

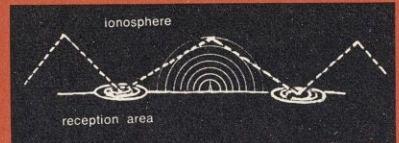
# what is short-wave?

You may often have heard the term "wave length" applied to the radio signals transmitted by a broadcasting station. A wave length is the distance between the "crests" of the waves. The total number of complete waves (or cycles) that a station can send out per second is referred to as "frequency." The broadcasting frequency, therefore, is determined by the wave length on which a particular station is transmitting. The shorter the wave length, the higher the frequency.



Every radio station in the world is licensed to broadcast on certain assigned frequencies or bands of frequencies. The standard broadcasting stations such as those in your home town are assigned to lower frequencies, or "longer" wave lengths. The high frequency bands are reserved for other types of transmitting stations known as Short-Wave Stations. The chief characteristic of short-waves is their amazing ability to span enormous distances.

The longer waves of standard broadcast are almost entirely absorbed into the ionosphere; therefore,



the signals you hear are primarily the short-distance, "ground" waves.

Short waves, for the most part, are not absorbed into the ionosphere. Rather, they bounce back and forth between the earth and ionosphere over tremendous distances. Each area where short wave signals bounce off of the earth, they can be heard on short wave receivers.

**WHAT CAN YOU HEAR ON SHORT-WAVE?** *Amateur Bands.* Communications on these bands between thousands of "Hams" around the earth promote a daily exchange of information and news, as well as provide important emergency communications facilities in times of natural or man-made disasters. *Overseas Marine Radio.* Many marine radio services including ship-to-ship, ship-to-shore, radio telephone and emergency channels can be heard from commercial and military vessels far at sea. *Aeronautical Bands.* Intercontinental airlines, Coast Guard and military aircraft use these bands heavily for navigation, operations, search and rescue. Many of these signals are in code or single

sideband (SSB). *International Broadcasting.* Over 180 countries use these bands to beam broadcasts to all parts of the earth with news, music, cultural events and propaganda through more than 1000 stations. *Military and Clandestine Stations.* Signals may be heard throughout the HF spectrum depending on propagation conditions. *Standard Time Signals.* National Bureau of Standards broadcasts exact time and frequency signals on these frequencies at periodic intervals. *Public Safety and Industrial Stations.* Local area two-way communications between police and fire departments, taxis, mobile-telephones, sheriffs and businesses for command, control and service.



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# choosing a quality receiver.

For the beginning Short-Wave Listener or "SWL," a general coverage receiver is the most useful type. Even the least expensive ones offer reception on three or more separate short-wave bands plus regular AM and/or FM broadcast for home use. So your receiver can have two uses, as a superior unit for regular local broadcasting as well as "round the world for short-wave."

Hallicrafters quality radios feature extra features you do not normally find on home units, like "band spread," an ultra-fine precision tuning control that allows you to pick out and isolate stations impossible to separate with a conventional tuning device. Many of the signals you hear on the Marine, Aeronautical, Military, and Amateur bands are in the form of Code CW or single side-band (SSB) voice. Hallicrafters patented BFO control allows you to precisely receive these interesting communications type frequencies. For the International Broadcast Band enthusiast a "skip-band" unit is ideally suited for easier, faster reception of radio broadcasting stations around the world. These sets spread out the popular Broadcast Bands on the dial scale making the stations as easy to tune as your local AM or FM station.

The more expensive Hallicrafters receivers have additional electronic components that amplify weaker sig-



nals and make them easily audible. Some have specially designed crystal filters and product detectors to permit maximum selectivity in picking out stations from crowded bands. Others have "S" meters to measure relative strength of incoming signals and noise limiters and antenna tuners for optimum radio signal reception from across town or across the seven continents.

The world famous Hallicrafters short-wave receivers offer you the widest available selection of features and performance to measure up to any need—from beginner to professional.

the hallicrafters co.

puts you where it's at, in amateur/professional short-wave radios

the hallicrafters co.

# short-wave

puts you where it's at.

here's  
where it's at.



KNOWN THROUGHOUT THE  
WORLD FOR PROFESSIONAL QUALITY AND  
NEW IDEAS IN COMMUNICATIONS AND ELECTRONICS

For over 35 years, Hallicrafters has been synonymous with "communications" to professionals and amateurs alike throughout the world. The engineering and craftsmanship behind each Hallicrafters instrument assures high performance and reliability.

**AMATEUR AND SHORT-WAVE RADIO.** Hallicrafters is the pioneer and world's largest manufacturer of transceivers and receivers for amateur and short-wave radio services. Millions of people throughout the world devote their spare time to these hobbies and rely on Hallicrafters products for timely news, cultural events, and emergency communications.

**DEFENSE ELECTRONICS.** Hallicrafters excellence in design and production of electronic countermeasures, reconnaissance, and other electronic intelligence systems and devices are today's backbone of America's electronic defenses.

**RADIO-TELEPHONE COMMUNICATIONS.** Thousands of Hallicrafters AM, CW, SSB, and FM two-way radio systems are in use around the world providing effective reliable communications systems for government, farming, business, police, and paramilitary applications.

**INDUSTRIAL COMMUNICATIONS.** Two-way FM portable mobile and base radios for America's public safety and business services is a major contribution of Hallicrafters to the growing efficiency of our economy.



Any place you want to be in the world, and short-wave puts you there at the exact time an event is happening.

You're in St. Peter's Square at the Vatican listening to bells ringing in a new Pope; or enjoying the different sounds of a disc jockey in Djakarta. You could be listening to Radio Moscow or Radio Free Europe. Next, you're in the Alps learning to yodel with the Swiss. A second later, be in Guatemala and dance with a marimba orchestra. Another twist of the dial and you're on an oil tanker suddenly run aground off the coast of Africa; or being in on a conversation between the astronauts and ground control.

These and hundreds of other adventures are yours with just the twist of a dial. Distant stations sound local. The infinite

variety of programming and other communications you can monitor on short-wave run the gamut from "pirate" radio stations operating just out of government control and clandestine propaganda stations — illegal stations that come and go with the ebb and flow of international political tides — to over 2 1/4 million licensed amateur radio operators or "Hams" to citizen band two-way users in your local home town. From over 180 countries around the globe powerful short-wave stations, some with 1,000,000 watts power, beam broadcasts regularly every second, every minute, every day.

Short-wave is the fastest way of being where it's at anywhere in the world. Become informed and stay informed with short-wave.



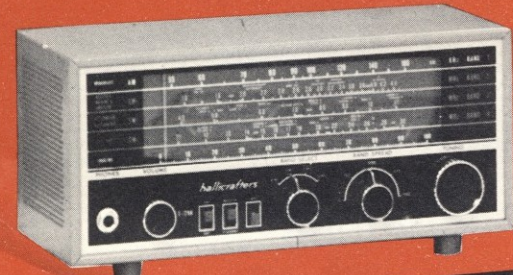
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## general coverage receivers

World's most famous short-wave radios with local AM and FM broadcast coverage, too. Hallicrafters will put you where it's at in an instant, whether you are a consul general of a foreign embassy, beginning SWL or a seasoned "DX'er," there's a receiver designed for your needs and budget. It costs only a little more to own the very best in radio with prices ranging from \$79.95. Put it all on Tape! Have added fun by recording live foreign broadcasts, games and quizzes from Moscow; symphonies and opera from Vienna, Rome, London, Berlin; political views, propaganda, clandestine broadcasts, learn languages.



S-120A



S-214



S-240



SX-133



SX-122A



R-50



R-47



CR-44A

**S-120A** Newest version of world's most popular coverage short-wave receiver. All solid-state "STAR QUEST" with communications-type, built-in speaker. Covers 76 short-wave services from 1.7 to 30 MHz plus standard AM Broadcasts. Will operate AC or off of 12v DC battery power for camping and emergency use. Includes BFO, bandspread, calibrated slide-rule dial, logging scale, phone jack. Professional styling.

**S-214** Solid-state AM/FM and International SW broadcast entertainment type receiver. "Skip-Band" receiver designed specifically for the short-wave enthusiast. The S-214 covers four, easy-to-tune popular 49, 31, 21 and 19-meter International broadcast bands plus standard AM and FM broadcast. Transformer operated World Capital Locator, slide rule dial, three-way antenna system, tone control, AFC and over 1000 milliwatts of audio output. Tuner output jack. Built-in speaker. Black vinyl-clad metal cabinet with handsome control panel. Will also play through your Hi-Fi system.

**S-240** Solid state AM/FM/SW/SSB entertainment-type receiver with built-in speaker and three-way antennas. Covers 76 short-wave services from 2 to 30 MHz plus standard AM and FM broadcasts. Transformer operated with BFO, Signal-strength "S" meter, fine tune, AFC, and over 1000 milliwatts audio output. Tuner output jack for Hi-Fi use. Provision for external speaker or headphones. Walnut grained vinyl-clad metal cabinet with instrument-type panel.

**SX-133** Hallicrafters' newest communications type AM/CW/SSB high-performance receiver with crystal filter for sharper selectivity and product detector for superior CW/SSB reception. Covers 81 short-wave services plus standard AM broadcast 535 kHz to 31.5 MHz. Bandspread calibration for four popular short-wave bands and five amateur bands. Includes "S"-meter, noise limiter, antenna trimmer and selectivity controls. Uses HA-19 crystal calibrator (optional). 117 or 220 AC operation. Requires external speaker and antenna.

**SX-122A** Hallicrafters' finest professional AM/CW/SSB communications receiver with dual-conversion from 535 kHz to 34 MHz. Covers 83 short-wave services plus standard AM broadcast. Has product detector, noise limiter and uses HA-19 crystal calibrator (optional). 117 or 220 AC operation. Requires external speaker and antenna.

The SX-122A is standard equipment with government agencies, embassies and laboratories around the world as a reliable, high-performance monitor of communications and broadcasting frequencies.

**CR-44A** "RANGER" Hallicrafters' extremely versatile 5-band, radio direction-finder (RDF) portable receiver with direct readout azimuth indicator and null "S" type and battery condition meters for entertainment, safety, navigation, weather, fire and police broadcasts. Also covers standard AM and FM entertainment bands. Full direction finder capability for marine and air navigation, two meters, dial light, tone and sensitivity controls, dual antennas, large 4" speaker. Required 4 "D" cells or (optional) AC power adapter.

### HALLICRAFTERS ACCESSORIES

**R-47** 4-inch Communications Speaker for SX-130, SX-122. For voice frequencies only. 3.2 ohm voice coil.

**R-50** Highly efficient dual 5" x 7" speaker matching in styling the SX-133, SX-122A. 3.2 ohm voice coil handles up to 5 watts of communications and entertainment program material. Can be used with any 3.2 ohm receiver.

**HA-19** Plug-in 100 kHz crystal calibrator for SX-122A or SX-133.

**R-51** Same as R-50 except it has 4" x 6" oval speaker and attractive 24-hour digital clock built-in.

**RA-48** Professional communications headphones. Universal impedance. Works with any table model unit above.

**HA-36** AC plug-in power adaptor for CR-44A.

**120-6609** 220/117 VAC power converter for S-120A, S-214, S-240.

**50-4120** 220/117 VAC power converter for SX-133.

## special frequency monitor radios

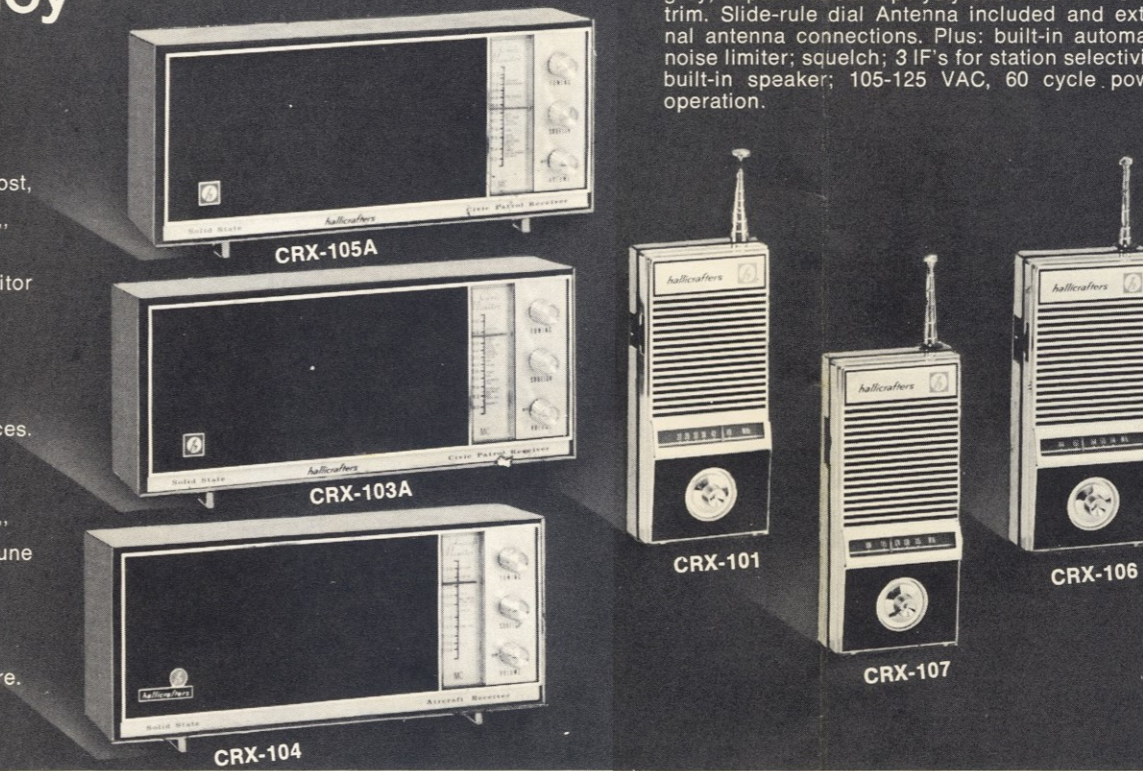
To be where it's at the minute it happens, Hallicrafters has engineered a complete line of low cost, high quality professional performance, all solid state portable and table model "Portamon" Series of Civic Patrol Radios (CRX).

The powerful CRX receivers let you monitor the wide range of special VHF communications and AM/FM frequencies used by the police, firemen, Civil Defense, public service, Citizens band, marine, private pilots, commercial jets, ten meter amateur radio, U.S. weather forecasts, taxi cabs, business and many other services.

The monitor radios are tunable over the entire low band, 27 MHz to 50MHz and high band range, 144 MHz to 174 MHz.

Unlike many low cost radios which "compromise" their VHF reception with circuit design to also tune regular broadcast stations, these Hallicrafters CRX radios are designed for maximum performance on VHF frequencies.

Select one or a pair, one for use in the home and one for your outdoor listening pleasure. They start at \$39.95.



**CRX-105A** All solid state table model. Tunes in high band range from 152 to 174 MHz. Handsome grey, impact-resistant polystyrene case with silver trim. Slide-rule dial Antenna included and external antenna connections. Plus: built-in automatic noise limiter; squelch; 3 IF's for station selectivity; built-in speaker; 105-125 VAC, 60 cycle power operation.

**CRX-103A** Table Model Receiver covers similar two-way services in low-band 30-50 MHz as CRX-105A.

**CRX-104** All solid state table model. An aviation communications center. Monitors all essential frequencies from 108 to 135 MHz. Listen to commercial, business and private aircraft taking off, landing and in flight; tower transmissions, instrument landing systems, aviation weather forecasts, UNICOM and OMNIRANGE. Same deluxe, built-in, high performance, design and control features as the CRX-105A.

**CRX-101** Portable Receiver covers same frequencies and services as CRX-104 in a pocket portable version.

**CRX-107** Portable battery-operated receiver. All solid state chassis. Tunes high-band from 144 to 174 MHz for police communications, two meter amateur band, five departments, U.S. continuous weather forecasts, civil defense, railroads, cabs, utilities, business services, etc. Features: (RF) state to increase pulling power; 3 IF's and 5 tuned circuits; precision slide rule dial; automatic noise limiter; built-in telescoping antenna with external antenna provision; built-in jack for HA-39 AC power supply; (A GC); earphone for private listening; built-in speaker; 9 volts DC (battery) power source; housed in a rugged, handsome case with chrome die cast front.

**CRX-106** Portable Receiver covers similar two-way services in low-band 27-50 MHz including citizen band as CRX-107 version.

# the all-New hallicrafters World Leader in Radio

## amateur radio transceivers—

Here's where it's at for the more sophisticated discriminating "ham operator." Transceiver communication systems provide around-the-world, two-way communications from automobile or home. Hallicrafters professionally engineered single side-band SSB/CW transceivers feature the latest state-of-the-art engineering to give you maximum power, range, sensitivity and all-around performance.

Hallicrafters' famous high performance Amateur equipment is in everyday use in stations around the world including the Vatican, the International Telecommunications Union (ITU), Project HOPE, missionaries and by thousands of "ham" operators on every continent.

To learn more about the world's "most interesting hobby," write Hallicrafters Amateur Radio Department or to the American Radio Relay League (ARRL) 225 Main Street, Newington, Connecticut 06111.



SR-2000



SR-400



SR-400A

**SR-2000** "HURRICANE" 2000 Watts P.E.P. 80-10M SSB/CW Transceiver. World's most powerful, compact system features built-in noise blanker, VOX, AALC, RIT, 100 kHz calibrator, 1 kHz readout, CW sidetone, 1 uv sensitivity for 20 db SN/N+N in industry's smallest package configuration. 5 band, 1000 watts CW input. Receiver Increment Tuning (RIT) permits  $\pm 3$  kHz adjustment of receiver frequency, independent of transmitter, for round-table, net or CW operation. Hallicrafters' exclusive amplified Automatic Level Control. One-of-a-kind transceiver for the discriminating advanced Amateur operator.

**P-2000-AC** Solid-state matching power supply console for the "HURRICANE." Features 3" x 5" voice frequency speaker, two meters for Power Amplifier plate current and voltage. 115/230 VAC, 50-60 cycle.

**SR-400** "CYCLONE II" 400 Watts P.E.P. 80-10M SSB/CW Transceiver. Cleanest signal in the air with Hallicrafters' field-proven fixed/mobile unit featuring built-in RIT, AALC, Notch and CW filters, noise blanker, VOX... over a score of built-in Ham-tested features for SSB and CW operation in any operating mode. Operates fixed station or mobile.

**SR-400A** "CYCLONE III" Latest improved version of Hallicrafters Cyclone series. 550 Watts P.E.P.,

80-10M, 25 kHz calibrator, Power Amplifier Tube balance control, Calibrated RIT, Power Amplifier blower Kit (HA-60 optional). Same field proven reliability and performance as "CYCLONE II."

**PS-500A-AC** Solid-state matching power supply console for "CYCLONE II and III." Features 3" x 5" voice frequency speaker for both 115/230 VAC, 50-60 Hz.

**HA-18A** Learn code the easy way with Hallicrafters' transistorized code practice oscillator with variable pitch control and earphone provision. Includes oscillator, code practice key and batteries.

**HA-1** Hallicrafters famous "T.O. Keyer" new and improved "Stradivarius of electronic Keyers" with digital circuitry for perfect CW sidetone. Features constant ratio timing, self-completing dots and dashes, vacuum sealed, mercury wetted relay used to key transmitter, adjustable speed 10 to 65 WPM.

### HALLICRAFTERS ACCESSORIES

**P-500-DC** Solid-state power supply for "CYCLONE II and III" mobile or other 12 V DC negative ground installation. Does not have built-in speaker.

**MR-400** Universal heavy-duty, slide-in mobile mounting rack for "CYCLONE II and III."



HA-18A



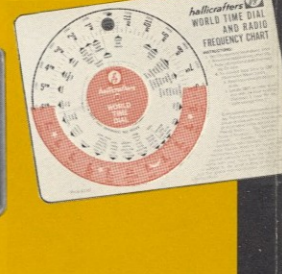
HA-1



PS-500A-AC



P-2000-AC



### WORLD TIME DIAL AND FREQUENCY CHART

New, easy-to-use, pocket-size world time dial combined with radio frequency charts provides the short-wave enthusiast, DX'er, radio amateur, world traveler and electronic hobbyist with instant time conversion between local standard and other cities throughout the world as well as to Greenwich Mean Time (GMT).

### THE NEW HALLICRAFTERS WORLD TIME DIAL & FREQUENCY CHART

Only \$1.00 each, postpaid, to readers of this publication. Please send me \_\_\_\_\_ dial/chart(s). Enclosed is my check , money order , for \$\_\_\_\_.00 in full payment, including postage and handling.

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