, upper sideband)

4066	Mississippi River barges	weather
4080	Mississippi River barges	11232 Canadian Air Force
4146	Ship calling channel	11244 US STRATCOM
4149	Mississippi River barges	11282 International airlines
4417	Ship working channel	13200 U.S. Air Force air to ground
4426	U.S. Coast Guard ships	13270 Flying weather
4469	Civil Air Patrol	13282 Flight weather
4517	U.S. Air Force MARS	13306 International airlines
4593.5	U.S. Air Force MARS	13354 NOAA Hurricane Hunters
4637.5	Offshore petroleum platforms	
4724	U.S. Air Force air to ground	
5598	International airlines	
5616	International airlines	
5696	U.S. Coast Guard aircraft	
6501	U.S. Coast Guard ships	
6577	International airlines	
6604	Flight weather broadcasts	
6673	NOAA hurricane hunters	
6739	U.S. Air Force air to ground	
6754	Canadian Air Force	
6840	Spy numbers transmissions	
8294	Ship to shore	
8297	Mississippi River barges	
8740	Ship to shore	
8803	Ship to shore	
8806	Ship to shore	
8825	International airlines	
8846	International airlines	
8876	NOAA hurricane hunters	
8891	International airlines	
8968	U.S. Air Force air to ground	
8971	U.S. Navy, Atlantic	
8983	U.S. Coast Guard air/ground	
8992	U.S. Air Force	
9023	U.S. Air Force	
10780	NASA Cape Kennedy	
11175	U.S. Air Force air to ground	
11200	Royal Air Force flight	

INTERNATIONAL BROADCASTERS
(Frequencies kilohertz, AM mode)

5960	Canada
5975	England
6010	Cuba
6040	Germany
6165	Netherlands
6175	England
7325	England
9540	Spain
9755	Canada
9745	Ecuador
12095	England
13760	USA
15155	Ecuador
17795	Australia

TIME SIGNALS

WWV:	2500
	5000
	10000
	15000
	20000
CHU:	3330
	7335
	14670

Grove Mini-Skywire!



Short on yard space? The new Mini-Skywire is less than two-thirds of the length of the original Skywire and still offers great reception!

This new, low-cost receiving antenna is an excellent choice for restricted space. Its unique, 40-foot, dual-dipole design allows full 3-30 MHz frequency coverage and may be used in vertical, horizontal, sloper, or inverted V or L configurations.

Comes fully assembled, including high-quality Budwig center insulator for your PL-259 coax connector. See P. 32 for cable and adaptors. To avoid signal overload, especially on portable radios, use the ATT-1 attenuator (also, see page 32).



Order ANT 3
Only \$29⁹⁵

- \$6 UPS
- \$5.50 US Priority Mail
- \$7 Canadian APP
- \$10 Canadian UPS





KIWA MW Air-Core Loop Antenna

High Performance

Winner of the 93/94
World Radio
Television
Handbook Award



Are you looking for an antenna that will improve medium wave reception on your communications receiver? Then look no more — this unique 12-inch, circular air-core antenna provides improved weak signal reception of medium wave broadcast signals and it's electronically balanced circuitry minimizes pickup of electrical interference. Some of the other high performance features of the Kiwa loop include:

- Full 530-1705 kHz MW frequency coverage including the new expansion band from 1605 to 1705 kHz.
- May be precisely rotated and tilted for maximum signal pickup and nulling of interfering stations.
- Equipped with local/DX pre-amp switch, variable output attenuator, and dual output amplifiers.
- May be powered by a low-noise AC supply, included, or by battery.
- Stands 17 inches (43 cm) high and weighs 16 pounds (7.25 kg).

Order ANT 31 \$17 UPS
Only \$349⁹⁵ \$29 US Priority Mail
 \$26 Canadian UPS
 \$35.50 Canadian APP

Stoner-Dymek Shortwave/Longwave Active Antenna!

New Item!



If a large, outside dipole is out of the question, choose the Dymek DA-100E, the best 50 kHz-30 MHz active receiving antenna available! High sensitivity, low noise, wide dynamic range, step-selectable attenuator, static-discharge-protected, weatherproof remote amplifier/whip assembly.

Includes AC power supply, indoor control unit, 50 feet RG-58/U coax, remote amplifier, 4' stainless-steel whip, receiver-interconnect cable and full instructions.

Order ANT 24 \$8 UPS
Only \$179⁹⁵ \$8 US Priority Mail
 \$10.50 Canadian APP
 \$15 Canadian UPS

JPS Noise Canceller/Active Antenna



New Model
ANC-4!

Enjoy Crystal Clear Sound!

Imagine, just connect this simple device between your receiving antenna and shortwave receiver or transceiver, and null out locally-generated interference of virtually *any* kind! Computer hash, line noise, TV synch buzz—they all go away when the ANC-4 is adjusted to your receiver to receive 100 kHz-80 MHz!

Use the attachable whip (provided) or, even better, a second external antenna to sample local noise. A simple adjustment from the front panel reduces or even eliminates virtually any electrical noise interference you are likely to encounter! The new ANC-4 can even be used as a frequency-selective active antenna/signal booster! Whip, random wire antenna, DC plug and full instructions provided. Requires 12 VDC @ 300 mA power.

Order ACC 21 \$6.50 UPS
Only \$174⁹⁵ \$5.50 US Priority Mail
 \$7 Canadian APP
 \$10 Canadian UPS

ACCESSORIES:
PWR 13 Universal power supply \$9.95

Grove TUN-5 MINITUNER



The successor to the Grove TUN-4 is even better! Use as desktop active antenna or amplified pre-selector!

Yes, the popular TUN-4 MiniTuner has now been replaced by the compact, new TUN-5! Bring the weak signals up out of the mud with this valuable shortwave signal booster which can be used as a desktop active antenna or as an amplified preselector when connected to an external antenna. Features up to 20 dB gain, variable attenuation, razor-sharp selectivity, 250 kHz-30 MHz frequency coverage, dual-gate FET amplification, battery or AC operation, rugged SO-239 antenna connectors, and bypass switch. Attachable whip, AC wall adaptor and full instructions included.

Order TUN 5 \$6.50 UPS
Only \$99⁹⁵ \$5.50 US Priority Mail
 \$7 Canadian APP
 \$10 Canadian UPS

ACCESSORIES:
BAT 4 9V Alkaline Battery \$2.09 ea
ADPK15 PL259 to PL259 \$5.95



SELECT-A-TENNA Medium Wave Antenna Booster

Apartment dwellers and mobile home owners, boost your 530-1700 kHz AM broadcast reception up to 30 dB with the famous Select-A-Tenna! Improves adjacent channel rejection, reduces signal fading. Tuning knob selects your listening frequency.



No batteries or power required; simply set the Select-A-Tenna next to your radio, peak the tuning knob, and listen to AM broadcast signals soar out of the background noise!

This 11", high-Q loop antenna directs its captive signals to your radio's internal ferrite loop without any physical connection! If your receiver requires an external antenna, a convenient 3.5 mm (1/8") jack and plug are provided. Connect an outside wire to the Select-A-Tenna and receive medium wave signals like you've never heard before!

Order ANT 21
Only \$65⁹⁵

\$7 UPS
\$8.50 US Priority Mail
\$11.50 Canadian APP
\$15 Canadian UPS

"I was able to pull in stations that were absolutely inaudible without it."

—Stephen J. Price
Monitoring Times, April 1995

REALISTIC® Amplified Shortwave Antenna

"Ideal for apartment dwellers and travelers who can't erect a large outside antenna, and listeners who wish to prevent front-end receiver overload without sacrificing signal strength."

—Bob Grove, Monitoring Times, July 1993

It's an active antenna and amplified preselector all in one! Operated by an internal nine-volt battery (not supplied) or an optional AC wall adaptor, this new signal booster is ideal for virtually any 3-30 MHz shortwave receive, desktop or portable.



Offering a variable attenuator/gain control from 0-20 dB and razor-sharp tuning, the Realistic booster has its own 29" telescoping whip, or will accept an external antenna through its RCA phono-type antenna connector. Receiver antenna interconnect cable with 1/8" (3.5 mm) plug included for Sony and similar receivers.

Order ANT 17
Only \$19⁹⁵

\$6 UPS
\$4.50 US Priority Mail
\$6.50 Canadian APP
\$10 Canadian UPS

New Low Price!

ACCESSORIES:

ANT 25 RCA & PL-259 (UHF) adaptors, random wire antenna \$7.95
BAT 4 9 volt alkaline bat. \$2.09 ea.
PWR 13 AC wall adaptor \$9.95

Universal Reel Antenna for Shortwave Portables

Whether you have a Sony, Sangean, Realistic®, Grundig or other whip-portable shortwave radio, this new, 23-foot, reel-out antenna can be firmly attached for better reception. When not in use it can be conveniently stored in a pouch or even your pocket!

Comes with whip clip and 1/8" (3.5 mm) standard antenna adaptor.



Order ANT 16
Only \$14⁹⁵

\$6 UPS
\$4.50 US Priority Mail
\$6.50 Canadian APP
\$10 Canadian UPS



**NEW!
FROM
GROVE!**

INTERFERENCE ELIMINATORS



For scanners and shortwave receivers

Reduce or even eliminate strong signal overload from your scanner or general coverage receiver. Increase reception range with these new wavetraps, notch filters and bandpass filters designed exclusively by Grove Enterprises! Attach directly to your antenna cable, no modification required!

Ideal for suppressing overload interference from AM and shortwave broadcasters, CB, aircraft and more. Reject unwanted signals by 40 dB or more; reduce intermod interference by at least 120 dB! Filters can be combined for deeper rejection or multiple frequencies. Simply choose your filter(s) from the list below and specify your antenna connectors. For other types of scanner interference, see the Grove Scanner Filter FTR5 on page 30!

FTR6
30-2000 MHz Bandpass Filter \$29⁹⁵
Removes AM broadcast, CB and shortwave interference from scanners

FTR7
540-1700 kHz Band Reject Filter ... \$29⁹⁵
Removes AM broadcast interference from shortwave/longer wave receivers

FTR 8
118-137 MHz Band Reject Filter ... \$29⁹⁵
Removes aircraft interference from scanners

FTR 9
30 MHz Low Pass Filter \$29⁹⁵
Eliminates paging, FM and TV broadcast signals and other sources of VHF/UHF interference from shortwave receivers

Plus \$6.50 UPS Shipping

Adaptor Kits:

ADPK 1 PL-259 (UHF) \$9.95
ADPK 3 BNC \$9.95
ADPK 6 Motorola/BNC \$9.95
ADPK 9 N \$12.95

Choosing a Scanner

THE CONSUMER ELECTRONICS MARKETPLACE bulges with products competing for your dollar. By following a few simple rules you will make the right choice in buying that new scanner.

Frequency Range

The most common frequency ranges monitored by scanner enthusiasts are: 30-50 MHz (VHF low band), 144-174 MHz (VHF high band) and 450-512 MHz (UHF). Most scanners now include the 406-420 MHz federal government land mobile and 420-450 MHz amateur band as well. These bands all utilize narrow band FM for communications.

The civilian VHF aircraft band (118-136 MHz, AM mode) provides another interesting target for monitoring as does the emerging 806-960 MHz band, sometimes called the cellular band or microwave mobile (806-960 MHz), now in use in all major metropolitan areas. Very few receivers include the military UHF aircraft band (225-400 MHz, AM mode).

The prospective scanner buyer should decide which of these aspects of listening are of greatest interest before purchasing a radio.

Mobile, Base, or Handheld?



Scanners come in a variety of models to meet the particular needs of the listener. Do a lot of driving? Install a mobile unit. Constantly in and out of the car, office or home? You may prefer a hand-held. Do most of your listening in the office or home? A base unit would be more practical.

Many models are capable of more than one application, accepting power from AC mains as well as mobile battery supply. AC wall adaptors charge batteries in hand-helds and power the scanner when plugged in.

Most hand-held scanners have small speakers which do not compete well in a noisy environment; an earphone or external speaker will solve that problem.

Technical Specifications

The terminology used to rate a scanner's performance may be explained simply.

Sensitivity refers to the weakest signal voltage that the radio will respond to readably; the lower the number, the better. Good sensitivity is about 0.5 microvolts.

Selectivity is the radio's ability to reject adjacent frequency interference; the sharper, the better, especially in urban areas. Average selectivity for a scanner would be about 30 kHz (+/- 15 kHz) at -50 dB.

Dynamic range is the ability of a scanner to handle extremely strong as well as extremely weak signals. Since none of them does it very well, this specification is never given.

Intermodulation ("intermod") is an internally-generated interference produced when strong signals mix together, producing spurious signals. It is often recognizable because of its distorted contents from two or more signals and its appearance at numerous frequencies. Intermod results from inadequate dynamic range.

Images are produced in every receiver. They are recognizable as a duplicate of the legitimate signal, offset by 21.4, 21.6 or 21.7 MHz (twice the intermediate frequency—I.F.) from the actual frequency, depending upon the scanner. With up-conversion design, image frequencies fall outside the tuning range and aren't a problem.

Caveat: Listening Law

The Electronic Communications Privacy Act of 1986 forbids the monitoring of certain services receivable on scanners. Although there is no evidence at present that the new law is being enforced, violations are punishable by fine and/or imprisonment. The following list is included as a guide only and Grove Enterprises assumes no liability for its accuracy or interpretation.

The law forbids monitoring: 1. Encrypted or scrambled signals; 2. Paid subsidiary carrier authorization (SCA); 3. Mobile and cordless telephones; 4. voice paging; 5. Remote broadcast or studio/transmitter links.

You may monitor any other transmission "readily accessible to the public" including public safety, federal and military, aircraft and maritime, amateur and CB, business and industrial, private land mobile, and any interference-causing protected transmission long enough to identify its source.

A new law makes it unlawful to manufacture or import a cellular-receiving scanner or converter but it is lawful to own one. It is, however, still illegal to listen to mobile telephone conversations.

If you have further questions regarding selecting a scanner, call our Technical office at 704-837-7081.

Which Scanner is the Best?

Like answering "Which car is the best?", we must list qualifications. At the present time, programmable scanners are available from Uniden, ICOM, AOR, and Radio Shack.

Most popular scanners have excellent sensitivity and reasonable selectivity (reject adjacent channel interference), but suffer from intermodulation and image interference from strong signal overload, especially when used with an outdoor antenna.

The BC-9000XLT, with its channel-programmable attenuator, is more immune to interference from intermodulation and images, making it an excellent choice for strong or weak signal areas like large cities.

BC-9000XLT



A Scanner Sampler

THE SPECTRUM ABOVE 30 MHz is saturated with two-way intrigue—air to ground, ship to shore, military and federal government, public safety, hams, businesses, trains—if you know where to look.

By convention, the VHF and UHF portion of the bands are divided into discrete segments (bands), names as follows: 30-50 MHz, VHF low band; 72-76 MHz, VHF mid band; 108-174 MHz, VHF high band; 225-512 MHz, UHF; and 806-960 MHz, microwave mobile or cellular band.

35.02	McDonald's order window	157.10	Coast Guard
40.50	Army Search/Rescue	157.15	Coast Guard
41.50	Army aircraft	162.40-	Weather service
46.61-	Cordless phones	162.55	
46.97		163.200	U.S. Marshall
46.75	Pres. Helicopter	165.2875	ATF
47.42	Red Cross	165.375	Secret Service
49.83-	Wireless baby monitors	165.950	IRS
49.89		167.050	FCC
121.5	Air emerg/calling	167.5625	FBI
122.0	Flight weather	170.875	Federal Prisons
122.2	Flight service	170.925	Federal Prisons
122.75	Gov't air to air	236.6	Air Force Towers
122.8	Small airport UNICOM	241.0	National Guard
122.9	Gov't aircraft	243.0	Military aircraft calling/distress
122.925	Natural resources air		
123.1	Air search & rescue	255.4	Mil flight weather
123.45	Pilots air to air	257.8	Mil tower calling
126.2	Military air towers	259.7	Space Shuttle
135.575-	ATS-3 satellite	311.0	SAC primary
135.625		321.0	SAC secondary
143.625	Russian Mir cosmonauts	344.6	Mil flight weather
148.125	Civil Air Patrol	349.4	MAC primary
148.15	Civil Air Patrol	381.8	CG aircraft
150.00	Russian satellite	415.200	Fed protection service
151.625	Itinerant walkie talkies	415.700	Air Force One
154.37	Fire mutual aid	417.200	Fed Protection Service
154.570	McDonald's order window	462.675	GMRS
154.600	McDonald's order window	462.95	Paramedics
155.34	Hospital/ambulance	463.175	
155.37	Police/mutual aid	464.500	PGA tournament
156.8	Boats call/distress	469.500	NASCAR racing
157.05	Coast Guard		

5/94



ICOM R7100-2

ICOM's Best VHF/UHF Communications Receiver

With the most popular features of the legendary R7000, plus a few features that listeners wanted, the R7100 is ICOM's best compact receiver.

The R7100 offers 25-800 and 900-2000 MHz frequency coverage on a brilliant LCD readout, selectable tuning steps, USB/LSB/AM/FM modes with wide and narrow selectivity switching.

900 scannable memory locations store frequency, channel number, mode and search steps; ten search banks with memory channel lockout, 5 or 12 channel-per-second scan speed and scan-resume delay are also found on this model.

High sensitivity and stable SSB reception are additional perks, as are sensitive, all-mode squelch and easy pushbutton function selection.

ICOM is offering CASH DISCOUNT COUPONS WORTH UP TO \$15 on the purchase of ICOM accessories. Call us for details, offer good thru 12/31/95.

Special Limited-Time Offer:
\$1299.95*

***For an additional \$55, receive the GRE Super Converter (CVR3) and get full 25-2000 MHz coverage—a \$94 value from the factory! Or Grove can perform 800MHz modification for \$40, plus \$16.50 shipping.**

NOTE: Cellular-capable, full-frequency-coverage model R7100-1 available only to federal, state, county, city and local government agencies and cellular service providers who submit an official purchase order.

SCN15-G R7100-1: \$1539⁹⁵
(plus shipping)

Order SCN15-C

\$16.50 UPS
\$36 US Priority Mail
\$27.50 Canadian UPS;
\$43.50 Canadian APP

Retail Price: ~~\$1942.50~~

Last Grove Price: ~~\$1499.95~~



ACCESSORIES:

- ACC 36 UT36 Voice Synthesizer \$61.95
- ACC 72 TVR7100 Video Adaptor \$347.95
- ACC 74 CT17 computer interface \$144.95
- BRK 5 MB23 carrying handle \$13.95
- BRK 8 MB5 mounting bracket \$42.95
- ANT 8N 46" extendable whip antenna \$23.95

- Installation of one or more accessories \$20.00
- MAN 4 Servicew Manual \$57.00
- SFT 2 Scancat Gold comp. software \$94.95
- (Requires CT-17 Interface kit, ACC 74, above)
- SPK 3 SPx20 speaker \$247.95
- SPK 13 Grove Sound Enhancer \$199.95
- SPL 2 SCPC Splitter \$64.95



ICOM R1

With Full-Coverage No-Gap, 100 kHz-1300 MHz Option*

Imagine, a shortwave and VHF/UHF scanner with continuous 100 kHz-800 MHz and 900-1300 MHz frequency coverage that fits in your shirt pocket! These radios are in new condition, FCC approved, and carry a 1 year warranty. You select the mode—AM, FM wide or narrow—and install up to 100 of your favorite shortwave and scanner frequencies into memory. An edge-lit LCD shows frequency, memory channel, and other settings as well.

Less than 2" wide, the R1 scans, searches and autoloads, has knob tuning, a signal strength indicator, and even a 24-hour clock timer! This high-sensitivity scanner comes with flex whip, rechargeable battery, AC wall charger/adaptor and belt clip. See detailed specifications on pp. 24-25. Requires 6 AA batteries. Prices subject to change due to yen fluctuations.

**After you purchase, we can restore the missing 800-900MHz for only \$40 plus parts and \$8 shipping.*

ACCESSORIES:

- ANT 8 Range extending telescoping whip \$16.95
- BAT 1 AA Alkaline batteries \$7.99
- BAT 11 BP-90 Replaceable AA battery case .. \$26.95
- BAT 12 BP-84 Triple-life battery pack \$88.95
- BAT 13 AA rechargeable nicad batteries \$2.75
- CAS 3 R1 Carrying case (no battery pack) . \$21.95
- CAS 4 BP-90 Carrying case \$33.95
- CAS 5 BP-84 Carrying case \$23.95
- DCC 5 CP-12 Cigarette power cord \$29.95
- HDP 1 Headphones \$19.95
- MAN 3 Service Manual \$36.50
- PWR 14 BC-72A Desk Charger \$131.95
- PWR 17 BA12 Battery Charger Adaptor \$23.95

Order SCN 13

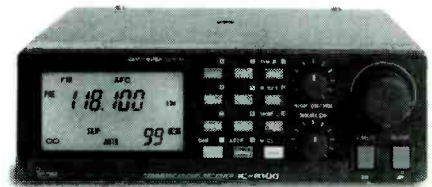
Only **\$539⁹⁵**

Retail ~~\$599~~

- \$8 UPS
- \$12 US Priority Mail
- \$13 Canadian UPS
- \$12.50 Canadian APP

ICOM R100

Mobile Desktop Scanner



For the full-spectrum listener, this compact scanner is hard to beat: tuning range from 100 kHz-799 MHz, 900-1856 MHz with direct keypad entry or knob tuning, 100 channel memory, switchable preamp and attenuator, programmable 24-hour clock timer, 10 search ranges, LCD bargraph S meter, AM and wide/narrow FM mode detection (no SSB) just begin the list of features. Comes with VHF/UHF telescoping antenna, HF wire antenna, DC power cable, mounting bracket, fuses, speaker plug, cable ties and screws. See detailed specifications on pp. 24-25. Prices subject to change due to yen fluctuations. *After you purchase, we can restore the missing 800-900MHz for only \$40 plus parts and \$10 shipping.*

Order SCN 14

Only **\$799⁹⁵**

- \$10 UPS
- \$17US Priority Mail
- \$18 Canadian UPS
- \$19.50 Canadian APP

ACCESSORIES:

- CVR 3 GRE Super Converter \$84.95
- PWR 16 AC Adaptor \$24.95
- SPL 2 SCPC splitter \$64.95



SDU 100

THE GROVE SPECTRUM DISPLAY UNIT



*Exclusive, real-time spectrum display—
This is the ultimate surveillance tool!*

Enjoy the high-tech advantage of counter-surveillance professionals who depend upon spectrum analyzers to find eavesdropping transmitters ("bugs"). As the "spikes" appear on the screen you can tune them, in quickly; no need to wait for the slow, hit-and-miss search of a scanner. A "freeze" function allows you to hold and examine all of the signals present at any moment in time!

Your receiver's tuned signal is the center of the screen, with up to 10 MHz (or as narrow as 100 kHz) of spectrum displayed simultaneously! Nail those unknowns as soon as they transmit!

Ideal for locating jammers, identifying sources of radio interference, studying signal propagation, testing antennas, aligning receivers and transmitters, and much more!

Connect the SDU-100 to any TTL monochrome monitor, or order the matching VID-200 high contrast 9" CRT monitor. 12 VDC powered for mobile or field environment; AC adaptor included (the VID-200 is AC powered).

The SDU-100 is configured to operate on receiver intermediate frequencies (IFs) of 8.8 and 10.7 MHz. The IF or receiver model must be specified at the time of order. Designed and manufactured by Grove in the USA!

SDU-100 Spectrum Display Unit **\$499⁹⁵**
VID-200 9" CRT Monitor **\$149⁹⁵**

Shipping charges for SDU-100 and monitor ordered together: \$16 UPS; \$22.50 US Priority Mail; \$22 Canadian UPS; \$25 Canadian APP

The SDU-100 is compatible with the following receivers:

ICOM R7000 ICOM R7100 ICOM R9000 Yaesu FT1000

**Requires receiver modification*

Look for the SDU icon in this catalog for compatible receivers



UNIDEN SC150B "SPORTCAT"



Designed especially for the racing fan, the new "SportCat" has not only full land mobile and civilian aircraft coverage, but has 10 one-touch, direct-access keys for instant callup of active sports channels! Follow the exciting radio action at motor racing, air shows and special events!

Imagine: the SportCat's red-hot TurboScan zips along at 100 channels per second, allowing virtually instant access to up to 100 memorized frequencies in the 29-54, 108-174, 406-512 and 806-956 MHz bands (less cellular); or press any of the ten preprogrammed TurboSearch keys to allow band-edge-to-band-edge frequency hunting at a blurring 300 channels per second!

One-step weather key selects autosearch of local NOAA channels for latest weather.

Supplied with rechargeable battery pack, AC wall adaptor/charger, flex antenna, belt clip, earphone and manual. Black model only.

See detailed specifications on pp. 24-25.

Order SCN 23
Only \$194⁹⁵

\$8 UPS
\$10 US Priority Mail
\$14 Canadian UPS;
\$12.50 Canadian APP

ACCESSORIES:

BAT 8 BP 120 Battery pack **\$19.95**
DCC 7 Universal DC adapter **\$15.95**

UNIDEN BC220XLT



**Uniden's
update of
the revered
BC200XLT**

Now Uniden has replaced their revered BC200XLT scanner with this new, compact entry. Frequency coverage 29-54, 108-174, 406-512, and 806-956 MHz (less cellular). 200 memory channels in 10 banks include 10 priority channels for instant access to important transmissions.

TurboScan and TurboSearch provide 100 channel per second scanning and 300 channel per second searching! Preprogrammed service search affords single-key access to police, fire, emergency, aircraft, marine and weather frequencies! Data skip avoids noisy data transmissions, stopping only on valid communications!

Up to 10 priority channels switch you instantly to important transmissions regardless of monitoring status.

See detailed specifications on pp. 24-25.

Order SCN 24
Only \$229⁹⁵

\$8 UPS
\$10 US Priority Mail
\$14 Canadian UPS;
\$12.50 Canadian APP

ACCESSORIES:

BAT 8 BP 120 Battery Pack **\$19.95**
DCC 7 Univ. DC Adaptor **\$15.95**



The "PROs" from Radio Shack®

PRO-60

Wide Frequency coverage in a compact, handheld design!



New! **F**eaturing continuous frequency coverage from 30-512 and 760-1000 MHz (less cellular), this new Radio Shack scanner allows selection of AM and narrow or wide FM, storage of up to 200 memory channels in ten banks, triple up-conversion, rechargeable or replaceable batteries (available accessories), battery saver circuit, 25/50 channel-per-second scan/search speed. Rubber ducky antenna, belt clip and full instructions included. See detailed specifications on pp. 24-25.

ACCESSORIES:

- ANT 8 Range extending antenna... \$16.95
- ANT 14 Flex antenna \$29.95
- BAT 1 AA Alkaline batteries \$.79
- BAT 13 Nicad batteries \$2.75/ea
- PWR 13 Univ. Power supply \$9.95

Order SCN 32

Only **\$329⁹⁵**

- \$8 UPS
- \$10 US Priority Mail
- \$13 Canadian UPS
- \$13 Canadian APP

PRO-46

Cellular-Restorable Scanner



New!
**NOTE: It is unlawful to listen to the contents of radiotelephone conversations.*

Covering 29-54, 108-174, 406-512, and 806-956 MHz (less cellular), the new PRO-46 hand-held scanner can be modified to search for active cellular telephone frequencies!* Up to 100 channels may be stored into 10 banks in this dual-conversion scanner with illuminated display which offers priority, rescan delay, programmable search limits, instant weather search, 0.7 microvolt sensitivity, and powerful 220 milliwatt audio. Measuring a scant 5-7/8"H x 2-5/8"W x 1-1/2"D and weighing less than 8 ounces, a steel belt clip and sturdy flex antenna are included. This compact powerhouse draws power from 4 alkaline or rechargeable AA cells (optional) or an AC power adaptor (optional). Compact, feature-packed and affordable!

Order SCN 20

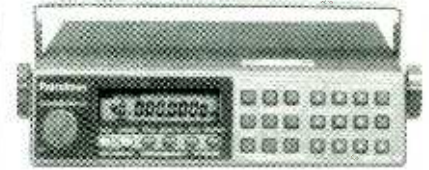
Only **\$219⁹⁵**

- \$8 UPS
- \$10 US Priority Mail
- \$13 Canadian UPS
- \$13 Canadian APP

ACCESSORIES:

- ANT 8 Range extending antenna... \$16.95
- ANT 14 Flex antenna \$29.95
- BAT 1 AA Alkaline batteries \$.79
- BAT 13 Nicad batteries \$2.75/ea
- PWR 13 Univ. Power supply \$9.95

PRO-2026



Mobile Scanner from Realistic® now has non-volatile memory!

Made for Radio Shack by Uniden, the PRO-2026 has the major features of the popular BC760XLT, but is designed for mobile or base operation (the Bearcat accessories will not work with the PRO-2026). An AC Adaptor is required

Frequency range is 29-54, 108-174, 406-512 and 806-956 MHz (less cellular). Any channel may be selected for priority, sampled every few seconds for activity. Factory-preset police, fire, ambulance, aircraft, marine and weather channels may be scanned by pressing the appropriate button when driving in new locations.

A great mobile scanner (mounting bracket included) at a great price! See specifications on pp. 24-25.



Order SCN 16

Only **\$219⁹⁵**

- \$8 UPS
- \$10.00 US Priority Mail
- \$15 Canadian UPS
- \$12.50 Canadian APP

ACCESSORIES:

- CVR 3 GRE Super converter \$84.95
- PWR 13 Universal Power supply \$9.95

Superb New Radio Shack® PRO-2042

This new, improved version of the PRO-2035, top-of-the-line scanner offers wide frequency coverage (25-520, 760-1300 MHz, less cellular, unrestorable); 100 memory channels in ten 100-channel banks, 100 additional "scratchpad" (monitor) memory channels to temporarily store search-revealed frequencies; automatic memory storage of search-discovered frequencies without duplications; search frequency lockout; ten separate search ranges; selectable modes and tuning steps; room-filling 1.3 watts of audio from the internal 3" speaker; high sensitivity for weak signal reception; 10 dB attenuator to reduce strong-signal intermod; choice of sound- or carrier-activated squelch; 11 pre-programmed NOAA weather channels; front tilt feet with non-skid feet for optimum viewing; and a rotary knob for manual frequency tuning and memory channel selection.



Additional amenities like selectable-channel lockout and delay, any-channel priority, automatic mode/step default, blast-protected earphone jack, tape recorder audio output combine to make this an outstanding product at an outstanding Grove price. See detailed specifications on pp. 24-25.

Order SCN 04

Only **\$449⁹⁵**

- \$9 UPS
- \$16.50 US Priority Mail
- \$17.50 Canadian UPS
- \$19.50 APP

ACCESSORIES:

- ACC 163 Optoscan 525 Computer Interface Call for pricing
- CVR 3 GRE Converter \$84.95
- SFT 1 ScanStar Pro software \$79.95
- SFT 2 ScanCat Gold software \$94.95
- SFT 7 ScanStar Commercial software ... \$129.95



OPTELECTRONICS COMPUTER INTERFACES

Optoscan 456 and 535 Computer Interfaces for the PRO-2005/2006 and PRO-2035 Scanners

NOW YOU CAN have high-speed (50 channels per second), automatic, computer-controlled scanning, search and logging for your Realistic PRO-2005, 2006 or 2035 (latter model requires the Optoscan 535). Select CTCSS or DCS scanning and auto-logging with time stamp and air time; decode and log DTMF with a time stamp.

RS-232C level converter included, using CI-V multi-radio protocol. Optoscan requires software to operate (see packages on p. 20). No drilling or soldering required, but may take one or two hours to install. Easy-to-follow instruction manual and videotape included, but some component knowledge is helpful.

NOTE: Installation voids equipment warranty on the radio.

Optoscan 456 and Realistic® PRO-2006 shown



Order ACC 163 for PRO-2035

Only \$299⁹⁵ plus \$6 UPS shipping

Order ACC 143 for PRO-2005/2006

Only \$299⁹⁵

NEW! CX12AR

SCANNER COMPUTER CONTROL

The new Optoelectronics CX12AR interface allows you to connect the popular AOR AR8000 as well as Icom R7000 and R7100 to your RS232 computer port, providing full and half duplex operation, squelch level monitoring for high-speed scanning, tape recorder control, and up to four additional plug-in serial devices.

The CX12AR permits memory download from the Opto Scout to your PC for comparison with the optional Spectrum CD-ROM FCC database, or datalogging with the Opto M1 frequency counter. Scanstar compatible (demo disk included).

Order ACC 155 Only \$98⁹⁵

PRO-26 Handheld Scanner

Wide Coverage
Scan up to 1.3 GHz!

Radio Shack's latest is feature-packed! Offering nearly continuous coverage, less cellular, from 25 to 1300 MHz, 200 memory channels, 300-channel-per-second search rate, triple up-conversion, high sensitivity and powerful 250 mW audio, the new PRO-26 is making waves on the scanner scene! Belt clip, flex whip and manual included. See specifications on pp. 24-25.



Order SCN 5
Only \$349⁹⁵

\$8 UPS
\$10 US Priority Mail
\$13 Canadian UPS
\$13 Canadian APP

ACCESSORIES:

BAT 1	AA cells (four required)	\$.79 ea.
PWR 5	AC adaptor/charger	\$6.95
DCC 6	Cigarette lighter DC cord	\$12.95
ANT 8	Telescoping whip antenna	\$16.95
ANT 14	Condor flex antenna	\$29.95

The 1995 Enhanced Grove FCC Database V4.1

Available on both CD-ROM and High Density Diskette

The new Grove FCC Database is a spectacular compendium of all the licensees in the FCC Master File! Public safety, railroad, business, industrial, broadcast, maritime and many, many others. You can sort through fields like city, service, state, call sign, antenna height, output power, county and many more! The program can also be customized to fit your specific searching needs using any available information you have.

Simply choose from either CD-ROM or High Density Disk.

Grove FCC Database on CD-ROM offers a unique and useful mapping program. This program shows you on a map where your desired station is including major roadways, cities, state and county borders. To operate the mapping

New Features for v4.1

- Updated records
- Faster Search speed
- Comprehensive service codes
- Pop-up windows
- Dynamic prompts
- Improved accuracy

program you must have a VGA card, 386 or higher processor, 4 M RAM, 10 M free hard disk space and a mouse is recommended.

High Density Disk

CA, TX, FL	\$49.95
Additional Data Disks	\$39.95
All Other States	\$39.95
Additional Data Disks	\$29.95
CD-ROM w/ Mapping:	\$169.95
CD-ROM w/o Mapping:	\$99.95

Shipping for both CD-ROM and High Density Disk: \$4 First Class Mail

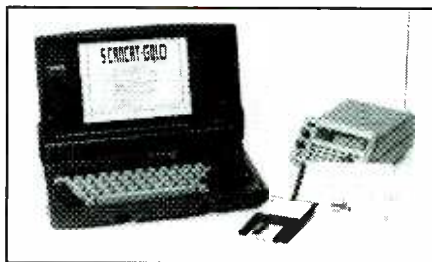
Because software is easily copied, it is not refundable. Defective copies will be replaced at no charge.





SCANCAT-GOLD

Use your 640k (or better) computer to control your AOR, Drake, Kenwood, ICOM, Yaesu, JRC, Lowe, WJ, and Radio Shack PRO-2005/6/35 with this fast, all-new software program! Operates from the RS-232 port. Just check the features listed at right:



Order SFT 2
Only \$94⁹⁵

Plus \$4.50 UPS or First Class Mail

- For listeners—**
- Integrates multiple data sources and removes duplicates
 - Search between any two frequencies in any tuning step
 - Autolog new active frequencies and create disk files
 - Display spectrum analysis on screen or printer
 - Scan frequencies from up to 15 disk files and 4500 frequencies
 - Import from text formats and virtually any database
 - Link up to 15 search banks, Output to any printer or disk file
 - Automatic "birdie" lockout, Rapid DTMF capture/storage with OPTO 456

- For commercial users—**
- Demographic search for frequency coordination and usage profiling
 - ASCII file logging of date, time, signal strength, air time
 - Unlimited file sizes
 - Macro control by frequency of dwell, hang, resume, threshold, audible alarms
 - Unattended on/off times for logging and searching
 - Stores terminal control commands in comment field

Not Compatible with Pentium Processor or Windows 95. Tech support after the sale from Computer Aided Technology call (318)687-2555.

Scan StarTM



Because software is easily copied, it is not refundable. Defective copies will be replaced at no charge.

Professional Receiver Control Software

SCANSTAR IS A HIGH-PERFORMANCE, high end receiver control package designed to deliver a comprehensive monitoring environment to the radio listener. The program requires a 386 IBM PC with 2 Meg of RAM, hard disk, VGA,EGA display, serial ports, and DOS 5/6 with HIMEM and SMARTDRV (or equiv), or OS/2 3.0 (warp) to run this radio control program.

- Advanced Flex Scan engine lets you blend multiple search ranges and groups of channels and banks, with selectable scanning priority.
- Spectrum analysis with hardcopy on OS456, R7100, R9000, AR3000 or NRD-535. Hardcopy support for most laser, dot matrix and ink jet printers.
- CTCSS/DCS tone controlled scanning and logging with Optoelectronics OS456 or DC440.
- Monitoring Assistant for easy logging while you explore the bands.
- Terminal window for TNC, modem or decoder.
- Search and store mode finds active channels and builds new scan groups.
- Channels, banks and group size limited by computer memory. Logs hits, airtime and DTMF by channel and tone automatically.
- Comprehensive report printing, data logging and import and export features
- Supports R7000, R7100, R9000, OS 456, OS535 FRG9600, AR3000, NRD535, R8, MR8100 and DC440 models
- Demo program available on Grove BBS

Order SFT 1
Only \$79⁹⁵ Plus \$4.00 UPS Ground or First Class Mail

New! ScanStar for Windows!

FAST SPEED AND COMPUTER MULTITASKING are yours with this advanced receiver control program! Supports AOR AR3000/3000A/8000, Yaesu FRG9600, ICOM R7000/7100/9000, and Opto 456/535. Requires MS-DOS 386 or higher with Windows 3.1, Workgroups 3.11 or Windows 95, and 4 M RAM.

- With new ScanStar for Windows, you can:
- Combine groups, banks and search ranges to scan
 - Display the monitoring spectrum with excellent graphics
 - Import and export various data formats
 - Use your computer for other tasks while scanning

- Operate at full speed regardless of other functions
- Scan by carrier or audio squelch, PL/DPL code or signal strength
- Autosearch and store new-found frequencies into memory
- Log all activity to disk or printer
- Provide full-featured data management

Order SFT 9
Only \$159⁹⁵ Plus \$4.50 UPS or First Class Mail

Commercial Receiver Control Software

SCANSTAR COMMERCIAL OFFERS ALL the features of the popular ScanStar Professional edition plus:

- Multi-radio scanning with Search/save (handoff) and peer strategies,
- Use any combination of radio type or port, port sharing for CI-V devices
- Graphical User Interface (GUI) command center shows activity, history and status of channels in real time.
- Quickly reconfigure as the action unfolds!
- Priority system with 256 levels and selectable preemption,
- High resolution VGA/SVGA/S3 graphics modes: 640X480, 800X600 & 1024X763.
- Mouse support in all screens (text and GUI) for fast, easy operation.
- Independent scan windows allow simultaneous scanning of two programs, four radios!
- Detailed event logging for special applications: repeater usage recording, frequency coordination, etc. Data format and sample C program included.
- 32 bit code for maximum performance on 386, 486 and 586 processors. Requires IBM PC 386/486/586 with 4 MEG RAM, hard disk, VGA/SVGA, mouse, serial port(s), DOS 5/6 or OS/2 3.0. warp. Windows and 286 not supported. Supports: R7000, R7100, R9000, FRG9600, AR3000, AR8000, NRD535, R8, and MR8100 and Optoelectronic's OS456, OS535 and DC440.

Order SFT 7
Only \$129⁹⁵ Plus \$4.50 UPS or First Class Mail

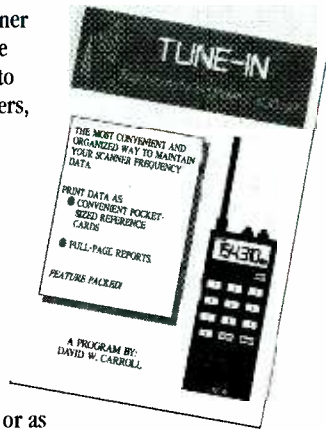


TUNE-IN!

Scanner Database

This is a feature-packed scanner database developed with the listener in mind. Designed to complement today's high-tech scanners, TUNE-IN provides the user with the easiest way to keep track of the hundreds of frequencies in his scanner with the most organized, manageable and user-friendly interface available. TUNE-IN allows up to 100 channels to be stored in an infinite number of banks limited only by your computer's hard disk. TUNE-IN allows the data to be printed as handy pocket-sized cards, or as a full-page report listing channel number, frequency, mode location, description and comments.

Because software is easily copied, it is not refundable. Defective copies will be replaced at no charge.



Order SFT 6
Only \$24⁹⁵

Plus \$4.50 UPS or
First Class Mail

Copycat - Pro

New!

Terminal Control Program

Now you can computer-control your Universal M-7000, M-8000, AEA PK-232, and MFJ-1278 data decoders. Supports all ScanCat frequency databases as well as most radios from AOR, Kenwood, JRC, ICOM, Yaesu, Lowe HF-150, WJ HF-1000. No more tedious memorization of unfriendly buttons and keys, just pull down simple menus for all functions. Fully-editable test buffer for cut and paste before printing, and 20 programmable macros allow full automation of complex functions. Will support a mouse; runs on any 640K IBM compatible. NOTE: Because software is easily copied, refunds are not available; defective copies will be replaced at no charge.



Order SFT 3
Only \$79⁹⁵

Plus \$4.50 UPS or
First Class Mail

The Super DX Edge[®]

Version 2

The Super DX Edge is the computerized version of the popular DX Edge, the DX operating aid.

Super DX Edge contains highly accurate graphic displays of sunrise and sunset times, daylight and darkness areas of the world, best times for long path and Gray Line DX. This is the information you need to determine the best opportunities for long distance DX.

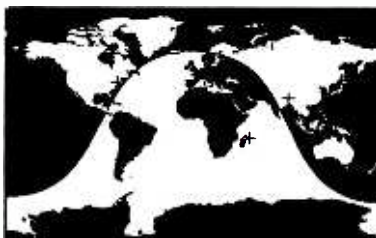
Also included in this version is a predictor of Maximum Usable Frequency (MUF) to determine the best frequency bands to use between two locations and a Great Circle Bearing calculator to provide you with distance and bearing between any two points in the world.

This program will run best on a computer running DOS with a 386 or 486 processor (will run more slowly on 286). EGA or VGA graphics may be used.

Because software is easily copied, it is not refundable. Defective copies will be replaced at no charge.

Order SFT 5
Only \$29⁹⁵

Plus \$4.50 UPS or
First Class Mail



See page 40 for original, manual version of DX Edge

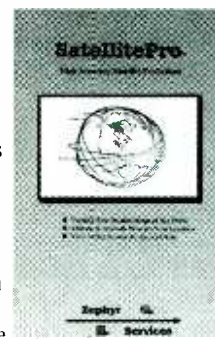
SATELLITE-PRO

Professional satellite prediction for
your computer!

Used extensively by scientific observatories, this easy-to-use program tracks up to 200 satellites simultaneously, yet manages a database of up to 20,000 separate satellites!

Software includes more than 650 orbital element sets (elsets), with on-screen editing of NORAD 2-line elsets, as well as a list of free sources for additional elements. Displays ground tracks in orthographic or equal-area formats; and alt-azimuth or equatorial sky maps with user-definable fields of view and star magnitudes to +7.0, indicating the positions of the major planets, sun and moon.

Displays and records in real time



right ascension, declination, slant range, range rate, intersatellite range, radio and astronomical phase angles, velocities, altitudes, acquisition times and pass durations, even launch-generated parameters. Extensively documented; IBM compatible, EGA/VGA and printer support.

Because software is easily copied, it is not refundable. Defective copies will be replaced at no charge.

Order SFT 4
Only \$149⁹⁵

Plus \$4.50 UPS or
First Class Mail



Grove's Shortwave Receiver Specification/Comparison Guide

(Use this guide to compare receivers featured on pp. 4-10 of this catalog)*

Receiver	Drake R8A	Drake SW8	Grundig Sat. 700	Grundig Yt. By. 400	ICOM R71A
Catalog Page #	5	4	8	8	6
Grove Order #	RCV 3	RCV 19	RCV 23	RCV 22	RCV 6
Grove Price	\$1068.95	\$689.95	\$499.95	\$199.95	\$1229.95
Frequency Range	100kHz-30MHz (33-55/108-174MHz with optional converter)	500kHz-30 MHz, 87-108, 118-137MHz	1.6-30 MHz, 87.5-108 MHz	160kHz-30MHz 87.5-108MHz	100kHz-30MHz
Keypad Entry?	Yes, plus tuning dial	Yes, plus tuning dial	Yes	Yes	Yes, plus tuning dial
Tuning Steps	10/100Hz 1 kHz	50 kHz FM 100 Hz AM	1 kHz AM/100Hz SSB 25 kHz FM	1/5 kHz	1Hz minimum
RIT/Fine Tuning	No	No	Yes	Yes	10, 50, 100 Hz
Display	Backlit LCD	Backlit LCD	Backlit LCD	Backlit LCD	Fluorescent
Dimmer	Yes	On/Off	On/Off	On/Off	Yes
Recommended Use	Int. Broadcast/Utilities	AM/SSB, aircraft/FM	Broadcast recept.	Casual SW and FM	General SW/Utilities
Receiving Modes	AM, NFM, USB, LSB, CW, RTTY	AM, AM synch., LSB,	AM, AM synch., LSB, USB, WFM	AM, SSB, FM CW	AM, USB, LSB, RTTY, CW
Memory	440 channels	70 channels	120 preset/512 prgmbl.	40 channels	32 channels/2 temp. VFO
Scan	Yes	Yes	Yes	Yes	Yes
Banks	10	7	64	No	By mode
Search	No	No	Yes	Yes	Yes
Delay	Yes	5 sec. per step	1 second	Yes	Yes
Squelch	Yes	No	No	No	Yes
Clock	Dual time zone	Dual mode	12/24 hr./sleep/progr. rec.	12/24 hr./sleep	No
Audio Output Power	2.5 W @ 4 ohms	2 W @ 4 ohms	3 W	700 mW	2 W
Record Audio Output	300 mV into 4.7k ohms	300 mV into 4.7k ohms	stereo and mono	No	Yes
Recorder Activator	No	No	Yes	No	Yes
Signal Strength Ind.	Analog S-meter	Analog S-meter	LCD bargraph	LCD bargraph	Analog S-meter
Computer Interface	RS232C	No	No	No	Optional
Conversion Scheme	Double-up	Double up	Double up	Double up	Quadruple up
Sensitivity	0.5 uV 1.5-30 MHz	0.5 uV or better (SSB)			0.2 uV with preamp
Selectable Preamp.	Yes	No	No	No	Yes
Selectable Atten.	Yes	20 dB	Yes	Yes	Yes
IF Selectivity	(-6/-60 dB): 6/4/2.3/1.8 kHz; 500 Hz	(-6/-50 dB): AM Narrow 4/6 kHz SSB 2.3/4.5 kHz	3.8/6.8 kHz		(-6/-60 dB): wide 6/15 kHz narrow 2.3/4.2 kHz
Image Rejection	80 dB or better 1.5-30 MHz	70 dB or better			60 dB
Selectable AGC	Off/slow/fast	Yes	w/ RF gain control	No	Yes
Dynamic Range	100 dB @ 20 kHz spacing	95 dB or better			86 dB
Passband Tuning	+/-3 kHz	No	No	No	Yes
Noise Blanker/Limiter	Dual	No	No	No	Dual, adjustable
Adjustable Notch Filter	500-5000 Hz, 40 dB	No	No	No	Yes
Tone Control	Yes	Yes	Sep. bass/treble	Yes	Yes
Antenna Connector	Dual, switched PL 259	SO-239 (UHF), Push terminals, Integral whip	O1N (supplied)	1/8" mini whip	SO-239
Dimensions	13.5"W/5.25"H/13"D	11.5"W/5.25"H/13"D	12"W/7"H/2.5"D	7.75"H/4.62"W/1.75"D	11.25"W/4.37"H/10.87"D
Weight	13 lbs.	10 lbs.	4 lbs., 2 oz.	1 lb. 5 oz.	16.5 lbs.
Power Requirement(s)	100/120/200/2450VAC 11:16VDC @ 2A	6-9VDC/6 cells	120/240VAC/4D cells	6AA cells/9VDC	120/240VAC/ 12VDC w/ optional adaptor
Warranty	One year	One year	One year	One year	One year
Accessories Incl.	None	Tele. whip/AC adaptor	Coax conn./AC adpt.	Reel ant./Case/ SW Guide	Spare fuses

* Prices (and all other specifications) are subject to change without notice.

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Sangean ATS-818CS	Sony ICF-SW30	Sony ICF-SW77	Sony ICF-SW100	Sony ICF-SW2010	Sony ICF-SW7600G	Watkins-Johnson HF1000
6	7	7	7	8	6	4
RCV 9	RCV 21	RCV 10	RCV 24	RCV 2	RCV 11	RCV 18
\$219.95	\$112.95	\$469.95	\$359.95	\$349.95	\$199.95	\$3,799.00
150kHz-30MHz AM/SSB 87.5-108MHz FM	10 international broadcast bands. See p. 7	150kHz-29.99MHz 87.5-108 MHz	150kHz-30MHz 76-108 MHz	150kHz-30MHz 76-108, 116-136MHz	150kHz-29.995MHz 87.6-108MHz	5kHz-30MHz
Yes	No	Yes, plus tuning dial	Yes, plus tuning dial	Yes, plus tuning dial	Yes	Yes
1kHz	1kHz	50Hz/1kHz	100Hz/1.5kHz; 9/10kHz MW, 50kHz FM	100Hz	1kHz	1Hz
	No	No		No	Yes	Yes
Backlit LCD	LCD	Backlit LCD	Backlit LCD	Backlit LCD	Backlit LCD	4 LED panels
Yes	No	On/off	On/Off	On/off	No	
Casual SW	Casual SW	Casual SW	Casual SW	SW /Air/Util./FM	Casual SW	Serious Monitoring
AM, SSB, FM CW, narrowband FM	AM, FM	AM, SSB, FM	AM, AM synch., USB, LSB/CW, FM	AM, USB, LSB, wide FM, synch. det.	AM, wide FM, SSB	Synch. AM, FM, CW, USB, LSB, ISB
45 presets	15 channels	162 channels	50 channels	32 channels	22 channels	100 channels
Yes	Yes	Yes	Yes	Yes	Yes	3 modes
No	Yes	20	10	No	No	Programmable
Yes		Yes	Yes	Yes	Yes	Multiple Banks
Yes		Yes	Yes	Yes	No	Adjustable
No		No		No	No	Adjustable
Dual time with record	dual zone 24 hr.	12/24 hr.	24 hr./sleep	12/24 hr./alarm/sleep	w/ timer and sleep	No
800 mW		400 mW	250 mW	380 mW		1 W
No		138 mV	245 mV	.775 mV @ 1000 ohms	Yes	0dBm, 600 ohms
Internal prog. cassette	No	Yes	No	No	Yes	No
Yes	No	LCD bargraph	No	LED bargraph	Single "tune" LED	Analog meter
No	No	No	No	No	No	RS232C and carrier sense
Double up	Double up	Double up	Double up	Double up	Double up	Triple up
						0.56 uV SSB, 0.5-30 MHz
No	No	No	No	No	No	15 dB
RF gain control	Yes	Yes	Yes	Yes	Yes	10 dB
Wide/narrow switch 6.5 kHz AM				(-6/-50 dB) Wide 9/18 kHz Narrow 4/18 kHz		DSP; 58 settings from 56 to 8000 Hz
						90 dB min.
No	No	No	No	No	No	100 dB, 15 ms attack
						110 dB or better
No	No	No	No	No	No	CW only
No	No	No	No	No	No	10-step
No	No	No	No	No	No	Tunable IF notch
Yes	No	Sep. bass/treble	Yes	Yes	Music/news switch	No
Yes	No	1/8" miniplug	1/8" miniplug	1/8" miniplug	1/8" miniplug	BNC
11.25"W/7.37"H/2.75"D	6.5"W/4.5"H/1.5"D	10.87"W/6.87"H/1.87"D	4.37"W/2.87"H/.93" D	11.37"W/6.25"H/2.16D	7.27"W/4.72"H/1.25"D	19"W/5.25"H/20"D
3 lbs. 13 oz	1 lb. 2 oz.	3.25 lbs.	8 oz.	3.75 lbs.	1.25 lbs.	15 lbs.
120VAC/int.cells 4D cells	4.5 VDC/3AA cells	6VDC or 4C cells	120VAC or 2AA cells	120VAC or 3D/2AA cells	120VAC or 4AA cells	97-235VAC, 47-440 Hz
One year	One year	One year	One year	One year	One year	One year
AC adapt./ Ext. ant. adaptor/ SW guide	Tele. Antenna/ Strap	Stereo earphones/ AC apadt./Tele. ant/ Ant. adapt./ Carrivno belt/SW Guide	Stereo earphones/ AC apadt./ Tele. ant/Soft pouch /SW Guide	Earphone./ AC apadt./Wire ant. Tele. ant/strap Ext. Ant. adaot./SW Gd.	Carrying case./ Reel Antenna	None



Grove's Scanner Specification/Comparison Guide

(Use this guide to compare scanners featured on pp. 14-19 of this catalog)*

Scanner	AR 3000A	AR 8000	ICOM R1	ICOM R100	ICOM R7100-2	Radio Shack Pro 26	Radio Shack Pro 46
Catalog Page #	15	15	14	14	14	19	18
Grove Order #	SCN 26	SCN 27	SCN 13	SCN 14	SCN 15C	SCN 5	SCN20
Grove Price	\$1,029.95	\$599.95	\$539.95	\$799.95	\$1,299.95	\$349.95	\$219.95
Frequency Range	100kHz-824 MHz, 849-869 MHz, 894-2036 MHz	500kHz-1900 MHz (less cellular)	100 kHz-800 MHz, 900-1300 Hz	100 kHz-800 MHz, 900-1856 MHz	25-800, 900-2000 MHz	25-54, 60-80, 82-174, 180-512, 517-824, 815-869 879-1300 MHz (less cell.)	29-54, 108-174 406-512, 806-956 MHz (less cellular)
Keypad Entry?	Yes, plus tuning dial	Yes	Yes	Yes	Yes, plus tuning dial	Yes	Yes
Tuning Steps	Programmable 50 Hz-999 kHz	50 Hz-999.999 kHz	0.5/5/8/9/10/12.5/15/20 25/30/50 kHz	1/5/8/9/10/12.5/20/25 kHz	100 Hz; 1/5/10/12.5/ 20/25/100 kHz; 1 Mhz	5/6/12.5/200 kHz	5/12.5 kHz
RIT/Fine Tuning	Tuning dial	Tuning dial	Tuning dial	Tuning dial	Tuning dial	No	No
Display	Backlit LCD	Edgelit LCD	Edgelit LCD	Backlit LCD	LCD	LCD	Edgelit LCD
Dimmer	On/off	On/Off	On/Off	On/Off	Yes	No	On/off
Recommended Use	Serious wide-spect. mon.	Gen. purpose wide-freq.	Gen. purpose wide freq.	Gen. purpose wide freq. incl. FM, TV audio	Serious VHF/UHF incl. FM, TV audio	VHF/UHF	VHF/UHF utilities
Receiving Modes	AM/NFM/WFM/LSB/ USB/CW	AM/NFM/WFM/USB/ LSB/CW	AM,NFM, WFM	AM, Nar. & wide band FM	AM, WAM,FM, WFM, NFM/USB/SSB	AM, NFM, WFM	AM (aero), NFM
Memory	400 chan. w/ backup	1000 channels	100 channels	100 channels	900 channels	Non-volatile 200 ch.	100 channels
Scan	50 channels/sec.	30 channels/sec.	20 channels/sec.	3 modes/20 chan./sec.	5/12 channels/sec.	50 channels/sec.	14 channels/sec.
Banks	4	20 (50 channels ea.)	No	Programmable	9	10 banks/20 chan. ea.	10
Channel Lockout	Scan & search chan.	Yes	Yes	Yes	Yes	Yes	Yes
Priority	4 channels	Any channel	Yes	Yes	Yes	Any one channel	Any one channel
Search	50 channels/sec.	30 channels/sec.	10 ranges w/ autoloan	10 ranges	Yes	300 steps/sec.	19 channels/sec.
Delay	Yes, variable	Programmable	2 sec./10 sec. timed	3 progrmb. functions	0/2/5/10 sec.; infinite	Indiv. chan., 2-4 sec.	2 sec., any channel
Squelch	Yes	Audio/carrier activ.	Yes	All modes	Yes	Yes	Yes
Clock	Yes	No	w/ on/off timer	24 hr./timer & sleep	Yes, 2-event timer	No	No
Audio Output Power	1.2 W @ 4 ohms	180 mW	150 mW @ 8 ohms W	2.5 W	2 W	250 mW max	220 mW
Record Audio Output	Yes	No	No	Yes	Yes	No	Earphone jack
Recorder Activator	Yes	No	No	Yes	Yes	No	No
Signal Strength Ind.	Yes	LCD bargraph	LCD bargraph	LCD bargraph	Analog S-meter	No	No
Computer Interface	RS232C	RS232 Optional	No	No	Optional	No	No
Conversion Scheme	Triple conv.	Triple up/quad. on WFM	Triple conv.	Triple conv.	Triple conv.	Triple conv.	Double conv., 10.8/450 kHz
Sensitivity	0.25-0.35uV	.025-3 uV	0.4-3.2 uV	0.4-10 uV	0.35 uV NFM	0.8 uV nom. (NFM)	0.5-0.8 uV NFM, 1.5 uV AM
Selectable Preamp.	No	No	No	Yes	No	No	No
Selectable Atten.	Yes	Yes, chan. selectable	No	Yes	Yes	Yes	No
IF Selectivity	(-6/-60 dB): SSB 2.4/4.5 kHz; AM/NFM 12/25 kHz	SSB (-6/-50 dB): 4/15 kHz; AM/NFM: 12/25 kHz WFM 180/800 kHz	(-6 dB) AM 15 kHz; Narrow FM 15 kHz; wide FM 150 kHz	(-6 dB) nar. FM 15 kHz; 180 kHz wide FM AM 6 kHz	(-6 dB): 2.4 kHz SSB; 6 Hz AM/NFM; 15 Hz AM/FM; 150 kHz WFM	(-30 dB) 30 kHz AM/NFM	(unspecified)
Noise Blanker/Limiter	No	No	No	Yes	Yes	No	No
Antenna Connector	BNC Integral whip	BNC	BNC	PL/259/N	N female serial for whip	BNC	BNC
Dimensions	5.5"W/3"H/7.875"D	6"H/2.75"W/1.5"D	1.875"H*W/4"H/1.5"D	5.8"W/2"H/7.1"D	9.5"W/3.75"H/9.5"D	2.62"W/6.1"H/1.625"D	2.62"W/5.87"H/1.5"D
Weight	2.5lbs.	13 oz.	9.9 oz.	3.1 lbs.	13 lbs.	8.47 oz.	7.8 oz.
Power Requirement(s)	9-16 VDC	4AA cells (NiCds supplied)	Internal NiCds	12 VDC	13.8 VDC; 117/240VAC	9 VDC (4AA cells)	4 AA cells or 6 VDC
Warranty	One year	One year	One year	One year	One year	One year ²	One year
Accessories Incl.	Tele. whip/AC adapt./ DC adaptor/Manual	AC adaptor/ whip antenna/cig. lighter cord/ manual/ carrying strap	Flex antenna/ AC wall adaptor/charger/ belt clip	VHF/UHF tele. antenna/ HF wire antenna/DC power cable/mounting bracket/fuses/speaker plug/cable tie/screws	Plugs/Fuses/ DC cord/spare screws	Belt clip/flex whip antenna	Rubber duckie, belt clip, manual

* All specifications, including prices, are subject to change without notice.

¹ Plus pre-programmed police, fire, aircraft, maritime, emergency and weather

² Unit must be returned to Grove Enterprises within the first year for any warranty repairs. See page 1 of catalog

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Radio Shack Pro 60	Realistic Pro 2026	Radio Shack Pro 2042	Uniden BC-220XLT	Uniden BC-890XLT	Uniden BC-3000XLT	Uniden BC-9000XLT	Uniden SC150B
18	18	18	17	16	16	16	17
SCN 32	SCN 16	SCN 28	SCN 24	SCN 19	SCN 29	SCN 30	SCN 23
\$329.95	\$219.95	\$449.95	\$229.95	\$269.95	\$399.95	\$389.95	\$194.95
30-512 760-999.9875 MHz (less cellular)	29-54, 108-174, 406-512 806-956 MHz (less cellular)	25-520, 760-1300 (less cellular)	29-54, 108-174, 406-512, 806-956 MHz (less cellular)	29-54, 108-174, 216-512, 806-956 MHz (less cellular)	25-550, 760-1300 MHz (less cellular)	25-550, 760-1300 MHz (less cellular)	29-54, 108-174, 406-512, 806-956 MHz (less cellular)
Yes	Yes	Yes	Yes	Yes	Yes	Alphanumeric	Yes
5/12.5/25/50 kHz	5/12.5 kHz	5/12.5/50 kHz	5/12.5 kHz	5/12.5/25 kHz	5/12.5/25/50 kHz	5/12.5/25/50 kHz	5/12.5 kHz
No	No	Rotary tuning knob		Cont. tuning dial	No	Tuning knob	
LCD	Fluorescent	Backlit LCD	Backlit LCD	Backlit LCD	Edgelit LCD dot mtrx., alphanumeric.	16-character,	Backlit LCD
No	No	No	On/off	No	On/off	High/low/off	On/off
VHF/UHF utilities	Mobile/base VHF/UHF utilities	General purpose VHF/UHF utilities	VHF/UHF utilities	Wide coverage mobile and sports	Gen. purpose scanning	Serious scanning	General VHF/UHF
AM, NFM, WFM	AM, NFM and narrow FM	AM, wide and FM det. by freq. range	NFM, AM (aero) det. by freq. range	AM, NFM	WFM, NFM, AM (selectable)	WFM, NFM, AM	NFM/AM (aero)
200 ch./10 monitor ch.	100 channels	1000 channels	200 channels	200 channels	400 channels	500 channels	100 channels
25 channels/sec..	14 channels/sec.	50 channels/sec.	100 channels/sec.	100/20 channels/sec.	100 channels/sec.	100 channels/sec.	100 channels/sec.
10 banks/20 chan. ea.	5 banks/20 chan. ea.	10	10	10	20	20	10
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Any one channel	Any one channel	Any one channel	10 channels	10 channels	10 channels	10 channels	1st chan. ea. bank
50 channels/sec..	19 steps/sec.	10 separate banks	300 channels/sec.	w/ autostore	300 steps/sec.	300 steps/sec.	Pre-program./10 banks
Indiv. chan., 2 sec.	Indiv. chan.	Selectable; 2 sec.	2 sec. any chan.	2 sec. any chan.	2 sec., chan.-selectable	2 sec., chan.-selectable	Indiv. channel, 2 sec.
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No	No	No	No	No	No	No	No
180 mW	1.1 W	1.3 W	180 mW	2.7 W	320 mW	2.2 W	180 mW
No	Yes	Yes	No	Yes	Spkr. & earph. jacks	Yes	No
No	No	No	No	No	No	Yes	No
No	No	No	No	No	No	No	No
No	No	No	No	No	No	No	No
Triple conv.	Dual conv.	Triple up conv.	Double conv.		Triple-up conv.	Triple-up conv.	Double conv.
1 uV typical	0.7 uV ave.	0.5 uV	0.5 uV nom NFM	0.75-1.1 uV			0.5 uV nom.
No	No	No	No	No	No	No	No
No	No	Yes	No	No	No	Yes, chan. selectable	No
(-30 dB) 30 kHz AM/NFM	(-50 dB) 30 kHz	(-6/-50 dB) 12/24 kHz AM; 20/40 kHz NFM; 300/600 kHz WFM					
No	No	No	No	No	No	No	No
BNC	BNC	BNC	BNC	BNC	BNC	BNC	BNC
2.44"W/6.31"H/2.13"D	6.625"W/1.625"H/7.375"D	4"H/10.5"W/7.5"D	6"H/2.5"W/1.7"D	10.5"W/3.5"H/7.5"D	7.4"H/2.7"W/1.5"D	10.5"H/3.38"W/7.5"D	6"H/2.5"W/1.7"D
8.8 oz.	2 lbs. 3 oz.		2 lbs.	3 lbs. 14 oz.	13 oz..	4lbs.	13 oz..
9 VDC (6AA cells)	12 VDC 13.6 VDC	120 VAC/12 VDC	Battery	120VAC/12 VDC	6.5 VDC	12 VDC (AC adapt. incl.)	Battery
One year ²	One year	One year	One year	One year	One year	One year	One year
Belt clip/flex whip antenna	Mobile mount kit	Attachable whip/ Manual	AC adaptor/ flex antenna/ belt clip/Manual/ Earphone	AC adaptor/tele. whip/ Instructions	Rechargeable bat. pack/ AC wall adaptor-charger/ belt clip/flex antenna/ earphone/manual	AC adaptor/tele. whip/ owner's manual	AC adaptor/ flex antenna/ belt clip/Manual/ Earphone



Get The Best Scanner Antenna Money Can Buy!

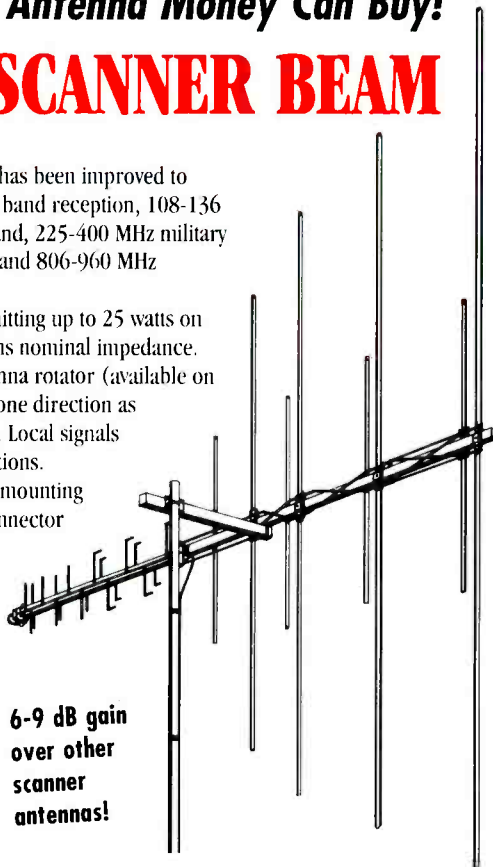
THE GROVE SCANNER BEAM

Our world-renowned Scanner Beam has been improved to provide unexcelled 30-50 MHz low band reception, 108-136 MHz aircraft, 136-174 MHz high band, 225-400 MHz military aircraft and satellites, 406-512 MHz UHF, and 806-960 MHz microwave mobile.

HAMS NOTE—can be used for transmitting up to 25 watts on 144, 220, and 420 MHz bands. 50/75 ohms nominal impedance.

May be used with inexpensive TV antenna rotator (available on p. 31) for boresight accuracy, or fixed in one direction as required for those elusive, distant stations. Local signals will come in loud and clear from all directions.

Balun transformer, offset pipe and all mounting hardware included (requires TV type F connector on your coax—available on p. 32). Approximate size 8'H x 5'L.



6-9 dB gain over other scanner antennas!

Order ANT 1
Only \$59⁹⁵



\$11 UPS
\$12.50 US Priority Mail
\$13.50 Canadian APP
\$18 Canadian UPS

Shipped only in U.S. and Canada

Which Scanner Antenna?

HAND-HELD - The whip antenna included with your scanner is fine for local reception of strong signals, but if you are interested in reaching out further, a larger external antenna is necessary. The Grove ANT-8 adjustable whip and ANT-14 Austin Condor Flex Antenna will increase range on any hand-held scanner or transceiver equipped with a BNC connector (not screwthread).

Hand-held radios may also be connected to mobile and rooftop base antennas as well, provided they are equipped with BNC connectors.

MOBILE - Inside a vehicle, a scanner's attachable whip is shielded by the vehicle body and an external antenna is recommended. A rooftop location is ideal, providing uniform response in all directions. Mounted elsewhere (fender, trunk, bumper), the pattern will favor the direction of the car body.

The short length and low height of mobile antennas limit their distance, and loading coils restrict their frequency range. 800 MHz coverage is more by accident than design. The mobile scanning enthusiast must be content with local listening.

Mobile scanner antennas like the popular Grove ANT4 and new, low-profile ANT-30 come equipped with a Motorola plug or BNC connector and have strong magnetic bases which will not come loose at normal road speeds.

You don't want a visible antenna on your car? Order the Grove ANT-20 "No-Tenna." It provides full-frequency-coverage reception by connecting internally to the car body.

The car's existing AM/FM antenna may be used with a multicoupler like the Grove CPL-63 with some compromise in signal strengths. In weak signal areas, a preamplifier like the Grove PRE-5 will boost reception range.

BASE - Many discons advertise 25-1300 (or higher) MHz response. While it is true that any antenna will get some signals at virtually any frequency, most discons have poor response below 100 MHz and erratic response above that.

Several discons are extremely well constructed including the Diamond D-130J. It is an excellent, omnidirectional, VHF/UHF transmitting antenna and performs well for local reception.

Most low-cost base antennas work well for local coverage (25-50 miles distance). Remember, the smaller the dimensions of the antenna, the poorer it will perform on low band (30-50 MHz).

The best nondirectional, all-band scanner antennas on the market are the Antennacraft ANT-7 Scantenna, sold by Grove, and the Channel Master 5094A MoniTenna available from Channel Master dealers.

An "omnidirectional" antenna mounted within a couple of feet of a metal mast or another antenna becomes directional due to signal reflection. In this case, turn the mast or antenna while listening to signals of interest to determine the best overall position, then tighten it down.

For extended range, a directional antenna like the Grove Scanner Beam, used with an inexpensive TV rotator like the Grove ROT 1, offers gain in its forward direction while receiving local signals all around. VHF and UHF reception in excess of 100 miles under favorable conditions are possible.

Professional Wideband Discone

Best Discone on the Market for VHF/UHF Receivers

The discone antenna is used by government and military agencies worldwide because of its wide bandwidth characteristics and non-directional coverage.

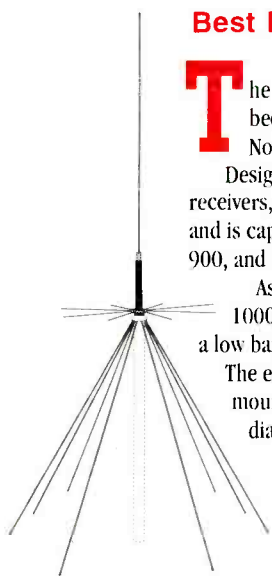
Now Diamond offers a professional grade discone at a popular price.

Designed for use with wide-frequency coverage VHF/UHF scanners and receivers, the Diamond D130J discone consists of 16 rugged, stainless steel elements and is capable of transmitting up to 200 watts in the amateur 50, 144, 220, 432, 900, and 1200 MHz bands.

As a receiving antenna, the D130J is omni-directional for continuous 25-1000 MHz (and above) coverage. A base-loaded, vertical top element is used as a low band (30-50 MHz) frequency extender.

The elements are arranged on a 24-inch support pipe equipped with two strong mounting brackets to accommodate any standard mast-pipe (1" to 2-1/8" diameter).

Choose 50 or 100 feet of coax from page 32.



Order ANT 9
Only \$87⁹⁵

\$8 UPS
\$8 US Priority Mail
\$10.50 Canadian APP
\$15 Canadian UPS

SPECIFICATIONS:

Frequency coverage	25-1300 MHz
Impedance	50 ohms nominal
Power rating	200 watts
Connector	UHF
Antenna style	Discone
Vertical length	66 inches
Weight	2.2 pounds



Coaxial Cable

AT VHF/UHF FREQUENCIES, common CB-type RG-58/U coax will actually absorb signals. We recommend low-loss RG-6/U like the Grove CB-50 and CB-100 cables with custom connectors. It offers 100% shielding, small diameter, flexibility and low cost.

For the lowest possible losses, especially in runs in excess of 100 feet, use Belden 9913 or RG-11/U mini. These cables and connectors are available from some electronics distributors and TV and video accessory outlets.

Don't be concerned with impedance; although your scanner is designed to work with 50 ohm cable, no antenna made maintains a constant impedance over the wide frequency range of modern scanners. What you want is low loss and 100% (or close to it) shielding.

Preamplifiers

ONE OF THE MOST misunderstood accessories is the preamplifier. Its purpose is to boost weak signals which would remain unheard on a receiver without it. To do this it needs to have a very low noise figure, but very little gain.

Antenna-mounted preamplifiers are especially helpful in overcoming losses in long coaxial cables (over 100 feet and above 400 MHz).

Wideband (untuned) preamplifiers like the Grove PRE-5 work well in low-signal-strength environments, but when used with outside antennas in a metropolitan area can cause desensitization (signals are weaker than before) and generate intermodulation (spurious signals) as well.

Filters and Attenuators

THE MOST COMMON CAUSE of interference is strong signal overload. An attenuator reduces all signals, regardless of frequency, by the same amount; band-reject (stop-band) filters and wave traps remove a specific swath of spectrum; low-pass filters cut off all signals above a certain frequency; high-pass filters cut off all frequencies below a certain frequency; and notch filters attempt to remove one specific frequency.

The Grove FTR-5 is a combination filter designed to reduce interference from shortwave, AM, TV and FM broadcast stations, a common problem, as well as any one user-selected signal in the 100-174 MHz range.

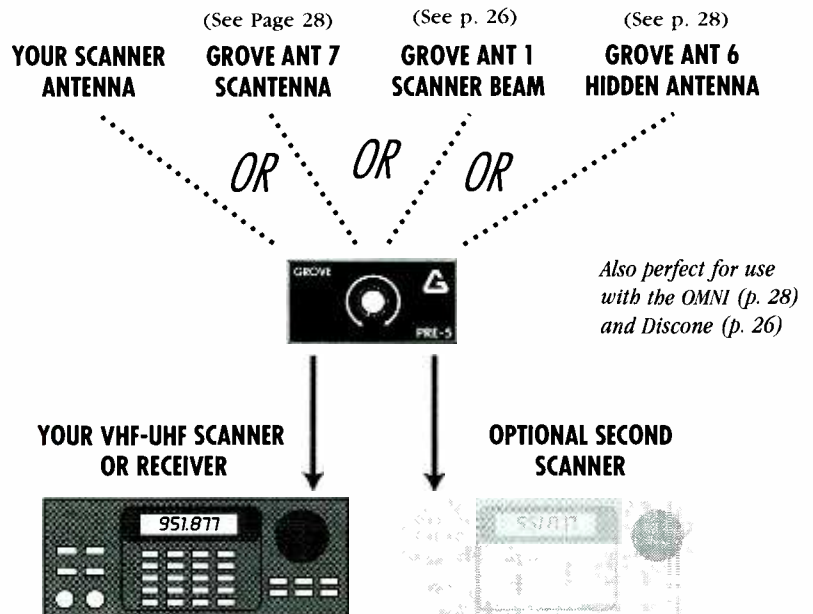
Is your scanner plagued by AM broadcast, CB or shortwave stations? Try the FTR-6. Do local AM broadcasters disrupt your shortwave or longwave reception? The FTR-7 will take care of that. Are aircraft signals interfering with VHF public safety monitoring? Eliminate them with the FTR-8. Is a local FM or TV broadcast ruining your shortwave reception? You need the FTR-9.

The Grove PRE-5 Signal Booster

For years the popular Grove PRE-4 signal-boosting scanner preamplifier has provided thousands of scanners, TVs and FM stereo systems improved VHF and UHF reception.

Now Grove offers a dramatically-improved preamplifier with lower noise figure, lower intermod and better high frequency gain! Mount the weatherproof remote module at the antenna to overcome coax line loss, or right at the control box for convenience.

Use your new PRE-5 with an indoor or outdoor antenna, and operate up to two scanners with its built-in splitter. Continuous gain control from -10 dB attenuation to +18 dB amplification and the unit is automatically bypassed when power is switched off!



PRE-5 SPECIFICATIONS:

GAIN: Continuously adjustable —10 dB to +18 dB

FREQUENCY RANGE:
30-1000+ MHz

NOISE FIGURE: 3.5 dB

3RD ORDER INTERCEPT POINT: +27 dBm

DIMENSIONS: 4"W x 2"H x 3"D

WEIGHT: 10 oz.

CONNECTORS:

Low-loss type F

POWER REQUIRED: 12 VDC (nom.); AC adaptor included

ACCESSORIES:

ADAPTOR KITS:

ADPK 3 BNC \$9.95

ADPK 4 Motorola \$12.95

ADPK 9 N \$12.95

Order PRE 5
Only \$89⁹⁵

\$6.50 UPS
\$8.50 US Priority Mail
\$11.50 Canadian APP
\$10.50 Canadian UPS



New—from Grove...

A great new omni-directional scanner antenna with flexible mounting options!



Must not included

OMNI II

DESIGNED BY BOB GROVE, this exclusive Grove product offers 25-1300 MHz coverage; lightweight, compact design, high performance, and low cost! Designed especially for wide-area metropolitan listeners, the 68" Omni can be mounted on a mast, in an attic crawl space, against a wall...just about anywhere convenient.

BONUS FEATURE! Although the Omni is essentially non-directional, a metal mast gives it useful directional properties. Overload interference from paging transmitters, weather stations, FM or TV broadcasters or other sources may be reduced or eliminated when positioning the antenna on the mast at the time of installation! Similarly, a distant, weak signal may be peaked by the same technique!

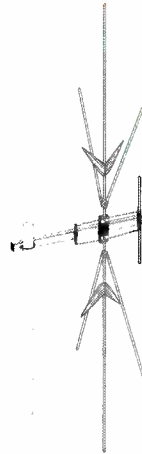
Balun transformer with F connector, offset pipe, mounting hardware and full instructions included.

Order ANT 5
Only \$29⁹⁵

ACCESSORIES:

- CB 100 100 ft. cable\$29.95
- CB 50 50 ft. cable\$19.95

THE SCANTENNA FROM ANTENNACRAFT



This full-frequency, omnidirectional scanner antenna will equal or outperform any competitor on the market. Its dipole-cluster design utilizes broadband techniques to provide continuous frequency coverage from 25-1300 MHz, offering superb reception of public safety, civilian and military aircraft, hams, personal communication devices, maritime, CB — anything in its frequency range! Requires TV type F connector on your coax—available on pg. 31. Approximate size 7-1/2"H x 4-1/2"W.



Order ANT 7
Only \$39⁹⁵

- \$11 UPS
- \$8 US Priority Mail
- \$11.50 Canadian APP
- \$18 Canadian UPS

Shipped only in U.S. and Canada

The Grove HIDDEN Antenna

The Hidden Antenna may be used alone with your scanner for improved signal reception, over your attachable whip or may be connected to the powerful GRE PRE1 for considerably increase signal strength on scanners and shortwave receivers.

This five-foot, thin-profile, flexible wire antenna can be hung in a corner, behind a drape— just about anywhere out of sight. Comes fully assembled with 20 feet of coax and F male connector, with 3 adaptors for PL259 (UHF), Motorola and BNC connections.



Order ANT 6
Only \$19⁹⁵

- \$6.75 UPS
- \$4.50 US Priority Mail
- \$6.50 Canadian APP
- \$10 Canadian UPS



STEALTH Mobile Monitoring Antenna New!

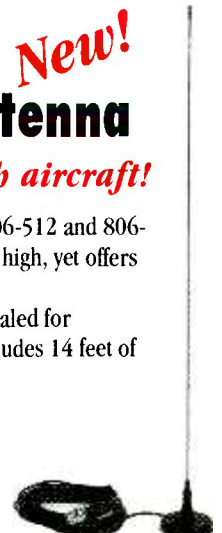
Thin, black and unobtrusive—like the Stealth aircraft!

A UNIQUE DESIGN optimizes coverage of the popular 30-50, 118-174, 406-512 and 806-960 MHz bands; this low-profile, magnetic-mount mobile antenna is only 18" high, yet offers performance comparable to much bulkier scanner antennas.

Rugged, stainless-steel whip and strong magnetic base are hermetically sealed for waterproof construction, sleek-black- finished for unobtrusive mounting. Includes 14 feet of small-diameter cable and BNC connector.

Order ANT 30
Only \$29⁹⁵

- \$7.50 UPS Ground
- \$7 US Priority Mail
- \$10 Canadian APP
- \$15 Canadian UPS





Turn Your Car into a Giant All-Band Antenna!

The Grove No-Tenna™

Eliminate unsightly antennas like this ...



With the Grove No-Tenna!

Imagine: strong, clear, continuous frequency coverage of shortwave and scanner signals without having to mount an antenna anywhere on your car! No invitation to theft, suspicion, breakage, low overhangs, hole drilling, scraped paint, or cables through doors or windows. **No visible antenna whatsoever!** The 8' antenna mounts in seconds, using your entire car body as a giant, efficient, 1-1000 MHz all-band antenna!



The unique No-Tenna™ was developed exclusively in Grove's laboratory and extensively road tested under all signal conditions. Ideal for city dwellers, travelers, reporters, investigators—anyone who doesn't want a visible receiving antenna on his vehicle (not for transmitting).

Connected to a single upholstery screw already in the vehicle; use either the upper, right-hand moulding screw or the adjacent sun visor screw. Spring clip provided for temporary connections to motel or apartment metal window frames, curtain rods and other emergency, makeshift antennas. Full instructions and universal connectors for RCA, BNC and 1/8" (3.5mm) miniplug included. If you own an ICOM R-100 be sure to specify a PL-259 adaptor.

Order ANT 20 Plus \$5 UPS
Only \$19⁹⁵ Shipping

ACCESSORIES:
ADPK 8 Motorola Adaptor Kit \$5.95

Windshield Mount Scanner Antenna

NO HOLES AND NO MAGNETS, this 22" Valor Glas-Master is designed for today's wide-frequency-coverage mobile scanners, 30-1200 MHz (not for transmitting). Simply clean an area on your rear window (cleansing pad included) and stick the antenna base to the glass. A companion coupler on the inside of the window does the rest!

15' of cable with BNC and Motorola connectors included—no assembly required.

Order ANT 13
Only \$29⁹⁵

Plus \$7.50 UPS Shipping

Retail \$49⁹⁵

ACCESSORY:
ACC 94 Adhesive re-mount kit \$4.95



MAGNETIC MOUNT MOBILE ANTENNA

FOR YEARS, MOBILE SCANNING ENTHUSIASTS have had to settle for compromised reception from antennas designed long ago for limited coverage scanners. Now, Grove offers a high-performance mobile antenna for wide-frequency-coverage scanners.

This sleek, black, 24" fiberglass whip, mounted on a strong magnetic base, assures reception on 30-50 MHz low band, 88-108 MHz FM broadcast, 118-136 MHz aircraft, 136-174 MHz high band, 225-400 MHz military aircraft, 406-512 MHz UHF land mobile and 806-960 MHz microwave mobile.

Tested to withstand interstate highway speed and equipped with 12 feet of coaxial cable with Motorola and BNC connector, the ANT-4 will perform where others fail.

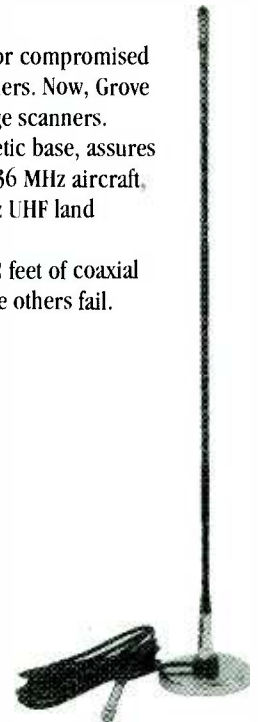
Order ANT 4
Only \$49⁹⁵

\$7.50 UPS
\$7 US Priority Mail
\$10 Canadian APP
\$15 Canadian UPS

Order ANT 4W
Only \$129⁹⁵

\$6.50 UPS
\$10 UPS 2nd Day Air
\$5.50 US Priority Mail
\$6.50 Canadian APP
\$14 Canadian UPS

(ANT 4W is the whip antenna alone for your 3/8" x 24 TPI threaded mount)





From Max Systems: High Gain 800 MHz Portable Antenna



The new Max Systems antenna will make a tremendous improvement in 806-960 MHz reception over the whip provided with your hand-held or desktop scanner! (Not usable in other frequency ranges.)

Equipped with standard BNC connector; rugged ground-plane construction for optimum performance. Only 7-1/2" tall. Ideal for use with GRE converters.

Order ANT 22
Only \$29⁹⁵

With straight connector for handhelds

\$7.00 UPS
\$8.50 US Priority Mail
\$11.50 Canadian UPS
\$15 Canadian APP

Order ANT 23
Only \$34⁹⁵

With right-angle connector for desktop use

Range-Extending Window Clip for Hand-Held Radio Antennas!

DRAMATICALLY INCREASE your mobile range with a hand-held scanner or two-way radio without resorting to a permanent or magnetic whip. Simply slip this unobtrusive, durable custom bracket on a side window and roll it up! Equipped with standard BNC connector to accommodate most compact whips.



Order BRK 9
Only \$28⁹⁵

\$5.50 UPS or First Class Mail

Window clip shown at right with typical rubber ducky antenna attached (not included). Long cord and BNC connector supplied.

UNIVERSAL WHIP ANTENNA

TODAY'S HAND-HELD VHF/UHF scanners and handie-talkies from Bearcat, Regency, Cobra, Radio Shack, ICOM, Yaesu, and Kenwood have excellent sensitivity and talk power, but their range is reduced by their short "rubber ducky" antennas. Grove has the solution!

Just replace that inefficient flex antenna with our universal full-length whip—and stand back! Extendable from 7 to 46 inches, the ANT-8 is made of chrome-plated brass and equipped with a standard BNC base. Transmits on 45-960 MHz; receives 25-1300 MHz.

If your interest doesn't include 30-50 MHz low band, choose our new ANT-19 with its full adjustability from 4"-18" (transmits and receives from 144-960 MHz).



Order ANT 8 (7"-46") ... \$16⁹⁵

ANT 19 (4"-18") \$14⁹⁵

ANT 8B \$21⁹⁵

(w/right-angle BNC adaptor)

ANT-8N \$23⁹⁵

(w/right-angle N adaptor)

\$5.50 UPS
\$5 First Class Mail
\$4.50 Canadian APP
\$10 Canadian UPS



High Performance Flex Antenna

FOR YEARS we have been looking for a replacement "rubber duckie" that really makes a difference on handheld scanners. It's here! The 12" Austin "Condor" is guaranteed to improve weak signal scanner reception—on all frequency ranges—when compared to the original scanner antenna.



Order ANT 14
Only \$29⁹⁵

Order ANT 14N (w/N right-angle conn.)
Only \$36⁹⁵

Order ANT 14B (w/BNC right-angle conn.)
Only \$34⁹⁵

\$6.50 UPS
\$5 US Priority Mail
\$10 Canadian UPS
\$6.50 Canadian APP





Grove Scanner Filter

Affordably priced Crystal Clear Sound!



ELIMINATE THOSE AGGRAVATING FM and TV broadcasters from interfering with your favorite scanner frequencies!

Select any one additional source of interference in the 100-220 MHz range and reject it as well! Ideal for use with preamplifiers and outdoor scanner antennas!

An adjustable 100-220 MHz 30 dB notch filter allows you to reduce or eliminate single-frequency interference from aircraft, mobile telephone repeaters, paging signals, NOAA weather stations, nearby amateur or other repeaters.

High-Q microstripline circuitry features custom-wound inductors for deep interference rejection. A rugged weatherproof enclosure allows masthead mounting. Standard F connectors are provided for convenient interconnection with other adaptors or accessories. Additional adaptor kits available below.

A diode shunt array protects your scanner from nearby lightning strikes and high-powered transmitters. A high-pass filter removes shortwave feedthrough, while band-reject filters remove FM and TV broadcast interference automatically.

Order FTR 5

Only \$44⁹⁵

\$5.50 UPS
\$5 US Priority Mail
\$8 Canadian UPS
\$6.50 Canadian APP

SPECIFICATIONS:

Passes: 30-50, 118-174, 225-1500 MHz
Rejects: 0-30, 50-118, 174-225 MHz
Frequency Range: 30-2000 MHz (nom.)
Insertion Loss: less than 3dB
Dimensions: 6"L x 1-1/8"D
Weight: 3 ounces

ACCESSORIES:

ADAPTOR KITS:
ADPK 3 BNC\$9.95
ADPK 9 N\$12.95

Grove Modification and Trade-In Service



The Repair Service at Grove Enterprises can perform many of the equipment modifications that you may need to turn a good scanner or receiver into a great one. Or, if you're in need of a quality used piece of equipment, Grove may have what you need.

Depending on the specific models, Grove's modification services include:

- Scan Speed Increase (25-50%)
- S-Meter Addition
- Frequency Restoration (800-900 MHz)
- Improved Headphone Audio
- Lightning Static Protection
- Factory Accessory Installation
- Memory Channel Increase
- Scout 4.0 Interface

Grove can perform mods on most models from:
ICOM, AOR, ALINCO, KENWOOD, REALISTIC, REGENCY, SONY (2010 only), TRIDENT, AND UNIDEN, call for a complete list.

Modifications are available for new equipment at the time of purchase from Grove, as well as for used equipment. Before returning your scanner or receiver for modifications, or if you would like more information about our trade-in service, please call 704-837-7081. Simply explain the type of modification or service you desire. If the requested service is available, Grove will issue you a service order number and advise you of the modification fee and the return shipping charges. Ship your equipment to Grove enclosing a check for the modification and return shipping. A two to three day turnaround time is possible for simple mods requiring no new parts.

GRE SUPER CONVERTER

RECEIVE CONTINUOUS 800-1000 MHz ON YOUR PROGRAMMABLE SCANNER!



LOOKING FOR THE BEST WAY to get uninterrupted 800-1000 MHz coverage on your desktop scanner? Whether your scanner doesn't have that range now, or is one of the models with certain 800 MHz frequencies factory-censored, these high-sensitivity converters from GRE will fill in the gap!

Simply install a nine-volt battery (not supplied); BNC connectors are provided to interconnect with your scanner. Use an 800 MHz-capable external antenna or attach a whip adjusted to about 4" (or 12" for gain) like the Grove ANT-19 (\$14.95) or ANT-8 (\$16.95).

When you tune 410-512 MHz on your scanner, you will be receiving 800-1000 MHz! Just add 400 to the frequency displayed on your scanner, and you'll know your receive frequency when the scanner is switched on. A handy bypass switch allows you to restore normal operation of your scanner without having to remove the converter.

Factory Price \$94
Order CVR 3 Only \$84⁹⁵

ACCESSORIES:

ANT 22 High gain 800 MHz portable ant \$29.95
BAT 4 9 Volt alkaline battery \$2.09

\$6 UPS
\$7 US Priority Mail
\$8.50 Canadian APP
\$10 Canadian UPS

GRE Super Amplifier for Handhelds



WOULD YOU LIKE more range out of your hand-held scanner? Try the new GRE Super Amplifier with built-in battery and 20 dB (adjustable) gain from 100-1000 MHz!

BNC connectors allow the Super Amplifier to be mounted between the scanner and antenna; a bypass switch permits the unit to be disabled without having to remove it.

A 9-volt alkaline battery (not supplied) will provide up to 24 hours of continuous operation; a convenient external power jack permits the unit to be used continuously from a 9 VDC wall adaptor (not supplied).

Order PRE 1

Only \$49⁹⁵

Retail \$64

\$6.50 UPS
\$6 US Priority Mail
\$10 Canadian UPS
\$7.50 Canadian APP

ACCESSORIES:

ANT 22 High gain 800 MHz portable ant . \$29.95
PWR 1 Universal power supply \$9.95



Variable Attenuator Reduces Overload Interference!



Reduce scanner and shortwave intermod and desensitization with this variable attenuator. Adjustable from 0 to 20 dB attenuation from 0-1000 MHz or higher! Can also

be used to reduce distortion when connected between a radio's audio output and your tape recorder! Equipped with F connectors; adaptors available from list below.

Order ATT 1

Only \$9⁹⁵ Plus \$5.50 UPS Ground

Adaptor Kits:

- ADPK 1 PL-259 (UHF) \$9.95
- ADPK 3 BNC \$9.95
- ADPK 6 Motorola/BNC \$9.95
- ADPK 9 N \$12.95
- ACC 176 1/8" cable interconnect for tape recorder (2 provided) \$6.95

Lightning/EMP Protector For Scanners and Shortwave Receivers

While nothing can withstand a direct lightning hit, the new Grove LAR-1 connects between your antenna cable and radio prevent induced voltages from nearby lightning strokes, high-powered transmitters, and other massive energy surges from burning out your equipment*



Appearance may vary

Not a flimsy spark gap or simple diode shunt, the Grove LAR-1 uses state-of-the-art gas discharge technology, proven in government tests to be the best deterrent against lightning and electromagnetic pulse (EMP) surges.

Responds in one ten-millionth of a second to short-circuit bursts of 250,000 volts at currents of 5000 amps, while allowing normal signal voltages (and even control voltages up to 50 volts AC or DC) to pass undisturbed! Extremely low signal loss—0.2 dB at 1500 MHz! Ideal for protecting scanners, shortwave receivers, CB and ham equipment, VCRs, TVs, satellite receivers, FM stereo systems and more. May be used with transmitters up to 100 watts.

The tiny protector measures only 3/4" D x 1-1/2" L and comes equipped with standard F connectors for home entertainment equipment and Grove accessories. Adaptors are available as shown below.

- LAR1F (with F conn) \$19.95
 - LAR1B (with BNC conn) \$24.95
 - LAR1P (with PL-259 UHF conn) \$24.95
 - LAR1M (with Motorola conn) \$29.95
- \$5 UPS
\$4.50 US Priority Mail
\$6.50 Canadian APP
\$9.50 Canadian UPS

*Will not prevent AC power line surges; such protectors are available on page 34.

Premium Low-Loss RG6-U Cable with Adaptors

Have you had trouble finding the right coaxial adaptors for linking your antenna and receiver? We can help! Simply tell us what adaptors you need, or what antenna and radio you will be using. We will provide you with a cable which is ready to attach between your antenna and receiver!

Order CBL 50

(50 feet w/ adaptors)

Only \$19⁹⁵

- \$6.50 UPS
- \$6.50 US Priority Mail
- \$8 Canadian APP
- \$13 Canadian UPS

Order CBL 100

(100 feet w/ adaptors)

Only \$29⁹⁵

- \$7 UPS
- \$7.50 US Priority Mail
- \$9 Canadian APP
- \$17 Canadian UPS

Cable loss per 100 ft.:
1.6 dB @ 50 MHz
2.6 dB @ 170 MHz
4.6 dB @ 450 MHz

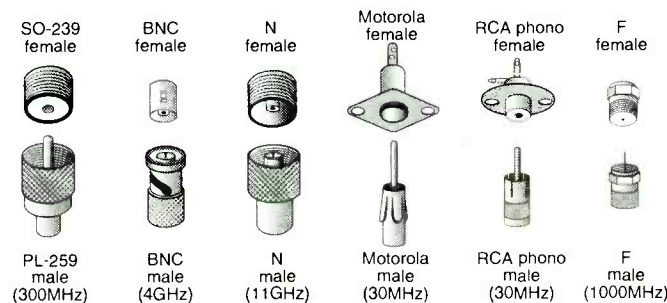


ADAPTORS AVAILABLE

- ADP 1 UHF Female to F male
- ADP 2 F Female to PL259 Male
- ADP 3 F Female to N Male
- ADP 4 F Female to Male Mini-Plug
- ADP 5 N Female to BNC Male
- ADP 6 UHF Female to Male Mini-Plug
- ADP 7 UHF Female to N Male
- ADP 9 F Female to BNC Male
- ADP 10 UHF/BNC
- ADP 11 UHF female to RCA male
- ADP 12 BNC/N
- ADP 13 BNC/BNC (right angle elbow)
- ADP 14 F female to RCA male
- ADP 15 N female to F male
- ADP 17 BNC female to F male
- ADP 18 F/2 wires
- ADP 19 UHF/2 wires
- ADP 22 MOT/BNC
- ADP 13 UHF female Barrel-1.50
- ADP 24 BNC female to PL259 male
- ADP 26 F/F Barrel—\$2.00
- ADP 27 Banana Plug—\$2.00
- ADP 28 F to PAL/Satellite 700
- ADP 29 3/32" Adaptor—1.50
- ADP 30 T-adp. BNC fem./male/fem.—1.50
- ADPK 10 F female to Motorola male
- ADPK 13 F/F Cable 3ft.—2.50
- ADPK 14 F/Motorola cable, 3ft.—2.50
- ADPK 15 PL259/PL259 cable, 3ft.—2.50
- ADPK 16 BNC to BNC

Adaptors may be ordered separately for \$5.95 each. Free shipping if ordered with other products; \$2.50 for one or more shipped alone.

If you are unsure which adaptor is needed, call Chanel or Sue at 704-837-7081 tech@grove.net for assistance.



Some of the more common adaptors are shown at left. Order from the list at right! Need an antenna rotator or weatherproof tape? See next page.



New Weather-Proof Flex-Tape!

IDEAL FOR SECURELY WRAPPING coax couplings and splices without heat or mess. Forms a tight, flexible, waterproof seal for wiring, plumbing, automotive, marine and other hostile environments. Easy to apply; remains pliable for years without leaving a sticky residue like putty sealants. Resists water immersion, sunlight, abrasion, impact and most chemicals.



Order ACC 168

Only **\$1.95** For 22-foot roll
Plus \$1.50
First Class Mail

Heavy Duty Antenna Rotator

IDEAL FOR THE Grove Scanner Beam, amateur VHF/UHF antennas, TV and FM antennas, this new rotator features a heavy-duty motor with high torque (tested through 70 MPH winds) with brake pads to protect the drive train.

Two synchronized motors give precise station location; extra-strength machine gears break through ice loads without binding. Mounts on masts up to 2" diameter. Requires 3 conductor cable (optional). Fast and easy installation.



Perfect for use with our Scanner Beam or your directional VHF/ UHF, TV or FM antenna!

Order ROT 1

Only **\$59.95**

\$7.50 UPS
\$11.50 US Priority Mail
\$18 Canadian UPS
\$14.50 Canadian APP

ACCESSORIES:

CBL 2 50 feet 3-conductor cable \$5.95
CBL 3 100 feet 3-conductor cable \$8.95

Use Your AM/FM Car Antenna for Scanner Reception Too!

MOBILE ANTENNA MULTICOUPLER

HOW WOULD YOU LIKE TO ENJOY excellent 30-960 MHz mobile scanner reception using your existing AM/FM auto antenna? That's right; no holes, no magnets, no scratched paint or clumsy cables going through doors and windows. Ideal for low-profile monitoring installations where a separate scanner antenna is desirable.

The Para Dynamics PDC 63 Mobile Multicoupler takes only seconds to install and allows simultaneous use of your AM/FM car radio as well as your mobile scanner. Comes equipped with your choice of Motorola or BNC connector.



Order CPL-63M (Motorola) Only **\$14.95**

\$5.50 UPS
\$5 US Priority Mail
\$10 Canadian UPS
\$6.50 Canadian APP

Order CPL-63B (BNC) Only **\$16.95**

Lazer Pen Pointer

NOW YOU CAN highlight your presentation with a brilliant, red beam of laser light, the same beam used on night-viewing weapons! This tiny pocket penlight projects a tight spot of light for 100 yards. Ideal for lectures, educators, sales presentations and more!

Requires only two AAA cells for long-life power!

Price Reduction!



Order LAS 2

Only **\$39.95**

\$5.50 UPS
\$5 US Priority Mail
\$7 Canadian APP
\$10 Canadian UPS

Accessories:

BAT 6 AAA Batteries \$1.00/each

Switch with ease . . .

Professional Antenna Switch



Switch your scanner, shortwave receiver, ham transceiver or any other radio device operating at frequencies as high as 1000 MHz with this superb, die-cast, waveguide-cavity antenna switch. Handles up to 2500 watts PEP for transmitting, VSWR under 1:1.2, insertion loss only 0.2 dB, port-to-port isolation 60 dB. Automatically grounds unselected port. Standard UHF (SO-239) connectors mate with PL-259 and other adaptors.

Order SWC 1

Only **\$25.95**

\$5 UPS Ground
\$4.50 US Priority Mail
\$10 Canadian UPS
\$6.50 Canadian APP



Save \$\$\$ on our Universal Power Supply/Charger

Our universal AC adaptor is especially rugged, capable of switching to your choice of 3, 4.5, 6, 7.5, 9 or 12 volts DC at a current of 500 milliamps (1/2 amp)! Another switch lets you choose + or - polarity.

An array of plugs on its interconnect cord assures proper mating to any electronic accessory. Plugs into standard house current (120 VAC, 60 Hz).



Order PWR 13

Only \$9⁹⁵ plus \$5.50 UPS or Priority Mail

A \$15 dollar value!

Mobile Cigarette Lighter Power Adapter

SIMPLY PLUG THE GROVE ACC23 into your vehicle's cigarette lighter to charge the batteries or any other mobile accessory, including radar detectors, which use a 12 volts DC, center pin positive, 2.1 mm barrel connector.

This power adaptor has an internal, replaceable 3A fuse.



Order DCC 4

Only \$9⁹⁵

Including First Class Mail Shipping

SURGE PROTECTORS!

New!



Not shown to scale

PROTECT YOUR DELICATE radio, computer, TV, stereo, test equipment, and other electronic equipment from devastating power-line voltage spikes and current surges. For all standard U.S. and Canada power lines (120 VAC, 1875 W, 60 Hz, 15 A).

Order LAR 2 (single outlet)

Only \$3⁹⁵

\$1.50 First Class Mail Shipping

Order LAR 3 (six outlets)

Only \$4⁹⁵

\$2.00 First Class Mail Shipping

Professional Power Supply

Adjusts to the voltage you need for mobile & portable accessories!

Operating from 100-115 volts AC, this rugged, compact (5"W x 3"H x 5"D) lab power supply is ideal for powering those mobile and portable, battery-operated scanners, shortwave radios, CB rigs and other equipment. Adjustable from 9 to 15 volts and provides up to 5 amps DC. Over-current protected. Includes binding posts as well as cigarette lighter jack for powering your accessories. Large meter accurately shows voltage and current. Regulated for less than 1% voltage fluctuation or 3 mV ripple. Weighs 5 pounds.



Order PWR 3

Only \$59⁹⁵

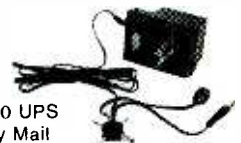
\$6.50 UPS Ground
\$ 5.50 US Priority Mail
\$7.50 Canadian APP
\$10.50 Canadian UPS

Save on Low-Current AC Wall Adaptors!

GROVE'S PWR 12 Universal power supply plugs into 120V AC wall socket and provides 3, 4.5, 6, 7.5, 9 and 12 volts DC at up to several hundred mA (intermittent use). Has six different plugs for virtually every accessory. List price \$12.95.

Order PWR 12

Only \$4⁹⁵ plus \$4.00 UPS or Priority Mail



THE PWR 11 provides 12VDC at 100 mA from standard 2.1 mm coax plug. UL and CSA approved.



Order PWR 11

Only \$4⁹⁵

plus \$3.50 UPS or Priority Mail



Universal NiCd Battery Charger

Whether you use AA, AAA, C, D or 9-volt NiCd batteries, you can recharge them—in any combination—with this new charger. Insert up to four 1-1/2 volt cells and a 9-volt battery at a time; status lights show which batteries are charging, and a test light allows you to check a battery before you charge it. Plug it into 120 VAC wall receptacle and you're ready to recharge all those batteries in your radios, accessories and toys! Full instructions included on bottom of unit.



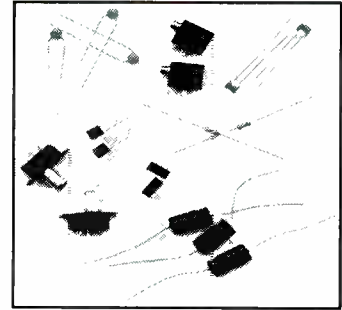
\$5.50 UPS Ground
\$7 UPS Ground
\$ 8.50 US Priority Mail
\$10 Canadian APP

Order PWR 18
Only **\$14⁹⁵**

NEW!

Parts Kits for Experimenters!

Surface mount and leaded devices! All parts identified!



Surface mount resistors, mixed values,
1ohm - 390 k ohm, retail value \$200
Over 900 pieces KIT 1 \$29.95

Surface mount capacitors, mixed values,
2.2 pF - 2.2 microF, retail value \$120
Over 400 pieces KIT 3 \$19.95

Complete parts lists for above kits are online at www.grove.net. See for individual parts pricing!

Inventory liquidation days!

Capacitor Bargain Bag. . .KIT 5
Over 220 pieces (electrolytic, ceramic, film and variable capacitors). Over \$150 worth of caps for only \$39.95.

Inductor Bargain Bag. . .KIT 6
Approximately 50 leaded, variable and

surface mount inductors. Over \$100.00 worth of inductors for only \$19.95.

Diode Bargain Bag. . .KIT 7
Over 60 pieces (diodes, LEDs, transistors and lamps). Over \$100 worth for only \$19.95.

Bonanza Bargain Bag. . .KIT 8
Over \$250 worth of RF chokes, pots, switches, caps, plugs, connector hardware, and much more. Approximately 90 parts for only \$29.95.

IC Bargain Bag. . .KIT 9
Over \$130 worth of integrated circuits including CMOS logic ICs, regulators, mixers, IF and PLL chips, amplifiers, and even a microprocessor. Approximately 70 ICs for only \$69.95.

ANLI PORTABLE POWER STATION

NEW! Emergency Power!



A rugged, battery power source that can actually run your high-powered monitoring equipment and a few other accessories when needed. Imagine powering your stereo, mobile scanner, ham rig, portable TV, cassette player, CD player, spotlight, or even an AC inverter to operate your shaver, camping refrigerator, power tools, and coffee pot as well. Wouldn't it be great if the unit even had enough reserve to start your car if that

battery was dead?

It's here and it includes a 120 VAC charger with automatic full-charge cutoff, built-in voltmeter, cigarette lighter jacks for charging and high-power output.

The Power Station is a compact powerhouse built around a 12 volt, 7 ampere-hour, rechargeable gel cell contained in a rugged ABS carrier. You can choose 3, 6, 9 or 12 volts output. Dimensions 7lbs, H8" x W7 x 4.5.

Order PWR 1
Only **\$59⁹⁵**

\$6.50 UPS Ground
\$ 5.50 US Priority Mail
\$7.50 Canadian APP
\$10.50 Canadian UPS

Power Pocket

Extended Life Battery

No more inconvenient power loss while using your handheld scanner or two-way radio. Ideal for emergencies, hiking, camping, field day, search and rescue missions, power outages, cycling, sports events and more. The Power Pocket is a sealed, rechargeable, lead/acid battery which provides 12 volts at 2 ampere-hours for rugged, extended-life applications!

Encased in a secure pouch with a belt loop and shoulder strap provision, a completely discharged Power Pocket can be recharged in only 6-8 hours and will hold a useful charge for up to half a year!

You can expect 3 to 5 years lifetime from this compact powerhouse which comes complete with cigarette lighter receptacle to fit a variety of Grove power adaptors. AC charger included at no additional cost.



Order BAT 16 Only **\$59⁹⁵**

\$6 UPS Ground
\$5.50 US Priority Mail
\$ 7.50 Canadian UPS
\$10.50 Canadian APP



Metro West Long Life Battery Pack and Drop-In Charger

For BC200XLT, BC205XLT, and BC100XLT

Over the years, MetroWest has introduced a number of innovative accessories for hand-held scanners, but none is more welcome than their new, double-life battery pack for the popular Uniden BC200XLT hand-held scanner.

The "Pro-Pack 1200" is numbered for its 1200 mAh charge capacity, twice that of the BP200 which comes with the BC200XLT from Uniden. The replacement look-alike slips right on the scanner to replace the original.

About 1/4" taller and slightly fatter than the Uniden pack, the Pro-Pack 1200 does not allow the top strap of the Uniden case to button over the top as it did before, but is still may wrap around the front or back securely.

Because the charger jack on the battery pack had to be relocated due to battery density, the scanner must be removed from its holster before it can be recharged. The user may wish to punch a second hole at the new location for plug-in convenience. An AC wall adaptor/charger is included.



Order BAT 9
Only \$74⁹⁵

\$6 UPS
\$9 2nd Day Air
\$7 US Priority Mail
\$10 Canadian UPS
\$8.50 Canadian APP

Professional Drop-In Charger for the Metrowest Battery!



CHARGE YOUR HIGH-CAPACITY METROWEST BATTERY like the pros with this drop-in charger (not for original Bearcat battery pack). Automatic circuit provides a full charge in just seven hours, yet prevents overcharging! Powered by your 12 VDC wall adaptor or from the Grove DCC 4 cigarette lighter cord.

Lightweight (8 oz.) and compact (3-1/4" x 4-1/2" x 1-3/4"); two-color LED indicator shows charge statusW.

Order PWR 15
Only \$44⁹⁵

\$6 UPS Ground
\$7 US Priority Mail
\$10 Canadian UPS
\$8.50 Canadian APP

Great Deals on Quality Alkaline Batteries

Industrial ALKALINE AA, C, D, and 9V Batteries!

THESE HIGH POWER, long-life, industrial quality Eveready Energizers™ are unavailable in stores. Ideal for radios, flashlights, clocks, cassette players, remote controls, electronic accessories, motorized tools and toys, and any other application requiring a high-current, long life battery. Choose from individually packed AA, C, D or single 9V batteries.



BAT 01	AA Batteries\$.79 ea.	plus \$3 UPS Ground or US Priority Mail shipping
BAT 02	D Batteries\$ 1.19 ea.	
BAT 03	C Batteries\$ 1.09 ea.	
BAT 04	9V Batteries\$ 2.09 ea.	

Radio Shack® Rechargeable AA NICAD Batteries



650 Milliamp High capacity AA Nicads for use with the PRO-43 as well as other handheld scanners.

Order BAT 13
Only \$2⁷⁵ ea.

plus \$3 shipping any quantity

Gates Millenium NiCad Batteries

Order Now, these have been discontinued, and only the remaining stock will be available.

YOU CANT BUY BETTER faster-charging Nicad batteries than the Gates Millenium. These 750 MAH AA cells will provide noticeably longer operation for scanners, portable radios, recorders and accessories, and they come with a lifetime manufacturer's warranty!

Order BAT 5-2 AA Cells
Only \$5⁹⁵ (2)

Order BAT 5-4 AA Cells
Only \$9⁹⁵ (4)



Super Convenient Up-Right Mounts for Handheld Radios!

BRK 7 holds two scanners, a frequency counter, whip and other accessories!

Order BRK 7
Only **\$12⁹⁵**

\$6 UPS
\$5 US Priority Mail
\$7 Canadian APP
\$10 Canadian UPS



How many times have you tried to set your hand-held scanner or handie-talkie on a table, ledge or car seat, just to have it fall over? That problem is solved with our handy holders. The BRK 1 holds one hand-held, while the BRK 7 holds two (or one scanner and a beverage container)—with a handy compartment in the middle for other accessories!

Their sturdy jaws do an excellent job of supporting your radio — even with cables and antennas connected — on a desk or table top or even the bumpy environment of a vehicle, plane or boat. The two outer compartments of the BRK 7 even adjust to provide a snug fit for any handheld unit.

Cushion pads are provided for an even better grip, especially on small handhelds like the ICOM R-1 and Realistic® PRO-26.

*Single Holder
(shown at right)*

Order BRK 1
Only **\$9⁹⁵**

\$6 UPS
\$5 US Priority Mail
\$7 Canadian APP
\$10 Canadian UPS



NAVAL HTS-3 COMPACT AMPLIFIED SPEAKER

Includes Tape Recorder Activator and Cigarette Lighter Power Cord

DESIGNED FOR HANDHELD walkie talkies and scanners, this amplified speaker puts out a resounding one watt of audio in noisy locations!

Powered by AA nicads or alkalines, battery saver automatically shuts off power when no sound is present. It activates a tape recorder whenever sound is present (1/8", 3/32" cables included)!

Compact (2-3/4" W x 4-1/2" H x 2-1/4" D) and lightweight (10 ounces), this amplified speaker can be snugly placed on your radio desk or stuck by Velcro to your vehicle's dashboard. LED signal light, audio level adjustment and amplifier bypass switch are included!



Order SPK 11
Only **\$34⁹⁵**

\$6.50 UPS
\$7 US Priority Mail
\$10 Canadian UPS or APP

ACCESSORIES:

- BAT 1 AA Alkaline batteries \$7.99
- PWR 13 AC wall power supply \$9.95
- BAT 13 Nicad AA batteries \$2.75/each (4 required)



Switchable Stereo-Mono Headphones

A Solid Value for the listener!

IMAGINE—an ear-cushioned headset with adjustable volume controls for each earpiece and a stereo/mono switch built in! These new phones have a power handling capacity of 0.5 watts, frequency response of 20-18,000 Hz, sensitivity of 105 dB and 32 ohm impedance to match all external speaker/earphone jacks.

Perfect for any audio application—stereo systems, communications receivers and scanners. Coil cord with 1/4" plug and 1/8" adaptor included.

Order HDP 1
Only **\$19⁹⁵**

\$6.50 UPS
\$6.50 US Priority Mail
\$10 Canadian UPS
\$8 Canadian APP

ACCESSORIES:

- ADPK 11 Universal Adaptor \$12.95
- One or two 1/4" headphone jacks to 3/32" (2.5 mm) or 1/8" (3.5 mm) plug — fits all model scanners
- ADP 29 3/32" Adaptor (fits BC200XLT) \$1.50



Sub-Compact Extension Speaker

MEASURING JUST 3-1/4" IN DIAMETER, this tiny extension speaker with its black textured styling and chrome accents is ideally suited for mobile mounting. A swivel base allows proper positioning, while its 7' extension cable with standard 1/8" (3.5 mm) miniplug will reach anywhere in the listening area.

New!

Scanner shown for size comparison only



Order SPK 14

Only \$7⁹⁵

Free Shipping!

(for speaker 14 only)

ACCESSORIES:

ADP 29 3/32" (2.5 mm) sub-mini adaptor \$1.50

Speaker also shown on page 2 as an accessory to internet.

Optimus Speaker Offers Great Sound in a Small Package

FOLLOWING THE HIGH QUALITY TRADITION of the previous Minimus and Optimus speakers, the new PRO X5 Optimus speaker is now available. Measuring a compact 4"W x 6-3/4"H x 4-1/2"D, this improved speaker accommodates up to 30 watts power levels, provides a frequency response of 150-20,000 Hz, and matches standard 8 ohm systems (4-16 ohms acceptable).

Designed for use with compact stereo systems, the rugged die-cast aluminum cabinet reinforces strong sound, with the three-way speakers faithfully reproducing rich, transparent voice and music.



Less than 7" high, yet it can handle up to 30 watts of power!

Order SPK 4

Only \$45⁹⁵

\$6.50 UPS
\$5.50 US Priority Mail
\$10.50 Canadian UPS
\$7.50 Canadian APP

Clip-On Studio Microphone

IDEAL FOR VIDEO presentations, tape recording, Internet Phone or lecturing. Standard 600 ohm line impedance, 100-12,000 kHz frequency response assure crisp, clean audio. Removable tie clip, breath screen, at least 10' of shielded, flexible cord with 1/8" (3.5 mm) plug included. Compare at \$29.95.



LIMITED SUPPLY!

Order MIC3

Only \$19⁹⁵

\$1.50 First Class
Mail shipping

Cassette Audio Adaptor for CD Players



IMAGINE—YOU CAN USE your home cassette stereo system, portable "boom box," auto stereo or other cassette player to provide full sound from a portable CD player, scanner, shortwave receiver, or any other device with an audio output jack! Simply plug this adaptor into the cassette player, and the flexible cord into the radio or audio device—stereo or monaural! Comes equipped with standard 1/8" (3.5 mm) stereo and mono plugs.

Order ACC 79

Only \$15⁹⁵

\$2.50 First Class
Mail shipping

Clip-On Mini Speaker

For Handheld Radios



THIS TINY (2" square), lightweight (2-3/4 oz.) speaker plugs into any standard 1/8" (3.5 mm) earphone jack and provides excellent, concentrated sound when clipped to a lapel or collar. Ideal for crowded or noisy locations where you don't want your scanner blaring and don't want the confinement of an earphone.

Order SPK 9

Only \$10⁹⁵

\$5.50 UPS
\$4.50 US Priority Mail
\$9 Canadian UPS
\$5.50 Canadian APP

ACCESSORY:

ADP 29 3/32" (2.5 mm) adaptor
(for BC200XL, etc.) \$1.50



LEATHERMAN® POCKET TOOL

YOU'VE SEEN THE LEGENDARY Swiss Army knife, but you've never seen a quality, multipurpose pocket tool like the Leatherman®.

Full-size needlenose/regular pliers, wire cutters, knife blade, ruler, can/bottle opener, large and small screwdrivers, Phillips screwdriver, metal/wood file/saw, awl/punch—all in a sturdy, 4", stainless steel frame!

Comes with leather belt case and 25 year warranty! An incredible, American-made value.



Order TOL 1
Only \$39⁹⁵

\$6 UPS
\$5 US Priority Mail
\$10 Canadian UPS;
\$7 Canadian APP



Made in the U.S.A.

UNIVERSAL BELT CLIP

A QUICK PRESS firmly attaches this strong, plastic belt clip to your frequency counter, handie-talkie, cellular or cordless phone, camera, pager, test equipment, portable radio, or virtually any other flat surface! The polymer adhesive remains pliant so that years later the clip may be removed without destroying the surface!



Order BRK 3 Plus \$2 .50
Only \$4⁹⁵ First Class Mail

CHANNEL ORGANIZERS

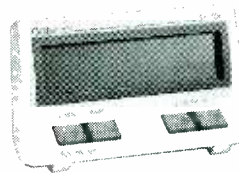


CARRY A COMPLETE LIST of your 200 or 400 scanner channels, frequencies and agencies within this handy, shirt-pocket data management packet. These 3" x 4-1/2" professional forms are plastic protected, and bound with a durable ring for easy flip-access. Enter the data just as you have it programmed on your scanner for speedy reference. Extra replacement cards included.

Order CHT 8
400 channels,
20 frequencies per page
\$15⁹⁵
plus \$2.50 First Class Mail

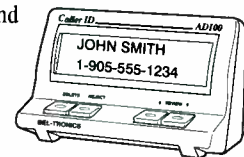
Order CHT 7
200 channels,
20 frequencies per page
\$12⁹⁵
plus \$3 First Class Mail

Caller ID for Your Phone!



NO longer will you be pestered by annoying calls. The Bel-Tronics® AD100 intercepts unwanted or unidentified calls and even displays the name and phone number of the caller on a giant LCD! And just look at these advanced features:

- **Call Reject:** You may key in up to 100 unwanted phone numbers; when these come in, the AD100's computerized voice will inform the caller politely that the call will not be accepted!
- **Block Buster:** If a caller has blocked his identity, the AD100 informs him that his call will not be accepted!
- **Call Screening:** Shows incoming name and phone number immediately for you to see.
- **Automatic Logging:** Memorizes and displays last 100 incoming calls for your reference.



Attractive off-white color; compact (5.3" x 3.4" x 2.1"). Requires 9-volt alkaline battery; low battery indicator on screen. Stand-up or wall-mount capable; telephone cord included. Before ordering, call your local telephone company to be sure you have caller ID in your area.

Order PHN 04 \$7 UPS
Only \$79⁹⁵ \$9 US Priority Mail
\$12 Canadian UPS
\$12 Canadian APP

*Not affiliated with any former Bell System entity.

ACCESSORY: BAT 4 9 Volt alkaline battery \$2.09



TRIFIELD ENVIRONMENTAL MONITOR

Concerned about electromagnetic radiation and its effect on your body? The TriField Environmental Monitor takes readings of home appliances, computers, microwave ovens, TV sets, electric blankets, fluorescent lights, power transformers, power lines, residential and industrial wiring, cellular and cordless telephones, VHF and UHF transceivers and other sources of electromagnetic energy.

Operating for 10 or more hours from a standard 9-volt battery (supplied), the TriField meter will read up to 100 milligauss of magnetic field intensity from 60-100,000 Hz, up to 100 kilovolts per meter electric field intensity, and up to 1 milliwatt per square centimeter (as high as 3 GHz) radio/microwave power density.

An excellent explanatory guide and full instructions are included.

Order TST 1 \$7.50 UPS
Only \$119⁹⁵ \$7 US Priority Mail
\$10 Canadian UPS
\$7.50 Canadian APP



Pocket Frequency Counters from Optoelectronics

Ideal for calibrating signal generators and transmitters, for countermeasures applications, and for determining the unknown frequencies of transmitters, walkie-talkies, mobile radios, base stations, cordless phones, ham and CB radios, radio control units and other signal emitters. These precision instruments offer outstanding sensitivity and TCXO (temperature compensated crystal oscillator) accuracy of 1 part per million. Prices include rechargeable battery pack and AC wall charger/adaptor, but not antenna (available from the list of accessories below). Operate for several hours on a fresh charge, or continuously with the wall adaptor.

The effective range varies from about one foot (cordless phones) up to 75 feet or more for more powerful transmitters.



DESIGNED FOR COVERT electronic surveillance, the new **Frequency Scout** is an advanced pocket frequency counter with memory and a selectable, silent vibrator or audible beeper to alert you to signal presence. With continuous 10-2800 MHz frequency coverage and 13 millisecond intercept time, the Scout accurately displays frequencies on a 10-digit, backlit LCD. High sensitivity captures weak signals for hundreds of feet, depending upon conditions. Connected with an inexpensive audio cable, you can instantly command an ICOM R7000, R7100 or R9000 to receive an intercepted frequency. AR8000-modified for use.

Relative signal strengths are displayed on a 16-segment bargraph, and up to 400 different signal frequencies may be automatically stored for later recall. Continuous operation for at least 8 hours on a fast two-hour-rechargeable battery. Antenna sold separately.

Order CTR 8
Only **\$449⁹⁵**
\$7.50 UPS
\$9 US Priority Mail
\$12 Canadian UPS
\$10.50 Canadian APP

ACCESSORIES:

- ANT 19 4"-18" telescoping whip \$14.95
- ANT 8 7"-46" long-range tele. whip \$16.95
- ANT 27 Low profile 1-1/2" close-range ant. \$31.95

NEW!



COMPACT (3.7" x 2.75" x 1.2") AND lightweight (7.5 oz), the new **Cub** counter invites unobtrusive applications like surveillance countermeasures and frequency hunting, yet its extraordinary wide frequency coverage (1 MHz - 2.8 GHz) and advanced features (digital filtering, high-visibility LCD, frequency autocapture and hold, selectable gate times, 10 hour battery charge life) make it ideal as well for field service, ham radio and CB, electronic labs, investigators, and more. Rechargeable battery and AC charger included.

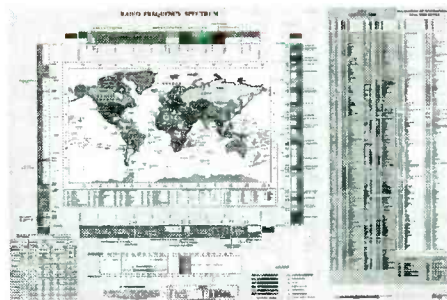
Order CTR 9
Only **\$144⁹⁵**
\$7.50 UPS
\$9 US Priority Mail
\$12 Canadian UPS
\$10.50 Canadian APP

ACCESSORIES:

- ANT 19 4"-18" telescoping whip \$14.95
- ANT 8 7"-46" long-range tele. whip \$16.95

Full-Color Radio Wall Map is Full of Monitoring Info!

IDEAL FOR HAMS, shortwave listeners and scanner hobbyists alike! Shows worldwide callsign prefixes, basic spectrum allocations from 300 kHz-3 GHz, phonetic alphabet, ham bands by license class, Morse code symbols.

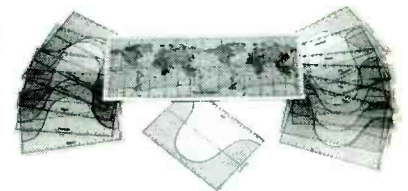


Colorful, informative, accurate. Measures 37" x 25". Nationally advertised at \$19.95, Grove price only \$14.95!

Order CHT 4
Only **\$14⁹⁵**
\$6 UPS
\$2.50 Bookrate
\$6 Canadian APP
\$8.50 Canadian UPS

DX EDGE

Your "Edge" in Shortwave Monitoring



PLAN YOUR LISTENING around the most productive times and frequencies using this valuable, simple-to-use shortwave tool. Share the secret of successful hams and professionals alike who know the advantages of "grayline propagation." Just line up the proper dateline on your location and it's ready to use. Sturdy map chart, perpetual monthly overlays and easy instructions included.

Order CHT 3
Only **\$24⁹⁵** Plus \$5.50 UPS Shipping

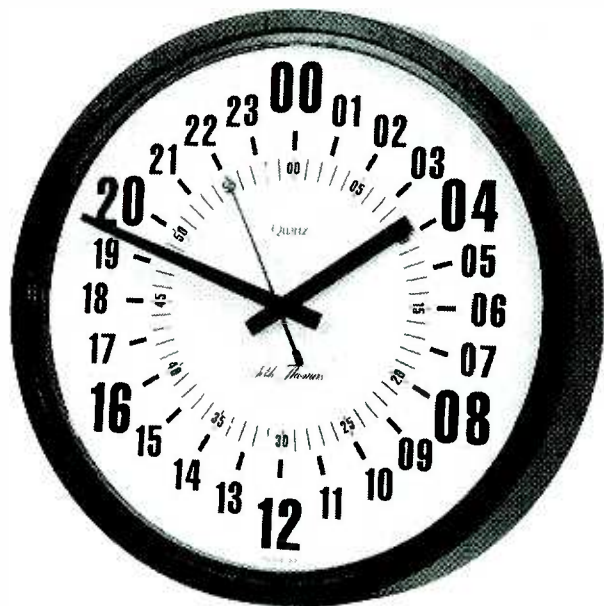


The Perfect Listening Post Accessory: 24-Hour Studio Clock

NOTHING LENDS AN AIR OF AUTHORITY in a radio station like the clock on the studio wall. It is traditional, recognizable, functional, and now, with a modern precision quartz movement, accurate to 1/2 second per day.

This studio clock from Grove Enterprises is a professional 13" Seth Thomas, featuring a 24-hour movement with bold, black numerals and a red sweep-second hand.

A convenient set knob allows precise set-up at installation; add an inexpensive alkaline AA cell (not included) and you have at least a year of unattended, accurate time — even during power outages.



Order CLK 1
Only \$24⁹⁵

\$5.50 UPS
\$5 US Priority Mail
\$10 Canadian UPS
\$7.50 Canadian APP

ACCESSORIES:

BAT 1 AA Alkaline
batteries \$.79
BAT 13 Rechargeable
Nicad batteries ... \$2.75



MFJ Dual Digital Clock

THIS COMPACT DIGITAL TIMEPIECE features two large, accurate, LCD quartz movements, one to provide accurate 24 hour UTC radio time, the other for 12 hour local time. Mounted in a rugged extruded aluminum frame with a handsome brushed accent, the clock features high-contrast, 5/8 inch numerals, easy to see anywhere in your radio room.

Powered by a long-life battery and measuring a scant 4-1/2"W x 2"H, the MFJ108B dual time clock can easily fit on any radio desk and provide valuable time information instantly.

Order CLK 2
Only \$19⁹⁵

\$7.50 UPS
\$7 US Priority Mail
\$10.50 Canadian APP
\$15 Canadian UPS

Want to know more about the Internet?

Check out our new internet book offerings (see page 51). Then, when you are "on-line," surf on over to our new site on the World Wide Web. Set your browser to "www.grove.net!"



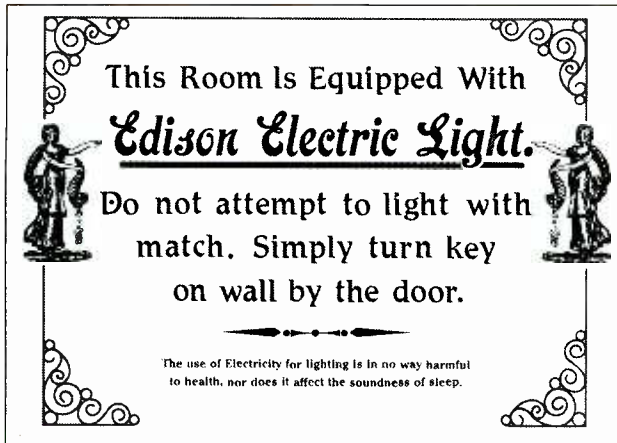
MFJ World Map Clock

THIS NEW DESK DIGITAL world map/clock adds a touch of golden elegance to your radio room. Time zones are available at the touch of a button, and the day of the week, date, and local 12 or 24 hour time with one second per day accuracy are also displayed in large LCD characters.

Key cities across the globe are highlighted to make identification easier and an alarm tone can be set to alert you to any particular time. The MFJ-112 measures 4" H x 3-1/2" W and battery is included.

Order CLK 4
Only \$24⁹⁵

\$6 UPS
\$5 US Priority Mail
\$10 Canadian UPS
\$7.50 Canadian APP



New!
Edison Wall Plaque

Its origin lost to the pages of history, this all-metal, 5" x 7", replica is a charming addition to any monitoring post or ham shack. We have researched Smithsonian and Edison archives, but cannot find any record of this unique memento of the nineteenth century when electric lighting began to replace the gaslight. Satin brass-look finish and four corner holes lend authenticity to this durable plaque.

Order COL 3
Only **\$6⁹⁵** *Free Shipping*

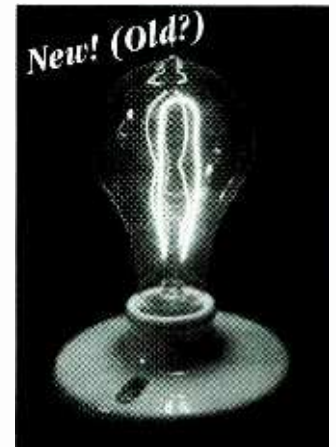
Edison Bulb!

THIS AUTHENTIC, functional reproduction of the original carbon-filament Edison electric lamp is a rare find. Its warm glow provides a nostalgic reminder of simpler times past. A delightful highlight for the radio room. Ideal for collectors.

Approximately 6" H, standard brass screw base, 10W (nom.).

Order COL 2

Only **\$6⁹⁵** \$3.00 First Class
Mail shipping



Base not included

.....
Spinning Vane Radiometer!



New!

Probably every science museum finds its briskest sales in these eye-catching glass bulbs with their spinning white and black vanes. Demonstrating kinetic energy from light photons, this "perpetual motion" device will continue to spin as long as enough light is present. A conversation piece for the desk and a superb gift for the science enthusiast.

Order COL 1

Only **\$6⁹⁵** \$3.00 First Class
Mail shipping

Collector's Guide to Transistor Radios



New!

By Marty and Sue Bunis That AM-only transistor radio you passed up at the yard sale could be worth money! Transistor radios are fast becoming collector's items, some worth tens or even hundreds of dollars! A jade-green Regency TR-1 brings \$600! Enjoy reminiscing through the hundreds of early transistor radios, as well as learning about their values, in this well-illustrated collector's guide. Shipping code B. Target Audience: general

Order Bok 35
Only **\$15⁹⁵**

Collectors Guide to Antique Radios

3rd Edition by Marty and Sue Bunis If you're among the rapidly-growing number of antique radio collectors, this book is a must! Hundreds of full-color photos, thousands of listings of tube-type radios from America's yesteryear. Includes a brief description, model number, date of manufacture, and average market value. Shipping code B. Target Audience: general



New!

Order Bok 30
Only **\$18⁹⁵**

The Zenith Transoceanic ... The Royalty of Radios



By John Bryant and Harold Cones No manufacturer has drawn more recent attention from the vintage radio collector than Zenith, maker of the legend Trans-Oceanic series. Flea markets are being combed for this popular collectible. This lavishly illustrated, glossy, historical essay is the most complete work ever done on the fabled Zenith. Fascinating to read, beautiful to admire. Ideal as a gift for the collector and the radio hobbyist. Use shipping code B. Target Audience: general

Order Bok 102
Only **\$24⁹⁵**



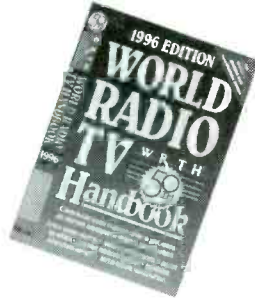
Buy Any Three Books, and Get Free UPS Second Day Air Shipping!

Free shipping applies to the weight of books only. Offer good thru December 31, 1995.

Pre-Publication Sale on 1996 Editions



**Either book only \$19.95—
free shipping
included***



Satellite Broadcasting Guide — Everything you need to know about installing, repairing, maintaining and enjoying your satellite system.

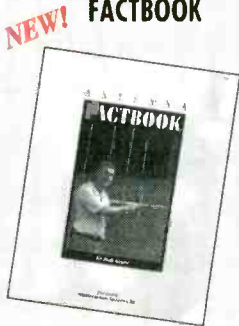
**A 36% Savings!
Order Now!**

**50th Anniversary
Edition!**

World Radio TV Handbook — A "must have" resource for radio buffs and broadcasting professionals.

Free shipping inside the US only, outside US use shipping code B. Offer ends December 31, 1995

THE ANTENNA FACTBOOK



By Bob Grove Is a tuner really necessary? How important is the choice of coax? Are all connectors the same? Which accessories are most valuable and which *don't* I want? When is a specific length of coax important? What is antenna resonance and is it really necessary? What determines an antenna's efficiency?

The answers to these and dozens more questions are found in this new book, meticulously researched and well illustrated. Written for ham, shortwave listeners and scanning enthusiasts. Get the best performance out of the most valuable accessory you can own—your antenna! Use Shipping Code A. Target Audience: general

BOK 104 \$9⁹⁵

NEW! Second Edition



LISTENER'S LAWBOOK

By Frank Terranella Now expanded this all-new edition contains all the latest listening laws across the country, state by state (as applicable). Includes the new anti-cellular scanner amendment and thorough discussions, in simple language, of how these laws affect your listening hobby. A must for scanner enthusiasts! Use Shipping Code A. Target Audience: general

BOK 16 \$9⁹⁵

US MARITIME FREQUENCY DIRECTORY



By Robert Gad and Robert A. Coburn Whether your maritime listening interests involve a scanner or a shortwave receiver, this is the book for you! A massive compilation from official lists of US Coast Guard, high seas radio telephone, coastal and ship stations, emergency distress, marine operator, weather service, inland waterways, and more! Use shipping code B. Target Audience: general

BOK 52 \$24⁹⁵

SCANNERS AND SECRET FREQUENCIES



By Henry Eisenon This giant (320 page), comprehensive guide to monitoring the VHF/UHF communications spectrum is loaded with useful information, from basics of radio and choosing a scanner to learning about the radio spectrum and where to find the most interesting frequencies. Use shipping code B. Target Audience: beginner

BOK 77 \$19⁹⁵



SCANNER AND SHORTWAVE ANSWER BOOK



By Bob Grove What is the best antenna for your requirements? When do you need a preselector rather than a preamp? What is the difference between "meter band," megahertz" and "kilohertz"? How can you determine the source of electrical interference and cure it?

These are samples of the hundreds of questions expertly answered by Bob Grove's guide to monitoring. Liberally illustrated and professionally printed. Affordably priced for hobbyists, new and experienced. Take advantage of this limited reference edition while supplies last! Use Shipping Code A. Target Audience: beginner.

BOK 5 \$12⁹⁵

FEDERAL FREQUENCY ASSIGNMENT MASTER FILE



This new 4th edition, now with 350 controversial pages, it provides the most comprehensive look at federal government frequencies in print.

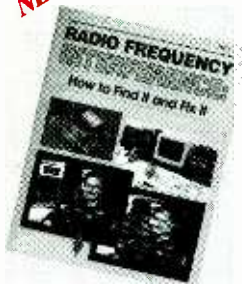
Over 100 agencies, from the Central Intelligence Agency to the National Security Agency are listed; scanner and shortwave as well.

No matter where you're located, you'll hear many of these frequencies in use. Alphabetized by department and agency and their locations, then listed in frequency order, this compendium is the most authoritative reference for armchair monitoring of "forbidden" frequencies we've ever seen! Use shipping code B. Target Audience: general.

BOK 1 \$24⁹⁵

RADIO FREQUENCY INTERFERENCE... How to Find it and Fix it!

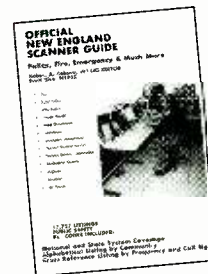
NEW!



This popular ARRL publication is welcome in an age of overwhelming interference problems. TV, ham radio, telephones, power lines, vehicles, CB, computer, appliance and many other devices causing and affected by radio frequency interference (RFI) are covered along with preventive measures and even direction-finding antennas and methods. Extensively illustrated. Shipping Code B Target Audience: General

BOK 32 \$14⁹⁵

OFFICIAL NEW ENGLAND SCANNER GUIDE

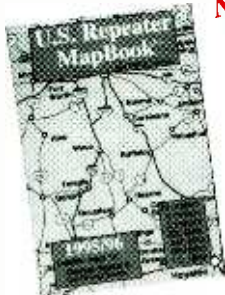


By Robert Coburn If you monitor communications on your scanner from any of the New England states, this frequency directory is a must. Nearly 18,000 listings for law enforcement, firefighting, hospital and ambulance, medical, road departments, railroads, emergency management, conservation and weather. Listings include frequency, location, callsign, agency, use and CTCSS (PL) tones where applicable. Even provides state bandplans and operational maps for key agencies in CT, ME, MA, NH, RI and VT. Use shipping code B. Target Audience: general.

BOK 99 \$24⁹⁵

NEW!

U.S. REPEATER MAPBOOK

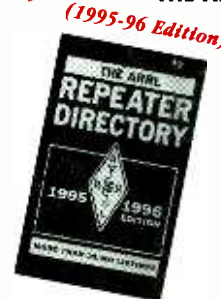


This new 1995/96 edition shows input/output frequencies, mapped locations and access tone codes for thousands of ham radio repeaters throughout the United States, Canada and Mexico, from 29-1300 MHz! Bandplans included. Exhaustive and accurate. A must for hams and scanner listeners alike. Use shipping code A. Target Audience: general.

BOK 101 \$9⁹⁵

NEW!

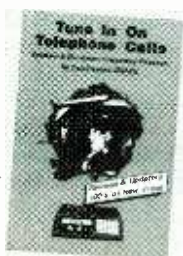
THE ARRL REPEATER DIRECTORY



Thousands of VHF/UHF amateur repeaters are in use throughout the U.S., Canada and Mexico, operating in the 29, 50, 144, 222, 420, 902, and 1240 MHz bands. This comprehensive pocket guide lists all that are registered, including many South American and European countries as well. Frequencies, callsigns, locations, sponsor names and modes are included. Use shipping code A. Target Audience: general.

BOK 103 \$7⁰⁰

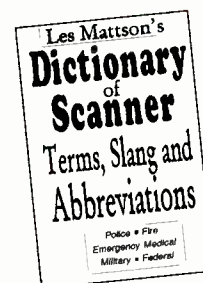
TUNE IN ON TELEPHONE CALLS



By Tom Kneitel No listener's book in recent history has caused so much consternation as Kneitel's recent expose' on where to listen to cellular, cordless, air to ground, ship to shore, military, satellite and wilderness radio phones—even pagers!

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DICTIONARY OF SCANNER TERMS, SLANG AND ABBREVIATIONS

By Les Mattson Become a scanning expert. Know how to understand police, fire, EMT, military, news reporters, aviation, maritime and federal radio operators and agents as they talk on the air. When the EMTs use jaws at an MVA and administer D5W, you'll know exactly what's going on! Use shipping code A. Target Audience: beginner.

BOK 76 \$14⁹⁵



1996 POLICE CALL PLUS RADIO GUIDE



1996 Edition—Edited by Gene Hughes This accurate directory has become the standard reference for the scanner listener, providing comprehensive frequency location and usage information, as well as radio signals, codes, maps and jargon for law enforcement, fire fighters, rescue, federal agencies, forestry service, military bases and national parks. Now includes Beyond Police Call.

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TOP SECRET REGISTRY



By Tom Kneitel This 8th edition continues the tradition of having the largest amount of federal frequency data ever compiled into a single volume.

Concentrating on VHF and UHF scanner frequency ranges, agencies include Secret Service, Customs, DEA, CIA, NSA, White House, Border Patrol, ATF, and dozens of other government bureaus who would prefer not to have their communications frequencies published. Use shipping code B. Target Audience: general.

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AIR SCAN



State-by-state listing of VHF civilian tower frequencies, air traffic control center frequencies, some military VHF operations. Includes list of special government/commercial frequencies and Canadian aircraft frequencies as well! Use shipping code B. Target Audience: general.

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AERONAUTICAL FREQUENCY DIRECTORY



This is the most comprehensive aeronautical frequency directory, arranged alphabetically by state and city, lists both civilian and military air-to-ground frequencies throughout the spectrum, including location, name, callsign, frequency and use. Includes traffic control centers, Civil Air Patrol, military and civilian HF SSB tower frequencies as well. Use shipping code B. Target Audience: general.

BOK 6 \$21⁹⁵

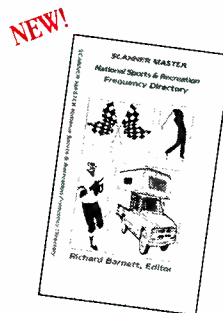
MONITORING THE MILITARY



Second Edition by Darryl Symington Over 130,000 frequencies plus a tactical callsign index highlight this updated military scanning guide. Hundreds of Air Force, Navy and Army bases as well as munitions and supply depots nationwide are listed alphabetically, covering fire/crash, security, medical, command posts, military police, tactical, maintenance and security communications. Use shipping code B. Target Audience: general.

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NATIONAL SPORTS AND ENTERTAINMENT FREQUENCY GUIDE!



Richard Barnett, well-known scanner frequency expert, has just released this exhaustive directory of frequencies used by racing teams, sports events, parks and recreational areas, game and wildlife agencies, TV news teams, security forces, theme parks, colleges and museums. Common frequencies used by GMRS, itinerants, public safety, federal government, cordless phones, wireless mikes, railroads and marine are listed as well. A bargain for frequency hunters! Use shipping code A. Target Audience: general.

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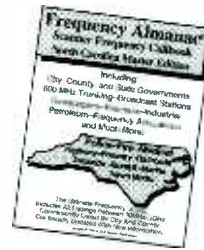
MONITOR AMERICA



This 3rd edition contains over 800 pages of frequencies for federal, state, county and city public safety agencies all across the United States! Includes channelization plans and usages, maps, ten codes and unit designators. Also lists many amusement, sport, railway, aircraft and national park frequencies. Use shipping code A. Target Audience: general.

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NEW!



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This state-by-state scanner frequency directory takes over where other guides leave off. Not only police, fire and ambulance, but trunking, broadcasting, news agencies, business and industrial as well. Includes county, city, licensee name, callsign, frequency and mobile/base class. Comprehensive and accurate. Target Audience: general.

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COMPENDIUM OF AMERICAN RAILROAD RADIO FREQUENCIES



By Gary L. Sturm and Mark J. Landgraf
Avid railfans have long awaited this new, revised 13th edition of our most popular railroad frequency directory! 200 pages offer comprehensive listings of all frequencies used by U.S. and Canadian railroads, arranged alphabetically by name. Maps are included to show route details. Use shipping code A. Target Audience: general.
BOK 48 \$16⁹⁵

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By James Tunnell and Robert Kelty. Over 530 pages of top notch information on federal government HF, VHF and UHF communications. Thousands of frequencies, uses, locations, callsigns, repeater pairs, and squelch tones for FBI, ATF, DEA, Secret Service, State Department, Interior, National Parks, Forestry, Capitol Police, Smithsonian, FCC, EPA, Energy, Commerce, Congress, Customs, Prisons, Border Patrol, VA and more.
Excellent reference chapters on seismic monitoring, voice security, and sources of information on all aspects of radio. Use shipping code B. Target Audience: general.
BOK 78 \$29⁹⁵

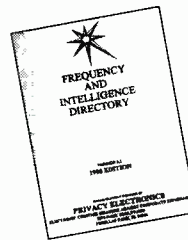
NEW! SPECTRUM GUIDE



Use shipping code B

By Bennett Z. Kobb. Now you can tell what services are assigned to which VHF/UHF/microwave bands from 30 MHz through 300 GHz! This handy reference book is better than a wall chart; it provides historical and application insights so that listeners, engineers and product planners alike can anticipate what they are likely to find in the upper part of the radio spectrum. Includes footnote references to the U.S. Code of Federal Regulations. Target Audience: general.
BOK 97 \$34⁹⁵

FREQUENCY AND INTELLIGENCE DIRECTORY



By Jay Harris. For south Florida scanner buffs, this book is a bonanza with its regionalized listings of business, public safety, cellular, cordless, tourist attractions, aircraft, press, marine, broadcasting, medical, railroad, sports, and transportation frequencies. And for nationwide federal/military VHF/UHF monitors, this may well be the most accurate frequency ever published. Use shipping code B. Target Audience: general.
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UNDERGROUND FREQUENCY GUIDE

NEW!



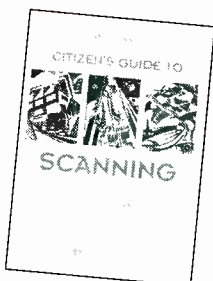
By Don Schimmel Noted utilities author Don Schimmel has just released this excellent collection of unusual transmissions and frequencies throughout the shortwave spectrum. Spies, smugglers, pirates, diplomatic, federal links and more are discussed in detail. Use shipping code B. Target Audience: general.
BOK 98 \$14⁹⁵

THE ULTIMATE SCANNER



By Bill Cheek This indispensable bench manual explains technology that has been proved by thousands of readers of *The World Scanner Report*. Includes memory enhancements, up to 25,600 channels, cellular restoration, simple ways to automate arduous scanning tasks, signal discrimination, computer interfaces, plus generic and specific information on improving scanner performance. You may already own the better part of a "next generation scanner!" Target Audience: advanced. Shipping Code B.
BOK 83 \$24⁹⁵

CITIZEN'S GUIDE TO SCANNING



By Laura Quarantiello Are you new to scanning? Would you like to know more about the hobby and how to get the most out of your scanner? Try this new guide to expanding your radio horizons. Frequency lists for finding public safety, aircraft, boats, federal and military agencies, business communications, railroads, telephones, sports and entertainment, spacecraft, emergency/disaster communications and more! Use shipping code B. Target Audience: general.
BOK 9 \$19⁹⁵

TRAFFIC RADAR HANDBOOK



By Don Sawicki Traffic radar guns can lie! This newest and most exhaustive book ever written on the subject explains every kind of traffic speed measuring system in use, along with scientific proof of errors and misreadings which commonly occur.
Over 100 pages include how to fight a ticket in court, laser radar, biological effects of radar beams, radar countermeasures, and much more, loaded with illustrations and tables for documentation. Use shipping code B. Target Audience: general.
BOK 75 \$14⁹⁵ ea.



RECEIVING ANTENNA HANDBOOK



By Joe Carr Just out, this all-new handy guide to home-brew shortwave antennas is the best in recent history. Authoritative and comprehensive, Carr's treatment of receiving antennas is first rate. Basic theory is easy to understand. Construction articles cover random wire, dipoles, multiband designs, disguise antennas, verticals, loops, longwires, direction finding, arrays, loops and more. Use shipping code B. Target Audience: general.

BOK 74 \$19⁹⁵

SHORTWAVE RADIO LISTENING FOR BEGINNERS



By Anita Louise McCormick This brand new publication provides excellent insight into shortwave radio—its history, its intrigue, its players. Broadcasters, pirates and clandestines, utility communicators, hams and even scanner topics are covered in this easy-to-read, liberally illustrated work by a veteran listener.

Informative, fun reading with source lists for equipment, publications and clubs, all at an incredibly low price! Use shipping code A. Target Audience: beginner.

BOK 69 \$10⁹⁵

THE WORLDWIDE AERONAUTICAL COMMUNICATIONS FREQUENCY DIRECTORY

2nd Edition!

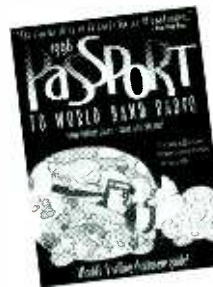


By Robert E. Evans The most complete and up-to-date aeronautical frequency guide in publication! Over 2,350 frequencies in the commercial and military air services, including voice and digital modes in the HF, VHF and UHF ranges.

RTTY, SSB, ACARS and VOLMET services worldwide along with glossary of terms, source list, extensive codes, designators, waypoint data, and sector maps. Explanatory text reveals how to decipher the contents of messages. The ultimate aeronautical monitor's reference. Use shipping code A. Target Audience: general.

BOK 86 \$19⁹⁵

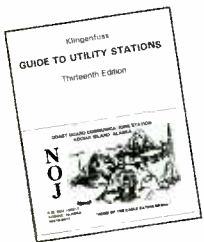
1996 PASSPORT TO WORLD BAND RADIO



Over 500 pages, features a listener's program guide, arranged both by frequency (2-26 MHz) and easy-to-follow time chart. Listings show transmitter output power, language, favored listening times for North America, and program contents. Reviews of the most popular shortwave receivers and listening accessories. Special alphabetized section of station addresses, contact personnel, phone/fax numbers. Use shipping code B. Target Audience: general.

BOK 18-96 \$19⁹⁵

KLINGENFUSS GUIDE TO UTILITIES



13th Edition By Joerg Klingenfuss The most comprehensive directory of worldwide utilities ever produced for the first 30 MHz of the spectrum. Lists SSB, RTTY, Fax, CW and other modes as well. Extremely accurate; nearly 20,000 frequencies with callsigns, station name, location and mode. Military, diplomatic, maritime, air, federal, press and more. Includes glossary of Q and Z signals, terms and definitions. Use shipping code B. Target Audience: general.

BOK 54 \$36⁹⁵ ea.

M STREET RADIO DIRECTORY



1996 Edition Considered by experts as the most authoritative and comprehensive guide to AM and FM broadcasting stations in the US and Canada, this latest edition by the publishers of the prestigious M Street Journal is packed with program formats, frequencies, Arbitron (and other) ratings, market information and addresses of thousands of licensees. Use shipping code B. Target Audience: advanced. Available beginning Of the year.

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SHORTWAVE LISTENING GUIDEBOOK



Second Edition by Harry Helms Excellent information for the beginner and experienced listener alike. Receivers, antennas and accessories are discussed in considerable detail, and in easy-to-read language.

Shortwave broadcasters—legitimate, clandestine and pirate—are presented extensively, along with a brief overview of utilities, the two-way users of the spectrum. Use shipping code B. Target Audience: general.

BOK 80 \$19⁹⁵



1994 PIRATE RADIO DIRECTORY



By George Zeller and Andrew Yoder
Recognized as authorities on unlicensed broadcasters, George Zeller and Andrew Yoder have updated this popular directory of pirate broadcasters — dozens and dozens of stations from all over North America. Use shipping code B. Target Audience: general.

BOK 46 \$12⁹⁵

WORLD PRESS SERVICES FREQUENCIES



By Thomas Harrington Previous editions of this popular news frequency directory sold out quickly. This edition is cross-referenced by time, frequency and location, and lists approximately 400 frequencies and dozens of agencies which may be heard on RTTY and other modes as well throughout the shortwave spectrum.

Additional chapters list abbreviations and explain about equipment, accessories and tuning tips. This book is a must if you have a shortwave digital demodulator. Use shipping code A. Target Audience: advanced.

BOK 20 \$8⁹⁵

SHORTWAVE DIRECTORY

8th Edition!

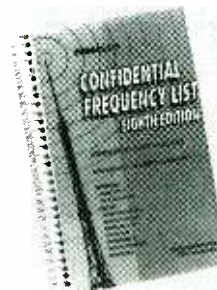


By Bob Grove Edited by MT's own Larry Van Horn, the 8th edition Shortwave Directory is the consummate DXer's bible for the first 30 MHz of radio spectrum.

Completely revised and updated, the 256 page, loose-leaf, three-hole punched edition features every HF listening target. Worldwide military organizations are featured and include all new U.S. and foreign listings. Now includes RTTY, FAX and other digital listings, coastal stations, non-directional beacons, and much more! A matching, professional, 2" slant D-ring binder is available for only \$5! Use shipping code B. Target Audience: general.

BOK 14 \$19⁹⁵
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CONFIDENTIAL FREQUENCY LIST



This 9th edition is the latest update to an excellent reference on 4-28 MHz communications.

Listings by frequency include ship and shore stations, embassy communications, aeronautical radio, INTERPOL, spy numbers stations, military tactical communications and more.

Thousands of utilities (two-way communications) frequencies, conveniently arranged in numeric order. If you hear it on the air, it is probably listed in this edition of the famous CFL. Use shipping code B. Target Audience: general.

BOK 4 \$22⁹⁵

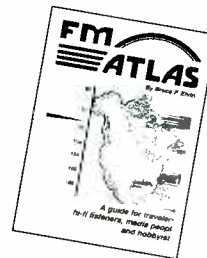
1995 WORLD RADIO TV HANDBOOK



Over 600 pages, arranged by continent, then alphabetically by country, listing domestic and international medium and shortwave frequency assignments, an hourly guide to English language broadcasts, VHF/UHF FM and TV frequencies, world target areas, correspondence addresses and phone numbers. Introductory chapter on solar activity and propagation predictions. Small section on selected broadcaster profiles. Brief descriptions of newly-introduced shortwave receivers. Use shipping code B. Target Audience: general.

BOK 3 \$16⁹⁵

FM ATLAS



NEW 15th Edition. By Bruce Elving This is the authoritative reference on U.S., Canadian and Mexican FM broadcasting stations for FM DXers. All mapped by state and province with cross-reference by frequency, callsign and city. Use shipping code A. Target Audience: general.

BOK 64 \$14⁹⁵

TRAVELER'S GUIDE TO WORLD RADIO



This handy pocket guide fits neatly in your suitcase or alongside your shortwave radio and provides instant access to English language programs from 55 major cities around the globe!

Easy-to-read charts show time and frequency schedules for shortwave, medium wave and FM broadcasting as well. 200 information-packed pages relate time conversion, main languages, electric power type, currency and country telephone prefixes and area codes as well. Use shipping code A. Target Audience: general.

BOK 67 \$9⁹⁵

BUILD YOUR OWN SHORTWAVE ANTENNAS

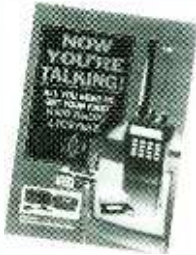


By Andrew Yoder No other accessory can add so much to your listening satisfaction as the proper antenna, and, at shortwave, the options are enormous. With the expertise that comes only from experience, Yoder presents this highly informative, profusely-illustrated handbook on how to design and install indoor, limited space, portable and directional antennas as well as tuners and couplers, providing optimal reception throughout the shortwave frequencies. Use shipping code A. Target Audience: general.

BOK 89 \$16⁹⁵



NOW YOU'RE TALKING



New Edition! Interested in ham radio? This excellent, new publication from the American Radio Relay League (ARRL) teaches you everything you need to know for your code-free Technician or Novice class license. Crisply printed, lavishly illustrated, and easy to understand. Use shipping code B. Target Audience: advanced.

BOK 45 \$18⁹⁵

SCANNER MODIFICATION HANDBOOK VOL. 1 & 2



By Bill Cheek Although concentrating on mods for Realistic® scanners, excellent hints are included for scanners in general. Cellular telephone frequency plans, adding S meters, squelch improvements, voltage protection, cellular restoration, increasing memory capacity, portable power supplies, choosing antennas and coax, and more!

Vol. 2 covers the PRO-2006, PRO-34, PRO-2022, Uniden BC200/205XLT, BC100XLT, and BC760/950XLT. Many of the techniques may be applied to other scanners as well. Use shipping code B. Target Audience: advanced.

BOK 2 OR BOK V2 \$17⁹⁵ ea.

SAVE \$\$\$—Buy both for \$29⁹⁵

RADIO TECH MODIFICATIONS— Volumes 7A & 7B



Only an experienced technician should attempt to perform the alterations which may void the radios' warranties.

Volume 7A is a well-illustrated manual showing frequency expansion for over 50 of the most popular amateur transceiver models from ICOM and Kenwood, and cellular restoration in the Bearcat, Radio Shcck and Regency scanners.

Volume 7B picks up where 7A left off. This new release describes the popular mods for dozens of the major ham rigs from Alinco, Azden, KDK, Ten Tec, Ranger, Uniden, Radio Shack, Heath, Yaesu, Standard and over 50 CB brands! Use shipping code B. Target Audience: advanced.

BOK 10A or 10B \$19⁹⁵ ea.

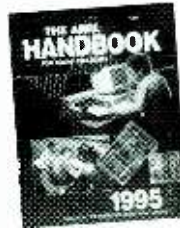
THE "HOW TO" OF SATELLITE COMMUNICATIONS



By Dr. Joseph Pelton Communications satellites represent a powerful technology that can do many things well. This excellent book by a seasoned veteran in the satellite industry thoroughly explores the world of satellite communications. Reading through this book's nine chapters, you will not only get a better understanding of what makes up a satellite system, but you will also get a feeling for where this technology came from and what we can expect or hope for in the future. Use shipping code B. Target Audience: general.

BOK 92 \$24⁹⁵

ARRL HANDBOOK FOR RADIO AMATEURS



1995 Edition! Its 1200 pages contain authoritative and accurate, yet simply explained, chapters on the amateur radio hobby, basic electronics, radio transmitters and receivers, digital technology, antennas and transmission lines, video and data communications, amplifiers, power supplies, projects and techniques, interference and more!

Liberalily illustrated and exhaustively indexed, the ARRL Handbook remains the best book bargain in the technical marketplace and considered an industry standard! Use shipping code B. Target Audience: advanced.

BOK 58 \$29⁹⁵

New Edition!

WORLD HAM NET DIRECTORY 4TH EDITION



By Mike Witkowski, amateur radio provides a fascinating frontier for licensees and listeners alike. This new directory contains over 900 listings of amateur radio shortwave networks around the globe. Emergency, educational, SWL, technical, hobby, roundtables — they're all here, complete with frequencies and schedules. Shipping Code A. Target Audience: general.

BOK 50 \$12⁹⁵

New Edition!



THE ARRL ANTENNA BOOK

An entire rewrite, with expanded digital coverage

Experts agree, if there's one book that covers virtually every aspect of antenna design, theory and construction—with eminent authority and accuracy—it's the ARRL Antenna Book!

Included at no extra charge is a new software disk for Yagi design, propagation forecasting and transmission line analysis along with many other antenna utilities. Use shipping code B. Target Audience: advanced.

BOK 87 \$29⁹⁵

HOME SATELLITE TV INSTALLATION & TROUBLESHOOTING MANUAL



By Dr. Frank Baylin, Brent Gale and Ron Long The completely revised third edition is an invaluable sourcebook for owners of home satellite TV systems and professional installers alike. An excellent working tool, it presents all the details anyone needs to install, operate and maintain a home TV satellite system. Use shipping code B. Target Audience: general.

BOK 94 \$29⁹⁵



1995 SATELLITE BROADCASTERS GUIDE



As more and more people become fed up with cable TV services, they are turning to the option of satellite dishes. Learn how to set up your own home satellite system and receive hundreds of TV and radio stations that you probably didn't know existed! This book also reveals how dishes work and provides a guide to satellite broadcasters., maps of satellite locations, and a directory of reputable dealers. Use shipping code B. Target Audience: general.

BOK 79 \$24⁹⁵

WEATHER SATELLITE HANDBOOK

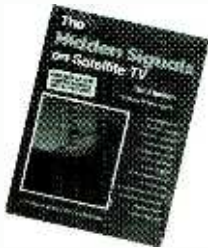


By Ralph E. Taggart Weather satellite reception is becoming quite popular. Ralph Taggart's 5th edition handbook is filled with useful information, charts, photos and diagrams.

Concentrating on the 137 and 1691 MHz birds, Taggart's handbook includes construction details on antennas and rotators, tracking devices and programs, computer control, receivers, monitors and printers, converters and demodulators--both simple and sophisticated. Use shipping code B. Target Audience: advanced.

BOK 56 \$19⁹⁵

HIDDEN SIGNALS ON SATELLITE TV



By Thomas P. Harrington Just released, this expanded third edition is the ultimate reference for information on how to hear and watch those mystery signals on TV satellites.

Everything from teletype press news to stock market reports, business teleconferencing to long distance telephones, international broadcasting relays to music services.

Loaded with charts, illustrations and instructions, Hidden Signals is a satellite hacker's dream! Use shipping code B. Target Audience: advanced.

BOK 42 \$19⁹⁵

TUNE TO SATELLITE RADIO ON YOUR SATELLITE SYSTEM



By Thomas P. Harrington Very few TV satellite dish owners are aware of the myriad other services available--if you know where to look! Sports events, classical and ethnic music, international broadcasters, special news services, weather satellite imagery, facsimile press photos and more.

Harrington tells you, in non-technical terms, just what you need to tune it in. Use shipping code B. Target Audience: advanced.

BOK 84 \$16⁹⁵

WORLD SATELLITE TV AND SCRAMBLING METHODS, THE TECHNICIAN'S HANDBOOK



By Dr. Frank Baylin, Richard Maddox and John McCormac This thorough text is a must buy for technicians, satellite professionals and do-it-yourselfers. The design, operation and repair of satellite antennas, feeds, LNBS and receivers/modulators are examined in detail. An in-depth study of scrambling methods and broadcast formats is the backdrop to a discussion of all current American and European satellite TV technologies. Use shipping code B. Target Audience: advanced.

BOK 91 \$39⁹⁵

INSTALL, AIM AND REPAIR YOUR SATELLITE TV SYSTEM



By Dr. Frank Baylin This booklet, a shortened version of *The Home Satellite TV - Installation and Troubleshooting Manual* (BOK 94), explores how to install a satellite TV system, aim the dish at the arc of satellites, as well as how to troubleshoot and repair the system if a problem arises. It also covers the periodic maintenance work that is required to keep a system tuned up and aligned onto the arc of satellites. Use shipping code B. Target Audience: general.

BOK 95 \$9⁹⁵

MINIATURE SATELLITE DISHES, THE NEW DIGITAL TELEVISION



By Dr. Frank Baylin Direct broadcast satellite technology is hot and this new release by Baylin Publications covers all aspects of the DBS industry. Nine chapters delve into the DBS technology, corporations offering the service, programming, installation and more. The book is illustrated and written for the laymen. This is essential reading for anyone considering purchasing a DBS system. Use shipping code B. Target Audience: general.

BOK 96 \$19⁹⁵

THE SATELLITE EXPERIMENTER'S HANDBOOK



By Martin Davidoff With the launching of Satellite Times magazine, more and more listeners are focusing their antennas overhead! Get in on this exciting, new aspect of monitoring with projects and information from Davidoff's authoritative, easy-to-read handbook.

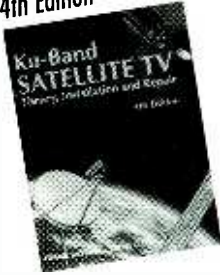
Antenna design, construction and tracking; amateur, TV and weather satellites; computer programs; graphs, tables and overlays. A great reference collection for beginners and experienced space enthusiasts alike. Use shipping code B. Target Audience: general.

BOK 85 \$19⁹⁵



KU-BAND SATELLITE TV - THEORY, INSTALLATION AND REPAIR

4th Edition



By Dr. Frank Bayllin, Brent Gale and John McCormac A clear presentation and explanation of all aspects of worldwide Ku-band satellite television. Ku-band satellite communications systems are becoming commonplace throughout the world. This comprehensive manual provides do-it-yourselfers, technicians and managers with the knowledge necessary to fully understand all technical aspects of this rapidly growing field. Use shipping code B. Target Audience: general.

BOK 93 \$29⁹⁵

1991 SATELLITE TELEVISION SOURCEBOOK



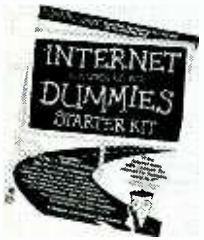
By Ken Reitz This ultimate reference to TV satellites provides more information than anything else on the market.

Lists of dealers, manufacturers and publishers, including addresses and phone numbers, for magazines, books and equipment. Detailed chapters on how satellite TV works.

C band, Ku band, weather, amateur and even international satellites are covered. **A free update sheet is included.** Use shipping code B. Target Audience: general.

BOK 19 \$5⁹⁵

THE INTERNET FOR WINDOWS FOR DUMMIES STARTER KIT



This package contains 4 helpful items to help you get online fast and effectively. "The Internet for Windows for Dummies Starter Kit" is your guide to using a SLIP/PPP account to access the Internet and the World Wide Web. Included is The Internet for Dummies 2nd edition, The Internet for Dummies Quick Reference, and NetManage's demo version of Chameleon, one of the leading softwares packages available for getting you online. This package explains what each aspect of the Internet has to offer and how you can access them. Included are topics of WWW, ftp, gopher, IRC and many more. Ideal for the person that has not yet gotten on line, but is wanting to stay up with the world. Use Shipping code B. Target Audience: beginner.

BOK 38 \$39⁹⁵

INTERNET BOOT CAMP VIDEO



Learn about the Internet by using this highly informative and entertaining videotape. One hour and 45 minutes in length, the Internet Boot Camp is a complete kit, with training for the beginner, but can be used as a resource for more experienced Internet users. Step by step instructions show how to browse with Netscape, use e-mail, Archie, finger, ping, FTP and more. Software included to launch you into cyberspace!(configured for Grovelink network) Please specify IBM (TAP 1) or Mac (TAP 2) version. Shipping code B. Target Audience: Beginner

TAP 1 & TAP 2 \$29⁹⁵

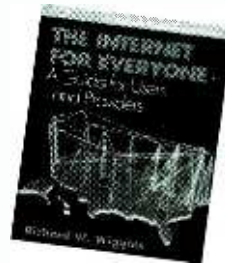
THE INTERNET



"The Internet" is an insightful look into the new highway that's driving everyone into the future. This book explains, in easy-to-understand terms, just what makes up this information superhighway. Well illustrated and up-to-date, "The Internet" should provide enough information for you to be able to understand what all the articles, tv shows, and movies are talking about. From networking, to ftp, to Chat and IRC, this book is a useful guide to anyone planning on staying up with technology. Use shipping code B. Target Audience: beginner.

BOK 37 \$24⁹⁵

THE INTERNET FOR EVERYONE



A guide for the more advanced user, "The Internet for Everyone" goes deep in depth into the inner workings of networks and the Internet. It explains not only how you can use the tools online, but also how they work. All the sections are well-illustrated and very detailed. If you have any questions that go beyond "How do I get online," this book will be a great start to a wonderful journey.

Use shipping code B. Target Audience: general. Target Audience: advanced.

BOK 36 \$29⁹⁵

INTERNET STARTER KIT FOR MACINTOSH



This revised and updated best-seller is the perfect guide to getting started on the Internet. Geared for Macintosh users this book is packed with disks loaded with Internet software and tools, it has everything users need to get connected, search of information, meet people, and find their way around. Disk includes essential software for connecting to the Internet including MacTCP, MacWEB. It also covers newsgroups, e-mail, FTP, IRC, the WWW and more. Use shipping code B. Target Audience: Beginner.

BOK 31 \$29⁹⁵

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