

# GROVE

CATALOG & BUYER'S GUIDE • JULY 1 - AUGUST 31, 1996



*Through the ages,  
man has erected  
classic monuments ...*

## ICOM R-8500

*The monumental 100 kHz-1999.99 MHz communications receiver of your dreams!  
Reserve yours today—see p. 13.*

**UPS 2nd Day Shipping at Ground Rates on all Products We Sell!**

# Revive Your Excitement in Radio!



## At the Grove Communications Expo!

If you are interested in **electronic communications**, the **Grove Communications Expo** is your event of the year! Expo '96 in Atlanta, to be held **Oct. 18-20**, unites you with hundreds of like-minded communications enthusiasts who assemble to **exchange information, introduce new products, and offer technical help**. This is an outstanding opportunity for you to move into the information age! This year's expanded program includes over **50 seminars, forums, demonstrations and events** in the following areas:

- ❖ **Computers and the Internet**
- ❖ **Shortwave and scanner monitoring**
- ❖ **Satellite communications**
- ❖ **Radio astronomy**

As in recent years, the Expo will feature exhibits by top-name vendors, a hands-on listening post, club booths and prizes. Tours will be conducted to the **Delta Communications Center, Atlanta Fire Communications, Atlanta/Fulton County Communications Center** and more.

Keynote speaker at this year's banquet will be **Ron Parise, NASA astronaut** and astronomer. Parise, WA4SIR, has made two trips into space aboard the shuttle and operated the shuttle's amateur radio experiments (**SAREX**). Several special workshops, forums and exhibits will be sponsored this year by the Society of Radio Astronomers (**SARA**), which will be conducting their fall conference in conjunction with the Expo!



Grove is also sponsoring a one-day educator's forum to demonstrate to classroom teachers the myriad uses—and educational values—of radios and computers in our society.

This year's scheduled exhibitors include **AMSAT, Bearcat Radio Club, Cellular Security Group, Computer Aided Technology, Dallas Remote Imaging Group, Electronic Distributors (EDCO), Grove Enterprises, OptoElectronics, Radio Astronomy Supplies, Radio Progressive, Satscan Electronics, Scan Master, Signal Intelligence, Sony, Swagur Enterprises, and Transel Technologies.**



Incredible value— **GROVE COMMUNICATIONS EXPO** Only \$55 per person!

**Atlanta Airport Hilton  
October 18-20, 1996**

Registration is \$55 per person (take \$10 off if you bring a first-time registrant with you). Rooms at the Airport Hilton available at the convention rate of \$76 per night, single or double occupancy. Call 1-800-Hiltons.

For more information and schedules, set your web browser to <http://www.grove.net/hmpgexpo.html>, e-mail us at [expo96-info@grove.net](mailto:expo96-info@grove.net), phone us at 1-800-438-8155, or fax us at 1-704-837-2216.

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## Growing EXPOentially ...

The Dayton Hamvention is always an eye opener! Each year, some 30,000 eager amateur radio enthusiasts of all ages, cultures, sizes, and descriptions cram Dayton's (Ohio) Hara Arena, pushing, shoving, and having a great time seeing all the new products for radio hobbyists. The flea market is a spectacle in itself with 10 acres of bumper-to-bumper bargains. Some fun.



Seeing this conclave of conventioners reminds us that the Grove Communications Expo isn't that far off. Have you made your reservations yet? I would strongly urge you to do so. We have never put so much effort into doing so much in our history, and it's going to be an experience!

I'm looking forward to meeting astronaut Ron Parise, our banquet speaker; his contributions and awards of numerous, and he is highly coveted on the lecture circuit. His insights into the space program should be both informative and entertaining. We have invited Atlanta area educators as well, offering them an opportunity to attend special seminars on radio and computer technology in the classroom. Meet with them afterward and share your knowledge and wisdom as well; they will appreciate your good will.

This issue of the Grove Buyer's Guide institutes a new help, our blue ribbon, best-buy tag. These are strategically placed to assist you in making the best decision based upon value, performance and reputation. We have tried to select these best buys at various pricing levels.



As you read through this issue, you will discover an unusual addition: the Clarity hearing instrument. Virtually all men suffer gradual high-frequency hearing loss with age; I know I do. When I tested this inconspicuous device, I was startled to hear the improvement in my recognition of sounds that I had forgotten with time. Even more amazing was its low cost, a tiny fraction of the inflationary charges demanded by our competitors. If you have hearing loss, give the Clarity a try; you have nothing to lose, and so much to gain!

The summer months are often the best time to buy; merchandisers (including Grove Enterprises) know that sales are slower during the hot months, and rare bargains are likely to appear. A look through our pages will reveal good examples of competitive pricing!

As always, we are here to serve you. If you need assistance on selecting the product which best suits your needs, call our skilled technical experts at (704)-837-7081.

Bob and Judy Grove

## JUDY'S SPECIAL

### ICOM R-8500: Here's the New Standard-Bearer



One of the most exciting products shown at Dayton is Icom's astounding IC-R8500 wide-coverage communications receiver. I remember when Icom engineers visited us nearly three years ago, asking us to maintain confidentiality in sharing with them our expertise and experience as they designed this new radio. It is very gratifying to know that we were part of the planning team resulting in this spectacular piece of equipment.

While other companies offer promises of yet-unreleased products, Icom plans to deliver their product in July, and it's a beauty! Featuring continuous (less cellular) frequency coverage from 100 kHz through 2000 MHz, the R8500 is the new standard of comparison.

Drawing experience from the previous, and awesome, R9000, the R8500 is compact, easy to use, and powerful with its loads of features and high performance specifications. Take a look at this receiver in our new Buyer's Guide; I think you will be as impressed as we are!

July 1-August 31, 1996

Grove Enterprises, Inc.  
P.O. Box 98  
7540 Highway 64 West  
Brasstown, NC 28902 USA

ORDER LINE ONLY  
800-438-8155  
(M-F, 8am-6pm Eastern)  
order@grove.net

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(M-F, 8am-5pm Eastern)

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INTERNET  
www.grove.net

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*Your suggestions are welcomed!*

Are there any products you would like to see us carry in future Grove catalogs? Please give us your thoughts on any scanner- or shortwave-related items you would like to see within these pages, including any books and accessories. We also carry a limited number of unique collectible products that do not necessarily fall within the field of radio monitoring.

Let us hear from you!

UPS 2nd Day Air at Ground Rates on ALL PRODUCTS!



# Clarity Hearing Instruments

*Why pay more than \$1,000 for a hearing aid, when this top-quality unit can be yours for less than half the price?*



Crystal-clear hearing restoration, exclusively from Grove Enterprises!

An exclusive agreement between Grove Enterprises and a high-tech aerospace manufacturing firm allows us to bring you unexcelled in-the-canal hearing enhancement at a dramatically low price! This revolutionary hearing aid is designed to aid the majority of people with hearing loss, from mild to moderately severe. The

Clarity CL 2000 offers ultra-low distortion and minimal feedback, and is inconspicuous and comfortable to wear. The Clarity CL 2000 comes with a carrying case, cleaning tool, four batteries and a one year warranty against manufacturing defects.

For an exceptional value buy 2 and save \$63.00.

**Order CHI 2000  
Only \$479<sup>95</sup> ea. or \$895<sup>95</sup> for two**

PLUS \$6.50 2nd Day UPS or  
First Class Mail Shipping in U.S.



*Comes with batteries,  
pouch, cleaning tool  
and user guide.*

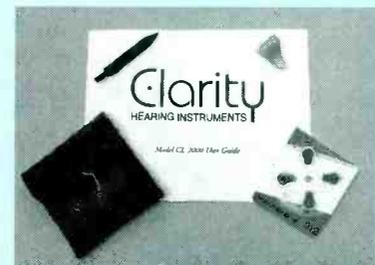
ACCESSORY  
BAT 17 Replacement Batteries,  
call for price and availability



*Satisfaction  
Guaranteed!*

## Clarity

HEARING INSTRUMENTS



Your order for a Clarity Hearing Instrument will be processed and shipped immediately after we receive the signed and dated "Waiver to Medical Evaluation Requirements" contained on this catalog's order form, page 48.



## You Can Order from Grove With Total 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 they 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 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.

### 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.

### 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.

### 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.

# SONY ICF-2010



Shown with the SP-200 Speaker sold separately

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

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 32 station direct-access keyboard combine to make this Sony product a remarkable value for beginners or seasoned SWLs.

Frequency range includes 150 kHz-30MHz, 76-108, and 116-136 MHz. See pp. 20-21 for more detailed specifications. Requires 3D/2AA cell batteries.

Retail ~~\$459<sup>95</sup>~~ **Order RCV 2**  
Only **\$349<sup>95</sup>**

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

ACCESSORIES

ANT 3	Grove Mini-Skywire	\$29.95
ANT 21	Select-A-Tenna	\$65.95
ANT 32	Kiwa Pocket Loop Antenna	\$119.95
WP04	RDI WHITE PAPER®	\$5.95
BAT 1	AA cell alkaline bat.	\$1.79ea
BAT 2	D cell alkaline bat.	\$1.19ea
SPK 13	Grove Sound Enhancer	\$199.95
TUN 4A	Grove TUN4A MinitunerPlus	\$99.95

## SONY ICF-SW100

**Powerful  
Shirt-pocket  
Shortwave Radio**



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, station 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. 20-21.

**Order RCV 24**  
Only **\$359<sup>95</sup>**

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

ACCESSORIES

ANT 21	Select-A-Tenna	\$65.95
BAT 1	AA alkaline batteries	\$1.79 ea
SPK 11	Naval HTS-3 Amplified Spkr.	\$29.95
SPK 13	Grove Sound Enhancer	\$199.95
TUN 4A	Grove TUN4A MinitunerPlus	\$99.95



*For those who have been looking for the next step up, it's here!*

## SONY ICF-SW77



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, and manual. See specifications on pp. 20-21. Runs on 4 C cell batteries (optional).

Retail ~~\$499<sup>95</sup>~~ **Order RCV 10**  
Only **\$459<sup>95</sup>**

SHIPPING  
\$9 UPS  
\$18 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 32	Kiwa Pocket Loop Antenna	\$119.95
BAT 3	C cell alkaline batteries	\$1.09ea
SPK 13	Grove Sound Enhancer	\$199.95
TUN 4A	Grove TUN4A MinitunerPlus	\$99.95

## Shortwave Receivers

Product support for Catalog Items Only:   
704-837-7081

# SONY ICF-SW7600G

**HIGH SENSITIVITY PLUS SYNCHRONOUS DETECTION!**

It was inevitable. The early compact models 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. 20-21 for more details. Requires 4 AA cell batteries.

Retail ~~\$249.95~~

**Order RCV 11**  
Only **\$189.95**

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

### ACCESSORIES

ANT 22	Select-A-Tenna	\$65.95
ANT 31	Grove Skywire Antenna	\$349.95
ANT 32	Kiwa Pocket Loop Antenna	\$119.95
BAT 1	AA alkaline bat.	\$7.99
PWR 9	AC adaptor	\$19.95
SPK 11	Naval HTS speaker	\$29.95
TUN 4A	Grove TUN4A MinitunerPlus	\$99.95

# SW8

## 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 shortwave, 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, now includes an amplified whip antenna on all frequencies.



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 receiver.

**Grove discount price only**

**\$679.95**  
**Order RCV 19**

**SHIPPING**  
\$14 UPS  
\$23.50 US Priority Mail  
\$21 Canadian UPS  
\$28 Canadian APP

### ACCESSORIES

ANT 2	Grove Skywire antenna	\$39.95
ANT 3	Grove Mini Skywire antenna	\$29.95
ANT 24	Dymek active antenna	\$179.95
SPK 13	Grove Sound Enhancer	\$199.95
TUN 4A	Grove TUN4A MinitunerPlus	\$99.95



# DRAKE R8-A Communications Receiver



For improved CW or sideband listening, use your R8-A with the Grove SP-200 speaker, sold separately

*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



Retail ~~\$1099.95~~

**Order RCV 3**  
**\$1059.95**

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

### ACCESSORIES

ACC 43	VHF converter	\$209.95
	Installation Fee	\$20.00
ACC 05	Metal tilt replacement legs R8 & R8A	\$34.95
ANT2	Grove Skywire antenna	\$39.95
ANT 24	Dymek active antenna	\$179.95
MAN 2	Service manual	\$39.95
SPK 2	External speaker plus \$6 UPS	\$48.95
SPK 13	Grove Sound Enhancer	\$199.95

## Shortwave Receivers

# GRUNDIG

## Yacht Boy 400

### Portable Shortwave Receiver



*"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)

It's always a pleasure to offer a really good, low-cost product—and that's just what Grundig's YB-400 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.

Order RCV 22  
**Special Sale Price**  
Only **\$199<sup>95</sup>**

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

~~Retail \$270<sup>95</sup>~~

ACCESSORIES		
ANT 3	Grove Mini-Skywire	\$29.95
ANT 21	Select-A-Tenna	\$65.95
ANT 32	Kiwa Pocket Loop Antenna	\$119.95
BAT 1	AA alkaline batteries.	.79ea
PWR 8	AC adaptor	\$7.95
SPK 11	Naval HTS speaker	\$29.95
TUN 4A	Grove TUN4A MinitunerPlus	\$99.95

See TUN 4A  
on p. 10

Improve reception with the Grove TUN 4A Minituner Plus  
only \$99.95 plus \$6.50 UPS shipping



# GRUNDIG

## Luxury Portable

### SATELLIT 700



RCV 23  
Only **\$499<sup>95</sup>**

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 160-353 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.

SHIPPING		ACCESSORIES		
\$9 UPS		ANT 3	Grove Mini-Skywire	\$29.95
\$16 US Priority Mail		ANT 21	Select-A-Tenna	\$65.95
\$18 Canadian APP		ANT 32	Kiwa Pocket Loop Antenna	\$119.95
\$11.50 Canadian UPS		BAT 2	D cell alkaline batteries	\$1.19ea
		SPK 13	Grove Sound Enhancer	\$199.95
		TUN 4A	Grove TUN4A MinitunerPlus	\$99.95

See comparisons and specifications for these products on pp. 20-21

# GE Superadio III

## 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!

Order RCV 5  
Only **\$59<sup>95</sup>**



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



ACCESSORIES		
ANT 3	Grove Mini-Skywire	\$29.95
ANT 21	Select-A-Tenna	\$65.95
ANT 31	Kiwa Loop Antenna	\$349.95
ANT 32	Kiwa Pocket Loop Antenna	\$119.95
BAT 1	AA cell alkaline bat.	\$.79ea
BAT 2	D cell alkaline bat.	\$1.19ea
SPK 13	Grove Sound Enhancer	\$199.95
TUN 4A	Grove TUN4A MinitunerPlus	\$99.95

UPS 2nd Day Air at Ground Rates on ALL PRODUCTS!

## AR5000

**WIDE-COVERAGE COMMUNICATIONS RECEIVER!**



AOR has scooped the market with their new AR5000 extended-frequency coverage receiver, tunable from 10 kHz through 2600 MHz (less cellular) and offering 650 memory channels in 65 10-channel banks. Imagine listening to 60 kHz time signals, VLF naval communications, international shortwave broadcasting, worldwide single-sideband communications, civilian and military aeronautical transmissions, as well as VHF/UHF public safety radio, ham repeaters, microwave earth satellites, and much, much more all on one receiver!

This triple-conversion luxury receiver offers outstanding sensitivity (0.15 microvolt SSB, 0.3 microvolt VHF/UHF, 0.6 microvolt AM), blurring 50-channel-per-second scan/search speed, programmable tuning steps from 1 Hz to 1 MHz, all mode reception (AM/FM/LSB/USB/CW), selectable IF bandwidths (3/6/15/40/110/220 kHz), superb frequency stability (+/-1 ppm, 0-50 deg. C.), and mobile or fixed power (12 VDC / 120 VAC).

Fully computer-controllable; multiple antenna inputs front-panel or computer-selectable; compact (8-1/2" W x 3-1/2" H x 10" D) and lightweight. Options include dual rack mount, 0.5 kHz CW filter, and 220 VAC 50/60 Hz AC adaptor.

Limited supplies may delay shipping, so order now!

**Order RCV 12**  
Only **\$1849<sup>95</sup>**

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

## Sangean ATS808

**FULL-FEATURED, MULTIBAND PORTABLE!**

Once in a great while a low cost radio with outstanding features comes along—such is the compact ATS808. Features 150 kHz-30 MHz continuous tuning, 87.5-108 MHz FM reception (stereo earphones included!), dual AM selectivity, direct keyboard frequency entry, continuous tuning dial, scan and search modes, 45 memory channels, 24 hour dual-zone clock/timer, and distance/local sensitivity selection. A soft pouch and pocket shortwave guide are included at no additional cost.



**Order RCV 13**  
Only **\$129<sup>95</sup>**

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

**ACCESSORIES**

ANT 3	Grove Mini Skywire Antenna	\$29.95
ANT 21	Select-A-Tenna	\$65.95
ANT 32	Kiwa Pocket Loop Antenna	\$119.95
BAT 1	AA Alkaline Batteries	\$7.99
(2 required for memory; 4 more for portable operation)		
PWR 10	AC adaptor	\$9.95
TUN 4A	Grove TUN4A MinitunerPlus	\$99.95

## Super Value and Performance from SANGEAN

*Top-of-the-line Sangean with or without Built-In Cassette Recorder*

**ATS-818**  
Order RCV 7  
Only **\$149<sup>95</sup>**

Retail ~~\$399~~  
**ATS-818CS**  
w/cassette recorder  
Order RCV 9  
Only **\$219<sup>95</sup>**



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. 20-21. Requires 4 D cells.

Receivers are the same, excluding the tape recorder specifications.

**SHIPPING**

\$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 32	Kiwa Pocket Loop Antenna	\$119.95
BAT 2	D cell alkaline bat.	\$1.19 ea
SPK 11	Naval HTS speaker	\$29.95
TUN 4A	Grove TUN4A MinitunerPlus	\$99.95

## NEW! Sangean ATS909 MULTIBAND RADIO!

*...Nice things come in small packages!*



This compact, new PLL-synthesized, portable receiver sets a new standard for Sangean. Features include continuous coverage longwave, mediumwave and shortwave reception plus FM (stereo with earphones), alphanumeric display for station identification, 306 channel memory, USB/LSB mode with 40 Hz step tuning, 29 memory banks with automatic search, world time for 42 cities, three independent timers, signal strength indicator, wide/narrow filter selection, RF gain and tone control.

**Order RCV 8**  
Only **\$298<sup>95</sup>**

**SHIPPING**

\$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 32	Kiwa Pocket Loop Antenna	\$119.95
BAT 2	D cell alkaline bat.	\$1.19 ea
SPK 11	Naval HTS speaker	\$29.95
TUN 4A	Grove TUN4A MinitunerPlus	\$99.95

## NEW! Low-Cost Magellan GPS Position-Determining Receivers

These compact Magellan navigational satellite receivers earned their reknown for reliability during Desert Storm. Now this accurate position-determining instrument can be yours at a fraction of its original cost. Ruggedly built and waterproof, yet barely more than 6" high and weighing only 10 ounces, this pocket precision receiver homes in on 1.2-1.5 GHz global positioning satellites, using their signals to establish your exact location within a few feet in as little as 2-1/2 minutes from a cold start (35 seconds warm start), even your altitude, and allows you to plot and track your motion as well, so you can find your way back if necessary.

Ideal for pinpointing campsites, fishing holes, boating, travelers, trailheads, map locations, landmarks. Selectable graphic screens assist you in tracking and plotting where you've been, where you're going, and where you *ought* to be going! Shows distances, directions, times, speed, course corrections, latitude/longitude coordinates, all on a backlit LCD display.

Up to 17 hours of continuous use on one set of standard alkaline AA cells. Operates over a 14 to 140 degree Fahrenheit temperature range. Lanyard strap included.

All these features make the GPS 2000 Satellite Navigator an incredible value. Or select the upgraded GPS 3000 and get two additional navigation screens, a data port (RTCM 104 in, NMEA out), OSGB coordinates, 100 additional waypoints, 5 more routes, external antenna capability, celestial calculations, swivel mounting bracket, batteries, manuals, and a carrying case.

Order GPS 2000  
Only \$199<sup>95</sup>

Order GPS 3000  
Only \$249<sup>95</sup>



SHIPPING FOR EACH  
\$9 UPS  
\$13 US Priority Mail  
\$15 Canadian APP  
\$16.50 Canadian UPS

### ACCESSORIES FOR BOTH

ACC 13	INSTR. VIDEO FOR 2000	\$14.95
ACC 14	INSTR. VIDEO FOR 3000	\$14.95
CAS 7	CARRYING CASE	\$9.95
BAT 1	AA ALKALINE BATTERIES	\$7.95
BAT 13	AA ENERGIZER BATTERIES	\$2.75

### GP 3000 EXTRA ACCESSORIES

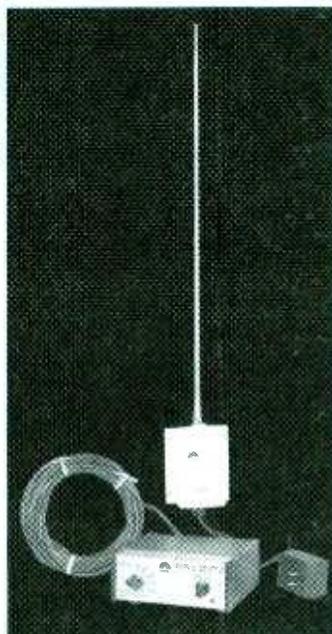
ACC 11	POWER/ DATA MODULE AND EXTERNAL ANTENNA KIT, 20' COAX	\$149.95
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## STONER-DYMEK

### Shortwave/Longwave Active Antenna

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.

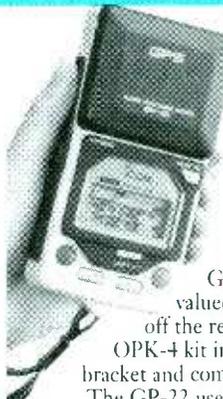


Order ANT 24  
Only \$179<sup>95</sup>

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

## Icom GP-22 Global Positioning System with Interface

Huge 60% Discount!



The superb ICOM GP-22 receiver alone has sold for \$499.95 for nearly two years, but now

Grove is offering the receiver PLUS an accessory kit valued at \$506 for only \$399.95—that's a \$605 discount off the regular combined price of \$1,005.95! The included OPK-4 kit includes an external antenna, antenna mounting bracket and computer interface!

The GP-22 uses 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)—even your altitude!

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. Computer 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.

Order GPS 22  
Only \$399<sup>95</sup>

SHIPPING  
\$14 UPS  
\$18 US Priority Mail  
\$20 Canadian APP  
\$21.50 Canadian UPS

OPK-4 kit included!



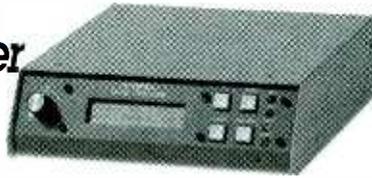
ACCESSORIES		
BAT 1	AA Alkaline Batteries	\$7.95
BAT 13	Rechargeable Nicad Batteries	\$2.75

## Shortwave Decoders/Antennas

Product support for Catalog Items Only: 704-837-7081

### M-400 Universal Decoder

Access an entire dimension of coded communications signals.

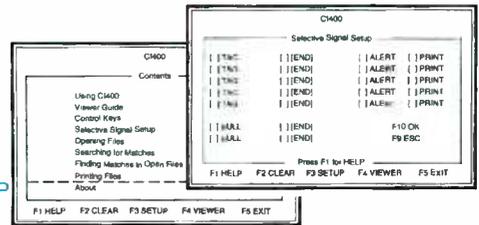


**SPECIFICATIONS**  
 MODES: Baudot (45, 50, 57, 100 baud)  
 ASCII (75, 110, 150 baud)  
 SITOR A & B (Automatically selected)  
 FEC-A (95 & 144 baud)  
 SWED-ARQ (S, M and L lengths)  
 FAX (120 LPM/576 IOC, to parallel printer port)  
 Paging (GOLAY, POCSAG)  
 ACARS  
 Encoded squelch (CTCSS: all 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  
**AMPLIFERS:** Speaker: <math>4-15\text{ ohms}</math> @ 100 mW max  
 Discriminator: 10K ohms @ 0.25 V max  
**OUTPUT:** ASCII 8 bit Centronics standard.  
 DCS 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

Order DEM 9  
 Only \$399<sup>95</sup>

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



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.

#### Add Screen Capture Interface!

Want to see a full-screen display of intercepted text messages? Connect the new CI-400 between the M400 and your IBM compatible computer (286, DOS 3.3 or better); requires 8 bit slot, 215 kB disk storage for program files, 3.5" floppy. Recommended: mouse, color monitor, hard drive. Includes interface card, cable, software, manual.

Features automated software installation, on line help, autosave of incoming text, 80 character/25 line display, file print capability (no fax capability). Alerts/prints up to five user-defined search strings (SelCals); blocks two undesired messages (reverse SelCals); visual and audio alerts for text matches which can be selectively routed to the printer.  
 SFT 14 Screen Capture Interface for M400 \$109<sup>95</sup>

## THE GROVE SKYWIRE SHORTWAVE ANTENNA



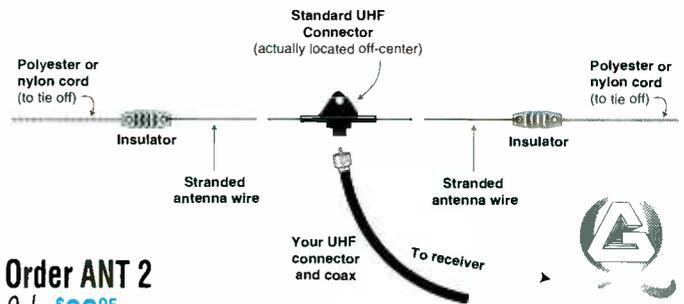
Outdoor dipole provides worldwide shortwave reception!

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 29); 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)



Order ANT 2  
 Only \$399<sup>95</sup>

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

**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

## Grove Mini-Skywire is perfect when space is limited!



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. 29 for cable and adaptors. To avoid signal overload, especially on portable radios, use the ATT-1 attenuator (also, see page 28).

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!

Order ANT 3  
 Only \$299<sup>95</sup>

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



## Universal Reel Antenna *for Shortwave Portables*

Whether you have a Sony, Sangean, Realistic®, Grundig, or other whip-portable shortwave radio, this 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.



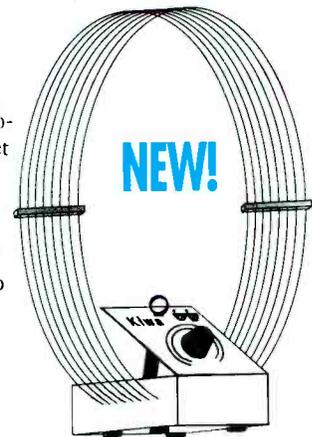
Order ANT 16  
Only \$14<sup>95</sup>

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



## KIWA Pocket-Loop Antenna

This highly efficient signal grabber is 12" across when deployed, yet collapses to a tiny pocket size for transport! Designed to receive and amplify signals from 530 kHz through 20 MHz in four bands, no antenna jack on your portable radio is needed; it space-couples to your radio's existing whip and internal ferrite rod!



Order ANT 32  
Only \$119<sup>95</sup>

SHIPPING  
\$15 UPS  
\$25 US Priority Mail  
\$30 Canadian APP  
\$23 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 its 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
- 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  
Only \$349<sup>95</sup>

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



New Model  
ANC-4!

## JPS Noise Canceller/Active Antenna

*Enjoy Crystal Clear Sound!*



Order ACC 21  
Only \$174<sup>95</sup>

SHIPPING  
\$6.50 UPS  
\$5.50 US Priority Mail  
\$7 Canadian APP  
\$10 Canadian UPS

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 sych 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.

ACCESSORIES  
PWR 13 Universal power supply \$9.95

## What you need to know about: 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 odd 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.



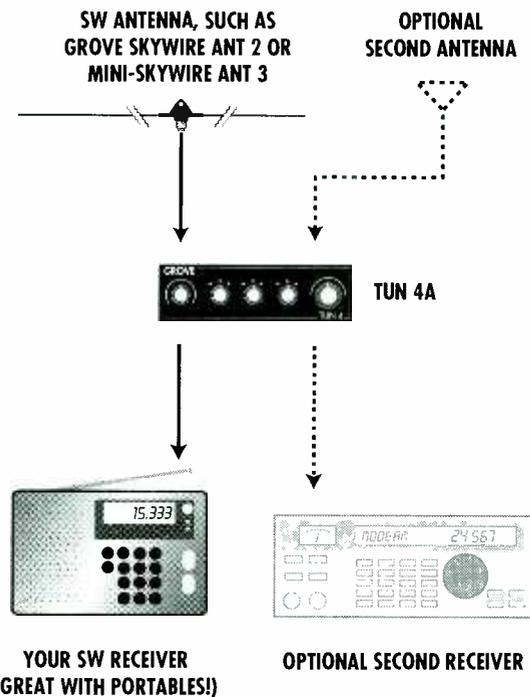
# TUN-4A MINITUNER PLUS



*Back by popular demand—and improved!  
Our indoor/outdoor shortwave antenna system!*

Here's the shortwave listener's dream—a high performance, amplified, frequency-tunable antenna system for general coverage shortwave and medium wave monitoring. For indoor use, connect a short length of wire or the popular Grove ANT-6 Hidden Antenna. Connected to an outdoor antenna like the Grove ANT-2 Skywire or ANT-3 Mini Skywire, the TUN-4A MiniTuner Plus provides knockout signal strength and allows frequency preselection as well.

Continuous 400 kHz-30 MHz coverage, -20 to +20 dB gain/attenuation control, dual antenna switch, dual receiver output, amplified/unamplified preselection, band switch, fine tuning, and built-in lightning protection. Full instructions included. Requires 12VDC power (sold separately).



*"I now have your TUN-4A in permanent line serving my Lowe HF150 and Drake SW8 and it outperforms any of my other "premium" preselectors. Ounce for ounce and inch for inch, the TUN-4A is the best bargain for signal improvement and receiver front end extension that I have encountered..."*

*—John L. Wagner  
SWL'er*

**Order TUN 4A**  
Only **\$99<sup>95</sup>**

SHIPPING  
\$6.50 UPS  
\$5.50 US Priority Mail  
\$7 Canadian APP  
\$10 Canadian UPS

### ACCESSORIES

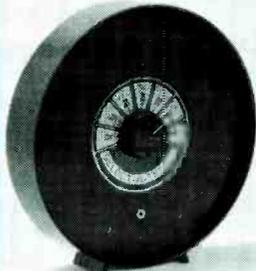
ADP 6	UHF female to male 1/4" Mini-Plug	\$5.95
ADP 11	UHF female to RCA male	\$5.95
ADP 27	Banana Plug	\$2.00
ADPK15	3foot PL259 Interconnect Cable	\$2.50
ANT2	Skywire	\$39.95
ANT3	Mini Skywire	\$29.95
ANT25	Random Wire Antenna	\$6.95
PWR 19	12VDC 200 MA Power Supply	\$7.95

## 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!

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

—Stephen J. Price  
Monitoring Times,  
April 1995

Order ANT 21  
Only \$65<sup>95</sup>

SHIPPING  
\$7 UPS  
\$9.50 US Priority Mail  
\$11.50 Canadian APP  
\$15 Canadian UPS



## NITELOGGER II

### TAPE AUTOMATIC RECORDER ACTIVATOR!

This respected product is now improved, offering manual-auto switch, line-spike protection, "record" indicator lamp, removable/replaceable cables, internal monitoring speaker, volume control, adjustable dropout time delay, and dry-contact relay switching. Ideal for unattended recording of scanner traffic, shortwave programs, events, and official communications record logging. AC adaptor, audio and control cables included.

Order ACC 02  
Only \$69<sup>95</sup>

SHIPPING  
\$6.50 UPS  
\$5.50 US Priority Mail  
\$7 Canadian APP  
\$10 Canadian UPS



For scanners and  
shortwave receivers

## INTERFERENCE ELIMINATORS



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.

**FTR6** \$29<sup>95</sup>  
30-2000 MHz Bandpass Filter  
Removes AM broadcast, CB and shortwave interference from scanners

**FTR7** \$29<sup>95</sup>  
540-1700 kHz Band Reject Filter  
Removes AM broadcast interference from shortwave/longwave receivers

**FTR 8** \$29<sup>95</sup>  
118-137 MHz Band Reject Filter  
Removes aircraft interference from scanners

**FTR 9** \$29<sup>95</sup>  
30 MHz Low Pass Filter  
Eliminates paging, FM and TV broadcast signals and other sources of VHF/UHF interference from shortwave receivers

**ADAPTOR KITS:**  
ADPK 1 PL-259 (UHF) \$9.95  
ADPK 3 BNC/F \$9.95  
ADPK 6 Motorola/BNC \$9.95  
ADPK 9 N/F \$12.95

Other adaptors on page 29.

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

## 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 \$44<sup>95</sup>

**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

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

## 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.

## A Scanner Sample\*

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

\*Extracted from the scanner frequency directories found at the end of this catalog.

## 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 expanding 806-960 MHz band, sometimes called the cellular band or microwave mobile (806-960 MHz), now in use in all major metropolitan areas. A few scanning 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.

### 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 and AR 80000 with their channel-programmable attenuators, are more immune to interference from intermodulation and images, making them excellent choices for strong or weak signal areas like large cities.

# New! FROM ICOM

## Introducing the Incredible 2000 MHz R-8500 Receiver

Imagine: an affordable, compact, tabletop receiver with continuous 100 kHz-1999.99 MHz frequency coverage (less cellular) in precise 10 Hz steps—longwave, shortwave, VHF/UHF, all services and modes (wide and narrow FM and AM, USB, LSB, CW). Add high sensitivity, IF shift, selectable AGC timing, audio peak filter to automatically enhance modes, built-in RS232C and CI-V for direct computer control, 1000 memory channels in 20 banks, multiple scanning selections with priority function and selectable delay, S-meter settable squelch, noise blanker, and 12 VDC / 120 VAC operation.

This all-new receiver offers features previously found only on the premium R-9000—which sells to the government for \$7,508—but the R-8500 will retail for under



\$2,000. High stability crystal oscillators combine with automatic frequency control circuitry for outstanding stability. Multiple tuning speeds optimize signal hunting. Alphanumeric display aids in identifying memorized frequencies. Automatic memorizing of search-discovered active frequencies, skipping of unwanted channels, three antenna connectors for optimal choices for frequency ranges, even voice scan to ignore noisy channels, and even optional voice synthesizer and remote control—an incredible array of advanced features!

Call today to reserve your premium ICOM R-8500. Check our site on the World Wide Web for updates on pricing. See pp. 22-23 for detailed specifications.

**Order SCN 1**



## ICOM R1 *Hurry—Supplies Limited!*

*After you purchase and receive, we can restore the missing 800-900 MHz for only \$45 plus parts and \$8 shipping*

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! 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. 22-23. Requires 6 AA batteries. Prices subject to change due to yen fluctuations.

**Price Reduced!**  
**While Current**  
**Supplies Last**

Retail ~~\$599~~  
**Order SCN 13**  
Only **\$399<sup>95</sup>**

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

### ACCESSORIES

ANT 8	Range extending telescoping whip	\$16.95
BAT 1	AA Alkaline batteries	\$5.79
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	\$29.95
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	\$45.00
PWR 14	BC-72A Desk Charger	\$131.95
PWR 17	BA12 Battery Charger Adaptor	\$23.95

## AR-3000A Professional Desktop Scanner

*\*After you purchase your AR 3000A, we can restore the missing 800MHz for only \$65.*



Imagine: A fully-restorable, general coverage shortwave receiver and wide-frequency-coverage scanner, in one compact instrument!

The AOR AR3000A offers 100 kHz-2036 MHz (less cellular—restorable) frequency coverage, continuous tuning dial, AM/FM/SSB mode reception, 400 memory channels and 50 channel per second scan/search rate.

High sensitivity and sharp selectivity let you hear signals lesser scanners and shortwave receivers miss.

Operates on 13.6 VDC for compact mobile installations; 120 VAC adaptor included.

See detailed specifications on pp. 22-23.

**Order SCN 26**  
Only **\$1062<sup>95</sup>**

SHIPPING  
\$11 UPS  
\$18.50 US Priority Mail  
\$19.50 Canadian UPS  
\$21.50 Canadian APP

ACCESSORIES  
CVR 3 GRE Super Converter \$84.95  
SFT 2 ScanCat Gold Software \$94.95

# The Renowned AR-8000



Full 800 MHz Restorable **AOR** Quality Scanners!

\*After you purchase and receive your AR 8000, we can restore the missing 800MHz for only \$40 plus return shipping.

Paired with the software listed on page 18 and 19 this unit is full-800 MHz restorable\*



With wide frequency coverage—500 kHz-1900 MHz (less cellular, restorable), 1000 memory channels, AM/FM/SSB reception, selectable tuning steps from 50 Hz-999.995 kHz. An oversized, edgelit LCD window holds 44 bold alphanumeric characters.

Autostore, RS232 control, second-radio cloning, power saver, keyboard beep defeat, and selectable-channel display blanking. Dial tunes frequencies and channels. Dual VFOs and 30-channel-per-second scan/search speed.

Each channel may be programmed for frequency, mode, audio or carrier squelch with programmable 1-99 second delay, 10-dB attenuator, step size, channel offset, and channel designator. Any channel priority sampling, LCD, S-meter/spectrum display unit!

Interchangeable NiCd/alkaline batteries (4AA NiCds and charger included); a universal external

power jack for mobile use; an internal ferrite antenna for medium-wave reception; illustrated 115-page owner's manual. See detailed specifications on pp. 22-23.

Order SCN 27  
Only \$599<sup>95</sup>

SHIPPING  
\$9 UPS  
\$10 US Priority Mail  
\$14 Canadian UPS  
\$12.50 Canadian APP

ACCESSORIES

ACC157	Optolinx Universal Interface	\$129.95
ACC156	SAC-8000 Interface Cable	\$34.95
BAT 1	AA Alkaline batteries	\$0.79
BAT 13	Extra AA Nicad batteries	\$2.75 ea
CAS 2	Genuine Leather case for AR-8000	\$29.95
CTR 8	Optoelectronics Scout 3.1	\$399.95
PWR 2	Desktop Charger	\$59.95
SFT 2	Scancat Gold Software	\$94.95

## Modification/Trade-In Service

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



Modifications, excluding cellular mods, 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 five to seven day turnaround time is possible for simple mods requiring no new parts.

- Scan/Search Speed Increase
- S-Meter Addition
- Frequency Restoration (800-900 MHz)
- Improved Headphone Audio
- Lightning Static Protection (Sony 2010)
- Factory Accessory Installation
- Memory Channel Increase
- Scout 40 Reaction Tune Modification

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

See our site on the World Wide Web for an up-to-date list of trade-ins. Set your browser to [www.grove.net](http://www.grove.net)

# UNIDEN BCT 7



Tiny Scanner is Mobile Giant for Law Enforcement Scanning

New Low Price!

Order SCN 21  
Only \$179<sup>95</sup>

This tiny scanner has factory-programmed scan banks for law enforcement (state-selectable highway patrol!), firefighting, weather broadcasts, medical emergency teams, highway maintenance crews, and on-scene news reporters! You can even enter up to 100 of your own frequencies for private scanning anywhere from 26.9-27.4 (all 40 CB channels!), 29.7-54, 108-174, 406-512, and 806-956 MHz (less cellular).

**Special Feature:** The BCT-7 BearTracker flash-alerts you to radar speed patrols up to three miles away by intercepting their mobile extenders! Brightly-backlit LCD display has high visibility, while powerful three-watt audio blasts through the noisiest mobile environment!

Comes ready to go with AC adaptor, DC power cord, cigarette lighter cord, mobile mounting bracket, telescopic antenna, frequency guide, complete instructions, and even a mobile antenna! See detailed specifications on pp. 22-23.

ACCESSORIES

ANT 4	Magnetic Mount Mobile Antenna	\$49.95
ANT 13	Windshield Mount Ant.	\$29.95
ANT 20	No-tenna	\$15.95
ANT 30	Stealth Mobile Antenna	\$29.95

SHIPPING  
\$9 UPS  
\$16 US Priority Mail  
\$17.50 Canadian APP  
\$16.50 Canadian UPS

# UNIDEN <sup>NEW!</sup> Beartracker BCT 10



**Bearcat**  
Quality and value from Uniden

Tiny and inconspicuous, the new Beartracker BCT-10 easily snaps on your vehicle's sun visor, or may be conveniently set on your dashboard; simply touch the STATE button until the appropriate two-letter code

(including Canadian provinces) is displayed, then listen for highway patrol communications, including radar traps. A visual and audible warning alarm may be selected to alert you to activity; unwanted channels may be locked out; an LED numerical signals strength meter gives you a relative indication of the distance of radio signals.

The BCT-10 automatically scans through 866 preprogrammed law enforcement frequencies in the 37-46, 138-172, and 423-508 MHz bands with an average sensitivity of 0.4 microvolts. Instant, pushbutton weather access is also provided for all U.S. NOAA and two Canadian Coast Guard channels.

Built-in speaker allows police communications monitoring, or an external speaker may be plugged in for vehicle-filling sound; may be muted for alarm-only function. Status lights identify types of communications being monitored.

Accessories include visor bracket, suction windshield mount, cigarette lighter power plug, DC power cord, stub and wire antenna.

Order SCN 22  
Only \$179<sup>95</sup>

SHIPPING  
\$9 UPS  
\$16 US Mail  
\$16.50 Canadian UPS  
\$17.50 Canadian APP



# Uniden BC9000XLT Desktop Scanner



An impressive performer, this improved-design scanner is for serious monitors of the 25-550, 760-1300 MHz (less cellular) spectrum. Featuring 500 memory channels, tuning knob, 16-digit alphanumeric display with adjustable brightness, powerful 2.2 watts of audio, treble-cut tone control, and CTCSS tone squelch option. Just look at the specifications table for its advanced features!

The intuitive layout of the panel makes operating a breeze! An illuminated keypad and rubber-padded tilt feet combine with the large tuning knob for additional comfort during periods of serious signal searching. Search lockout of up to 50 frequencies prevent unwanted interruptions. This scanner means business. See detailed specifications on pp. 22-23.

Save \$\$\$ when you combine the BC9000XLT with the GRE Super Converter and Grove FCC Database CD-ROM. See back cover!

Order SCN 30  
Only \$389<sup>95</sup>

SHIPPING  
\$9 UPS  
\$16 US Mail  
\$16.50 Canadian UPS  
\$20.50 Canadian APP

ACCESSORIES  
ACC 130 CTCSS tone board \$46.95  
Installation Fee \$20.00  
BRK 2 Mounting bracket \$15.95  
CVR 3 GRE Superconverter \$84.95  
DCC 4 Cig. Lt. Pwr. Adapt. \$9.95

# UNIDEN BC230XLT

Update of the fast-moving BC220XLT

Uniden now includes a spare battery and charger with their popular hand-held scanner. 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 regardless of monitoring status.

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!

See pp. 22-23 for detailed specifications.



Order SCN 24  
Only \$239<sup>95</sup>

**New Low Price!**  
Comes with its own battery charger and spare battery.

SHIPPING  
\$8 UPS  
\$10 US Mail  
\$14 Canadian UPS  
\$12.50 Canadian APP

ACCESSORIES  
BAT 8 BP 120 battery pack \$19.95  
DCC 7 Universal DC adapter \$15.95  
CAS 9 Leather case \$19.95

# UNIDEN RADAR/LASER DETECTOR

Winner of Innovations '96  
Design & Engineering Award



**NEW!**

Why settle for a gimmick with incomplete coverage? Now Uniden has unleashed the award-winning LRD 6399SW, a compact, four band (S, K, Ka, and laser) powerhouse, and it is invisible to law enforcement "radar detector detectors."

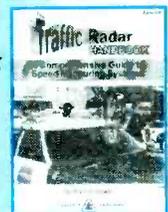
Four alarm tones alert you to the type of surveillance aimed at you, while a signal strength meter indicates relative range. Selectable for highway/city, audio/visual alarm, self test, and memory retention. The tiny, lightweight detector is suction-cup mounted on the windshield for greatest range and is equipped with a cigarette lighter power cord.

(NOTE: Radar detectors may be unlawful in some jurisdictions; check your local and state laws)

Order RAD 1  
Only \$129<sup>95</sup>

SHIPPING  
\$8 UPS  
\$12 US PriorityMail  
\$14 Canadian UPS  
\$12.50 Canadian APP

Special!  
Receive Don Sawicki's  
Traffic Radar Handbook  
for only \$4.95 when  
purchased along with  
RAD 1. See p. 44 of this  
catalog for details on  
BOK 75.



# Uniden BC-890XLT



This popular, low cost scanner features wide frequency coverage (29-54, 108-174, 216-512, 806-956 MHz—less cellular), 200 memory channels, 100-channel-per-second TurboScan, weather alert, CTCSS (optional), channel activity counter, 10 channel priority, search autostore, tape recorder output, memory channel transfer, and much, much more!

See pp. 22-23 for detailed specifications.

**Order SCN 19**  
Only **\$269<sup>95</sup>**

**SHIPPING**  
\$9 UPS  
\$16 US Mail  
\$17.50 Canadian APP  
\$16.50 Canadian UPS

<b>ACCESSORIES</b>		
ACC 96	CTCSS Squelch Decoder	\$59.95
	Installation Fee	\$20.00
BRK 2	Mounting bracket	\$15.95
CVR 3	GRE Superconverter	\$84.95
DCC 4	Cig. Lt. Pwr. Adapt.	\$9.95

# 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!

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

**SDU-100 Spectrum Display Unit \$499<sup>95</sup>**  
**VID-200 9" CRT Monitor \$149<sup>95</sup>**

The SDU-100 is compatible with the following receivers: ICOM R7000, ICOM R7100, ICOM R9000

# Uniden BC3000XLT Hand-Held Scanner

*New Low Price!*

Featuring continuous 25-550, 760-1300 MHz (less cellular) frequency range, 400 memory channels, 10 priority channels, 100-channel-per-second TurboScan, automatic storage of search-discovered frequencies, selectable-channel overload attenuator, mode and step selection, data skip, and reduced-intermod design.

Strong audio guarantees crisp reception in noisy environments; up to 50 frequencies may be locked out of the search function to eliminate unwanted interruptions; battery save circuit extends charge life during inactive reception periods; handsome, rugged styling makes this handheld scanner an outstanding choice. See detailed specifications on pp. 22-23.



**Order SCN 29**  
Only **\$369<sup>95</sup>**

**SHIPPING**  
\$8 UPS  
\$10 US Mail  
\$13 Canadian UPS  
\$13 Canadian APP

<b>ACCESSORIES</b>		
BAT 15	Replacement battery pack	\$31.95
CAS 6	Carrying Case	\$19.95
DCC 7	Universal DC adapter	\$15.95
PWR 2	Desktop Charger	\$59.95

# PRO-26 Handheld Scanner

*Wide Coverage  
Scan up to 1.3 GHz!*

Radio Shack's PRO-26 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. 22-23.



**Order SCN 5**  
Only **\$349<sup>95</sup>**

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

<b>ACCESSORIES</b>		
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

# NEW! OPTOLINX UNIVERSAL INTERFACE!



This replacement for the popular CX12 computer interface connects your AR8000 or 2700 to a PC for full computer control; decode DCS and CTCSS tones and DTMF telephone digits with the DC440 decoder connected to your AR3000A receiver. It will computer control the Icom R7000, 7100 and 9000. You can even use the OPTOLINX to receive longitude and latitude coordinates from any GPS or LORAN receiver with NMEA 0183 output. Or connect it to the Opto Scout frequency recorder to download its memory, and use it with the M1 frequency counter and Optolog software for computer controlled data logging of intercepted frequencies.

**Order ACC 157**  
Only **\$129<sup>95</sup>**

**SHIPPING**  
\$6 UPS  
\$7 US Mail  
\$10.50 Canadian UPS  
\$11.50 Canadian APP

# NEW! Save \$\$\$ on RAM Upgrades for PCs!

Through a special distributor-direct arrangement, we can offer you for a limited time high-quality RAM expansion at INCREDIBLE savings!

Adding 4 more mb to your computer's 4 mb RAM will virtually double Windows speed! These 72 pin, double sided, non-parity SIMMs feature gold contacts and offer 70 nanosecond access speed. These are standard replacement units, but check your computer specifications to be sure you can install them before placing your order.



*Top Quality RAM  
SIMMS at Truly  
Unheard-of Prices!*



<b>RAM 04</b>	<b>4mb (1x32): .....</b>	<b>\$59.95</b>
<b>RAM 08</b>	<b>8mb (2x32): ....</b>	<b>\$109.95</b>
<b>RAM 16</b>	<b>16mb (4x32): ...</b>	<b>\$229.95</b>

*Prices include FREE First Class Shipping!*

*Note: Call for availability of computer interfaces not shown in this catalog!*

## Universal SCPC-200 Satellite Audio Receiver



*Receive Hundreds of SCPC Radio Channels On Your Standard TVRO Home Dish Satellite System!*

Replacing the ever-popular SCPC-100, this flexible, new, microprocessor controlled receiver has automatic LNB drift compensation and offers direct frequency tuning with frequency readout on a high contrast LCD, and direct transponder tuning as well. Its large memory bank of 50 channels, wide/narrow bandwidth selection and automatic tuning indicators add to the feature list which also includes digital frequency lock-on, service name readout, and standard 70 MHz baseband output (tunable 50-90 MHz).

High quality audio is available from either a line output or 8 ohm speaker jack; RF input is standard 950-1450 MHz from C and Ku band LNBS. Powered by either 120 VAC, 60 Hz, or 12 VDC @ 500 mA, the SCPC-200 measures 12"W x 1-3/4"H x 8"D and weighs 8 lbs.

**Order RCV 28**  
Only **\$399<sup>95</sup>**

**SHIPPING**  
\$9 UPS  
\$18 US Priority Mail  
\$22.00 Canadian APP  
\$20.50 Canadian UPS



## NEW! SCPC SPLITTER FOR YOUR SATELLITE DISH!

Now you can use your R7100 and R100 to listen to those single channel per carrier (SCPC) satellite radio broadcasts from major networks—news, music, interviews, sports, religion, international broadcasting, and more! Complete with cables and connectors; connects in seconds between your satellite cable and receiver, then to your R7100 and R100 antenna port, no modification necessary!

**Order SPL 2**  
Only **\$79<sup>95</sup>**

**SHIPPING**  
\$5.50 UPS  
\$6.50 US Priority Mail  
\$11 Canadian UPS  
\$10 Canadian APP

## SCANCAT-GOLD



*Tech support after  
the sale from  
Computer Aided  
Technology call  
(318)687-2555.*

Use your 640k (or better) computer to control your AOR, Drake, Kenwood, ICOM, Yaesu, JRC, Lowe, WJ, and Radio Shack PRO-2005/6/35/42 with this fast, all-new software program! Operates from the RS-232 port. Just check the features listed below:

**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
- 800MHz restorable on AOR AR8000 & PRO-2035/42

Works with any IBM compatible system and Windows 95.

**Order SFT 2**  
Only **\$94<sup>95</sup>**

**SHIPPING**  
\$4.50 UPS or First Class  
\$6 Canadian APP  
\$6.50 Canadian UPS

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



# 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.\*



**Order SFT 6**  
Only \$24<sup>95</sup> **SHIPPING**  
\$4.50 UPS or First Class  
\$6 Canadian APP  
\$6.50 Canadian UPS

# SCAN MANAGER PRO v.1.1

**NEW  
VERSION!**

*Easy Receiver Control!*



Now shortwave listeners and hams can have the same computer control power used by serious scanner enthusiasts by installing this powerful KC4ZGL Ham Software. If you have a modern IBM compatible computer equipped with Windows 3.1 or higher, you can edit databases and control all Kenwood, Icom, Drake R8A (R8 not supported) and Yaesu (except FT-767) transceivers and receivers! Display your data in powerful spreadsheet style, controlled and edited by keyboard or mouse.

Your database size is limited only by your hard disk space. Scan at 10 channels per second with selectable delay, choosing any standard mode (AM, FM, USB, LSB, CW, FSK/RTTY) throughout the typical 100 kHz-30 MHz frequency range. You can even select a service (CB, amateur, aeronautical, maritime, AM broadcast, etc.) For automatic band scanning.

Factory-loaded database lists hundreds of broadcast times and frequencies from dozens of countries worldwide with provision to add, edit and delete listings as schedules change. Colorful world map displays location, national flag, local and universal time.

Scan Manager 1.1 Pro includes SWL Manager 2.0. Both programs are full integrated for one low price.\*

**Order SFT 13**  
Only \$68<sup>95</sup> **SHIPPING**  
\$6 UPS  
\$8 US Priority Mail  
\$10.50 Canadian UPS  
\$11.50 Canadian APP

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



## The Super DX Edge® Version 2

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

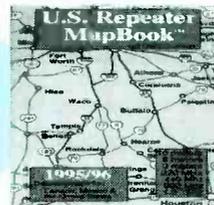
Super DX Edge contains highly accurate graphic displays of sunrise and sunset times, daylight and darkness areas of the world, best times for long path and Gray Line DX. This is the information you need to determine the best opportunities for long distance DX.

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.

See page 36 for original, manual version of DX Edge.\*

**Order SFT 5**  
Only \$29<sup>95</sup> **SHIPPING**  
\$4.50 UPS or First Class  
\$6 Canadian APP  
\$6.50 Canadian UPS



## CD ROM REPEATER MAP BOOK

A great ham callsign database and companion to the Grove FCC database, this new CD-ROM works on all computer platforms—DOS, Windows and Mac. Conveniently packaged with the disk is a handy book with a detailed road and city maps by state and province, showing all registered open ham repeaters from 29-1200 MHz in the U.S., Canada and Mexico.\*

**Order BOK 101CD**  
Only \$29<sup>95</sup>

**SHIPPING**  
\$4.50 UPS or First Class  
\$6 Canadian APP  
\$6.50 Canadian UPS



## Pager Message Tracker Software

*Ideal for law enforcement  
Title 18 surveillance of  
drug trafficking!*

Now you can copy standard 512/1200/2400 baud POCSAG and 600 baud GOLAY alphanumeric digital pager messages on your 386 or higher computer. Includes SIA-100 interface with 1/8" miniplug to DB25 connector cable to connect between your system receiver or scanner and computer to keep track of your messages on a high volume system.

With the Basic Message Tracker your pager system can now monitor, record and recall, display, edit, and time stamp all conventional alphanumeric digital paging modes, monitor only selected messages from a CAP code list, and buffer and display previously-read messages.

Choose the Message Tracker Pro if you would also desire text search capability (looking for key words or numbers), handle groups of up to 100 CAP codes and addresses, or display split screen to display target messages.\*

*(Note: For non-law-enforcement, this product is legal only for monitoring of your own system)*

**Order SFT 11** **Order SFT 12**  
Message Tracker Basic 2.0 Message Tracker 2.0 PRO  
Only \$139<sup>95</sup> Only \$239<sup>95</sup>

**SHIPPING**  
\$4.50 UPS or First Class  
\$6 Canadian APP  
\$6.50 Canadian UPS



## SCANSTAR FOR WINDOWS PLUS (ADVANCED)

This powerful new software package, ready for Windows 95, 3.1, or WFW 3.11, will restore full 800 MHz coverage and allow you to customize the band plan on the AR8000, as well as display spectrum analysis and support printing on the AORAR3000A, Drake R8 and R8A, Icom R7000, R7100, R9000, JRC NRD535, NRD525, Kenwood R5000 and the PRO-2006 and PRO-2035 or PRO-2042 when equipped with OptoElectronics OS456 or OS535. Scan-controls up to 10 radios at one time; dual-receiver priority handoff for window viewing; sub-list scanning for split channels and trunk groups; monitoring assistant with frequency following for reception logging; user-defined database files. Blend up to 25 groups and search

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

ranges; tactical display for all in "viewpicture;" scans, searches and logs PL/DPL/DTMF tones; provides alarm for highpriority channels via wave files or PC speaker; opens multiple files at the same timewith full-feature editor; browses and imports dBase files like the popular Grove FCCdatabase; commercial logging features include air time, hit count andPL/DPL/DTMF loggings per channel; import/export from other formats like ASCIIand ScanCat. \*

Order SFT 9  
Only \$159<sup>95</sup> SHIPPING  
\$4.50 UPS or First Class  
\$6 Canadian APP  
\$6.50 Canadian UPS

## SCANSTAR FOR WINDOWS SE (BASIC)

Get all of the incredible features of the SFT-9 described above, except the basic package has no support for the Drake R8 and R8A, JRC NRD535, NRD525, and Kenwood R5000. \*

Order SFT 10  
Only \$99<sup>95</sup> SHIPPING  
\$4.50 UPS or First Class  
\$6 Canadian APP  
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## 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 \$129<sup>95</sup> SHIPPING  
\$4.50 UPS or First Class  
\$6 Canadian APP  
\$6.50 Canadian UPS

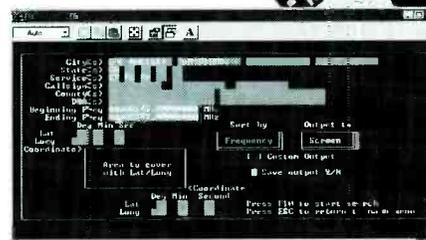
## 1996 Enhanced Grove FCC Database v6.0

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, callsign, antenna height, output power, county, and many more! The program can also be custom-tailored 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 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. \*



Send in your  
old version for  
trade-in and get  
a new FCC-CD  
(w/o mapping)  
for only \$49.95

Diskette:  
FCC96 (Indicate State)-HD  
— CA, TX, FL ..... \$49.95  
Additional Data Disks ..... \$39.95  
— All Other States ..... \$39.95  
Additional Data Disks ..... \$29.95  
CD-ROM:  
FCC-CDM w/ Mapping: ..... \$169.95  
FCC-CD w/o Mapping: ..... \$99.95

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

### New Features for v6.0

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

UPS 2nd Day Air at Ground Rates on ALL PRODUCTS!



# Grove's Shortwave Receiver Specification/Comparison Guide

(Use this guide to compare receivers found on page 3-6 of this catalog)\*

R  
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Receiver	AR5000	Drake R8A	Drake SW8	Grundig Sat. 700	Grundig Yt. By. 400
Catalog Page #	6	4	4	5	5
Grove Order #	RCV 12	RCV 3	RCV 19	RCV 23	RCV 22
Grove Price	\$1849.95	\$1059.95	\$679.95	\$499.95	\$199.95
Frequency Range	10 kHz-2600 MHz	100kHz-30MHz (35-55/108-174MHz with optional converter)	500kHz-30 MHz, 87-108.118-137MHz	1.6-30 MHz, 87.5-108 MHz	160kHz-30MHz 87.5-108MHz
Keypad Entry?	Yes, plus tuning dial	Yes, plus tuning dial	Yes, plus tuning dial	Yes	Yes
Tuning Steps	Programmable, 1 Hz-1 MHz	10/100Hz 1 kHz	50 kHz FM 100 Hz AM	1 kHz AM/100Hz SSB 25 kHz FM	1/5 kHz
RIT/Fine Tuning	(Not necessary)	No	No	Yes	Yes
Display	Backlit LCD	Backlit LCD	Backlit LCD	Backlit LCD	Backlit LCD
Dimmer	Yes	Yes	On/Off	On/Off	On/Off
Recommended Use	Wide spectrum mon.	Int. Broadcast/Utilities	AM/SSB, aircraft/FM	Broadcast recept.	Casual SW and FM
Receiving Modes	AM/NFM/WFM/CW/USB/-LSB	AM, NFM, USB, LSB, CW, RTTY	AM, AM synch., WFM, LSB, USB	AM, AM synch., LSB, USB, WFM	AM, LSB, FM, CW, USB
Memory	650 channels	440 channels	70 channels	120 preset/512 prgmbl.	40 channels
Scan	50 ch/sec, w/ priority	Yes	Yes	Yes	Yes
Banks	65	10	7	64	No
Search	Yes	No	No	Yes	Yes
Delay	Yes	Yes	5 sec. per step	1 second	Yes
Squelch	Yes	Yes	No	No	No
Clock	Yes	Dual time zone	Dual mode	12/24 hr./sleep/progr. rec.	12/24 hr./sleep
Audio Output Power	1 W	2.5 W @ 4 ohms	2 W @ 4 ohms	3 W	700 mW
Record Audio Output	Yes	300 mV into 4.7k ohms	300 mV into 4.7k ohms	stereo and mono	No
Recorder Activator		No	No	Yes	No
Signal Strength Ind.	Analog S-meter	Analog S-meter	Analog S-meter	LCD bargraph	LCD bargraph
Computer Interface	Yes, all functions	RS232C	No	No	No
Conversion Scheme	Triple (622.2/10.7 MHz, 455 kHz)	Double-up	Double up	Double up	Double up
Sensitivity	0.6 uV or better	0.5 uV 1.5-30 MHz	0.5 uV or better (SSB)		
Selectable Preamp.	Yes	Yes	No	No	No
Selectable Atten.	Yes	Yes	20 dB	Yes	Yes
IF Selectivity	3/6/15/40/110/220 kHz	(-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	
Image Rejection		80 dB or better 1.5-30 MHz	70 dB or better		
Selectable AGC	Yes	Off/slow/fast	Yes	w/ RF gain control	No
Dynamic Range		100 dB @ 20 kHz spacing	95 dB or better		
Passband Tuning		+/-3 kHz	No	No	No
Noise Blanker/Limiter	Yes	Dual	No	No	No
Adjustable Notch Filter		500-5000 Hz, 40 dB	No	No	No
Tone Control	Yes	Yes	Yes	Sep. bass/treble	Yes
Antenna Connector	3, programmable frequency ranges	Dual, switched PL 259	SO-239 (UHF), Push terminals, Integral whip	PAL (supplied)	1/8" mini whip
Dimensions	8.5"Wx3.5"Hx10"D	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
Weight		13 lbs.	10 lbs.	4 lbs., 2 oz.	1 lb. 5 oz.
Power Requirement(s)	13.8 VDC @ 1 A or 120 VAC @ 60 Hz	100/120/200/2450VAC; 11:16VDC @ 2A	6-9VDC/6 cells	120/240VAC/4D cells	6AA cells/9VDC
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/earphone/SW Guide/6AA batteries

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

## Product Support for Catalog Items Only: (704) 837-7081

Sangean ATS-808	Sangean ATS-818CS	Sangean ATS-909	Sony ICF-SW77	Sony ICF-SW100	Sony ICF-SW2010	Sony ICF-SW7600G
6	6	6	3	3	3	4
RCV 13	RCV 9	RCV 8	RCV 10	RCV 24	RCV 2	RCV 11
\$129.95	\$219.95	\$298.95	\$459.95	\$359.95	\$349.95	\$189.95
150kHz-30 MHz, 87.5-108 MHz	150kHz-30MHz 87.5-108MHz	150kHz-30MHz 87.5-108 MHz	150kHz-29.99MHz 87.5-108 MHz	150kHz-30MHz 76-108 MHz	150kHz-30MHz 76-108, 116-136MHz	150kHz-29.995MHz, 87.6-108MHz
Yes	Yes	Yes	Yes, plus tuning dial	Yes, plus tuning dial	Yes, plus tuning dial	Yes
50/100 kHz FM, 10/9/5/1 kHz AM	1kHz	40 Hz USB/LSB	50Hz/1kHz	100Hz/1/5kHz; 9/10kHz MW, 50kHz FM	100Hz	1kHz
No		No	No		No	Yes
LCD	Backlit LCD	Backlit LCD	Backlit LCD	Backlit LCD	Backlit LCD	Backlit LCD
No	Yes		On/off	On/Off	On/off	No
Casual Broadcast	Casual SW	Casual SW and Utilities	Casual SW	Casual SW	SW /Air/Util./FM	Casual SW
AM, FM	AM, LSB, WFM, USB	AM, FM broadcast, USB, LSB	AM, AM synch., LSB, WFM, USB	AM, AM synch., USB, LSB, CW, WFM	AM, USB, LSB, WFM, synch. det.	AM, WFM, USB, LSB, synch. det.
45 channels	45 presets	307 channels	162 channels	50 channels	32 channels	22 channels
Yes	Yes	Yes	Yes	Yes	Yes	Yes
No	No	29	20	10	No	No
Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	No
No	No	No	No		No	No
24 hour UTC/local, alarm/timer	Dual time with record	3 separate timers with alarm	12/24 hr.	24 hr./sleep	12/24 hr./alarm/sleep	w/ timer and sleep
440 mW @ 10 @ THD	800 mW		400 mW	250 mW	380 mW	
No	No	Yes	138 mV	245 mV	.775 mV @ 1000 ohms	Yes
No	Internal prog. cassette	No	Yes	No	No	No
No	Yes	LCD bargraph	LCD bargraph	No	LED bargraph	Single "tune" LED
No	No	No	No	No	No	No
Double conversion	Double up	Double conversion	Double up	Double up	Double up	Double up
No	No	No	No	No	No	No
Yes	RF gain control	RF gain control	Yes	Yes	Yes	Yes
Wide/narrow AM	Wide/narrow switch 6.5 kHz AM	Wide/narrow AM			(-6/-50 dB) Wide 9/18 kHz Narrow 4/18 kHz	
No	No	No	No	No	No	No
No	No	No	No	No	No	No
No	No	No	No	No	No	No
Yes	Yes	Yes	Sep. bass/treble	Yes	Yes	Music/news switch
1/8" miniplug	Yes	1/8" miniplug	1/8" miniplug	1/8" miniplug	1/8" miniplug	1/8" miniplug
7.5"W/5"H/1.5"D	11.25"W/7.37"H/2.75"D	8.5"W/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
1 lb. 5 oz.	3 lbs. 13 oz	1 lb. 12 oz.	3.25 lbs.	8 oz.	3.75 lbs.	1.25 lbs.
6 VDC @ 300 mA or 6 AA cells	120VAC/int.cells 4D cells	4AA batteries or optional AC adaptor, 6 VDC	6VDC or 4C cells	120VAC or 2AA cells	120VAC or 3D/2AA cells	120VAC or 4AA cells
One year	One year	One Year	One year	One year	One year	One year
Soft pouch/stereo earphones/external antenna adaptor	AC adapt./ ext. ant adaptor/ SW Guide	Manual, carrying pouch, earphones, external antenna connection.	Stereo earphones/ AC adapt./tele. ant/ SW Guide	Stereo earphones/AC adapt./tele. ant/soft pouch/SW Guide	Earphone/ AC adapt./wire ant./tele. ant/strap/ext. ant. adapt./SW Gd.	Carrying case/ Reel Ant.



# Grove's Scanner Specification/Comparison Guide

(Use this guide to compare scanners found on page 13-16 of this catalog)\*

SCANNERS

Scanner	AR 3000A	AR 8000	ICOM R1	ICOM R8500	Radio Shack Pro 25
Catalog Page #	13	14	13	13	16
Grove Order #	SCN 26	SCN 27	SCN 13	SCN 1	SCN 5
Grove Price	\$1,062.95	\$599.95	\$399.95	N/A at presstime	\$349.95
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-1999.99999 MHz (less cellular)	25-54, 60-80, 82-174, 180-512, 517-824, 815-869, 879-1300 MHz (less cell.)
Keypad Entry?	Yes, plus tuning dial	Yes	Yes	Yes	Yes
Tuning Steps	Programmable 50 Hz-999 kHz	50 Hz-999.995 kHz	0.5/5/8/9/10/12.5/15/- 20/25/30/50 kHz	10/50/100 Hz; 1/2.5/5/8/9/10/12.5/20/25/- 100/1000 kHz; custom	5/6/12.5/ WFM 200 kHz
RIT, Fine Tuning	Tuning dial	Tuning dial	Tuning dial	No	No
Display	Backlit LCD	Backlit LCD	Edgelit LCD	Backlit LCD, alphanumeric display	LCD
Dimmer	On/off	On/Off	On/Off	Yes	No
Recommended Use	Serious wide-spect. mon.	Gen. purpose wide- freq.	Gen. purpose wide freq.	Serious wide- spectrum monitoring	VHF/UHF
Receiving Modes	AM/NFM/WFM/LSB/ USB/CW	AM/NFM/WFM/USB/ LSB/CW	AM,NFM, WFM	AM/FM (w/ AFC)/ USB/LSB/CW/RTTY	AM, NFM, WFM
Memory	400 chan. w/ backup	1000 channels	100 channels	1000 channels	Non-volatile 200 ch.
Scan	50 channels/sec.	30 channels/sec.	20 channels/sec.	10-20 chan./sec., multifunction	50 channels/sec.
Banks	4	20 (50 channels ea.)	No	20	10 banks/20 chan. ea.
Channel Lockout	Scan & search chan.	Yes	Yes	Yes	Yes
Priority	4 channels	Any channel	Yes	Yes	Any one channel
Search	50 channels/sec.	30 channels/sec.	10 ranges w/ autoload	Yes, with automemory write	300 steps/sec.
Delay	Yes, variable	Programmable	2 sec./10 sec. timed	Yes	Indiv. chan., 2-4 sec.
Squelch	Yes	Audio/carrier activ.	Yes	Yes	Yes
Clock	Yes	No	w/ on/off timer	No, sleep timer	No
Audio Output Power	1.2 W @ 4 ohms	180 mW	150 mW @ 8 ohms W	2W @ 8 ohms	250 mW max
Record Audio Output	Yes	No	No	Yes	No
Recorder Activator	Yes	No	No	Yes	No
Signal Strength Ind.	Yes	LCD bargraph	LCD bargraph	S meter with center tuning indicator	No
Computer Interface	RS232C	RS232 Optional	No	RS232C and CI-V	No
Conversion Scheme	Triple conv.	Triple up/quad. on WFM	Triple conv.	Triple conv.	Triple conv.
Sensitivity	0.25-0.35uV	.025-3 uV	0.4-3.2 uV	0.2 uV SSB, 0.5 uV NFM	0.8 uV nom. (NFM)
Selectable Preamp.	No	No	No	No	No
Selectable Atten.	Yes	Yes, chan. selectable	No	-10/-20 dB	Yes
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	5.5/12/150 kHz FM, 2.2/5.5/12 kHz AM, 2.2 kHz SSB/CW	(-30 dB) 30 kHz AM/NFM
Noise Blanker/Limiter	No	No	No	Yes	No
Antenna Connector	BNC Integral whip	BNC	BNC	SO-239 (UHF)(0.1-30 MHz), N (30-2000 MHz)	BNC
Dimensions	5.5"W/3"H/7.875"D	6"H/2.75"W/1.5"D	1.875H"W/4"H/1.5"D	11.25"W/4.5"H/8.25"D	2.62"W/6.1"H/1.62"D
Weight	2.5lbs.	13 oz.	9.9 oz.	18 lbs.	8.47 oz.
Power Requirement(s)	9-16 VDC	4AA cells (NiCds supplied)	Internal NiCds	12 VDC/120 VAC @ 60 Hz	9 VDC (4AA cells)
Warranty	One year	One year	One year	One year	One year <sup>2</sup>
Accessories Incl.	Tele. whip/AC adapt./ DC adaptor/Manual	AC adaptor/ whip antenna/cig. lightercord/manual/ carrying strap	Flex antenna/ AC wall adaptor/ charger/belt clip	Manual	Belt clip/flex whip antenna

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

<sup>1</sup> Plus pre-programmed police, fire, aircraft, maritime, emergency and weather

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

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Realistic Pro 2026	Uniden BC-230XLT	Uniden BC-890XLT	Uniden BC-3000XLT	Uniden BC-9000XLT	Uniden BCT-7	Uniden BCT-10
Not shown	15	16	15	15	14	15
SCN 16	SCN 24	SCN 19	SCN 29	SCN 30	SCN 21	SCN 22
\$219.95	\$239.95	\$269.95	\$369.95	\$389.95	\$179.95	\$179.95
29-54, 108-174, 406-512, 806-956 MHz (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)	26.9-27.4/29.7-54/108-174/406-512/806-956 MHz (less cellular)	37.02-46.02/138.3-172.02/423-508.48 MHz
Yes	Yes	Yes	Yes	Alphanumeric	No	No
5/12.5 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	N/A
No		Cont. tuning dial	No	Tuning knob	No	No
Fluorescent	Backlit LCD	Backlit LCD	Edgelit LCD alphanumeric	16-character	Backlit LCD	2-Digit LED
No	On/off	No	On/off	High/low/off	No	No
Mobile/base VHF/UHF utilities	VHF/UHF utilities	General purpose	Gen. purpose scanning	Serious scanning	Casual Public Service Monitoring	Highway Speed Patrol Detection
AM, NFM	NFM, AM (aero) det. by freq. range	AM, NFM	WFM, NFM, AM (selectable)	WFM, NFM, AM	AM (air), NFM	VHF low, VHF high, UHF
100 channels	200 channels	200 channels	400 channels	500 channels	Pre-programmed by service plus user-selected frequencies	866 pre-programmed frequencies
14 channels/sec.	100 channels/sec.	100/20 channels/sec.	100 channels/sec.	100 channels/sec.	100 channels/sec.	N/A
5 banks/20 chan. ea.	10	10	20	20	12 service bands	N/A
Yes	Yes	Yes	Yes	Yes	Yes	Yes
Any one channel	10 channels	10 channels	10 channels	10 channels	No	N/A
19 steps/sec.	300 channels/sec.	w/ autostore	300 steps/sec.	300 steps/sec.	Yes	N/A
Indiv. chan.	2 sec. any chan.	2 sec. all chan.	2/4 sec., chan.-selectable	2 sec., chan.-selectable	2 sec., all channels	2 sec., all channels
Yes	Yes	Yes	Yes	Yes	Yes	N/A
No	No	No	No	No	No	No
1.1 W	180 mW	2.7 W	320 mW	2.2 W	3 W	1 W
Yes	No	Yes	Spkr. & earph. jacks	Yes	No	No
No	No	No	No	Yes	No	No
No	No	No	No	No	No	LED
No	No	No	No	No	No	No
Dual conv.	Double conv.	Dual conv.	Triple-up conv.	Triple-up conv.	Double conversion	N/A
0.7 uV ave.	0.5 uV nom NFM	0.75-1.1 uV			0.5-0.7 uV	0.3-0.5 uV
No	No	No	No	No	No	No
No	No	No	No	Yes, chan. selectable	No	No
(-50 dB) 30 kHz						N/A
No	No	No	No	No	No	No
BNC	BNC	BNC	BNC	BNC	BNC	BNC
6.625"W/1.625"H/7.3-7.5"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	5.25"Wx1.62"Hx7"D	3"Wx5.25"Dx1.3"H
2 lbs. 3 oz.	2 lbs.	3 lbs. 14 oz.	13 oz.	4lbs.	1lb. 11 oz	7 oz.
12 VDC 13.6 VDC	Battery	120VAC/12 VDC	6.5 VDC	12 VDC (AC adapt. incl.)	12 VDC	13.8 VDC
One year	One year	One year	One year	One year	One year	One year
Mobile mount kit	Drop-in charger/flex antenna/belt clip/manual/earphone, extra battery pack	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	Mobile bracket, DC cord, cigarette lighter cord, AC adaptor, telescopic whip, mobile whip	Windshield mount, visor mount, cigarette lighter adaptor, built-in antenna, DC power cord, hard wired power cord.

UPS 2nd Day Air at Ground Rates on ALL PRODUCTS!

## Antennas

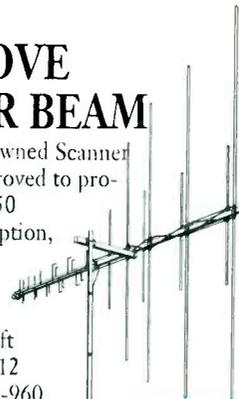
### THE GROVE SCANNER BEAM

Our world-renowned Scanned Beam has been improved to provide unexcelled 30-50 MHz low band reception, 108-137 MHz aircraft, 137-174 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. 28) for boresight accuracy, or fixed in one direction as required for those elusive, distant stations. Local signals still 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. 29). Approximate size 8'H x 5'W.



6-9 dB gain over other scanner antennas!

**Order ANT 1**  
Only \$59<sup>95</sup>

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



Shipped only in U.S. and Canada

### The Grove HIDDEN Antenna

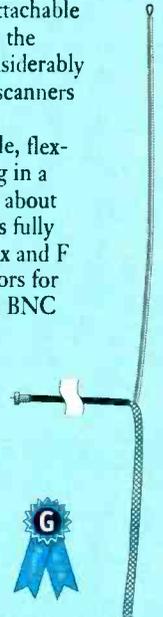
The Hidden Antenna may be used alone with your scanner for improved signal reception, over your attachable whip or may be connected to the powerful GRE PRE1 for considerably increased signal strength on scanners and shortwave receivers.

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 \$19<sup>95</sup>

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

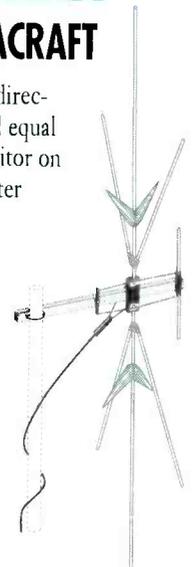


Product support for Catalog Items Only:  
704-837-7081



### 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. 29. Approximate size 7-1/2'H x 4-1/2'W.



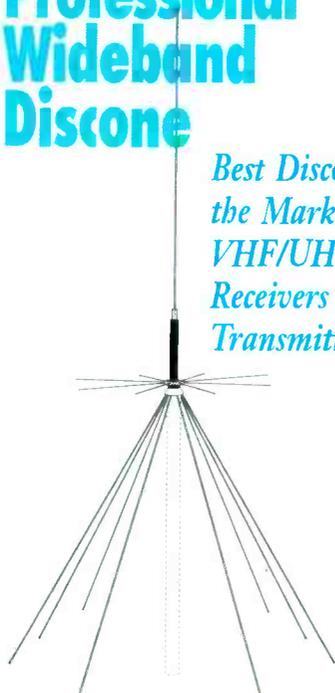
**Order ANT 7**  
Only \$39<sup>95</sup>

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

Shipped only in U.S. and Canada

### Professional Wideband Discone

Best Discone on the Market for VHF/UHF Receivers and Transmitters



**Order ANT 9**  
Only \$87<sup>95</sup>

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

This 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 29.

#### 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

### GENESYS G-1 TRANSMITTING/RECEIVING VHF/UHF ANTENNA

Extremely rugged for permanent base installations, this new antenna is designed for dual-band amateur 144-148/440-450 MHz transmitting and receiving, yet works well for scanning the aeronautical and land mobile bands from 118-960 MHz as well. The compact (43") G-1 increases gain by 3 dBd in the 144-174 MHz range, and 6 dBd from 406-470 MHz.

Accepts up to 120 watts transmit power at 50 ohms, fitted with SO-239 (UHF) female connector.

**Order ANT 11**  
Only \$89<sup>95</sup>

SHIPPING  
\$8 UPS  
\$12.50 US Priority Mail  
\$13.50 Canadian APP  
\$18 Canadian UPS



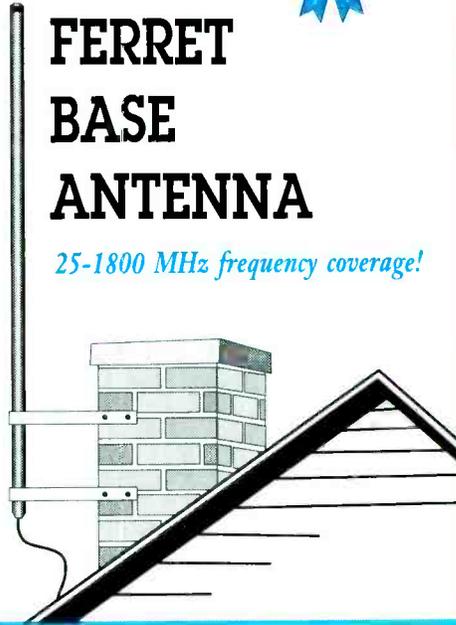
Whether you are a ham, scanner enthusiast, or two-way commercial or government radio user, nothing has the combined frequency coverage, bandwidth, gain, durability, and performance of the Austin Ferret! A professional antenna made to exacting standards and offering omnidirectional reception from 25-1800 MHz with no gaps, the base model Ferret adds to base installations what the legend Condor adds to hand-held radios.

With frequency centers for lowest SWR ideally placed at 40, 100, 122, 146, 155, 315, 465, 865, and 1280 MHz, the Ferret easily handles transmit powers up to 100 watts for commercial, military and amateur applications. Only 8' long and rigidly enclosed in a sturdy plexiglass radome, the Ferret is easily mounted to your mastpipe (bracket hardware not supplied). Terminated with a low loss N connector for maximum signal transfer to your coax.

# AUSTIN FERRET BASE ANTENNA



25-1800 MHz frequency coverage!



Order ANT 10  
Only \$249<sup>95</sup>

SHIPPING  
\$30 UPS 2nd day air  
\$20 Ground

## Grove PRE-5A VHF/UHF Signal Booster

Now Grove has integrated its high-performance preamplifier and control box into one convenient unit, offering improved performance. The new PRE-5A offers wide dynamic range and low noise for weak signal boosting, and improved overload (intermod) reduction unmatched in other 30-1000 MHz preamplifiers.

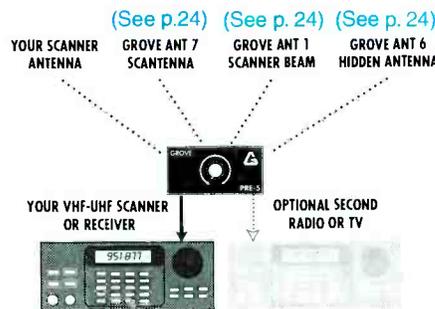
Single knob operation offers continuous gain control from -10 dB attenuation to +18 dB amplification. Switched off, signals are automatically routed from the antenna directly to the receiver, bypassing the preamplifier. Use the new PRE-5A with up to 100 feet of Grove low-loss coax to your antenna and enjoy improved VHF/UHF reception on scanners, TVs, FM stereos, and other receiving equipment (not to be used for transmitting). Powered by 12 VDC @500 mA; AC adaptor not included.

**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 500 MA(nom.); AC adaptor

**ACCESSORIES**  
PWR 21 500MA Power Supply \$9.95  
**ADAPTOR KITS:**  
ADPK 3 BNC/F \$ 9.95  
ADPK 4 Motorola/BNC \$12.95  
ADPK 9 N/F \$12.95



Also perfect for use with the OMNI  
(p. 26) and Discone (p. 24)



Order PRE 5A  
Only \$89<sup>95</sup>

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

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

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

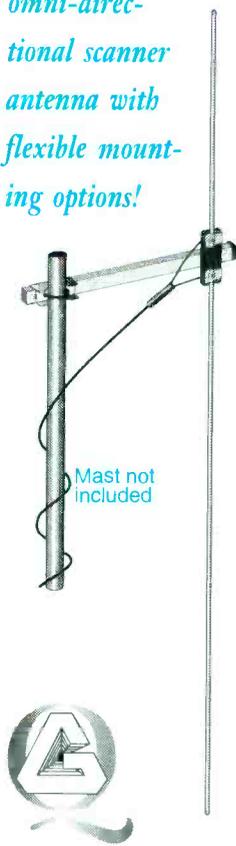
Most low-cost base antennas work well for local coverage (25-50 miles distance). Remember, the smaller the dimensions of the antenna, the poorer it will perform on low band (30-50 MHz).

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

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



**G**  
**O**  
**M**  
**N**  
**I**  
**I**

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 \$19<sup>95</sup>

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

See page 29 for adaptors and cables.

## STEALTH Mobile Monitoring Antenna

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 \$29<sup>95</sup>

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



## 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 connectors, the ANT-4 will perform where others fail.

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

**Order ANT 4**  
Only \$49<sup>95</sup>

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

**Order ANT 4W**  
Only \$12<sup>95</sup>

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



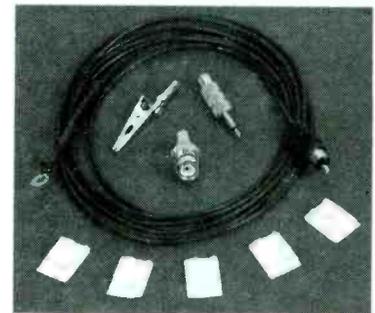
## The Grove No-Tenna™

Turn Your Car into a Giant All-Band Antenna!

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' cable mounts in seconds, using your entire car body as a giant, 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**  
Only \$19<sup>95</sup>

SHIPPING  
\$5 UPS  
\$5 US Priority Mail  
\$6 Canadian APP  
\$6.50 Canadian UPS



See page 29 for adaptors and cables.

## 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.

Retail ~~\$49.95~~

Order ANT 13  
Only \$29.95

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

ACCESSORIES  
ACC 94 Adhesive re-mount kit \$ 4.95

See page 29 for adaptors and cables.



## 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") ..... \$16.95  
 ANT 19 (4"-18") ..... \$14.95  
 ANT 8B ..... \$21.95  
 (w/right-angle BNC adaptor)  
 ANT-8N ..... \$23.95  
 (w/right-angle N adaptor)

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



## From Max Systems: High Gain 800 MHz Portable Antenna



The 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 Order ANT 23  
Only \$29.95 Only \$34.95

With straight connector  
for handhelds

With right-angle connector  
for desktop use



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

## MOBILE ANTENNA MULTICOUPLER

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



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

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

## 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 \$29.95  
 Order ANT 14B (w/BNC right-angle conn.)  
Only \$34.95  
 Order ANT 14N (w/N right-angle conn.)  
Only \$36.95

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



## 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 \$28.95

SHIPPING  
\$5.50 UPS  
\$5.50 US Priority Mail  
\$6.50 Canadian APP  
\$7 Canadian UPS

## Antennas/Accessories

### Switch with ease . . . Professional Antenna Switch



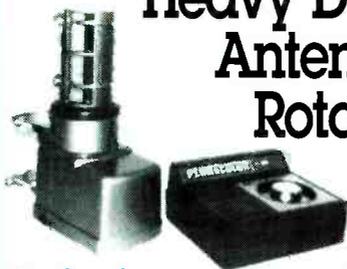
Switch your scanner, shortwave receiver, ham transceiver, or any other radio device operating at frequencies as high as 1000 MHz with this superb, die-cast, waveguide-cavity antenna switch. Handles up to 2500 watts PEP for transmitting, VSWR under 1:1.2, insertion loss only 0.2 dB, and port-to-port isolation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

#### Order SWC 1

Only \$25<sup>95</sup>

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

### Heavy Duty Antenna Rotator



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

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 cables (optional). Fast and easy installation.

#### Order ROT 1

Only \$59<sup>95</sup>

SHIPPING  
\$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

### Lightning/EMP Protector For Scanners and Shortwave Receivers



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

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 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.

LAR1F (with F conn) \$19<sup>95</sup>  
LAR1B (with BNC conn) \$24<sup>95</sup>  
LAR1P (with PL-259 UHF conn) \$24<sup>95</sup>  
LAR1M (with Motorola conn) \$29<sup>95</sup>

SHIPPING  
\$5 UPS  
\$4.50 US Priority Mail  
\$6.50 Canadian APP  
\$9.50 Canadian UPS

\*Will not prevent AC power line surges.

Appearance may vary

### GRE SUPER CONVERTER

RECEIVE CONTINUOUS 800-1000 MHz  
ON YOUR PROGRAMMABLE SCANNER!



Looking for the best way to get uninterrupted 800-1000 MHz coverage in 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) or AC adaptor (optional); 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 406-512 MHz on your scanner, you will be receiving 806-912 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.

#### Order CVR 3

Only \$84<sup>95</sup>

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

#### ACCESSORIES

ANT 22 High gain 800 MHz portable antenna \$29.95  
PWR 13 Universal power supply \$9.95  
BAT 4 9volt battery \$2.25

### 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 \$9<sup>95</sup>

SHIPPING  
\$5.50 UPS or Priority Mail  
\$6.50 Canadian APP  
\$7 Canadian UPS

#### 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

### GRE Super Amplifier for Handhelds



Would you like more range out of your hand-held scanner? Try the 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 V DC wall adaptor (not supplied).

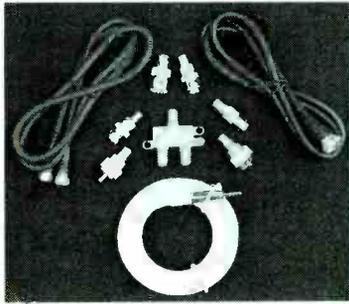
#### Order PRE 1

Only \$49<sup>95</sup>

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

#### ACCESSORIES

ANT 22 High gain 800 MHz portable antenna \$29.95  
PWR 13 Universal power supply \$9.95  
BAT 4 9volt battery \$2.25



## Dual Scanner MULTICOUPLER

Would you like to connect two scanners (or one scanner with separate antenna jacks) to one antenna cable? The Grove CPL-SC universal multicoupler is the answer! Insertion loss only 3dB maximum; port isolation typically 25 dB; impedance 50-75 ohms.

Consisting of a wide-frequency-coverage splitter (25-1300 MHz or more) and three output cables with adaptors for UHF (PL-259), Motorola, F, and BNC connectors (input and output); you'll be set for any combination.

Order CPL-SC  
Only \$29<sup>95</sup>

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

## What you should know about: 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 CBL-50 and CBL-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.

## 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 (see p. 11) 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 100-200 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. See p. 11 for the filters cited here.

## 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!

RG 59U  
Order CBL 25

Only \$9<sup>95</sup>

(25 feet w/ adaptors)

\$5.50 UPS  
\$5.50 US Priority Mail  
\$7 Canadian APP  
\$12 Canadian UPS

RG 6U  
Order CBL 50

Only \$14<sup>95</sup>

(50 feet w/ adaptors)

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

RG 6U  
Order CBL 100

Only \$19<sup>95</sup>

(100 feet w/ adaptors)

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



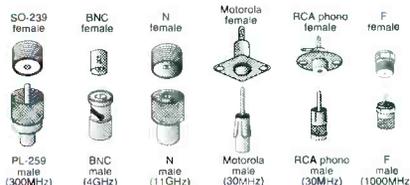
## ADAPTORS AVAILABLE

- 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 1/8" Mini-Plug
- ADP 5 N Female to BNC Male
- ADP 6 UHF Female to Male 1/4" Mini-Plug
- ADP 7 UHF Female to N Male
- ADP 9 F Female to BNC Male
- ADP 10 UHF female to BNC Male
- ADP 11 UHF female to RCA male
- ADP 12 BNC female to N male
- 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 female to 2 wires
- ADP 19 UHF female to 2 wires
- ADP 22 Motorola female to BNC male
- ADP 23 UHF female to UHF female barrel—\$1.50
- ADP 24 BNC female to PL259 male
- ADP 26 F female to F female barrel—\$2.00
- ADP 27 Banana Plug—\$2.00
- ADP 28 F female to PAL fem. Satellite 700
- ADP 29 3.5mm female to 2.5mm male min. plug—\$1.50
- ADP 30 Dual BNC fema. to BNC male T-adaptor—\$1.50
- ADPK 10 F female to Motorola male
- ADPK 13 F male to F male 3ft.cable—\$2.50
- ADPK 14 F/Motorola cable, 3ft.—\$2.50
- ADPK 15 PL259 male to PL259 male 3ft.—\$2.50
- ADPK 16 BNC male/ BNC male 3ft cable

Unless otherwise specified, 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.

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



Some of the more common adaptors are shown at left. Order from the list at right!

## 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. 22-foot roll.



Order ACC 168

Only \$1<sup>95</sup>



SHIPPING  
\$1.50 First Class  
\$4 UPS  
\$6 Canadian UPS  
\$5.50 Canadian APP

## Accessories

### NEW! DESKTOP STAND/ CHARGER



#### FOR HANDHELD SCANNERS AND HTs!

Looking for a way to use your handheld transceiver or scanner as a desktop unit, powering or charging it from the AC line? Two cables are provided to fit the majority of radios which require 12 VDC, center pin positive (+). A second charge jack allows powering an accessory or second radio simultaneously at up to 350 mA current drain.

Ideal for popular 12-volt-charged radios from Uniden, Icom, AOR, Yupiteru, Trident, Radio Shack, and more. Sturdily constructed with adjustable tilt support, AC switch and illuminated indicator.

Order PWR 2  
Only \$59<sup>95</sup>

SHIPPING  
\$6.50 UPS  
\$8.50 US Priority Mail  
\$8 Canadian APP  
\$10.50 Canadian UPS



### NEW! UNIVERSAL POWER CONVERTER

Imagine being able to use your AC operated equipment anywhere in the world when you travel—scanners, ham rig, shortwave radio, computer, audio-visual equipment, TV, appliances, heaters, shavers, irons, power tools, and more! This handsome, compact power converter set comes with a heavy duty, 1600 watt transformer and five wall adaptors for any 50 or 60 Hz, 120 or 240 VAC outlet. A convenient, color coded, country selection chart is included.

Order PWR 20  
Only \$34<sup>95</sup>

SHIPPING  
\$7 UPS  
\$9 US Priority Mail  
\$12 Canadian APP  
\$12 Canadian UPS



### NEW! UNIVERSAL MOBILE DC POWER CONVERTER!

It's hard to find a DC operated accessory that *won't* work with the new Grove DCC 3 cigarette lighter adaptor. Equipped with the six most popular power plugs and switchable among 1.5, 3, 4.5, 6, 7.5, 9, and 12 volts at up to 800 mA current, this mobile powerhouse is the most versatile we've ever seen!

Order DCC 3  
Only \$12<sup>95</sup>

SHIPPING  
\$5.50 UPS  
\$4.50 US Priority Mail  
\$7 Canadian APP  
\$9 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 \$59<sup>95</sup>

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

## 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 \$59<sup>95</sup>

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



## Mobile Cigarette Lighter Power Adapter

Simply plug the Grove DCC 4 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 \$9<sup>95</sup>

Including First Class Shipping

## PORTABLE POWER STATION



### 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, and 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 **\$59<sup>95</sup>**

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

## 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).

**A \$15 dollar value!**

**Order PWR 13**  
Only **\$9<sup>95</sup>**

SHIPPING  
\$5.50 UPS  
\$5.50 US Priority Mail  
\$6.50 Canadian APP  
\$7 Canadian UPS

## SURGE PROTECTORS!



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 **\$3<sup>95</sup>**

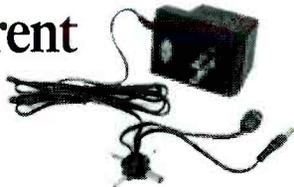
SHIPPING  
\$1.50 First Class  
\$4 UPS  
\$5.50 Canadian APP  
\$6 Canadian UPS

**Order LAR 3**

(six outlets)  
Only **\$4<sup>95</sup>**

SHIPPING  
\$2 First Class  
\$4 UPS  
\$5.50 Canadian APP  
\$6 Canadian UPS

## Save on Low-Current AC Wall Adaptors!

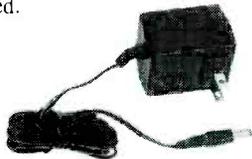


Grove's PWR 12 Universal power supply plugs into 120V AC wall socket and provides 3, 4.5, 6, 7.5, 9 and 12 volts DC switchable polarity, at up to several hundred mA (intermittent use). Has six different plugs for virtually every accessory. List price \$12.95.

**Order PWR 12**  
Only **\$4<sup>95</sup>**

SHIPPING  
\$4 UPS or Priority Mail  
\$5.50 Canadian APP  
\$6.50 Canadian UPS

The PWR 19 provides 12VDC at 200 mA from standard 2.1 mm coax plug (center +). UL and CSA approved.



**Order PWR 19**  
Only **\$7<sup>95</sup>**

SHIPPING  
\$3.50 UPS or Priority Mail  
\$5.50 Canadian APP  
\$6.50 Canadian UPS

## 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.**  
**BAT 02 D Batteries** ..... **\$1.19 ea.**  
**BAT 03 C Batteries** ..... **\$1.09 ea.**  
**BAT 04 9V Batteries** ..... **\$2.25 ea.**

SHIPPING  
\$3 UPS or US Priority  
\$5.50 Canadian APP  
\$6.00 Canadian UPS

## Radio Shack® Rechargeable AA NiCd Batteries

650 Milliamp High capacity AA NiCds for use with many handheld scanners.



**Order BAT 13**  
Only **\$2<sup>75</sup> ea.**

SHIPPING  
\$3 UPS or US Priority  
\$5.50 Canadian APP  
\$6.00 Canadian UPS

**FREE SHIPPING w/ PURCHASE OF ANY OTHER BATTERIES!**

## Metro West

### Long Life Battery Pack 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 double-life battery pack for the popular Uniden BC200XLT hand-held scanner.

The "Pro-Pack 1200" is numbered for its 1200 mA/H charge capacity, twice that of the original equipment. 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.

#### ORIGINAL REPLACEMENT UNIDEN BC200XLT BATTERY PACKS

(also fits  
BC100XLT,  
BC205XLT,  
Regency 4030).



Order BAT 14  
Only \$39<sup>95</sup>

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

Order BAT 9  
Only \$79<sup>95</sup>

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

### Drop-In Charger

Charge your high-capacity Metrowest battery like the pros with this drop-in charger (not for original Bearcat battery pack). Automatic bearing circuit provides a full charge in just seven hours, yet prevents over-charging! 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 status.

Order PWR 15  
Only \$49<sup>95</sup>

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

## Trifield Electric/ Magnetic Field Detector

Some fascinating experiments are being conducted in the study of changing magnetic and electric fields which surround us. Other than the power lines (which are detected by the TST-1), investigators are studying how solar radiation affects the electric fields which surround the earth; Seismologists are looking into apparent connections between earthquake activity and ULF signals (0.5-10 Hz); parapsychologists are investigating electric field anomalies claimed to be associated with "ghost buster" events; even Ufologists report that electric and magnetic fields change in the presence of strange aerial phenomena. All of these claims could be corroborated--or denied--by the Trifield TST-2.

The TST-2 is so sensitive it will respond to the electric disturbance produced by someone--or something--moving in an adjacent room! A built-in tone provides audible indication of these phenomena.

Calibrated sensitivity of the instrument is an incredible 1 microtesla in the magnetic



mode; simply turning it in the earth's natural magnetic field produces a full-scale deflection of the meter! Similarly, in the electric mode, it responds to fluctuations as low as 1 volt per meter, easily detecting the approach of distant thunderstorms, solar geomagnetic storms, and lightning discharges.

In the radio/microwave mode, the unit makes a dandy field strength meter, responding to transmitted energy as low as 0.01 watts per square meter, anywhere in the spectrum between 100 kHz and 3 GHz! Laboratory instruments capable of such measurements cost thousands of dollars, but Grove now brings you this multimode field detector at incredible savings!

Order TST 2  
Only \$199<sup>95</sup>

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

## 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  
Only \$119<sup>95</sup>

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

*Ideal for radios, accessories and beverages!*

**NEW!  
DELUXE  
MOBILE  
ORGANIZER  
FOR VANS  
AND  
TRUCKS!**



Featuring two fully-adjustable, locking holders for your hand-held scanner, cell phone, handy-talkie, or even beverage containers, this deluxe mount also has a handy organizer for a pen and pad, a convenient cassette/CD holder, coin tray, and even a giant storage area for accessories or litter! No more scattered notes, dropped radios, tangled cords, or spilled drinks; the deluxe mount keeps order in your vehicle or even on a desktop! Neutral charcoal gray matches any installation.

**Order BRK 10**  
Only \$14<sup>95</sup>

SHIPPING  
\$7 UPS  
\$6 US Priority Mail  
\$15 Canadian APP  
\$13 Canadian UPS

**Compact  
Mounts**



**Order BRK 7**  
Only \$12<sup>95</sup>



**Order BRK 1**  
Only \$9<sup>95</sup>

SHIPPING FOR  
BRK 1 & BRK 7  
\$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.



**NEW!  
HAND-HELD  
RADIO  
CADDY**

This universal, compact, hand-held radio caddy attaches to your vehicle window, allowing secure and convenient access to your handy-talkie, cell phone or hand-held scanner. Rubber-padded base rest and adjustable straps allow custom configuration for your radio. May also be used to support the radio in an upright position on a desktop. Pen/pencil holder and even a pull-drawer to hold a note pad (included)! They've thought of it all to make your mobiling more pleasurable.

**Order BRK 11**  
Only \$7<sup>99</sup>

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



**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**  
Only \$4<sup>95</sup>

SHIPPING  
\$2.50 First Class  
\$4 UPS  
\$5.50 Canadian APP  
\$6 Canadian UPS

**LEATHERMAN®**  
**POCKET TOOL**



*"I carry mine  
everywhere,  
and use it  
almost  
daily."*

-Bob Grove

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 \$39<sup>95</sup>

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

Made in the U.S.A.

**Cassette Tapes of the  
1995 Grove Expo  
Great Gifts for the  
Radio Buff!**



*These professionally-recorded audiocassettes place you at the expert's podium! Order today!*

Event	Code	Price
International Broadcasters Forum (2 tapes)	TP-01	\$19.95
MT Expert Panel	TP-02	\$9.95
ST Expert Panel	TP-03	\$9.95
<b>Seminar</b>	<b>Code</b>	<b>Price</b>
Utility DX	TP-26-95	\$9.95
Public Service	TP-6-95	\$9.95
Satellite Monitoring	TP-7-95	\$9.95
Broadcast Developments	TP-11-95	\$9.95
Monitoring & the Law	TP-08-95	\$9.95
Weather Satellites	TP-17-95	\$9.95
Beginning Shortwave	TP-09-95	\$9.95
Beginning Satellites	TP-12-95	\$9.95
Monitoring the Military	TP-18-95	\$9.95
Shortwave BC Programs	TP-13-95	\$9.95
Federal Monitoring	TP-04-95	\$9.95
Personal Communications	TP-15-95	\$9.95
Computer Interference	TP-14-95	\$9.95
Domestic TVRO	TP-16-95	\$9.95
Pirates & Clandestines	TP-20-95	\$9.95
Trunking Techniques	TP-21-95	\$9.95
Radio Astronomy	TP-22-95	\$9.95
HF Digital Modes Design	TP-23-95	\$9.95
Beginning Scanning	TP-05-95	\$9.95
Amateur Satellites	TP-24-95	\$9.95
VHF Aero	TP-10-95	\$9.95
Monitoring NASA	TP-25-95	\$9.95
Entire Tape Set	TP-Set	\$199.95

**Order by Code**

Add \$2.25 shipping per tape (not to exceed \$5) or \$5 shipping for the entire set.

## 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 \$29<sup>95</sup>** **SHIPPING**  
 \$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)

## 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 \$10<sup>95</sup>** **SHIPPING**  
 \$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 BC200XLT, etc.) \$1.50

## Clip-On Studio Microphone



Ideal for video presentations, tape recording, Internet Phone or lecturing. Standard 600 ohm line impedance, and 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.



*While Supplies Last*

**Order MIC 3** **Only \$4<sup>95</sup>**

\$1.50 First Class Mail shipping

## 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.



Scanner shown for size comparison only

## Optimus Speaker Offers Great Sound in a Small Package



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

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 watt 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.

**Order SPK 4** **Only \$45<sup>95</sup>** **SHIPPING**  
 \$6.50 UPS  
 \$5.50 US Priority Mail  
 \$10.50 Canadian UPS  
 \$7.50 Canadian APP



*A Solid Value for the Radio Listener!*

## SWITCHABLE Stereo-Mono Headphones

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 \$19<sup>95</sup>** **SHIPPING**  
 \$6.50 UPS  
 \$6.50 US Priority Mail  
 \$10 Canadian UPS  
 \$8 Canadian APP

*While Supplies Last*

**Order SPK 14** **Only \$4<sup>95</sup>**  
 plus \$3 shipping

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

## NEW! Sun Visor Mobile Speaker



Clever, convenient, and barely 1-1/4" thin; simply slide this 5-1/2" x 3" dual speaker on your vehicle's sun visor for high quality, concentrated sound. Ideal for noisy environments. Includes 6' cord with 1/8" (3.5 mm) miniplug.

**Order SPK 15** **SHIPPING**  
Only \$16<sup>95</sup> \$5.50 UPS  
\$4.50 US Priority Mail  
\$9 Canadian UPS  
\$5.50 Canadian APP

## Noise Cancelling Mobile Speaker

NEW!



Great for base units, too!

This low-cost mobile and base speaker is ideal for scanners, CBs, mini-portables, and other communications accessories that would benefit from an external speaker. A pushbutton high-frequency-rolloff switch reduces crackling, pulse noise. Measuring approximately 4" square, this compact accessory speaker is rated at 10 watts and comes with 10' cable and 1/8" (3.5 mm) miniplug. Hinged mobile mounting bracket included.

**Order SPK 6** **SHIPPING**  
Only \$16<sup>95</sup> \$5.50 UPS  
\$4.50 US Priority Mail  
\$9 Canadian UPS  
\$5.50 Canadian APP

## Audio Adaptor for Scanners, Portable CD Players, etc.!

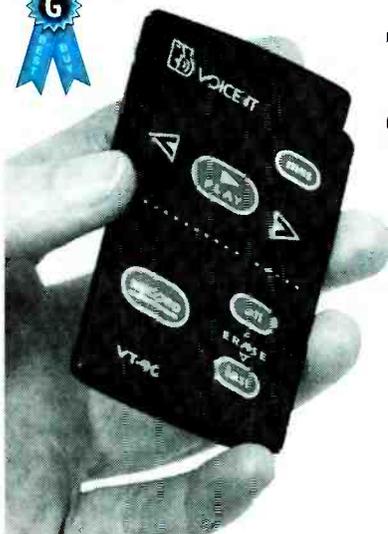


Play almost any audio source through your home or car audio system and dramatically improve sound quality!

Listen to your scanner over your car or home stereo! Imagine—any electronic component that you own with an audio output jack (including your scanner or shortwave receiver) can be played directly through your home stereo system, portable "boom box," auto stereo or any other cassette player to provide full, rich sound! Shaped like a normal cassette, this adaptor slides into your cassette player. Your scanner or audio device then attaches to the adaptor with a 1/8" (3.5 mm) stereo or mono plug (included with flexible cord). Dramatically improves scratchy or tinny-sounding audio when used with today's full-range systems.



**Order ACC 79** **SHIPPING**  
Only \$9<sup>95</sup> \$2.50 First Class  
\$4 UPS  
\$5.50 Canadian APP  
\$6 Canadian UPS



## NEW! VOICE IT™ CREDIT-CARD VOICE RECORDER!

Imagine, record up to 60 voice messages as you wish—up to four minutes' worth—without a bulky tape recorder. The revolutionary Voice It utilizes cutting-edge microchip memory and long-life lithium cells to give you unprecedented convenience. How often have you been driving along and thinking of an idea you would like to jot down. Just lift the Voice It from your convenient sun visor clip (included) or shirt pocket, and dictate your thoughts!

The REC-2 measures a scant 1/2" thick! Or, if you can say what you want in 1-1/2 minutes, choose the featherweight, 1/4"-thick, REC-1 at even better savings! Both units allow pushbutton single-message or all-erase, skip forward or back, and include fresh batteries.

**REC 1 (1-1/2 minutes) .... \$49<sup>95</sup>**  
**REC 2 (4 minutes) ..... \$69<sup>95</sup>**

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

"I take my Voice It everywhere I go; many new ideas are born while I drive or hike—all dictated into this incredibly tiny voice recorder" —Bob Grove



## CHANNEL ORGANIZERS

Carry a complete list of your 200 or 400 scanner channels, frequencies and agencies in 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

~~\$15~~<sup>95</sup>

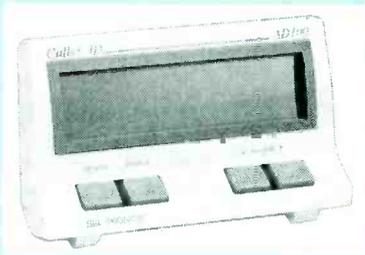
400 channels,  
20 frequencies  
per page

### Order CHT 7

~~\$12~~<sup>95</sup>

200 channels,  
20 frequencies  
per page

SHIPPING FOR EACH  
\$3 First Class Mail  
\$4 UPS  
\$5.50 Canadian APP  
\$6 Canadian UPS



*Caller ID for  
Your Phone—  
Now Available  
Nationwide!*



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 reject 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.

### Order PHN 04

Only ~~\$79~~<sup>95</sup>

SHIPPING  
\$7 UPS  
\$9 US Priority Mail  
\$12 Canadian UPS  
\$12 Canadian APP

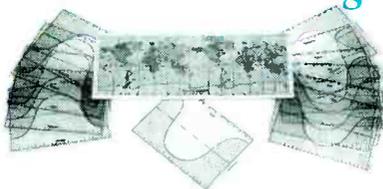
ACCESSORY  
BAT 4

9 Volt alkaline battery \$2.25

\*Not affiliated with any former Bell System entity.

## DX EDGE

Your "Edge" in  
Shortwave Monitoring

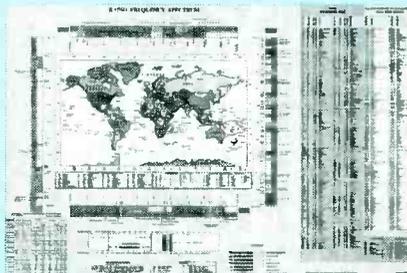


Plan your listening around the most productive times and frequencies using this valuable, simple-to-use shortwave tool. Share the secret of successful hams and professionals alike who know the advantages of "grayline propagation". Just line up the proper dateline on your location and it's ready to use.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

### Order CHT 3

Only ~~\$24~~<sup>95</sup>

SHIPPING  
\$5.50 UPS and Priority Mail  
\$6.50 Canadian UPS  
\$7 Canadian APP



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

### Order CHT 4

Only ~~\$14~~<sup>95</sup>

SHIPPING  
\$6 UPS  
\$2.50 Bookrate  
\$6 Canadian APP  
\$8.50 Canadian UPS

New 1996  
Edition!



## Color Wall Chart of the Radio Spectrum

Grove offers this incredible 30" x 40", full color, fold-out wall chart of the United States radio spectrum!

Printed on heavy gloss paper, the chart of the spectrum shows both government and non-government frequency allocations from 9 kHz through 300,000 MHz (300 GHz)—the entire radio spectrum (last updated 9-1-95)!

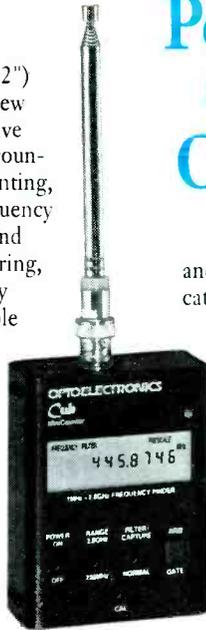
30 services are shown in separate colors: land mobile, aeronautical, maritime, space, fixed, amateur, radio and TV broadcasting, and more. No other low-cost publication provides so much band allocation detail at a glance as this handsome, professional wall chart.

### Order CHT 1

Only ~~\$9~~<sup>95</sup>

SHIPPING  
\$5.50 UPS  
\$7.50 2nd Day Air  
\$2.50 Bookrate  
\$5.50 US Priority Mail  
\$12 Canadian UPS  
\$12 Canadian APP

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.



## 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 milli-second 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 to your ICOM R7000, R7100, R9000 (ICOM CT-17 interface and audio cable, or OptoElectronics CX 12 required), or easily-modified AR8000, you can automatically receive any intercepted signal within its frequency range!

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 9

Only \$144<sup>95</sup>

#### ACCESSORIES

ANT 19	4"-18" telescoping whip	\$14.95
ANT 8	7"-46" long-range tele. whip	\$16.95
BRK 3	Universal Belt Clip	\$4.95
CAS 8	Leather Case	\$15.10

#### SHIPPING FOR EACH

\$7.50 UPS
\$9 US Priority Mail
\$12 Canadian UPS
\$10.50 Canadian APP

### Order CTR 8

Only \$399<sup>95</sup>

#### 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 antenna	\$33.95
BRK 3	Universal Belt Clip	\$4.95
CAS 8	Leather Case	\$15.10



## 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 \$24<sup>95</sup>

#### SHIPPING

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

## 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 \$19<sup>95</sup>

#### SHIPPING

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

NEW!

## GIANT DISPLAY DIGITAL CLOCK



The new MFJ digital giant shows accurate 12 or 24 hour time on huge (2.3"), brilliant red LED numerals! Visible 50 feet away or even more. Adjustable, predrilled, black case custom-fits your viewing angle from a table-top, wall mount or even ceiling suspension. Operates from 120VAC and contains backup battery for power outages.

### Order CLK 5

Only \$39<sup>95</sup>

#### SHIPPING

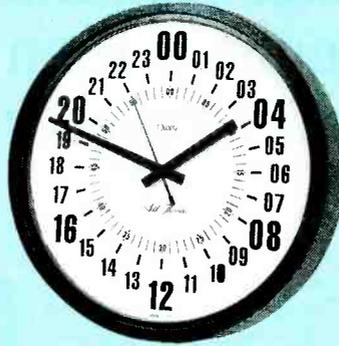
\$7 UPS
\$8 US Priority Mail
\$15 Canadian APP
\$13 Canadian UPS

*The Perfect Listening  
Post Accessory:*

## 24-Hour Radio Room Clock

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.

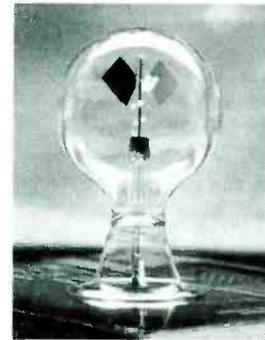


Order CLK 1 **SHIPPING**  
Only \$24<sup>95</sup> \$5.50 UPS  
\$5 US Priority Mail  
\$10 Canadian UPS  
\$7.50 Canadian APP



Limited Edition Grove Expo Clock  
also available -CLK 1C only \$24<sup>95</sup>

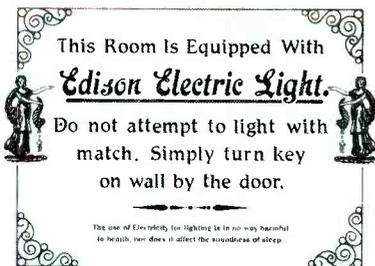
ACCESSORIES  
BAT 1 AA Alkaline batteries \$ .79  
BAT 13 Rechargeable Nicad batt. \$2.75



## Spinning Vane Radiometer!

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 **SHIPPING**  
Only \$6<sup>95</sup> \$3 First Class  
\$4 UPS  
\$5.50 Canadian APP  
\$6 Canadian UPS

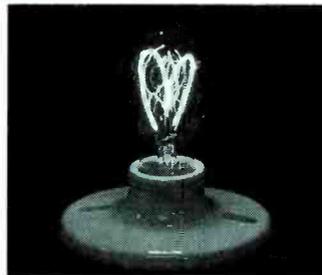


## Edison Wall Plaque

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 gas-light. Satin brass-look finish and four corner holes lend authenticity to this durable plaque.

Order COL 3 **SHIPPING**  
Only \$6<sup>95</sup> \$3 First Class  
\$4 UPS  
\$5.50 Canadian APP  
\$6 Canadian UPS

*Victorian style!*



## 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.

Standard brass screw base, 60W (nom.). Porcelain fixture not included.

Order COL 8 **SHIPPING**  
Only \$6<sup>95</sup> \$3 First Class  
\$4 UPS  
\$5.50 Canadian APP  
\$6 Canadian UPS

*A Relic  
from the  
Cold War*



## PERSONAL RADIATION DETECTOR

Nuclear winter—the Red Menace—pressing issues in the 1960s-70s, and this personal **Radiac meter** was worn by military personnel attending our nuclear missile silos or exposed to high levels of gamma rays (.02-200r/hr). Originally costing nearly \$150 each, these few remaining relics were just uncovered in a military warehouse. Used, these meters may or may not work and are sold for display or experimentation only. Measures 2-1/4" x 3-3/4". Batteries and nuclear missile not included.

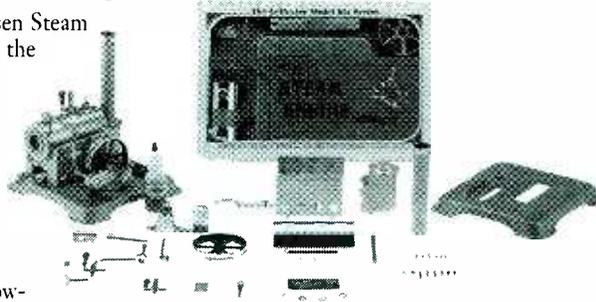
Order COL 5 **SHIPPING**  
Only \$9<sup>95</sup> \$5.50 UPS  
\$5 US Priority Mail  
\$6.50 Canadian APP  
\$8 Canadian UPS

# Working Steam Engines **NEW!**

Since 1932, Pennsylvania's Jensen Steam Engine Co. has been hand-crafting the finest model steam engines and power generating plants for industry, schools and collectors. The Jensen family works 7 days a week, still using the actual tooling & dies from the 1930's & 40's, to keep up with the demand for their high quality steam engines. ( Their engines even saw action in WWII, powering small air pumps!)

Whether you want the popular #76-kit or the rugged, deluxe cast iron #55 twin cylinder high speed steam engine, all Jensens are crafted using the finest materials: solid brass, (nickel plated, not zinc) and stainless steel—no plastic! Features include silver soldered boilers, water gauge, pop valve, whistle, throttle, lube oil and operator's manual.

The much larger Model #55 twin has a reversing lever and cast iron flywheel as standard and is also available in a power plant version, the #55-G, complete with two brass exhaust stacks, unique A/C generator/multi-speed line shaft combo, providing 9 different PTO's, (power take offs.) Reserve your piece of American history and order your Jensen today. Satisfaction guaranteed.



## Order COL 7/Model 76 kit:

(Helps in Math, science & physics education, plus it's FUN!)

This unique oscillating cylinder engine, includes a \$40 value package of accessories & upgrades, plus a certificate for free engraved owner's plaque. Powered with safe, dry fuel tablets. Easily assembles in about an hour. (Size 7"x7"x8") For ages 9 and over. Shipped directly from Grove.

Only **\$124<sup>95</sup>**

SHIPPING  
\$11 UPS  
\$11 US Priority Mail  
\$15 Canadian APP  
\$15 Canadian UPS

NOTE: Both of the Model 55's are custom-made, signed and numbered by Mr. Jensen, and shipped directly.  
Allow 6 to 8 weeks for delivery.

## Order COL 6/Model 55 factory assembled:

This twin-cylinder monster is truly awe-inspiring! Features a 1/2" bore, 5/8" stroke and water recovery system. Measures an impressive 10" x 15" x 10" and weighs a hefty 12 pounds!

Only **\$449<sup>95</sup>**

SHIPPING  
\$20 UPS  
\$20 US Priority Mail  
\$25 Canadian APP  
\$25 Canadian UPS

## Order COL 9/Model 55-G factory assem.:

The Power Plant version of the Model 55 features two brass exhaust stacks, unique A/C generator/multi-speed line shaft combo, providing 9 different PTO's (power take offs).

Only **\$574<sup>95</sup>**

SHIPPING  
\$25 UPS  
\$25 US Priority Mail  
\$35 Canadian APP  
\$35 Canadian UPS

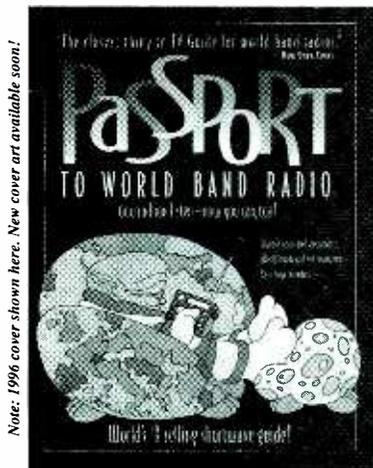


Model 55 shown

# Pre-Publication Savings on Passport!

Act Now for Grove's Special Pre-Publication Price on 1997 Edition

"This guide is indispensable... the closest thing to TV Guide for world band radios." — New York Times



Note: 1996 cover shown here. New cover art available soon!



**ONLY \$16.95**

with FREE shipping  
if ordered before  
August 31, 1996!

## Offer ends August 31, 1996!

Order by this date and by mid-September you'll receive the 1997 Edition of the *Passport to World Band Radio*. After that, the price will be increased to \$19.95 plus \$6.00 shipping. You save \$9.00 in all by ordering now!

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(704) 837-9200

(704) 837-2216 (FAX)

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## The ultimate radio handbook will show you:

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- How to listen
- The Buyers Guide to world band radios.
- Worldscan hour-by-hour country-by-country channel-by-channel

## Grove Enterprises

7540 HWY 64 W.  
Brasstown, NC 28902

\*Foreign shipping: Foreign surface printed mail, add \$4.50; Air Mail for printed matter for Canada, add \$6.00 (\$7.50 elsewhere)

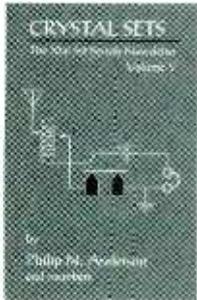
NOTE: 1996 Edition of Passport still available from Grove for \$19.95 plus shipping (use Code B). Order BOK 18-96.

UPS 2nd Day Air at Ground Rates on ALL PRODUCTS!

**New!**

**CRYSTAL SETS, Volume V**

*by Philip N. Anderson*

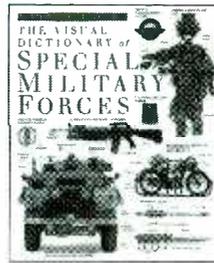


Nothing evokes the nostalgic memories of old time radio like the crystal set; a long wire aerial and a chunk of galena bringing in music and voices for hundreds of miles. Phil Anderson tells us how to do it in this compilation of newsletters and correspondence of the Xtal Set Society—88 pages of hints and kinks for antennas, headsets, choosing crystal materials, detecting whistlers, grounding, and more. Use shipping code A.

**BOK 88 ..... \$9<sup>95</sup>**

**New!**

**THE VISUAL DICTIONARY OF SPECIAL MILITARY FORCES**



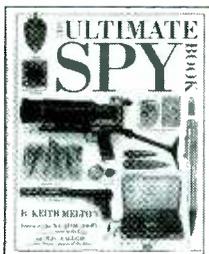
This colorful collection of more than 200 photographs and graphic illustrations shows the fantastic tools of America's OSS, Britain's SOE, and many other super-secret insurgent forces since the beginning of World War II. Pencil bombs and other exotic weapons, covert communications and code machines, survival and sabotage kits, spy cameras and special vehicles—they're all in this unusual, eye-opening, hard-cover collection. Use shipping code B.

**Bok 108 ..... \$16<sup>95</sup>**

**New!**

**THE ULTIMATE SPY BOOK**

*by H. Keith Melton*



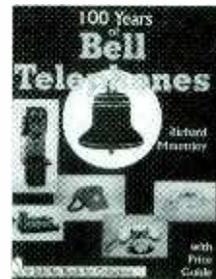
The consummate spy memorabilia collector has finally published his extensive catalog of museum pieces from hot and cold wars, more than 600 glossy color photos, from the Civil War to the present, documented with gripping anecdotal accounts. Examples: suitcase radios, ciphering equipment, spy cameras, microdots, and fanciful concealments. Use shipping code B.

**BOK 62 ..... \$29<sup>95</sup>**

**New!**

**ONE HUNDRED YEARS OF BELL TELEPHONE**

*by Richard D. Mountjoy*



From the coffin sets of the late 1870s through the Princess phones of the 1960s and beyond, This definitive, new publication contains 350 color photos and exhaustive historical and technical information for telephone collectors, technical historians, and restorers. Use shipping code B.

**BOK 70 ..... \$29<sup>95</sup>**

**New!**

**PHILCO RADIO: 1928-1942**

*by Michael Prorise*



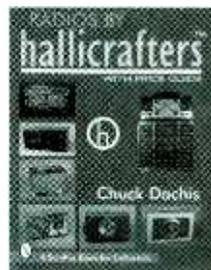
Just a glance through this nostalgic collection evokes warm thoughts of families in front of the fireplace, listening to Fibber McGee and Molly, Jack Benny, and the myriad radio programs that populated the unspoiled airwaves of radio's Golden Age. Over 800 illustrations, most in color, highlight this year-by-year chronology of the most popular home radio ever made. Use shipping code B.

**BOK 71 ..... \$29<sup>95</sup>**

**New!**

**RADIOS BY HALLICRAFTERS**

*by Chuck Dachis*

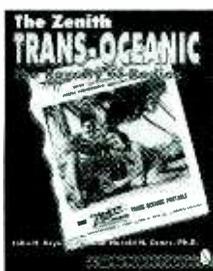


Now long gone, no manufacturer inspired the awe of shortwave hobbyists and hams as did Hallicrafters, the grand masters of communications receivers of the vacuum tube era. Containing over 1000 photos of Hallicrafters receivers, transmitters, TVs, accessories and literature, this new, informative directory includes descriptions of every known model made by Hallicrafters, including dates, accessories and pricing. Use shipping code B.

**BOK 65 ..... \$29<sup>95</sup>**

**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.

**BOK 102 ..... \$24<sup>95</sup>**

**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 ..... \$24<sup>95</sup>**

**COLLECTOR'S 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.

**BOK 30 ..... \$18<sup>95</sup>**

**New! COLLECTOR'S GUIDE TO TRANSISTOR RADIOS**

*By Marty and Sue Bunis*

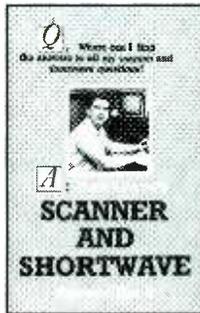


That AM-only transistor radio you passed up at the yard sale could be worth money! Transistor radios are fast becoming collector's items, some worth tens or even hundreds of dollars! A jade-green Regency TR-1 brings \$600! Enjoy reminiscing through the hundreds of early transistor radios, as well as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

**BOK 35 ..... \$15<sup>95</sup>**

**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"?

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 ..... \$12<sup>95</sup>**

**New!**

**COMMUNICATIONS RECEIVERS**

**The Vacuum Tube Era**

*by Raymond S. Moore*



Truly a collector's delight, this richly-illustrated compilation of shortwave receivers from 1932-1981 is an indispensable reference for flea market addicts and hamfest devotees! Hundreds of models, civilian and military, from dozens of manufacturers like Hammarlund, National, Hallicrafters, Drake, Collins, Heathkit, Lafayette, and Howard are described, dated and pictured for identification. Use shipping code B.

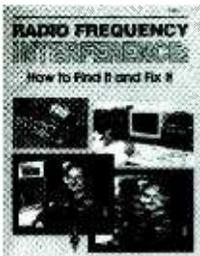
**3rd Edition**

**BOK 72 ..... \$19<sup>95</sup>**

**RADIO FREQUENCY INTERFERENCE...**

**How to Find it and Fix it!**

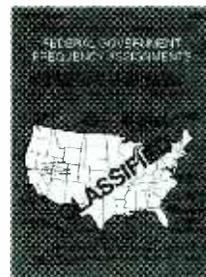
*(ARRL)*



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 ..... \$14<sup>95</sup>**

**FEDERAL FREQUENCY ASSIGNMENT MASTER FILE**



This new 4th edition, now with 350 controversial pages, 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.

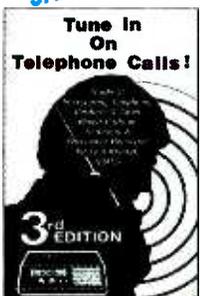
No matter where you're located, you'll hear many of these frequencies in use. Alphabetized by department and agency and their locations, then listed in frequency order, this compendium is the most authoritative reference for armchair monitoring of "forbidden" frequencies we've ever seen! Use shipping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

**BOK 1 ..... \$24<sup>95</sup>**

**New 1996  
3rd Edition**

**TUNE IN ON TELEPHONE CALLS**

*By Tom Kneitel*



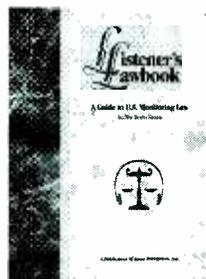
No listener's book in recent history has caused so much consternation as Kneitel's expose on where to listen to cellular, new and conventional cordless, air to ground, ship to shore, military, satellite, and wilderness radio phones—even pagers and baby monitors!

160 information-packed pages let you know just how vulnerable your calls are! Use shipping code A. Target Audience: general.

**BOK 41 ..... \$16<sup>95</sup>**

**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 ..... \$9<sup>95</sup>**

*Now includes Beyond Police Call*

**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.

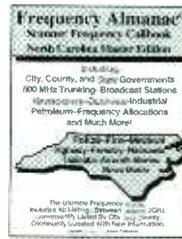
Order the volume for your region or the entire nationwide set! Shipping code B. Target Audience: general.

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- BOK22** DE, MD, NJ, PA
- BOK23** MI, OH
- BOK24** IL, IN, KY, WI
- BOK25** IA, KS, MN, MO, NE, ND, SD
- BOK26** DC, FL, GA, NC, SC, VA, WV
- BOK27** AL, AR, LA, MS, OK, TN, TX
- BOK28** AZ, CO, ID, MT, NM, NV, UT, WY
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Each Regional Volume  
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**FREQUENCY ALMANAC!**

By R. L. Smith



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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**OFFICIAL NEW ENGLAND SCANNER GUIDE**

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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.

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**AIR SCAN**

By Tom Kneitel

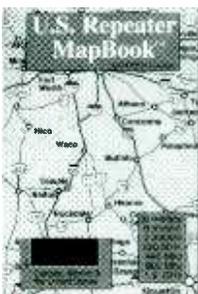


State-by-state listing of VHF civilian tower frequencies, air traffic control center frequencies, some military VHF operations. Includes list of special government/commercial frequencies and Canadian aircraft frequencies as well! Use shipping code B. Target Audience: general.

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**U.S. REPEATER MAPBOOK**

By John Smith and John Mitchell



This new 1996/97 edition shows input/output frequencies, mapped locations and access tone codes for thousands of ham radio repeaters through-out the United States, Canada and Mexico, from 29-1300 MHz! Bandplans included. Exhaustive and accurate. A must for hams and scanner listeners alike. CD ROM version available; see software section. Use shipping code A. Target Audience: general.

**New Edition! BOK 101 ..... \$9<sup>95</sup>**

**THE ARRL REPEATER DIRECTORY**

(ARRL)



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.

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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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By Richard Barnett



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.

**BOK 63-95 ..... \$29<sup>95</sup>**

### COMPENDIUM OF AMERICAN RAILROAD RADIO FREQUENCIES

By Gary L. Sturm and Mark J. Landgraf

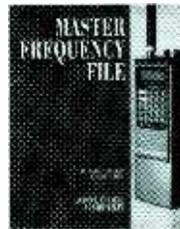


Avid rail fans have long awaited this revised 13th edition of our most popular railroad frequency directory! 200 pages offer comprehensive listings of all frequencies used by U.S. and Canadian railroads, arranged alphabetically by name. Maps are included to show route details. Use shipping code A. Target Audience: general.

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### MASTER FREQUENCY FILE

By James Tunnell and Robert Kelty.



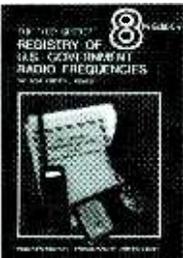
Over 530 pages of top notch information on federal government HF, VHF and UHF communications. Thousands of frequencies, uses, locations, callsigns, repeater pairs, and squelch tones for FBI, ATF, DEA, Secret Service, State Department, Interior, National Parks, Forestry, Capitol Police, Smithsonian, FCC, EPA, Energy, Commerce, Congress, Customs, Prisons, Border Patrol, VA, and more.

Excellent reference chapters on seismic monitoring and voice security. Use shipping code B. Target Audience: general.

**BOK 78 ..... \$29<sup>95</sup>**

### TOP SECRET REGISTRY

By Tom Kneitel



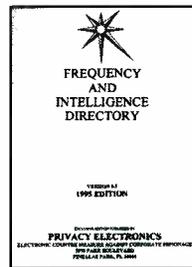
This 8th edition continues the tradition of having the largest amount of federal frequency data ever compiled into a single volume.

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. Use shipping code B. Target Audience: general.

**BOK 8 ..... \$21<sup>95</sup>**

### FREQUENCY AND INTELLIGENCE DIRECTORY

By Jay Harris



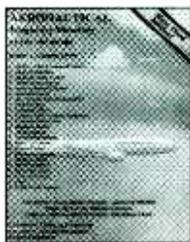
For south Florida scanner buffs, this book is a bonanza with its regionalized listings of business, public safety, cellular, cordless, tourist attractions, aircraft, press, marine, broadcasting, medical, railroad, sports, and transportation frequencies. And for nationwide federal/military VHF/UHF monitors,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

**BOK 81 ..... \$24<sup>95</sup>**

### AERONAUTICAL FREQUENCY DIRECTORY

3rd Edition

By Robert A. Coburn



This 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.

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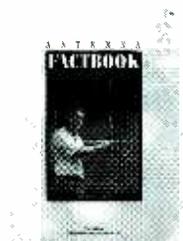


Richard Barnett, well-known scanner frequency expert, has released this exhaustive directory of frequencies used by racing teams, sports events, parks and recreational areas, game and wildlife agencies, TV news teams, security forces, theme parks, colleges, and museums. Common frequencies used by GMRS,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

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By Bob Grove

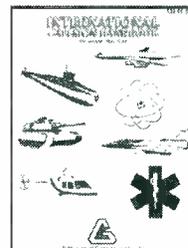


Is a tuner really necessary? How important is the choice of coax? Are all connectors the same? Which accessories are most valuable and which don't I want? What is antenna resonance and is it really necessary? What determines an antenna's efficiency? The answers to these and dozens more questions are found in this new book, meticulously researched and well illustrated. Written for hams, 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 ..... \$9<sup>95</sup>**

### INTERNATIONAL CALLSIGN DIRECTORY

By Gayle Van Horn



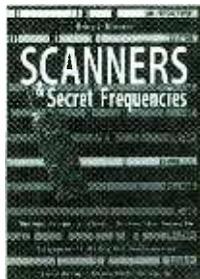
The most exhaustive list of tactical callsigns and their identifications ever assembled for shortwave and scanner listeners in a massive 250 page directory!

Codes from the US Air Force, Navy, Customs, Secret Service, Marine Corps, and foreign military as well as internationally registered callsigns and their users around the world, plus many more. Use shipping code B. Target Audience: general.

**BOK 51 ..... \$9<sup>95</sup>**

## SCANNERS AND SECRET FREQUENCIES

By Henry Eisenson



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 ..... \$19<sup>95</sup>**

## RECEIVING ANTENNA HANDBOOK

By Joe Carr



This 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.

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## 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. Use shipping code A. Target Audience: general.

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## TRAFFIC RADAR HANDBOOK

By Don Sawicki



This 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.

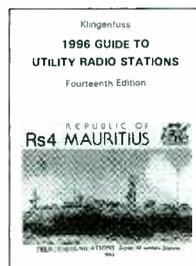
Over 100 pages include how to fight a ticket in court, laser radar, biological effects of radar beams, radar countermeasures, and much more, loaded with illustrations and tables for documentation. Use shipping code B. Target Audience: general.

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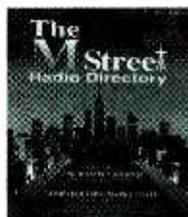
The most comprehensive directory of worldwide utilities ever produced for the first 30 MHz of the spectrum. Lists SSB, RTTY, Fax, CW and other modes as well. Extremely accurate; nearly 20,000 frequencies with callsigns, station name, location and mode. Military, diplomatic, maritime, air, federal, press, etc. Includes glossary of Q and Z signals, terms and definitions. CD-ROM, sold separately, contains the Klingenfuss database plus other useful data! Use shipping code B. Target Audience: general.

New Edition

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## M STREET RADIO DIRECTORY

1996 Edition Edited by Robert Ummacht

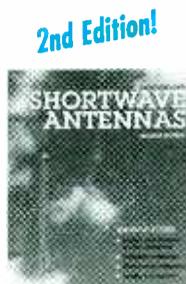


Considered by experts as the most authoritative and comprehensive guide to AM and FM broadcasting stations in the US and Canada, this latest edition by the publishers of the prestigious M Street Journal is packed with program formats, frequencies, Arbitron (and other) ratings, market information, and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

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## BUILD YOUR OWN SHORTWAVE ANTENNAS

By Andrew Yoder



2nd Edition!

No other accessory can add so much to your listening satisfaction as the proper antenna. 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.

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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.

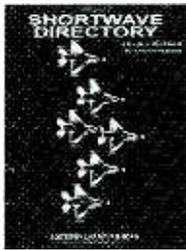
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**SHORTWAVE DIRECTORY**

*By Bob Grove*

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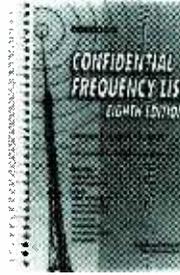
Edited by MT's own Larry Van Horn, the 8th edition Shortwave Directory is the consummate DXer's bible for the first 30 MHz of radio spectrum.

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.

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**CONFIDENTIAL FREQUENCY LIST**

*By Geoff Halligey*



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.

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**1996 WORLD RADIO TV HANDBOOK**

*Edited by Andrew G. Sennitt*

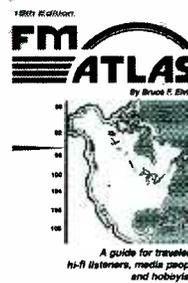


Over 600 pages, arranged by continent, then alphabetically by country, listing domestic and international medium and shortwave frequency assignments, an hourly guide to English language broadcasts, VHF/UHF FM and TV frequencies, world target areas, correspondence addresses and phone numbers. Introductory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

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**FM ATLAS**

*NEW 16th 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.

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**TRAVELER'S GUIDE TO WORLD RADIO**

*By Andrew Sennitt*



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, country telephone prefixes, and area codes as well. Use shipping code A. Target Audience: general.

**BOK 67-96 .....\$9<sup>95</sup>**

**PIRATE RADIO**

*By Andrew Yoder*

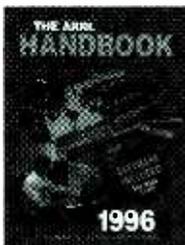


Yoder's reputation as an authority of pirate radio broadcasters is legend, and his newest book takes readers on a walk on radio's wild side!" Containing historical perspectives as well as insightful views into modern pirate broadcasting, we also learn of pirates' probable future. Included is an excellent CD recording of actual broadcasts from the most famous—and notorious—pirates of the Past. Use shipping code B. Target Audience: general.

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**ARRL HANDBOOK FOR RADIO AMATEURS**

*(ARRL) 1996 Edition!*



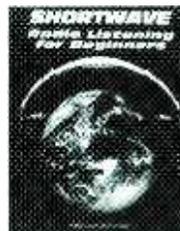
Its 1200 pages contain authoritative and accurate, yet simply explained, chapters on the amateur radio hobby, basic electronics, radio transmitters and receivers, digital technology, antennas and transmission lines, video and data communications, amplifiers, power supplies, projects and techniques, interference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

Liberalily illustrated and exhaustively indexed. Use shipping code B. Target Audience: advanced.

**BOK 58-96 .....\$38<sup>00</sup>**

**SHORTWAVE RADIO LISTENING FOR BEGINNERS**

*By Anita Louise McCormick*



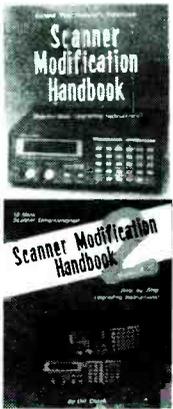
This publication provides excellent insight into shortwave radio—its history, its intrigue, its players. Broadcasters, pirates and clandestines, utility communicators, hams, and even scanner topics are covered in this easy-to-read, liberally illustrated work by a veteran listener.

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 .....\$11<sup>95</sup>**

**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.

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**THE ULTIMATE SCANNER**

*By Bill Cheek*

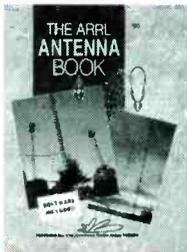


This indispensable bench manual includes memory enhancements, up to 25,600 channels, cellular restoration, simple ways to automate arduous scanning tasks, signal discrimination, computer interfaces, plus generic and specific information on improving scanner performance. You may already own the better part of a "next generation scanner!" Shipping Code B. Target Audience: advanced.

**BOK 83 ..... \$29<sup>95</sup>**

**THE ARRL ANTENNA BOOK**

*(ARRL)*



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.

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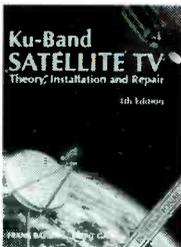
Puzzled by terms like "IF rejection," "dynamic range," and "selectivity"? You need Magne's "How to Interpret Receiver Specifications and Lab Tests". Order it below. Target Audience: general.

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| <b>WP01</b> ICOM R71      | <b>WP07</b> Lowe HF 150  |
| <b>WP02</b> ICOM R9000    | <b>WP09</b> "How to Interpret Receiver Specifications and Lab Tests" |
| <b>WP03</b> Kenwood R5000 | <b>WP10</b> Drake SW8  |
| <b>WP04</b> Sony ICF2010  |  |
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**KU-BAND SATELLITE TV - THEORY, INSTALLATION AND REPAIR**

**4th Edition**

*By Dr. Frank Baylin, Brent Gale and John McCormac*

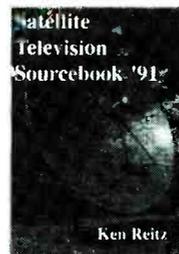


A clear presentation and explanation of all aspects of worldwide Ku-band satellite television. Ku-band satellite communications systems are becoming commonplace throughout the world. This comprehensive manual provides do-it-yourselfers, technicians and managers with the knowledge necessary to fully understand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

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**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.

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**HOME SATELLITE TV INSTALLATION & TROUBLESHOOTING MANUAL**

**3rd Edition**

*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.

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**THE SATELLITE EXPERIMENTER'S HANDBOOK**

*By Martin Davidoff*



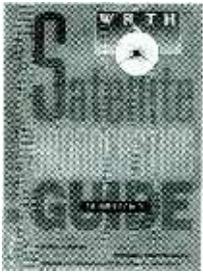
With the launching of Satellite Times magazine, more listeners are focusing their antennas overhead! Get in on this exciting, new aspect of monitoring with projects and information from Davidoff's authoritative, easy-to-read handbook.

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.

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## 1996 SATELLITE BROADCASTERS GUIDE

By Bart Kuperus



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 79-96 ..... \$24<sup>95</sup>**

## 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.

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## HIDDEN SIGNALS ON SATELLITE TV

By Thomas P. Harrington



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. Use shipping code B. Target Audience: advanced.

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## 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 ..... \$16<sup>95</sup>**

## 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 ..... \$39<sup>95</sup>**

## INSTALL, AIM AND REPAIR YOUR SATELLITE TV SYSTEM

By Dr. Frank Baylin

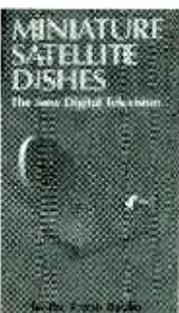


This booklet, a shortened version of *The Home Satellite TV - Installation and Troubleshooting Manual* (BOK 94), explores how to install a satellite TV system, aim the dish at the arc of satellites, as well as how to troubleshoot and repair the system if a problem arises. It also covers the periodic 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 ..... \$9<sup>95</sup>**

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By Dr. Frank Baylin



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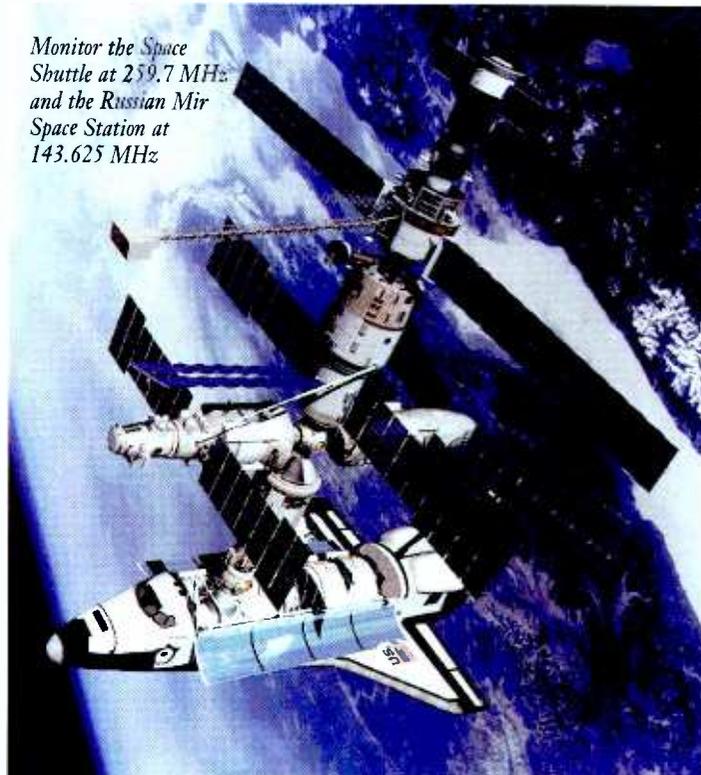
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