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**Spring  
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**YAESU**

## **HYBRID SDR TRANSCEIVERS** **Breaking The Performance Barrier**

**SHERWOOD LABORATORY TESTED DATA**

**Dynamic Range Narrow Spread 107dB**



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**The FTdx10 utilizes Yaesu's renowned  
Hybrid SDR technology to deliver a  
superior HF/50MHz 100W transceiver!**

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# ALINCO

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**DIGITAL MULTI-MODE RECEIVER**

## DJ-X100T <sup>FC</sup>

## DJ-X100E <sup>CE</sup>

### ALINCO DJ-X100T Features

- Receives 30MHz to 470MHz, flat with little sensitivity difference to the edges
- Intuitive operation with an easy-to-understand operation system
- USB Type-C port for battery charging and PC connection
- 999 Memory Channel capacity
- Instrument-inspired design and easy-to-read color TFT LCD
- Equipped with a FM radio monitor
- SDR configuration with low-current-consumption DSP
- GPS-Receiver Built-in for "in-range search" function
- Memory channel editing and position display software utility
- CTCSS and DCS decoding including reverse
- Analog tones/codes and DCR/NXDN user codes are automatically analyzed, received and displayed
- Large-diameter speakers and BTL amplifiers for high volume
- 9 status of VFO/Memory, Scan, Setting screens, etc. can be instantly recalled with a long press of a key
- The set mode, which has more than 50 items in 11 menus, is packed with useful functions!

### Mode

#### Analog Voice :

AM / NAM / FM ( 20kHz ) / NFM ( 12.5kHz ) / FM radio broadcasts

#### Digital Voice :

DCR / DMR ( Tier 1/2 ) / dPMR / NXDN / D-STAR / C4FM (DN)

#### DATA :

compatible FSK DATA signals (AIS and ACARS modes show text and location information on the display)



Easy-to-understand operation system



Displays stations' positions on the screen



Set screen and text to your favorite color using RGB values



Find the nearest radio station with GPS



Water/Dust Proof



### Precautions before purchasing

You need to be familiar with the basics of communication reception such as radio wave modes, steps, shifts, tones, codes, scan types, etc., in order to use this receiver. Auto-mode, auto-step functions are not available. Memory channels are not registered at the time of shipment. Due to the nature of the product, we are unable to provide assistance in explaining the meaning of radio terminology. Inquiries regarding specific radio station frequencies and settings are not supported. There is no wiretap detection function in this product. MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

### A Hobby Unlike Any Other



Amateur radio, in my opinion, is the most endlessly rewarding hobby and unlike any other in the world. I often ask people what they like best about our hobby, and I rarely get the same answer. I believe its appeal lies in its limitless scope. It is not just a pastime but a playground for curiosity, creativity, and technical skill, welcoming everyone from beginners to seasoned experimenters.

At the most basic level, amateur radio offers the joy of connecting with others. Even a simple VHF or UHF handheld transceiver can open doors to local nets, casual chatter, and community-building. From there, the hobby quickly expands into more sophisticated pursuits.

Experimenting with electronics, building kits, and constructing custom equipment are natural extensions. There is a thrill and great sense of accomplishment in assembling a transceiver from scratch or modifying a kit to improve its performance.

Antenna design and construction bring almost endless possibilities, from simple wire dipoles to elaborate multi-element beam antennas. Each design offers unique advantages and challenges. Operators often find that their antenna is as much a part of the hobby as the radio itself, and there is a distinct satisfaction in seeing your own creation boost signal strength or reach distant stations.

For those drawn to frequency exploration, amateur radio spans an extraordinary range (no pun intended). HF bands allow operators to communicate across continents, while VHF, UHF, and microwave frequencies offer line-of-sight and satellite communications. Some hams even venture into optical experiments like laser communications or amateur television (ATV), combining radio science with creative engineering. Digital modes, including FT8, PSK31, and others, have further expanded the hobby into realms where computers and radio intersect, allowing global contacts with surprisingly low power.

It is not all indoor activities, either. Activations like Parks on the Air (POTA) and Summits on the Air (SOTA) take operators outdoors, combining hiking, exploration, and radio into one exhilarating experience. Beyond personal enjoyment, ham radio is invaluable in emergencies. Many operators dedicate time to emergency communications (EmComms or "ecom"), supporting disaster relief and community preparedness when conventional systems fail. These contributions make the hobby not only fun but also profoundly meaningful.

Whether you're experimenting with electronics, building antennas, exploring new frequency bands, or serving your community, there is always a new horizon to pursue. The combination of technical challenge, creativity, and camaraderie ensures that hams remain engaged for decades.

HRO celebrates our 55th year in 2026. For all those years, we have strived to provide you with excellence in sales, service, and support in a hobby that is unlike any other. So please, drop me a note via any of our social media channels and let me know what YOU like best about amateur radio. I'd really like to know.

Robert Ferrero, W6KR  
President, Ham Radio Outlet

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## Dual Band

### 2m/70cm Dual Band Remote Head Unit DR-735T



Building on Alinco's reputation for simple operating commands and straight-forward key design, the DR-735 is a radio you can start enjoying from the moment you power up.

- 144MHz / 440MHz FM transceiver.
- TX 144-148MHz / 430-450MHz.
- RX 108-174MHz (AM/FM) 400-480MHz (FM).
- Receiver double conversion.
- Civil aviation and utility receive.
- 1000 channel programmable memory.
- Full duplex / X-band repeat.
- 50 / 20 / 5W power output on both bands.
- Huge alphanumeric LCD display.
- RGB backlight with choice of eight colors.
- Set different display color for different functions and store in memory.
- Independent 2 meter / 70 cm dials / volume / squelch knobs.
- Removable front control head. Mount remotely or inverted for optimal speaker placement.
- Wide variety of scanning features.
- Computer programmable. Software available on line.



**EXTENDED WARRANTY INFORMATION ON PAGE 113.**

## Mobile Specifications

Model	Frequency Range	Power In	Current Drain TX	Current Drain RX	Power Out	Memory Channels	Sensitivity	Height Inches	Width Inches	Depth Inches	Weight Pounds
DR-CS10T	144-148MHz	13.8 VDC	10 A	600 mA	60W	200	< .3uv	1.378	5.709	7.087	2.0
DR-138TMKII	144-148MHz	13.8 VDC	10 A	600 mA	70W	200	< .3uv	1.85	5.708	7.48	2.6
DR-CS25T	220-224.975MHz	13.8 VDC	10 A	600 mA	10/25/50W	100	< .3uv	1.37	5.7	7.08	2.0
DR-06TA	50-53.995MHz	13.8 VDC	11 A	600 mA	50W	100	< .25uv	1.57	5.58	6.83	2.2
DR-735T	2m/70cm	13.8 VDC	12 A	600 mA	5/20/50W	1000	< .20uv	2.3	5.6	7.4	2.6
DR-MD500T	2m/70cm	13.8 VDC	10 A	500 mA	55/40W	4000	N/A	1.7	5.5	7.4	2.2
DR-MD520T	2m/1.25cm/70cm	13.8 VDC	10 A	500 mA	55/5/40W	4000	N/A	1.7	5.5	7.4	2.2

## Dual/Tri Band

### Dual Band High Power Output DR-MD500T



The DR-MD500T has features such as color LCD display, 55W output power on VHF and 40W on UHF as well as up to 4000 memory channels, 10,000 TalkGroup and up to 300,000 contact lists. Capable of operating in digital and analog with mixed mode in VFO or memory mode.

- DMR Tier I and Tier II
- MAX output power 55W(VHF) / 40W(UHF)
- 4000 channels, 250 zones, 250 scan lists
- 300,000 Digital contact list
- Single or Dual Channel selectable
- Displays DMR ID, Call sign, Name.
- X-band repeat, Analog uplink/Digital downlink or vice versa
- FM Broadcasting receiver with 100 memory channels and VFO
- FCC Part 90 Certified



### 222MHz FM Mobile DR-CS25T

The DR-CS25 in its ultra compact package is loaded with high technology features, with a large back-lit display & microphone, excellent transmit & receive audio, 200 ch memories, various scanning and more! This is the easiest way to get into 220Mhz excitement in your area.

### Tri Band High Power Output DR-MD520T



The DR-MD520T has features such as color LCD display, 55W output on 144MHz, 5W on 220MHz and 40W on 440MHz amateur bands as well as up to 4000 memory channels, 10,000 TalkGroup and up to 500,000 contact lists. Capable of operating in digital and analog with mixed mode in VFO or memory mode and, with built-in GPS receiver, also supports APRS in both analog and digital modes.

- DMR Tier I and Tier II
- MAX output power 55W(VHF) / 40W(UHF)
- 4000 channels, 250 zones, 250 scan lists
- 500,000 Digital contact list
- FCC Part 90 Certified



### 6 Meters & 50 watts DR-06TA

Catch the exciting world of the 6m band with the DR-06TA. Covering 50-53.995MHz with an output of 50W, it has convenient scan features, a variety of selective calling tones, theft alarm, ignition key on/off, direct frequency input, and controls from the EMS57 key pad microphone.

## Single Band

### 2 Meter 60W Mobile DR-CS10T



Alinco's latest 2M DR-CS10 in its ultra compact package is loaded with high technology features. Has a large back-lit display & microphone, excellent transmit/receive audio, 200 ch memories, various scanning features and more.

- Output power selectable up to 60W.
- PC-programmable 200 channel.
- Alphanumeric name tags.
- Wide variety of selective calling features.
- Built-In 2-Tone/5-Tone, 51 CTCSS, 1024 DCS, 4 Tone-burst tones and DTMF / ANI decode.
- Multi-function microphone enables direct frequency entry & remote control.

### 2 Meter 70W Mobile DR-138TMKII



The latest 2M model that is ideal for users requiring high power, clear reception and durability in demanding situations.

- Output power selectable up to 70W.
- PC-programmable 200 channel.
- Alphanumeric name tags.
- New noise-reduction function for Tx and voice compander to enhance Rx clarity.
- Air cooling fan for extended operation.
- Airband and FM radio receiver.

## Handheld Specifications

Model	Frequency Range	Power In	Current Drain TX	Current Drain RX	Power Out*	Memory Channels	Sensitivity	Height Inches	Width Inches	Depth Inches	Weight Pounds
DJ-W70T	2M/70CM	7.4 VDC	2.6A	70 mA	8W	200	< .12uv	5.07	2.40	1.70	.68
DJ-VX50T	2M/70CM	7.4 VDC	1.5 A	80 mA	5W/4W	200	< .12uv	4.65	2.32	1.5	.5
DJ-MD5XLT/FXT	2M/70CM	7.4 VDC	1.5 A	300 mA	.2/1/2.5/5W	4000	< .25uv	4.65	2.32	1.57	.58

\*Power output is determined by choice of battery pack. †At 13.8VDC

## Dual Band

### Dual Band 2m /70cm DJ-VX50T



The DJ-VX50T offers professional grade operation and powerful 5W output on VHF and 4W output on UHF. IP67 dust/water proof body, CTCSS, DTMF, DCS are standard along with a variety of tone bursts for repeater access. In addition, it also supports NHF AM aircraft and FM broadcast reception for extra listening pleasure!

- 3 color selectable display and keypad.
- Alphanumeric labels.
- Battery, stand charger and beltclip included.



## GMRS

### GMRS/FRS DJ-G46T

The Alinco DJ-G46T is a portable, 5W GMRS, personal, general purpose communication 2-way radio. It is rugged (IP54 rated), compact, suitable for various sports activities, camping and other travel adventures that make this versatile radio extremely enjoyable. While this radio shares the same channels as FRS, a license\* is required to operate the DJ-G46T handy talky.

\*GMRS is a PAID land-mobile service and a license is required. Contact your local HRO for more information about GMRS.

- 128 Channel capabilities
- 5W GMRS, 2W FRS output
- GMRS Repeater ready
- CTCSS/ DCS Group talk tones
- PC programmable
- 1700mAh Li-ion battery
- FCC Part 95 Certified



### Dual Band 2m /70cm DJ-W70T

Full of advanced features, the DJ-W70 offers professional grade operation and powerful 8W output on both VHF/UHF.

- IP67 dust/water tight body.
- CTCSS, DTMF, DCS encode/decode.
- Convenience features include intuitive operation with full-color TFT display.
- Direct frequency input.
- 8-digit alpha-numeric channel labels.
- 200 memory channels that can each store operating parameters.
- VHF AM aircraft and FM broadcast receiver.

### Dual Band Analog + DMR DJ-MD5XLT

Alinco's 3rd Generation HT with advanced CPU, dual band VHF/UHF, DMR, GPS and APRS (analog/digital) support. The DJ-MD5XLT has a compact and durable IP54 rated polycarbonate body, designed to resist dust and splash. The DJ-MD5XLT has features such as color LCD display, 5W output power, up to 4000 memory channels and built-in GPS. Capable of operating in digital and analog with mixed mode in VFO or memory mode. Supports two-slot TDMA DMR Tier I and II. The DJ-MD5XLT has powerful audio output power to insure loud crisp receive audio.

DJ-MD5FXT also available. Similar features/specs as DJMD5XLT but without GPS. Has updated USB-C charging.





## HF/6M Transceivers



### Separate 200W RF Deck With Remote Head Software Defined Radio IC-7760

A new innovative shack style for today's connected world. The IC-7760 consists of a separate remote control head and RF deck and uses a LAN cable for connecting between them. It increases the flexibility of the installation. A control cable (3 m, 9.8 ft) is supplied with the transceiver, and a commercially available LAN cable can be used to install the RF deck in a more remote location. No PC is required! It enables the RF deck to be placed in a rack or other location away from the station desktop, providing a quiet shack environment away from the noise of the fan used to dissipate the heat generated by the RF deck.

You can even extend your remote operations to almost anywhere. As long as you have a fast and reliable internet connection you can utilize a VPN or port forwarding and take your remote head "on-the-road". Imagine operating from a beach at sunset, the balcony of your luxury hotel, or some exotic location. All the features, all the functions, and all the power travel with you seamlessly.

The IC-7760 is not a basic radio. It is a world class transceiver with all the quality and modern technology you would expect from Icom.

- Receives 0.03 – 60MHz.
- 800x400 main display and 320x240 sub display touch screens.
- Dual independent receivers (main/sub) providing simultaneous reception of two signals in different bands/modes.
- Advanced RF direct sampling where RF signals are directly converted to digital signals and processed by an FPGA.
- 15 separated BPF (Bandpass Filters) with sharp response specialized for each amateur band to attenuate out-of-band interference and A/D converter overload.
- 100% duty cycle at 200W output due to a large heat sink and effective cooling system.
- Built-In automatic antenna tuner utilizing a mechanical relay stage to provide unmatched tuning speed.
- Dual display control head with touch screens that allow broad customization of information necessary for operation.
- Dual speakers (left and right) allow the main and sub audio to be easily distinguished from each other.
- SD card slot allows for easy recording, backup, and programming.
- DVI-D connector allows for the connection of an external display.
- I/Q Signal out via USB connector on the RF deck.
- Preset FT8 menu allows the user to easily setup for FT8 or return the transceiver to normal operation with the push of a button.

Note: Microphone not included

## HF/6M Transceivers



### Dual VFO Software Defined Radio IC-7610

Faint signals are no longer a challenge for DXers and Contesters worldwide, with the IC-7610. The high-performance RMDR in the IC-7610 can pick out the faintest of signals even in the presence of stronger, adjacent signals.

The IC-7610 introduces dual RF direct sampling receivers. Achieving 100dB RMDR, these receivers rival that of other top-of-the-line transceivers. The IC-7610 also comes with a high-speed, high-resolution, real-time spectrum scope on a 7-inch color display.

The IC-7610 uses an innovative RF direct sampling system to convert a received analog signal to digital. Then it applies sophisticated processing to produce extraordinarily clear audio with high signal-to-noise ratio. The ultra-low noise master clock oscillator yields superior TX and RX performance including an incredible 110 dB of RMDR (reciprocal mixing dynamic range) at 2KHz frequency separation!

Independent dual receivers allow simultaneous reception of two bands and two modes. Independent RF/AF gain controls are provided, and the optional RC-28 USB remote encoder knob can provide a second tuning dial for greater operating flexibility (optional RS-BA1 remote control software is NOT required).

High performance features include 100 watts of power on 160-6 meters on SSB / CW / FM / RTTY / PSK, built-in high-speed automatic antenna tuner, and digital IF filtering with digital twin passband tuning for outstanding interference rejection.

- Receives 0.03 – 60MHz.
- DIGI-SEL digital receiver preselector provides tight RF filtering for both main and sub receiver front ends.
- Dual high-speed, high-resolution, real-time spectrum scopes and waterfall displays.
- High-resolution 7" touch-screen color display for quick, intuitive operation and effortless control of functions.
- Ethernet port for IP remote operation (optional RS-BA1 software required).
- Compatible with SM-50 dynamic mic and AH-730 remote automatic antenna tuner options.
- Superior sound quality speaker.
- SD card saves settings and recorded communications (card not included).
- External monitor via a DVI-D port.

### Remote Control Head for IC-7760

#### LAN/WiFi Remote IC-RC7760

Place the RF deck in your radio shack and operate a full-scale remote with the control head from a separate location even outside the home. Up to 5 control heads can be registered (but only 1 can control at a time). Even with network delay or jitter, the IC-7760 adjusts its buffer to ensure precise signal transmission and CW keying. The ultimate in portable ops.



## HF Transceivers



### Software Defined HF+6M | IC-7300

This HF transceiver has innovative features like the RF direct sampling used in many software defined radios. The real-time spectrum scope with waterfall function gives top-level performance in resolution, sweep speed, and dynamic range.

- SSB, CW, RTTY, AM and FM modes.
- Transmits on amateur HF + 6m frequencies.
- Use the TFT LCD as a touch screen to set various functions.
- 100W output HF / 50MHz bands.
- Built-in high-speed automatic tuner.
- 101 memory channels: 99 regular and 2 scan edge channels.
- Remote control operation for RS-BA1.
- Memory keyer functions for CW and RTTY.
- USB for CI-V and audio input / output.
- Voice memory function.
- RTTY decode log function.
- Screen capture & SD card slot.
- Large cooling fan system.
- Multi-function meter.
- Multiple CW functions & digital noise reduction.



### All-Band HF | IC-718

The superior performance found in the IC-718, such as wide dynamic range, high C/N ratio, and full duty operation, helps you make contacts more easily. Experience the combination of the latest RF and digital technology in a small package with simplified operation. You will see the IC-718 will be the most practical rig you will ever own.

- Compact Design.
- RX .03 – 29.995MHz.
- USB, LSB, CW, RTTY, & AM.
- IF shift interference rejection.
- Output power: SSB / CW / RTTY 5W~100W variable, AM: 2~40W variable.
- Transmits ALL amateur HF except 60m.
- AF DSP built-in.
- Built-in keyer.
- VOX operation, mic compressor, RF gain control.



### Software Defined HF+6M | IC-7300MK2

The successor to the wildly successful and world-renowned IC-7300, the IC-7300MK2 builds on a legacy of excellence with enhanced performance and great new features, setting a new standard for HF operation.

While the IC-7300MK2 shares a lot of the same features there are many additions and improvements.

- Improved RMDR and Phase Noise Characteristics.
- Lower Heat Generation and Lower Power Consumption.
- HDMI™ Port for an External Display.
- RX Antenna IN/OUT Connectors.
- Built-in CW Decoder.
- Simplified RS-BA1 Remote Control.
- USB Type-C™ with Dual COM + Audio.



### Software



### IP Remote Control RS-BA1v2 22

Remotely control your Icom transceivers via an IP network with the RS-BA1v2 22. It allows you to install the radio in another room using your home network or a remote location over the Internet.

The low voice latency caused by the RS-BA1v2 provides the same operational experience as using an actual radio. Most functions and modes of your transceiver, including interference rejection functions and IF filter settings, can be controlled using the CI-V commands.

### Accessories



### Remote USB Encoder IC-RC28

Make remote operating more efficient. The optional IC-RC28 utilizes the same tuning knob and encoder used on Icom HF radios, providing a tactile option for the RS-BA1 software.

The IC-RC28 is a standalone controller for the IC-7610 and the IC-7851 radios and may also be used with the RS-BA1 software.

Model	Receive Freq Range	Power	TX Amp	AM	FM	SSB	CW	FSK	Mike Z	Sensitivity 1.8-30 MHz	Notch	Audio
IC-705	Medium wave to 70cm	13.8 VDC		.5-10W	.5-10W	.5-10W	.5-10W		600		Man + auto	
IC-718	0.03-29.995MHz	13.8 VDC	20 A	2-40W		5-100W	5-100W	5-100W	600	< .16 dBu at 10 dB		> 2.0W
IC-7100	30kHz-199.9999MHz 400-470MHz	13.8 VDC	22A	1-40W	**	**	**	**	600	< .18 dBu at 10 dB	Man + auto	> 2.0W
IC-7300	30 kHz-60MHz	13.8 VDC	21 A	1-25W	100W	100W	100W	100W	600	< .16 dBu at 10 dB	Man + auto	> 2.0W
IC-7610	30 kHz-6MHz	13.8 VDC	23 A	1-25W	1-10W	1-100W	1-100W	1-100W	600	< .15 dBu at 10 dB	Man + auto	> 2.0W
IC-7760	30 kHz-60 MHz	96-264 VAC	800 VA	1-50W	1-200 W	1-200W	1-200W	1-200W	600	(varies with mode/band)	Man + auto	> 2.0W

† Output is continuously adjustable from 5 to full power. \* 50 W on 2 meters, 20 W 70cm. \*\* 2-100 W HF / 50 MHz, 2-50 W VHF, 2-35 W UHF.



## Dual Band

### Practical Dual Bander



This high performance mobile radio is a classic 2m/70cm performer.

- Wideband receiver 118-174 / 375-550 MHz.
- Large backlit LCD screen.
- V/V & U/U simultaneous receive.
- Hands-free capable with optional UT-133.
- Optional VS-3 Bluetooth® headset.
- Cross band repeater capability.
- CS-2730 free downloadable PC programming software.
- 50 watts output on VHF and UHF.
- Squelch delay and squelch attenuator.
- Built-in 50 CTCSS and 104 DTCS tones with split tone function.
- Controller attachment to the main unit with optional MBA-4.
- 1052 memory channels including 50 scan edges and 2 call.
- Weather channel receive with weather alert (USA version only).
- HM-207 remote control mic is standard.
- 16 DTMF autodial memories.
- CI-V remote control capability (through the optional OPC-478UD).
- IC-MBF mounting bracket optional.

## IC-2730B

Special Black Edition



The Icom IC-2730B Black Edition Dual Band VHF/UHF transceiver features a new high contrast black LCD display for improved visibility.

### Icom Handhelds

Model	Frequency Range	Power In	Current Drain TX	Current Drain RX	Power Out (Std Battery Pack)	Sensitivity	Height Inches	Width Inches	Depth Inches	Weight Oz
IC-T10	2M / 70CM	--	< 2.5 A	< 600 mA	5.0W	< .18uv	4.4	2.1	1.2	9.8
IC-V86	2M	7.5W	1.6 A	450 mA	7.0W	< .18uv	4.4	2.3	1.2	10
ID-50/52A	2M / 70CM	7.4W	2.5 A	450 mA	5.0/2.5/1.0/0.5W	< .18uv	4.4/4.8	2.3/2.4	1.2	10.6/11.6

## Single Band

### 2m Mobile Solution IC-V3500



The IC-V3500 is a rugged 2m mobile transceiver providing powerful 65 W\* of output power. The output power level is selectable in four steps and the selected power is displayed.

- 65W(max) 2m analog FM mobile, commercial radio for some markets.
- Similar functionality as the 2300H.
- Modern design: Easy to use radio, better readability with the new white LCD backlight.
- Louder, clear speaker output.
- New emergency functions, requirements for commercial users in some markets, adding a new dimension in user operational safety.
- Instant mute.
- Audio Volume Boost - new functions in this product category.
- Supplied Accessories: HM-133V, DC Power Cord.
- WCS-V3500-USB programming software available.



## IC-V3500B

Special Black Edition



The IC-V3500B is a modified version of the IC-V3500 with a High-Contrast display. The white LCD backlight offers a better readability. It provides excellent visibility and a clean viewing angle, making it especially well-suited for mobile and in-vehicle installations. The IC-V3500B retains a simple user interface despite additional function updates for an easy to use radio. The bottom of the display indicates the available functions of the front panel buttons directly below the display.

## Dual Band

### Dual Band D-STAR® & GPS Mobile ID-5100AD



The ID-5100AD offers an intuitive user interface experience with an industry leading touch screen display. Additionally, the ID-5100AD interfaces with Android™ devices and Bluetooth® headsets via the optional Bluetooth® module.

- Wideband receive (118-137MHz (AM), 137-174 / 375-550MHz only).
- Antenna RX diversity (second antenna connector).
- DTMF decode / DV / FM repeater list.
- Optional UT-133 Bluetooth® unit enables audio accessory connection and Android™ connection (CI-V via Bluetooth® SPP profile).
- Optional VS-3 Bluetooth® pendant earpiece mic.
- Built-in GPS engine.
- Includes MBA-2 bracket. IC-MBF4 not included.
- RS-MS1A Android™ application (free DL)
- Independent VHF and UHF band units (V/V / U/U capable) for 50W output.
- D-Plus reflector usability.
- DV dual watch for simultaneously waiting in two DV voice streams (decodes one only).
- HM-207 control microphone is supplied as standard.

## Accessories

### External Speaker IC-SP35

The SP-35 is a 5 Watt external speaker with a 3.5 mm speaker jack, and it includes a 2 m long connection cable.



### Mounting Bracket IC-MB2730R

Remote Head Kit w/ Mobile Bracket (MBF4 + MBA5) for IC-2730.



## Dual Band

### 2m/ 70cm IC-T10

The IC-T10 is a direct conversion VHF/UHF portable transceiver with advanced features.



- 2m/70cm analog only FM handheld portable.
- 5W RF output.
- 1500mA AF output.
- Based on the commercial IC-F1000T series.
- 2.5ppm stability.
- FM- Wide and Narrow.
- CTCSS / DTCS /DTMF encoding.
- Priority Scan.
- Internal VOX function.
- Direct conversion design.
- 200 channels.
- FM broadcast RX (88-108MHz).
- MIL-810-G / IP67 environmental protection.

Supplied Accessories: BP-280 (2280mAh Li-Ion battery pack), single rapid charger BC-213, AC-Plug changeable AC adapter BC-242, FA-S270C antenna and belt clip.

## Handheld Receiver

### Portable IC-R15



With simple operation and multi-functionality, even beginners can enjoy receiving various radio signals, such as aviation, railway, marine, and so on.

- Dualwatch function supporting more effective reception.

- Frequency coverage of 108 ~ 500MHz in AM and FM modes and receiving FM radio broadcasting.
- Simple Operation Mode supporting quick signal reception.
- Excellent visibility with a large color display.
- Built-in recording function that enables simultaneous recording of two signals.
- Separate keys for the Scan and Skip functions.
- Audio Saving on a microSD Card in the WAV format.
- IPX7 waterproofing and pro-grade construction.
- Built-in Bluetooth® function.
- 13 hours of operation with the supplied BP-287 battery.
- High-speed scan (150 channels/sec).
- Charging with a USB Type-C™ cable.

## Single Band

### 2m Analog Radio IC-V86



Class leading 7 watt output power and new antenna design increase efficiency and communication overall coverage.

- Solid structure meets IP54 and MIL-STD 810G standards.
- Built-in CTCSS and DTCS enc/dec features.

- Frequency coverage TX / RX guaranteed useable range USA:144-148MHz, EXP: 136-174MHz.
- 1500 mW powerful and crystal clear audio provides clear communication even in noisy environments.
- Supplied BP-298, 2250mAh (typical) large capacity Li-ion battery pack.
- Optional BP-299, 3150mAh (typical) extra large capacity Li-ion battery pack.
- Supplied BC-240, battery charger with the charging control function which reduces degradation of battery.

## Handheld Receiver

### Portable IC-R6 SPORT



The power of listening to the world in the palm of your hand is possible with the compact R6! The IC-R6 is a signal search machine, covering 100kHz to 1309.995MHz (cellular blocked and receives analog TV only), it can search 100 channels a second. The receiver is energy-efficient and designed to provide up to 15 hours of listening on a single charge. Truly a wideband signal search machine!

With 1300 alphanumeric memory channels, 50 scan edges, and 200 auto-write memories, there are many scanning opportunities. The bank link feature allows connecting any of the 22 memory banks. The Voice Squelch Control opens the squelch only when a modulated signal is detected.

- Frequency coverage: .100 ~ 1309.995MHz.
- Modes: AM, FM, WFM.
- Current drain: 130mA typical.
- Battery pack or cells: 2xR6 (AA) Ni-MH or alkaline cells.
- Antenna: 50 ohm SMA connector.
- Memory channels: 1550.
- Dimensions: 2.28x3.39x1.17.
- Weight: 200g; 7.1oz.

## Desktop Receiver



### Wideband Receiver IC-R8600

Whether deployed with two receivers on a single 19-inch rack or on your desk at home, the IC-R8600 is an impressive upgrade to any serious SIGINT team, interference research team, or the avid shortwave or receiver enthusiasts. Covering 10 kHz to 3 GHz, this communication receiver enables you to hear and see a wide variety of signals on a 4.3-inch color display.

- Ultra-wide frequency coverage (10kHz-3 GHz) with RSSI (received signal strength indication) function.
- Fast moving, real-time spectrum scope and waterfall.
- Decodes multiple digital protocols, including D-STAR®, NXDN™, dPMR™ and APCO P25.
- Large 4.3 inch TFT color touch screen display.
- Clear audio quality using FPGA / DSP base architecture with superheterodyne circuitry.
- Optional IC-CSR8600 PC remote control software allows control of all receiver functions.
- I/Q signal output for use with third-party SDR software and/or external decoding.
- SD card slot for logs and voice recording.

## HT Accessories

ACCESSORIES	50A 52A	T10	V86	HRO Price
Battery Packs	BP-280		•	\$99.95
	BP-271	•		\$79.95
	BP-272	•		\$149.95
	BP-298		•	\$69.95
	BP-307	•		\$146.95
Battery Cases	BP-263		•	\$30.95
Cases	LC-193	•		\$36.95
Other	SP-27		•	\$33.95
	AD-92SMA	•	•	\$25.95
	MB-124		•	\$13.95

## IC-R6 Accessories

Model	Description	Price
OPC-478UD	USB PC to Radio Cable	\$98.95
SP-27	Tube Earphone	\$33.95
AD-92SMA	BNC Antenna Adaptor	\$25.95



## Dual Band HT

### VHF/UHF D-STAR® Digital Transceiver ID-50A

The ID-50A is a compact dual-band (2m/70cm), making it the perfect on-the-go handheld. The easy D-STAR® settings allow for a quick menu selection to call a friend locally or talk to regions around the world. Enhance QSO opportunities by taking advantage of various smart features.



- 2.3" Monochrome Display. Easy to Read.
- Easy D-STAR® Settings for Beginners.
- Simultaneous reception in V/V, U/U, V/U and DV/DV.
- Easily Find Active Channels by Sight.
- Enjoy D-STAR® Text Message Communications.
- Build Your Own D-STAR® Gateway.
- Double QSO Opportunities with Dualwatch.
- Various Data Saving on a MicroSD Card.
- 750mW Loud Audio Output Power.
- USB Type-C Connector.
- Reliable in Rainy Environments. IPX7 - 1 m depth of water for 30 minutes.

## Special/Limited Editions

### VHF/UHF D-STAR® Digital Transceiver ID-52A Plus 45

The popular ID-52A 45 PLUS D-STAR® transceiver just gets more powerful. Terminal mode and Access Point mode, which previously required a cable connection, can now connect to an Android™ device via Bluetooth® technology. In addition, dual operation of Terminal mode and Simplex/Repeater operations is now possible. Moreover, an industry standard USB Type-C™ port for convenient USB Type-C™ charging is newly adopted.



ACCESSORIES		50A 52A	T10	V86	HRO Price
Cables	CP-12L	•	•		\$44.95
	CP-23L		•	•	\$41.95
	OPC-254L	•	•		\$34.95
	OPC-478UD		•	•	\$98.95
	OPC-515L			•	\$24.95
	OPC-2004*	•		•	\$30.95
Speaker Mics	OPC-2144	•			\$33.95
	HM-153LS	•			\$122.95
	HM-158LA		•	•	\$49.95
	HM-159LA		•	•	\$84.95
	HM-166LS	•			\$94.95
Headsets	HM-186LS	•			\$56.95
	HS-94	•			\$25.95
	HS-97	•			\$48.95

## Dual Band HT

### VHF/UHF D-STAR® Digital Transceiver ID-52A

The ID-52A is equipped with a color display. To provide more 'on-screen' information and increase readability the display size is 2.3 inches and a transreflective display is used to achieve excellent visibility, even in bright sunlight. The transceiver also supports Bluetooth® communication as standard. Wirelessly connect to Android™ devices with ST-4001A/ST-4001I Picture Utility Software and RS-MS1A Remote Control Software installed. The optional VS-3 Bluetooth® headset is also available, for hands-free operation.



- 2.3" large transreflective color display that is easy to see outdoors.
- Bluetooth® communication as standard.
- Simultaneous reception in V/V, U/U, V/U and DV/DV.
- Enriched D-STAR® features including the terminal mode/access point mode.
- UHF Air Band reception (225~374.995 MHz).
- Significantly increased audio output power to 750mW (400mW for ID-51 series).
- Accessories for the ID-51A/E such as battery packs and microphones can be used.
- IPX7 - 1 m depth of water for 30 minutes.

## Multi-Band

### HF/VHF/UHF + D-STAR® IC-7100



- Intuitive touch screen interface.
- Easy-to-see, easy-to-use slant top controller.
- Built-in high efficiency oval speaker on the controller.
- D-STAR® DV mode digital voice and low speed data communications.
- 505 memory channels.
- SWR graphic display.
- Optional MBF-1 mounting base.
- Built-in SD card slot for voice storage and data cloning.
- Built-in RTTY functions.
- Easy vehicle mounting with the optional MBF-1 kit.
- IF DSP controlled digital features. The 32-bit floating point DSP supports many digital processing features such as digital IF filter, twin PBT and manual notch filters.
- Remote Control Software (optional RS-BA1v2).
- CW full break-in.
- CW auto tuning.
- USB Audio/Control.
- IF-DSP.

#### Icom AA Alkaline Battery Packs

BP-208N, BP-263, BP-293

Use standard "AA" batteries to power your handheld. Never run out of power again. Great for emergency use or as a quick, backup battery.

## Ultra-Portable QRP



### 1-30/50/144/430MHz All-Mode QRP Transceiver IC-705

The IC-705 puts the power of a "Base Station" in the palm of your hand. And because of its ultra-portable size you can literally take this small wonder just about anywhere. Perfectly suited for backyards, parks, mobile, and mountain tops. 10 watts output.

#### RF Direct Sampling

The IC-705 converts RF signals directly to digital data. A FPGA (Field Programmable Gate Array) processes the digital data into audio. The result is a reduction of internal noise that can hide weak signals. You will hear those distant signals that other radios mask.

#### HF/50/144/440MHz Multimode

Don't be limited to a few bands. Enjoy the freedom of operation from HF to UHF and in FM, AM, SSB, RTTY, and D-STAR® DV. You'll also get FM broadcast and Airband reception.

#### Large, Color Touchscreen

At 4.3" the color TFT touch LCD allows you to clearly see and operate with ease. You can navigate through menus and adjust operating parameters with a simple touch of your finger. And the bright display means no worries when operating outdoors.

#### Real Time Spectrum Scope And Waterfall Display

Easily see band activity, find a clear frequency, monitor receive and transmit conditions in real time. No more need for expensive add-on options.

#### Multiple Power Options

Included is a high capacity Li-ion battery, the same used in the ID-51A and ID-31A. For extended operation you can supply your own power from any 13.8V DC external source.

#### Compact and Lightweight

Even with all the impressive features this radio is a rugged, compact, and lightweight unit. At only 2.5 lb you will quickly discover that taking this radio with you is easier than ever!

## Tri-Band

### VHF/UHF/SHF D-STAR® Transceiver IC-9700



Designed for the VHF / UHF weak signal operator, the IC-9700 is an RF direct sampling receiver for 2m and 70cm, with a single down conversion for 23cm with an IF sampled receiver between 311 – 371MHz.

## VHF/UHF/SHF



### VHF/UHF/SHF All-Mode Transceiver IC-905

Aim higher and enter the world of SHF. The IC-905 is an industry-first all-mode transceiver with 144/440/1200/2400/5600MHz coverage. Add 10GHz with the optional CX-10G transverter.

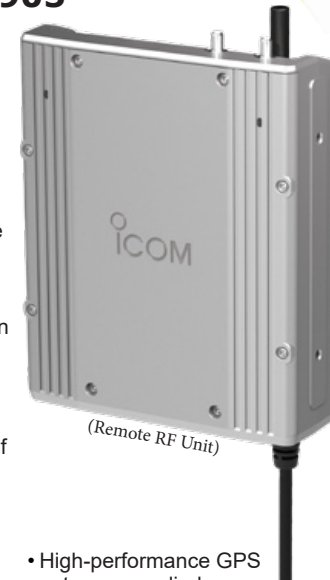
Two separate units (controller and RF module) allow you to mount the RF module as close as possible to the antenna.

The LAN cable connection between the controller and the RF module significantly reduces power loss.

PoE (Power over Ethernet) technology improves the location of the RF module installation.

#### Main Features

- Output power is 10W on 144 / 430 / 1200MHz, 2W on 2400 / 5600MHz and 0.5W on 10 GHz.
- 4.3 inch large color LCD touch display.
- A high-performance real-time spectrum scope and waterfall display.
- The real-time spectrum scope can be adjusted for various band spans.
- Easy digital mode settings.
- SD card slot.



(Remote RF Unit)

- High-performance GPS antenna supplied.
- GPS 1 pps signal frequency management.
- Full D-STAR® functions (DV/DD Mode).
- ATV (Amateur TV) in the FM Mode.
- USB connection for PC and mobile.
- CX-10G, 10GHz Transverter, available as an optional item.

This design provides a quiet receiver with the power of Icom's DSP technology along with a robust PA providing 100W on 2m, 75W on 70 cm, and 10W on 23cm.

- All mode, tri-band transceiver covers 144, 430/440 and 1200 MHz.
- Supports CW / AM / SSB / FM / RTTY and D-STAR® DV and DD modes.
- Digital Data (DD) mode provides 128 kbps data communication.
- PA has a powerful 100W (144 MHz), 75W (430/440MHz) and 10W (1200MHz) output.
- 4.3" touch screen color TFT LCD.
- Smooth satellite operation with normal / reverse tracking and 99 satellite channels.
- Real-time, high-speed spectrum scope and waterfall display.

## KENWOOD

### Tri-Band Transceiver

#### FM & D-STAR® GPS & APRS TH-D75A

The leader of the Tri-Band (144/220/440MHz) Handheld Transceiver, featuring simultaneous reception of 2 D-STAR® signals, Reflector Terminal Mode, and APRS® Standalone Digipeater.

Following on from the TH-D74, the TH-D75A adds many useful features such as simultaneous reception of 2 D-STAR® signals, Reflector Terminal mode for accessing D-STAR® reflectors, enhanced voice guidance and digipeater function.

Usability has also been further enhanced with the adoption of USB Type-C, Bluetooth headset PTT support, and a fully ergonomic design.

Compatible with the APRS communication protocol, which allows real-time two-way data transmission by using packet communications. Various types of communication are possible, such as GPS positional information sharing, text messaging, and communicating via the ISS and other satellites. In addition, full-fledged APRS operation is made possible through a unique standalone digipeater function that sets APRS-veteran KENWOOD apart.

These much-anticipated additions are sure to satisfy the needs of a wide range of amateur radio operators.

Supports D-STAR®, the amateur radio digital communications protocol, which provides both voice and data modes. From local to overseas, QSOs can be enjoyed in a variety of modes, including simplex, single repeater, and gateway communications over a network of repeaters. Newly supported Reflector Terminal mode and simultaneous reception of two digital voice signals provide additional flexibility to D-STAR® operations.

- APRS® Protocol compliant: Real-time 2-way data communications, plus standalone digipeater function further enhances the capability. APRS® is a registered trademark of TAPR and is used with permission.
- D-STAR® Digital Protocol compatible: Flexibility stretches with simultaneous reception of 2 signals for digital voice and data operation.
- Reflector Terminal mode: Easy access to D-STAR® reflectors via a Windows PC or Android device using a USB port or Bluetooth®, so there is no need for a mini RF device such as a Hotspot.
- Wideband and Multimode reception and, on top of that, IF output via USB port lets you connect the radio to a PC to use bandscope for checking nearby frequencies while listening to the radio.
- USB Type-C™ port for serial connection, audio out and charging functions.
- Enhanced voice guidance including 4-step variable speed and 770+ phrases.
- 1.74-inch TFT transreflective color LCD.
- Renowned KENWOOD sound quality.



**EXTENDED WARRANTY INFORMATION ON PAGE 113.**

### Kenwood Battery Packs

Model	VDC	mAH Rating	Desk Charger	Radio Series	HRO Price
KBP-9W	9V	--	--	TH-D74A/D75A	\$39.95
KNB-75LAM	7.4	1820	KSC-25LSK	TH-D74A/D75A	\$119.95

### Accessories

#### External Speaker SP-990M



Designed to match Kenwood's TS-990S, this external speaker features dual inputs and high cut and low cut filters as well as a headphone jack on the front.

#### External Speaker SP-23



The SP-23 speaker matches several Kenwood radios including the TS-590SG, TS-450S, TS-570S/D and the TS-690.

#### External Speaker SP-890W



Designed to match Kenwood's TS-890S, this external speaker features dual inputs and high cut and low cut filters as well as a headphone jack on the front.

#### Switching Power Supply KPS-15



Provides 13.8 V at 23 A continuous or 25 A surge. Housed in a heavy metal case with an internal cooling fan, this small supply weighs just over 3 lbs.

#### Prism Embroidery DUST-COVER



Leatherette dust cover custom crafted to fit each HF radio or amplifier. Available for most Kenwood HF radios. Contact HRO for a cover for your specific model.

## KENWOOD

### HF / 50MHz Transceiver



#### Extreme Performance HF / 50MHz TS-990S

The TS-990S raises the bar on HF performance and DX operating ease. Dual display and dual watch gives you the edge in DX contesting.

- Frequency range HF + 50MHz.
- Output power: 5 - 200W.
- Built-in antenna tuner.
- Mode: SSB, CW, FSK, PSK, FM, & AM.
- Built-in switching power supply.
- Comm ports: USB A / B and LAN.
- Dual TFT display and dual receiver. Main display monitors target signal vicinity and sub display monitors actual target signal.
- Down conversion for all amateur radio bands on the main receiver.
- IP3 + 40 dBm mixer performance.
- Narrow-band high-IP roofing filters.
- TCXO ±0.1 ppm for high stability receive.
- Dedicated triple DSP for main and sub-receivers plus band scope.
- Remote PC operation.
- Data mode facilitates switching between external terminals.
- Advanced AGC – digital and analog.
- 2-step split frequency configuration for quick setup.
- Maximum of 120 memory channels.
- Dual channel memory allows access while receiving two frequencies simultaneously.
- Memory accessible during split/sub receiver operation.
- Two USB sockets on the front panel.
- Firmware updates via USB stick or cable.
- VCO division-type first oscillator divides high frequencies to ensure high C/N.
- Dedicated triple 32-bit floating point DSPs for main & sub receivers plus band scope, audio scope and S-meter.
- Cooling system capable of providing ample airflow to each unit to ensure a stable 200 watt output.
- Microphone NOT included.

### Kenwood HF Specifications

Model	RX Frequency Range	Power Supply			Power Out Watts					Mic Z	RX Type	SENS Level	RIT/XIT Range	Notch Filter	Audio Output
		Volt	XMIT	REC	AM	FM	SSB	CW	FSK						
TS-590SG	0.13 - 60MHz	13.8 VDC	20.5 A	1.5 A	25	100	100	100	100	600	#	<.2 μV	±9.99kHz	>70 dB	1.5W
TS-890S	1.81 - 29.7MHz 50 - 52MHz	13.8 VDC	22.5 A	1.5 A	50	100	100	100	100	600	Double Superhet	<.2 μV	±9.99kHz	>70 dB	1.5W
TS-990S	0.13 - 30MHz 50 - 54MHz	110/220 VAC Inc.	720 VAC	120 VAC	50	200	200	200	200	600	Double Superhet	<.2 μV	±9.99kHz	>70 dB	1.5W

# Down conversion is selected automatically when receiving in CW/ FSK/ SSB modes if the final passband is 2.7 kHz or less.

### HF / 50MHz Transceiver

#### Hi-Performance HF / 50MHz TS-890S



The Kenwood TS-890S transceiver features a full down conversion receiver with H-mode mixer and high C/N 1st LO with four built in roofing filters: 500Hz, 2.7kHz, 6kHz and 15kHz (optional 270Hz). This transceiver has a 7 inch color TFT display and includes roofing frequency sampling band scope, auto scroll mode and multi information screen. Heavy-duty construction and a high-speed 100 watt antenna tuner come standard. The configuration of the band scope receiver has changed from the superheterodyne system used in the TS-990S to 1st IF sampling using an A/D converter (14bit/39MHz), and FPGA digital down conversion. This means a change in scanning method from step FFT to FFT, achieving high-speed updates to the display irrespective of scan settings.

- Microphone NOT included.
- IF filter shape, AF filter.
- Audio peak filter, AGC quick recovery.
- Notch filter, noise blanker.
- Highly reliable 100W final-stage amplifier circuit for HF and 50MHz.

### HF / 50MHz Transceiver

#### Class Leading Performance TS-590SG



The TS-590SG features a narrow-band roofing filter to significantly reduce interference from unwanted signals. The resulting excellent RX performance reveals signals that would be hidden to lesser rigs. With IF AGC based on advanced DSP technology, Kenwood has essentially redefined HF transceiver performance.

- Has sharp 500Hz / 2.7kHz roofing filter and dedicated first mixer.
- Built-in electronic memory keyer.
- Programmable keys, 110 memory channels, memory scroll function, multiple scan functions.
- Advanced AGC through digital signal processing from the IF stage onward, digital IF filters, detection and demodulation, noise reduction and IF auto notch, IF AGC, AF digital signal processing, two types of noise reduction, and TX audio shaping.
- Morse code decoder function.
- Direct frequency entry, USB connectivity for PC control, remote control using a computer, optional voice guide and storage unit.
- Split function enabling quick setting.
- Transmitter features: 100W heavy-duty design, built-in automatic antenna tuner, optional TCXO, drive output, speech processor (SSB / AM / FM), adjustable TX filter (SSB / AM), TX equalizer, TX monitor, VOX, adjustable TX power output and CAR level.
- Antenna output function (shared with DRV connector)
- LED backlight with selectable color tone.
- FIL A/B configurable independently with VFO A/B. Convenient during Split operation.
- Front or rear PTT selectable for Data PTT.
- Switching from HI CUT/ LO CUT to WIDTH/ SHIFT possible for reception bandwidth changing in SSB mode.
- Interference/noise removal features.
- Built-in preset-type high speed operation automatic antenna tuner.



**Single SMA Input  
RSP1B**  
HRO Price: \$139.95

An update to the RSP1A. The key advantages are that it comes in a strong, black, painted steel case instead of plastic, and (compared to the RSP1A) has significantly improved noise performance below 1MHz. Also noticeable noise improvements in the 3.5-5.5MHz and 250-320MHz spectrum. It also has improved signal handling at HF frequencies compared to the RSP1A. Combined with the power of readily available SDR software, such as SDRUno, you can monitor up to 10MHz of spectrum at a time. Other SDR software is available for most OS platforms (including Linux, Mac, Raspberry Pi). Third party software is also available to allow reception of various digital modes or to implement panadapter functionality for any CAT controllable rig.

- Improved noise performance below 1MHz and in the 3.5-5.5MHz, 50-60MHz and 250-320MHz ranges.
- Continuous coverage from 1kHz to 2GHz.
- Up to 10MHz visible bandwidth.
- Powers over the USB cable with a simple type B socket.
- 14-bit ADC silicon technology (not another 8 bit dongle!).
- 11 high-selectivity, built in front-end pre-selection filters.
- SDRuno: world class Windows SDR software available as FREE download.
- Single SMA antenna socket covering entire frequency range.

**Single SMA Input  
nRSP-ST**  
HRO Price: \$499.95

**Plug and Play Networked  
General Coverage Receiver**



**Enhanced Version  
RSPdx-R2**  
HRO Price: \$239.95

The SDRplay RSPdx-R2 is a single-tuner wideband full featured 14-bit SDR which covers the entire RF spectrum from 1kHz to 2GHz giving up to 10MHz of spectrum visibility.

It contains three antenna ports, two of which use SMA connectors and operate across the full 1kHz to 2GHz range and the third uses a BNC connector which operates up to 200MHz.

Housed in a strong steel case, in addition to the functionality of the RSP1B, the RSPdx-R2 provides three software selectable antenna inputs and an external clock input. This saves constant re-connecting different antennas for different frequency choices especially for widely separated bands such as HF and VHF.

The RSPdx-R2 offers excellent performance through HF and VHF frequencies all the way up to 2GHz. The RSPdx-R2 also supports an "HDR mode" optimized for the demanding radio reception conditions below 2MHz. HDR mode delivers improved intermodulation performance and fewer spurious responses for those challenging low frequencies.

The companion SDRuno and SDRconnect SDR software provides all the popular ham bands and shortwave broadcast bands as "presets" which mimic the band buttons of a traditional amateur radio receiver. Likewise, there are the familiar demodulator buttons for AM, FM, CW, USB, LSB etc.

The nRSP-ST combines a receiver, a host computer and a whole lot more all in one box. Apply power and connect to the internet and the nRSP-ST can be accessible from anywhere. The receiver comprises a full-featured 14-bit software defined radio. It offers up to 10MHz of spectrum visibility anywhere between 1kHz and 2GHz. The nRSP-ST is ideal as a stand-alone device with remote connections made accessible via its Ethernet or WiFi interfaces. SDRplay provides free companion SDRconnect™ client SDR software for Windows, MacOS and Linux platforms.



**3 Ports & Dual Tuners  
SDRduo**  
HRO Price: \$299.95

The SDRplay RSPduo is a dual-tuner wideband full-featured 14-bit SDR which covers the entire RF spectrum from 1kHz to 2GHz, giving 10MHz of spectrum visibility. Combined with SDRuno software for Windows, you can simultaneously monitor two completely separate 2MHz bands of spectrum anywhere between 1kHz and 2GHz. The RSPduo provides three software selectable antenna inputs and clocking features ideally suited to industrial, scientific and educational applications.

- Dual tuners provide independent coverage 1kHz to 2GHz using 2 antenna ports simultaneously.
- 14-bit ADC silicon technology (not another 8 bit dongle!).
- Up to 10MHz visible bandwidth (single tuner mode) or 2 slices of 2MHz spectrum (dual tuner mode).
- 3 software-selectable antenna ports (2 x 50 ohms and 1 x 1k ohms high impedance balanced/unbalanced input).
- High impedance antenna port (1kHz to 30 MHz) with selectable MW notch filter and choice of 2 pre-selection filters.
- Software selectable AM / FM and DAB broadcast band notch filters for the two SMA antenna (1kHz to 2GHz) ports.
- External clock input and output enables easy synchronization to multiple RSPs or external reference clock.
- Filters on both the 2 SMA antenna ports.
- Software selectable multi-level low noise preamplifier.
- Bias -T power supply for powering antenna-mounted LNA.
- Enclosed in a rugged black painted steel case.
- SDRuno: World class SDR Windows software FREE to download.
- Open API for new apps development.

- Covers all frequencies from 1kHz through VLF, LF, MW, HF, VHF, UHF and L-band to 2GHz.
- Use locally via the USB interface, or connect to the internet (Ethernet or Wi-Fi).
- Receive, monitor and record up to 10MHz of spectrum at a time.
- Software selectable choice of 3 antenna ports.
- Supports multiple client connections with a simultaneous mixture of connection modes.
- The ability to record IQ and audio files to a NAS device if available.



High Performance HF Transceivers



**HF/50MHz - 100W  
FTdx101D**

The new FTdx101 series is an impressive achievement from Yaesu's elite "FTdx" design team, utilizing the very latest SDR technology and brilliantly executed firmware to yield a high-end transceiver that exudes quality and high performance. Building on the legacy of the legendary best-selling FT-101 line, the new FTdx101 series stands to create its own legacy as one of the best performers ever available to the elite-class operator.

- Superb, class-leading close-in dynamic range.
- FTdx101D: 5-100W all modes except AM (25W).
- FTdx101MP: 5-200W all modes except AM (50W).
- 9MHz IF roofing filter for excellent close-in IMD immunity.
- 400MHz HRDDS (high resolution direct digital synthesizer).
- Hybrid SDR: direct sampling & NBW (narrow bandwidth) SDR technology.

**HF/50MHz - 200W  
FTdx101MP**

- Completely independent dual receivers.
- High-Q VC-tuning front-end with general coverage RX.
- Yaesu renowned interference reduction system with 32-bit IF DSP and digital noise reduction and DSP auto notch.
- Large touch-panel precision color display and external display output.
- Rich, sparkling audio quality on both transmit and receive.
- Active band indicator with LED illumination

- of the operating band: facilitates rapid, mistake-free band changes.
- MPVD (multi-purpose VFO outer dial) provides sub VFO tuning, clarifier operation, VC-TUNE adjustment, VFO fine tuning, or a CS (custom selection) function.
- MP 200W version includes larger heatsink and fan, and uses external speaker/power supply.
- Superb, class-leading close-in dynamic range.

**100W Transceiver with 3DSS  
FTDX10**

### Hybrid SDR Configuration

Like the FTDX101 series, the new FTDX10 utilizes the Yaesu Hybrid SDR configuration - Narrow Band SDR and Direct Sampling SDR. The Narrow band SDR receiver emphasizes excellent receiver performance, while the Direct Sampling SDR provides a Digital Processing Real-Time Spectrum Scope.

### Narrow Band SDR with 3 types of Roofing Filters and Phenomenal Multi-signal receiving Characteristics

Like the FTDX101 series, the Down Conversion type receiver configuration with the first IF at 9MHz has been adopted. It makes it possible to incorporate excellent narrow bandwidth crystal roofing filters that have the desired sharp "cliff edge" shape factor. Thanks to the Narrow Band SDR with the latest circuit configuration including 500Hz, 3kHz and 12kHz roofing filters and low-noise oscillator, the RMDR (Reciprocal Mixing Dynamic Range) reaches 116dB or more, the close-in BDR (Blocking Dynamic Range) reaches 141dB or more and 3rd IMDR (third-order Intermodulation Dynamic Range) reaches 109dB or more in the 14MHz band at 2kHz separation.

### 250MHz HRDDS (High Resolution Direct Digital Synthesizer) Affords Quiet and Clear Reception

The local circuit of the new FTDX10 uses 250MHz HRDDS method same as the FTDX101 series. Thanks to its characteristics that improve the C/N (carrier to noise) ratio and the careful selection of components in the design, the phase noise characteristic of the local signal achieves an excellent value of -145dB or less in 14MHz at 2kHz separation.



- HF/50MHz band 100W Transceiver.
- Hybrid SDR configuration utilizing a Narrow Bandwidth SDR and a Direct Sampling SDR.
- Narrow Band SDR enables phenomenal multi-signal receiving characteristics (2kHz RMDR 116dB+, 2kHz BDR 141dB+, 2kHz 3rd IMDR 109dB+).
- 15 separate powerful Band Pass Filters (BPF).
- 5-inch full color touch panel and 3DSS (3-Dimensional Spectrum Stream) display.
- MPVD (Multi-Purpose VFO Outer Dial) enables

- outstanding operating performance.
- Quick Memory Bank (QMB).
- Supports CW operation with multiple functions such as: CW zero-in, CW auto zero-in, CW reverse, CW decode, CW keying signal form shaping by FPGA and others.
- RTTY (FSK)/ PSK Encode/ Decode function.
- Other practical features such as optional RF gain selection by IPO. Automatic Gain Control, quick split function.
- SD card slot.
- Remote operation via internet with optional LAN-Unit (SCU-LAN10).

**YAESU**  
The radio

## HF/50MHz Transceiver

### 100 W Transceiver with AESS FT-710 AESS



The FT-710 AESS is packaged in a sleek new compact design while providing 100 watt output. It also utilizes the advanced digital RF technology introduced in the FTDX101 and FTDX10 series.

**Includes Yaesu SP-40 External Speaker with every unit.**

A few of the new incredible features of the FT-710 AESS are:

- Unmatched SDR technology emphasizes the Receiving Performance.
- Band Pass Filters dedicated for the Amateur Bands that specialize in eliminating out-of-band unwanted signals.
- RF front-end design with the 250MHz HRDDS (High Resolution Direct Digital Synthesizer) enables Phenomenal Multi-Signal Receiving Characteristics.
- QRM rejection by the dual core 32-bit high speed floating decimal point DSP for SHIFT/ WIDTH/ NOTCH/ CONTOUR/APF (Audio Peak Filter)/ DNR (Digital Noise Reduction)/ NB (Noise Blanker) and 3-Stage Parametric Equalizer.
- High resolution 4.3-inch TFT Color Touch Panel Display.
- 3DSS (3-Dimensional Spectrum Stream).
- VMI LED (VFO Mode Indicator) placed around the VFO dial shows the current operating mode (VFO-A, VFO-B, Memory Mode and Clarifier/Split Operation).
- PRESET mode function most suitable for FT8 Operation
- AESS: Acoustic Enhanced Speaker System with SP-40 creates the high-fidelity audio output.
- External display connection terminal (DVI-D).
- Built-in high speed automatic antenna tuner with 100 channel memory.
- Supports the FC-40 auto antenna tuner.
- SD memory card can be used to save the communication record, transceiver setting, the memory contents, screen capture images, and to update the firmware.
- Two (2) USB ports (Type-A and Type-B).
- Other essential features such as CW Zero-In and SPOT, IPO (Intercept Point Optimization), and remote operation with network remote control system to name a few.

### 100 W Transceiver FT-710 FIELD



The FT-710 transceiver is also available without the SP-40 external speaker. Same specifications. Perfect for mobile, field day, and portable operations.

## HF/50/144/440MHz

### QRP SDR Transceiver FTX-1 FIELD



The FTX-1 Field is a portable transceiver utilizing SDR technology and will provide 6 watts of power output (10 watts with external DC supply) with the included 5670mAh Lithium-ion battery pack.

With average operation this enables 9-hours stand-alone operating time on the HF bands in SSB mode, and 8-hours operating time on the V/UHF bands in FM mode based on a 6-6-48 duty cycle.

- Operation in SSB, CW, AM, FM and C4FM digital modes.
- SDR technology and 3DSS (3-Dimensional Spectrum Stream) on a 4.3-inch high-resolution full-color touch display panel.
- Two independent receiver circuits provide true simultaneous dual-band operation, whether in the same band or in different bands. For example: SSB communication on HF bands simultaneously with C4FM digital communication on V/ UHF bands (\*HF+V, HF+U, V+V, U+U, V+U, U+V).
- USB CAT & audio support.
- An optional automatic antenna tuner can be attached to the rear of the transceiver with the 5670mAh high-capacity Li-ion battery pack.
- Optional cooling-fan, which is necessary for comfortable FT8 operation, can also be combined with the antenna tuner. (All-in-one rear panel design).
- RF front-end and low noise reference oscillator, enables phenomenal multi-signal receiving characteristics.
- Two loud speakers ensure clear and powerful audio output.

### 100 W SDR Transceiver FTX-1 OPTIMA



FTX-1 Optima is supplied with a detachable RF power amplifier SPA-1 for 100W operation in addition to the SBR-52LI Li-ion battery for QRP/field operation.

Other accessories such as cooling fan, GPS unit, and bluetooth add-on are also available.



### FT-710 Speaker SP-40

Full range, matching speaker for the FT-710. Included with the FT-710 AESS, optional with the FT-710 Field.

### FTDX10/101 Speaker SP-101

The SP-101 complements the FTdx10 & FTdx101D with excellent audio reproduction.



## AM/FM/CW/SSB + C4FM Digital

### HF/50/144/440 MHz Portable FT-991A



The FT-991A is the next generation in all mode, all band MF/HF/VHF/ UHF transceiver with C4FM (System Fusion) Digital capability. The FT-991A includes multi-mode operation on CW, AM, FM, SSB, and Digital Modes (Packet, PSK31, RTTY and C4FM), with 100 watts of HF/50MHz capability (50 watts VHF/UHF).

The FT-991A includes a high-resolution full color 3.5" TFT Touch panel for superior operability and visibility, incorporating a High Speed Spectrum and High Resolution real-time scope with ASC (Automatic Spectrum-scope control) built right in.

- Receive coverage 160m through 70cm.
- Transmits 100W (HF), 50W (2m), 50W (70cm).
- 3.5 inch TFT full-color touch panel operation.
- High speed spectrum scope with automatic control built-in.
- Roofing filter 3kHz and 15 kHz.
- Triple conversion with 1st IF frequency of 69.450MHz on all bands.
- High accuracy TCXO ±0.5ppm.
- Separate RF amps for best characteristic on each band.
- High resolution DDS and PLL local oscillator.
- 32 bit high speed floating point IF DSP.
- IF width and IF shift.
- Contour, DNR, IF Notch.
- APF for CW only.
- 160-6m, high speed automatic antenna tuner.
- Full color TFT / LCD display. Four user defined function keys.
- Electronic keying with break-in support, electronic keyer weight control.
- Message memory function.
- 50 tone CTCSS encoder / decoder for FM operation.
- Compatible with optional ATAS-120 Active Antenna System.

## Yaesu HF Specifications

Model	Bands	Volts AC	Volts DC	Tx Amps	Rx Amps	AM	FM	SSB	CW	MIC Z	RX Type	Sens	RIT/XIT Range	Audio Power
FTDX10	HF/50MHz		13.8	23 A	2.1 A	25 W	100 W	100 W	100 W	200-10K	Double	< .16 dBu	±9.99 kHz	2.5 W
FTDX101D	HF/50MHz		13.8	23 A	3.5 A	25 W	100 W	100 W	100 W	200-10K	Double	< .16 dBu	±9.99 kHz	2.5 W
FTDX101MP	HF/50MHz	100-201	N/A	720 VA	100 VA	50 W	200 W	200 W	200 W	200-10K	Double	< .16 dBu	±9.99 kHz	2.5 W
FTX-1 F/O	HF/VHF/UHF		13.8	2.5/21 A*	.6 A*		1.5 W - 100 W*			200-10K	DSP	< .16 dBu*	±9.99 kHz	1.5/4 W*
FT-710	HF/50MHz		13.8	21 A	2.2 A	25 W	100 W	100 W	100 W	200-10K	DSP	< .16 dBu	±9.99 kHz	2.5 W
FT-891	HF/50MHz		13.8	23 A	2.0 A	25 W	100 W	100 W	100 W	200-10K	Triple	< .158 dBu HF < 125 dBu 6m	±9.99 kHz	2.5 W
FT-991A	HF 50MHz 144MHz 440MHz		13.8	23 A	2.2 A	2-25 W	100 W 50 W 2M 50 W 70CM	100 W 50 W 2M 50 W 70CM	100 W 50 W 2M 50 W 70CM	200-10K	Triple	< .158 dBu HF < 125 dBu 6m < .111 dBu VHF/UHF	±9.99 kHz	2.5 W

\*Specifications vary depending on model (Field or Optima) and configuration settings in each unit. For more info contact your local HRO.

## Mobile HF Transceiver

### HF/50 MHz Compact Mobile FT-891



A great mobile transceiver in a compact package providing uncompromised performance for both the mobile and stationary amateur operator. High end 32-bit floating point DSP enhances the operating experience providing a cleaner, clearer signal and reducing overall operator fatigue creating a more enjoyable environment for any amateur operator.

- Frequency Range: Tx: 1.8 – 54 MHz (Amateur Bands Only)  
Rx: 30kHz – 56MHz
- Channel Step: 2/5/10Hz (SSB, CW), 10/100Hz (AM,FM)
- Frequency Stability: +/- 0.5 ppm 14 °F to + 122 °F (-10 °C to +50 °C)
- Modes of Emission: A1A (CW), A3E (AM), J3E (LSB, USB), F3E (FM)
- Impedance: 50 ohms, unbalanced
- Supply Voltage: 13.8VDC +/- 15%, negative ground
- Current Consumption: Rx: 2.0 A (Signal Present) Tx: 23 A
- Operating Temperature Range: 14 °F to +122 °F (-10 °C to +50 °C)
- Case Size (WxHxD): 6.1" x 2.0" x 8.6" (155 x 52 x 218 mm) w/o Knobs
- Weight (Approx.): 4.18 lb (1.9 kg)
- Output Power: 100W SSB/ CW/FM (AM: 25W)
- Circuit Type: SSB/CW/AM: Triple-conversion super-heterodyne FM: Double conversion super-heterodyne
- Intermediate Frequencies: 1st: 69.450MHz / 2nd: 450kHz
- Maximum AF Output: 2.5W 4 ohms with 10% THD
- Audio output Impedance: 4 to 16 ohms (8 ohms nominal)
- Sensitivity: SSB/CW (S/N 10dB) 0.158uV (1.8 - 30MHz), 0.125uV (50 - 54MHz)
- AM (S/N 10 dB) 4 uV (0.5 – 1.8 MHz), 1.6uV (1.8 – 30MHz), 1.2uV (50 – 54MHz)
- FM (12 dB SINAD) 0.35uV (29, 50 – 54MHz)

### Matching Auto Tuner FC-50



## YAESU The radio

### Desk Microphone



#### Dual Element M-1

Revolutionary dual microphone configuration has both a dynamic element for depth and warmth and a condenser element for crisp highs. The M-1 lets you adjust the balance of the two microphone sources to create a sound that is just right for your voice. The nine-band graphic equalizer applies to each microphone element independently. A clip-on cowling enhances the response of both elements by minimizing aural interference. The solid aluminum die cast mic stand prevents sympathetic vibration. The central recessed control panel has been configured for ease of use. Check your voice in the headphones with the built-in record and playback feature. The built-in memory can store two different groups of settings for each microphone.

### Desk Microphone

#### Single Element M-70



The M-70 utilizes a directional condenser microphone element which has precisely tuned the frequency response to obtain clear and crisp audio quality. The PTT uses three Air-Cylinder tubes similar to the Reference Microphone M-1 to provide a solid and smooth extended operation. A simple one-touch PTT key lock button is placed just above the PTT key for those long rag chews. The M-70 is compatible with all YAESU HF transceivers equipped with round 8-pin microphone connector or 8-pin modular microphone connector.

#### Single Element M-90D



The M-90D utilizes a Dynamic Microphone Element that is finely tuned to deliver rich low to mid frequency response desirable for a clear and concise conversation. Using a windscreens cover and a directional microphone element, the structure of the microphone of the M-90D and M-90MS is designed to concentrate voice input from the front while reducing ambient noise from the side. Built-in Low-Cut filter creates clear and crisp audio characteristics by shaping the low frequency response (cut off at 340Hz, -6dB/octave). The M-90D is compatible with all YAESU HF transceivers equipped with the round 8-pin microphone connector or the 8-pin modular microphone connector.

### Analog/Digital Repeater

#### Dual Band Repeater DR-2X



YAESU's System Fusion Repeater DR-2X comes with new exciting features, such as Dual Receive Operation, Digital Group ID Feature, and IMRS feature - Internet-linked Multi-Site Repeater System.

The repeater controller, receiver and transmitter are all packaged into a 19" standard cabinet rack mount panel unit for simple replacement of an existing repeater. Existing peripheral devices such as the duplexer and amplifier, etc., can continue to be used as-is.

- Dual Receive Operation allows the repeater manager to control the repeater operation while other members are using the repeater.
- Digital Group ID feature on C4FM could be used like CTCSS on analogue FM repeaters.
- IMRS, Internet-linked Multi-Site Repeater System with optional board is used when the repeaters are linked through Internet for wider coverage operation.

#### DR-2X New Features

- Dual Frequency Operation (DRDT)
- MSRL (Multi-site repeater link) Function for Easy Coverage Expansion using optional module
- New and improved "News Station" feature for Easy sharing of voice and text messaging.
- Enhanced Group Monitor Feature for Easy Grouping Set-up (DG-ID, DP-ID)

### Dual Band

#### 2m/ 70cm Analog & Digital GPS & APRS FTM-510DRASP



The FTM-510DR ASP shares the core feature set of the FTM-500DR, now equipped with the new Super-DX and ASP (Audio Digital Signal Processor Unit). When the received signal is weak, the sensitivity of the RF amplifier can be increased by activating the Super-DX function in both C4FM digital and FM analog modes. When operating in FM analog mode, the ASP can also be activated in addition to the Super-DX. By digitally processing the received FM audio to remove noise, the ASP ensures reliable and comfortable audio quality for weak signals. This helps to expand the communication range. ASP AUTO mode is also selectable. In this mode, the ASP is automatically activated when the transceiver detects weak signals in FM analog mode.

- Wideband reception: 108Mhz to 550Mhz.
- Delivers clear & powerful high-fidelity audio.
- Front speaker with AESS\* dual speaker system (AESS: Acoustic Enhanced Speaker System).
- Innovative smart operating system with TOUCH&GO / SEARCH&GO Functions. E2O:Easy to Operate -IV. TOUCH & GO enables initiating communications quickly by touching the target frequency. SEARCH & GO enables dual-receive of a desired frequency during main channel operation.
- Slide and lock rail mounting system.
- MAG - Memory Auto Grouping.
- Band scope & spectrum scope.
- APRS® (Included) & Bluetooth® (optional).
- SD Card slot

#### New PMG functions of the FTM-510DRASP in Auto Mode:

- The PMG channels are scanned and up to two channels with signals are simultaneously received and heard.
- Transmission is automatically performed on the received channel.

#### New PMG functions of the FTM-510DRASP in Manual Mode:

- The PMG channel manually selected to transmit is always scanned and received.
- Other PMG channels are also scanned and a channel with signal can be received and heard at the same time.
- The transmit channel is selectable by rotating the DIAL KNOB or touching the Bar Graph of the Desirable Channel on the PMG screen.

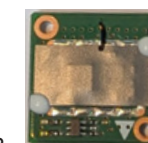
#### 2m/ 70cm Analog & Digital GPS & APRS FTM-510DR



The FTM-510DR does not have the ASP installed. However, the ASP unit SPU-1 can be purchased separately and installed to upgrade the radio.

#### ASP Board SPU-1

This module can be installed in the non-ASP transceivers turning them into full featured ASP transceivers. Compatible with: FT-3165R, FT-3185R, FTM-150R, & FTM-510DR.



### Programming Kits

**HF Radios:**  
YPS-818-USB..... FT-818ND  
YPS-FT710-USB ..... FT-710  
ADMS-891-USB ..... FT-891  
ADMS-991-USB ..... FT-991  
YPS-DX10-USB.....FTdx10  
YPS-DX101-USB.....FTdx101  
YPS-FTX1-USB.....FTX1

### Internet Linking

#### Wires-X Connection Kit HRI-200



WIRES (Wide-coverage Internet Repeater Enhancement System) is an Internet communication system which expands the range of amateur radio communication.

Users' stations can communicate with other amateur stations all over the world using a node within the radio wave range.

WIRES-X supports both analog and the new C4FM digital radio communications modes: Yaesu's System Fusion II.

#### Mobiles Radios:

YPS-M150-USB.....FTM-150RASP  
YPS-M200-USB.....FTM-200DR  
YPS-M300-USB.....FTM-300DR  
YPS-M500-USB.....FTM-500DR  
YPS-M6000-USB.....FTM-6000R  
YPS-3165-USB.....FTM-3165RASP  
YPS-3185-USB.....FTM-3185RASP

#### Handhelds:

ADMS-1J ..... FT-60R  
ADMS-65-USB ..... FT-65R  
ADMS-70D-USB ..... FT-70DR  
ADMS-VX6 ..... VX-6R  
YPS-FT5D-USB..... FT5DR

### Tuners/Antennas

#### All-Band Auto Tuner FC-40



The FC-40 is a microprocessor-controlled antenna impedance matching network designed to provide all-amateur-band transmitting capability with the

FT-450D/891 transceivers when used with an end-fed random wire or long whip antenna.

#### Portable HF Antenna ATAS-120A

The ATAS-120 Active Tuning Antenna system provides HF/VHF/UHF coverage with automatic motorized tuning. Compatible with Yaesu radios with ATAS support.

#### Portable HF Antenna ATAS-25

Looking for something simpler than the automatic ATAS-120A? The bands are covered by manually changing the supplied elements and hand adjusting the coils.

### Power Supplies

#### 25 Amp | FP-1030A

The FP-1030A is a regulated linear supply at 25 amps and includes meters. HRO Price: \$229.95



#### 23 Amp | FP-1023A

The FP-1023A has 23 amps continuous and 25 intermittent. This low-profile switching power supply operates on 110 or 220 VAC. HRO Price: \$149.95



#### YAESU 3-YEAR WARRANTY

All current Yaesu amateur radios come with a three (3) Year Manufacturer's Warranty! The move to a three (3) Year Warranty is a firm commitment from Yaesu to continue to supply top quality products for many years to come.

**YAESU**  
The radio

Dual Band Analog with ASP

2m/ 70cm  
FTM-150RASP

True dual band operation with two different receivers on different bands or within the same band (V+V, U+U, V+U, U+V). Full dot-matrix display is graphically visible and provides a clear and crisp view of the radio operating status. Front panel is detachable, and by attaching the optional swing-head - SJMK-500, flexible angle adjustment is possible to accommodate easy mobile operation.



The power output is 55W on VHF and 50W on UHF (55W / 50W, 25W, 5W is selectable). Heavy duty heat sink with FACC (Funnel Air Convection Conductor) ensures stable and reliable transmit power.

A front speaker is furnished inside the control-head. The front speaker, in combination with the main body speaker, provides a total of 6W high quality audio (3W: Front Speaker / 3W: Main Body Speaker). Volume level of the main body speaker is adjustable (0 – 100%) relative to the front panel speaker for user's preference.

The Super-DX function increases the receiver sensitivity and improves weak signal reception. The new ASP: Audio Digital Signal Processing Unit is also activated when the Super-DX key is pressed. The Super-DX with the ASP ensures reliable audio quality for weak signals and expands the communication range.

- Dual Speaker System - contains both a front and rear speaker for 6W of loud, high quality audio.
- 144-148MHZ / 430-450MHZ Tx. 108Mhz to 550Mhz Rx.
- High Resolution Band Scope - Up to 47 channels can be displayed with the Scope operation.
- VFO Band Skip Function - Bands that are not normally used can be set to hide.
- PMG (Primary Memory Group) - Up to 5 VFO or Memory Channel frequencies may be assigned to the PMG (Primary Memory Group).
- Compatible with MicroSD memory cards.

No ASP FTM-150R

A non-ASP version of the FTM-150RASP is available. It can be upgraded later to the full ASP version. See **SPU-1** on page 19.

Yaesu Handhelds

Model	Frequency	Mode	Power Supply	Watts Out	TX Amps	RX Amps	Sens	Height in (cm)	Width in (cm)	Depth in (cm)	Weight oz (g)
FT-60R	2m / 70cm	FM	7.2 VDC	5	1.5	125 mA	.16 dBu / 12 dB	4.3 (10.9)	2.3 (5.8)	1.2 (3.0)	13.5 (370)
FT-65R	2m / 70cm	FM	7.4 VDC	5/2.5/0.5	1.5/1.7	205 mA	.2 dBu / 12 dB	4.1 (10.4)	2.5 (5.2)	1.2 (3.0)	9.17 (260)
FT5DR	2m / 70cm	FM	7.4 VDC	5/2.5/1/.3	1.9	170mA	.2 dBu / 12 dB	3.94 (10)	2.44 (6.2)	1.34 (3.2)	9.95 (282)
FT-4XR	2m / 70cm	FM	7.4 VDC	5/2.5/0.5	1.5/1.7	190 mA	.2 dBu / 12 dB	3.5 (9)	2.1 (5.2)	1.2 (3.0)	8.82 (250)
VX-6R	2m / 70cm **†	FM	7.4 VDC	5	1.5 / 1.6/1.8	150 mA	.16 dBu / 12 dB	3.4 (8.7)	2.3 (5.8)	1.1 (2.8)	9.5 (270)
FT-70DR	2m / 70cm †	FM	7.4 VDC	5/2/0.5	1.6	180 mA	.16 dBu / 12 dB	2.36 (6.0)	3.86 (9.8)	1.3 (3.3)	8.99 (255)

Power output can be increased depending on the battery pack. †Extended range.

Single Band Analog with ASP

85W 2m Mobile  
FT-3185RASP

The FT-3185RASP delivers dependable, high-performing 85W of transmit power. The massive heatsink with no cooling fan ensures reliable solid 85W RF power (selectable 85W / 50W / 20W / 5W).



The Super-DX function increases the receiver sensitivity and improves weak signal reception. The Super-DX with the ASP ensures reliable audio quality for weak signals and expands the communication range.

- 144 - 148Mhz Tx & 136 - 174Mhz Rx.
- PMG (Primary Memory Group) - Up to 5 VFO or memory channel frequencies may be assigned to the PMG (Primary Memory Group).
- CFL (Customized Function List) - Up to 9 frequently used functions from the 44 Menus can be registered and be easily called.
- 10 NOAA weather broadcast channels.
- 221 memory channels with alpha-numeric 6-character labels.

No ASP FT-3185R

A non-ASP version of the FT-3185 is available. It can be upgraded later to the full ASP version. See **SPU-1** on page 19.

Single Band Analog with ASP

65W 2m Mobile  
FT-3165RASP

A compact 2-meter mobile transceiver with solid basic features and mechanical toughness. The power output is 65W (selectable 65W / 30W / 5W) and its efficient cooling system with the FACC: Funnel Air-Convection Conductor (Wind Tunnel) ensures stable and reliable power. New front speaker provides 5W of loud audio and has been tuned for improved sound quality.



- ASP (Audio Digital Signal Processing) Super-DX function increases the receiver sensitivity and weak signal reception.
- 144 - 148Mhz Tx & 136 - 174Mhz Rx.
- 10 NOAA weather broadcast channels.
- 220 memory channels with alpha-numeric 8-character labels.

No ASP FT-3165R

A non-ASP version of the FT-3165ASP is available. It can be upgraded later to the full ASP version. See **SPU-1** on page 19.

Yaesu Handheld Accessories

Accessory	Model	FT 60R	25R 65R	FT 4XR	VX 6R	FT 70DR	FT 3DR	FT 5DR	HRO PRICE
Mic Adapter	CT-44	•				•	•	•	\$16.95
Mic Adapter	CT-91				•				\$17.95
Bluetooth® Headset	SSM-BT20						•	•	\$36.95
VOX Headset	SSM-64A				•				\$59.95
VOX Headset	SSM-63A	•				•	•	•	\$69.95
VOX Earpiece Mic	SSM-512B		•						\$29.95
Speaker/Mic	SSM-17A	•				•	•	•	\$39.95
Speaker/Mic	SSM-17H				•		•	•	\$27.95
Speaker/Mic	MH-73A4B				•				\$47.95
Compact Speaker/Mic	SSM-17B		•	•					\$24.95
Ear Piece Mic	SSM-517A				•				\$39.95
Ear Piece Mic	SSM-518A	•				•	•	•	\$34.95
DC/DC Cigar Adapter	SDD-13	•			•	•	•	•	\$27.95
DC/DC Adapter	EDC-6	•			•	•	•	•	\$8.95
Wall Charger	SAD-24B	•			•				\$28.95
Wall Charger	SAD-25B					•	•	•	\$29.95
AC Adapter	SAD-26B		•						\$19.95
Rapid Charger	CD-15A				•				\$39.95
Charger Cradle	SBH-13	•							\$23.95
Rapid Charger	SBH-22		•	•					\$19.95
Charger Cradle	SBH-28					•			\$29.95
Charger Cradle	CD-26								\$25.95
Charger Cradle	SBH-52						•	•	\$37.95
Battery 1370 mAh	SBR-40LI				•				\$79.95
Battery 1300 mAh 7.4 V	FNB-83	•							\$35.95
Li-ion 2200 mAh	SBR-14LI						•	•	\$79.95
Li-ion 1800 mAh	SBR-24LI					•			\$39.95
Li-ion 1950 mAh	SBR-25LI		•						\$34.95
Li-ion 1950 mAh	SBR-26LI		•						\$44.95
Li-ion 1750 mAh 7.4 V	SBR-28LI			•					\$35.95
Battery Case AA	FBA-23				•				\$29.95
Battery Case AA	FBA-25	•							\$18.95
Battery Case AA	FBA-39						•	•	\$31.95
Cloning Cable	CT-27	•				•			\$14.95
Cloning Cable	CT-168						•	•	\$24.95
Cloning Cable	SCU-36		•	•					\$19.95
Programming Cable	SCU-59		•	•					\$19.95
Data Cable (11pin>2.5)	CT-170						•	•	\$29.95
Data Cable (2.5>2.5)	CT-176						•	•	\$24.95
WiresX Cable	SCU-57						•	•	\$44.95
Ant Adapter SMA-BNC	CN-3	•			•		•	•	\$8.95
Soft Carry Case	CSC-91				•				\$16.95
Soft Carry Case	SHC-40							•	\$24.99
Soft Carry Case	SHC-27					•			\$19.95

Contact your local HRO for a complete list of accessories available.

Simplified User Manuals

Nifty Mini-Manuals

Fully laminated, spiral bound booklets, 4.25 x 8 inches, providing simplified step-by-step instructions for all your radio's features. These short-form manuals are smaller, more durable, and easier to use than manuals normally supplied with a radio.

Model	Description	HRO Price
NIFTY-FT3DR	Mini-Manual	\$29.95
NIFTY-FT5DR	Mini-Manual	\$29.95
NIFTY-FT60R	Reference Card	\$9.95
NIFTY-VX6R	Mini-Manual	\$24.95
NIFTY-FT65R	Reference Card	\$9.95
NIFTY-FT70DR	Mini-Manual	\$21.95
NIFTY-FT4XR/VR	Mini-Manual	\$21.95

Programming Software



Since 1995, RT Systems has produced the most up-to-date amateur radio software for all the top radio manufacturers. Along with the most reliable software, RT Systems makes the best cables for programming and/or control. RT Systems removes the worry over programming or managing your radio memories.

Model	RT Software	HRO Price
FTM-150RASP	YPS-M150-USB	\$48.95
FT-5DR	YPS-FT5D-USB	\$48.95
FT-60R	ADMS-1J	\$38.95
FTM-6000	YPS-M6000-USB	\$48.95
VX-6R	ADMS-VX6	\$38.95
FT-65R	ADMS-65-USB	\$48.95
FT-70DR	ADMS-70D-USB	\$48.95
FTM-510DR ASP	YPS-M510-USB	\$48.95

MARS/CAP Modifications

MARS is the Military Auxiliary Radio Service. CAP is Civil Air Patrol. They use frequencies near ham bands.

Ham Radio Outlet is able to modify most radios to operate in the MARS/CAP service frequencies. Contact HRO for details.

\*MARS/CAP modification are for those authorized with one or the other organization, and the frequencies are for official use only.

**YAESU**  
The radio

## Dual Band

### FM & C4FM GPS & APRS FT5DR

The FT5DR is 5 watts of RF power output in a light weight, compact design. Battery power saving settings are available for each frequency band with TX output power levels (5W / 2.5W / 1W / 0.3W) individually selectable. Enjoy loud, clear C4FM voice quality from 1 watt of audio power. Real dual band operations (V+V, U+U, V+U, U+V) are available with two independent receivers, and the FT5DR supports simultaneous C4FM digital monitoring for both the A and B bands (C4FM & C4FM standby).

#### Color Touchscreen

- C4FM digital V/D mode, voice FR mode, data FR mode, and conventional FM mode in one unit.
- Built-in Bluetooth® for hands-free.
- Color selectable high-resolution display (white, red, or blue).
- Simultaneous AM/FM Broadcast reception and 2-channel monitoring.



- Band scope function for monitoring up to 79 channels centered around the current VFO frequency with high-speed.
- System Fusion II compatible AMS (automatic mode select), DG-ID (digital group ID), and smart navigation functions.
- WiRES-X portable digital mode compatible.
- Built-in 66 channel high-sensitivity GPS receiver.
- New Touch & Go operation from Primary Memory Group.
- Voice recording function for the received and transmitted audio.
- Built-in On/Off timer, automatic power off (APO) and time-out timer (TOT).
- Micro SD card slot (up to 32GB).
- IPX7 rating water protection.
- 7.2V 2,200mAh Lithium Ion battery pack (SBR-14LI) included.
- Standard SMA antenna connector.
- Belt clip & quick-release holster included.

## Dual Band

### 2m/ 70cm Analog FT-60R

One of the most popular radios ever produced! The FT-60R is a staple in most amateur operators arsenal of radios. Great as a 1st radio or as an addition to many. Rugged and built to last. With 5 watts of power plus strong, crisp, clear audio output from a large speaker, and an easy to read display you'll soon understand what makes the FT-60R a must-have standard.

#### Extended Frequency Receive Coverage



- Receives 108-520MHz and 700-999MHz (cellular blocked) for monitoring amateur, public safety, business, marine, aircraft, government communications.
- Tough die-cast, water resistant construction. Built to endure years of use and abuse.
- 1000 memories w/alphanumeric labels.
- 5 watt output.
- CTCSS and DCS (encode/ decode) with split tone; DCS encode only capable.
- ARTS™.
- One-touch to NOAA.
- Nine DTMF auto-dial memories.
- WiRES™ Internet linking.
- Huge LCD display.
- Two front panel programmable keys.
- Automatic repeater shift.

## Dual Band

### 2m/ 70cm Analog + C4FM Digital FT-70DR

The FT-70DR is the compact and very attractively priced Yaesu System Fusion transceiver with both conventional FM operation and the advanced C4FM digital mode. The FT-70DR provides up to 5 watts of reliable RF power, and its large front speaker delivers 700mW loud audio output. AMS (automatic mode select) detects the operating mode of the received signal and automatically and instantly switches the receiver to the appropriate mode. Multi-colored LED mode indicator on its front case also assists an operator to enable hassle-free operation.

DG-ID (Digital Group Identification) and DP-ID (Digital Personal Identification) are useful features included in the FT-70DR to simplify the GM operation. Very simply, the transceivers selecting the same DG-ID or DP-ID can communicate, but not others. Between 00 and 99 DG-ID and DP-ID are selectable.



- System Fusion II compatible.
- 700mW audio output.
- Wide band receive coverage of 108 - 579.995MHz.
- 1,105 channel memory.
- CTCSS / DCS operation.
- Large multi-color mode indicator.
- Versatile scanning capabilities (programmable VFO, memories, & priority channel scans).
- 7.4 V 1,800mAh Lithium Ion battery pack (SBR-24LI) Included.
- RF Squelch.
- WX channels with 'severe weather' alert (US version).
- Mini USB port for memory management and software updates.
- Transceiver to transceiver cloning with optional cloning cable (CT-27).
- Automatic power-off feature, RF squelch, transmitter time out timer, and busy channel lock-out.
- IP54 rating (dust / water protection) construction.
- Standard SMA antenna connector allows optional antennas to be used.

## Dual Band

### 2m/ 70cm FT-4XR

#### Extremely Compact Dual Band Radio

The FT-4XR is the ultimate in compact designed (2.1" W x 3.5" H x 1.2" D) handheld transceivers, providing up to 5 watts of stable and reliable output power thanks to Yaesu's integration of highly efficient Bridged Transless (BTL) amplifier technology.



Go ahead and drop the FT-4XR into your go-bag, glove box, or slip it into your back pocket easily. With such a slim and compact design you'll barely notice it but always have it when you need it. It's the ultimate way to take 2m and 70cm with you virtually anywhere!

Its small size doesn't mean it is small on audio. The FT-4XR handheld transceiver has a 1.4-inch front speaker that delivers 1 watt of powerful clear and crisp intelligible audio. So no matter the environment you'll always be able to hear and respond.

- Three selectable TX power settings: 5W (high) / 2.5W (middle) / 0.5W (low).
- More than 15 hours operating time with supplied 1,750mAh Li-ion battery pack.
- Large-capacity 200 memory channels.
- Selectable frequency steps (5 / 10 / 12.5 / 15 / 20 / 25 / 50 / 100 kHz).
- WX channels with 'severe weather' alert.
- PC programmable with optional programming cable (SCU-35).
- Transceiver-to-transceiver cloning with optional cloning cable (SCU-36).

**3 YEAR WARRANTY**

**3 YEAR WARRANTY**

**3 YEAR WARRANTY**

**YAESU  
3-YEAR  
WARRANTY**

All current Yaesu amateur radios come with a three (3) Year Manufacturer's Warranty! The move to a three (3) Year Warranty is a firm commitment from Yaesu to continue to supply top quality products for many years to come.

## Dual Band

### 2m/ 70cm FT-65R

#### Workhorse Dual Band

An excellent dual band transceiver based on the ever popular FT-60R. Very compact and ruggedly constructed with three selectable power settings. A large front-firing speaker provides a full 1 watt of crisp, clear audio even in noisy environments. Capable of over 9 hours of operation, and 11.5 hours of operation with the optional 2500mAh Li-Ion battery.



A variety of user requested features such as versatile scanning capabilities, programmable VFO scan, memory scan, weather alert scan, FM broadcast receive, auto power off and PC programmability makes this radio an excellent value.

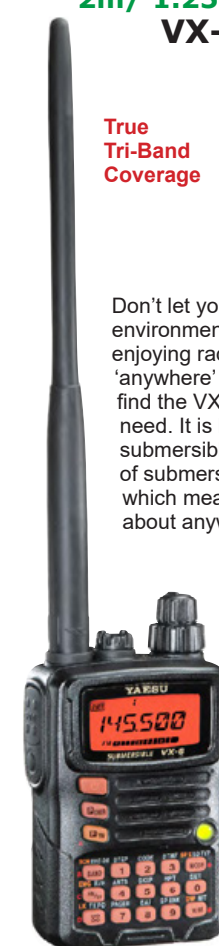
- Selectable output power settings - 5W / 2.5W and 0.5W.
- Speaker provides 1 watt audio input.
- Supplied 1950mAh Li-ion battery pack provides more than nine (9) hours operation. Optional higher capacity 2500mAh Li-ion battery pack provides more than 11.5 hours of operation.
- LED display.
- Four (4) quick recall keys (QRK) are individually user-programmable to store and recall favorite frequency settings and to be used as shortcut keys to set mode menu items.
- White LED flashlight.
- Programmed VFO scan, memory scan, priority channel scan, weather alert scan.
- WX channels with 'severe weather' alert (US Version only).
- VOX operation.
- FM broadcast receiver.
- ARTS (automatic range transponder system).
- DTMF operation - CTCSS / DCS operation.
- Busy channel lock-out.
- Battery saver function.
- Automatic power-off.
- Transmitter time-out-timer.
- Rugged and durable construction.

## Tri-Band

### 2m/ 1.25m/ 70cm VX-6R

#### True Tri-Band Coverage

Don't let your operating environment stop you from enjoying radio on-the-go. For 'anywhere' communication you'll find the VX-6R just what you need. It is both rugged and submersible (JIS7: 30 minutes of submersion at depth of 3 feet), which means you can take it just about anywhere.



A front firing speaker delivers strong audio. The dual-selector knob allows for easy operation of memory selection, VFO, volume level, and settings in one convenient location. Supplied with a strong tri-band antenna this HT has everything.

- Covers 504kHz to 998.99MHz (with cell blocked).
- 5 watts of power 144 and 440MHz bands; 1.5 watts on 222MHz.
- One-touch memory access.
- FNB-80LI 1400mAh lithium-ion battery pack standard.
- Emergency automatic ID.
- Security password.
- CW trainer.
- Enhanced paging and code squelch (EPCS).
- Wake-up battery saver.
- 900 memories with alpha-numeric labels.
- Compact: measures just 2.3" x 3.5" x 1.1" WHD.
- Oversized volume and squelch knobs.

## HT QUESTIONS? HRO HAS THE ANSWERS!

We are here to help. Ham Radio Outlet salespeople are available to answer your questions about HT's, features, and accessories. Simply contact your local HRO store for assistance.



Radios are NOT included. They are shown for illustration purposes only.

### Between The Seats Mount LM-WEDGE

Plastic device holder wedges between seat and console. Adjustable viewing angle, provides multiple options for installing two devices: Mobile Radio Remote Head, HT, Microphone (Cell phone attaches with the optional LM-H holder) in any combination you prefer.

HRO Price: \$49.95



### Bendable Floor Mount LM-300-QR

The LM-300-QR seat bolt mount has a bracket that fits underneath the seat bolt that holds the seat to the floor board. Please check out the seat bolt on your vehicle before purchasing. Not every vehicle has a seat bolt that can be accessed, some do not have bolts at all. We offer 2 lengths, 22" or 18". The mount has a very stiff aluminum rod that can be shaped for your needs.

HRO Price: \$34.95



### HEADREST SPEAKER MOUNT LM-HR-2



The headrest mount is made of aluminum alloy, so it is very strong yet lightweight. The headrest attachments are on a rail so they can be adjusted to fit any headrest as long as it has posts.

HRO Price: \$39.95

### Clamp Mount LM-1001

Can handle rails or tubes from 18mm to 35mm in diameter. The face plate will accommodate HT Belt clips along with button type mounts on mics.

HRO Price: \$19.95



### FTX-1 Base Mount LM-BASE-CAM-1001-EXP-4



Yaesu FTX1F and FTX-1 Optima base mount with mic holder.  
HRO Price: \$59.95

### Cup Holder Mount LM-802-CAM



This Heavy Duty Cup Holder Mount is designed to hold Heavier Control Heads. The base expands out to 3.5". The mount is 9" in height, but can be adjusted using the Swivel System.

The Mount is built around Rams 1" Ball System. So it will Swivel into just about any position you need it to.

It comes with a 1/4 X 20 Bolt that will Thread Directly into the Yaesu FTX-1, Icom IC-705 or Icom IC-7100 Control Head.  
HRO Price: \$59.95

### Cup Holder Mount LM-803-EXP-2-1203

This mount comes with the Lido EXP-2 Express plate as well as the LM-1203 adhesive Mic Hanger. The plate can accommodate the belt clip on any portable radio. The Lido LM-803 cup holder mount height can be adjusted from 6 1/2" to 8". The base can be expanded from 2 1/4" to 3 3/4" in diameter by turning the expansion knob.

HRO Price: \$24.95



### Side Grip Holder LM-H

Optional side-grip holder fits all Lido Mounts. Place your device in the LM-H and squeeze the arms together. Push button on the side releases the arms. Holds large size HT's, remote display heads, GPS units, cell phones etc.

HRO Price: \$14.95



### Yaesu Suction Cup Mount LM-505-A-1

This extremely strong suction cup can be attached to your windshield or your flat dash, or any non porous surface like glass, plastic, desk tops. The suction cup is made from Polyurethane, and has a plunger action for an extremely strong attachment. Works with the FTM-100, FTM-200, FTM-300, FTM-350, FTM-400, FTM-500, FTM-6000, and FT-891.  
HRO Price: \$19.95



### Low Profile Mount LM-LoPro-QR

The LoPro mount is a low profile mount that has a drill down base as well as 3m adhesive attached to the base. You can either drill it down or use the adhesive and mount it without drilling any holes.

This package comes with the Lido QR pack. With the QR pack, you can attach any amateur radio remote head transceiver.  
HRO Price: \$19.95



### Multi-Option Adaptors Kit LM-EXT-01-DELUXE

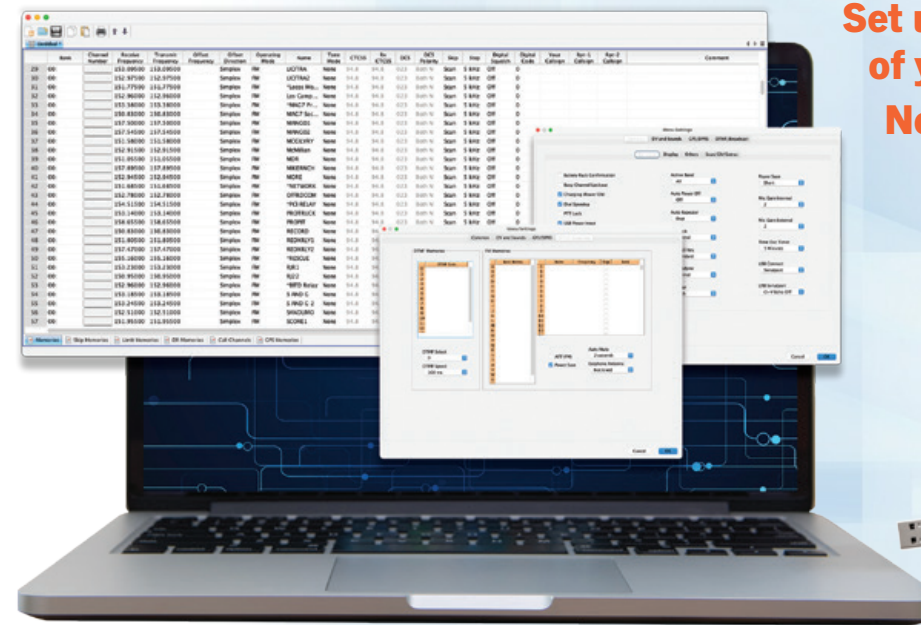
Multi-hole plate provides the ability to attach several devices to the same Lido mount.

- One LM-2T female T-socket adapter.
- Two LM-2TM male T-post adapters.
- Two LM-EXP-01 HT/microphone adapters.

The LM-2T female adapter attaches to the back side of the extension plate, which then attaches to any Lido mount  
HRO Price: \$29.95



# YOUR RADIO SET UP THE WAY YOU WANT! WITH RT SYSTEMS RADIO PROGRAMMERS



Set up all the features of your radio... Not just the memories!

- DMR
- Banks
- D-Star
- HF Filters
- Fusion
- PM Settings
- Names
- Programmable Key Options
- Tones

### Contact HRO for Pricing and Availability

- Abbree • Alinco • Anysecu • AnyTone • Baofeng • Baojie  
 BTEch • Fonghoo • Hamgeek • Helida • Hesenate • HYS • Icom  
 Jetstream • Jimtom • Jintong • Juentai • Kenwood • Leixen • Luiton • Midland  
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\*Each Programmer is unique to a specific radio and is not compatible between radio models.



## uniden®

### Base/Mobile

#### True I.Q. Trunking SDS200

HRO Price: \$749.99



- True I/Q™ receiver.
- TrunkTracker X.
- Direct ethernet connectivity for streaming and control.
- Complete USA / Canada radio database.
- Location control for simple operation.
- External speaker jack.

- Auxiliary USB type A jack for future expansion.
- 3.5" customizable color display.
- GPS connectivity for simple mobile operation.
- Recording, playback, and replay.
- PC programming & control.

#### Base Unit BCD536HP

HRO Price: \$649.99



The Uniden BCD436HP and BCD536HP offer nearly identical scanning performance but in different form factors (base or portable). Both have APCO P25 Phase II, DMR, and NXDC capabilities. The BCD536HP features built-in Wi-Fi, a larger display, better audio, and easier permanent vehicle installation, while the BCD436HP is designed for portable use.

#### Portable BCD436HP

HRO Price: \$549.99



#### Hybrid CB/Digital Scanner BEARTRACKER 885

HRO Price: \$439.99

- Full-Featured 40-Channel CB Radio & Digital Trunktracking Scanner: Receive police, fire, ambulance, and DOT dispatch transmissions.
- BearTracker Warning System: Legal alternative to Radar Detectors. Alerts you when nearby public safety

- transmissions are detected.
- GPS Included: Allows the BearTracker 885 to automatically select nearby scanner channels to monitor.
- Nationwide Scanner Database: Includes all known police/fire/ambulance/DOT channels in use in the USA and Canada.

### Handheld

#### I/Q Scanner With SDR Technology SDS100

HRO Price: \$699.99



Uniden has created the first scanner to incorporate Software Defined Radio (SDR) technology. The SDS100's digital performance is better than any other scanner in both simulcast and weak-signal environments.

Of course, the SDS-100 also includes all the advanced features you've come to expect from a Uniden scanner: Trunktracker X, weather alerts, APCO P-25 Phase I and II, location-based scanning, and USA / Canada radio database. It meets JIS4 (IPX4) standards for water resistance. This is a do-all, take-anywhere scanner.

#### I/Q Scanner With SDR Technology SDS150

HRO Price: \$949.99



The SDS150 has quickly become Uniden's most advanced digital scanner yet. The SDS150 utilizes True I/Q™ Technology for exceptional performance in simulcast areas.

Listening to the customer base, the new Uniden SDS150 now includes important added features like a Built-In GPS Receiver, Charge Cradle, and support for the U/AWARE app. The SDS150 takes Field-Ready Scanning to the Next Level.

Built tough for real-world use, the SDS150 is water-resistant to JIS4/IPX4 standards and packed with powerful tools for serious monitoring.

### Portable

#### Touch Screen Programming HOME PATROL II

- Digital touch screen.
- USA & Canada database.
- APCO P-25 Phase I & II.
- USB-source charging.
- No subscription.
- Simple programming by entering your Zip Code.
- 3.5" daylight viewable bright display.
- Sentinel Windows PC software included.
- S.A.M.E. emergency weather alert system.
- Famous TrunkTracker IV.



Great for monitoring public safety, local government, amateur radio operators, and more.

HRO Price: \$619.99

### Carrying Cases



#### Protective Leather or Nylon Scanner Cases



Protect your portable scanner investment with these rugged, attractive, form-fitting cases designed specifically for each scanner model. Scanner Master offers three types: Hard leather (for the most protection), soft leather, and nylon with different belt attachments as noted below.

#### Bearcat SDS100

With swivel belt clips for professional swivel and quick release.

- Hard Leather Case: HRO Price: \$39.95
- Soft Leather Case: HRO Price: \$39.95
- Nylon Case: HRO Price: \$29.95

#### Bearcat BCD436HP

With swivel belt clips for professional swivel and quick release.

- Hard Leather Case: HRO Price: \$39.95
- Soft Leather Case: HRO Price: \$34.95
- Nylon Case: HRO Price: \$27.95

#### Bearcat BCD325P2

#### Bearcat BC125AT

#### Bearcat BC75XLT

- Hard Leather Case (Fixed Belt Clip): HRO Price: \$39.95
- Soft Leather Case (Swivel Belt Loop): HRO Price: \$39.95
- Nylon Case (Fixed Belt Loop): HRO Price: \$29.95

#### Whistler WS-1040

#### Radio Shack Pro-106

#### Radio Shack Pro-651

- Hard Leather Case (Fixed Belt Clip): HRO Price: \$49.95
- Soft Leather Case (Swivel Belt Loop): HRO Price: \$39.95
- Nylon Case (Fixed Belt Loop): HRO Price: \$29.95

#### SCANNER QUESTIONS? HRO HAS THE ANSWERS!

We are here to help. Simply contact your local HRO store for assistance.

### Desk Mounts

- Radios Not Included -



#### DESK-MT BASE-4

Desk mount for four base scanners. HRO Price: \$94.95

#### DESK-MT BASE-3

Desk mount for three base scanners. HRO Price: \$89.95



#### DESK-MT BASE-2

Desk mount for two base scanners. HRO Price: \$74.95

#### DESK-MT PORT-3 PORT-2 PORT-1

Desk mount for one, two, or three portable scanners. HRO Price: \$59.95  
HRO Price: \$49.95  
HRO Price: \$39.95



### Software

## BuTel

#### Scanner Programming Software

Scanner Master is the US distributor of the very popular Butel line of scanner software. With Butel software you can remotely program your scanner through its easy-to-use 'Basic' software interface which includes a powerful Radio-Reference.com direct download feature (Radio Reference user account required).

The Butel 'Pro' software also includes full virtual control, audio recording and data logging.

#### Bearcat BCD325P2, 396XT, 996P2/XT, 15X

-ARC-XT: HRO Price: \$39.95  
-ARC-XT Pro: HRO Price: \$69.95

#### Bearcat SDS100, SDS200, BCD436HP/536HP

-ARC536: HRO Price: \$39.95  
-ARC536 Pro: HRO Price: \$69.95

#### Whistler WS-1040, WS-1065, GRE PSR-500/600, RS Pro-106/197, RS Pro-651/652

-ARC500: HRO Price: \$34.95  
-ARC500 Pro: HRO Price: \$69.95

### Shortwave



## C.C. CRANE

#### AM/FM/SW/WX/Aviation/SSB CC SkyWave SSB 2

HRO Price: \$179.99

You can now listen to Hams, long range aviation (commercial and military), maritime, space and even spy transmissions from all over the world. Single Side Band is an efficient and reliable way to get long range information without Internet or satellite and it's not available on your smartphone. Ham radio operators play a critical part in emergencies when virtually all normal communication is down.

Now Includes SW Wire Antenna Adapter!

- Direct entry of a frequency plus auto scan and store.
- Lighted LCD display.
- Selectable fast or fine tuning on all bands except weather.
- 400 memory presets.
- Runs on (2) AA Alkaline batteries (not Incl.)
- Optional/Available CC Skywave AC adapter.
- Stereo headphone jack and fold-out back stand.
- Clock with 12/24 hour format and alarm.
- Rotary volume knob.
- Compact size.
- One Year Limited Warranty.

## ZUMspot

### Multi-Mode Hotspot

#### LARGE DISPLAY ELITE 3.5LCD ZUMSPOT KIT



- High performance 32-bit ARM processor.
- Supports DMR, P-25, D-Star®, System Fusion, NXDN™ and POCSAG.
- Onboard LEDs to show status (Tx, Rx, PTT, Mode).
- Up to 10mW RF power.
- SMA antenna connector, UHF antenna included.
- Mounted on Raspberry Pi Board.
- The firmware is pre-loaded on an SD card and is easily upgraded via software.
- Built-in 3.5" color LCD display.
- 3A power supply included.
- 1 Year Warranty.
- Open source firmware (MMDVM) and software (PiStar) and board design.
- ZUMspot board fully assembled and tested.

HRO Price: \$249.95

### Multi-Mode Hotspot

#### UHF Hot Spot MINI 2.4 OLED ZUMSPOT KIT

The Mini 2.4 OLED ZUMspot is a small and efficient Multi-Mode Digital Hotspot. Includes Raspberry Pi Zero 2 WH. Supports DMR, P-25, D-Star®, System Fusion, NXDN™ and POCSAG. 10mW RF transmit power.



- Includes Pre-Programmed and Pre-Configured SD Card with WPSD.
- The Open Source Firmware (MMDVM) is Pre-Loaded.
- Built-In 2.4" Color LCD Display.
- Includes 3A Micro-USB Power Supply.
- 1 Year Warranty.

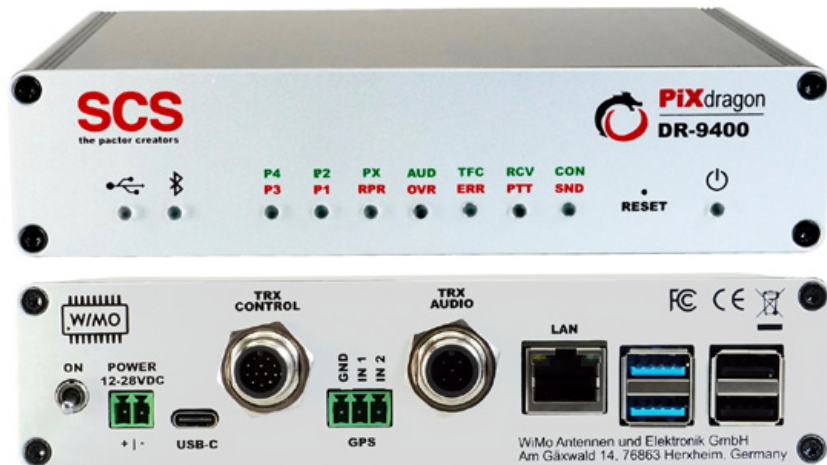
HRO Price: \$189.95

## Farallon Electronics

### Data Modem

COMING SOON!

#### PACTOR-4 PIXdragon DR-9400



The PixDragon DR-9400 ensures reliable communication in all emergency scenarios - fully independent of mobile networks or the internet. Designed by SCS and made by In Herxheim.

#### SUPPORTED OPERATING MODES

- PACTOR -1 / 2 / 3 / 4
- PACTOR Monitor
- Packet Radio (9k6 G3RUH, 1k2 AFSK)
- Robust Packet Radio (RPR)
- APRS (Automatic Beaconsing)
- Weather-FAX (Receive only)
- RTTY (Receive only)

#### PROCESSOR

- ARM v8 Quad-Core @ 1.8 GHz

#### PERMANENT STORAGE

- Industrial grade MicroSD card

#### OPERATING SYSTEM

- Operating System - PiXdragon Buildroot Linux (real-time processing)

#### TIME BASE

- Temperature-compensated oscillator (TCXO), 1 ppm accuracy

#### USER INTERFACES

- USB-C
- LAN
- WIFI\*
- Bluetooth\* optional USB dongle + License required

#### TRANSCIVER AUDIO INTERFACE

- Input impedance: 44 kΩ
- Input level: 30 mV to 6.6 V p-p
- Output impedance: 1 kΩ
- Output level: 30 mV to 5.0 V p-p

#### CONTROLS

- Toggle switch (Power On/Off)
- RESET button

#### GPS INTERFACE

- Balanced, isolated GPS input (supports both TTL levels [3.3V / 5V] and V.28/RS-232)
- NMEA sentence decoder
- Software-switchable signal polarity
- Alternatively, USB GPS receivers ("GPS mouse") are supported, bypassing the hardware input. (The hardware input is mainly for compatibility with legacy DR-7X00 modems.)

#### TRANSCIVER AUDIO INTERFACE

- Input impedance: 44 kΩ
- Input level: 30 mV to 6.6 V p-p
- Output impedance: 1 kΩ
- Output level: 30 mV to 5.0 V p-p

#### STATUS INDICATORS

- 10 dual-color LEDs (green/red) indicating key operational states

#### POWER SUPPLY

- Voltage: 12V to 30V DC
- Current consumption: 270 mA @ 13.8 V (typical), up to 1 A (max)

#### PHYSICAL

- Size: 6.5x1.75x4 inches.
- Weight: 1lb.



## Kantronics

### TNC's



#### Multi-Mode DSP Controller KAM XL™

HRO Price: \$449.95

Kantronics' third generation multi-mode TNC is a state of the art design for operations on HF, VHF and UHF while supporting DSP modems and popular new modes of operation. The unit provides modes of Packet 300, 1200 or 9600 baud, G-TOR, Pactor 1, AMTOR ARQ, PSK31, RTTY, NAVTEX/AMTEX, ASCII, WEFAX and CW. It has a dual port mailbox and remote SYSOP access. It is GPS NMEA-0183 compatible and provides Kantronics Host Mode and KISS.



#### VHF/UHF TNC KPC-3 Plus 512K USB

HRO Price: \$239.95

This compact, low current TNC has become the work horse of packet radio today. It features multiple packet connects, digipeating for APRS® operations, WEFAX reception, a GPS mode for tracking, personal packet mailbox. Also available with RS232 interface for \$289.95.



#### Dual-Speed Dual-Port TNC 9612XE USB

HRO Price: \$449.95

This is the rapid delivery model, supporting 9600 baud. It features both 1200 and 9600 packet ports, advanced APRS® digipeating (APRS® is a trademark of Bob Bruninga), (K-Net) net-working, amateur beeper (paging), the ability to download EMWIN weather broadcasts. Also available with RS232 interface for \$489.95.

### RADIO CONTROL SOFTWARE

#### Premier Ham Radio Software Suite HRD



HAM RADIO DELUXE SOFTWARE  
The Radio Amateur's Best Asset  
[www.HamRadioDeluxe.com](http://www.HamRadioDeluxe.com)

#### SATELLITE TRACKING

Take the guesswork out of satellite operations using the latest orbital mechanics equation and up-to-the-minute Keplerian element information.

#### ROTATOR CONTROL

Integrating with Logbook and Satellite Tracking, Rotator Control manages beam headings via any computer interfaced rotator controller.

#### Support:

<https://www.hamradiodeluxe.com/support/>

#### Forums:

<https://support.hamradiodeluxe.com/support/login>

Physical Software Key - HRO Price: \$79.95

#### RIG CONTROL

Organize buttons, sliders, and drop-downs to toggle radio options, select modes and filter settings, and control level inputs via your computer screen.

#### LOGBOOK

A complete DX operations center, Logbook is the ideal shack accessory for everyone. Keep track of all important contact information with the click of a mouse.

#### DIGITAL MODES

DM-780 is capable of digital modes, including WSJT-X, CW, RTTY, SSTV, PSK31, MT-63, and more. Digital Master interfaces with the popular KIEL WinKeyer.

### APRS Trackers & Digipeaters

#### APRS Tracker TNC & Transceiver APRS Voyager



#### Built-in 38.5 dbm / 7 watt transceiver

APRS Voyager incorporates a built-in transceiver and power amplifier capable of transmitting and receiving APRS® packets. The only thing you need to do is to connect a proper antenna to the SMA connector. Output power is programable between 5 watts and 7 watts.

Supports Mic-E/Base-91/Plain text position reporting; a main feature for an APRS tracker.

#### Built-in Bluetooth interface

A built-in Bluetooth® interface which can work in one of selectable modes: Serial console – similar to RS-232 serial console. KISS – allows to exchange packets with your laptop, tablet or smartphone with APRS® software installed. Works great with APRSDroid. GPS passthrough – if you have a GPS receiver you can forward the NMEA stream to any other device using Bluetooth® interface.

HRO Price: \$249.95

#### APRS Digipeater & i-Gate WX3in1 Mini



#### APRS Station

WX3in1 Mini allows you to generate APRS® data packets with information defined by the user and send them in a specified interval. In this way, it is possible to send beacons, objects, weather and telemetry data.

#### APRS Station

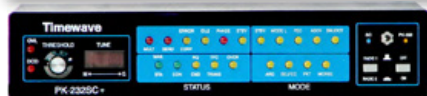
The main purpose of the device is receiving and sending APRS® data packets via an amateur radio transceiver. WX3in1 Mini is capable of receiving an APRS® packet, decoding the sender, recipient, path and information field. Then actions are performed in accordance with the options configured by user: Packet is digipeated via the APRS® network, Packet is sent to the APRS-IS server, Packet is ignored if it was corrupted.

GPS Support, Bluetooth® interface support, KISS TNC operation, weather station support, and a ton more features makes this a very configurable unit.

HRO Price: \$139.95

## TIMEWAVE TECHNOLOGY

### Data Controller



**Multi-Mode  
PK-232SC** HRO Price:  
\$599.95

With the addition to the PK-232 of a built-in sound card, rig control, computer isolation, and total USB connectivity, the PK-232SC brings a new level of performance with sharp, accurate DSP filters for all its internal data modes and dual transformer isolation for sound card data modes. Weak signals magically appear from the noise and QRM bounces off the new DSP filters for cleaner copy with fewer errors than the old analog filters.

#### More Filters, Better Filters, Auto Selection

The PK-232SC brickwall filters have tighter bandwidth and steeper skirts for improved noise and QRM rejection. New firmware (version 7.2) allows a wider selection of filters than the original PK-232, so the filter can match the mode. The correct DSP filter is automatically selected when you choose an internal mode. In RTTY, Timewave's proven twin peak filters pluck the mark and space tones from the noise and QRM for great copy. In PACTOR, the filter bandwidth automatically changes when the baud rate shifts in response to the error rate of the link. In Morse (CW), the operator can preset either 100 Hz or 200 Hz bandwidth. The PK-232SC is compatible with all Windows XP, Vista, and Windows 7 software terminal programs for the PK-232.



### Audio Processing



The LDG AAF7 can be widely applied to external audio processing of all types of receiving equipment, such as radio transceivers, receivers or broadcast radio. Reduce background noise by more than 10 dB, improve the Signal-To-Noise ratio by 20 dB, and increase the overall signal readability.

- Headphone Driving Power: 150mW@Max
- Headphone Output Impedance: 8-200Ω
- Input Impedance Range: Low impedance of 8Ω, high impedance of 10kΩ
- Speaker Output Power: >5W (8Ω, THD <0.1%)
- Speaker Output Impedance: 4-8Ω
- Operating Voltage: 13.8 VDC, 1 amp

### Radio Control

**Plug & Play  
Remote Control  
HAMLINK USB™**

**USB Rig  
Controller  
Plus**

HRO Price:  
\$59.95

**Connect and  
control your  
transceiver via  
USB with Plus  
option for T-R  
switch, key,  
foot switch,  
input, or user  
I/O.**



The HamLinkUSB™ Rig Controller Plus is a USB to logic level conversion device for CAT / CI-V enabled transceivers that provides PTT output, keying output, or foot switch input options.

The CAT / CI-V feature provides a logic level serial interface which connects directly with non-RS-232 CAT / CI-V inputs on Kenwood, Icom, Yaesu, Ten-Tec, Elecraft and Alinco models. The controller is compatible with most soundcard and software control programs such as PK-Term 3.0.

**HamLinkUSB  
Optional Cable Assemblies**  
HLUSB-CIV CI-V - Icom, Ten-Tec, Elecraft.  
HRO Price: \$8.95

HLUSB-CAT MiniDIN-8 cable assembly for  
Yaesu FT-857 / 817/ 100 / 100D  
HRO Price: \$13.95

HLUSB-4CON 4 conductor with 3.5 mm plug  
to open end cable.  
HRO Price: \$13.95

**TIMEWAVE  
TECHNOLOGY  
QUESTIONS?  
HRO HAS THE ANSWERS!**

**We are here to help. Simply contact  
your local HRO store for assistance.**

### Noise Reduction



**Cancel Noise  
ANC-4+** HRO Price:  
\$259.95

The ANC-4+ RF device eliminates or reduces power line noise, computer noise, TV generated interference, and other types of electrical noise. Attach the unit directly to the antenna connector of the receiver or transceiver to cancel locally generated noise before it affects the receiver AGC circuits. Reception of signals well below the noise level of the local interference is possible.

To cancel locally generated interference, the ANC-4+ detects the interfering signal and adjusts its phase and magnitude so that it matches the offending interference at the receiver input, but is 180 degrees out of phase. Front panel controls allow adjustment of both phase and magnitude. Connect the ANC-4+ between the main station antenna and the receiver antenna connector. A second antenna connects to the ANC-4+ to pick up noise. A short wire antenna or short collapsible whip is generally satisfactory for eliminating noises generated around the operating position or in the house, but an external antenna works better to eliminate noises generated outside the home. Any noise antenna that works, including combinations of horizontal and vertically polarized antennas, is satisfactory.

The ANC-4+ operates as an active antenna by using the noise antenna and the NOISE GAIN control to amplify the antenna output. The unit can also be used as a diversity combiner to peak weak signals or null interfering signals.

### Sound Card Modem



**USB Audio  
NAVIGATOR** HRO Price:  
\$374.95

The Navigator USB sound card modem has a proven USB audio sound chip, six FTDI USB serial COM ports, a K1EL WinKey keyer, true FSK and rig control connections for every radio. A built-in USB sound card with isolated audio I/O to your radio prevents ground loops. A second audio input lets you use both receivers in a dual receiver radio. The logic level and RS-232 rig control ports support your Icom CI-V, Yaesu CAT, Kenwood and other radios. Front panel controls set both RX audio levels, TX audio out-put level, audio monitor level, and the CW speed.



**digirig**

a tidy digital modes interface for ham radio



ICOMMOBILE.....	\$99.99
ICOMRJ45MOBILE.....	\$99.99
G90MOBILE.....	\$99.99
BFENGMOBILE.....	\$99.95
YSU10CATMOBILE.....	\$99.99
YAESURJ12MOBILE.....	\$99.99
ELEKXMOBILE.....	\$99.99
FT8XXMOBILE.....	\$99.99
YAESUHTMOBILE.....	\$89.99
DR-891 USB.....	\$89.95
ICDIN8MOBILE.....	\$99.99

Digirig interface modules include complete cable kits for your selected radio. Visit the HAMRADIO.COM website for details.

### Digital Modes Interface

Digirig is an open-source integrated digital modes interface for amateur radio. Yes, another one, but bear with me for a moment.

Hi, I'm Denis Grisak; amateur radio call sign KOTX.

Shortly after starting my ham journey in July 2020 I was logging my first FT8 QSOs while dealing with the rats nest of cables, breakout boards, dongles and ferrite beads between my radio and computer. That was especially messy while trying to operate mobile with rig cords sticking out of both sides of the laptop and wires tangled all over the place.

Here comes the informercial's favorite cliché "there's gotta be a better way!". My market research yielded the list of overpriced bulky boxes with limited functionality. The leading product only supported a VOX based PTT and dated itself by its Netscape Communicator's worthy web property boasting surface mount construction as "State Of The Art" and corporate trademark abandoned since early 90's. Electric engineer's gears started to turn... Welcome to Digirig!

#### Integrated Interface

As a differentiating feature, Digirig only requires a single USB connection to the computer with all the digital goodness packed in a single small enclosure. The internals include a USB hub, audio codec, a fully featured serial CAT (Computer Aided Transceiver) interface, and potentially other modules such as GPS receiver for time synchronization.

#### Open Source

Digirig is an open-source because amateur radio is a hobby, and it's a hobby which encourages learning, experimentation and collaboration. I hope that the project is shaped by your participation in the form of comments, requests and tester feedback. All of the specs, drawings and other materials are publicly available on Github.



### Digital Voice and Image Interface

**Digital Voice+Image  
ARD9800**



Use a conventional voice transceiver for digital voice communications, data and images while you maintain analog capabilities. The ARD9800 is a breakthrough in communications technology.

The ARD9800 is a modem unit that connects to the mic input of any transceiver. The user simply wires a connector for their particular transceiver, connects the speaker output of their transceiver to the modem and then connects the modem to a 12 VDC power source.

Digital Voice Communications on Amateur Radio bands. You get clear, crisp audio at the touch of a button.

Automatic Mode Recognition. The ARD9800 automatically recognizes incoming digital signals and starts decoding those signals immediately.

Maintains Analog Capability. You keep the ability to communicate in conventional analog modes. And you can easily shift between digital and analog operations.

Send Images Too! With the optional memory module, you can send photos or captured video images quickly and easily. View the images through any NTSC monitor that has a video input. It's like SSTV, only faster!

No Rig Modifications Needed. All you need to do is connect the ARD9800 to your Amateur transceiver's microphone and speaker output ports, using the supplied cables. (You will have to prepare a connector for your rig's microphone port.) It's a simple, easy process to start using digital communications and there are no internal modifications or adjustments needed for your radio.

Open Digital Protocol means use of the ARD9800 is permitted on the US Amateur Bands (non-USA users should check applicable regulations).

Keyboard communications and file transfers are also possible. Users should check applicable regulations.





From the beginning, company founder Bob Heil knew that voice articulation is key to ham radio, both for emergency use as well as for the hobbyist. Heil Ham Radio's headsets for ham radio – from the Handi Talkie Headset to the Pro 7 – are a result of that level of concern for clearly hearing and transmitting the voice. Heil Ham Radio also offers a line of microphones that bring "studio quality" to the ham radio operator.

As a company, the Heil Sound team has taken Bob Heil's vision and expanded it into all of the elements that customers expect from a manufacturer of innovative products for the Amateur Radio industry.

## HM-12\*

The high output full range "Genesis" dynamic element in the HM-12 is designed to work with just about every amateur radio low impedance transmitter. The element is mounted in a unique internal shock mount and exhibits nearly -35 dB of rear rejection, reducing background and ambient noise from the transmitted signal. This microphone has a unique internal windscreen plus an external foam windscreen. It has the 5/8" X 27 microphone clip designed for our booms and stands. Frequency response: 80 Hz-14 kHz @ -55 dB.

## PR-781/PR-781G\*

These professional quality dynamic cardioid microphones for amateur radio provide a wide frequency response, great articulation, and a -40 dB of rear rejection with ample output to drive most amateur radio microphone inputs. The PR-781 is specifically designed for use with most makes of Elite transceivers by Kenwood, Flex, Elecraft, Yaesu, Ten Tec and Icom. The PR-781G is the same great design and performance as the PR-781 but now with a beautiful gold screen. Both models come with the SM-3 mount.

## The Fin™\*

The Fin™ utilizes the PR-20 element so popular in the professional audio realm. It is housed in a gorgeous high-gloss chrome finish. If phantom power (not compatible with Icom transceivers) is provided to The Fin™, the blue wind screen becomes illuminated by 4 embedded LEDs.

## HANDI-MICS\*

The Handi Mic is an ultra-compact hand microphone utilizing a special internal shock mount, yielding superior audio compared to the standard microphones offered by the radio manufacturers. The Handi Mic is available with the "iC" element designed for Icom rigs. A special "Pro" version is also available, with a wide-range dynamic element that sounds great on FM mobile rigs. Both have PTT.

**Model Element**  
HM-iC Electret for most ICOM  
HM-PRO Wide Range Dynamic

## ICM/ICM BG

A salvation for Icom users. The iCM is a high-quality microphone for early Icom transceivers that comes in an all platinum colored finish or a matte black with gold grill. It features a high-gain condenser element that provides full-bodied audio with plenty of drive to match up with the low-gain audio systems of the earlier Icom rigs. It also works well with the higher-gain "Pro" radios and IC-7800. It comes with an attached, shielded 8' cable terminating in an 8-pin mic plug and a 1/4" PTT pigtail. Connecting cable needed for certain radios.

## GOLD ELITE\*

The Gold Elite microphone is designed and crafted specifically for amateur radio communications. It contains two distinctly different high performance dynamic elements that are available at the flip of a switch to meet the different types of communications needs. The Gold Elite microphone comes to you with a foam windscreen and a 5/8"-27 microphone clip that is designed for our booms and desk stands.

## PR-30\*

The PR 30 was designed for commercial broadcast, live sound and recording. It has comparable sound to the finest condenser microphones because of its wide frequency response, excellent transient response and low IMD. The PR 30 comes standard with the SM-3 5/8"X27 mount. Available in champagne and black.

## PR-40\*

The PR 40 was designed for commercial broadcast, live sound and recording. It features the Heil dynamic element with a perfectly flat response from 28 Hz all the way up to 18 kHz and has gorgeous articulation. The PR 40 is shipped with the SM-3 5/8" X27 mount. Available in champagne or black and gold.

## HMM-Dyn | HMM-iC

The HMM brings new technology to the hand microphone. When you place a microphone element inside a clam shell, the result is a hollow muffled sound. To solve this problem, we installed a grill on the top of the microphone that detunes the internal resonance of the housing. We came up with a very special, full-range microphone element with great speech articulation. A very flexible but sturdy coil cable terminates with 1/8" male for the microphone and a 1/4" male for the PTT control. **HMM-Dyn (Dynamic)**

Also offered with the iC electret element as **HMM-iC**. AD-1 cable required.

## HEIL MICROPHONE OR ACCESSORY QUESTIONS? HRO HAS THE ANSWERS!

Our sales experts can help you find the right Heil microphone and/or accessories that work best for you. Simply contact your local HRO store for assistance.

\* Adaptor cable not included. Separate CC-1 or CC1-XLR cable required.

## HEIL HAM RADIO Shock Mount SM-1

The ultimate suspension mount for your Heil hand microphones. This shock mount can be used on all Heil stands or booms with a simple 5/8"x 27" std. thread mount.

## Shock Mount PRSM

This flexible support system helps suppress low frequency rumble by dampening vibrations. The PRSM fits large diameter microphones including the PR 30/40/781 and can be used on all booms or stands with 5/8"x27" threading.

PRSM-B black finish.

## Switches

### PTT Hand Switch HS-2



Heil's high quality hand switch made for PTT operation is shaped to fit your hand naturally and comfortably. Comes with a 6 foot cable that plugs into the AD-1 or CC-1 adapter.

### Single Circuit Foot Switch FS-3



Use the FS-3 to control the transmit function of your amateur radio. A 6-foot shielded cable is terminated with a commercial 1/4" plug that connects into the Heil CC-1 and AD-1 cable system.

## Mounts

### Classic Base CB-1 PTT



This beautiful reproduction of a 1930 RCA microphone base has stainless trim and features a PTT with a 4" riser that accepts 5/8" x 27" hardware.

### Flange Mount FL-2

Basic mount with brass insert. Fits the PL-2T, SB-2, & HB-1.



### Desktop Flush Mount DT-1

Allows PL-2T, SB-2 and HB-1 to slip into 1-1/2" hole drilled into the desktop.



### Vertical Surface Mount WM-1

The WM-1 is a unique mount for the Heil booms that allows them to be mounted on a vertical surface. The brass insert of the WM-1 ensures smooth, perfect fit with PL-2T and HB-1.



## Audio Processor

### Parametric Receive Audio System PRAS EQ



The Parametric Receive Audio System Equalizer (PRAS EQ) is an audio processor that enhances the internal audio systems of amateur radio, shortwave, commercial, and CB receivers. The PRAS EQ allows radio operators to modify, shape, and improve the audio output of their receivers using three separate EQ controls. The PRAS is supplied with a 2.5 mm barrel to Powerpole® adapter cable and a 1/4" to 1/8" stereo adapter.

## Booms

### Studio Boom PL-2T

The PL-2T "Topless" boom is a unique articulated boom that lets you tuck your microphone cable away for a professional appearance. It accepts all Heil Sound 5/8" x 27" threaded microphone mounting clips. Includes a C-Clamp. It can support a total weight of 2.5 lbs.

### Small Boom SB-2

This compact, adjustable boom accepts standard 5/8" x 27" threading and comes with a C-Clamp. It is compatible with all Heil Sound hardware.

### Riser | RS-1

This 12" riser allows you to mount any Heil Sound boom behind your transceiver or console.

### Economy Mic Boom HB-1

The HB-1 is an articulated boom balanced by four external springs. It is capable of supporting microphones weighing up to 2.5 lbs. and any standard 5/8" x 27" threaded microphone hardware. The HB-1 is shipped with a C-Clamp mount that accepts up to a 1.5" thick table and is compatible with all Heil Sound hardware.

### Powered Speaker HPS-5

The Heil Powered Speaker (HPS-5) is a two-way powered speaker designed to be used with the PRAS. Together they provide unmatched speech articulation and bring new dimensions to receive audio quality. The HPS-5 features a 5" driver and a 24-watt amplifier. It comes with an XLR to XLR cable, a 2.5 mm barrel to Powerpole® adapter cable, a 1/8" to 1/8" stereo source cable, and a 1/4" to 1/8" stereo adapter.



## HEIL HAM RADIO

### Pro Series



**Stereo and Selectable Elements**  
\* **PRO-7**

The Pro 7 features an audio balance control allowing the user to adjust levels between speakers. It also features the Heil Sound Phase Reversal Switch, which allows the user to "move" the incoming signal to significantly improve copy in a tough DX pile up. The mic boom can be rotated for use on either the right or left ear. The Pro 7 is available in black or blue. Outfitted with the HC-7 dynamic element or the iC electret element, the HC 74 Element for DX is available separately. Compatible with current AD-1 series adapter cables.



**Professional and Lightweight**  
**PRO SET 3**

Pro Set 3 stereo headphones are professional and lightweight designed for music recordings, internet, commercial radio, and ham radio. They ship with 3 detachable cables: a 1.8 M flexible straight cable, a 1.8 M straight cable with 3.5mm plug, and a 3 M coiled cable. All cables feature a twist lock terminating in a 1/8" (3.5mm) professional gold plated screw-on 1/4" (6.3mm) adapter. The Pro Set 3 features the Heil Sound Phase Reversal Switch, which allows the user to "move" the incoming signal to significantly improve copy in a tough DX pile up.

### Pro Series

**Improved Comfort**  
\* **PRO SET ELITE**



The redesigned Pro Set Elite features improved comfort and durability. It offers dual side, highly efficient speakers mounted in acoustically tuned chambers which offer high rejection of outside noise. The headset folds for easy transport and storage and comes in two models. The Pro Set Elite-6 contains the Heil HC-6 full range dynamic microphone element and the Pro Set Elite-iC contains the Heil iC electret microphone element specifically designed for Icom.

**Application Specific**  
\* **PRO SET**



**Pro Set Media Pro** is an award-winning communications headset designed for use with your personal computer. The Pro Set Media Pro earphones are acoustically tuned, and they incorporate Heil Sound's exclusive phase reversal feature that creates a spatial widening effect that often makes incoming audio easier to understand. It has a high-level condenser element and two 1/8" plugs for applications requiring connection of a headset / boom mic to a computer's sound card.

Pro Set Accessories:  
**BAG -1** Leatherette travel bag for all Heil Sound headsets.

\* **Adaptor cable not included.**  
Separate AD-1 cable required.

**HEIL HEADSET OR ACCESSORY QUESTIONS?**  
**HRO HAS THE ANSWERS!**

Our sales experts can help you find the right Heil headset and/or accessories that work best for you. Simply contact your local HRO store for assistance.

### Lightweight Headsets

#### Handie Talkie Headset

These HTH single-sided and HTHD dual sided light weight headsets are designed for use with popular handheld transceivers featuring an in-line PTT.

Single Sided Model **HTH**  
Dual Sided Model **HTHD**

**HTH-K, HTHD-K** works with 2-pin Kenwood, Baofeng, and Wouxun.  
**HTH-i, HTHD-i** works with 2-pin Icom.  
**HTH-Y, HTHD-Y\*** works with TRRS Yaesu / Vertex. \*For weather resistant Yaesu / Vertex, use the **HTH-Y** and **HTH-ADY** adapter.



#### BM-17 \*

This lightweight headset, now all black with Heil Ham Radio branding, features a new 180-degree rotating mic boom for flexible operating. Available in single-sided or dual-sided versions, with dynamic or iC electret elements.

**BM-17 Dynamic Dual**  
**BM-17 Dynamic Single**  
**BM-17 ICOM Dual**  
**BM-17 ICOM Single**



### Heil Adaptors



**AD-1-YM** | Headset 1/8" audio and push-to-talk outputs to Yaesu or Flex 8-pin modular input adapter cable.



**AD-1-Y** | Headset 1/8" audio and push-to-talk outputs to Yaesu or Flex 8-pin round input adapter cable. Compatible with some Ten-Tec models.



**AD-100** | Yaesu 8-pin male to 6-pin modular adapter cable. Used in conjunction with AD-1-Y, CC-1-Y, or CC-1-XLR-YB adapter cables.



**AD-1-iCM** | Headset 1/8" audio and push-to-talk outputs to Icom 8-pin modular input adapter cable. For use with iC Electret elements.



**AD-1-K** | Headset 1/8" audio and push-to-talk outputs to Kenwood and Elecraft 8-pin round input adapter cable.

Many more adaptors available. Contact HRO for details.

## Palstar

### Keyer

**Electronic Keyer**  
**CW50A**



The CW50A microprocessor-based electronic keyer works with any transmitter or transceiver.

A front panel speed control is continuously adjustable over the range of 10 to 40 WPM and is crystal controlled for high accuracy over the full voltage and temperature range. Your choice of Mode A or Mode B Iambic keying is just a rear panel switch away. Separate rear panel outputs for grid block or cathode keying are available.

A built-in sidetone generator and speaker with convenient front panel volume and pitch controls makes it easy to monitor your sending and also means the keyer can serve as a practice keyer for training purposes.

Spacing is adjustable to provide compensation for transmitters which distort the keying waveshape. Dash weight is adjustable to provide compensation for equipment that distorts the dash to space ratio.

The CW50A may be used with a straight key, semi-automatic (bug) keys and single lever or dual lever "squeeze" paddles. Why would you use an electronic keyer with a straight key or "bug"? Because the key closure and key opening are debounced. This is especially useful when using a bug with modern, high transfer speed, full break-in rigs.

The CW50A works with all tube and solid state rigs and is powered by either a 9V battery or an AC adapter (supplied - U.S. only). The front panel and top cover are finished with durable powdercoat. All needed plugs are included.

A reed relay mute circuit allows the keyer to be used with the Palstar R30 or other receiver when using a separate transmitter. The CW50A is even programmable to allow full or semi break-in when used with a separate transmitter/receiver combo.

If a separate receiver is not used, the reed relay becomes available as an additional keying output, and is jumper selectable to provide either a contact closure to ground or a +12VDC output. The CW50A Electronic Keyer to be the most versatile keyer on the market today.

## VIBROPLEX®



The high-quality **Bencher** product line is now part of the oldest name in Ham Radio, Vibroplex.

**Advanced Performance**  
**RJ SERIES HAND KEYS**

The "RJ" hand keys have an advanced American-style design derived from the telegraph keys that won the west, yet with modern features like Oilite bearings, a solid navy knob, gold-plated solid silver contacts, full locking adjustments of all tension and spacing parameters, and Bencher quality materials throughout. These keys are ideal for the new amateur just mastering code as well as the old time brass pounder anxious to "clear the hook." This key offers the Morse code operator an investment that will bring years of pride and satisfaction. Try the Bencher "RJ" hand key at your nearby HRO. You will be convinced there is no better key available. **HRO Price: RJ-1 Black \$149.95 | RJ-2 Chrome \$179.95**

**Dust Covers**  
**PROTECT YOUR KEY**

Keep your Vibroplex or Bencher in perfect working condition and protect it from harm with one of our dust covers. Elegantly styled and clear so you can enjoy the beauty of your key even while protected. **Various Models.**



**Iambic Paddles**  
**BY SERIES**



You will enjoy the smooth, precise action of a Bencher paddle with any iambic keyer. These paddles feature a heavy steel base, gold plated silver contact points, non-skid feet, stainless steel adjustable spring, self-adjusting needle bearings, and large acrylic finger paddles.

**Single Lever Paddles**  
**ST SERIES**

Superb Bencher features and construction for the ham who prefers single lever operation.

**ST-1 Black - HRO Price: \$139.95**  
**ST-2 Chrome - HRO Price: \$164.95**

**BY-1 Black Base - HRO Price: \$169.95**  
**BY-2 Chrome - HRO Price: \$209.95**

### Portable Oscillator

**Code Practice Oscillator**  
**CPO PLUS**

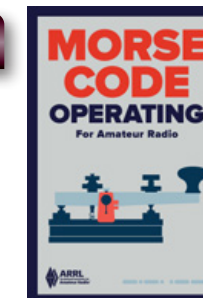


Need to learn how to use a bug or straight key without the key connected to a radio? Now you can practice anywhere you wish with the portable oscillator. Our CPO with CP2 cable is ready to use.

Includes CPO board, speaker, cable. All you need to add is a 9V battery. 700Hz tone from LM386 audio chip @350mW output power. Not an electronic keyer - for use with bugs and straight keys only.

**HRO Price: \$29.95**

**Ham Radio's First Language**



**MORSE CODE OPERATING**

Tune in to the low end of any HF band, and you'll find it populated with ham radio operators using Morse code for casual conversations, chasing DX or fast paced contests.

Morse Code Operating for Amateur Radio is your introduction into the fascinating world of radio communication by Morse code, now simply called "CW". It discusses how to get started in the hobby, the advantages to learning and using Morse code, how to set up your station for CW and how to adjust your Morse code key. **#0004**  
**HRO Price: \$12.95**

# VIBROPLEX®

*Quality & Pride Throughout!*

## Non-Iambic Paddle VIBROKEYER

The Vibrokeyer is designed for those who prefer a non-iambic paddle. The single lever paddle imitates the automatic dots and dashes of the electronic keyer with the same motion used to operate the "Bug."

**Vibrokeyer Deluxe:** Highly polished decorative chrome base with bright chrome top parts. Silky smooth movements are jeweled as in fine Swiss watches. **HRO Price: \$219.95**

**Vibrokeyer Standard:** A neat, crisp black textured finish base with bright decorative chrome parts. Non-jeweled movement. **HRO Price: \$179.95**



## Iambic Paddle VIBROCUBE



The Vibrocube registers just under 6 pounds on the scale. It is a large paddle that stays in place on the desk and accommodates a large hand comfortably. The base is USA-forged cold-rolled steel, upper components are zinc, steel and brass. The finger pieces are hard red acrylic. Instead of magnetic tensioning, we use a spring loaded method which provides a greater range of possible tension settings than magnets allow.

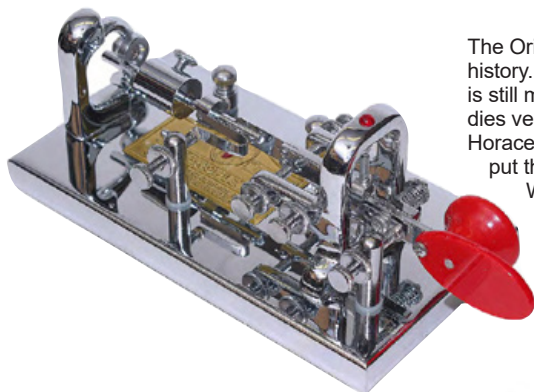
**Vibrocube Standard - HRO Price: \$209.95**

**Vibrocube-S-Upgrade - HRO Price: \$239.95**

**Vibrocube Deluxe -** Like the Standard version with jeweled upper and lower trunion screws, an all-chrome base and all-chrome top components. **HRO Price: \$289.95**

## Non-Iambic Paddle ORIGINAL

The Original Vibroplex is a genuine piece of history. First patented in 1894, the Original is still manufactured today using tools and dies very similar to those used by its inventor, Horace G. Martin. Modern-day operators can put their fist to the same equipment as the Western Union and railroad operators of old. **Original Deluxe pictured. HRO Price: \$279.95**

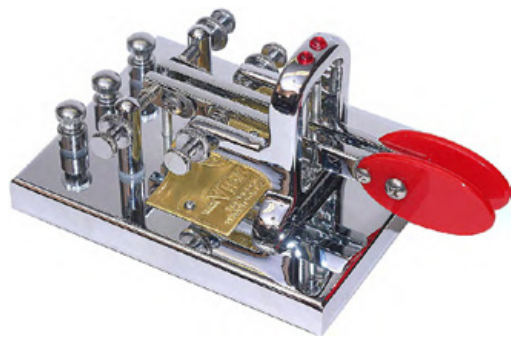


## Standard or Deluxe IAMBIC

This is the modern descendant of the Original. It incorporates the traditional Vibroplex look for use with modern electronic keyers.

**Iambic Deluxe:** Same as Presentation but without the 24K gold plated brass plate. **HRO Price: \$219.95**

**Iambic Standard:** A neat, crisp black textured finish base with bright decorative chrome top parts. **HRO Price: \$179.95**

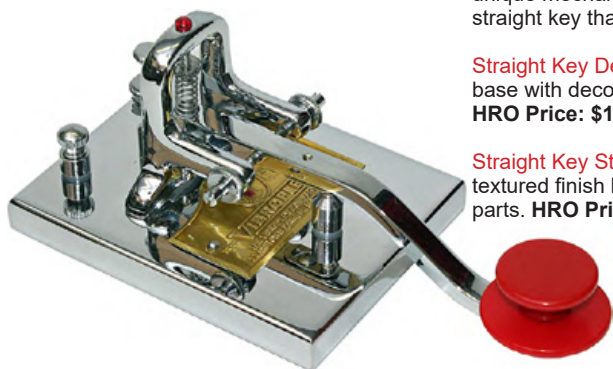


## Standard or Deluxe STRAIGHT KEYS

Vibroplex® offers a STRAIGHT key with a unique mechanical action, unlike any other straight key that has ever been manufactured.

**Straight Key Deluxe:** Highly polished chrome base with decorative chrome top parts. **HRO Price: \$199.95**

**Straight Key Standard:** A neat, crisp black textured finish base with bright chrome top parts. **HRO Price: \$164.95**



## Home/Portable CODE WARRIOR JR



The Code Warrior Jr. is a small footprint, steel base key with brass top parts and silver tipped copper contacts. Practical for home or portable use. Magnetic return action for wide range of tension adjustment. Weighs just 1 lb 10 oz. Budget priced. Available with black or blue base. **Code Warrior Jr BLACK - HRO Price: \$119.95**  
**Code Warrior Jr BLUE - HRO Price: \$129.95**

## Bright Finish CHROME WARRIOR



The Chrome Warrior is identical to the Code Warrior Jr. but has a decorative bright chrome polished steel base. **Chrome Warrior - HRO Price: \$159.95**



## HF - SHF | SX-1100



## 144-470MHz SX-40C



### ALL MODELS:

- Illuminated meters.
- Require 12 volts DC. Plug Included.
- Low insertion loss generally less than 0.2dB in HF range and 0.3dB at higher frequencies.
- Power measurement accuracy generally ±10% on higher power ranges and ±5% on the lower.
- Low loss SO-239 connectors are used except for the high frequency models as noted in the table.
- Measurements are forward power, reflected power, SWR and, on selected frequencies, PEP monitor.

### Diamond Meters

Model	Freq MHz	PWR Watts	IN/OUT	HRO Price
SX-200	1.8-200	5 20 200	SO-239	\$95.95
SX-40C	144-470	30 300	SO-239	\$89.95
SX-27P	144-430	60	SO-239	\$84.95
SX-600	1.8-160 140-525	5 20 200	SO-239	\$189.95
SX-1100	1.8-160 430-450 800-930 1230-1300	5 20 200	SO-239 + N-Type	\$254.95



1.7 to 150 MHz SWR meter with 10/100 Watt scale. Field strength antenna & reading. Compact & easy to use design. **HRO Price: \$36.95**



## Remote Coupler PM2000A

The PM2000A measures and displays forward power (up to 2000 W), reflected power, and SWR simultaneously on its dual movement meter system in the frequency range of 1.8 MHz to 60 MHz. Accuracy of the readings is assured because the PM2000A features a true shielded directional coupler. The backlit meter can display either peak or average power readings with a Peak Hold function, and has 300 and 2000 watt range settings.

The PM2000AM mobile version has a remote coupler that can be mounted up to 14' from the display head.

- PL259 coax connector.
- 115 VAC to 12 VDC adapter included.
- Size: 4.5" x 3.25" x 3.25" deep.
- Weight 1.2 lbs. / 0.55 Kg.

**PM-2000A - HRO Price: \$344.95**  
**PM-2000AM - HRO Price: \$344.95**

## Digital Vector Wattmeter LP-100A



LP-100A is an industry standard reference power meter. More than two dozen are in use at major ham

manufacturers' facilities for testing, checkout, calibration, etc. No other meter has dual bargraphs, OR a graphic display with solid bargraphs, OR bargraph with 90 bars for fine tuning of Power and SWR, OR an SWR alarm with snooze mode, OR a "sticky" bar for graphic peak hold indication... let alone having them all on one screen!

- Standard LPC1 coupler (1.8 to 54MHz, 3kW)
- 6 ft. connecting cables between coupler and main unit
- Power cable with tinned ends for connection to +12VDC
- Also includes VCP, Plot and MCLoader software
- 11 band NIST calibration

**LP-100A 3K - HRO Price: \$589.95**  
**LP-100A 5K - HRO Price: \$639.95**



## DAIWA



## Cross Needle CN-501H

- Cross needle design reads forward, reverse and VSWR simultaneously, no calibration required.
- Easy to read meter.
- PEP monitor function.
- Illuminated meter, 12 VDC plug provided.

### Specifications

	CN-501H	CN-501H2
Frequency Range	1.8-150MHz	1.8-150MHz
Power Range	15 / 150 / 1.5kW	20 / 200 / 2kW
Rating	1.5kW (1.8-60MHz) 1kW (144MHz)	1.5kW (1.8-60MHz) 1kW (144MHz)
SWR Detection	4W Minimum	4W Minimum
Price	\$144.95	\$149.95



## Professional Series CN-901HP3

- Easy to read, illuminated, extra large meter face with mirrored graph in .5 watt increments.
- Cross needle design reads forward, reverse and VSWR simultaneously, no calibration required.
- CN-901HP3 is the awesome 3000 watt version.
- 12 VDC plug provided.

### Specifications

	CN-901 HP3	CN-901 V	CN-901 G
Frequency Range MHz	1.8-200	140-525	900-1400
Power Range Watts	30/300/3K	20/200	2/20
Impedance	50 ohm	50 ohm	50 ohm
Connectors	SO-239	SO-239	N-Type
SWR Detection	5 W Min	5 W Min	.5 W Min
Price	\$259.95	\$194.95	\$279.95



## Power Supply

Wireless Communication Antenna Expert Since 1981

### OP-PS3001D 30 Amp Digital Switching Power Supply

Output : 4 to 16 VDC / Max. Current : 30 Amp / 115/230 VAC Input Power Selector Switch



#### Main Features:

- Input Voltage : 100~120 VAC or 200-240 VAC fixed
- Output Voltage : 4 to 16 VDC
- Amp Rating (13.8V) : 25A continuous / 30A Surge
- DC Output : Binding Posts (Front)
- DC Output : Dual (Anderson) Powerpole connectors (Rear)
- AC Input : Power cord socket
- Display : 2 inches backlit LCD (Volts / Amps)
- Temperature controlled Cooling fan
- Dimensions : 154 x127x63 (6"x5"x2.5")
- Weights : 3.14 lbs



### OP-PS3002 30 Amp Switching Power Supply

Output : 13.8 VDC / Max. Current : 30 Amp / 115 VAC Input Power



#### Main Features:

- Input Voltage : 115 VAC fixed
- Output Voltage : 13.8 VDC fixed
- Amp Rating (13.8V) : 25A continuous / 30A Surge
- DC Output : Dual (Anderson) Powerpole connectors (Front)
- DC Output : Binding Posts (Rear)
- AC Input : Power cord socket
- Temperature controlled Cooling fan
- Dimensions : 160 x125x60 (6.3"x5"x2.4")
- Weights : 3.2 lbs



### OP-PS3005D 30 Amp Digital Switching Power Supply

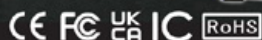
Output : 9 to 15 VDC / Max. Current : 30 Amp / 110/220 VAC Input Power Selector Switch



**NEW**

#### Main Features:

- Input Voltage : 110VAC / 220VAC, 50Hz / 60Hz (with Switch)
- Output Voltage : 9 to 15 VDC
- Amp Rating (13.8V) : 28A continuous / 30A Surge
- DC Output : Dual (Anderson) Powerpole connectors (Front)
- DC Output : Binding Posts (Rear)
- AC Input : Power cord socket
- Display : 3 inches backlit LCD (Volts / Amps)
- Temperature controlled Cooling fan
- Fuse : 110V (8A) / 220V (5A)
- Dimensions : 165 x 80 x 200 mm (6.5"x3.15"x7.85")
- Weights : 3.4 lbs



## VHF / UHF SWR Meter

Wireless Communication Antenna Expert Since 1981

### SWR-2 CB SWR METER

- Impedance: 50  $\Omega$
- Frequency: 1.7 - 30 MHz
- Accuracy:  $\pm 5\%$
- Power Measurement: 10 Watts
- Dimensions: 85(W) x 56(H) x 75(D) mm



### SWR-3 CB / VHF SWR METER

- SWR / POWER / FIELD STRENGTH
- Impedance: 50  $\Omega$
  - Frequency: 1.7 - 150 MHz
  - Accuracy:  $\pm 5\%$ (SWR),  $\pm 10\%$ (POWER)
  - RF-Power Range: 0-10 W / 0-100 W
  - Dimensions: 145(W) x 52(H) x 57(D) mm



### SWR-6 CB / VHF SWR/POWER METER

- SWR-6L SWR / POWER Meter With LED Light
- Impedance: 50  $\Omega$
  - Frequency: 1.6 - 60 MHz
  - Power Range: 0 - 2KW
  - Power Scale: 20 / 200 / 2KW
  - Max. Power: 2KW



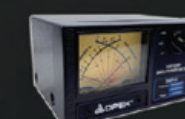
### SWR-7 CB SWR/POWER METER

- SWR-7L SWR / POWER Meter With LED Light
- Impedance: 50  $\Omega$
  - Frequency: 26 - 30 MHz
  - Power Range: 0 - 2KW
  - Power Scale: 20 / 200 / 2KW
  - Max. Power: 2KW



### SWR-8 VHF/UHF SWR/POWER METER

- SWR-8L SWR / POWER Meter With LED Light
- Impedance: 50  $\Omega$
  - Frequency: 144-160 MHz (VHF) / 420-460MHz (UHF)
  - Power Range: 0 - 2KW
  - Power Scale: 20 / 200 / 2KW
  - Max. Power: 2KW



### SWR-9 / 9X / 10X DIGITAL SWR / POWER METER



MODEL	SWR-9 / 9N	NEW SWR-9X	NEW SWR-10X
Frequency Range	1.6 - 60 MHz	125 - 525 MHz	1.6 - 60 MHz
Measurement (Analog mode)	CW, FM, FDMA		
Measurement (MAX mode)	Not available	DMR, SSB, AM	SSB, AM
Power Range	0 - 200 W		1st: 300 mW - 300 W 2nd: 300 W - 1200 W
Accuracy	10% or better, varied by Frq & power range		
Min. Power for SWR	1 W		300mW
Input/ Output Connector	SO-239		
Weight (Net)	750g		
Insertion Loss	Less than 0.2 dB		
Testing Function	FWD / REF Power & VSWR Ratio		
Input/ Output Impedance	50 Ohms		
Dimension (W/H/D) mm	140 x 84 x 122		



New Products Release

Wireless Communication Antenna Expert Since 1981

## Spike Ground Mount For 3/8"-24 antennas



### GM-3101

Portable Ground Spike Mount for thread 3/8"-24 antenna

- For standard thread 3/8"-24 antennas (HF amateur or CB mobile antennas)
- Body Plate with OPEK SM-1 (3/8"-24T female to SO-239 connector), and 3/8"-16T hole
- Aircraft aluminum level ground spike (Ø10mm x 290mmL (11.5"))
- Impedance : 50 ohm / Wind Rating: 20Mph
- Radial Terminals: 2 x 6mm connections
- Dimensions: 30 x 4 x 7.5 cm

### GM-4101

Heavy Duty Portable Ground Spike Mount for thread 3/8"-24 Vertical antenna

- For standard thread 3/8"-24 antennas (HF amateur or CB mobile antennas)
- Body Plate with OPEK SM-1 (3/8"-24T female to SO-239 connector), and 3/8"-16T hole
- Aircraft aluminum level ground spike (Ø18mm x 406mmL (16"))
- Impedance : 50 ohm / Wind Rating: 32Mph
- Radial Terminals: 2 x 6mm connections
- Dimensions: 42 x 4 x 7.5 cm

## Carbon Fiber Mast

### OP-CTP2405

5-Sections Telescoping Carbon Fiber Mast (24FT. / 5.5FT. collapsed)

- Maximum Height : 24.00 ft ( 732cmL)
- Collapsed Length : 5.5 ft ( 168cmL)
- Mast Bottom Outside Diameter : 1.400 in. (Ø36mm)
- Mast Top Outside Diameter : 0.850 in. (Ø21.6mm)
- Weight : 3.5 lbs.

### OP-CTP2408

8-Sections Telescoping Carbon Fiber Mast (24FT. / 3.9FT. collapsed)

- Maximum Height : 24.00 ft ( 732cmL)
- Collapsed Length : 3.9 ft ( 119cmL)
- Mast Bottom Outside Diameter : 1.800 in. (Ø46mm)
- Mast Top Outside Diameter : 0.850 in. (Ø21.6mm)
- Weight : 3.17 lbs.

## HF Band Telescopic Antenna



### NEW OP-SS-17F

(17 Ft. Fully Extended Whip (24" collapsed)

- 10 - Sections
- Stainless Steel Construction
- Standard 3/8"- 24T Mounting Stud
- 7/8" (22mm) Diameter Bottom Section Tube
- 1/2" (13mm) Diameter Top Section Tube
- 1" Diameter by 2" Long Stainless Steel Bass
- 5/16" (8mm) Diameter Round Top Ball
- Affixed to a Base Mount for 1/4 Wave Vertical Use or a Dipole Mount
- For full 1/4 Wave operation on 20 Meters without loading coil, and 30 / 40 / 60 / 80 / 160 Meters with loading coil.

### NEW OP-SS-25F

(25 Ft. Fully Extended Whip (26.5" collapsed)

- 14 - Sections
- Stainless Steel Construction
- Standard 3/8"- 24T Mounting Stud
- 25/32" (20mm) Diameter Bottom Section Tube
- 9/32" (7mm) Diameter Top Section Tube
- 1" Diameter by 3" Long Stainless Steel Bass
- 9/32" (7mm) Diameter Round Top Ball
- Affixed to a Base Mount for 1/4 Wave Vertical Use or a Dipole Mount
- For full 1/4 Wave operation on 20 & 30 Meters without loading coil, and 40 / 60 / 80 / 160 Meters with loading coil.

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Starlink & NMO Mount / Heavy-duty Mount

Wireless Communication Antenna Expert Since 1981

## OP-SLK-F3L

STARLINK Mini / Standard & NMO Antenna Mount | Ford F-Series

Upgrade your Ford's connectivity with this rugged, single-piece mount. Designed for seamless installation beneath the third brake light, it offers a secure, weather-resistant solution for StarLink and NMO antennas.

### Key Features :

- Precision Fit: Specifically designed for Ford F-150 (2015+) and F-250 through F-550 (2017+).
- Versatile Mounting: Multi-pattern design supports both 0-90 degree orientations.
- StarLink Ready: Fully compatible with the kickstand and pipe mounts included in your StarLink kit.
- Durable Build: Finished in a black textured powder coat for maximum weather resistance.
- Expandable: Includes pre-drilled points for auxiliary work lights.
- Antenna: Includes 2 pre-drilled NMO 3/4" holes for your communications Antenna.

### Vehicle Compatibility :

- Ford F-150 : 2015 - Present
- Ford F-150 to F-550 : 2017 - Present



## FORD F-Series



## AM-911

Extra Heavy Duty Triple Magnet Mount (3 x 5" Mount)

Black Plastic Cover With Protective Rubber Pad  
5/8"(16mm) Mounting Hole On Triangle Metal Plate  
Cardboard Box Packing  
Optional Feeding Cable Assembly As Shown



### AM-911-3-8x24 (AM-911+PS-15)

3PCS \* 5" Triple Magnet Antenna Mount  
Black Plastic Cover With Protective Rubber Pad  
3/8"-24T Threads (5/8" Mounting Hole)  
With 14FT. RG-58U Cable & PL-259 Plug

W/ PS-15 Cable



### AM-911-UHF (AM-911+PS-17)

3PCS \* 5" Triple Magnet Antenna Mount  
Black Plastic Cover With Protective Rubber Pad  
SO-239 Type Antenna Connector  
With 14FT. RG-58U Cable & PL-259 Plug

W/ PS-17 Cable



### AM-911-NMO (AM-911+AM-207C)

3PCS \* 5" Triple Magnet Antenna Mount  
Black Plastic Cover With Protective Rubber Pad  
NMO Connection  
With 14FT. RG-58U Cable & PL-259 Plug

W/ AM-207C Cable

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## Antenna Brackets / Mount Kits

Wireless Communication Antenna Expert Since 1981

### Mirror Brackets



**AM-305**  
Mirror/Clamp-on Antenna Bracket  
3/4" Hole W/Hardware



**AM-306**  
Large Mirror/Clamp-on Antenna  
Bracket 3/4" Hole W/Hardware

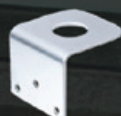


**AM-303MRB-UM** w/ PL-259  
**AM-303MRB-FME** w/ FME Female  
**AM-303MRB-NC** w/o Connector  
Mirror/Clamp-on NMO Stainless Steel Mount Kit.  
17 Ft. RG-58U cable with RF Connector.

### Fender Brackets



**AM-408** **AM-408B**  
Black available  
DODGE RAM (09-23) "Old Body  
Style" Antenna Bracket 3/4" Hole  
• Fits '93 to '08 series  
• Fits '01 to '07 GMC Sierra and '00  
to '05 Yukon



**AM-409** **AM-409B**  
Black available  
CHEV / GMC Antenna L  
Bracket 3/4" Hole  
• Fits '93 to '08 series  
• Fits '01 to '07 GMC Sierra and '00  
to '05 Yukon



**AM-410** **AM-410B**  
Black available  
FORD (17-UP) F250/350/450/550  
Antenna Bracket 3/4" Hole  
• Fits '17 to '23 Ford Super Duty F250,  
F350, F450 and F550 (Passenger's Side)  
• Fits '23 to '24 Ford Super Duty F250, F350,  
F450 and F550 (Driver's Side)



**AM-411** **AM-411B**  
Black available  
FORD F150 (21-UP) & F250/350/  
450/550 (17-UP) Antenna Bracket  
3/4" Hole (Both Side)  
• Fits '21 to '23 Ford F150 (Driver's Side)  
• Fits '17 to '22 Ford Super Duty F250,  
F350, F450 and F550 (Driver's Side)  
• Fits '23 to '24 Ford Super Duty F250,  
F350, F450 and F550 (Passenger's Side)



**AM-412** **AM-412B**  
Black available  
FORD F150 (15-23) Antenna  
Bracket 3/4" Hole  
• Fits '15 to '20 Ford F150. Compatible  
with '21-'23 with Tighter Fitting to the Body.  
Alteration may be required.  
• Fits '15 to '18 Ford Raptor  
• Fits '13 to '18 Toyota Rav4



**AM-413** **AM-413B**  
Black available  
CHEV / GMC (14-19) Silverado/  
Sierra Antenna Bracket 3/4" Hole  
• Fits '14 to '18 Chevrolet Silverado  
• Fits '19 Chevrolet Silverado  
(non crew cab models)  
• Fits '14 to '18 GMC Sierra  
• Fits '19 GMC Sierra  
(non crew cab models)



**AM-414** **AM-414B**  
Black available  
DODGE RAM 1500 (19-UP)  
Antenna Bracket 3/4" Hole  
(Driver's Side)  
• Fits '19, '20, '21, '22 Dodge Ram 1500  
(New body style). Does not fit classic version.



**AM-415** **AM-415B**  
Black available  
DODGE RAM 1500 (19-UP)  
Antenna Bracket 3/4" Hole  
(Passenger's Side)  
• Fits '19, '20, '21, '22 Dodge Ram 1500  
(New body style). Does not fit classic version.



**AM-416** **AM-416B**  
Black available  
CHEV / GMC (19-20) Silverado  
/Sierra Antenna Bracket 3/4" Hole  
• Fits '19 Chevrolet Silverado  
(Crew Cab models)  
• Fits '19 GMC Sierra (Crew Cab models)  
• Fits '20 Chevrolet Silverado  
(High Country, LTD, LTZ LTD,  
LT Trail Boss, RST)  
• Fits '20 GMC Sierra (AT4, Denali,  
Elevation, SLE, SLT)



**AM-417** **AM-417B**  
Black available  
DODGE RAM 2500-5500 (19-UP)  
Antenna Bracket 3/4" Hole  
• DODGE RAM 2500 - 5500 ('19-UP)  
(Driver's Side)  
• Fits '19, '20, '21, '22 Dodge Ram 2500, 3500,  
4500, 5500 (New Body Style).



**AM-418** **AM-418B**  
Black available  
DODGE RAM 2500-5500 (19-UP)  
Antenna Bracket 3/4" Hole  
• DODGE RAM 2500 - 5500 ('19-UP)  
(Passenger's Side)  
• Fits '19, '20, '21, '22 Dodge Ram 2500, 3500,  
4500, 5500 (New Body Style).



**AM-420** **AM-420B**  
Black available  
CHEV / GMC (21-22) Silverado/Sierra  
Antenna Bracket 3/4" Hole  
• Fits '17 to '22 GMC Acadia  
• Fits '19 Chevrolet Silverado (Crew Cab Models)  
• Fits '19 GMC Sierra (Crew Cab Models)  
• Fits '20 to '22 Chevrolet Silverado (High Country,  
LTD, LTZ LTD, LT Trail Boss, RST)  
• Fits '20 to '22 GMC Sierra (AT4, Denali, Elevation,  
SLE, SLT)

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## Brackets / Mount / NMO Kits

Wireless Communication Antenna Expert Since 1981

### Fender / Mirror / Roof Brackets



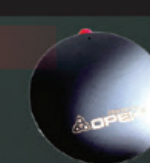
**AM-422** **AM-422B**  
Black available  
Antenna NMO 3/4" L Bracket  
• Stainless Steel #304



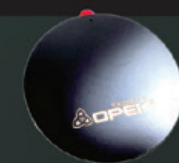
**AM-423** **AM-423B**  
Black available  
Mirror Antenna NMO 3/4" Bracket  
• Fits Side Mirror Bars on Trucks  
• For 3/8" bolt of mirror bracket



**AM-425** **AM-425B**  
Black available  
Antenna NMO 3/4" Bracket  
• Stainless Steel #304  
• Fits '14 to '25 Toyota Tundra



**RP-4N** **RP-5N**  
4" / 5.25" Ground Plain Dish Black  
• Circular Disk For Aluminum Vehicles  
• Awesome Finishing with Rounded Edges  
• Orange VHB 3M Tape is Water Proofing  
• E-coated Black for Rust Prevention



### NMO Type Antenna Ground Plane Kit



**NMO-410**  
(For UHF Band & Up)  
NMO Type Mobile Base Ground Plane Kit W/ N-Female Connector  
• NMO Mount to N female Connector  
• 7 1/8" (180mm) Ground Plane Steel Radials / 20.5" (520mm) Ground Plane Steel Radials  
• Includes Stainless Mounting Hardware  
• Easy Installation on Any 2" (5cm) Pole or Pipe (Not Included)



**NMO-110**  
(For V / UHF Band & Up)

### NMO Type Adapters



**NMO-1**  
3/4" Hole NMO Mount Kit  
• Brass Body  
• Teflon Insulator, O-Ring, Gold Plated  
Contact and ABS Connection Cover



**NMO-1-N**  
3/4" Hole NMO Mount Kit (Nickel)  
• Brass Body (Nickel Plated)  
• Teflon Insulator, O-Ring, Gold Plated  
Contact and ABS Connection Cover



**NMO-2**  
3/8" Hole NMO Mount Kit  
• Brass Body  
• Teflon Insulator, O-Ring, Gold Plated  
Contact and ABS Connection Cover



**NMO-2-N**  
3/8" Hole NMO Mount Kit (Nickel)  
• Brass Body (Nickel Plated)  
• Teflon Insulator, O-Ring, Gold Plated  
Contact and ABS Connection Cover



**NMO-3-1**  
NMO to UHF-Female Adapter  
(1-Inch Long Type)  
• 1" Thick Mount  
• UHF-Female (SO-239) Connector  
• For 5/8" Hole  
• Overall Length: 25.4mmL



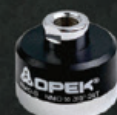
**NMO-3**  
NMO to UHF-Female Adapter  
(2-Inch Long Type)  
• 2" Thick Mount  
• UHF-Female (SO-239) Connector  
• For 5/8" Hole  
• Overall Length: 52.5mmL



**NMO-3UA**  
Heavy-duty NMO to UHF-Female  
Adapter (1-Inch Long Type)  
• 1" Thick Mount  
• UHF-Female (SO-239) Connector  
• For 5/8" Hole  
• Overall Length: 25.4mmL



**NMO-4**  
NMO to N-Female Adapter  
(1.5-Inch Long Type)  
• Up to 1/2" Thick Mount  
• N-Female Connector  
• For 5/8" Hole  
• Overall Length: 40.5mmL



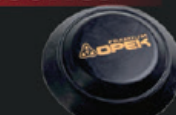
**NMO-6**  
NMO Antenna Connector to 3/8 x 24T  
• For 3/8-24T Thread Base Antenna  
• Diameter: ~ 1.50 Inches



**NMO-8**  
NMO Antenna Connector to UHF  
Female (SO-239) Adapter  
• For UHF Base Antenna  
• Diameter: ~ 1.50 Inches



**NMO-5**  
Rain Cap Cover for NMO Connector  
• NMO Thread  
• Dust-Rain Protector for NMO Connector  
• Black ABS Plastic



**NMO-34**  
3/4" NMO Hole Rubber Plug Cover  
• Dust-Rain Protector for 3/4" for NMO Hole  
• Black Rubber

### NMO Accessories

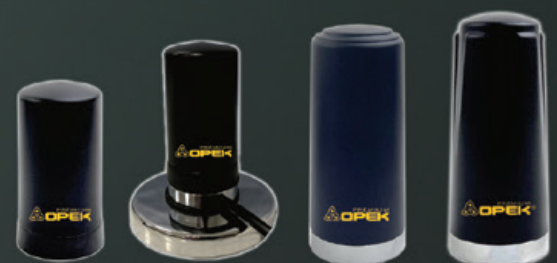
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Dual Band / Cellular Antenna / Magnet Mount  
Wireless Communication Antenna Expert Since 1981

## Low-Profile NO TUNING Needed

MODEL	Freq.	V.S.W.R	Gain (Peak)	Description
CP-705W	698 - 960 MHz	≤ 2.0	3.0 dBi	Ground Plane Antenna
CP-705WM	1700 - 2700 MHz	≤ 2.0	3.0 dBi	W/ NMO Type Magnetic Mount 17Ft. RG-58U + PL-259 Plug
CP-715-NMO	617 - 960 MHz 1500- 2110 MHz 2110- 2700 MHz	≤ 2.0	3.0 dBi 5.5 dBi 4.5 dBi	Full Band Cellular Antenna
VH-1582N	150- 158 MHz	≤ 2.0	2.0 dBi	No Ground Plane Antenna
UH-4603N	450- 480 MHz	≤ 2.0	2.0 dBi	No Ground Plane Antenna



CP-705W CP-705WM VH-1582N UH-4603N CP-715-NMO

## Scanner Antenna 25-1300 MHZ

### SCANSMA25-1300

(VHF/UHF/ Cellular/Scanner Mini Mag. Mount)

- Frequency: 25 - 1300 MHZ
- Gain: 3.0 dBi
- Unique 5 prong mini-magnet base
- 12 Ft. RG-174A/U cable with SMA Male



### SCANBNC25-1300

(VHF/UHF/ Cellular/Scanner Mini Mag. Mount)

- Frequency: 25 - 1300 MHZ
- Gain: 3.0 dBi
- Unique 5 prong mini-magnet base
- 12 Ft. RG-174A/U cable with BNC Male



## Dual Band VHF / UHF CUT TUNING

- NQ-136** Chrome Plating Metal Cover
  - Freq.: 136-960 MHZ
  - 17-7 PH Stainless Steel
  - Gain: Unity
- NQ-136B** Black Chrome Plating Metal Cover
  - Freq.: 136-960 MHZ
  - 17-7 PH Stainless Steel
  - Gain: Unity
- NC-136** Black Plastic Base+Chrome Brass Ferrule
  - Freq.: 136-960 MHZ
  - 17-7 PH Stainless Steel
  - Gain: Unity
- NC-136B** Black Plastic Base+Black Chrome Brass Ferrule
  - Freq.: 136-960 MHZ
  - 17-7 PH Stainless Steel
  - Gain: Unity
- NC-700**
  - Freq.: 740-870 MHZ
  - Gain: Unity
- NQ-700**
  - Freq.: 740-870 MHZ
  - Gain: Unity
- NC-700B**
  - Freq.: 740-870 MHZ
  - Gain: Unity
- NQ-700B**
  - Freq.: 740-870 MHZ
  - Gain: Unity

## 3.5" Heavy Duty Chrome Zinc Magnet Mount

**NEW**



### 14FT. Cable

- AM-1203R-UM** W/ PL-259 Connector
- AM-1203R-NM** W/ N-Type Male Connector
- AM-1203R-BM** W/ BNC Male Connector
- AM-1203R-SM** W/ SMA Male Connector
- AM-1203R-MPL** W/ MINI UHF Male Connector

- 3.5" Chrome Zinc Magnet NMO Mount
- Gold Contact Pin
- High Quality Die-Casting With Rubber Boots
- 14 FT. RG-58U Dual Shield Coax Cable W/ Connector

**NEW**



### 17FT. Cable

- AM-1203RL-UM** W/ PL-259 Connector
- AM-1203RL-NM** W/ N-Type Male Connector
- AM-1203RL-BM** W/ BNC Male Connector
- AM-1203RL-SM** W/ SMA Male Connector
- AM-1203RL-MPL** W/ MINI UHF Male Connector

- 3.5" Chrome Zinc Magnet NMO Mount
- Gold Contact Pin
- High Quality Die-Casting With Rubber Boots
- 17 FT. RG-58U Dual Shield Coax Cable W/ Connector

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Antenna Switch / RF Surge Protector / Dummy Load  
Wireless Communication Antenna Expert Since 1981

## 2-WAY COAX ANTENNA SWITCH

- CX-201U** W/ SO-239 UHF Jacks
- CX-201N** W/ N-Type Jacks

- With Center Ground Tap Keeps The Unused Terminal Always Grounded
- Rotary Selecting Switch
- Frequency: Up To 600 MHZ (CX-201U) Up To 1 GHz (CX-201N)
- V.S.W.R. : Less Than 1.2:1
- Power Rating : 1 KW (CW)
- Impedance: 50 OHMS
- Insertion Loss: Less Than 0.2 dB
- Isolation: Better Than 50 dB



## 3-WAY COAX ANTENNA SWITCH

- CX-301U** W/ SO-239 UHF Jacks
- CX-301N** W/ N-Type Jacks

- With Center Ground Tap Keeps The Unused Terminal Always Grounded
- Rotary Selecting Switch
- Frequency: Up To 800 MHZ (CX-321U) Up To 1 GHz (CX-301N)
- V.S.W.R. : Less Than 1.2:1
- Power Rating : 1 KW (CW)
- Impedance: 50 OHMS
- Insertion Loss: Less Than 0.2 dB
- Isolation: Better Than 50 dB



## 3-WAY COAX ANTENNA SWITCH

- W/ SO-239 UHF Jacks
- Rotary Selecting Switch
- Power Range: DC -200 MHZ (1KW PEP.) 200-500 MHZ (500W PEP.)
- VSWR: DC - 300 MHZ ≤ 1.5 300 - 500 MHZ ≤ 2.0
- Impedance: 50 OHMS
- Isolation: Better Than 50 dB
- Connector: 1 x SO-239 to 3 x SO-239

## VHF/UHF INDOOR DUPLEXER

- DU-500UF** SO-239 JACK To 2 x SO-239 JACKS
- DU-500UM** SO-239 JACK To 2 x PL-259 PLUGS
- DU-500NF** SO-239 JACK To 2 x N-JACKS

- Zinc Alloy Diecasting Box Prevents the Duplexer from Electro-magnetic Interferences
- Frequency Bandwidth: 1.3 - 225MHz(VHF) / 350 - 540MHz(UHF)
- Power Handling: 500W(1.3 - 35MHz), 300W(50 - 540MHz)
- V.S.W.R. : Less Than 1.2:1 (130 - 180MHz)
- Insertion Loss: Less Than 0.2 dB
- Isolation: Better Than 40 dB



## VHF/UHF INDOOR DUPLEXER

- DU-510A-UM** SO-239 JACK To 2 x PL-259 PLUGS
- DU-510A-NF** N Female To 2 x N Female
- DU-520A-NF** N Female To 2 x N Female

- Zinc Alloy Diecasting Box Prevents the Duplexer from Electro-magnetic Interferences
- Frequency Bandwidth / Power Handling **DU-510A**: 1.3-170MHz(300W) / 350 - 540MHz(300W) **DU-520A**: 1.3-60MHz(500W) / 125-470MHz(300W)
- V.S.W.R. : Less Than 1.3:1
- Insertion Loss: Less Than 0.2 dB
- Isolation: Better Than 40 dB



## VHF/UHF INDOOR DUPLEXER

- DU-510B-NF** N Female To 1x PL-259 + 1x N Male
- DU-520B-NF** N Female To 1x PL-259 + 1x N Male

- Zinc Alloy Diecasting Box Prevents the Duplexer from Electro-magnetic Interferences
- Frequency Bandwidth / Power Handling **DU-510B**: 1.3-170MHz(300W) / 350 - 540MHz(300W) **DU-520B**: 1.3-60MHz(500W) / 125-470MHz(300W)
- All Specifications are Same as Above DU-510A / DU-520A, But Different in Connection :
- N-Jack on Input Side
- 1FT. 5D-FB Coax. Cable w/ PL-259 Plug & 1FT 5D-FB Coax. Cable W/ N-plug on Output Side



## COAXIAL LIGHTNING SURGE PROTECTOR

- LP-230A** N-FEMALE To N-FEMALE
- LP-230B** N-MALE To N-FEMALE

- Frequency: DC - 1500 MHZ
- Impedance: 50 OHMS
- Insertion Loss: Less Than 0.1 dB
- Power: 100 W Max.
- Discharge Voltage: 230 VDC



## COAXIAL LIGHTNING SURGE PROTECTOR

- LP-350A** SO-239 TO SO-239
- LP-350B** PL-259 TO SO-239

- Frequency: DC - 500 MHZ
- Impedance: 50 OHMS
- Insertion Loss: Less Than 0.1 dB
- Power: 300 W Max.
- Discharge Voltage: 350 VDC



## LPB-1 BRACKET For SURGE PROTECTOR

Bracket For LP-230A/B & LP-350A/B



## DL-60 60 WATT DUMMY LOAD W/ HEAT SINK

- VSWR : 1.10 ( 250MHz ) , 1.40 ( 450MHz )
- Impedance: 50 OHMS
- Power: 20 Watts(Cont.), 60 Watts(Max.)
- Connector: PL-259

**NEW**



## DL-200UM (DC-1GHz) 200 WATTS DUMMY LOAD

- S.W.R. : ≤ 1.10 ( DC - 600MHz ) ≤ 1.16 ( 600MHz - 1GHz )
- Impedance: 50 OHMS
- Power: 35 Watts(Cont.) 200 Watts(Max.)
- Connector: PL-259 ( N Male Option)

PRODUCTS MADE IN TAIWAN

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## Radio Manuals

### Nifty Mini-Manuals

Fully laminated, spiral bound booklets, 4.25 x 8 inches, providing simplified step-by-step instructions for all your radio's features. These short-form manuals are smaller, more durable, and easier to use than manuals normally supplied with a radio.

#### YAESU

Model	Description	HRO Price
NIFTY-FT710	Mini-Manual	\$29.95
NIFTY-FT891	Mini-Manual	\$28.95
NIFTY-FT991A	Mini-Manual	\$31.95
NIFTY-FTDX101D/MP	Mini-Manual	\$29.95
NIFTY-FT3DR	Mini-Manual	\$29.95
NIFTY-FT5DR	Mini-Manual	\$29.95
NIFTY-FTM510DRASP	Mini-Manual	\$35.95
NIFTY-FTDX5000/MP	Mini-Manual	\$29.95
NIFTY-FTM-300DR	Mini-Manual	\$35.95
NIFTY-FTDX10	Mini-Manual	\$29.95
NIFTY-FTX-1	Mini-Manual	\$37.95
NIFTY-FT60R	Reference Card	\$9.95
NIFTY-FT65R	Reference Card	\$9.95
NIFTY-FT70DR	Mini-Manual	\$21.95
NIFTY-FTM400XDR	Mini-Manual	\$34.95
NIFTY-VX6R	Mini-Manual	\$24.95
NIFTY-FTM-6000R	Mini-Manual	\$21.95

#### KENWOOD

Model	Description	HRO Price
NIFTY-TH-D75A	Mini-Manual + Reference Card	\$35.95
NIFTY-TM-D710G	Mini-Manual	\$29.95
NIFTY-TH-D74A	Mini-Manual	\$33.95
NIFTY-TS-590SG	Mini-Manual	\$28.95
NIFTY-TS-890S	Mini-Manual	\$34.95

#### ALINCO

Model	Description	HRO Price
NIFTY-DJ-V57T	Reference Card	\$2.95

#### MISCELLANEOUS

Model	Description	HRO Price
NIFTY-MM-BandPlan	Amateur Radio Band Plan	\$11.95
NIFTY-D-STAR-BOOK	E-Z Guide to D-Star Operations Book	\$18.95
NIFTY-MMDXFIELD	DX Field Guide Book	\$21.95
NIFTY-PSK31-BOOK	E-Z Guide to PSK31 Operations	\$14.95
NIFTY-RADIOMG	Radio Monitoring Guide	\$21.95
NIFTY-ECHOLINK-BOOK	Guide to Echolink	\$18.95
NIFTY-KX3	Mini-Manual Elecraft KX3	\$28.95

#### ICOM

Model	Description	HRO Price
NIFTY-IC-718	Mini-Manual IC-718	\$19.95
NIFTY-IC-2730	Mini-Manual IC-2730	\$21.95
NIFTY-IC-7100	Mini-Manual IC-7100	\$38.95
NIFTY-IC-7300	Mini-Manual IC-7300	\$29.95
NIFTY-IC-7610	Mini-Manual IC-7610	\$31.95
NIFTY-IC-9700	Mini-Manual IC-9700	\$35.95
NIFTY-IC-705	Mini-Manual IC-705	\$33.95
NIFTY-ID-5100	Mini-Manual ID-5100	\$30.95

## Study Guides



### W5YI

A collection of study guides published by W5YI group. Expand your electronics

knowledge or work on getting your GROL + Radar endorsement.

GSE	Getting Started in Electronics	\$29.95
MINI-4	Mini Notebook, Vol. 4: Electronic formulas, symbols, and circuits	\$15.95
BELC	Basic Electronics	\$19.95
BDE	Basic Digital Electronics	\$17.95
GROL+RADAR	Get Your Commercial Radio License Book	\$49.95

## Radio Guides

Rather than duplicate the manufacturer's manuals which describe each button, function, and control, the author's approach is more functional. The 'Radio Today' guides are "how to do it" books, with easy to follow step by step instructions. The structure is based around completing tasks such as preparing the radio for your first SSB conversation, or interfacing with a PC for digital mode operation. Tips are provided along the way where the author found an undiscovered function or a better way to set up the radio.



## Digital Mode Guides



Frustrated by digital? These books are designed to help you become familiar with the terminology, setup, and operation of common digital modes. You'll learn about programming, repeaters, hotspots, reflectors, and more.

## Shortwave Listening



### Worldwide Listening Guide

Written by John Figliozi. New and expanded 11th edition provides comprehensive program guide to all of the ways programs can be heard: "live", on-demand, WiFi,

podcast, satellite, internet, digital, and, of course, analog AM, FM, and SW. Spiral bound to open in a flat, easy-to-use format.

HRO Price: \$29.95

## Nifty!

### Radio Monitoring Guide

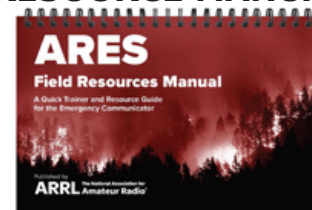


Covering 0.5 to 500 MHz, this reference to short-wave, police, fire, aviation, marine radio and more, combines shortwave listening and VHF / UHF scanning into one guide. Use it as a tuning guide, and for

programming the scanning capabilities of your radio. Has information useful for monitoring radio services including International Space Station frequencies and NASA rebroadcasting. Amateur radio HF DX propagation beacons, plus Maritime and other popular emergency and communication nets are covered. Web page URL's are provided to sites offering current broadcast schedules.

HRO Price: \$21.95

## ARES FIELD RESOURCE MANUAL



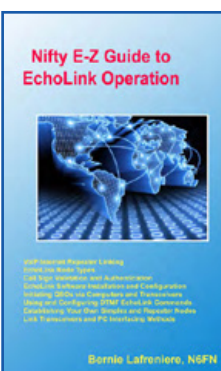
This manual is intended to serve as a quick trainer and reference for amateurs deployed in the field for emergency services work, primarily through the ARRL Amateur Radio Emergency Service (ARES).

It provides basic program information, forms and operating aids. A number of templates can be customized for the local area to include reference information such as important phone numbers, emergency frequencies, maps, organizational details and so forth. #5439 HRO Price: \$12.95

## Nifty!

### Echolink Operating Guide

This ideal reference for those getting into EchoLink shows how to make contacts using your computer or DTMF equipped transceivers.



- Straight forward, simple explanations for both beginning & experienced users.
- Voice over Internet technology.
- EchoLink computer users, simplex links, and repeaters.
- Installing and using EchoLink software.
- Call sign validation and authentication.
- RF Link transceiver requirements.
- Establish RF EchoLink simplex and repeater nodes.
- Create a node by interfacing your transceiver to a computer.
- Configure EchoLink's sysop setup menus.
- Add EchoLink capability to a repeater.
- Numerous clear illustrations.

HRO Price: \$18.95

## YOUR FIRST AMATEUR RADIO HF STATION



Here is practical advice on choosing your first radio, antenna, computer, software, and accessories. Explains the best way to set them up, how to safely hook up to power while protecting your gear. Explains where to put your priorities. #0079 HRO Price: \$19.95

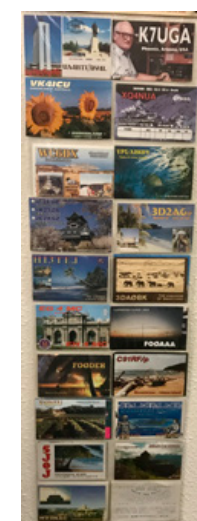
## Understanding Basic Electronics

Your gateway into the exciting world of electricity and electronics. This book is written in a friendly, easy to understand style. #0823 HRO Price: \$29.95

## Ham Magazines

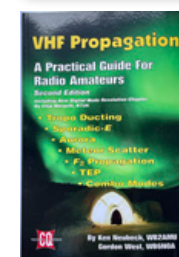
MONTHLY	QST
BI-MONTHLY	QEX, NCJ On The Air

## QSL Holders



THE MOST COMPREHENSIVE WAY TO DISPLAY YOUR QSL CARDS!  
HRO Price: \$15.95

## CQ Publications



### VHF Propagation

A practical guide for radio amateurs. CQ brings you this new – Second Edition from three of Amateur Radio's well-known authors – WB2AMU and WB6NOA. Includes the "Digital Mode Revolution" chapter by Chip Margelli K7JA. HRO Price: \$21.95

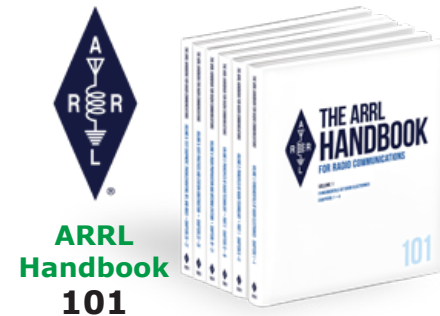
## Repeater Listings



### ARRL 2026 REPEATER DIRECTORY

Powered by RepeaterBook, amateur radio's worldwide repeater database. The 2026 edition includes over 22 thousand listings for US and Canada, organized by state/province, county, and city/town. A must-

have companion when you're on the go! A location indicator for many repeaters in cities/towns. Additional information on ARES® and SKYWARN® affiliation, emergency power, and more. Digital repeaters including System Fusion, D-STAR®, DMR, NXDN™, M17, Tetra, and P25 systems. HF, VHF/UHF, and microwave band plans. Information on Radiograms and updated ARL codes. #2332 HRO Price: \$22.95



The 101st edition of The ARRL Handbook is your complete guide to radio experimentation, discovery, and innovation. It is The Handbook - written by radio amateurs for everyone with a desire to advance the pursuit of wireless technology.

### Key Topics

- Fundamentals of radio electronics.
- Principles of radio technology.
- Radio propagation and antenna systems.
- Safe practices and station construction.
- Test equipment, troubleshooting & RFI.

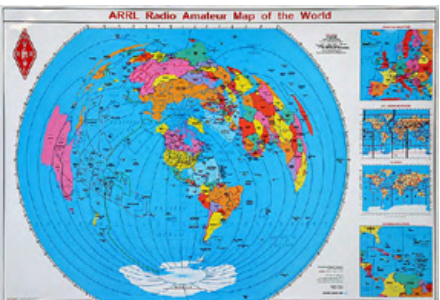
Softcover #2011 - HRO Price: \$69.95



## 12th Edition OPERATING MANUAL

Everything you need to know about radio operating. Four sections: Basic station and operating techniques; Radio clubs and public service; On-Air activities and radiosport; Resources

for the active ham. #1205 - HRO Price: \$24.95



### ARRL MAPS

- Map North America Azimuthal .....#7717
- Map North America Robinson.....#8804
- Map North American.....#8977
- GRID ATLAS Grid Locator Atlas.....#2944

### ARRL LISTINGS

- DXCC LIST Official ARRL DXCC List. #1489
- LB Log Book.....#1250
- RD Repeater Directory.....#2332

## License Manuals

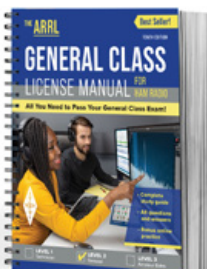


## Ham Radio License Manual

Includes the latest complete question pool with answer key and explanations for use to pass the 35-question license test. Designed for self-study or classroom use. Take as many randomly generated practice exams as you want. Discover the unique mix of technology, public service, convenience, and fun that make up ham radio.

\*New Version Available 07/01/26

#1557 Spiral Bound. HRO Price: \$32.95  
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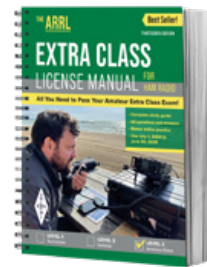


## General Class License Manual

The fastest way to General Class License!

Covers all material you need to pass the General Class License exam. Each topic is divided into bite-sized lessons with colorful illustrations covering procedures, practices, regulations, components, circuits, equipment, propagation, electrical safety and more.

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## Extra Class License Manual

Earn All The Band Privileges!

Our expert instruction leads you through all the knowledge needed to pass the 50-question Extra Class exam: rules, specific operating skills and more advanced electronics theory. To upgrade you must already hold a General Class license then pass a written examination.

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## An Easy Way To Get Your Tech, General or Extra License ARRL Q&A

Getting your first amateur radio license or upgrading your current license is quick and easy with these study guides and their convenient question and answer format. Well formatted question pool with brief, clear explanations for all questions.



\*New Version Available 07/01/26

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#GWTM-22 1908 HRO Price: \$29.95



## Study Manual General Class

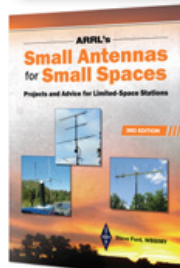
Gordon West General Class ham radio study manual. Valid thru 06/30/2027.  
#GWGM-23 1915 HRO Price: \$32.95



## Study Manual Extra Class

Gordon West Extra Class ham radio study manual. Valid thru 06/30/2028.  
#GWEM-24 1953 HRO Price: \$32.95

## Antenna Books



## ARRL's SMALL ANTENNAS FOR SMALL SPACES

Amateur radio operators love antennas — the bigger the better — but if you don't have acres of property to erect the antenna of your dreams, it doesn't mean you're effectively off the air. Ham radio is still yours to enjoy. It's just a matter of making the right antenna choices to improve your chances of success.

#0994 HRO Price: \$22.95

## ARRL's STEALTH ANTENNAS FOR HAM RADIO

Radio amateurs who live with antenna restrictions or covenant limitations will find solutions in this book. Learn how to install a multiband vertical that looks like a flagpole, or how to run an end-fed random wire along your roof, so the neighbors never notice. If you are looking for an invisible repeater connection, try the Ham Walking Stick.

#2288 HRO Price: \$22.95



## ARRL ANTENNA BOOK

A single resource covering antenna theory, design and construction, and practical treatments and projects. This book contains everything you need to understand how radio signals propagate, how antennas work, and how to construct your own antenna system. Use The ARRL Antenna Book to build hundreds of antenna designs: dipoles, verticals, loops, beams, and more.

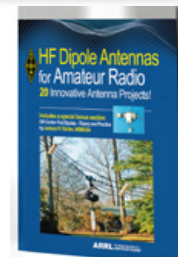
Softcover Edition. Includes e-book.  
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Four-Volume Paperback Edition Includes e-book.  
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## HAM RADIO FROM INDOORS

No outdoor antenna? No problem! Ham Radio from Indoors shows you how to install an effective station and indoor antenna system in any setting — even your living room. Get the most out of your indoor station by exploring different operating styles such as CW and popular HF digital modes for low power. This book includes indoor antenna solutions like simple wire designs for an attic, or a loop that fits neatly on a tripod.

#2189 HRO Price: \$17.95



## ARRL's HF DIPOLE ANTENNAS FOR AMATEUR RADIO

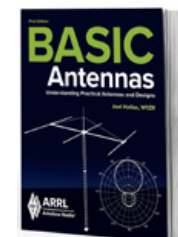
ARRL's HF Dipole Antennas for Amateur Radio is a collection of 20 HF dipole antenna designs published in QST, ARRL's membership journal, between 2000 and 2017. It includes innovative antenna projects for single- and multiband antennas, as well as antennas for portable applications.

#2325 HRO Price: \$19.95

## ARRL's BASIC ANTENNAS

Basic Antennas is a comprehensive introduction to antennas—basic concepts, practical designs, and details of easy-to-build antennas. You'll learn how to make antennas that really work! This book will provide a foundation in antenna theory and design necessary for anyone undertaking more advanced topics such as those presented in The ARRL Antenna Book.

#9994 HRO Price: \$29.95



## Portable Operating

### ARRL POTA

The Parks on the Air Book gives you a look at the setups and processes from a variety of skill levels and backgrounds and offers advice and motivation for taking your radio out to a park. Each chapter includes a detailed gear list so you can see exactly what your fellow operators are using, whether they're leaders of the pack or folks just getting started with Parks on the Air. Setups cover satellite operating, QRP, urban backpack portable, activating tailgate-style, wire antennas for POTA, and more.

#1748 HRO Price: \$22.95

## Setup Anywhere PORTABLE OPERATING FOR AMATEUR RADIO

A new generation of compact, full-featured, portable radios combines with modern battery technology to make it easier than ever to set up your station.

#0802 HRO Price: \$19.95



## ARRL's Antenna Compendium Volume 9

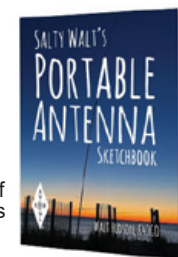
The ninth volume of The ARRL Antenna Compendium brings you 65 articles from ARRL's membership magazine QST featuring practical ideas, tips, and some of the best antenna projects. Showcasing the work of many well-known authors.

#2257 HRO Price: \$27.95

## ARRL's Salty Walt's Portable Antenna Sketchbook

Join Salty Walt, K4OGO, of the Coastal Waves & Wires YouTube channel, where all the action happens — right on the beach! Ham radio adventure awaits with these 15 portable antenna designs. It's a book for the "true amateur," the ham who gets out by the waves with a radio to see what they can make happen.

#2226 HRO Price: \$24.95



## How To



## ARRL's Using the Baofeng® Radio

Using the Baofeng® Radio gives you everything you need to start using your handheld ham radio on the air legally, safely, and effectively. Get ready to use your radio to stay in touch with family and friends whether you are off the road, off the grid, or you want access to a reliable backup communication device. Discover uses for your ham radio including how to relay your signal through a mountaintop repeater so you are heard far away, and a step-by-step guide to digital operations. This book is a comprehensive gateway to the world of ham radio using Baofeng.

#2240 HRO Price: \$19.95

## GROUNDING & BONDING

2ND EDITION Shows you how to make sure your station follows current standards for lightning protection and communication systems, not to mention the National Electrical Code.

#1496 HRO Price: \$24.95



**MP1 Series HF-VHF Antennas**  
**Rugged Portable Go Bag Sets**  
 Indoor-Outdoor-Balcony-Yard-Park-Travel  
 Extreme High Signal for DX-NVIS-EMCOMM

Call HRO for lowest available price

**WORK THE WORLD.**  
**GO ANYWHERE. GET THE POWER OF A SUPER ANTENNA.**



<p><b>MP1LXMAX</b>          3.5-30MHz 50-70MHz          +Simultaneous 144-148MHz</p> <ul style="list-style-type: none"> <li>Gets Your Signal Out Better</li> <li>Deluxe Large SuperPod Tripod</li> <li>Stealthy + Titanium SuperWhip</li> <li>With Go Bag Carry Cases</li> <li>Every HF Band plus + 2m</li> </ul> <p>Bands and radials included in set:          HF 80-60-40-30-20-17-15-12-11-10-6m          HF + Simultaneous 2m VHF</p>	<p><b>MP1DXMAX</b>          3.5-30MHz 50-70MHz          +Simultaneous 144-148MHz</p> <ul style="list-style-type: none"> <li>SuperPod Low Profile Tripod</li> <li>NVIS + Titanium SuperWhip</li> <li>Multiple Mounting Systems</li> <li>With Go Bag Carry Cases</li> <li>Every HF Band plus + 2m</li> </ul> <p>Bands and radials included in set:          HF 80-60-40-30-20-17-15-12-11-10-6m          HF + Simultaneous 2m VHF</p>	<p><b>MP1DXTR80</b>          3.5-4MHz 7-30MHz          50-70MHz</p> <ul style="list-style-type: none"> <li>NVIS + Titanium SuperWhip</li> <li>SuperPod Low Profile Tripod</li> <li>Multiple Mounting Systems</li> <li>With Go Bag Carry Case</li> <li>Popular DX Bands and 80m</li> </ul> <p>Bands and radials included in set:          HF 80-40-30-20-17-15-12-11-10-6m</p>	<p><b>MP1DXG</b>          7-30MHz          50-70MHz</p> <ul style="list-style-type: none"> <li>Stealthy Starter Set</li> <li>SuperSpike Ground Mount</li> <li>Compact Telescopic Whip</li> <li>With Go Bag Carry Case</li> <li>Covers Popular DX Bands</li> </ul> <p>Bands and radials included in set:          HF 40-30-20-17-15-12-11-10-6m</p>
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**YOUR GO BAG IS READY.**

- Maximum Power Rating: 500 Watts SSB; 300 Watts CW / Phone / AM / Digital / FM / FT8
- Powerful Portable Go Bag Sets, Easy set up in five minutes by one person, no tools
- Direct Manual Slider Coil Tuning, Good SWR: 2:1 or better, No tuner needed, but it can help
- HAM-Shortwave-CB-MARS-Marine-SDR, Continuous manual tuning all frequencies & bands

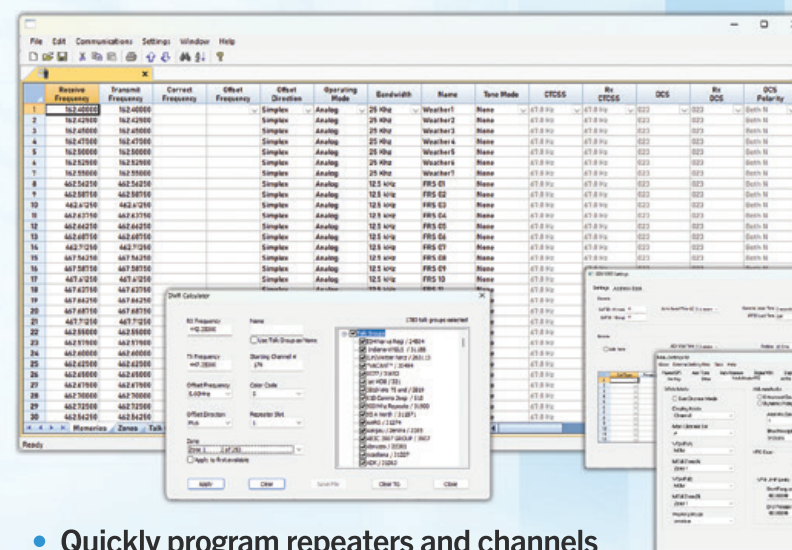
Available in the above Go-Bag Sets or as separate Modules:

<p><b>MP1C SuperSlider Coil</b>          Heart of the System. Extreme High Signal HF Module          Famous MP1 Gen-3 Precision Manual Frequency Slider          High Quality-Factor Coil Auto-Clutch 3/8"-24 standard</p>	<p><b>TM4 Large SuperPod Antenna Tripod</b></p>
<p><b>MC80 SuperCoil for 80m-75m Band</b>  <b>MC60 SuperCoil for 60m 5 MHz Band</b></p>	<p>All Coaxial Mounts:          Standard 3/8"-24 f to SO-239</p>
<p><b>MC2 SuperPlexer for 2m VHF Band</b>          144 MHz adapter for simultaneous HF + 2 meters</p>	
<p><b>Radial Sets</b>          MR4010 : 40-10m          MR8075 : 75-80m          MR6060 : 60m          MR3017 : 30-17m          MR642 : 6-4-2m          Available Separately</p>	<p><b>MR8010HFV All Radial Go Bag Set</b>          Every Band HF-VHF with Go Bag          Box of Pre-Tuned SuperWire Radials with Connectors          extra gain for Super Antennas or any HF-VHF vertical antenna</p>
<p><b>SW1 SuperWhip</b>          Titanium Super Flex          Indestructible          44 inch Extended</p>	<p><b>TM1 Low Profile SuperPod Tripod Antenna Tripod</b>          3/8"-24f to SO-239</p>
<p><b>GP3 SuperGround</b>          Portable RF Ground Spike          with SP3 Ground Spike          + MR3 Ground Cord</p>	<p><b>SR1 SuperScanR</b>          SDR-Scanner Antenna          Low Profile Tripod          44 inch Telescopic</p>
<p><b>UM3SP SuperSpike Ground Mount</b>          UM3 Coax SO-239 to 3/8"-24          with SP3 Ground Spike 3/8"-16</p>	<p><b>UM2 SuperMount NVIS</b>          Universal Swivel Clamp          3/8"-24 f coax SO-239</p>

# STAY CONNECTED BEYOND THE GRID

Reliable communication starts with a properly programmed radio

RT Systems makes programming quick, simple, and reliable



Program, organize, and explore your radio's full capabilities

- Banks
- HF Filters
- PM Settings
- Programmable Key Options
- DMR
- D-STAR
- Fusion
- Names
- Tones

- Quickly program repeaters and channels
- Easily make changes as your needs evolve
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- Save programming files for backup or future radios
- Spend less time programming and more time on the air

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For the new radios, the old, and the not yet retired  
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\*Each Programmer is unique to a specific radio and is not compatible between radio models.



# One Brand. Every Band.



**IC-7760**  
HF / 50MHz Transceiver



**IC-7300MK2**  
HF / 50 MHz Transceiver

- Improved RMDR and Phase Noise Characteristics
- HDMI™ Port for an External Display
- USB Type-C™ with Dual COM + Audio
- RX Antenna IN/OUT Connectors
- Built-in CW Decoder



**IC-7610**  
HF / 6M Transceiver



**IC-PW2**  
HF / 6M 1 kW Amplifier



# Where Will You Operate This Season?



**IC-905**  
2M / 70CM / 23CM / 13CM / 5CM



**IC-9700**  
2M / 70CM / 23CM / Satellite



**ID-52A PLUS**  
2M / 70CM / Analog / Digital



**ID-50A**  
2M / 70CM / Analog / Digital



**D-STAR ready**



**IC-7100**  
HF / 6M / 2M / 70CM Analog / Digital



**ID-5100A**  
2M / 70CM Analog / Digital



**IC-R6 Sport**  
100 kHz - 1 GHz\*  
Wideband Portable Receiver



**IC-R15**  
108 - 500 MHz  
Dual Receiver



**IC-R8600**  
10 kHz - 3 GHz\*  
Wideband SDR Receiver



**IC-2730B**  
2M / 70CM Analog

**IC-2730A**  
2M / 70CM Analog

**NEW!**



**IC-V3500B**  
2M Analog



**IC-V3500**  
2M Analog



**IC-V86**  
2M Analog



**RX**

# Forward Power Reflected Power SWR

# All At Once!



## Testing, Tuning, Matching, Monitoring - Made Easy!

	CN-501H	CN-501H2	CN-501V/N
Frequency	1.8~150MHz	1.8~150MHz	140~525MHz
Power Range: Forward	15/150/1.5KW	20/200/2KW	20W/200W
Power Rating	1.5KW (1.8~60MHz) 1KW (144MHz)	2KW (1.8~60MHz) 1KW (144MHz)	200W (140~525MHz)
Tolerance	±10% at Full Scale	±10% at Full Scale	±10% at Full Scale
SWR Measurement	1:1~1:∞	1:1~1:∞	1:1~1:∞
SWR Detection Sensitivity	4W MIN	4W MIN	4W MIN
Input/Output Impedance	50 ohms	50 ohms	50 ohms
Input/Output Connectors	SO-239	SO-239	SO-239 or N-Type



### CN-501 Economy Series

Compact HF/VHF AVG reading SWR/Power Meter Cross needle technology displays:  
**• FORWARD POWER • REFLECTED POWER • SWR - Simultaneously!**

	CN-901HP	CN-901HP3	CN-901V/N	CN-901G
Frequency	1.8~200MHz	1.8~200MHz	140~525MHz	900~1300MHz
Power Range: Forward	20/200/2KW	30/300/3KW	20/200W	2/20W
Tolerance	±10% at Full Scale	±10% at Full Scale	±10% at Full Scale	±10% at Full Scale
SWR Measurement	1:1~1:∞	1:1~1:∞	1:1~1:∞	1:1~1:∞
SWR Detection Sensitivity	5W MIN	5W MIN	5W MIN	0.4W
Input/Output Impedance	50 ohms	50 ohms	50 ohms	50 ohms
Input/Output Connectors	SO-239	SO-239	SO-239 or N-Type	N-Type



### CN-901 Professional Series

AVG & True PEP power meter .5 second PEP delay to dampen the needle movement with on/off switch:  
**• FORWARD POWER • REFLECTED POWER • SWR - Simultaneously!**



### CS-201

**Frequency Range (up to):** 600MHz  
**Power Rating:** 2.5 kW PEP 1 kW CW  
**VSWR:** Below 1.2:1  
**Insertion Loss:** Less than 0.2 dB  
**Isolation:** 60 dB 600 MHz  
**Connector:** SO 239  
**Output Port:** 2



### CS-401

**Frequency Range (up to):** 500 MHz  
**Power Rating:** 2.5 kW PEP 1 kW CW  
**VSWR:** Below 1.2:1  
**Insertion Loss:** Less than 0.2 dB  
**Isolation:** 60 dB (200 MHz)  
**Connector:** SO-239  
**Output Ports:** 4



## COMMUNICATIONS AND DC POWER PRODUCTS

### NEW! ANYTONE AT-D890UV

Dual-band DMR/Analog Handheld  
 "AM" Aircraft Rx, Dual Simultaneous VHF/UHF Rx  
 Built-in Bluetooth, GPS, and APRS capable  
 2G memory capacity w/ 500,000 digital contacts  
 Built-in USB-C Charging



### WATTMETER-TVP

DC Power Meter with Bright LCD Display  
 Anderson Connectors  
 Simple operation, no buttons or switches



### TVP-HF4-PP-25A POWERPOLE HF CONNECTOR

25A ATO/ATC Inline Fused Adaptor Cable 12AWG  
 Compatible with, but not limited to models from Icom, Kenwood and Yaesu



### PS-30 COMPACT SWITCHING 30A POWER SUPPLY

30 Amps (25A continuous), genuine Anderson Powerpole connectors, ideal for HF/VHF/UHF radios



### 15-45CRIMP 15/30/45 AMP SERIES CRIMP TOOL

The perfect tool for 15, 30, and 45 amp series Powerpoles.  
 With a ratcheting mechanism and built in contact positioner to guarantee a perfect crimp every time



### ANYTONE AT-D878UV II PLUS

DMR Dual-Band Amateur Handheld Radio  
 2G memory capacity with 500,000 digital contacts  
 Built in Bluetooth, GPS, and APRS capable

### ANYTONE AT-D578UV III PLUS

DMR Tri-Band Amateur Mobile Radio  
 Airband Rx on 108-136 MHz, 144-148 MHz Tx, 222-225 MHz Tx, 420-450 MHz Tx and wide band receive



For More Information visit [www.12VoltPower.com](http://www.12VoltPower.com)

## Inherent Passion and Inspiration

### Hybrid SDRs (Narrow Band SDR & Direct Sampling SDR)

2kHz RMDR 123dB+  
 2kHz BDR 150dB+  
 2kHz 3rd IMDR 110dB+

### Ultra Low-Noise Local Oscillator System; 400MHz HRDDS (High Resolution Direct Digital Synthesizer)

2kHz Phase Noise -150dBc/Hz

### VC-TUNE (Variable Capacitor Tune) signal peaking Maximum Attenuation -70dB

### 3DSS (3-Dimensional Spectrum Stream) visual display view up to last 25 seconds of band conditions in real time

### TX Signal Purity

TX Phase Noise -150dBc/Hz (TX 14MHz 2kHz separation)



\* Microphone M-1: Optional

### In Homage to the Founder of Yaesu – Sako Hasegawa JA1MP

#### FTDX101MP 200W HF/50MHz TRANSCEIVER

- External Power Supply with 3.94" (100mm) Front Speaker, FPS-101 included
- VC-Tune unit x 2 (MAIN and SUB bands) included
- 300Hz Crystal roofing filter (MAIN band) included
- 600Hz Crystal roofing filter (MAIN and SUB bands) included
- 3kHz Crystal roofing filter (MAIN and SUB bands) included

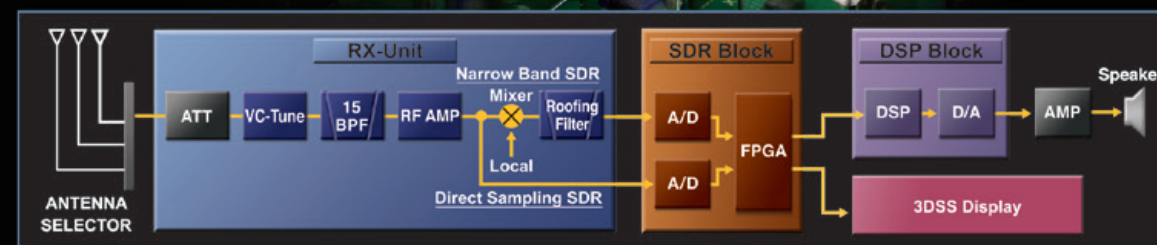
#### The Ultimate FTDX101D 100W HF/50MHz TRANSCEIVER

- VC-Tune unit (MAIN band) included
- 600Hz Crystal roofing filter (MAIN and SUB bands) included
- 3kHz Crystal roofing filter (MAIN and SUB bands) included

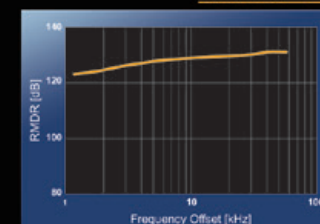
## FTDX101 TECHNICAL HIGHLIGHT

### True Performance Hybrid SDR Configuration

The Hybrid SDR Configuration combines the excellent performance of a Narrow Band SDR receiver with the wide band sampling of a Direct Sampling SDR receiver that simultaneously provides a wide bandwidth real time display of band activity

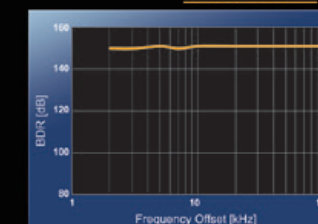


#### 2kHz RMDR 123dB+



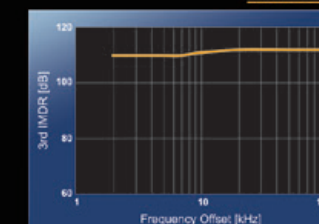
14MHz Band Reciprocal Mixing Dynamic Range (RMDR)

#### 2kHz BDR 150dB+



14MHz Band Blocking Dynamic Range (BDR)

#### 2kHz 3rd IMDR 110dB+



3rd IM Dynamic Range (IMDR)

#### HF/50MHz TRANSCEIVER FTDX101MP 200W

#### HF/50MHz TRANSCEIVER FTDX101D 100W



\* Microphone M-1: Optional

# The Best of the Best

Carries the Yaesu genes for true RF performance

## FT-710 Aess 100W

HF/50MHz TRANSCEIVER w/ SP-40 \*Includes External Speaker SP-40

## FT-710 Field 100W

HF/50MHz TRANSCEIVER \*Includes Carrying Belt  
\*To use the AESS function, External Speaker SP-40 (Optional) is required



\* Photo shows the FT-710 AESS

- SDR circuit emphasizes Receiving Performance
- Powerful RF Front-End & Low Noise Oscillator Enable Phenomenal Multi-Signal Receiving Characteristics
- AESS (Acoustic Enhanced Speaker System) with SP-40 speaker to create High-fidelity audio output
- Effective QRM rejection by Dual-core DSP
- 4.3-inch TFT Color Touch Panel Display with 3DSS<sup>\*1</sup> Visual Display
- "PRESET" Mode functions most suitable for FT8 operation

The New Standard  
High Performance SDR Transceiver

## FTDX10 100W

HF/50MHz TRANSCEIVER

- Hybrid SDR Receiver (Narrow Band SDR & Direct Sampling SDR)
- 9MHz Down Conversion Receiver Configuration
- IF Roofing Filters produce Excellent Shape Factor
- IF DSP enables Superb Interference Rejection
- 5-inch TFT Color Touch Panel with 3DSS<sup>\*1</sup> Visual Display
- Superior Operating Performance by means of the MPVD<sup>\*3</sup>



\* External Speaker SP-30: Optional

The World Leading HF Transceiver with Hybrid SDR

In Homage to the Founder of Yaesu – Sako Hasegawa JA1MP

## FTDX101MP 200W

HF/50MHz TRANSCEIVER

The Ultimate

## FTDX101D 100W

HF/50MHz TRANSCEIVER

- Dual Hybrid SDR Receivers (Narrow Band SDR & Direct Sampling SDR)
- 9MHz Down Conversion Receiver Configuration
- IF Roofing Filters produce Excellent Shape Factor
- VC-Tune (Variable Capacitor Tuning) Signal Peaking
- IF DSP enables Superb Interference Rejection
- 7-inch TFT Color Touch Panel with 3DSS<sup>\*1</sup> Visual Display
- Superior Operating Performance by means of ABI<sup>\*2</sup> & MPVD<sup>\*3</sup>



\* Microphone M-1: Optional



\* Photo shows the FTDX101MP

\*1 3DSS: 3-Dimensional Spectrum Stream \*2 ABI: Active Band Indicator \*3 MPVD: Multi-Purpose VFO Outer Dial

# Carries the Yaesu genes for true RF performance

- SDR circuit emphasizes Receiving Performance
- Powerful RF Front-End & Low Noise Oscillator Enable Phenomenal Multi-Signal Receiving Characteristics\*
  - RMDR : 113dB+ • BDR : 127dB+
  - 3rd IMDR : 102dB+ • TX Phase Noise : -143dBc/Hz
- Band-Pass-Filters dedicated for the amateur bands to eliminate out-of-band unwanted signals
- Built-in High-speed Automatic antenna tuner
- Effective QRM rejection by Dual-core DSP

\*Multi-signal receiving characteristic: 14MHz band/2kHz separation

\*TX Phase Noise: 100W, CW mode

- AESS (Acoustic Enhanced Speaker System) with included SP-40 speaker to create High-fidelity audio output
- 3DSS, real-time 3-Dimensional Spectrum Stream presentation
- High Resolution 4.3-inch TFT Color Touch Panel Display
- VMI (VFO Mode Indicator) shows the current operating mode
- "PRESET" Mode functions most suitable for FT8 operation
- Equipped with the External Display terminal

### FT-710 AESS

- Includes External Speaker SP-40

### FT-710 Field

- Includes Carrying Belt
- To use the AESS function, External Speaker SP-40 (Optional) is required

- Display is not included. The image is shown with an optional third-party external display that may be connected using a DVI-D digital cable.



HF/50MHz 100W SDR TRANSCEIVER w/ SP-40

## FT-710 Aess

Acoustic Enhanced Speaker System

HF/50MHz 100W SDR TRANSCEIVER

## FT-710 Field

The radio... **YAESU**

# YAESU Field Gear

HF/50 MHz 100 W All Mode Transceiver

## FT-891



Actual Size

### An Innovative Multi-band, Multi-mode Transceiver within an Ultra Compact Body

- Rugged construction in a Compact Mobile Package (6.1"W x 2.0"H x 8.6"D)
- Stable 100 Watts of RF Power Output with efficient Dual Internal Fans
- Legendary Yaesu Receiver Performance
- Triple conversion receiver with a 1st IF frequency of 69.450 MHz
- 3 kHz Roofing Filter (equipped as standard)
- Detachable Front Panel permits convenient mounting and operation
- Large dot matrix LCD display with Rapid Spectrum Scope
- Enhanced Operating Features:
  - Large diameter Main Tuning Dial (1.6") with Torque adjustment
  - Pop-up Menus for quick and easy operation
  - Large Transmit/Receive indicator
  - Three Programmable Front Panel Function Keys
- Especially designed FC-50 External Antenna Tuner (option)

**YAESU**  
Radio for Professionals

YAESU USA  
6125 Phyllis Drive, Cypress,  
CA 90630 (714) 827-7600

For the latest Yaesu news, visit us on the Internet: <http://www.yaesu.com>

Specifications subject to change without notice. Some accessories and/or options may be standard in certain areas. Frequency coverage may differ in some countries. Check with your local Yaesu Dealer for specific details.

# OUTSTANDING MOBILE COMMUNICATIONS WITH YAESU ADVANCED TECHNOLOGY

- C4FM Digital with AMS
- ASP (Audio Digital Signal Processor)
- PMG (Primary Memory Group)
- System Fusion with WIRES-X Link
- Touch & Go Operation
- FACC (Funnel Air Convection Conductor)
- MAG (Memory Auto Grouping)
- CFL (Customized Function List)



C4FM/FM 144/430MHz Dual Band  
55W/50W Digital Transceiver

### FTM-510DR ASP FTM-510DR

(SPU-1 is required for ASP Operation)



C4FM/FM 144/430MHz Dual Band  
55W/50W Digital Transceiver

### FTM-310DR ASP FTM-310DR

(SPU-1 is required for ASP Operation)



144/430MHz Dual Band  
55W/50W FM Transceiver

### FTM-150R ASP FTM-150R

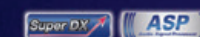
(SPU-1 is required for ASP Operation)



144MHz 65W FM Transceiver

### FT-3165R ASP FT-3165R

(SPU-1 is required for ASP Operation)



144MHz 85W FM Transceiver

### FT-3185R ASP FT-3185R

(SPU-1 is required for ASP Operation)



**YAESU**  
Radio for Professionals

YAESU USA  
6125 Phyllis Drive, Cypress,  
CA 90630 (714) 827-7600

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Specifications subject to change without notice. Some accessories and/or options may be standard in certain areas. Frequency coverage may differ in some countries. Check with your local Yaesu Dealer for specific details.

# NEW DEFINITION OF DIGITAL HANDHELD

Meet the Advanced Technologies



《Actual Size》

C4FM/FM 144/430MHz DUAL BAND  
5W DIGITAL TRANSCEIVER

## FT5DR

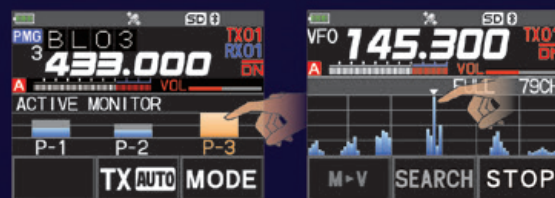


- ◆ Advanced C4FM Digital / 1W Audio Output
- ◆ Robust Tough Body with Rubber Protection
- ◆ Worldwide WIRE-X Internet Communications
- ◆ Fully Compatible with APRS
- ◆ Memory Auto Grouping (MAG) / VFO Band Skip Function

### Primary Memory Group Touch & Go operation



Quick & intuitive Touch and Go PMG key channel monitoring operation, by simply touching a bar on the LCD



### Quick Release Holster and Full Flat-Back Case

Comfortable size & form with no protrusions provides excellent grasp, even when wearing gloves for outdoor activities



**YAESU**  
The radio

## The Perfect Choice Sophisticated Dual Band Digital Transceiver

Built to Commercial Grade Specifications



《Actual Size》

C4FM/FM 144/430MHz DUAL BAND  
5W DIGITAL TRANSCEIVER

## FT-70DR



Advanced C4FM Digital

System Fusion Compatible

Combines FM and Digital Communications  
with AMS (Automatic Mode Select)

Coordinated Group Operation  
with Digital Group ID

700 mW of Loud, Clear Voice, Audio Output

5 Watts of Reliable RF Power  
from a Compact Handheld Unit

Wide Band Receive Coverage 108 - 579.995 MHz

Rugged Construction  
Meets IP54 (Dust & Water protection)

Large Multi-Color Operating Mode Indicator

Huge 1,105 Channel Memory

**YAESU**  
The radio

YAESU USA  
6125 Phyllis Drive, Cypress,  
CA 90630 (714) 827-7600

For the latest Yaesu news, visit us on the Internet: <http://www.yaesu.com>

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**YAESU**  
The radio

YAESU USA  
6125 Phyllis Drive, Cypress,  
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Specifications subject to change without notice. Some accessories and/or options may be standard in certain areas. Frequency coverage may differ in some countries. Check with your local Yaesu Dealer for specific details.



**INDUSTRIES™**

**American Built & Reliable  
RF Coaxial Cables**



Cable	Part	Bend Radius	Insetion Loss in dB at 100 Feet / Avg Power Kilo-Watts				
			30MHz	50MHz	150MHz	220MHz	450MHz
ABR316	23316	1.0 IN	4.3 / 1.09	5.6 / 0.84	9.8 / 0.48	11.9 / 0.39	17.2 / 0.27
ABR240-UF	218XATC	1.5 IN	1.6 / 1.24	2.1 / 0.96	3.6 / 0.55	4.4 / 0.45	6.3 / 0.31
ABR240	24240	1.8 IN	1.3 / 1.49	1.7 / 1.15	3.0 / 0.66	3.7 / 0.54	5.3 / 0.38
ABR213	2213A	3.0 IN	1.0 / 3.15	1.4 / 2.54	2.4 / 1.45	3.0 / 1.17	4.5 / 0.79
ABR400-UF	25400F	2.5 IN	0.68 / 2.80	0.85 / 2.25	1.58 / 1.25	2.00 / 0.75	2.85 / 0.75
ABR400	24400	4.5 IN	0.60 / 3.33	0.75 / 2.57	1.42 / 1.47	1.70 / 1.20	2.11 / 0.83
ABR600	24600	6.8 IN	0.40 / 5.51	0.50 / 4.24	1.0 / 2.41	1.2 / 1.97	1.7 / 1.35

**All cables are UV resistant, weather proofed,  
direct burial and 100% tested.**



**Wide variety of connector and length options.  
Color options, ferrites, braid,  
and rotor cables are available.**



**Palstar  
Solid State Amplifier  
LA-1K**



The LA-1K is an RF Sensing Dual HF LDMOS 1000 watt Amplifier. While the LA-1K will work with a wide variety of tuners and transceivers, Palstar custom-design the LA-1K to work as the perfect match for the very popular HF-AUTO auto tuner.

**Specifications**

- SSB power: 1000 watts PEP CW ICAS.
- CW Mode: power levels up to 850W.
- FM / RTTY: 500 watts.
- AM: 275 watts.
- Frequency range: 1.8 to 54MHz.
- Display: Color TFT touch screen.
- Output: 3 x RF SO-239 or type N
- ALC: Exciter power control.
- Drive Required: 40-55W (all bands).
- Gain: 13+/-1 dB (nominal.)
- RF sensing: auto band switching.
- RF Output: vacuum relay T/R switching.
- Power supply: internal medical grade.
- DC supply: 100VAC - 260VAC 50V @ 42 amps.
- Power devices: 2 x 5600 H 600W LD-MOS.
- Auto-Protect: SWR / short circuit.
- Intermod: low IMD distortion >-35dB.

**Amplifier Specifications**

	Model	Frequency Range	Modes	Power In	Power Out	Voltage	Current	Pre-amp	Connector	Weight
ICOM	PW-2	1.8-54MHz	SSB CW	100W	1000 W 500 W	240 VAC 110 VAC		No	SO-239	46.3 lbs.
PALSTAR	LA-1K	1.8-54 MHz	All	40-55 W	1000 W SSB	110/260 VAC		—	SO-239	27 lbs.

**Low Noise Preamp**



The LNA 30 is a broadband amplifier for applications in the frequency ranges VLF, LF, MW and HF. Signals above 30MHz are strongly suppressed by a low pass at the input of the amplifier. The MMIC used enables a low noise figure with high large signal strength. This amplifier is supplied with 12 to 24V voltage via the UHF socket. Model#: 1014

- Frequency Range: 5kHz-30MHz.
- Connector: N-socket.
- Input: 12V-24V DC.
- Current Consumption: 150mA.

**144MHz Preamp**



The LNA200 is a low-noise amplifier for the 2m band, and represents a completely new development of SSB-Electronic. This version of the LNA is characterized by a weatherproof, IP44 protected housing, allowing

a close-to-the-antenna installation of this high quality preamplifier, ensuring lowest system Noise Figure. This new preamplifier from SSB-Electronic is low noise (0.25dB NF) while simultaneously offering high amplification (24dB typically). Thus, it's ideal for use in EME, MS, Aurora and Tropo DX applications. Model#: 1011

**Aircraft Band Preamp**



Tuned low noise preamp. Range 118-137MHz, gain typ. 20 dB, BNC-connectors supply 12 Volts via coax. This device requires the PWR-I Power Injector for

power. You can mount the LNA-Air outdoors at your antenna for the best signal amplification. In this way you will not be amplifying noise picked up by the coax cable. Run a short jumper cable from the pre-amp to the antenna such as our high-quality LMR-400 cable for antennas with N-connectors. BNC connector at both ends.

**AMPLIFIERS**



**Solid State Amplifier  
PW-2**



**ICOM IC-PW2 HF and 50MHz All Mode 1kW Linear Amplifier**

The IC-PW2 is Icom's most advanced linear amplifier and features a solid 1kW on the HF and 6m bands. The IC-PW2 uses new 65V LDMOS power transistors (MRFX1K80HR5) and a high-efficiency power supply. Achieve a 1kW output with a 200V AC Input. The IC-PW2 instantly operates at full power once turned on. Use the PW2 for long contest hours or full-duty FT8 operation. Optional PC remote-control software will provide a remote-control operation through a LAN. Remote power ON/OFF from the PC and various operation of the radio will be possible.

**Specifications**

- The latest LDMOS effortlessly provides 1KW output at full duty cycle even for extended periods of time.
- 2x6 antenna selector realizes SO2R (Single Operator Two Radio) operation with only one amplifier.
- Six antenna connectors which may be enabled for a variety of antennas and bands.
- Super low-distortion output with superior IMD (Intermodulation Distortion).

- When connected to ICOM transceivers all settings are automatically completed.
- Simultaneous band data output for both Main and Sub bands.
- The IC-PW2 has an internal LAN port for remote control operation from a PC.
- Touch screen color TFT LCD enables intuitive setting changes.
- High efficiency and low noise cooling system
- SD card slot on front panel for saving settings and firmware updates.

## Wire & Accessories



Ham Radio Outlet carries a wide variety of wire, connectors, crimpers, and accessories from 12 Volt Power. For more information visit our website or contact your local Ham Radio Outlet.

### Extension Cable TVP-EXPP-10-6



### Power Pole Connectors TVP-WP10



### Cigarette Light Adaptor TVP-CIG-PP-18



### Panel Mount USB Interface TVP-PM-USB-36W



### OEM-T Connector Power TVP-MBLPWR-OEM



### Powerpole Crimp Tool Kit 15-45GOBAG



### DC Wattmeter WATTMETER-TVP



### 5 POSITION BLOCK PD5-PLUS



### DC to DC LiFePO4 Charger DC-8A-LFP



## DC Power Supply



### MFJ-4215MV

15 amp switching power supply, 15A surge and 13A continuous. Variable 4-16VDC with 1% voltage regulation. Backlighted volt / amp meters. 5-way binding posts for output. 5 W x 3.75 H x 7 D at 2.9 lbs.



### MFJ-4114

The MFJ-4114 Rechargeable AC Power Supply with Battery Pack uses Ni-Cd D cells or alkaline D cells (not included). The front panel switch selects AC or batteries. Output is 13.8 VDC at 1.2 amps, voltage regulated. Charging circuit for Ni-Cd D cells. 6x6.5x3.5. Fasten to MFJ radios & tuner to form single unit.

### MFJ-1312D

The MFJ-1312D is a 12 VDC AC Adapter with a 2.1 mm jack. It can supply up to 2 Amps of current. Perfect for charging your HT or powering small test equipment.



## Power Strips



### MFJ-1112

This is the MFJ-1112 15 Amp multiple DC power outlet. It lets you power up to six devices from your 12 VDC supply. It has six pairs of heavy duty, RF bypassed 5-way binding posts that handle 15 Amps total. Also has six feet of super heavy duty, eight gauge, color-coded cable with ring tongue terminals. Binding posts are spaced for standard dual banana plugs. Heavy Duty aluminum construction.



All of Astron's solid-state electronically regulated Power Supplies have fold-back current limiting to protect from excessive current, and a heavy duty heat sink. Output voltage: 13.8VDC ±0.05 volts. 220V supplies available on special order at slightly higher price. AP models have Anderson Powerpole® connections.

**RS-A Series** Standard power supply with on / off switch. Adjust voltage internally.

**SL Series** Slim line design for low-profile looks.



**RS-M-AP Series** power supplies with front meters. One is for voltage and the other current. Now with Anderson Powerpoles®.

**SS Series** High efficiency switching supplies specially filtered for use with communications equipment for all frequencies including HF. Heavy duty design, low profile, light weight and EMI filter.

**VS-M Series** Variable power supplies with separate volt and amp meters. Adjustable output: 2-15 volts.

**RM Series** 19" x 5 1/4" rack-mount power supplies available with or without meters and may be variable. The RM-60 comes with or without meters.

## Power Supplies

Brand	Model	Cont. Duty 13.8 VDC	Intermit Duty	Height in	Width in	Depth in	Weight lb
12 VOLT POWER	PS-30	30 A	25 A	2.4	5.1	7.3	3.3
ALINCO	DM-30TR	20 A	30 A	2.8	6.1	8.07	3.5
	DM-430TR	30 A	30 A	2.4	4.9	6.3	3.5
	DM-530T	30 A	30 A	2.7	7.5	12	5.07
	RS-4A	3 A	4 A	3.75	6.5	9	5
	RS-7A	5 A	7 A	3.75	6.5	9	9
	RS-12A	9 A	12 A	4.5	8	9	13
	RS-20A	16 A	20 A	5	9	10.5	18
	RS-35A	25 A	35 A	5	11	11	27
	RS-35A-AP*	25 A	35 A	5	11	11	27
	RS-50A	37 A	50 A	6	13.75	11	46
	RS-12M	9 A	12 A	4.5	8	9	13
	RS-20M-AP*	16 A	20 A	5	9	10.5	18
RS-35M-AP*	25 A	35 A	5	11	11	27	
RS-50M-AP*	37 A	50 A	6	13.75	11	46	
RS-70M-AP*	57 A	70 A	6	13.75	12.12	48	
ASTRON	RM-50A	37 A	50 A	5.25	19	12.5	50
	RM-60A	50 A	55 A	7	19	12.5	63
	RM-35M	25 A	35 A	5.25	19	12.5	38
	RM-50M	37 A	50 A	5.25	19	12.5	50
	RM-60M	50 A	55 A	7	19	12.5	63
	VS-35M-AP*	25 A	35 A	5	11	11	29
	VS-50M-AP*	37 A	50 A	6	13.75	11	46
	SL-11R	7 A	11 A	2.75	7.62	9.95	11
	SL-15R	12 A	15 A	2.75	7.62	9.95	14
	SS-18	15 A	18 A	2.38	6	9	3.6
	SS-25-AP	20 A	25 A	2.88	7	9.38	4.2
	SS-30M-AP	25 A	30 A	3.75	7	9.63	5
SS-50-AP	40 A	50 A	2.88	7	9.38	5	
DIAMOND	GZV4000	40 A	42 A	4.5	8.25	13	8
	GSV3000	30 A	34 A	5.9	9.8	9.5	21
KENWOOD	KPS-15	23 A	24 A	2.2	7	8.25	4
	OP-PS3001D	25 A	30 A	6	5	2.5	3.14
OPEK	OP-PS3002	25 A	30 A	6.3	5	2.4	3.2
	SEC1212	10 A	12 A	2.2	7	8.25	3
SAMLEX	SEC1223	23 A	24 A	2.2	7	8.25	4
	SEC1223BBM †	23 A	24 A	2.2	7	8.25	4
	SEC1235M	30 A	35 A	2.4	7.28	8.19	4.5
	SEC1235P-M	30 A	35 A	2.4	7.28	8.19	2.28
YAESU	FP-1023	23 A	24 A	2.2	7	8.25	4
	FP-1030A	25 A	30 A	9.8	5.9	9.5	20.9

\*AP models now with Anderson Powerpoles® †Contains a backup battery module (220 volt versions of some models available at additional cost by special order. Contact HRO for details.)

## Switch Mode Supply

### USB Ports & Power Pole Ports SS-30-AP



The SS-30 model supports currents up to 25A avg and peak up to 30A ICS (\*) peak max. It is ideally suited for use with 12/13.8 VDC communications equipment. Switching technology >82% efficient meets individual power loading requirements. Included is special filter circuitry especially suited for all communications frequencies and HF.

### Front Panel DC Volt & Amp Meter SS-30M



The SS-30M model supports currents up to 25A avg and peak up to 30A ICS (\*) peak max. Several protection features are built-in. Included are output current limiting, overvoltage protection, internal fuse protection, and over temperature shutdown. Front panel Power Pole terminals and rear panel screw-wire terminals are heavy duty. Connectors are easy accessible which ensures safe and reliable installation.

## Linear Supply

### Regulated Output RS-35A



The RS-35A model supports currents up to 25A avg and peak up to 35A ICS (\*) peak max. It features a solid state, electronically regulated output with fold-back current limiting that protects the supply from excessive current draw and shorted outputs. Extremely low 5mV Peak to Peak full load ripple. Extremely heavy duty and built to last.



## Switching Power Supply DM-30TR

Compact, lightweight design features 9-15VDC variable output up to 20 amps continuous and 30 amps peak. The noise offset circuit lets you move any switching noise to another frequency. Features large illuminated digital volt / amp meter, rear panel (30 A peak) binding posts, front panel quick terminals (5 A), front panel Anderson Powerpole® (30 A), short circuit, over temperature, and current limiting protection. Front panel adjustable.



## 30 Amp Switching Power Supply DM-430TR

Alinco's redesigned DM-430TR is an Ultra-Compact DC Switching Power Supply with Digital display and advanced technology featuring Anderson Powerpole® connectors supporting 5-15VDC variable output and delivers up to 30A peak power.



## 32 Amp Switching Power Supply DM-530T

Features include a large illuminated digital Volt/Amp meter, rear panel binding posts/front panel Anderson Powerpoles® (30A peak), voltage adjust (5-15V) or fixed at 13.8V, ripple less than 50mVp-p and protection for short-circuit, over temperature, and current limiting!



## 40 Amp Switching Mode DC Power Supply GZV4000

The GZV4000 switching mode DC power supply has a 40 amp continuous rating at 100% duty cycle. The supply has variable voltage from 5-15VDC using a voltage control knob with a center detent at 13.5VDC. There is overload and short circuit protection with current feedback at approximately 42 amps and temperature protection with a variable speed fan. Operates on 120VAC ± 20%, 50-60hz. Ripple and noise is less than 8mV rms. 240VAC models also available for GZV4000. GZV4000-220V (220 volt) also available. **HRO Price: \$199.95**



## 34 Amp Switching Mode DC Power Supply GSV3000

Switching mode DC power supply. It has a 34 amp continuous rating at 100% duty cycle.

- Input Voltage: 100, 110 or 220 VAC (Depending on market)
- Output Voltage: 1-15 VDC
- Output Current: 34 A (100% duty cycle)
- Ripple: Max 3 mVpp @ 13.8 V / 30 A
- Dimensions (W\*H\*D): 250\*150\*240 mm (9.84\*5.91\*9.45")
- Weight: 9.5 Kg (20.9 lb)

The front panel has push connectors, screw terminals and a cigarette lighter socket. **HRO Price: \$229.95**



## Bioenno Power® Lithium Iron Phosphate Batteries

Bioenno Power's Lithium Iron Phosphate batteries are designed with ham radio applications in mind, and provide several key advantages:

- Based on advanced Lithium Iron Phosphate (LiFePO4) battery chemistry.
- Compatible with every brand (Icom, Kenwood, Yaesu, Elecraft, Alinco, etc.).
- Built-in protection-circuit-modules (PCM), which are "micro-computers" that internally balance cells and provide protection from overcharging, over-discharging, over-current, and short circuiting.
- 50% to 70% lighter than SLA (sealed lead acid) batteries.
- Service life of 2000+ charge cycles or 5-10+ years, with a shelf life that far exceeds the service life of many other batteries.
- Powerpole® connectors that are already attached and can connect directly to radios.
- Thermally and chemically stable.
- Dependable and reliable.

Based in Santa Ana, California, Bioenno Power products are currently used in a variety of applications and industries including ham radio, surveillance, avionics, scientific equipment, communications, audio/visual equipment, e-bikes/e-scooters, etc. with capacities ranging from 3Ah up to 200Ah. Contact HRO for all available sizes.



## BLF-1203W

12 volt - 3Ah LFP Battery  
LiFePO4  
**HRO Price: \$49.95**



## BLF-1206A

12 volt - 6Ah LFP Battery  
LiFePO4  
**HRO Price: \$79.95**



## BLF-1209A

12 volt - 9Ah LFP Battery  
LiFePO4  
**HRO Price: \$99.95**



## BLF-1212A

12 volt - 12Ah LFP Battery  
LiFePO4  
**HRO Price: \$124.95**



## BLF-1215A

12 volt - 15Ah LFP Battery  
LiFePO4  
**HRO Price: \$149.95**



## BLF-1220A

12 volt - 20Ah LFP Battery  
LiFePO4  
**HRO Price: \$189.95**



Please note that these batteries should be charged using a LiFePO4 compatible charger, and not with a charger for SLA batteries.



## For Base Stations



## SEC-1212 & SEC-1223

The SEC-1223 is the perfect lightweight companion for a 100 watt transceiver. The SEC-1212 has the same form factor as the SEC-1223 but with lower amperage output.

- Switch mode design for minimal power loss.
- Highly efficient, and compact.
- Produces clean, consistent power with circuit innovations that minimize output voltage ripple and RFI.
- Works on 200 - 240VAC input voltage with a simple jumper change.
- UL and FCC compliant.
- Safety features: over/under voltage protection and quiet cooling fan.

**SEC-1212 - HRO Price: \$149.95**  
**SEC-1223 - HRO Price: \$184.95**



## SEC-1235M

Includes built-in volt and amp meters and is the best power supply value.

- All features of above SEC-1212/1223 plus advanced switch-mode technology.

**SEC-1235M - HRO Price: \$221.95**



## SEC-1235P-M

The technologically advanced SEC P series power supplies are light, quiet, and power-factor corrected. SEC-1235P-M features backlight analog meters.

- Universal AC input.
- Efficiency Level 6 (VI).

**SEC-1235P-M - HRO Price: \$231.95**

Power Supply Modular Connector Cable  
**SEC-PSPP**

Model	Input VAC	Out VDC	Amps Out Nominal	Amps Out Peak
SEC-1212	100-130	13.8	10	14
SEC-1223	100-130	13.8	23	25
SEC-1235M	100-130	13.8	30	35
SEC-1235P-M	100-240	13.8	30	35
SEC-1223BBM	Preset 100/130	13.8	23	25

The power supply choice for radio manufacturers around the world. Reliable power at an affordable price!

## SAMLEX POWER SUPPLIES CARRY A 3-YEAR WARRANTY



## SEC-1223BBM

Combining the reliability of the SEC-1223 power supply with the reassurance of the BBM-1225 battery backup module. This unit provides uninterrupted DC power in the event of a power outage.

- All features of the SEC-1212/1223 units plus reliable, uninterrupted DC power source in conjunction with an external battery.

**SEC-1223BBM - HRO Price: \$234.95**

## Radio Cabinets



Visit/Call for Info.

Integrate your mobile radio with any Samlex desktop switching power supply for an attractive and functional desktop.

## Battery Backups & Protectors



## Battery Backup Module Chargers

## BBM-1225 BBM-12100

## Battery Voltage Protectors



## BGW-40 | BGW-200 BGW-60 | BGW-400

Extends battery life by preventing excessive discharge of the battery. Protects connected components against overvoltage.

BBM-1225	BBM-12100	BGW-40/60	BGW-200
25 A Backup	100 A Backup	40A/60A Protector	200 Protector
\$84.95	\$200.95	\$105.95/\$145.95	\$269.95

## DC to AC Inverters



## PST-150-12 150 watt PST-300-12 300 watt PST-600-12 600 watt

The PST series provides clean pure sine wave power. PST's commercial grade design is suitable for heavy duty loads, long periods of continuous operation and reliable AC power.

- Quiet operation with temperature-controlled fan reduces energy consumption.
- Extremely low interference with other devices.
- Pre-set for 12V input.
- GFCI protected outlets.
- Safety certified to UL & CSA standards.
- FCC compliant.
- 3 Year Limited Warranty.

Model	PST-150-12	PST-300-12	PST-600-12
watts	150	300	600
Price	\$196.95	\$249.95	\$334.95

## Solar Power



## Portable Kits

## MSK-90 90 watt MSK-135 135 watt

Whether you need to charge your 12V batteries during field emergencies or get extended run-times for your equipment, these MSK kits include a built-in, three-stage 10 amp charge controller to protect batteries and prevent overcharging. Includes pre-wired battery clamps on a 16' cable. 10 year power warranty on solar panels (Canada/US).

## Cable Assemblies

### CABLE X-PERTS

#### Ready-Made Coax Cable Assemblies

Model	Connector Both Ends	Burial	UV Resistant	Shields	Attenuation dB @ 100 ft	Best Freq.
CXP1318FC	PL-259	Yes	Yes	2 (100% bonded foil + 95% TC Braid) V/F 84%	50 MHz 1.1 150 MHz 1.9 450 MHz 3.3	50-450 MHz
CXP008C	PL-259	No	Yes	1 (95% BC Braid) V/F 78%	10 MHz 0.51 30 MHz 0.9 50 MHz 1.2	1-50 MHz
CXP1318FN	N	Yes	Yes	2 (100% bonded foil + 95% TC Braid) V/F 84%	150 MHz 1.9 450 MHz 3.3	150 MHz and higher
CXP08XC	PL-259	No	Yes	1 (95% BC Braid) V/F 78%	10 MHz 0.98 30 MHz 2.0	1-30 MHz
CXP213C	PL-259	Yes	Yes	1 (97% BC Braid) V/F 66%	10 MHz 0.62 30 MHz 1.2	1-30 MHz (High Power)

RG213/U with PL-259		
Part Number	Length (ft)	HRO Price
CXP213C100	100	\$153.95
CXP213C50	50	\$88.95
CXP213C6	6	\$25.95
CXP213C3	3	\$20.95
RG8/U Foam with PL-259		
CXP008C100	100	\$176.95
CXP008C50	50	\$100.95
CXP008C25	25	\$61.95
CXP008C12	12	\$38.95
CXP008C6	6	\$27.95
CXP008C3	3	\$21.95
RG8X-Mini with PL-259		
CXP08XC100	100	\$98.95
CXP08XC75	75	\$77.95
CXP08XC50	50	\$58.95
CXP08XC25	25	\$37.95
CXP08XC18	18	\$33.95
CXP08XC6	6	\$26.95
CXP08XC3	3	\$22.95

9913-Type Flexible with N-Connector		
Part Number	Length (ft)	HRO Price
CXP1318FN100	100	\$173.95
CXP1318FN50	50	\$101.95
CXP1318FN25	25	\$63.95
CXP1318FN6	6	\$31.95
CXP1318FN3	3	\$26.95
9913-Type Flexible with UHF Connectors		
CXP1318FC100	100	\$169.95
CXP1318FC50	50	\$97.95
CXP1318FC6	6	\$27.95
CXP1318FC3	3	\$21.95

Tinned Copper Ground Braid		
Part Number	Description	HRO Price
235	1" wide	\$1.59/ft
2332	1/2" wide	\$0.70/ft
235RT-5	1" 5' long *	\$12.95
235RT-10	1" 10' long *	\$18.95
2332RT-5	1/2" 5' long	\$9.95
2332RT-10	1/2" 10' long *	\$12.95

\*With ring terminals

## Connectors (Contact HRO for others)

Model	Description	HRO Price
BNC-44	BNC to UHF Adapter	\$6.99
N-31	N to UHF Adapter	\$9.95
PL-259ST	PL-259	\$3.89
N-TGS	Type N Male	\$7.95
UHF-08-TGNZ	4 Hole SO-239 Chassis Connector	\$5.45
UHF-10	Double Male UHF	\$6.49

Model	Description	HRO Price
UHF-11	UHF Barrel	\$4.99
UG-363-4	Long UHF-UHF Barrel	\$16.95
UHF-15-DGN	Right Angle Teflon Gold Pin	\$8.95
UHF-13	UHF "T"	\$8.49
UHF-19	BNC to UHF Adapter	\$6.99
UHF-18	UHF to N Adapter	\$8.99

## Cable

# Times

Call for Low Discount Prices on Times Cable

### LMR-200 - RG58 type

This is a standard RG58 'type' outdoor cable that is ideal for jumper assemblies, short antenna feeder runs, or any application requiring an easily routed, low loss RF cable. It has a solid BC inner conductor, foam polyethylene dielectric, aluminum tape outer conductor, a tinned copper overall braid and black polyethylene jacket. The velocity factor is 83%. It will withstand 1000VDC, a peak power of 2.5kW, and shielding effectiveness is >90dB.

### LMR-240 - RG8X type

This RG8X 'type' outdoor cable has a solid BC inner conductor, foam polyethylene dielectric, aluminum tape outer conductor, a tinned copper overall braid and black polyethylene jacket. The velocity factor is 84%. It will withstand 1500VDC, a peak power of 5.6kW, and shielding effectiveness is >90dB.

### LMR-400 - RG8/213 type

This is a standard RG8 / RG213 'type' outdoor cable that has a solid BCCA inner conductor, foam polyethylene dielectric, aluminum tape outer conductor, a tinned copper overall braid and black polyethylene jacket. The velocity factor is 85%. It will withstand 2500 VDC, a peak power of 16kW, and shielding effectiveness is >90dB.

### LMR-400-UltraFlex

Similar specs as LMR-400 with TPE jacket.

## Ladder Line & Jumpers

HRO carries a wide variety of ladder line and coax jumpers from JSC to fit your needs. Contact your local store for selection info.



## Rotator Cable

**8 wire, standard duty** - 8 wire cable using six #22 and two #18 bare copper conductors. PVC insulation.

**8 wire, heavy duty** - 8 wire cable using 6 - #18 and 2 - #16 bare copper conductors. PVC insulation; chrome PVC jacket.

### When Ordering Bulk/Roll Cable

Please order in multiples of 50 feet. Continuous length spools up to 500 feet are available. Call for quotes.



Our renowned LOW LOSS coax, Bury-FLEX™ is made by combining a gas-injected foamed dielectric with a dual foil / braid shield construction and jacketed by a UV and abrasion resistant polyethylene jacket which results in a longer cable life.



Bury-FLEX™ provides the electrical and performance characteristics found in the more expensive 400-series coaxes as well as typical air dielectric type cables. The PE jacket is durable enough for Direct Burial, yet flexible enough to be used for rotator loops.

Davis RF supplies amateurs with all types of aerial wire including our PolyStealth Wire™ and our various Flexweave™ products needed to make your own wire antennas. Other basics such as coax assemblies, rotor cable, rope and connectors/adapters, hardline and all type of coaxes are readily available.

All Cables Are American Made!

## Coax

Purchase coax in any length up to 500 ft

### RG8/U

Standard RG8 /U, #13 stranded copper center conductor, cellular polyethylene insulation, 97% bare copper shield, PVC jacket, 50 ohm impedance, 78% velocity factor and 1.8dB loss per 100' at 100MHz. The most popular cable for HF/VHF/UHF. Use when long cable runs are not required.

### RG213/U

RG-213 / U coax, #13 stranded copper center conductor, solid polyethylene insulation, 97% bare copper shield, non-contaminating PVC jacket, 50 ohm impedance, 66% velocity factor and 2.2dB loss per 100' at 100MHz. This RG-8 type cable is best for HF. It may be buried.

### 9913F-7

9913F-7 is RG8/U-type coax, #9.5 stranded copper conductor, foam polyethylene insulation, 100% foil plus 88% braid shield, PVC jacket, 50 ohm impedance, 84% velocity factor and 1.4dB loss per 100' at 100MHz. The best cable for VHF and UHF applications.

### RG8X

RG8X is small diameter coax, #16 stranded copper center conductor, cellular polyethylene insulation, 95% bare copper shield, PVC jacket, 50 ohm impedance, 78% velocity factor and 3.7dB loss per 100' at 100MHz. Good for short VHF runs and most HF uses.



American Built & Reliable

ABR Industries manufactures coax with a non-contaminating, ultraviolet resistant, and direct burial jacket. Cables are American Made and are fully tested and ready to use.

## Direct Bury Cable

**218XATC** - lightweight for mobile, dipole antennas, or jumpers between equipment in tight places. RG8X (LMR@240 type) with PL-259 connectors and adhesive lined HST at both ends. Jacket is UV resistant and direct burial.

RG8X-Direct Bury with PL-259		
Part Number	Length (ft)	HRO Price
218XATC-PL-1.5	1.5	\$27.95
218XATC-PL-3	3	\$29.95
218XATC-PL-6	6	\$32.95
218XATC-PL-9	9	\$32.95
218XATC-PL-12	12	\$35.95
218XATC-PL-18	18	\$41.95
218XATC-PL-25	25	\$48.95
218XATC-PL-30	30	\$50.95
218XATC-PL-40	40	\$55.95
218XATC-PL-50	50	\$63.95
218XATC-PL-75	75	\$80.95
218XATC-PL-100	100	\$93.95
218XATC-PL-125	125	\$114.95
218XATC-PL-150	150	\$129.95
218XATC-PL-250	250	\$194.95

## HT Jumpers

ABR Industries now supplies HT jumpers in various short lengths of RG316/U Teflon® .100" OD.

These can be had in 3, 6, 9, 12, and 15 foot lengths of SMA male to SMA female, or 3 and 6 foot lengths of SMA male at both ends, or SMA male to PL259 or SO239.

## Ground Braid

Also available are various lengths of 1-inch or 1/2-inch tinned copper flat ground braid with 1/4-inch stud ring terminals

And there are a few different lengths of 1/2-inch tinned copper with nickel grommets at 4" spacing for easy attachment to a vehicle body or truck bed to create a "ground plane" or an option as a buss-bar in the shack.

## Direct Bury Cable

**2213A** - UV resistant, direct bury. RG213/U Mil-Spec w/PL259 connectors and adhesive lined HST at both ends. Solid polyethylene dielectric, high power, bands below 30MHz with amplifiers.

RG213/U with PL-259		
Part Number	Length (feet)	HRO Price
2213A-PL-1.5	1.5	\$32.95
2213A-PL-3	3	\$35.95
2213A-PL-6	6	\$43.95
2213A-PL-18	18	\$69.95
2213A-PL-25	25	\$83.95
2213A-PL-50	50	\$129.95
2213A-PL-75	75	\$174.95
2213A-PL-100	100	\$204.95
2213A-PL-150	150	\$284.95

**25400F** - (LMR@ 400UF) UV resistant, direct-bury, for frequencies above 144MHz. PL-259 connectors and adhesive lined HST at both ends.

RG8/U Direct Bury with PL-259		
Part Number	Length (ft)	HRO Price
25400F-PL-1.5	1.5	\$34.95
25400F-PL-3	3	\$38.95
25400F-PL-6	6	\$46.95
25400F-PL-12	12	\$60.95
25400F-PL-18	18	\$75.95
25400F-PL-25	25	\$93.95
25400F-PL-50	50	\$144.95
25400F-PL-75	75	\$194.95
25400F-PL-100	100	\$229.95
25400F-PL-150	150	\$324.95

**25400F** - (LMR@ 400UF) UV resistant, direct bury, for frequencies above 144MHz. N male connectors and adhesive lined HST both ends.

RG8/U Direct Bury with N Male		
Part Number	Length (ft)	HRO Price
25400F-NM-3	3	\$41.95
25400F-NM-6	6	\$50.95
25400F-NM-12	12	\$65.95
25400F-NM-18	18	\$78.95
25400F-NM-25	25	\$93.95
25400F-NM-35	35	\$114.95
25400F-NM-50	50	\$149.95
25400F-NM-75	75	\$194.95
25400F-NM-100	100	\$234.95
25400F-NM-150	150	\$329.95



## Antenna Tuner AT5K

The AT5K takes power handling to the next level over the AT4K, coming in with a rating of 3500 watts single tone continuous performance with low losses and wide Z range. Palstar's AT5K, like its AT4K little brother, has a T-matching network utilizing a 1:1 unbalanced-to-balanced transformer at the INPUT of the network.

- 3500 watts single tone, high efficiency, low tuner losses and wide Z range.
- 160m to 15m with limited Z range on 10m.
- Balanced output with high power 5kW Teflon® wire balun at the input of tuner circuit.
- Ferrite 1:1 input balun.
- Custom, large plate variable capacitors (600pF @ 6kV).

- 10 amp 7kV CERAMIC 3.25" body roller inductor (35µH) wound with 10 ga. plated solid copper wire.
- Six-position switchable antenna input switch with 7kV, 10 amp contacts.
- Peak and peak hold dual cross-needle metering (1-2 sec hold) with backlighting.
- Fan cooling for extended 100% duty cycle operation.



## Antenna Tuner AT2KD

The AT1500DT and the AT1KIP have been combined into a new 2kW tuner. The AT2K has all our features such as: peak and hold; a resonant free roller system to operate from 6m to 160m continuously; new LED lit meter system; and a new compact size.

- Power rating 2000 watts PEP.
- Frequency tuning 160m to 6m.
- Impedance matching range 20 ohms to 1200 ohms.
- Easy and quick tuning with only two controls.
- Palstar designed ceramic body roller inductor.
- 6 position mode switch for multiple antennas.
- Meter power range 0-300 watts / 0-3000 watts.
- Active peak and peak hold dual

- cross-needle metering (1-2 sec hold) with LED backlighting.
- Differential capacitor tuning with 2 stators and 1 rotor (420 pF - 13pF - 420pF @ 5kV).
- High power ferrite 1:1 or 4:1 current balun (optional) externally installed.
- Size: 12 1/2" W x 5 1/2" H x 16" D.
- Weight: 12 lbs.



## Antenna Tuner AT2K

The smaller roller inductor allows the AT-2K to tune 6 meters, while a relay-switched toroid adds the extra inductance needed for 160 meter coverage. Newly designed capacitors feature

lower minimum capacitance for improved high band performance, while maximum capacitance has been increased to 400pF for better low band performance.

- Power rating 2000 watts PEP.
- Impedance range 20 to 1500 ohm 160m to 10m (assuming resistive load).
- Low minimum custom variable capacitors (15pF to 400pF at 4.5 V).
- 10 µH relay-switched add-on inductor for 160 meters, roller inductor with turns counter.
- 18µH 5kV ceramic body roller

- inductor with turns counter.
- Silver plated inductor wheel shaft and contact wheel.
- Active peak / peak hold cross-needle metering w/ backlighting.
- 6 position ceramic wafer antenna selector switch.
- Optional 1:1 or 4:1 current balun available.

## Designed By Hams for Hams. Made in the USA!



## Antenna Tuner AT4K

The AT4K has a power rating of 2500 watts single tone continuous.

- Unbalanced / balanced output (switch activated on front panel) with high power balun at the input of tuner circuit.
- T match circuit: impedance matching range 8 - 2000 ohms.
- Custom large value (460pf) variable capacitors at 6kV.
- Switchable antenna inputs.

- 10 amp edge-wound silver plated ceramic body roller inductors crank handle driven.
- Ferrite 1:1 input balun.
- Peak / peak hold dual cross-needle metering (1-2 sec hold) with backlight.
- Size: 15" H x 7" W x 16" D
- Weight: 20 lbs.



## Antenna Tuner AT-500

Covering 160 to 6 meters, the AT-500 has a differential tuning capacitor with 2 stators and 1 rotor, a precision ceramic body roller inductor, and a 4:1 ferrite current balun for balanced line feeds.

- Power rating: 600 watts PEP SSB; 500 watts CW.
- Output to both balanced and unbalanced lines.
- Impedance matching range 20 ohms to 1500 ohms.
- 6 position mode switch for multiple antennas.
- Active crossneedle peak/peak

- hold metering with backlighting.
- Meter power range 0-300 watts / 0-1000 watts.
- Differential capacitor tuning with 2 stators and 1 rotor (360 pF - 14pF - 360pF @ 2.5kV).

## Palstar Products

Model	Description	Price
Amplifier		
LA-1K	1 kW solid state amplifier	\$3,895.95
Antenna Tuner		
HF-AUTO	1500 W Antenna Tuner	\$1,689.95
AT5K	3500 W Antenna Tuner	\$1,479.95
AT4K	2500 W Antenna Tuner	\$1,389.95
BT1500A	1500 W Balanced Antenna Tuner	\$979.95
AT2K	2000 W Antenna Tuner	\$789.95
AT2KD	2000 W Differential Antenna Tuner	\$789.95
AT500	600 W Antenna Tuner	\$639.95
Wattmeters		
PM2000A	2000 W Wattmeter 1.8 MHz to 60 MHz	\$344.95
PM2000AM	200 W Wattmeter mobile 1.8 MHz to 60 MHz	\$344.95
Shortwave Accessories		
SP-30B-BLACK	Speaker 12 watts (for R30C/CC)	\$139.95
Dummy Loads		
DL1500	Dummy Load 1500 W - 450 MHz	\$194.95

## High Power Manual Tuners



## High Power ATR-20

The ATR-20 is the little brother of the Ameritron ATR-30 True Legal Limit antenna tuner! It's Ameritron Tough -- handles a full 1.2kW SSB and 600 watts CW. It's designed to safely handle the full SSB power of Ameritron's AL-811, AL-811H, AL-80B, ALS-500M, ALS-600 and

other 1.2kW SSB amplifiers. Compact all metal cabinet measures 13W x 4 3/4H x 17D inches. The ATR-20's roller inductor (gear driven with turns counter and crank knob) "T" matching network continuously tunes all frequencies from 1.8 through 30MHz. Both tuning capacitors have vernier reduction gear drives for smooth precise tuning. Features an accurate built-in 3 kilowatt true peak or average detecting directional power meter. Peak and average forward power, reflected power, and SWR are displayed on an illuminated cross-needle meter. Legends will never wear off -- scratch-proof Lexan front panel.

## Manual Tuner



## 1.8-50MHz Tuner CAT-300



Tunes dipoles, vertical, mobile whips, long wires and other antenna designs in all bands between 1.8MHz and 50MHz

Cross needle meter displays forward power, reverse power, and SWR simultaneously

Specifications:  
 Max Power: 300W (SSB)  
 Input impedance: 50 ohm  
 Output impedance: 10 - 600 ohm  
 Voltage Required For Meter Light: DC 11V - 15V, 250mA  
 Weight: 6 lbs.  
 Dimensions: 10 x 4 x 8 inches  
**HRO Price: \$299.95**

## Remote Auto Tuner

## REMOTE TUNER CHA-URT1



The CHA URT1 is a remote outdoor tuner for almost any type of antenna and any brand or model transceiver. The CHA URT1 is unique in that it can be used for coaxial cable or wire fed antennas. This wide-range tuner will match wire antennas, such as a vertical, random wire antenna, or a long wire antenna. Covers 1.8 - 54.0 MHz and has 16,000 memories for quick recall and tuning with previously used settings. It can match any antenna with an impedance of 5 to 1,500 Ohms and can handle up to 125W SSB phone & CW, 100W SSB phone & CW on 50 MHz, 60W all other modes.



The CHA-URT1 consists of two units: a Coupler Unit and the Tuner Unit. The Tuner Unit is in a rugged weatherproof housing and contains the antenna matching network and controller. It is normally installed outside at or near the antenna feed point. The Coupler Unit contains the operator controls and status indicators. It uses a bias-t circuit to send power.

## Automatic Motorized Antenna Controller



TuneMatic is a self-contained antenna controller which automatically adjusts the resonant frequency of a screwdriver/motorized antenna. TuneMatic operates anywhere between 1-60MHz, and supports a wide variety of screwdriver-type tunable antennas. TuneMatic utilizes frequency measurement, SWR detection, and antenna position to perform the proper tuning, and stores the tuning data in a series of internal reserved memory banks, based on frequency and bandwidth.

The TuneMatic is independent of rig make and model and will typically support any HF rig with a PTT control line. TuneMatic is supplied with a backlit wired remote button panel, which contains all the functions necessary to operate TuneMatic from the driver's seat.

## WATCH HRO'S YOUTUBE CHANNEL WHERE WE DISCUSS AND DEMONSTRATE ALL THE LATEST PRODUCTS!

[YOUTUBE.COM/@HAMRADIOOUTLET](https://www.youtube.com/@HAMRADIOOUTLET)



## LDG Electronics

In 1995 LDG Electronics pioneered the automatic Switched-L HF tuner. Powered by a microprocessor, it did away with manually tuned capacitors and inductors, automatically finding a match in seconds.

Now over twenty years later LDG has grown to be an industry leader, offering a wide array of tuners and other amateur products. Refining the original design with new tuning algorithms and upgraded components, LDG tuners define the state of the art. LDG remains a family-owned and operated business.



All LDG products come with a two year transferable warranty.

### For Most Modern HF Transceivers

#### Z-100A

The Z-100A features LDG's famous 10:1 SWR tuning range that matches Dipoles, Verticals, Endfed wires, G5RVs or even an Off-center fed Windom. Easy integration means plug and play operation; installation could not be simpler. The Z-100A tuner goes anywhere with your HF radio... desktop, portable, parks, islands, or tall summits. Includes cables for Icom, Kenwood, & Yaesu. **HRO Price: \$179.95**



- Frequency Range: 1.8 - 54MHz.
- Power: 125W PEP, 30W Digital.
- Input Impedance: 50 ohms.
- Tuning Range: 10:1 SWR.
- Memories: 2000.
- Retune Time: < 1.0 seconds.
- Voltage: 13.8VDC +/- 15%.
- Current Draw: 500mA tuning, 20mA idle.
- Size: 6.3" x 6.3" x 1.5"
- Weight: 1.5 lbs.

## LDG Electronics

### Tune Multiple Antennas

#### AT-1000ProII

The AT-1000ProII features an auto mode that automatically starts a tuning cycle any time the SWR exceeds a limit you set. Tune two antennas and switch between them. 2000 memories store tuning parameters for each antenna. The unit operates at any power level between 5 and 1000 watts peak RF input. A large, easy-to-read LED bar graph has two selectable ranges. It will tune from 1.8 to 54MHz. **HRO Price: \$549.95**



#### AT-100ProII

This automatic desktop tuner covers 1.8 – 54 MHz. A two-position antenna switch allows you to switch instantly between two antennas. The AT-100ProII requires just 1 watt for operation, but will handle up to 125 watts, making it suitable for everything from QRP to a typical 100 watt transceiver. It includes more than 2,000 memories for each antenna, automatically storing tuning configurations for each frequency and band as you use them. Includes antenna and bypass indicators on front panel. **HRO Price: \$269.95**



#### AT-600ProII

The AT-600ProII will handle up to 600 watts SSB and CW, 300 on RTTY (1.8 – 30MHz), 250 watts on 54MHz.

- Processor-controlled switched L-tuner.
- Matches coax-fed antennas. Matches 10:1 SWR down to 1.5: 1.
- Use with longwires, random wires, and antennas fed with ladder line by adding an optional balun.
- Two antenna ports.
- Requires 11-16VDC at 750mA.

**HRO Price: \$409.95**

### Low-Cost Tuner



#### Z-100Plus

Designed to provide 125 watt power handling in SSB and CW and 50 watts in digital modes. The Z100Plus features 2000 memories that store both frequency and tuning parameters. Operating frequencies are stored with tuning parameters to make memory tunes in a fast 0.1 seconds. Full tunes take an average of only 6 seconds. This makes the Z-100Plus perfect for SOTA, POTA and other portable operations. **HRO Price: \$189.95**

### Portable Tuner



#### Z-11ProII

Now includes battery pack!

Here is everything you need in a small, portable tuner designed for battery operation. Only 5" W x 7.7" D x 1.5" H and weighing 1.5 pounds, it handles 0.1 to 125 watts, making it ideal for both QRP and standard 100 watt transceivers from 160 – 6 meters. With 8,000 memories, the Z-11 ProII uses a state-of-the-art processor-controlled switched-L tuning network. It matches dipoles, verticals, inverted-Vs or virtually any coax-fed antenna. With an optional LDG balun, it will also match longwires or antennas fed with ladder-line. **HRO Price: \$209.95**

### Transceiver Matching



#### Z-817 Automatic Tuner for the Yaesu FT-818

The Z-817 automatic tuner, operating on 160 – 6 meters, attaches to the CAT port with the provided cable. Press the One-Touch-Tune button on the tuner and the Z-817 sets mode and power on the radio, tunes, then restores mode and power. Tuning time is 0.2 seconds for recalling one of its 2000 memories, and average time for a full cycle is 2.5 seconds. The Z-817 also works with any QRP radio with output of up to 20 watts. Press the tune button on the tuner while transmitting a carrier and it finds a match. Includes one foot CAT interface cable. Has CAT-thru port to allow computer control of radio. Tuning range of SWR loads from 6 to 450 ohms. It is powered by four AA batteries (not included). Size is 4.5" W x 4.5" H x 1.5" D. **HRO Price: \$129.95**

### Remote Tuner



#### RT-100 & RC-100



#### Automatic Antenna Tuner / Remote Control

Place this 100 watt coax-in / coax-out tuner near the feed-point of the antenna and it will virtually eliminate all feed line loss due to SWR. The RT-100 is DC powered over the coax, so no extra cables are needed. Add your own DC injection circuit or use the LDG RC-100 to power and control the tuner from your shack. The RC-100 will provide DC power over the coax as well as control for auto mode, lock, and tune. **HRO Price: \$289.95**

### Unun/Balun



#### RU-1:1 UNUN



#### RU-9:1 UNUN



#### RU-4:1 UNUN



#### RBA-1:1 BALUN



#### RBA-4:1 BALUN

LDG has an incredible line of Baluns and Ununs to make your next wire antenna or matching project a success.

Color coded for easy identification, waterproof, lightweight, durable, and power handling up to 200W PEP.

### High Power Tuner



#### AT-200ProII

The AT-200ProII handles up to 250 watts SSB or CW on 1.8 – 30MHz, and 100 watts on 54MHz (including 6 Meters). Rugged and easy-to-read LED bar graphs show power and SWR. A function key on the front panel allows you to access data such as mode and status. An LED indicates bypass mode and another shows which antenna is selected. **HRO Price: \$309.95**



VHF / UHF Wide-Band Mobile Antenna  
Wireless Communication Antenna Expert Since 1981

## Wide-Band Mobile Antenna - NO TUNING Needed

MODEL	Freq.	Bandwidth MHz	Wave	Gain (Peak)	Description	Overall Length
VH-1228S	136-174	38	1/4 Wave	Unity	w/spring	20"
VH-1228SB	136-174	38	1/4 Wave	Unity	Black w/spring	20"
VH-1229	145-165	20	1/2 Wave	4.5 dBi with ground plane	w/o spring	39"
VH-1229S	145-165	20	1/2 Wave	4.5 dBi with ground plane	w/spring	38"
VH-1229B	145-165	20	1/2 Wave	4.5 dBi with ground plane	Black w/o spring	39"
VH-1229SB	145-165	20	1/2 Wave	4.5 dBi with ground plane	Black w/spring	38"
UH-415S	380-520	140	1/2 Wave	4.5 dBi with ground plane	w/spring	11"
UH-415SB	380-520	140	1/2 Wave	4.5 dBi with ground plane	Black w/spring	11"
UH-416S	406-470	64	1/2 Wave	5 dBi with ground plane	w/spring	12"
UH-416SB	406-470	64	1/2 Wave	5 dBi with ground plane	Black w/spring	12"
UH-417	440-480	40	5/8 over 1/2 Wave	6.5 dBi with ground plane	w/o spring	30"
UH-417S	440-480	40	5/8 over 1/2 Wave	6.5 dBi with ground plane	w/spring	31"
UH-417B	440-480	40	5/8 over 1/2 Wave	6.5 dBi with ground plane	Black w/o spring	30"
UH-417SB	440-480	40	5/8 over 1/2 Wave	6.5 dBi with ground plane	Black w/spring	31"
<b>NEW</b> OP-1229W	148-174	26	1/2 Wave	4.5 dBi No Ground Plane	w/o spring	34.8"
<b>NEW</b> OP-1229WB	148-174	26	1/2 Wave	4.5 dBi No Ground Plane	Black w/o spring	34.8"
<b>NEW</b> OP-1229SW	148-174	26	1/2 Wave	4.5 dBi No Ground Plane	w/spring	34"
<b>NEW</b> OP-1229SWB	148-174	26	1/2 Wave	4.5 dBi No Ground Plane	Black w/spring	34"

VH-1228S	VH-1229	VH-1229S	OP-1229W	UH-415S	UH-416S	UH-417	UH-417S
VH-1228SB	VH-1229B	VH-1229SB	OP-1229WB	UH-415SB	UH-416SB	UH-417B	UH-417SB
Freq.	SWR	Freq.	SWR	Freq.	SWR	Freq.	SWR
136	<1.88:1	145	<1.87:1	145	<1.90:1	148	<1.78:1
145	<1.48:1	150	<1.42:1	150	<1.35:1	154	<1.59:1
155	<1.23:1	155	<1.30:1	155	<1.25:1	158	<1.27:1
165	<1.69:1	160	<1.47:1	160	<1.55:1	162	<1.21:1
174	<1.98:1	165	<1.95:1	165	<2.00:1	174	<1.65:1
				380	<1.86:1	406	<1.62:1
				430	<1.48:1	422	<1.09:1
				450	<1.39:1	438	<1.25:1
				470	<1.23:1	464	<1.47:1
				490	<1.40:1	470	<1.42:1
				520	<1.82:1	480	<1.62:1
						440	<1.43:1
						440	<1.58:1
						450	<1.21:1
						460	<1.19:1
						470	<1.36:1
						480	<1.57:1



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VHF / UHF Heavy-duty High Performance Base Antenna  
Wireless Communication Antenna Expert Since 1981

### 4 Section - Aluminum Base Antenna

**BS-150** VHF 136-174MHz, 6.0 dBd Gain, 4-Sec. Aluminum Tube  
**BS-450** UHF 406-512MHz, 5.0 dBd Gain, 4-Sec. Aluminum Tube

### 1 Section - Fiberglass Base Antenna

**VH-2201** VHF 136-174MHz, Omni, 4.5 dBd Gain, 200 Watts  
**UH-2401A** UHF 400-470MHz, Omni, 6.5 dBd Gain, 200 Watts  
**UH-2401B** UHF 430-490MHz, Omni, 6.5 dBd Gain, 200 Watts  
**UVS-100A** VHF:144-148MHz (4.5 dBd) / UHF:430-440MHz(6.5 dBd), Omni, 200 Watts  
**UVS-100B** VHF:144-148MHz (4.5 dBd) / UHF:440-450MHz(6.5 dBd), Omni, 200 Watts

### 2 Section - Fiberglass Base Antenna

**UVS-200A** VHF:144-148MHz (6.0 dBd) / UHF:430-440MHz(8.0 dBd), Omni, 200 Watts  
**UVS-200B** VHF:144-148MHz (6.0 dBd) / UHF:440-450MHz(8.0 dBd), Omni, 200 Watts  
**VH-2202** VHF 136-174MHz, Omni, 6.7 dBd Gain, 200 Watts

### 3 Section - Fiberglass Base Antenna

**UVS-300A** VHF:144-148MHz (8.3 dBd) / UHF:430-440MHz(11.7 dBd), Omni, 200 Watts  
**UVS-300B** VHF:144-148MHz (8.3 dBd) / UHF:440-450MHz(11.7 dBd), Omni, 200 Watts

Model	Frequency	Gain	Imped.	Max.Power	VSWR	Mast Diameter Accepted	Connector	Length (Meters)	Description
VH-2201	136 - 174 MHz	4.5 dBd	50Ω	200W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	1.70M	1-Sec. Fiberglass
VH-2202	136 - 174 MHz	6.7 dBd	50Ω	200W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	3.65M	2-Sec. Fiberglass
UH-2401A	400 - 470 MHz	6.5 dBd	50Ω	200W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	1.50M	1-Sec. Fiberglass
UH-2401B	430 - 490 MHz	6.5 dBd	50Ω	200W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	1.50M	1-Sec. Fiberglass
BS-150	136 - 174 MHz	6.0 dBd	50Ω	200W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	3.40M	4-Sec. Fiberglass
BS-450	406 - 512 MHz	5.0 dBd	50Ω	200W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	1.10M	4-Sec. Fiberglass
UVS-100A	144-148 / 430-440	4.5 / 7.2 dBd	50Ω	200W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	1.85M	1-Sec. Fiberglass
UVS-100B	144-148 / 440-450	4.5 / 7.2 dBd	50Ω	200W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	1.85M	1-Sec. Fiberglass
UVS-200A	144-148 / 430-440	6.0 / 8.0 dBd	50Ω	200W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	2.50M	2-Sec. Fiberglass
UVS-200B	144-148 / 440-450	6.0 / 8.0 dBd	50Ω	200W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	2.50M	2-Sec. Fiberglass
UVS-300A	144-148 / 430-440	8.3 / 11.7 dBd	50Ω	200W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	5.20M	3-Sec. Fiberglass
UVS-300B	144-148 / 440-450	8.3 / 11.7 dBd	50Ω	200W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	5.20M	3-Sec. Fiberglass
TS-10	52/146/445 MHz	3.5 / 6.2 / 8.6 dBd	50Ω	150W	≤ 1.5	30-62 Ømm	UHF Jack(SO-239)	2.40M	2-Sec. Fiberglass

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## Mobile Antenna Mount & Accessories

Wireless Communication Antenna Expert Since 1981



## Mobile Antenna Mount & Accessories

Wireless Communication Antenna Expert Since 1981

### Antenna Mount w/ Cable

**AM-100**  
3/8" x 24T Type 3.5" Magnetic Mount, Black Plastic Cover, 14FT. (or 17FT.) RG-58U Cable W/ PL-259

**AM-101**  
3.5" SO-239 Type Magnetic Mount, Black Plastic Cover, 14FT. (or 17FT.) RG-58U Cable W/ PL-259

**AM-1023** 3" Cover  
**AM-1024** 4" Cover  
**AM-1025** 5" Cover

**AM-1034** 3" Cover  
**AM-1035** 5" Cover

**AM-106**  
5"(134mm) Black Plastic Cover UHF Female (SO-239) Type Heavy Duty Magnet Mount W/Protective Rubber Boot 14FT. RG-58/U Coaxial Cable + PL-259

**AM-107**  
3/8" X24T Type 5" Magnetic Mount Chrome Metal Cover, 17FT. RG-58U Cable W/ PL-259

**AM-109** BNC Jack on the Mount  
**AM-110** SMA Jack on the Mount  
1.5" Mini. Magnet Antenna Mount 2.5M RG-174A/U Cable + BNC (SMA) Plug. Adopts Super Strong Rare Earth Magnet

**AM-203**  
16mm Hole, S.S. Trunk-Lip Mount

**AM-204**  
16mm Hole, S.S. Trunk-Lip Mount

**AM-205**  
16mm Hole, S.S. Trunk-Lip Mount

**AM-209**  
NMO Type Trunk-Lip Mount, 14FT. RG-58U Coax. W/ PL-259

**AM-210**  
SO-239 Type Trunk-Lip Mount, 14FT. RG-58U Cable W/ PL-259

**AM-204-7-C**  
NMO Adjustable Trunk Lip Antenna Mount & 17FT RG-58U Cable W/ PL-259

**AM-204-7-LA**  
SO-239 UHF Adjustable Trunk Lip Antenna Mount & 17FT RG-58U Cable W/ PL-259

**AM-204-7-SM**  
3/8" x 24T Stud Adjustable Trunk Lip Antenna Mount (For 5/8" Hole Mount) & 17FT. RG-58 Cable W/ PL-259

**AM-302A** 3-Way Aluminum Mirror Mount, Ø16mm Hole With 2" Screws.  
**AM-302B** 3-Way Aluminum Mirror Mount, Ø16mm Hole With 1-1/2" Screws.  
**AM-302C** 3-Way Aluminum Mirror Mount, Ø12.7mm Hole With 1-1/2" Screws.

**AM-303MRB-UM** w/ PL-259  
**AM-303MRB-FME** w/ FME Female  
**AM-303MRB-NC** w/o Connector

**AM-207A-14** W/ 14FT. Cable  
**AM-207A-17** W/ 17FT. Cable  
3/4" NMO Brass Mount, Plastic Cover & RG-58U Cable W/ PL-259

**AM-207B-14** W/ 14FT. Cable  
**AM-207B-17** W/ 17FT. Cable  
3/8" NMO Brass Mount, Plastic Cover & RG-58U Cable W/ PL-259

**AM-207AN-14** W/ 14FT. Cable  
**AM-207AN-17** W/ 17FT. Cable  
3/4" NMO Nickel Plated Mount, Plastic Cover & RG-58U Cable W/ PL-259

**AM-207BN-14** W/ 14FT. Cable  
**AM-207BN-17** W/ 17FT. Cable  
3/4" NMO Nickel Plated Mount, Plastic Cover & RG-58U Cable W/ PL-259

**AM-207C-14** W/ 14FT. Cable  
**AM-207C-17** W/ 17FT. Cable  
For 5/8" Mounting Hole NMO Right Angle Antenna Mount RG-58U Cable W/ Molded PL-259 Plug

**AM-207D-5-8**  
For 5/8" Mounting Hole 3/8" x 24T Stud Right Angle Antenna Mount, 17FT RG-58 W/ PL-259

**AM-207-LA**  
For 5/8" Mounting Hole SO-239 UHF Right Angle Antenna Mount, 17FT. RG-58 W/ PL-259

**AM-207MU** W/ 14FT. Cable  
**AM-207MU-17** W/ 17FT. Cable  
3/4" NMO Hole Mount, RG-58U W/ Mini UHF Plug

**AM-550**  
SMA Clip Mount, 4FT. RG-174A/U Coax Cable W/ SMA Plug

**AM-551**  
BNC Clip Mount, 4FT. RG-174A/U Coax. Cable W/ BNC Plug

**AM-701**  
3/8" x 24T Pillar Side Mount W/ Metal Plate & Hardwares.

**AM-601S** 3" Locking Plate, SO-239 Connection.  
**AM-601L** 3" Locking Plate, LUG Termination.  
**AM-602S** 3.5" Locking Plate, SO-239 Connection.  
**AM-602L** 3.5" Locking Plate, LUG Termination.

**AM-207MU** W/ 14FT. Cable  
**AM-207MU-17** W/ 17FT. Cable  
3/4" NMO Hole Mount, RG-58U W/ Mini UHF Plug

**AM-550**  
SMA Clip Mount, 4FT. RG-174A/U Coax Cable W/ SMA Plug

**AM-551**  
BNC Clip Mount, 4FT. RG-174A/U Coax. Cable W/ BNC Plug

**AM-701**  
3/8" x 24T Pillar Side Mount W/ Metal Plate & Hardwares.

**AM-800**  
SMA Type Window Mount, 8FT. RG-174A/U Cable W/ SMA Plug

**AM-801**  
BNC Type Window Mount, 8FT. RG-174A/U Cable W/ BNC Plug

**RM-10**  
Hand Radio Mounting Bracket W/ Foam Pad, Spring Loaded, Quick/Easy Installation.

**AS-1** 0.200" Hole For Whips Up To 102".  
**AS-2** 0.100" Hole For Whips Up To 60".  
**AS-3** 0.125" Hole For Whips Up To 80".

**SM-1**  
3/8"x24T To SO-239 Adaptor

**SM-2**  
3/8 x24T To Terminal Adaptor

**SM-1L**  
RIGHT ANGLE ANTENNA ADAPTOR 3/8"x24 Thread To SO-239 UHF Jack, Great For Those Cramped Areas.

**CHROME BRASS ANTENNA FERRULE FASTENED WITH SET SCREW, 3/8" x 24THREADING STUD.**

**Antenna Trunk Hole Mount, SO-239 Connection, 3/8" x24T Fitting.**  
**HDM-1B** Black Cover  
**HDM-1G** Gray Cover

**AM-1102**  
DUAL 3-WAY ALUMINUM ANTENNA MOUNT  
With One SM-1 Stud and One Down Stud For Ground, Mounts On Mast Up To 1 1/8" Diameter For 2 Mobile Antenna.  
One Side: SO-239 To 3/8-24T Mount Hole  
One Side: 3/8-24T Mount Hole

**AM-1103**  
DUAL 3/8"-24, ALUMINUM DIPOLE MOUNT, W/ Connecting Plate  
Mounts On Mast Up To 1 1/4" Diameter For 2 Mini Dipole Antenna  
One Side: SO-239 To 3/8-24T Mount Hole  
One Side: 3/8-24T Mount Hole

**NEW**

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**NMO Coaxial Cable Kits**

Wireless Communication Antenna Expert Since 1981

**3/4" Nickel Plated Zinc NMO Mount Up to 5G (W/O UHF Connector)**  
**High Frequency 14Ft. / 17Ft. RG-58U Coaxial Cable with Connector**



Model No.	Cable / Connector
AM-211-14-PL (UF)	14Ft. RG-58U w/ UHF (Male / Female)
AM-211-14-NM (NF)	14Ft. RG-58U w/ N Type (Male / Female)
AM-211-14-BM (BF)	14Ft. RG-58U w/ BNC (Male / Female)
AM-211-14-TM (TF)	14Ft. RG-58U w/ TNC (Male / Female)
AM-211-14-FM (FF)	14Ft. RG-58U w/ FME (Male / Female)
AM-211-14-SAM (SAF)	14Ft. RG-58U w/ SMA (Male / Female)
AM-211-14-C	14Ft. RG-58U no Connector

Model No.	Cable / Connector
AM-211-17-PL (UF)	17Ft. RG-58U w/ UHF (Male / Female)
AM-211-17-NM (NF)	17Ft. RG-58U w/ N Type (Male / Female)
AM-211-17-BM (BF)	17Ft. RG-58U w/ BNC (Male / Female)
AM-211-17-TM (TF)	17Ft. RG-58U w/ TNC (Male / Female)
AM-211-17-FM (FF)	17Ft. RG-58U w/ FME (Male / Female)
AM-211-17-SAM (SAF)	17Ft. RG-58U w/ SMA (Male / Female)
AM-211-17-C	17Ft. RG-58U no Connector

**3/8" Nickel Plated Zinc NMO Mount Up to 5G (W/O UHF Connector)**  
**High Frequency 14Ft. / 17Ft. RG-58U Coaxial Cable with Connector**



Model No.	Cable / Connector
AM-215-14-PL (UF)	14Ft. RG-58U w/ UHF (Male / Female)
AM-215-14-NM (NF)	14Ft. RG-58U w/ N Type (Male / Female)
AM-215-14-BM (BF)	14Ft. RG-58U w/ BNC (Male / Female)
AM-215-14-TM (TF)	14Ft. RG-58U w/ TNC (Male / Female)
AM-215-14-FM (FF)	14Ft. RG-58U w/ FME (Male / Female)
AM-215-14-SAM (SAF)	14Ft. RG-58U w/ SMA (Male / Female)
AM-215-14-C	14Ft. RG-58U no Connector

Model No.	Cable / Connector
AM-215-17-PL (UF)	17Ft. RG-58U w/ UHF (Male / Female)
AM-215-17-NM (NF)	17Ft. RG-58U w/ N Type (Male / Female)
AM-215-17-BM (BF)	17Ft. RG-58U w/ BNC (Male / Female)
AM-215-17-TM (TF)	17Ft. RG-58U w/ TNC (Male / Female)
AM-215-17-FM (FF)	17Ft. RG-58U w/ FME (Male / Female)
AM-215-17-SAM (SAF)	17Ft. RG-58U w/ SMA (Male / Female)
AM-215-17-C	17Ft. RG-58U no Connector

**3/8" or 3/4" Hole Brass NMO 1/2" Thick Roof Mount**  
**14Ft. / 17Ft. RG-58U Coaxial Cable with Connector**



Model No.	Cable / Connector
AM-217-14-PL (UF)	14Ft. RG-58U w/ UHF (Male / Female)
AM-217-14-NM (NF)	14Ft. RG-58U w/ N Type (Male / Female)
AM-217-14-BM (BF)	14Ft. RG-58U w/ BNC (Male / Female)
AM-217-14-TM (TF)	14Ft. RG-58U w/ TNC (Male / Female)
AM-217-14-FM (FF)	14Ft. RG-58U w/ FME (Male / Female)
AM-217-14-SAM (SAF)	14Ft. RG-58U w/ SMA (Male / Female)
AM-217-14-C	14Ft. RG-58U no Connector

Model No.	Cable / Connector
AM-217-17-PL (UF)	17Ft. RG-58U w/ UHF (Male / Female)
AM-217-17-NM (NF)	17Ft. RG-58U w/ N Type (Male / Female)
AM-217-17-BM (BF)	17Ft. RG-58U w/ BNC (Male / Female)
AM-217-17-TM (TF)	17Ft. RG-58U w/ TNC (Male / Female)
AM-217-17-FM (FF)	17Ft. RG-58U w/ FME (Male / Female)
AM-217-17-SAM (SAF)	17Ft. RG-58U w/ SMA (Male / Female)
AM-217-17-C	17Ft. RG-58U no Connector

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**CB Power Cord**

Wireless Communication Antenna Expert Since 1981



**CB-2** 2-Pin Molded Plug To Tinned End  
**CB-2P** 2-Pin Molded Plug To Cig. Plug  
**5FT 20AWG 2-WIRE CB POWER CORD W/ INLINE FUSE HOLDER (2A Fuse)**



**CB-3-2A** 20AWG Wire, 3-Pin Molded Plug To Tinned End  
**CB-3P** 20AWG Wire, 3-Pin Molded Plug To Cig. Plug  
**5FT 2-WIRE CB POWER CORD W/INLINE FUSE HOLDER (2A Fuse)**  
**CB-3-3A** (3A Fuse Available)  
**CB-3A** 16AWG Wire, 3-Pin Molded Plug To Tinned End  
**CB-3AP** 16AWG Wire, 3-Pin Molded Plug To Cig. Plug  
**5FT 2-WIRE CB POWER CORD W/INLINE FUSE HOLDER (4A Fuse)**

**Microphone Cable / Connectors**



**MC4-4** 4FT Mic Cable With 4pin Plug & Jack  
**MC6-4** 4FT Mic Cable With 6pin Plug & Jack  
**MC8-4** 4FT Mic Cable With 8pin Plug & Jack



**METAL FEMALE MIC. PLUG**  
 C-2 (2-PIN), C-3 (3-PIN), C-4 (4-PIN),  
 C-5 (5-PIN), C-6 (6-PIN), C-7 (7-PIN),  
 C-8 (8-PIN)



**MALE PANEL MIC. JACK**  
 C-2P (2-PIN), C-3P (3-PIN), C-4P (4-PIN),  
 C-5P (5-PIN), C-6P (6-PIN), C-7P (7-PIN),  
 C-8P (8-PIN)

**MC6-10** 10FT 6-Wire(5c+1s) CB MIC. Spring Cable, Dull Finish.

**MC8-6** 6FT 8-Wire(7c+1s) CB MIC. Spring Cable, Dull Finish.

**MC8-10** 10FT 8-Wire(7c+1s) CB MIC. Spring Cable, Dull Finish.



**RIGHT ANGLE FEMALE MIC. PLUG**  
 C-4R (4-PIN), C-5R (5-PIN)



**BRASS EXTENSION MALE MIC. JACK**  
 C-2E (2-PIN), C-3E (3-PIN), C-4E (4-PIN),  
 C-5E (5-PIN), C-6E (6-PIN), C-7E (7-PIN),  
 C-8E (8-PIN)



**RIGHT ANGLE FEMALE MIC. PLUG WITH RUBBER BOOT**  
 C-2RB (2-PIN), C-3RB (3-PIN), C-4RB (4-PIN),  
 C-5RB (5-PIN), C-6RB (6-PIN), C-7RB (7-PIN),  
 C-8RB (8-PIN)



**OP-ICOM6CLA**  
 2-Pin T-Male DC Power Connector To Cig. Plug  
**ICOM 6FT 14AWG 2-WIRE CB POWER CORD W/ INLINE FUSE HOLDER (15A Fuse)**



**OP-ICOM10HWP**  
 2-Pin T-Male DC Power Connector To Tinned End  
**ICOM 10FT 14AWG 2-WIRE CB POWER CORD W/ INLINE FUSE BOX (15A Fuse) (15cm To The Fuse Box)**



**OP-KEN6CLA**  
 2-Pin Kenwood NX Connector To Cig. Plug  
**KENWOOD 6FT 14AWG 2-WIRE CB POWER CORD W/ INLINE FUSE HOLDER (15A Fuse)**



**OP-KEN10HWP**  
 2-Pin Kenwood NX Connector To Tinned End  
**KENWOOD 10FT 14AWG 2-WIRE CB POWER CORD W/ INLINE FUSE BOX (15A Fuse) (15cm To The Fuse Box)**



**OP-N6CLA**  
 Cigarette Lighter to Cut End  
**6FT 14AWG 2-WIRE CB POWER CORD W/ INLINE FUSE HOLDER (15A Fuse)**

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## Cable Hand Tools

Wireless Communication Antenna Expert Since 1981

**CXT-S901A**  
**CXT-S902A**



### CXT-S901A

3 Blade Stripper for RG-8 / RG-11 / RG-213 / LMR400



### CXT-S902A

3 Blade Stripper for RG-6 / RG-58 / RG-59 / RG-62



**CXT-S903A**



### CXT-S903A

Cutter for cable RG-58/ RG-59/ RG-6 Max. 16mm<sup>2</sup> cable with a steel center conduct.

**CXT-S904A**



### CXT-S904A

Cutter for Copper / Alumin. / RG-58 / RG-59 / RG-6/ RG-7 / RG-11 cables. Max. Ø13.2mm.



### CXT-C101A

8.7" Ratchet Coaxial Hex Crimper for RG-58/ RG-59/ RG-8/ RG-11/ RG-62/ RG-213/ LMR240/ LMR400



### CXT-C130A

8.7" Ratchet Coaxial Hex Crimper for RG-58/ RG-59/ RG-62/ RG-174 Fiber Optic



### CXT-380

Automatic Wire Stripper precise wire stripper for AWG 16-8 (JIS 1.25 / 2.0 / 3.5 / 5.5 / 8 mm<sup>2</sup>)



**Precisely Machined Notes**  
Precisely strip to remove insulation without damage.

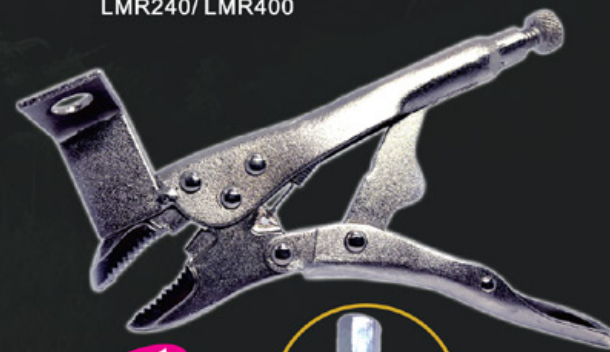
**Fast Compound Wire Stripping Action**  
Precise, Quick and Force Saving.

**SPCC Blade**  
Made by SPCC, more durable.



### CXT-C102A

9" Heavy Duty Ratchet Crimper for RG-58/ RG-6/ RG-11/ RG-213/ LMR240/ LMR400



**NEW**

### VG-SM1

Vice Grip Antenna Mount with 3/8"-24 Stud to SO-239 (OPEK Model: SM-1)



## Communication Speaker

Wireless Communication Antenna Expert Since 1981

### 7-16

#### DELUXE COMMUNICATION SPEAKER

- 2-1/2" Mylar Cone Mini Speaker
- Stylish High-heat Resistant Plastic Cabinet
- Metal Mesh for Max. Sound Dispersion
- 3 Watts Nom. / 5 Watts Max. Power
- Impedance : 8 Ohms (7-16A : 4 Ohms Available)
- Cabinet Size : 83(W) x 83(H) x 60(D)mm
- 6 Ft. Shielded Cable with 3.5mm Right Angle Plug
- With Swivel Bracket, Knobs & Hardware



### 7-17

#### DELUXE COMMUNICATION SPEAKER

- 2-1/4" Mylar Cone Mini Speaker
- Stylish High-heat Resistant Plastic Cabinet
- Metal Mesh for Max. Sound Dispersion
- 3 Watts Nom. / 5 Watts Max. Power
- Impedance : 8 Ohms (7-17A : 4 Ohms Available)
- Cabinet Size : 80(W) x 66(H) x 53(D)mm
- 6 Ft. Shielded Cable with 3.5mm Right Angle Plug
- With Magnetic Swivel Bracket, Knobs & Hardware



### 7-23

#### DELUXE COMMUNICATION SPEAKER

- 2-1/4" Mylar Cone Mini Speaker
- Stylish High-heat Resistant Plastic Cabinet
- Metal Mesh for Max. Sound Dispersion
- 3 Watts Nom. / 5 Watts Max. Power
- Impedance : 8 Ohms (7-23A : 4 Ohms Available)
- Cabinet Size : 73(W) x 68(H) x 30(D)mm
- 6 Ft. Shielded Cable with 3.5mm Right Angle Plug
- With Magnetic Swivel Bracket, Knobs & Hardware



### 7-24

#### DELUXE COMMUNICATION SPEAKER

- 2-1/4" Mylar Cone Mini Speaker
- Stylish High-heat Resistant Plastic Cabinet
- Special Mesh for Max. Sound Dispersion
- 3 Watts Nom. / 5 Watts Max. Power
- Impedance : 8 Ohms (7-24A : 4 Ohms Available)
- Cabinet Size : 80(W) x 74(H) x 48(D)mm
- 6 Ft. Shielded Cable with 3.5mm Right Angle Plug
- With Swivel Click Bracket, Knobs & Hardware



### 7-26

#### DELUXE COMMUNICATION SPEAKER

- 3" Mylar Cone Mini Speaker
- Stylish High-heat Resistant Plastic Cabinet
- Metal Mesh for Max. Sound Dispersion
- 5 Watts Nom. / 8 Watts Max. Power
- Impedance : 8 Ohms (7-26A : 4 Ohms Available)
- Cabinet Size : 105(W) x 92(H) x 50(D)mm
- 6 Ft. Shielded Cable with 3.5mm Right Angle Plug
- With Swivel Bracket, Knobs & Hardware



### 7-26P

#### DELUXE COMMUNICATION SPEAKER

- 3" Mylar Cone Mini Speaker
- Stylish High-heat Resistant Plastic Cabinet
- Plastic Mesh & Cabinet
- 5 Watts Nom. / 8 Watts Max. Power
- Impedance : 8 Ohms (7-26PA : 4 Ohms Available)
- Cabinet Size : 105(W) x 92(H) x 50(D)mm
- 6 Ft. Shielded Cable with 3.5mm Right Angle Plug
- With Swivel Bracket, Knobs & Hardware



### 7-30

#### DELUXE COMMERCIAL COMMUNICATION SPEAKER WITH NOISE CANCELLING & MUTE/ATTENUATOR

- Noise Cancelling for Clear Communication
- Mute (Attenuator): -8dB
- 3" Paper Cone High Performance Speaker
- Stylish High-heat Resistant Plastic Cabinet
- Metal Mesh for Max. Sound Dispersion
- 5 Watts Nom. / 8 Watts Max. Power
- Impedance : 8 Ohms (7-30A : 4 Ohms Available)
- Cabinet Size : 110(W) x 90(H) x 40(D)mm
- 6 Ft. Shielded cable with 3.5mm Right Angle Plug
- With Magnetic Swivel Bracket, Knobs & Hardware



### TH-55FP (8 Ohms)

#### 5" PLASTIC HORN SPEAKER

- Max. Input Power: 12 Watts
- Crisp Sound Reproduction
- Ideal for CB, PA & Security System
- Adjustable Mounting Bracket
- 10 Ft. Cord with 3.5mm Right Angle Plug

**NEW**

### 7-36

#### WATERPROOF COMMUNICATION SPEAKER (w/ Volume and Power Control)

- Impedance : 8 Ohms
- 10 Watts Nom. / 15 Watts Max. Power
- Voltage : 12V
- IP Rating: Ip67
- Cabinet Size : 125(W) x 125(H) x 59(D)mm
- 6 Ft. #18 Power Cord with 3.5mm Mono Plug



PRODUCTS MADE IN TAIWAN

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## Lightning Protected Coax Switches

**ALPHA DELTA**

### 4 Position Switch Delta-4B



This lightning protected 4 position RF coax switch uses the Alpha Delta ARC-PLUG® cartridge to protect your equipment from electrical surges. The exclusive center "off" (ground) position internally disconnects and grounds all antenna circuits. It has a diecast housing with constant impedance micro-strip cavity construction. Features a positive detent roller bearing switch drive. Handles full legal power. Delta-4/N for type "N" connectors. The Delta-4 handles frequencies through 500MHz and the Delta-4/N through 1.3GHz.

**HRO Price: \$134.95; Type N: \$144.95.**

### 2 Position Switch Delta-2B

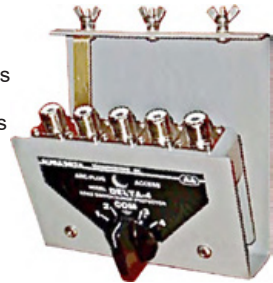


This 2 position coax switch has the same features as the Delta-4. Order UHF, or type "N" connectors for low-loss performance through 1.3GHz.

**HRO Price: \$114.95; Type N: \$124.95.**

### Antenna Selector Console Desktop Coax Switch

This series retains all the features and specifications of the precision DELTA-4B series, including ARC-PLUG® module surge protection, in a desk top console that will sit right next to the equipment on your desk without having to be secured or bolted down. The console features a powder-coated steel housing and a solid brass ground buss, with #10 wire attachment hardware across the rear of the housing providing a common ground point for all station equipment and accessories.



**Model ASC-4B** Antenna Selector Console Switch (4 position, UHF Connectors thru 500 MHz). **HRO Price: \$199.95**

**Model ASC-4B/N** Antenna Selector Console Switch (4 position, N Connectors thru 1.3 GHz). **HRO Price: \$209.95**

**ALPHA DELTA**  
Surge Protector



The ATT3G50 coaxial surge protector was designed for the cellular, microwave point-to-point, and the broadband wireless industry. These products feature very low loss performance through 3GHz for 50N models and 500MHz for 50U models. Typical loss is 0.1dB at 1GHz through 0.5dB at 3GHz. This series represents the lowest loss broadband design in the industry. Choose connector: type "N" (50N models) or "UHF" (50U models).

The Defense Logistic Agency (DLA) has assigned National Stock Number (NSN) 01 5470278 to the Model TT3G50 Coax Surge Protector and NSN 5325 01 5466841 to the 3G50 ARC-PLUG® Cartridge for use in all US Military and NATO applications, worldwide.

- ATT3G 50N**  
200W – 3.0GHz, Type N..... **\$78.95**
- ATT3G 50NHP**  
2kW – 3.0GHz, Type N..... **\$78.95**
- ATT3G 50U**  
200W – 500MHz, UHF ..... **\$68.95**
- ATT3G 50UHP**  
2kW – 500MHz, UHF ..... **\$68.95**

## HF Antenna Switches



**DAIWA**

### 2 Position Coax Switch



**CS-201A**

Daiwa has two heavy-duty coaxial switches. Model A (SO-239 connectors) is usable to 500 MHz, model GII (N connectors) is usable to 1.3GHz. The unused positions are grounded.

**HRO Price CS-201A (SO-239): \$42.95**  
**HRO Price CS-201GII (N): \$64.95**

**DIAMOND**  
ANTENNA

### 2 Position Coax Switch



**CX-210A**

Diamond's heavy-duty wideband coax switch, the CX-210A, is a high quality 2 position coax switch with SO-239 connections. Like most Diamond products, this switch is very well built and durable. Two screws on the back allow you to mount the switch to a flat surface.

**HRO Price CX-210A (So-239): \$58.95**  
**HRO Price CX-210N (N): \$79.95**

## Ground Clamp



**Model  
UCGC**

The UCGC clamp mounts directly on a standard 5/8" copper ground rod. You can attach up to 4 Model ATT 3G50 series coax surge protectors. The ground clamp is made from solid copper and has stainless steel mounting hardware with 6 bolts, washers, and nuts. It includes an adjustable copper ground wire clamp for your station single point ground wire of up to 4 gauge in size.

**HRO Price: \$54.95**

## Lightning Protection

**PolyPhaser**  
CORPORATION

### Coaxial Impulse Suppressors

Hermetically-sealed voltage sensitive gas tubes and other components assure that surge voltages and currents will not reach your equipment.

### Flange Mounts HRO Price: \$94.95 - \$139.95



MODEL	FREQ RANGE	MAX POWER
IS-50 UX-C0	1.5-700	HF - 2kW
		VHF - 375 W
		UHF - 125 W
IS-50 NX-C0	1.5-700	HF - 2kW
		VHF - 375 W
		UHF - 125 W
IS-50 NX-C2	125.220	VHF - 375 W
w/N Connectors	220 - 700	UHF - 125 W
	700 - 1 GHz	SHF - 50 W

### Bulkhead Mounts HRO Price: \$94.95 - \$159.95



MODEL	FREQ RANGE	MAX POWER
IS-B50LN-CO-ME	1.5-400	HF - 2kW
		VHF - 375 W
		UHF - 125 W
IS-B50HN-CO	1.5-700	HF - 3kW
w/N Connectors		VHF - 500 W
		UHF - 200 W

## Coax-Seal



Coax-Seal will seal all types of coax fittings, baluns, antenna parts and connectors of any shape. Wrap Coax-Seal around the object you want to protect and then mold it into shape. Keeps moisture out of the coax fitting on antenna feed lines. Need to make a change? Just remove it and start over.

Seals and protects all types of cable, wire and connectors from moisture and corrosion. Adheres to all cable and wire hardware and cable jackets. Offers years of protection from the effects of weather. Stays flexible, hot or cold; easy to remove.  
**HRO Price: \$4.95/per roll**

## Baluns

**LDG**  
Electronics

200 watts  
1.8 to 30 MHz



- RBA-4:1 ..... Remote 4:1 ..... Balun \$29.95
- RBA-1:1 ..... Remote 1:1 ..... Balun \$29.95
- RU-1:1 ..... Remote 1:1 ..... Unun \$29.95
- RU-4:1 ..... Remote 4:1 ..... Unun \$29.95
- RU-9:1 ..... Remote 9:1 ..... Unun \$29.95

## RadioWavz

The RadioWavz baluns are designed to handle full legal power with a low SWR.



- 1:1 Air ..... B11a ..... \$39.95
- 1:1 Ferrite ..... B11f ..... \$54.95
- 1:1 Isolation ..... B11i ..... \$54.95
- 1:4 Voltage Ferrite ..... B14vf ..... \$59.95
- 1:4 Current Air ..... B14ca ..... \$54.95
- 1:4 Current Ferrite ..... B14cf ..... \$64.95
- 1:9 Balun Isolation TX .. B19tx ..... \$54.95

## Coax Wrap



CoaxWrap will provide your coax connections with outstanding protection from the weather. Just wrap the connection with the convenient roll. When you need access to the connection, the wrap removes easily. Available in red, white, blue, clear, and black.  
**HRO Price: \$7.95/ per roll**

**PALOMAR**  
ENGINEERS®

### CB-4-1500TS

The CB-4-1500TS balun is a 4:1 impedance transformer designed to step down balanced ladder line feed point impedances of 600-50 ohms to 150-16.7 ohms unbalanced coax at 1500 watts PEP from 1.8 to 61MHz. **HRO Price: \$119.95**

### CB-1-5000EB

The CB-1-5000EB current balun is used for dipole antennas to keep RF on the antenna and off the outside of the coax braid. Rated 5000 watts PEP from 1-61 MHz. **HRO Price: \$139.95**

### CMNF-500-50

Common mode coax noise filter rated at 500 watts PEP from 1-61 MHz with common mode attenuation up to 38dB. Not effective for noise from AC power lines or noise received directly by antenna.  
**HRO Price: \$69.95**

### CU-1-5000SO

The CU-1-5000SO is a high power unun used as a line isolator or feedline choke. SO-239 in/out connectors. Rated 5kW PEP 1.8-61MHz. If you run RTTY contests or digital modes at 1500W output, this is the unun you need for high duty cycles.  
**HRO Price: \$119.95**

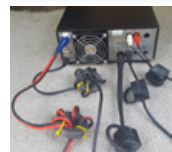
### CU-4-9-1500

Model CU-4-9-1500 is a 4:1 and a 9:1 Ruthroff unun with one side stud for 4:1 (200:50Ω), a top stud/eyebolt for 9:1 (450:50Ω) output, and a side stud for ground connection. Input power levels up to 1.5kW PEP when used with a matched load. A great multipurpose unun for end fed non-resonant antennas, traveling wave verticals, etc.  
**HRO Price: \$129.95**

# RFI SOLUTIONS/HF WIRE ANTENNAS



## Transceiver/Amplifier Kits



These RFI kits effectively suppress transmitter RFI and reduce common mode receiver noise. Quick installation - immediate RFI reduction. No radio mods required - works on all brands.

Part#	Desc	HRO Price
RFI-XCVR-STD	Single antenna port radio	\$39.95
RFI-XCVR-DELUXE	Multi-antenna port radio	\$89.95
RFI-LA-GAC	AC powered linear amps	\$54.95

## Electronic Device RFI Kits

Part#	Desc	HRO Price
RFI-WW-10	Wall wart noise filter	\$29.95
RFI-HTS	Audio/video home theater	\$69.95
RFI-COMPUTER	Laptop or desktop	\$49.95
RFI-SMPS	Switch mode power supply	\$29.95

## Ferrite Combo/Bulk Kits



Part#	Desc	HRO Price
FSB31-1/2-10	1/2" Snap on Qty: 10	\$59.95
F240-31-10	1.4" ID Ring Qty: 10	\$89.95
FSCP-31-22	1/4, 3/8, 1/2, 3/4 Snap on	\$94.95
FMSCP-31-10	1/4, 1/2, 3/4 Snap On	\$49.95
MRSCP-31-17	3/8, 1/2, 3/4 Snap On +1.4" ID Ring	\$94.95
FRCP-240-10	31-(4), 61-(3), 75-(3) Ring	\$119.95

## Antennas



**End Fed Antenna  
BAS-71**

One of the most popular antennas today is the end fed due to its ease of installation, portability and stealth in various installations. It can be a condo dweller's only access to the world of ham radio or the best alternative for a backpacking SOTA (Summits on the Air) mountaintop expedition.

The antenna is simple to deploy, folds up easily for transport, and weighs under a pound. Yet, with the 71 foot included wire, it can work the 80-10 meter bands easily with the built in antenna tuner of most current day transceivers.

The key to the antenna's success is the matching network interface between the long wire antenna and the coax feed line to the transceiver. Palomar Engineers employs a dual core matching system that offers wide bandwidth (1.8-61MHz), 500 watt PEP rating, and a connection for a counterpoise or ground if desired, and an SO-239 female coax connector for easy attachment of coax cable (50 or 75 ohm is ok).

The antenna can be used as a sloper, "L" with a vertical section and a longer horizontal section, or as a random horizontal antenna between two trees or supports.



**Dual Wire Counterpoise Kit**

**Feed Line Choke**



Includes 71 foot antenna for 80-6 meters, dual wire counterpoise kit and a feed line choke all in one convenient package (great for HOA restricted areas, camping and portable operations).



**Off Center Fed Antenna  
PAL-OCF8010-1500**

Super convenient and quick - great for contest operation! Choose 1500 or 5000 watt PEP (use 5kW model for digital modes over 1000 watts). Unlike other OCF antennas (at twice the price, and no WARC band or 15 Meter operation), you can transmit and receive on 12,15 and 17 meters with our OCF. Better engineering and lower price!

- Covers 80-40-20-17-15-12-10-6 meter ham bands
- Low SWR on most bands with little or no tuning
- 1.5kW PEP (SSB-ICAS)
- Stainless Steel hardware for long life
- Halyard Hoist for ease of installation
- Insulated #14 wire for durability, High Strength insulators
- 4:1 Balun and 1:1 Choke included in a single enclosure

For best results, support center at 30+ feet and ends over 15 feet. Angle of feed each side must be greater than 45 degrees or 120 - 180 degrees total between each side preferred. Any length of 50 ohm feed line ok but longer feed lines over 50 feet may show reduced SWR on some bands due to losses in feed line and soil conductivity, nearby objects, etc. Due to local ground conditions, antenna height and feed line length, SWR may vary from samples shown and an antenna tuner may be required on some bands to bring SWR at end of feed line to acceptable levels. Overall length is 134 feet.

## Balun

**1:1 Mini Choke  
MC-1-500-50**

Uses proprietary Multi-Mix, Multi-Core, Multi-Turn ferrite technology for maximum choking (up to -38dB common mode noise rejection) and maximum bandwidth. 500 watts PEP, 50 ohm SO-239 connectors Input and Balanced Output, 1-61 MHz (usable to 100MHz). 1:1 balun included in interface.

# LDG Electronics

For home, POTA, SOTA, or just going down the road...  
LDG has a tuner, unun, or balun that's right for you!



**RU-1:1 UNUN  
Common mode coax choke**



**RU-9:1 UNUN  
200W PEP EFLW antenna**



**RU-4:1 UNUN  
For matching verticals**



**RBA-1:1 BALUN  
Laddeline & long wires**



**RBA-4:1 BALUN  
Ladder line & long wires**



**AT-200PRO II  
1.8-54 Mhz desktop Auto Tuner  
Handles up to 250W SSB**



**Z-100Plus  
1.8-54 Mhz Portable Auto Tuner  
Perfect for the FT-891**



**Z-100A  
1.8-54 Mhz Portable Auto Tuner  
Icom interface cable included**

## Radiowavz

MODEL.....	PRICE	Dipoles with 1:1 Balun
G5RV Jr. ....	\$89.95	80 m 80-DP11.....\$99.95
G5RV Lite-E .....	\$129.95	40 m 40-DP11.....\$69.95
G5RV-E .....	\$109.95	20 m 20-DP11.....\$59.95
G5RV MAX-E .....	\$179.95	10 m 10-DP11.....\$54.95



**Double Bazooka**

FREQ.....	MODEL.....	PRICE
80 m.....	80-DBZ .....	\$119.95
75 m.....	75-DBZ .....	\$109.95
40 m.....	40-DBZ .....	\$74.95
20 m.....	20-DBZ .....	\$64.95
17 m.....	17-DBZ .....	\$59.95
10 m.....	10-DBZ .....	\$55.95
6 m.....	6-DBZ .....	\$54.95
2 m.....	2-DBZ .....	\$54.95



**RW705**  
The RW705 QRP antenna system has been designed and optimized to be used with the ICOM AH-705 auto coupler, providing broad band HF operations over the most diverse environments. 33' long. 33' long. Covers 3.5-50MHz. Other lengths available.  
**HRO Price: \$139.95**

## BUCKMASTER

### HF OCF Antennas

#### Off Center Fed (OCF) Antennas



Worldwide DX, multiband, and no tuner required.

**4-BAND: 40, 20, 10, & 6 meters**  
**68 feet (23+45) long.**  
DX-OCF-40..... 300 W .....\$279.95  
DX-OCF-HP40..... 3 kW .....\$379.95

**7-BAND: 80/75, 40, 20, 17, 12, 10, & 6 meters**  
**135 feet (45+90) long.**  
DX-OCF..... 300 W .....\$314.95  
DX-OCF-HP..... 3 kW .....\$419.95

**8-BAND: 160, 80/75, 40, 20, 17, 12, 10, & 6 meters**  
**270 Feet (90+180) long.**  
DX-OCF-160..... 300 W .....\$419.95  
DX-OCF-HP160..... 3 kW .....\$539.95

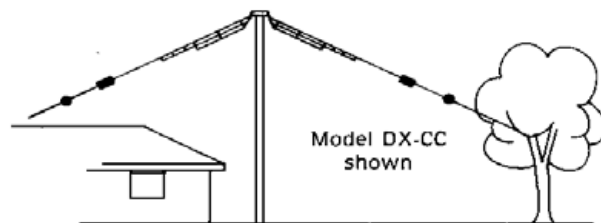
## ALPHA DELTA

### Limited Space Antennas

All of Alpha Delta's limited space antennas use stainless steel hardware where required, are fully assembled, and are manufactured to withstand severe weather. SO-239 connectors. The DX-A and DX-B slopers must be attached to a tower with an HF size beam on top to be a "capacity hat" for proper tuning. Power Rating: 1000 watts CW/PEP.

**Model DX-B** is a single wire, high performance quarter-wave sloper antenna for 160, 80, 40 & 30 meters. For limited space, the antenna requires only 60 feet for installation. Use with a wide range antenna tuner. Pre-assembled and pre-tuned. Has stainless steel hardware, 12 gauge insulated solid copper wire and the Alpha Delta "ISO-RES" RF choke coils, 50 ohm coax feed.  
**HRO Price: \$154.95**

**Model DX-A:** Quarter wave twin sloper for 160-80-40 meters. One leg is 67'; the other 55'. Installs as an inverted-V.  
**HRO Price: \$149.95**



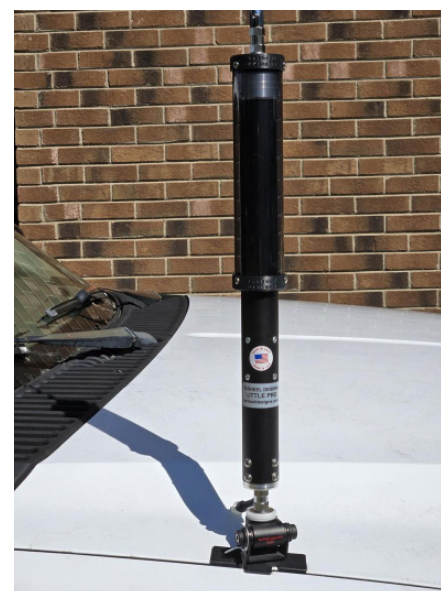
**Model DX-CC:** A no trap 80-40-20-15-10 meter dipole. 82' long.  
**HRO Price: \$204.95**

**Model DX-DD:** A no trap 80-40 meter dipole. 82' long.  
**HRO Price: \$174.95**

**Model DX-EE:** A no trap 40-20-15-10 meter dipole. Only 40' long.  
**HRO Price: \$189.95**

## Tarheel Designs, LLC

### 3.5-54MHz LITTLE PRO



The Little PRO is a small short base antenna that needs to be mounted high on the vehicle. The hood, door jamb, bed rail, or high hatch are all good places to mount this antenna. A simple mount will hold this antenna or any good lip style mount will work so long as it has a 3/8-24 stud.

The Little Pro Includes:

- Whip.
- Up/Down switch.
- 20' control cable.
- Snap-it ferrite.
- 3/8-24 stud.
- Lock washer.
- Two year warranty.

Specifications:

- Continuous 3.5 to 54Mhz frequency coverage.
- 300 watts PEP.
- Lower mast 16".
- Whip 30".
- Total length 6 meters position 48".
- Total length 80 meters position 54".
- 3/8- 24 mounting.
- Weight 2 lbs.

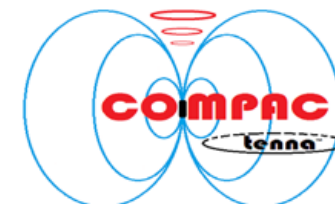
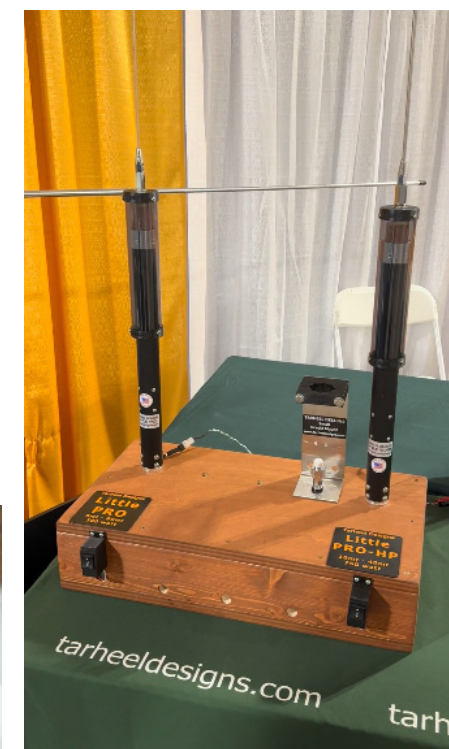


### 3.5-54MHz 100 PRO HP

The 100 PRO-HP is a heavy duty medium base length antenna, meaning it's made to be mounted at mid height on the vehicle like the bed of a truck or the hitch on a car or truck. Requires heavy duty mounting.

- Lower Mast Length -- 36"
- Lower Mast Diameter -- 2.125"
- Whip Length -- 66"
- Coil Diameter -- 2" -- 14ga 8TPI
- Frequency Coverage w/66" Whip -- 3.5 to 29MHz
- Power Rating -- 1500 Watts (CW,SSB) -- 400 Watts (AM,FM,Data,FT-8,JT-65)
- Total Length 29MHz -- 102"
- Total Length 3.5MHz -- 116"
- Sensor Pulses -- @1550
- 3/8-24 Mounting
- Weight -- 8.0 Lbs
- Triple Counting Sensor
- Double Roller Ball Thrust Bearing

**PROUDLY  
MADE IN  
AMERICA**



COMPACTenna is a family of patented, small antennas which require no tuning, yielding high performance. There are antennas for mobile allowing passage into garages and drive-thrus. There are models for home use that are perfect for condos and apartments.

### Mobile Antennas



The photo shows the 7" 2m/220/440 model on the left and the 9" Scanner Radio Antenna on the right.

Model	Height	HRO Price
2m/220/440	7"	\$148.95
2m/440	7"	\$138.95
2m/440 PLUS* For Maximum Gain on 2m & 70cm	9"	148.95
SCANNER	9"	\$148.95
LMR-1 Land Mobile Radio	9"	\$198.95

\*Check out the August 2022 issue of QST for a great review of the 2m/440 Plus!

### Base Antennas



Combine one of our antennas above with our Compac-Counterpoise adaptor and you now have a powerful base station antenna that fits almost anywhere. Available in SO-239 and N connectors.

**NEW 'PERFECT CB'  
& 'PERFECT 10' Antennas**

### Portable HF



#### CHA TDL

The Tactical Delta Loop antenna is a portable High Frequency (HF) antenna specially designed for transportability, quick setup, and a small footprint. It can operate on all amateur radio bands from 3.5 to 54.0 MHz (80-6m), but is most effective on the bands from 10.1 to 54.0MHz (30-6m).  
**HRO Price: \$449.95**

#### CHA MPAS 2.0

The Modular Portable Antenna System (MPAS 2.0) is a concept allowing the radio operator to configure and deploy the antenna system in a variety of configurations to suit the needs of the operator.  
**HRO Price: \$624.95**



#### CHA LEFS 8010

Lightweight End-Fed. Eight band, no-tuner, High Frequency (HF) antenna for use on the 80, 40, 30, 20, 17, 15, 12, and 10 meter Amateur Radio Service (ham) bands (60 meters with a tuner).  
**HRO Price: \$224.95**

#### CHA LEFS 4010

Lightweight End-Fed. This antenna operates across four bands -- 40, 20, 15, and 10 meters -- in the Amateur Radio Service (ham), expanding to seven bands with a tuner.  
**HRO Price: \$174.95**



#### CHA POCKET OCF40

The CHA OCF40 is a very lightweight and backpackable off center-fed, medium power antenna. Works without a tuner on the 40, 20, 10, and 6 meter Amateur Service Bands and with a tuner on 60, 30, 17, 15, and 12 meters.  
**HRO Price: \$89.95**

See More At:  
[chameleonantenna.com](http://chameleonantenna.com)



## VHF / UHF Base Antennas

### 2m Verticals

These easy-to-assemble verticals are made of aluminum and high-strength fiberglass. When disassembled the longest part is about 4'. Choose 3, 6, or 7 dB gain and the overall length that best suits your application.

#### G7-144

- Frequency range: 144-148MHz.
- Gain: 7dB.
- Bandwidth: 4MHz.

#### G6-144B

- Frequency range: 143-149MHz
- Gain: 6dB.
- Bandwidth: 6MHz

#### G3-144

- Frequency range: 144-148MHz.
- Gain: 3dB.
- Bandwidth: 4MHz.

### 220 & 440MHz Verticals

#### G7-220

The G7-220 is of similar design and construction as the G7-144. Fiberglass & aluminum.

- Frequency range: 220-225MHz.
- Gain: 7dB.
- Bandwidth: 5MHz.

#### G6-440

The G6-440 is of similar design and construction as the G6-270R. One piece radome.

- Frequency range: 440-450MHz.
- Gain: 6dB.
- Bandwidth: 10MHz.

### Repeater Antennas THE SPIRIT SERIES

Hustler's omnidirectional, collinear design base station antennas are enclosed in a rugged fiberglass radome that will help minimize pattern variations due to high winds or extreme conditions. Models are available for 144, 220, 440, 900MHz, and 1.2GHz. The gain will be unity, 3, 6, 9, or 12dB depending on the frequency.

Call HRO for quotes on custom frequencies.

### 2m/ 70cm Dual Band G6-270R

The G6-270R is a combination G6-144B and G6-440. It is factory tuned for quick and easy installation.

- Frequency range: 144-148MHz / 435-445MHz.
- Gain: 6dB.
- Bandwidth: 4MHz – 2 m / 10MHz – 70cm.
- One piece radome.
- VSWR: < 1.5:1 @ resonance.

## HF Base Antenna

### 6-BTV 10, 15, 20, 30, 40, 75 or 80m

### 5-BTV 10, 15, 20, 40, 75 or 80m

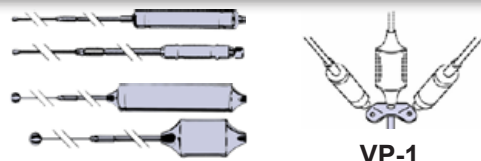
### 4-BTV 10, 15, 20, 40m

- Broadbanded, low VSWR at band edges.
- Power capability – full legal limit on SSB or CW.
- Solid one-inch fiberglass trap forms for optimum electrical and mechanical stability.
- Heavy wall, high strength aluminum tubing, heavy duty aluminum mounting bracket and low loss, high strength insulators.
- Stainless steel clamps and hardware.
- Easy assembly and tuning.
- Single line feed with any length of 50 ohm coax used as ground mount with or without radials, or elevated mount with radials.
- All the BTV's can be mounted in a piece of PVC and disguised as a flagpole in deed restricted neighborhoods.

### 30-MTK

30 meter add on kit for 4/5 BTV

## HF Resonators



VP-1

Customize your HF mobile system with Hustler products. Resonators may be used separately on one of the masts or up to three at a time with the VP-1. Add the QD-2, springs and mounts as needed for your installation.

Switch bands automatically with any three Hustler HF resonators. Adapts any Hustler mast to tri-band operation automatically.

## Hustler HF Resonators

Model	Type	Band	Power SSB	Bandwidth 2:1 SWR	Weight lb.
RM-10	STD	10M	400W	150-250KHz	0.41
RM-11	STD	11M	400W	150-250KHz	0.41
RM-12	STD	12M	400W	90-120KHz	0.41
RM-15	STD	15M	400W	100-150KHz	0.42
RM-17	STD	17M	400W	120-150KHz	0.44
RM-20	STD	20M	400W	80-100KHz	0.46
RM-30	STD	30M	400W	50-60KHz	0.84
RM-40	STD	40M	400W	40-50KHz	0.84
RM-60	STD	60M	400W		
RM-75	STD	75M	400W	25-30KHz	1.05
RM-80	STD	80M	400W	25-30KHz	1.05
RM-10-S	Super	10M	1kW	250-400KHz	1
RM-15-S	Super	15M	1kW	150-200KHz	1.2
RM-20-S	Super	20M	1kW	100-150KHz	1.25
RM-40-S	Super	40M	1kW	50-80KHz	1.8
RM-75-S	Super	75M	1kW	50-60KHz	2.1
RM-80-S	Super	80M	1kW	50-60KHz	2.1

## Hustler Base Antennas

Model	Band	Gain	Connector	Height Ft.
G7-144	2 m	7 dB	N Female	16.3
G6-144B	2 m	6 dB	SO-239	9.8
G3-144	2 m	3 dB	SO-239	7.5
G7-220	1.25 m	7 dB	N Female	10.2
G6-440	70 cm	6 dB	N Female	7.3
G6-270R	2 m/70 cm	6 dB	N Female	7.6
6-BTV	10-30-80 m			24
5-BTV	10-80 m			25
4-BTV	10-40 m			21.4

## VHF/UHF Mobile Antennas

Model	Band	Gain	Power	Mount
LMC-270	2 m/70 cm	2.4/4	100	NMO
MX-270	2 m/70 cm	2.4/4	100	Mag
LMG-144	2 m	3.4	200	NMO
BBG-144	2 m	3.4	200	NMO
BBG-440-5	70 cm	5	200	NMO
BBGT-144	2 m	3.4	200	Trunk
MX-220	1.25 m	3.4	200	Mag
MX-2B	2 m	3.4	200	Mag
MX-440B	70 cm	3.4	200	Mag
SF-2	2 m	3.4	100	3/8 x 24
SF-220	1.25 m	3.4	100	3/8 x 24
RX-2	2 m	3.4	100	Mag
RX-220	1.25 m	3.4	100	Mag
RX-440	70 cm	5	100	Mag
CG-144	2 m	5.2	200	3/8 x 24
CG-220	1.25 m	5.2	200	3/8 x 24
THF	140-500	Unity	200	Trunk
UGM	140-500	Unity	25	Mag

## VHF / UHF Mobile Antennas

### Dual Band

Dual band models for 144/440 MHz give you 2.4dB / 4dB gain. The antennas are rated at 100 watts.

#### LMC-270

- NMO style coil.
- Chrome top.
- Coil and whip only.

#### MX-270

- NMO style magnetic mount.
- Chrome top.
- 17 ft RG58/U coax.
- PL-259 connector.

### Magnetic Mounts

Models for 144, 220, and 440MHz are power rated for 200 watts. Each has an NMO-style coil and a magnetic mount.

#### MX-2 ..... 144MHz ..... 3.4dB gain

#### MX-220 ... 220MHz ..... 3.4dB gain

- Chrome top.
- 10 oz magnet.
- 17 ft RG58/U coax.
- PL-259 connector.

#### MX-2B\* .... 144MHz ..... 3.4dB gain

#### MX-440-5B 440MHz.....5.0dB gain

- Same as above but all black coil

### Collinear

Collinear models for 144MHz and 220MHz provide 5.2dB gain. They are power rated for 200 watts. All have a swivel ball for vertical positioning.

#### CG-144 ..... 6MHz bandwidth

#### CG-220 ..... 4MHz bandwidth

- 3/8" x 24 thread.
- 5/8 over 1/4 wave.

### Unity Gain

An antenna to custom trim as needed for VHF or UHF frequencies. Covers 140-500MHz.

#### THF

Trunk Lip Mount

#### UGM

Magnet Mount



### Coil and Whip

Models for 144 or 440 MHz are power rated for 200 watts. NMO-style coil on each requires an NMO mount.

#### LMG-144 3.4dB gain

- Chrome top and bottom.
- Contact-silver painted push pin.

#### BBG-144 3.4dB gain

- Chrome top, swivel ball, and spring

#### BBGT-144 3.4dB gain

- Includes trunk mount
- 17 ft RG58/U coax
- PL-259 connector

### 5/8 Wave

Base-loaded 5/8 wave models for 144MHz, 220MHz, and 440MHz are power rated for 100 watts.

#### SF-2 ..... 144MHz ..... 3.4dB gain

#### SF-220 .. 220MHz ..... 3.4dB gain

- 3/8"x24 thread.
- Mount to any Hustler mount.

#### SF-2

#### RX-2 ..... 144MHz ..... 3.4dB gain

#### RX-220 .. 220MHz ..... 3.4dB gain

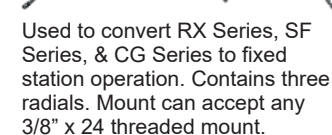
#### RX-440 .. 440MHz ..... 5.0dB gain

- 3 oz magnetic mount.
- 15 ft RG-58/U coax.
- PL-259 connector.

## Accessories

### Radial Kit MKR-2

Used to convert RX Series, SF Series, & CG Series to fixed station operation. Contains three radials. Mount can accept any 3/8" x 24 threaded mount.



Remove antennas easily with a push and twist release. Compression design of 100% stainless steel. 3/8" x 24 threads.

### Quick Disconnect QD-2

Remove antennas easily with a push and twist release. Compression design of 100% stainless steel. 3/8" x 24 threads.

## Mobile Mounts

• **BM-1** Bumper mount with stainless steel strap and 1" diameter ball with 3/8 x 24 threads.



• **C-29** Stainless steel 4" spring. Copper braided center conductor to prevent detuning.



• **MBM** Powerful 5" diameter magnet with 3/8 x 24 threads. 16' of RG58U coax with PL-259 connector.



• **C-30** Chrome plated 4" spring. Copper braided center conductor to prevent detuning.



• **SSM-1** Heavy duty ball mount with 4" stainless steel spring with copper braided center conductor to prevent detuning. 180 degree adjustable.



• **RSS-2** Stainless steel 3" spring. Used for mobile antennas between resonator and mast. Copper braided center conductor to prevent detuning. Accepts 3/8 x 24 antennas.

• **SSM-2** Heavy duty 2" diameter stainless steel ball mount. 180 degree adjustable. Accepts 3/8 x 24 antennas.



• **SSM-3** Heavy duty stainless steel 4" spring with 3/8 x 24 coupling stud. Copper braided center conductor to prevent detuning.



• **C-32** Chrome plated 1" ball mount. Accepts 3/8 x 24 antennas.



• **TLM** Trunk lip mount which accepts 3/8 x 24 antennas. RG58U coax with PL-259 connector.



All mounts below are supplied with 17' RG-58U cable.

CHMB

CHMA ..... 3/8" Hole mount without connector

CHMA-P

CHMA-P ..... 3/8" Hole mount w/crimp-on PL-259

CHMB

CHMB ..... 3/4" Hole mount without connector

CHMB-B

CHMB-B ..... 3/4" Hole mount w/crimp-on BNC

CMMA

CMMA ..... NMO 10 oz mag w/solder-on PL-259

CTMA

CTMA ..... NMO Trunk mount without connector

## Mobile Masts

### Fold-Over MO-1

Mobile mast 54" high for bumper, fender or hitch mounting. Folds over at 15" above base. 3/8 x 24 threaded.

### Fold-Over MO-2

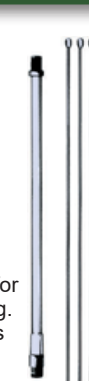
Mobile mast 54" high for bumper, fender or hitch mounting. Folds over at 27" above base. 3/8" x 24 threaded.

### Solid Mast MO-3

Mobile mast 54" high for bumper, fender or hitch mounting. Solid aluminum with white vinyl coating. 3/8 x 24 threaded.

### Solid Mast MO-4

Mobile mast 22" high for trunk or deck mounting. Three retuning tip rods included. 3/8" x 24 threaded.



## Log Periodic



**CLP5130-1N**

The CLP5130 antennas are high gain, wide band VHF/UHF log periodic beams for horizontally polarized base station use. Covers amateur bands from 50-1300MHz, FM broadcasting, scanning, VHF / UHF TV, air band communications, government and business bands.

Forward gain is 10 to 12dB - 10 to 16 times the gain of a non-directional discone type antenna. The VSWR is less than 2.0:1 across the band. The high-quality aluminum antennas have a boom design that allows movement of the phasing line. Distortions in the vertical and horizontal planes are minimized and element adjustment is not necessary. The boom-to-mast bracket is made of a lightweight and rugged magnesium alloy.

## Create Antennas

	CLP 5130-1N	CLP 5130-2N
Frequency	50-1300 MHz	108-1300 MHz
No. Elements	23	19
Power PEP	500 W	500 W
Forward Gain	10-12 dBi	10-12 dBi
Front/Back	15 db	15 db
Longest Element	9' 10"	4' 6"
Boom Length	5' 9"	4' 6"
HRO Price	\$479.95	\$369.95

## Discone Antennas



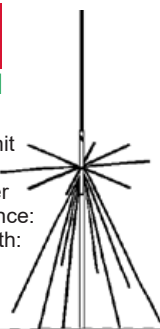
**AOR USA DA6000**

The AOR DA6000 is a rugged, high performance, commercial grade UHF discone receive antenna covering 700 to 6000MHz. Type N female connector.

**HRO Price: \$569.95**

## DIAMOND ANTENNA Super Wideband D-130J/NJ

Monitor 25-1300MHz. Transmit on 50, 144, 430, 1200MHz. All stainless steel. Input power 200 watts maximum. Impedance: 50 ohms. VSWR: 1.5:1. Length: 1.7 meters. Mounts on 1" to 2" masts. D-130 UHF and D-130NJ Type-N connector.



**HRO Prices: D-130J or D-130NJ \$129.95**

## C★MET Wideband RX/TX DS-150S



Extremely wideband scanner/receive antenna. Perfect for RX on 25MHz to 1300MHz. You can also TX on 6/2/220/440/900/1200MHz. Includes 65 feet of RG-58A/U coax with PL-259 connectors installed.

**HRO Price: \$149.95**

## Screwdriver Antenna



## PORTABLE SCREWDRIVER ANTENNA RHM12

Manually tuned. The operating frequency is 7-440MHz. Can be operated on 1.9/3.5MHz bands using the optional coils (not included). It is also possible to tune the emergency communication frequency (4650kHz) using the 3.5MHz optional coil (See coils below) (Japan Only). It is easy to adjust the frequency by the adjustment position scale. Approximately 2m rod element makes for high efficiency and band expansion. It is easy to lock the coils and is suitable for portable operation.

**HRO Price: \$179.95**

- Length: Approx. 23.6in - 9ft
- Weight: ~12.5oz
- Max Power Rating: 120W(SSB) 40W(FM/CW)
- Connector: UHF(PL-259)
- Finish: Black/Chrome

## COIL SET RHMC12

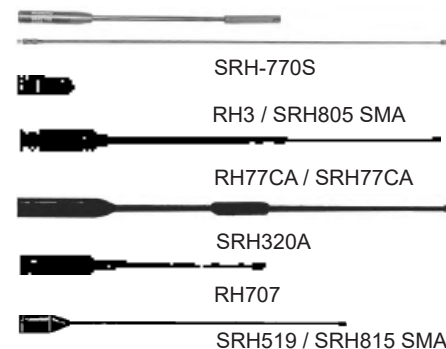
Optional 1.9 and 3.5Mhz Diamond RHMC12 coil set for Diamond RHM12 mobile antenna.

Can only be used in conjunction with the RHM12 antenna, which is not included.

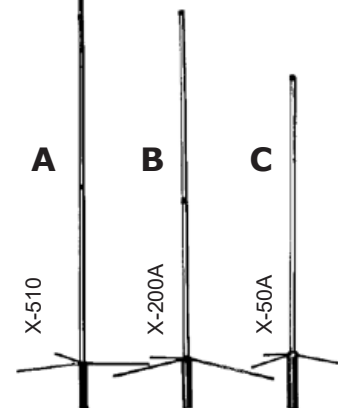
**HRO Price: \$99.95**

## Handheld Antennas

Upgrade the RX/TX performance of your HT. A definite improvement over the stock antenna.



- Wide-band performance
- Highest gain
- Fiberglass radome
- Factory adjusted
- DC grounded
- UPS shippable
- High wind rating
- Stainless hardware



1. 52-54MHz only.
2. 28/50MHz 400W PEP, 14/21MHz 400W PEP, 7MHz 200W PEP

## The Standard by Which All Others are Judged

### Base Antennas\*

Model	Bands	Gain, dB	watts	Connector Type	Weight (lb)	Length (ft)	MPH (no ice)	HRO Price
A502HB	6m Yagi 2 element	6.3 dBi	400 PEP	UHF	3.75	2.6		\$129.95
A144S5	2m Yagi 5 element	6.0 dBi	100 PEP	UHF	1.4	3.1		\$69.95
A430S10	70cm Yagi 10 element	13 dBi	100 PEP	UHF	1.4	3.6		\$99.95
A430S15	70cm Yagi 15 element	14.8 dBi	100 PEP	UHF	2.15	7.4		\$94.95
CP-22E	2m	6.5	200	UHF	3	9	90	\$72.95
CP-5HS (2)	40/20/15/10/6m		200	UHF	6.6	11.75	80	\$389.95
CP-62	6m	5.5 dBi	200	UHF	9	22	80	\$229.95
CP-610	10/6m	5.5/3.4 dBi	200	UHF	9	22	80	\$264.95
F-22A	2m	6.7	200	UHF	5	10.5	112	\$109.95
F-23H	144-174 tunable	7.8	350	UHF	5	15	90	\$179.95
F-718	70 cm	11.5	250	N	5	15	90	\$199.95
V2000A (1)	6m/2m/70cm	2.1/6.2/8.4	150	UHF	4	8.3	110	\$159.95
X-30A	2m/70cm	3.0/5.5	150	UHF	2	4.5	135	\$69.95
X-50A	2m/70cm	4.5/7.2	200	UHF	3	5.6	135	\$99.95
X-50NA	2m/70cm	4.5/7.2	200	N	3	5.6	135	\$99.95
X-200A	2m/70cm	6.0/8.0	200	UHF	4	8.3	112	\$129.95
X-300A	2m/70cm	6.5/9.0	200	UHF	4	10	112	\$144.95
X-300NA	2m/70cm	6.5/9.0	200	N	4	10	112	\$144.95
X-510HDM	2m/70cm	8.3/11.7	330/250	UHF	5	17.2	90	\$199.95
X-510HDN	2m/70cm	8.3/11.7	330/250	N	5	17.2	90	\$199.95
X-510NJ	144/430	8.3/11.7	200	N	5	17.2	90	\$209.95
X-6000A	2m/70cm/23cm	6.5/9.0/10.0	100	N	5	10	112	\$189.95
X-7000A	2m/70cm/23cm	8.3/11.7/13.7	100/60	N	5	16	80	\$219.95
BB7V	2-30 MHz		250	UHF	6	5/22	80	\$389.95
CP6AR	75/40/15/10/6m		200	UHF	9.9	15.1	80	\$459.95

All base antennas grounded for lightning protection. Factory adjusted for American amateur bands, no tuning required. \*Most longer base antennas require additional freight. This applies to ALL Diamond Base Antennas

## Handheld and Receiving Antennas

Model	Description	HRO Price
D-130J	Wideband discone 25-1500 MHz. 20 W Transmit 50-1300 MHz. 100 W 144-3000 MHz, No cable.	\$129.95
D-130NJ	Wideband discone 25-1500 MHz. 20 W Transmit 50-1300 MHz. 100 W 144-3000 MHz, No cable, Type N.	\$129.95
D-3000N	Wideband discone RX 25-3000 MHz, TX 50-1300 MHz 20 W 50 MHz, 20 W transmit 50 MHz. 100 W 144-1300 Mhz, 67" tall, Type N	\$154.95
RH-3	2m/70cm dual-band HT antenna. 1.75" BNC. 120-900 MHz receive	\$26.95
RH-77CA	High gain 2m/70cm dual-band HT antenna. Receive range to 900 MHz. BNC	\$22.95
RHF-10	144/440. Air band 6W. Receive only 150/300/450/800/900 MHz. BNC	\$22.95
RHF-40	Super flexible version of Model RH-77CA	\$27.95
SRHF-40	Super flexible 15" tail SMA 144/440 MHz HT antenna	\$26.95
RH-205	2m HT antenna, telescopic, 5/8 fully extended, 47.5"; 1/4 retracted, 9"	\$26.95
RH-519	2m/70cm slim dual-band HT antenna. Flexible. 8" BNC, 10 watts.	\$23.95
RH-707	2m/70cm dual-band, tiltable whip HT antenna. 8-1/4" BNC.	\$29.95
SRHF10	HT antenna, 144/440 MHz. Air Band 6W, SMA, Receive only 150/300/450/800/900 MHz	\$21.95
SRJF-10	144/440 MHz, Air Band 150/300/450/800/900 MHz (Receive only), 2.75", 6W, SMA(F) 1/4 wave length	\$21.95
SRJF-40	144/440 MHz HT/Scanner flexible antenna (Receive only), 16" tall. Reverse SMA connection.	\$26.95
SRH-519	2m/70cm slim dual-band HT antenna. Flexible. 8" SMA, 10 watts.	\$24.95
SRH-77CA	High gain 2m/70cm dual-band flexible HT antenna, SMA	\$22.95
SRH-770S/SRJ-770S*	2m/70cm, 10W max, SMA-P, 2m 3/8 wave 2.15dBi, 70cm 3/4 wave 4.5dBi	\$34.95
SRJ-77CA	Same as SRH-77CA for Wouxun, SMA. Reverse SMA.	\$24.95
SRH-229	For Alinco DJ-G29T. High gain, flexible whip, 13", 220-900 MHz, 10W, 4dB, SMA	\$29.95
SRH-320A/SRJ-320A*	2m/1-1/4m/70cm tri-band HT antenna. Flexible. 10 watts	\$46.95
SRH-789	Telescoping handheld antenna 95-110 MHz, 6 sections, folds at base	\$33.95
RH-789	Same as SRH-789 but BNC connector	\$32.95
SRH-805/SRJ-805*	2m/70cm/23cm tri-band HT antenna. 1.75" 10 watts.	\$26.95
SRH-815	2m/70cm/23cm tri-band HT antenna. Flexible. 6" SMA, 6 watts.	\$32.95
SRH-999	6m/2m/70cm/23cm quad-band HT antenna. Flexible. 21 1/4" SMA, 10 watts.	\$54.95

\* SRH = SMA version. SRJ = Reverse SMA version.

## Specialty Antennas

### High Power 2m/ 70cm

Dual-band mobile antenna. 300 watts (2m) and 250 watts (70cm). Use K400 and K600 series mounts. **NR7900A HRO Price: \$84.95**

### Quad Band FM

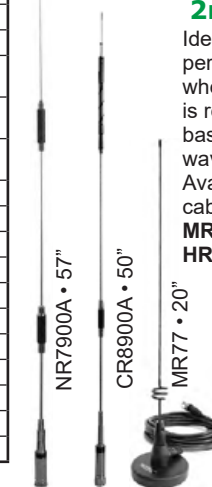
10m/6m/2m/70cm quad FM antenna for FT8900R radio or multi radio applications. Use K400 and K600 series mounts. **CR8900A HRO Price: \$114.95**

### 2m/ 70cm Mobile

Ideal antenna for increased performance of HT radio or where a compact antenna is required. Magnetic mount base. 1/4 wave (2m) and 1/2 wave (70cm), black finish. Available in UHF or SMA cable configuration. **MR77 / MR77SMA HRO Price: \$37.95**

### 2m/ 70cm Mobile NR-770HRKS

**HRO Price: \$114.95**



## SWL Antennas



## DX-SWL-S

Requires only a single elevated support 25' or higher. DX-SWLs Frequency Coverage: 90m (3.2-3.5MHz) 60m (4.75-5.0MHz) 49m (5.95-6.2MHz) 41m (7.1-7.3MHz) 31m (9.5-9.9MHz) 25m (11.65-12.05MHz) 21m (13.6-13.8MHz) 19m (15.1-15.6MHz) 16m (17.55-17.9MHz) 13m (21.45-21.85MHz) This antenna is a "no-trap" design using the same components and "ISO-RES" coil design as used in other Alpha Delta designs. Includes insulators, support rope and static electricity protector. Antenna is only 40 feet long.

**HRO Price: \$164.95**



**DX-SWL**

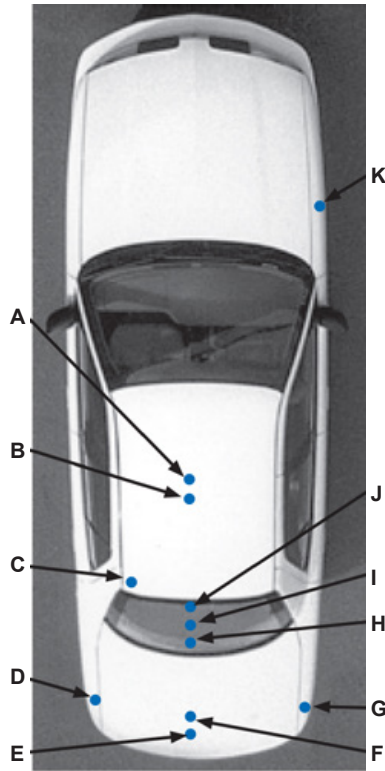
The DX-SWL is tuned for the most popular SWL bands (13, 16, 18, 19, 21, 25, 31, 41, 49, 90 and 120 meters). It can be used as a multi-band transmit antenna with the appropriate antenna tuner. Length is 60 feet. Requires a single support. Standard coax connects antenna to your radio. Feed point is 50 ohms. SO-239 connection. **HRO Price: \$164.95**





## Placement of Your Larsen Mobile Antenna

Placement of your Larsen Mobile Antenna is important to ensure proper performance. We recommend the following placement areas.



- A. MAGNETIC MOUNT**  
Center of roof.....-0.2dB
- B. PERMANENT MOUNT (Reference Antenna)**  
Center of roof.....0.0dB
- C. MAGNETIC MOUNT**  
Corner of roof.....-0.2dB
- D. MAGNETIC MOUNT**  
Trunk corner.....-3.4dB
- E. MAGNETIC MOUNT**  
Center of trunk.....-2.1dB
- F. PERMANENT MOUNT**  
Center of trunk.....-2.8dB
- G. TRUNK LIP MOUNT**  
Corner of trunk.....-2.8dB
- H. ON GLASS MOUNT**  
Glass low.....-3.0dB
- I. ON GLASS MOUNT**  
Glass mid.....-1.2dB
- J. ON GLASS MOUNT**  
Glass high.....-0.5dB
- K. MAGNETIC MOUNT**  
Corner of hood.....-2.4dB

## Mount Configurations

The most common Motorola NMO mounts are shown below. For more information about the mounts available please contact your local Ham Radio Outlet.

NMO B premium quality threaded.

NMO MMR mag mount, 80# pull strength.

NMO TLP heavy duty trunk lid.



NMO B



NMO MMR

NMO TLP

## NMO Series Antennas

### Select An Antenna

Once the base and thread type are selected, the final step is to choose the antenna.

All Larsen mobile antennas meet the industry's most demanding specs for electrical efficiency and mechanical durability.

Gain antennas are made of a coil and a whip. Quarter wave antennas are just a whip.

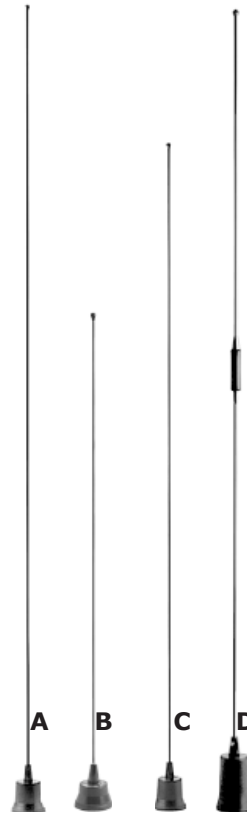
- Colors: Black coil base, chrome or all black whip.
- Quality construction.
- 1-year No-Nonsense warranty™.

**A. NMO 150 B (2m)**  
Frequency.....144-174MHz  
Gain.....3dBi  
Electrical.....5/8 Wave  
Height.....49"

**B. NMOQ C**  
Frequency.....144-448MHz  
Gain.....0dB  
Electrical.....1/4 Wave  
Height.....22" max

**C. NMO 220 B (1.25M)**  
Frequency.....220-225MHz  
Gain.....3dBi  
Electrical.....5/8 Wave  
Height.....32"

**D. NMO 2/70**  
Frequency.....144-148MHz  
.....442-448MHz  
Gain.....3.8dBi VHF  
.....5.2dBi UHF  
Electrical.....Center Loaded  
.....1/2 wave VHF, 5/8 UHF  
Height.....34 3/4"



## Scanner Antenna

### Tri-Band NMO 150/450/800

This is a great antenna for scanner operation. It is NOT tunable for amateur operation.

Frequency.....150-165Mhz  
.....450-470Mhz  
.....806-950Mhz  
Gain.....2.14dBi ± 1dB  
Mount.....NMO  
Height.....16.5"

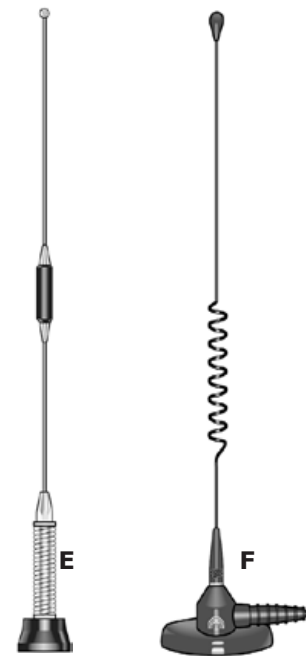
**HRO CARRIES A VARIETY OF SCANNER ANTENNAS. CONTACT US FOR MORE INFO.**



## Dual Band Antennas

Larsen dual band antennas provide excellent performance on 2m and 70cm. Each antenna is factory preset to guarantee optimal performance with no tuning required.

- A range of dual band configurations is available.
- Kulrod copper-plated 17-7 stainless steel rods for greater transmit range.
- Soldered contacts.
- Premium materials and construction provide superior electrical performance and mechanical durability.
- 1-year No-Nonsense Warranty™



**E. NMO 2/70 SH**  
Frequency.....144-148MHz  
.....440-450MHz  
Gain.....Unity  
Power.....100 watts  
Electrical.....VHF Center Loaded: 1/4 wave  
.....UHF Center Loaded: 3/4 wave  
Base.....NMO UF base B w/ spring  
Height.....17"

**F. MM 2/70 PL**  
Frequency.....144-148MHz  
.....440-450MHz  
Gain.....Unity  
Power.....100 watts  
Electrical.....VHF Center Loaded: 1/4 wave  
.....UHF Center Loaded: 3/4 wave  
Connector.....PL-259 Installed  
Base.....3" Round Magnet  
Pull Strength.....54 lbs.  
Weight.....1 lb.  
Height.....17"

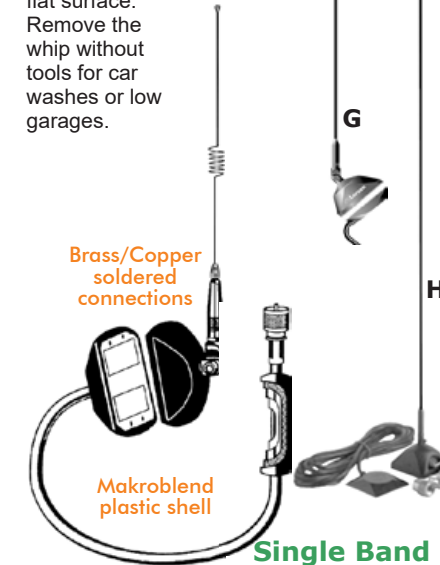
## On-Glass Antennas

Larsen's advanced design techniques in glass-mount antennas result in superior transmit range plus tremendous mechanical durability. Glass mount performance is nearly identical to rooftop mounts, with no holes to drill. Properly installed on-glass antennas grip for years under demanding conditions, yet are easy to remove and remount.

### Dual Band KG 2/70 CX-PL

The KG 2/70 is a VHF half-wave and a UHF collinear. It comes with 14 feet of RG-58/U coax.

The antenna installs easily on any flat surface. Remove the whip without tools for car washes or low garages.



### Single Band KG-144-UDPL

**G. KG 2/70 CX-PL**  
Frequency.....144-148MHz  
.....442-448MHz  
Gain.....2.4dB VHF  
.....4.5dB UHF  
Power.....50 watts  
Electrical.....1/2 wave colinear  
Base.....PL-259 (loose)  
Height.....32-3/4"

**H. KG-144-UDPL**  
Frequency.....144-148MHz  
Gain.....2.4dB VHF  
Power.....50 watts  
Electrical.....1/2 wave  
Base.....PL-259 (loose)  
Height.....45"

**WATCH HRO'S YOUTUBE CHANNEL WHERE WE DISCUSS AND DEMONSTRATE ALL THE LATEST PRODUCTS... INCLUDING ANTENNAS!**

[YOUTUBE.COM/@HAMRADIOOUTLET](https://www.youtube.com/@HAMRADIOOUTLET)





## Comet Dual-Band Antennas

Model	Bands	Gain	Max PWR watts	Connector	Weight lb' oz"	Length ft' in"	Max Wind Speed MPH	HRO Price
Dual Band Base Station Repeater Antennas								
GP-9M*	2m/70cm	8.5/11.9	200	SO-239	5'11"	16'6"	90	\$289.95
GP-9N*	2m/70cm	8.5/11.9	200	N	5'11"	16'6"	90	\$289.95
GP-6*	2m/70cm	6.5/9.0	200	SO-239	3'8"	10'5"	90	\$179.95
GP-3*	2m/70cm	4.5/7.2	200	SO-239	2'12"	5'11"	112	\$109.95
GP-1	2m/70cm	3.0/6.0	200	SO-239	2'	4'2"	135	\$89.95
Dual Band Mobile Antennas- All Black Anodized								
SBB-7/SBB-7NMO	2m/70cm	4.5/7.0	70	PL/NMO	-	4'7"	-	\$87.95
SBB-5/SBB-5NMO	2m/70cm	3.0/5.5	120	PL/NMO	-	3'2"	-	\$64.95
SBB-2/SBB-2NMO	2m/70cm	2.15/3.8	60	PL/NMO	-	20"	-	\$49.95 \$46.95
B-10M/B10NMO	2m/70cm	-/2.15	50	PL/NMO	-	12"	-	\$46.95
CSB-750A	2m/70cm	3.6/6.1	150	PL	-	42"	-	\$75.95
CSB-770A	2m/70cm	4.4/6.9	150	PL	-	51"	-	\$98.95
CSB-790A	2m/70cm	5.1/7.7	150	PL	-	62"	-	\$99.95

\*Some longer antennas require additional freight.

## Comet Tri-Band Antennas

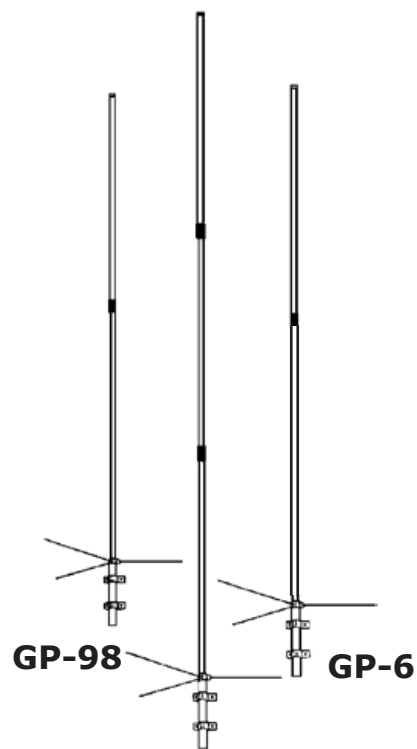
Model	Bands	Gain	Max PWR watts	Connector	Weight lb' oz"	Length ft' in"	Max Wind Speed MPH	HRO Price
TriBand Base Station Repeater Antennas								
GP-15**	6m/2m/70cm	3/6.2/8.6	200	SO-239	2'15"	7'11"	90	\$189.95
GP-98**	2m/70cm/23cm	6.5/9.0/13.5	100	N-Female	3'6"	9'4"	90+	\$249.95
CX-333**	2m/220/70cm	6.5/7.8/9.0	120	SO-239	3'10"	10'2"	112	\$219.95
TriBand Mobile Antennas								
SBB-15**	6m/2m/70cm	2.15/4.5/7.2	120	PL-259	-	4'10"	-	\$93.95
SBB-224	2m/220/70cm	2.15/3.2/5.5	150	PL-259	-	3'1"	-	\$84.95
SBB-224 NMO	2m/220/70cm	2.15/3.2/5.5	150	NMO	-	3'1"	-	\$84.95
HF Antennas								
UHV-6**	40/(20*)/(17*)15/10/6 2m/70cm	HF 0 dBi 2m 2.15 dBi 70cm 5.5 dBi	120 W SSB HF 100 W FM on 6-70cm	PL-259	Max 1'4"	Max 6'4"	-	\$189.95
L-14*	Opt 20m coil for UHV-6						-	\$34.95
L-18*	Opt 17m coil for UHV-6						-	\$29.95
L-3.5*	Opt 75/80m coil for UHV-6						-	\$38.95
CHA-250HD**	Ground Plane 3.5-57 MHz		250 W SSB HF 125 W CW	SO-239	7'11"	23'8"	67.5	\$459.95

\*\*For the UHV-6 optional bands.

\*\*Some longer antennas require additional freight.

## 6 Meter Antenna

Model	Description	Freq	Gain	F/B	Max Power watts	Conn	SWR	Length ft' in"	HRO Price
CA-52HB4**	4 element beam	50-54 MHz	-	19 dB	400 W PEP	SO-239	<1.5:1	10'6" boom	\$199.95

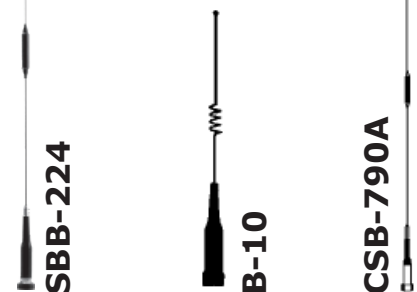


GP-9M

### Dual & Tri-Band VHF / UHF

Comet developed the Super Linear Converter (SLC) to increase actual gain of dual and tri-band antennas.

- A complete pre-formed phasing coil and phosphorus copper element eliminate additional components and gain loss.
- The SLC is electrically very efficient, providing a low angle of radiation, directly to the horizon.
- Comet sectional antennas use ABS (Transparent to RF) connecting joints for the finest pattern and easiest assembly.



SBB-224

B-10

CSB-790A



## 2 Meter and HT Antennas

Model	Bands	Gain	Max Pwr watts	Connector	Length Ft' in"	HRO Price
Single Band Antennas						
SBB-25/SBB-25NMO	2m	4.1	100	PL-259/NMO	4'8"	\$64.95/59.95
HT Antennas						
CH-32 Mini Antenna	2m/70cm	-	10	BNC	1.75"	\$32.95
HT-224	2m/220/70cm	1.3/1.4/1.8	10	SMA	11"	\$49.95
SMA-501 Mini Antenna	2m/70cm	-	10	SMA	1.5"	\$32.95
SMA-3	2m/70/33cm	1.2/1.7/3.4		SMA	9.75"	\$43.95
SMA-24/SMA-24J	2m/70cm	2.15/5.3	20	SMA/Rev SMA	17.5	\$28.95/26.95
BNC-24	2m/70cm		20	BNC	17.5	\$26.95
SMA-503/SMA-503J	2m/70cm	-	10	SMA	8.5"	\$30.95/29.95

## Comet High Power Duplexers and Triplexers

Zinc-alloy, die-cast, twin cavity, low input loss, high-isolation, and high-power. Modernize your station with Comet high-performance antenna products.

Model	Port	Freq MHz	CW watts	PEP watts	Loss dB	Isol dB	Mix Conn	Port Conn	HRO Price
CF-416A (2m/70cm)	LPF HPF	1.3-150 400-540	450 300	800 500	0.15 0.25	60 60	SO-239	PL-259 w/ leads PL-259 w/ leads	\$59.95
CF-416C (2m/70cm)	LPF HPF	1.3-150 400-540	450 300	800 500	0.15 0.25	60 60	N-Female	PL-259 w/ leads N-Male w/ leads	\$59.95
CF-4160I (2m/70cm)	LPF HPF	1.3-150 400-540	450 300	800 500	0.1 0.2	60 60	SO-239	PL-259 w/o leads N-Male w/o leads	\$52.95
CF-4160K (2m/70cm)	LPF HPF	1.3-150 400-540	450 300	800 500	0.1 0.2	60 60	SO-239	PL-259 w/o leads PL-259 w/o leads	\$54.95
CF-416B (2m/70cm)	LPF HPF	1.3-150 400-540	450 300	800 500	0.15 0.25	60 60	SO-239	PL-259 w/ leads N-Male w/ leads	\$59.95
CF-706A (2m/70cm)	LPF HPF	1.3-75 75-470	175 175	350 350	0.5 0.5	40 40	SO-239	PL-259 w/ leads PL-259 w/ leads	\$89.95
CF-530 (6m/125-470)	LPF HPF	1.3-90 125-470	350 350	600 600	0.2 0.2	45 45	SO-239	PL-259 w/ leads PL-259 w/ leads	\$85.95
CF-530C (6m/125-470)*	LPF HPF	1.3-90 125-470	350 350	600 600	0.2 0.2	45 45	PL-259	SO-239 w/o leads SO-239 w/o leads	\$84.95
CF-360B (10m/6m)	LPF HPF	1.3-30 50-470	350 350	600 600	0.2 0.2	45 45	PL-259	SO-239 w/o leads SO-239 w/o leads	\$78.95
CFX-4310C (2m/70cm/1.2)	LPF BPF HPF	1.6-60 100-150 350-500 840-1.4	600 450 300 100	1KW 800 500 200	0.15 0.25 0.25 0.3	50 50 50 50	N-Female	PL-259 w/o leads PL-259 w/o leads N-Male w/o leads	\$89.95
CFX-514 (6m/2m/70cm)	LPF BPF HPF	1.3-90 130-200 380-500	450 450 300	800 800 500	0.2 0.25 0.3	55 55 55	SO-239	PL-259 w/ leads PL-259 w/ leads PL-259 w/ leads	\$87.95
CFX-514J (6m/2m/70cm)	LPF BPF HPF	1.3-90 130-200 380-500	450 450 300	800 800 500	0.15 0.25 0.25	55 55 55	SO-239	SO-239 w/o leads SO-239 w/o leads SO-239 w/o leads	\$87.95
CFX-324A (2m/220/70cm)	LPF BPF HPF	1.3-150 200-320 390-500	350 350 350	600 600 600	0.2 0.25 0.3	40 40 40	SO-239	PL-259 w/ leads PL-259 w/ leads PL-259 w/ leads	\$96.95
CFX-324B (2m/220/70cm)	LPF BPF HPF	1.3-150 200-320 390-500	350 350 350	600 600 600	0.2 0.25 0.3	40 40 40	SO-239	PL-259 w/o leads PL-259 w/o leads PL-259 w/o leads	\$96.95

### Dual Band

### 2m/70cm Mobile Antenna CA-2x4SR

The CA-2x4SR is an exceptionally wide-band VHF/UHF dual-band mobile antenna. High gain extended coverage area and excellent signal strength on both TX and RX.

The preferred antenna of many Search and Rescue (SR) volunteers due to the ability to TX and RX outside the ham bands (FRS/MURS/GMRS).

Nominal 2:1 or less SWR range 140-160MHz 435-465MHz

NMO Connector HRO Price: \$79.95  
SO-239 Connector HRO Price: \$79.95

CA-SPR - optional spring. Replaces the lowest element. Protects against damage when offroad, brushes with tree limbs, garage doors, etc.

HRO Price: \$29.95

### Dual Band Magnetic Mount MA-721

Economical black anodized 2m/70cm antenna. 19.5" tall and comes with 16.5 feet of RG-58 A/U coax. Coax terminates with an FME connector and includes BOTH PL-259 and SMA-male connectors for mobile and most handheld radios.

Gain 146MHz: 1.7dBi 3/8 wave  
Gain 446MHz: 4.1dBi 1/4 + 5/8 wave  
Max Power: 80 watts  
VSWR: 1.5:1 or less  
Impedance: 50 ohm  
HRO Price: \$54.95



### 2m/70cm

### All Female Duplexer CF-4160N

1.3-170 / 350-540MHz duplexer with three N-female connectors allows the user to attach their own low loss jumpers in the length needed.  
HRO Price: \$68.95





## Mounts



### Vehicle Specific Antenna Brackets

These stainless-steel no-holes-to-drill mounts use an existing fender bolt under the hood. A 3/4-inch hole accepts a standard NMO type connector or use Comet UHF connector mobile cable assemblies. Specific mounts for most popular trucks and SUVs: Chevrolet, Ford, Dodge, GMC. Call HRO for compatibility. Pictured: DG2ANTPF Dodge Ram 1500 2009-2014 **HRO Price: \$24.95**

### Universal Mount CP-5M / CP-5NMO

These universal mounts use the heavy-duty RS-730 lip bracket. Each includes 5 meters (16'6") of deluxe 2-step coax and an antenna mount connector: gold-plated PL-259 on coax end with detachable barrel for easy installation. 18-inch lead of mini RG-174 coax for easy entry through the weather seal. Choose the model that has the connector for the antenna you are using. **HRO Price: \$82.95**

### Comet Mobile Mounting Systems

Comet has a wide variety of mobile mounts. Choose the mount and coax cable assembly that best fits your personal needs. All Comet cables have detachable connectors.

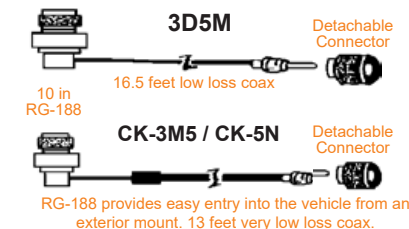
Model	Description	HRO Price
Mounts with Coax Cable Installed		
CP-5M	Universal multi-angle lip mount w/deluxe cable SO-239/PL-259 Connector	\$82.95
CP-5NMO	Same as CP-5M but with NMO/PL-259 Connector	\$82.95
HD-5M	Heavy duty version of the CP-5M	\$87.95
HD5-3/8-24	3/8-24 heavy duty lip mount w/ PL-259 Connector	\$82.95
LD-5M	Light duty lip mount, 16'4" deluxe cable assembly, UHF Connector	\$65.95
CM-5M	Standard heavy-duty mag mt w/ RG-58A/U, coax, UHF connector, max antenna height 4 ft	\$49.95
Mounting Brackets Only, No Coax		
RS-840	Heavy duty lip mount, low profile, accepts SO-239 connector	\$46.95
RS-730	Heavy duty universal lip mount, accepts SO-239 connector	\$35.95
RS-720	Medium duty universal lip mount, accepts SO-239 connector	\$32.95
RS-720NMO	Medium duty universal lip mount, accepts NMO connector	\$32.95
RS-520	Light duty universal lip mount, accepts SO-239 connector	\$32.95
Coax Cable Assemblies		
CK-3M5	17 foot high-quality cable includes 12" RG-188 to avoid water leak/cable damage. UHF Connector	\$46.95
CK-3M	Same as CK-3M5 but 9'9" of deluxe cable assembly, UHF Connector	\$41.95
CK-5N	13'6" of deluxe 2-step cable assembly, N-Connector	\$54.95
5D4N	13'6" low loss (2400 MHz) coax cable, N-Connector	\$39.95
3D4N	13'6" low loss (1200 MHz) coax assembly, N-Connector	\$35.95
Antenna Connector Adapters		
AD-25M	Turns an SO-239 mount into an NMO mount	\$16.95
AD-15M	Turns an NMO mount into an SO-239 mount	\$21.95

### IC-705/FT-818 CST-30

Mounts directly to the Icom IC-705 or Yaesu FT-817/818. Adjustable. **HRO Price: \$39.95**

### Window Gap Jumper CTC-50M

This device crosses the space between window frames. The frequency range is up to 1.3GHz with SO-239 connectors. Max power HF 100W PEP, VHF 60W, UHF 40W, low loss, 50 ohm impedance. **HRO Price: \$64.95**



### Rack Mount RS-660U

This new roof-rack mount opens wider than the old version - up to 2.25 inches - and supports bigger antennas. **HRO Price: \$49.95**



## HF Antennas

### 1.7 - 50MHz 10-Band Telescoping Antenna HFJ-350M Toy Box



- Breaks down into four convenient sections for additional portability.
- Quickly and easily change frequency by changing plug to the desired band
- 1/4λ base loaded antenna.

- Large coil for 160M (1.8/1.9MHz) operating.
- For best performance, it's recommended to use an antenna tuner and counterpoise.
- Base connector is a PL-259.
- Max Power: 75W SSB 3.5MHz, 100W SSB 1.7-50MHz.

**HRO Price: \$144.95**  
Optional 2M Coil HFJ-2M: \$30.95

### Roll-Up Storage Bag CCB-HFJ2

Keep your HFJ-350M antenna organized. Cloth storage bag stores all parts neatly and keeps them clean. Simple roll-up operation with velcro closure. **HRO Price: \$32.95**



### 40 m - 70 cm Mobile Antenna UHV-6

Without HF coils attached, the UHV-6 is a tribander for 6m/2m/70cm. The top of the element has a threaded socket for the 40m, 15m, or 10m coils (included), making the UHV-6 a quad-band antenna.

- Optional coils for 80m, 20m, 17m.
- Easy to mount and configure.
- Fold-over hinge included.
- GAIN on 2m: 2.15dBi;
- GAIN on 70cm: 5.5dBi.
- Length 48" to approx. 76".

**HRO Price \$189.95**

### 10/6/2m & 70cm Quad Band UHV-4

Developed for the Yaesu FT-8900. The 10m and 6m bands tune independently and will tune for SSB and FM. Length approx. 54". **HRO Price: \$139.95**



## Upgradeable

### RigExpert MATCH



The New MATCH - RigExpert Upgradeable Antenna and Cable Analyzer is set to revolutionize the game, with new technology designed to grow with your ever evolving needs.

Start with the powerful base model covering 0.1-70MHz, and upgrade as your needs expand. It's the perfect tool for hobbyists and professionals to analyze and fine-tune antennas and cables with precision. User-friendly, versatile, and future-ready—MATCH helps you "Grow Your Game."

If you're ambitious about leveling up your ham radio experience, this is the tool you've been waiting for! **HRO Price: \$299.95**

#### FEATURES

- Precision Measurement Tool: Provides reliable analysis for antennas and cables.
- Easy Upgrade Path: Start with the base model and upgrade as your needs in the hobby expand.
- User-Friendly Interface: Intuitive design for beginners and efficient workflow for professionals.
- Future-Proof and Flexible: Start with the essentials, upgrade as needed, and enjoy seamless performance improvements with license upgrades.

#### FREQUENCY RANGE

- 0.1 to 70MHz.
- Can be upgraded to 230MHz (Advance license) and 500MHz (RFE license).

#### PHYSICAL INFO

- 03.7" x 8.1" X 1.5"
- 12 oz.



## LCD Display

### CAA500 Mark II

Commercial Grade SWR / Impedance Analyzer Range: 1.8 - 500MHz (including 222MHz band). Check antenna installations in just seconds. Determine SWR and resonance instantly. New color TFT display permits easy viewing of frequency and band information, even in the dark. Also has a Band Sweep function that allows you to measure SWR across the selected ham band and view it on the display graph. Makes SWR adjustments quick and easy. Both SWR and impedance measurements are provided simultaneously. Precision analog meter provides SWR / impedance changes in real time. **HRO Price: \$499.95**



### MFJ-225

2.5-180MHz continuous two-port Graphic Analyzer. A compact, completely self-contained handheld graphing analyzer in the field. On the bench it becomes a full-fledged two-port (S21) desktop machine when teamed up with your PC. Using powerful IG-miniVNA freeware, you can run detailed data analysis and print out stunning color-graphic plots to document your work. Built-in back-lighted 3-inch LCD graphic display. Full screen, easy-to-view SWR bargraph, capture vivid swept displays for SWR, impedance, return loss, phase angle, and more. DDS generator.

## Wide Coverage



### RigExpert Stick Pro

The RigExpert Pro Antenna Analyzer is the perfect combination of portability and performance. With wide frequency coverage you will know you are always covered from Ultra-Low HF all the way to UHF. **HRO Price: \$479.95**

- Frequency Range: 0.1 to 600MHz.
- Frequency Input Step: 1kHz.
- Measurements For: 12.5, 25, 28, 37, 50, 75, 100, 150, 200, 300, 450, & 600 Ohm.
- Display modes includes multi-band antenna quick check.

## Ultra Portable



### RigExpert Stick 500

The RigExpert Stick 500 Antenna Analyzer is the latest member of the RigExpert Stick family well know for their ease of use and reliability, no matter the time, place, or weather.

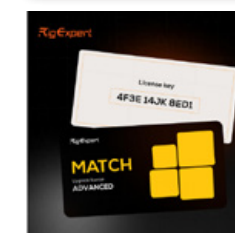
The UHF analyzer is designed for measuring the standing wave ratio (SWR) and return loss, amplitude, and phase angle, as well as the value of active (R) and reactive (X) resistances, considering the sign, inductance (L) and capacitance (C) in parallel and series modes of antennas, cables, lines, filters and other systems in the range of 0.1MHz to 500MHz.

Like all Stick analyzers, it is capable of 16 hours of continuous measurements without battery recharging. **HRO Price: \$399.95**

#### SPECIFICATIONS

- Frequency Range: 0.1 to 500MHz.
- Frequency Input Step: 1kHz.
- Measurements For: 25, 50, 75, 100, 150, 200, 300, 450, and 600 Ohm.
- SWR Measurement Range: from 1 to 100 in digital mode, from 1 to 10 in graph modes.

## RigExpert Software



Expand your analyzer frequency range on select models with RigExpert's License Upgrade Software.

Contact your local HRO to find out if your model is supported.

## HF Dipole Antenna

### Pre-Tuned YA-30

This 83-foot broadband dipole provides optimum performance over 1.8-30MHz. Usual requirements for an antenna tuner between the rig and antenna are eliminated by the unique broadband design. Handles 150 watts at an SWR of less than 1.9:1 on the amateur bands. Preassembled and pretuned. Can be installed as a horizontal flat-top, inverted-V, or sloper. 100 feet of RG-8X with PL-259 included.

## HF Mobile Antenna

### Motor Tuned HF/VHF/UHF ATAS-120A

The ATAS-120A provides HF / VHF / UHF coverage with automatic motorized tuning. Control radiator length from the transceiver for best SWR. Compatible with Yaesu's FT-100, FT-450, FT-847, FT-857, FT-891, FT-897, FT-991, and FT-710.

## HF Portable Antenna

### Hand Tuned HF/VHF/UHF ATAS-25

The ATAS-25 has radiating elements covering amateur bands 10-40m, 6m, 2m, and 70cm. Mounts to a standard camera tripod (not included). Uses a manual tuning system. Dual frequency operation possible with a duplexer (not included). Antenna collapses to less than two feet to carry; expands to 7.2 foot maximum height. This is an ideal system to use with the FT-891, FT-818, FT-897, and FT-857 transceivers. Weight is 2.05 pounds.

# YAESU

The radio



### Hi-Tech Rotator G-2800DXA

The G-2800DXA is a high-technology rotator designed to turn the largest tower-mounted antenna arrays.

### Medium Loads G-800DXA

The G-800DXA rotator is designed for medium to heavy loads and antennas up to 20 square feet, with control box resets.



### Computer Controller GS-232B

The GS-232B rotator computer interface provides digital control of Yaesu rotators G-800DXA, G-1000DXA, G-2800DXA, and G-5500.

The GS-232B contains its own PIC18C452 micro-processor with ROM and RAM and 10-bit analog-to-digital converter. The 3 wire async serial line can be configured for serial data rates from 1200 to 9600 baud. The unit has a DB-9 male connector to connect to the RS232C COM port of your computer.

Supplied items include: control cable for the azimuth rotator (5 pin to mini DIN), control cable for the Az/EI rotator (dual 5 pin to DIN cable), DC power cable, and hook and loop fasteners. Requires 12VDC @ 110mA.

## Rotators

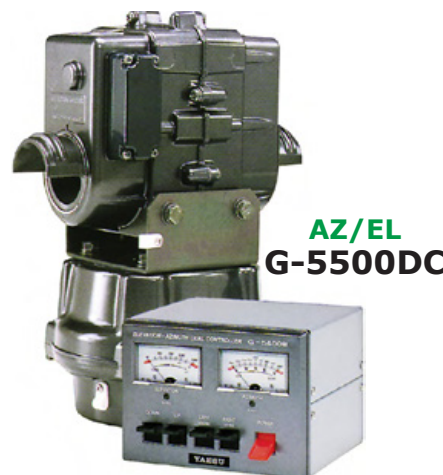
Yaesu's high quality rotators for amateurs include models for medium to large arrays and for satellite work. There are provisions for computer control.

Please contact your nearest HRO for more specifications and discount pricing on Yaesu products.  
**Large Loads  
G-1000DXA**

The G-1000DXA is designed to handle bigger arrays up to 22 square feet. A great value.

### VHF/UHF G-450ADC

The G-450A is ideal for smaller HF and VHF/UHF antennas. Features 360 degree radial compass display with overlap.



### AZ/EL G-5500DC

This is the most popular azimuth and elevation rotator for satellite, moon-bounce or other space communications work. It provides horizontal and vertical antenna rotation in a single unit. The control box has two large meters, one showing elevation and the other azimuth. Meter aiming accuracy is within ±4%. The G-5500 provides 180° elevation rotation with a rotation time of 67 seconds. A 360° azimuth rotation takes just 50 seconds. This rotator accepts up to a 2.5" mast, a maximum 1-5/8" horizontal cross-boom and 440 pounds of vertical load. Computer controllable with optional GS-232 computer interface.

**LIMITED STOCK** **hy-gain**

## Rotators

### AR-40

Especially for large FM-TV and compact communication antenna arrays up to 3.0 square feet wind load area. Dual 12 ball bearing race. Automatic position sensor never needs resetting. Maximum mast size: 2-1/16". Includes MSLLD light duty lower mast support.

HRO Price: \$449.95



### For Hy-Gain DCU-3

Digital rotator controller allows you to program 6 beam headings. Gives fully automatic or manual control of your HyGain Ham or T2X Rotators. Has USB / RS-232 ports for computer control. Adjustable LCD sleep time. Field upgradeable firmware. Press a memory button or dial in your beam heading or let one of the popular software platforms take control for you. Bright blue LCD. Available for 110 VAC or DCU-3X for 220 VAC.  
HRO Price: \$469.95

### HAM-VIIPX

This new design uses a special high temperature rare earth magnet and a reliable reed switch to count the rotations of one of the gears in the drive assembly. DCU-2 and DCU-3 have circuitry built-in to count the pulses and accurately determine the heading of the rotator to +/- 1 degree with repeatable accuracy. With the new pulse mode the noise and intermittent pot problems are no longer an issue. For medium communications arrays up to 15 square feet wind load area (7.5 sq. ft. with mast adapter). It has 800 inches-lbs. turning power and 5000 inches-lbs. brake power.

HRO Price: \$699.95



## Accessories

### Mast Bearing GS-680U



Yaesu self adjusting universal mast bearing. Used for masts sized 1.5" to 2.5"

### Thrust Bearing GS-050



Yaesu lightweight thrust bearing with 50mm mast diameter. Comes with guy rings for portable mast use. Shipping weight is 3lbs.

### Thrust Bearing 2-3/16



Universal Tower Thrust Bearing 2-3/16" is pre-drilled to mount on Universal Tower Sections to support up to 2-1/16" O.D. Mast Pipe. Not intended to be mounted onto Universal Tower Rotor Plate. Bearing Plates are Pre-Drilled to accept Thrust Bearing.

## Control Wire



Davis RF products control wire comes in a variety of configurations.

Heavy, 8-Wire; 2-16 Gauge and 6-18 Gauge Rotator Wire 500 Ft.  
HRO Price: \$549.95

8-wire cable, two #16 and six #18 stranded tinned copper wires, UV resistant, PE jacket. 100 Ft. HRO Price: \$149.95

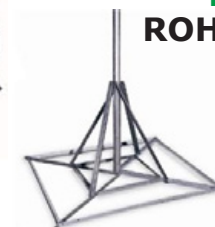
### Thrust Bearing ROHN TB4



ROHN Heavy Duty Thrust Bearings are designed to attach to the top of a tower and to antenna support masts that are intended to be rotated, for directional antenna systems used in various radio applications.

The TB-3 is used for masts up to 2 in. OD (outside diameter) and the TB-4 is used for masts up to 3 in. OD.

### Roof Mount ROHN JRM23805



Mount with ease. The JRM is a ballast, non-penetrating roof mount that supports a 5" pipe mast. The mast is extendable to 10' and can be purchased in diameters from 2", 2.5" and 3".

### Aluminum Mast Pipe MAST 2x16



The perfect size/section of pipe to mount most antennas.

- 16 ft long.
- 2" O.D., 0.125in Wall Thickness.
- Corrosion resistant aluminum tubing.

### Double Wall Mount ROHN WM24D



- Heavy duty double 'y' style brackets.
- 2 Brackets included as shown.
- Galvanized steel wall mount provides 24" clearance to the wall.
- Masts are help in place with 2 unique 'anti-twist' locking screws.
- Clamp accepts 7/8" to 2-3/4" O.D. mast tubes.
- Can be used on masonry, wood, metal, or other types of walls using up to 1/4" lag screws or bolts (not included).

## Yaesu Rotators Specifications

Model	Input Voltage	Motor Voltage	Rotation Time	Stationary Torque	Rotation Torque	Maximum Wind Load	Max Vert Load	Max Mast Size	Cable Type	Weight lb (kg)	HRO Price
G-450ADC	110 VAC	29-32 VAC	51 sec	217 ft lbs.	39.8 ft lbs.	10 sq ft.	242 lbs.	2 in.	5-wire	7 (3.2)	CALL
G-800DXA	110 VAC	24 VDC	55 sec	3456 in lbs.	43-79 ft lbs.	17 sq ft.	440 lbs.	2.5 in.	6-wire	10 (4.5)	CALL
G-1000DXA	110 VAC	24 VDC	55 sec	5200 in lbs.	79 ft lbs.	22 sq ft.	440 lbs.	2.5 in.	6-wire	15 (6.8)	CALL
G-2800DXA	110 VAC	24 VDC	55 sec	20,832 in lbs.	219 ft lbs.	34 sq ft.	880 lbs.	2.5 in.	6-wire	26 (11.8)	CALL
G-5500DC	110 VAC	22 VDC	58 sec	289 ft lbs.	*	10.7 sq ft.	440 lbs.	2.5 in.	6-wire	20 (9)	CALL

\*Elevation 101 ft-lb, Azimuth 44 ft-lb.



## MA Series Crank-Up Masts

The premier MA-series crank-up Tubular Towers are designed to be both safe and neighbor friendly. The slender design gives a clean, flagpole-like appearance and is rated at 90 mph winds per the IBC 2006 code. Per TIA/EIA specifications, adequate safety margins are included. International Building Code calculations are available for most models.

The MA-40 and 550 models require base kits comprised of a flat base, two 1/2" x 10" anchor bolts, and a 4 ft rotor mast with rotor plate. Comes standard with a wall bracket. No guying is required when tower is properly bracketed to the eave of your roof.

MA-series towers are completely self-supporting only when used with accessory MARB or MAB series bases. The MARB series rotor base allows the entire tower and antenna to be rotated from the base (rotator not included).

This allows easy rotator maintenance plus emergency hand rotation of the entire tower and antenna.

The MA-550MDP and 770MDP models include a heavy duty motor drive with positive pull down. The MDP models provide motorized raising and lowering of the tower. A remote control unit (RMC-1000) accessory is available that allows raising and lowering from your ham shack or other remote location.

All models without motor drives come standard with manual hand winches which have load actuated brakes for maximum safety. This feature prevents the winch from free-wheeling and causing injury to you or your installation in the event that you lose your grip during raising or lowering.

All steel used at US Tower conforms to ASTM specifications. All welding is done by certified factory personnel. All of our towers are factory tested by trained personnel before shipping.

## MA-Series Crank-Up Towers

Model Number	Height Maximum	Height Minimum	Sections	Weight Pounds	Sec O.D. Top	Sec O.D. Bottom	HRO Price
MA-40	40'	21'6"	2	245	3" sq.	4.5"	CALL
MA-550	55'	22'1"	3	435	3" sq.	6.625"	CALL
MA-550MDP*	55'	22'1"	3	620	3" sq.	6.625"	CALL
MA-770	71'	22'10"	4	645	3" sq.	8.0"	CALL
MA-770MDP*	71'	22'10"	4	830	3" sq.	8.0"	CALL

All towers will handle 10 square feet WLA antennas at 50 MPH winds.

\*These tower requires purchase of MCL-100 or RMC-1000

## TMM Series Compact Towers

The TMM series has a minimum retracted height of 11'4" (may vary, depending on rotator used) and a maximum height of 47' including mast. At the tower's retracted height, visual impact is reduced to a minimum and antenna servicing is made easier. Typically the tower and antenna are below the roof line of your home when the tower is fully retracted.

The TMM series towers are lightweight, freestanding crank-up towers that allow up to 20.7 square feet of antenna in 90 mph winds per TIA/EIA specifications. The TMM-433HD allows 31.8 square feet in 90 mph winds. These lightweight towers should provide many years of trouble free service. All of our towers

have a hot dipped galvanized finish inside and out.

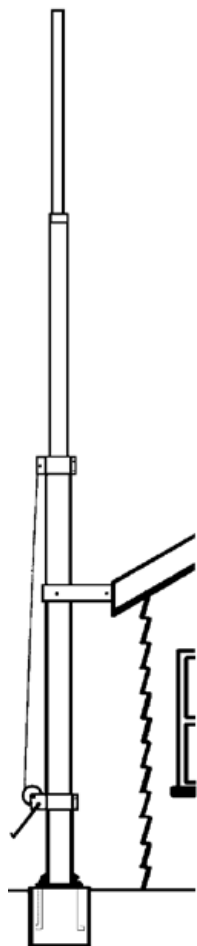
The TMM-433SS and 541SS have a 10" OD top section which will permit the installation of the Yaesu G800 and G1000 rotators inside the top section. Oversized rotators will prevent full retraction of your tower. However, they may be used if full retraction is not required.

All TMM Series towers require base kits comprised of a hinged T-base and anchor bolts, but include load actuated winch, rotator plate, and eight feet of 2" OD x .120" antenna mast.

## Compact TMM-Series Crank-Up Towers

Model Number	Height Maximum	Height Minimum	Sections	Weight Pounds	Sec O.D. Top	Sec O.D. Bottom	HRO Price
TMM-433SS	33' w/o mast	12'3"	4	315	10"	18"	CALL
TMM-433HD	33' w/o mast	12'3"	4	400	12.5"	20 7/8"	CALL
TMM-541SS	41' w/o mast	13'	5	430	10"	20 7/8"	CALL

All towers will handle 18 square feet WLA antennas at 50 MPH winds.



## Crank-Up Tower Base Information

Foundations are designed in accordance with the International Building Code (IBC) for a "non constrained" condition using Class 5 soil. Alternate or custom foundation designs are available for an extra charge. Anchor rods may be ordered from US Tower. However, reinforcing steel and rebar are not provided. Welder's certified IAW AWS D1.1. Contact US Tower for additional information.

Because of wide variations throughout the country in zoning requirements and loading conditions (snow, wind, ice, etc.), it is the responsibility of the customer to make certain that his Tower conforms to all applicable codes. We recommend you obtain all necessary permits prior to purchase.

**The Customer is Responsible for obtaining all local city or county building and tower permits AND for taking the tower off the freight truck when it is delivered. Please arrange for adequate help.**

## TX Series Freestanding Towers

US Tower's TX series crank-up towers are as strong or stronger than most competitors' heavy-duty models. The TX towers have 21 foot sections with 4 foot overlap to provide extra height and strength. In addition, the overlap helps prevent binding while lowering your tower in high wind conditions. The TX series towers have a large enough top section (12 1/2") to permit installation of most rotators inside the section for maximum strength while allowing the section to fully retract. Cross bracing at critical points on the tower ensures safety and additional strength. All crank-up towers have a heavy-duty, hot dipped galvanized finish both inside and out, which should provide many years of trouble free service.

The TX series towers come complete with rotator plate and Fulton hand winch, except MDP and MDPL models, which feature automatic load actuated brakes for maximum safety. Base kits are required, consisting of large steel anchor bolts and heavy-duty steel T-base that allows the tower to hinge on for easy installation. All T-bases will accept the TRX series raising fixtures for easy one-man installation. Other accessories include masts and motor drives. The TX-472MDP comes complete with MDP-750 motor drive with positive pull-down feature. The TX-489MDPL includes the MDPL-1000 motor drive and level wind feature. US Tower's TX series requires no guying. The wind loading is calculated at 90 mph.

## TX Series Freestanding Crank-Up Towers

Model Number	Height Maximum	Height Minimum	Sections	Weight Pounds	Sec O.D. Top	Sec O.D. Bottom	HRO Price
TX-438	38'	21'9"	2	355	12.5"	15"	CALL
TX-455	55'	22'6"	3	670	12.5"	18"	CALL
TX-472	72'	23'3"	4	1040	12.5"	21 5/8"	CALL
TX-472MDP*	72'	23'3"	4	1210	12.5"	21 5/8"	CALL
TX-489MDPL*	89'	24'	5	1800	12.5"	25 5/8"	CALL

All towers will handle 18 square feet WLA antennas at 50 MPH winds.

\*This tower requires purchase of MCL-100 or RMC-1000

## HDX Series Heavy Duty

US Tower's HDX series heavy-duty crank up towers have up to 2.5x more wind loading capacity than others commonly advertised. This superior strength allows for large stacked arrays, while using our commercial type bases and anchor bolts that can be easily installed and vertically adjusted. All HDX series T-bases are designed to use our TRX series raising fixtures to make installations and antenna servicing a one man job.

US Tower carries many different sizes and strengths of masts to use as accessories with the HDX series towers. The HDX-572MDPL and 589MDPL motorized towers provide dual level wind, positive pull down and heavy

duty gear box features. The HDX-589MDPL comes complete with the MCL-100 limit switch package included. All towers using MDP-750 and MDPL-1000 motor drives must use either the MCL-100 accessory limit switch package or the RMC-1000, which allows the raising and lowering of your tower from the comfort of your ham shack or any remote location.

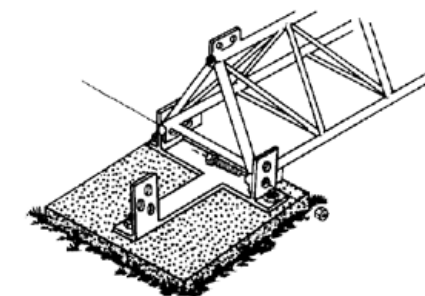
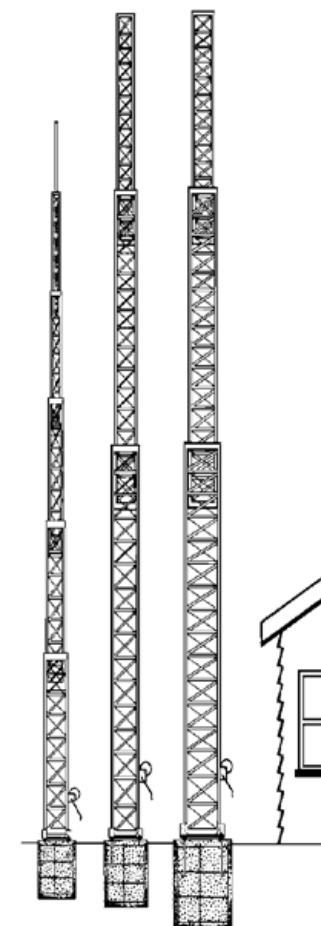
All HDX series towers come complete with rotator plate, but require base kits consisting of anchor bolts and heavy-duty T-base. US Tower's special T-base design allows the tower to hinge for easy installation. US Tower's crank towers require no guying. The HDX Series towers are rated at 90 mph winds.

## HDX Series Heavy Duty Crank-Up Towers

Model Number	Height Maximum	Height Minimum	Sections	Weight Pounds	Sec O.D. Top	Sec O.D. Bottom	HRO Price
HDX-538	38'	21'9"	2	600	15"	18"	CALL
HDX-555	55'	22'6"	3	870	15"	21 5/8"	CALL
HDX-572MDPL*	72'	23'3"	4	1600	15"	25 5/8"	CALL
HDX-589MDPL	89'	24'	5	2440	15"	30 5/8"	CALL
HDX-689MDPL*	89'	24'9"	5	3400	18"	37 1/8"	CALL
HDX-5106MDPL*	106'	25'6"	6	3850	15"	37 1/8"	CALL

All towers will handle 30 square feet WLA antennas at 50 MPH winds. HDX-689MDPL rated at 60 square feet WLA of antenna at 50 MPH winds. HDC-5106MDPL rated at 35 square feet WLA of antenna at 50 MPH winds.

\*These tower requires purchase of MCL-100 or RMC-1000



## TOWER QUESTIONS? HRO HAS THE ANSWERS!

For more information about U.S. Towers and related accessories please contact your nearest Ham Radio Outlet store. Our salespeople are happy to answer any of your questions.



The ALM Series is a patented mast system designed and manufactured by US Tower Corp. The intent of the ALM Series is to provide a versatile and highly capable mast system that can be quickly transitioned for different uses.

Using lightweight aluminum construction, the ALM Series masts can be easily loaded into a vehicle, transported to a field event, and deployed using a number of mobile mast mount options including hitch mounts and drive-on bases.

With its high wind rating, the ALM Series can also be used as a permanently installed mast attached to a house, an out structure, or installed free-standing. No guying is required for any deployment configuration of the mast.

Whether the intent is to use the ALM Series as a mobile solution, a fixed solution or both, the low maintenance, high strength, weather resistant construction of the mast ensures that you will be prepared at all times with an easy-to-use cost-effective solution.

**Features:**

- Lightweight aircraft grade aluminum
- Rapid Deployment
- Corrosion resistant
- Ideal for temporary or permanent installations
- Built-in pivot clevis for easy tilt-up
- Adjustable height winch
- High-ratio winch
- High strength-to-weight ratio
- Low maintenance
- 4 1/2 ft, 2" O.D. antenna mounting mast with universal rotator mount plate

**Options:**

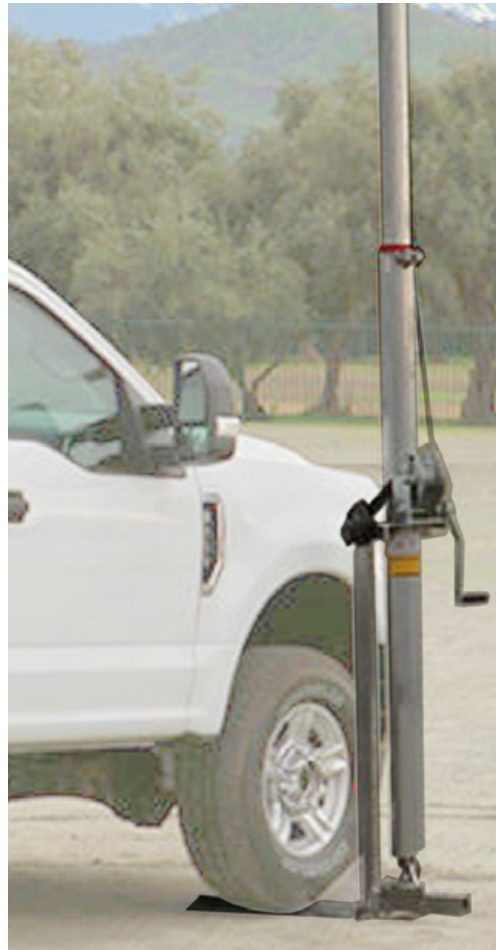
- Crank tilt-up raising feature (ALM MAF)
- ALM rotating feature (ALM MARB)
- Hitch mount fixture (ALM Hitch Mount)
- Wall mount fixture; 16" or 20" standoff arms
- Standalone base (ALM MAB)
- Drive-on mast stand (15603-0004-1012)

Four Heights Available		
Height	Rated	Load
16 ft.	50 lbs.	9 sq ft. @ 65 mph
21 ft.	50 lbs.	9 sq ft. @ 65 mph
26 ft.	50 lbs.	8 sq ft. @ 65 mph
31 ft.	50 lbs.	8 sq ft. @ 65 mph

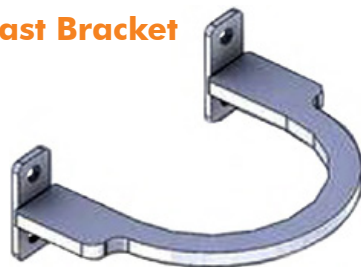
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**Mast Bracket**



**Mast Base**



**STORE HOURS**

Ham Radio Outlet is open Monday through Saturday. Phone hours are 9:30AM to 5:30PM and store hours are 10AM to 5:30PM. We are closed for most major holidays.

**EASY ORDERING**

Each HRO store has a local phone number, a Toll-Free 800 number, a fax number and an email address. Our friendly and trained staff is eager to answer your questions and place an order for you. You can also shop 24/7/365 on our safe, secure website at <https://www.hamradio.com>.

**SALES TAX**

Ham Radio Outlet collects, remits, and reports sales tax in accordance with all state and local requirements. For more information go to [https://www.hamradio.com/general\\_info\\_sales\\_tax.cfm](https://www.hamradio.com/general_info_sales_tax.cfm).

**PRICING**

No matter if you shop online, in-store, or over the phone, you will find the same low prices. Many prices shown are below suggested list price and, in most cases, we offer significant discounts from retail pricing. Manufacturers constantly change prices, offer specials, or react to market conditions. Simply check online or call one of our stores and our staff will be happy to quote you the current selling price. Prices are subject to change without notice or obligation to the customer. Sorry, we cannot honor typos in this catalog or on our online web pricing.

**PAYMENT TYPES**

We accept Visa, MasterCard, American Express, Discover, and PayPal both online and in-store. Money Orders, Cashier's Checks and Personal checks are also accepted. However, processing time may delay shipment by 10 days or more on unsecured funds.

When using a credit card for phone orders, please have the card in front of you since we will need specific card information. For your protection, we thoroughly investigate the validity of all credit card purchases and may require additional verification before shipment.

We no longer provide COD. For alternate methods please contact us.

**COMMERCIAL SALES & PO's**

Written purchase orders will be accepted from city, state, and federal agencies. Commercial organizations require pre-approval if credit terms or open account is requested. HRO quotes prices that require payment on receipt of merchandise. Please indicate that you require terms when calling for price quotes. Typically net terms are only offered to Fortune 500 companies, Federal, State, City and local government entities.

**FAST SHIPPING**

HRO continually strives to ship each and every order as quickly as possible. In most cases, the shipment will be made from the location nearest to you, if stock is available. Otherwise we will ship from any location, even multiple locations, to fulfill your order. HRO is trying to provide the quickest and most efficient shipment process in the industry!

**DELIVERY**

**United States:** HRO provides FREE ground shipping in the continental USA on most items over \$100. Items under \$100 incur a flat rate shipping charge based on current shipping costs and conditions.

For expedited, domestic shipments HRO offers a variety of 2 day or next day service at an additional cost. A quote

for these charges can be provided upon request.

**Alaska and Hawaii:** Shipments can be sent by UPS, FedEx, or the USPS. Contact your local HRO for more information.

**Canada:** We ship to Canada! Orders can now be shipped via UPS, FedEx, DHL or the USPS. Canadian shipping costs will be quoted and calculated on a per item basis. These costs will be added to your invoice. Contact us for additional details.

**International Orders:** We ship worldwide via UPS, FedEx, DHL or the USPS. Contact any of our stores with your needs. We can provide quotes and details for placing your foreign order. Payment methods include wire transfer, Visa, MC, PayPal, or check drawn in U.S. Funds from a U.S. bank. Shipments are made (depending on size) by UPS, FedEx, DHL, or International Mail. Some orders to some foreign countries cannot be insured to the full value.

**Truck:** On day of delivery, please be sure to have enough help, and/or proper equipment on hand for unloading merchandise. Truck drivers are NOT required to provide assistance. If you are not experienced at handling large, awkward items such as towers, antennas or amplifiers, please ask for properly trained people to assist you.

**DAMAGED ITEMS**

**UPS or FedEx:** If the item is obviously damaged, note this with the driver and refuse shipment. This item will be returned to HRO and another will be sent at no additional charge. If hidden damage is noted, contact UPS or FedEx as soon as possible. They will arrange pickup. Once the item is received by HRO, a replacement will be sent.

**US Mail:** Please contact our office immediately upon finding an issue.

**Truck:** If there is damage or the shipment is short, it is the customer's responsibility to file the claim with the trucking company. At the time of receipt of item, it is recommended that you have the driver write 'damaged' or indicate shortage on the bill of lading he gives to you. Be sure to have the same notation as well as driver's signature on his copy also.

**LOST ITEMS**

When your order is delivered, please carefully count items and if anything is missing, notify HRO at once. Occasionally, cartons shipped at the same time will arrive at their destination two or three days apart. If you notify HRO within 10 days, we will replace lost or damaged items after completion of proper documentation and acceptance by the shipping agency.

**RETURNS**

Products are not sold for evaluation. Under some circumstances and with prior approval of the store of purchase, HRO will accept an item for return. A 15% restocking fee may be applied and all freight charges may be assessed.

Refunds will be applied back to your original payment method except for cash, which will be refunded by check. HRO will pay from its corporate offices via corporate check. Refunds via corporate check may take 14-21 calendar days but often arrive sooner.

Defective merchandise may be returned within 10 days of the original purchase for exchange. Original receipt must

accompany the return. Contact your salesperson for details. Software is sold on a non-returnable basis. Any software problems will be resolved under the terms of the manufacturer's warranty. Cut lengths of wire and or cable are also non-returnable.

**MANUFACTURER'S NEW EQUIPMENT WARRANTY**

Ham Radio Outlet supports all manufacturer's warranties. HRO will assist you with invoice copies and shipping instructions as well as warranty service center directions for items that may fail during the manufacturer's warranty period.

Ham Radio Outlet may, in some cases, provide an in-store repair on items; please contact the store of purchase for that information. It will be necessary to provide us with the invoice number and purchase date, as most manufacturers need this information to process under their FREE warranty repair terms.

**NEW EQUIPMENT WARRANTY RETURNS**

When returning equipment for repair, please pack the item in original packing material or something similar to provide adequate protection during the shipping process. Note on box: "ATTENTION SERVICE." Include a copy of your purchase invoice, and a complete and detailed description of the problems. Without the invoice or a complete description, delays will be experienced in providing the proper service and returning the item to you. Be sure to insure the package for its replacement cost.

HRO will have repaired or replace the defective item at our option. If the item is found to be defective under the terms of the manufacturer's warranty, no charge will be made for service or return shipping within continental USA.

It is the customer's responsibility to ship all defective items to the service center for warranty repair.

**HRO EXTENDED WARRANTY**

HRO now offers an optional Extended Warranty Program for most amateur radios, which must be purchased within 30 days of the purchase of the related product. The Extended Warranty Program starts at the conclusion of the new product original warranty period, and must be processed by HRO directly via any of our stores.

The Extended Warranty Program can be purchased for one (1) or two (2) additional years, does not apply to accessory items, and is available to the original purchaser only and is not transferable. Qualifying items must be sent to HRO after the manufacturer's warranty expires where HRO will have the item serviced or replaced.

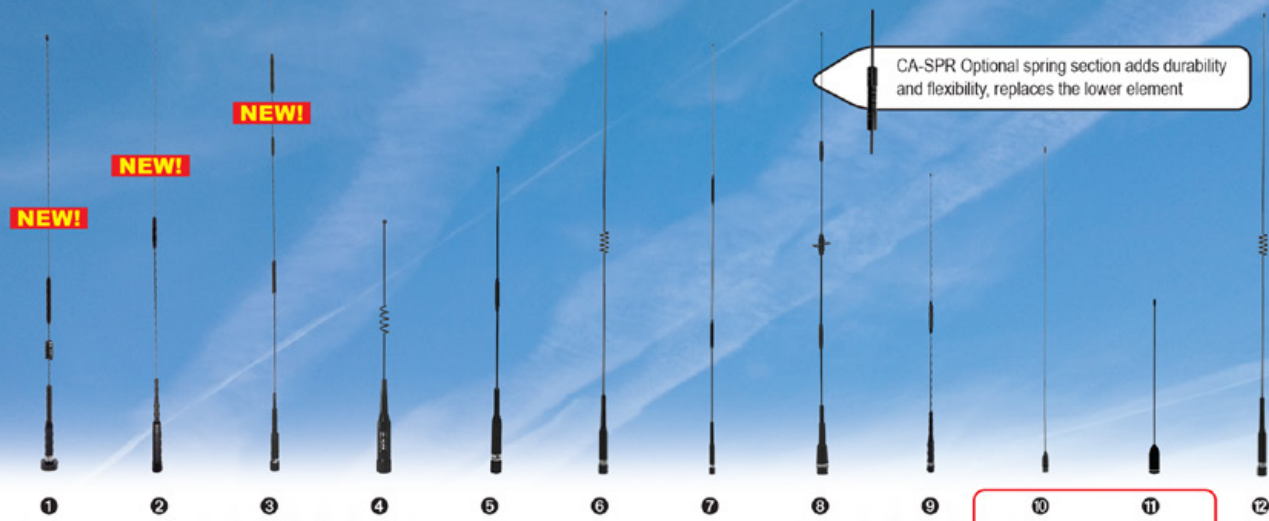
**SUPPORT**

HRO prides itself in its ability to service the customer. If you are not happy, we are not finished.

If there is a problem please contact the manager of the store from which you purchased the merchandise. If your problem cannot be remedied by that store manager, please feel free to call HRO National Sales at (800) 444-4799 and explain the situation. At this point our National Sales Manager will see that your problem is addressed.



Life is a JOURNEY.  
Enjoy the ride!



## Mobile Antennas

- 1 **COMET, NEW! GI190/GI190NMO DUAL-BAND 2M/440 MHz w/ FOLD-OVER - NO GROUND PLANE REQUIRED**  
Gain: 2M: 2.15dBi / 440MHz: 5.0dBi, Length: 28", Conn: GI190 PL-259 / GI190NMO-NMO style, Max Pwr: 75W
- 2 **COMET, NEW! GI1250/GI250NMO DUAL-BAND 2M/440 MHz w/ FOLD-OVER - NO GROUND PLANE REQUIRED**  
Gain: 2M: 2.15dBi / 440MHz: 5.5dBi, Length: 39", Conn: GI250 PL-259 / GI250NMO-NMO style, Max Pwr: 200W
- 3 **COMET, NEW! GI990/GI990NMO DUAL-BAND 2M/440 MHz w/ FOLD-OVER - NO GROUND PLANE REQUIRED**  
Gain: 2M: 5.1dBi / 440MHz: 7.7dBi, Length: 62", Conn: GI990 PL-259 / GI990NMO-NMO style, Max Pwr: 150W
- 4 **COMET, B-10/B-10NMO DUAL-BAND 2M/440MHz**  
Gain: 2M: 0dBi / 440MHz: 2.15dBi • Length: 12" • Conn: B-10 PL-259, B-10NMO - NMO style • Max Pwr: 50W
- 5 **COMET, SBB2/SBB2NMO DUAL-BAND 2M/440MHz**  
Gain: 2M: 2.15dBi / 440MHz: 3.8dBi • VSWR: 1.5:1 or less • Length: 18" • Conn: SBB-2 PL-259, SBB-2NMO - MNO style • Max Pwr: 60W
- 6 **COMET, SBB5/SBB5NMO DUAL-BAND 2M/440MHz w/FOLD-OVER**  
Gain: 2M: 3.0dBi / 440MHz: 5.5dBi • Length: 39" • Conn: SBB-5 PL-259, SBB-5NMO - NMO style • Max Pwr: 120W
- 7 **COMET, SBB7/SBB7NMO DUAL-BAND 2M/440MHz w/FOLD-OVER**  
Gain: 2M: 4.5dBi / 440MHz: 7.2dBi • Length: 58" • Conn: SBB-7 PL-259, SBB-7NMO - NMO style • Max Pwr: 70W
- 8 **COMET, CA-2X4SR/CA-2X4SRNMO WIDE-BAND 140-160MHz 435-465MHz w/FOLD-OVER**  
Gain: 2M: 3.8dBi / 440MHz: 6.2dBi • Length: 40" • Conn: CA-2x4S PL-259, CA-2x4SRNMO NMO style • Max Power: 150W
- 9 **COMET, SBB224/SBB224NMO TRI-BAND 2M/220/440 MHz w/FOLD-OVER**  
Gain: 2M: 2.15dBi / 220 MHz: 3.5dBi / 440 MHz: 6.0dBi, Length: 36" Conn: SBB-224 PL-259 / SBB-224NMO NMO style, Max Pwr: 100W
- 10 **COMET, SMA-24, SMA-24J DUAL BAND 2M/440MHz HT ANTENNA**  
RX range: 100-1200MHz • Length: 17" • SuperFlex featherweight whip • Conn: SMA-24: SMA-male / SMA-24J: SMA-female
- 11 **COMET, SMA-503, SMA-503J DUAL BAND 2M/440MHz HT ANTENNA**  
RX range: 100-1200MHz • Length: 8.75" • Conn SMA-503: SMA-male, SMA-503J: SMA-female
- 12 **COMET, FC5/FC5NMO DUAL-BAND GMRS & MURS w/FOLD-OVER**  
Gain: 154MHz: 3.0dBi / 462MHz: 5.5dBi, Length: 37" Conn: NMO style, Max Pwr: 100W

SMA-Female Connector Versions Available

CA-SPR Optional spring section adds durability and flexibility, replaces the lower element

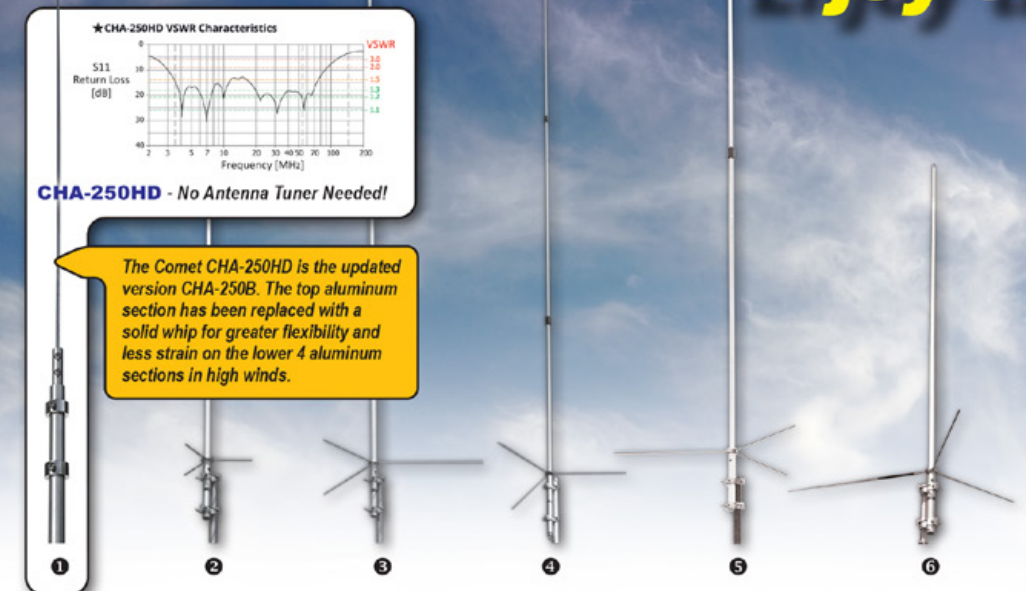


Comet offers several "No-holes to drill" lip mounts, in a variety of sizes and connectors

CP-5M pictured

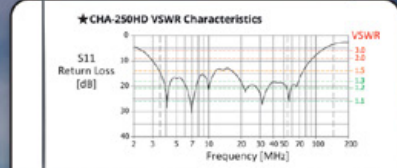


Life is a JOURNEY.  
Enjoy the ride!



## Base Antennas

- 1 **COMET, CHA-250HD BROADBAND 80M THROUGH 6M VERTICAL ANTENNA**  
A newly designed broadband vertical with NO GROUND RADIALS. EXTREMELY easy to assemble, requires no tuning or adjustments and VSWR is under 1.5:1 from 3.5-57MHz! • TX: 3.5MHz - 57MHz • RX: 2.0- 90MHz • VSWR is 1.5:1 or less, continuous • Max Power: 250W SSB/125W FM • Impedance: 50 Ohm • Length: 23' 5" • Weight: 7 lbs. 1 oz. • Conn: SO-239 • Mast Req'd: 1" - 2" dia. • Max wind speed: 67MPH
- 2 **COMET, GP-3 DUAL-BAND 146/446MHZ BASE REPEATER ANTENNA**  
Wavelength: 146MHz 6/8 wave • 446MHz 5/8 wave x 3 • Gain-146 MHz: 4.5dBi / 446 MHz: 7.2dBi • Max Pwr: 200W • Length: 5'11" • Weight: 2lbs. 9ozs. • Conn: Gold-plated SO-239 • Construction: Single-piece fiberglass
- 3 **COMET, GP-6 DUAL-BAND 146/446MHZ BASE REPEATER ANTENNA**  
Wavelength: 146MHz 5/8 wave x 2 • 446MHz 5/8 wave x 5 • Gain-146 MHz: 6.5dBi / 446 MHz: 9dBi • Max Pwr: 200W • Length: 10'2" • Weight: 3lbs. 8ozs. • Conn: Gold-plated SO-239 • Construction: Fiberglass, 2 Sections
- 4 **COMET, GP-9 / GP-9N DUAL-BAND 146/446MHZ BASE REPEATER ANTENNA**  
Wavelength: 146MHz 5/8 wave x 3 • 446MHz 5/8 wave x 8 • Gain-146 MHz: 8.5dBi / 446 MHz: 11.9dBi • Max Pwr: 200W • Length: 16' 9" • Weight: 5lbs. 11ozs. • Conn: GP-9 Gold-plated SO-239 • GP-9N Gold-plated N-type female • Construction: Fiberglass, 3 Sections
- 5 **COMET, CX-333 TRI-BAND 146/220/446MHZ BASE REPEATER ANTENNA**  
Wavelength: 146MHz 5/8 wave x 2 • 220MHz 5/8 wave x 3 • 446MHz 5/8 wave x 5 • Max Pwr: 120W • Length: 10'2" • Weight: 3lbs. 1oz. • Conn: Gold-plated SO-239 • Construction: Fiberglass, 2 Sections
- 6 **COMET, GP-15 TRI-BAND 52/146/446MHZ BASE REPEATER ANTENNA**  
Wavelength: 52MHz 5/8 wave • 146MHz 5/8 wave x 2 • 446MHz 5/8 wave x 4 • Max Pwr: 150W • Length: 7'11" • Weight: 3lbs. 1oz. • Conn: Gold-plated SO-239 • 2MHz band-width after tuning (6M) • Construction: Single-piece fiberglass
- 7 **COMET, CTC-50M WINDOW GAP JUMPER**  
Avoid drilling holes or leaving windows open/unlocked. Flat coax easily forms to window frame. Low loss SO-239 on each end, 15 inch length. • Max Pwr: HF 100W PEP / VHF 60W FM / UHF 40W FM / 900-1300 MHz 10W FM



CHA-250HD - No Antenna Tuner Needed!

The Comet CHA-250HD is the updated version CHA-250B. The top aluminum section has been replaced with a solid whip for greater flexibility and less strain on the lower 4 aluminum sections in high winds.



CTC-50M Window Gap Jumper  
No more drilling or open windows!



CAA-500MarkII  
1.8-500MHz Antenna analyzer

The CAA-500MarkII combines the simplicity and accuracy of an analog instrument, PLUS...a full color LCD graphic display • Resistive (R) and Reactive (X) components of impedance graphed and displayed numerically • SWR readings in both graphic and numerical results.

Operates on 8-16VDC external power, 6 AA Alkaline or NiMH rechargeable cells • Trickle charger built in (only when using NiMH batteries) • Typical battery life: 9 hours of continuous operation • Battery level indicator • Selectable auto power-off time limit preserves battery capacity • SO-239 connector for 1.8-300MHz range • N-female connector for 300-500MHz range

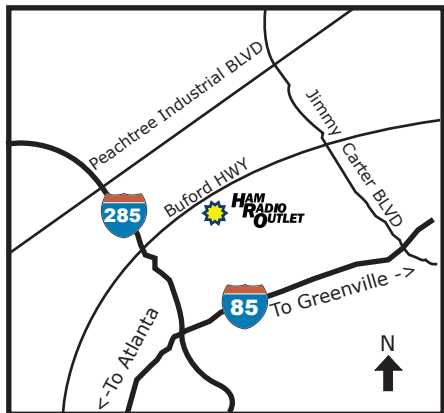
The perfect combination of analog and graphic information, designed in particular for antenna diagnostics and adjustments while on the roof, tower or in the field!

**CAA-55C**  
Protect your CAA-500MarkII from moisture, shock, dents and dings!  
Shoulder strap included.

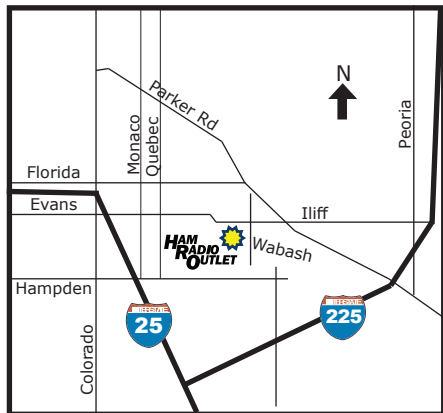




**ANAHEIM**  
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 FAX: (770) 263-9548  
[atlanta@hamradio.com](mailto:atlanta@hamradio.com)

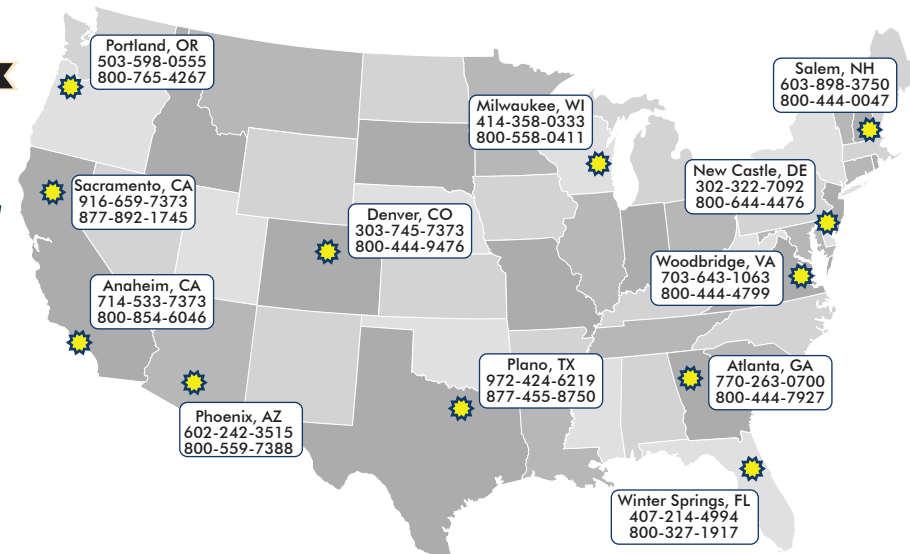


**DENVER**  
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 PH: (303) 745-7373  
 TF: (800) 444-9476  
 FAX: (303) 745-7394  
[denver@hamradio.com](mailto:denver@hamradio.com)

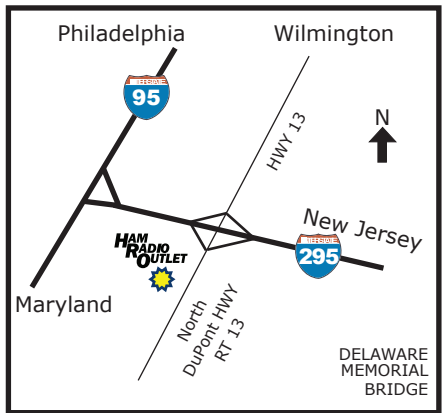


**Stores Are Open**  
 Monday - Saturday  
 10:00 AM - 5:30 PM

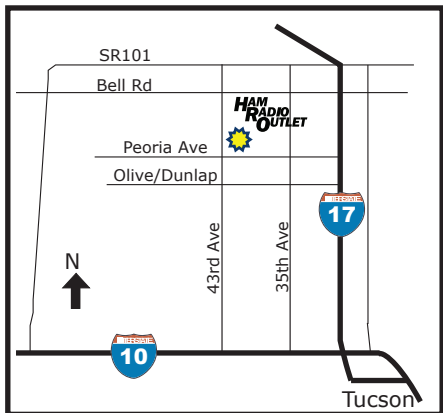
**Phones Are Open**  
 Monday - Saturday  
 9:30 AM - 5:30 PM



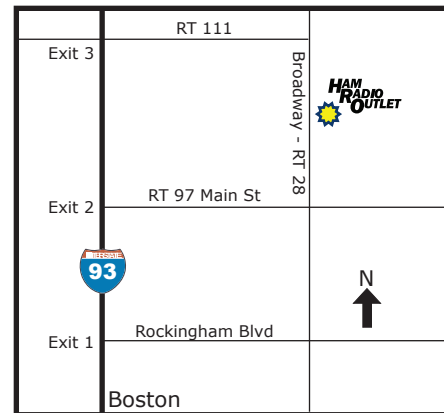
**MILWAUKEE**  
 5710 W Good Hope Rd  
 Milwaukee, WI 53223  
 PH: (414) 358-0333  
 TF: (800) 558-0411  
 FAX: (414) 358-3337  
[milwaukee@hamradio.com](mailto:milwaukee@hamradio.com)



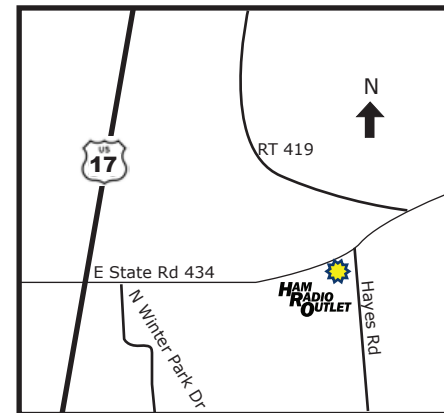
**NEW CASTLE**  
 1509 N Dupont HWY  
 New Castle, DE 19720  
 PH: (302) 322-7092  
 TF: (800) 644-4476  
 FAX: (302) 322-8808  
[newcastle@hamradio.com](mailto:newcastle@hamradio.com)



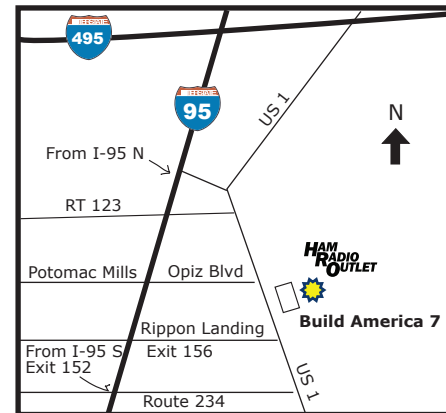
**PHOENIX**  
 10613 N 43rd Ave  
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 TF: (800) 559-7388  
 FAX: (602) 395-1244  
[phoenix@hamradio.com](mailto:phoenix@hamradio.com)



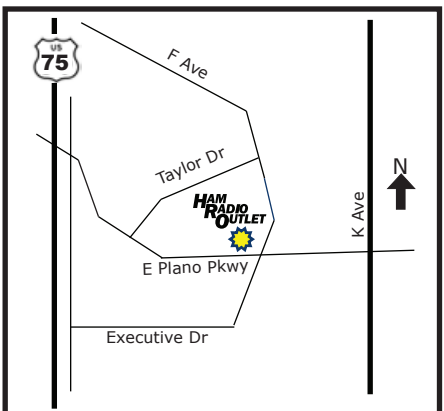
**SALEM**  
 224 N Broadway, D-12  
 Salem, NH 03079  
 PH: (603) 898-3750  
 TF: (800) 444-0047  
 FAX: (603) 898-1041  
[salem@hamradio.com](mailto:salem@hamradio.com)



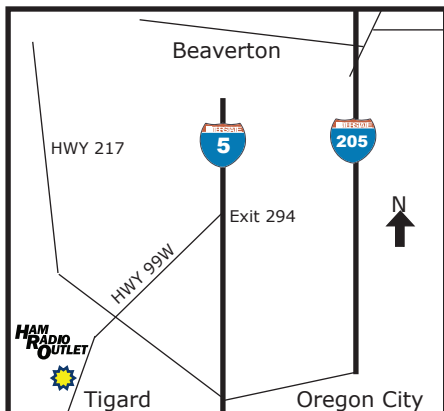
**WINTER SPRINGS**  
 521 E State Road 434  
 Winter Springs, FL 32708  
 PH: (407) 214-4994  
 TF: (800) 327-1917  
 FAX: (407) 214-3883  
[wintersprings@hamradio.com](mailto:wintersprings@hamradio.com)



**WOODBRIIDGE**  
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 Woodbridge, VA 22191  
 PH: (703) 643-1063  
 TF: (800) 444-4799  
 FAX: (703) 494-3679  
[woodbridge@hamradio.com](mailto:woodbridge@hamradio.com)



**PLANO**  
 701 E Plano PKWY #406  
 Plano, TX 75074  
 PH: (972) 424-6219  
 TF: (877) 455-8750  
 FAX: (972) 424-4969  
[plano@hamradio.com](mailto:plano@hamradio.com)



**PORTLAND**  
 14405 SW Pacific HWY  
 Portland, OR 97224  
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 TF: (800) 765-4267  
 FAX: (503) 684-0469  
[portland@hamradio.com](mailto:portland@hamradio.com)



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 4813 Auburn BLVD  
 Sacramento, CA 95841  
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**HAM RADIO OUTLET EXTENDED WARRANTY PROGRAM**

HRO's Optional Extended Warranty Program extends the original manufacturer's limited warranty on most Amateur Radios, but not for attendant accessories (like batteries, microphones, speakers, etc.) A period of one (1) or two (2) additional years can be selected, and all limitations, exceptions, and exclusions of the original manufacturer's warranty apply during this extended period.

The HRO Extended Warranty Program must be purchased within 30 days of the date the original product(s) was purchased, and is only available to the original purchaser of the relevant product(s). Neither the benefits nor coverage of this program are assignable or transferable, and verification that the Extended Warranty Program was purchased, product purchase date and serial numbers may be required of the buyer.

The HRO Extended Warranty Program starts at the conclusion of the new product original warranty period, and all Extended Warranty claims must be processed by HRO directly via any one of our store locations.

Further details are available online at <https://www.hamradio.com>

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