

www.radiopharos.it

Powerful . . . Versatile . . . Reliable . . . Compact



The SR-400 *Cyclone* Fixed/mobile Transceiver



- 400 Watts
- Receiver Incremental Tuning
- Notch Filter
- Amplified Automatic Level Control
- IF Noise Blanker
- 1KC Read-out
- Built-in CW Filter (200 Cycles)



hallicrafters
A Subsidiary of Northrop Corporation

SR-400 Cyclone...The Most Advanced Transceiver You Can Put In Your Home or Auto

Built in the finest Hallicrafters' tradition, the SR-400 Cyclone is a masterpiece of engineering with a first class, full featured receiver and a powerful transmitter in one compact package. The SR-400 offers more power, more performance, more reliability, more versatility, more features . . . more built-in value than any other transceiver available. The SR-400 is



built to operate dependably in any human environment—field, shack or mobile!

You will fully realize what we mean the very first time you bring the compact Cyclone to life. Its superb sensitivity and selectivity let you select that one weak signal from all the rest. You tune out annoying heterodynes with the exclusive Notch filter. You will almost enjoy encountering noise

interference, so you can put the most effective noise blanker ever made to work. This blanker turns the IF amplifiers off momentarily when a noise pulse occurs, preventing the noise from ever reaching the product detector and your ear.

Other outstanding features include Hallicrafters' exclusive Receiver Incremental Tuning (R.I.T.) built-in CW filter (200 cycles), grid block keying, an ultra-smooth tuning drive with true 1 kHz readout, Amplified Automatic Level Control (A.A.L.C.) to prevent splattering, and every other high performance feature previously found only on the most expensive separate units.

The SR-400 incorporates 19 tubes, 22 diodes plus a voltage regulator and provides both upper and lower sideband and CW operation on all five amateur bands. Accessories include a mobile mounting rack, 117/234 volt 50/60 cycle power supply, 11/16 volt DC power supply, and a combination remote VFO and SWR console.



Special Features

Receiver Incremental Tuning (R.I.T.) . . . This control enables operator to unlock the receiver frequency and tune ± 2 kHz either side of the transmit frequency. Essential for roundtable, net or CW.

Choice VOX or sideband manual automatic blanker for CW, premium position convenience.



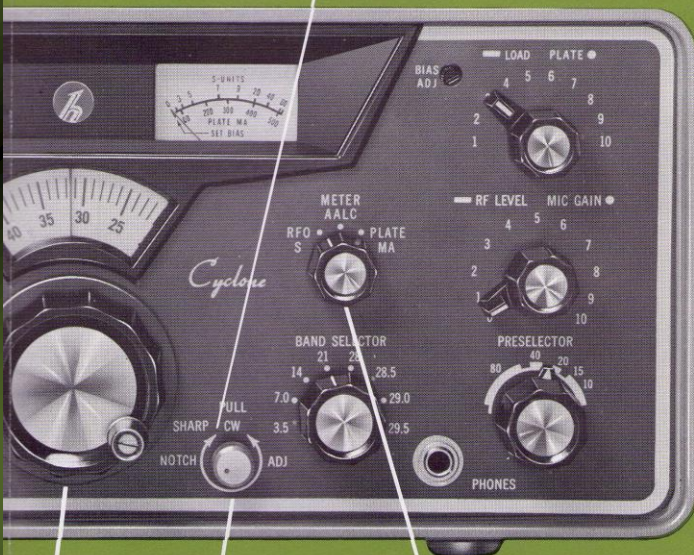
Noise Blanker. The result of more than 40 years of experience, Hallicrafters' effective new blanking system momentarily turns off the IF amplifier when noise pulses greater than the desired signal are present. Prevents noise pulses from reaching product detector, without desensitizing receiver long enough to affect the incoming signal.

Velvet heavy tuning 1 kHz

CW Filter cycle se

... of built-in
... PTT control on
... and choice of
... or semi-auto-
... break-in control
... providing maxi-
... possible operating
... ence and flexi-

Notch Filter to sup-
... plement the sharp CW
... selectivity. The operator
... tunes out unwanted
... heterodynes in the IF
... pass band with up to 50
... db of attenuation.



Let-smooth,
duty gear driven
... mechanism, with
Hz readout.

Amplified Automatic
Level Control (AALC)
... functions in transmit
... mode to prevent splatter
... resulting from severe
... flat-topping of the final
... amplifier plate signal.
... Provides 15 db of com-
... pression at the point
... where flat-topping
... begins to occur.

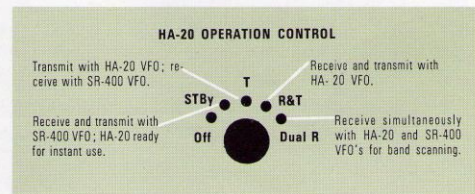
Filter provides 200
... selectivity on CW.

For sensational DX operation . . . add the exclusive HA-20 "Dual-Receive" VFO



*Combine the deluxe HA-20 VFO
with either the superb SR-400
or SR-2000 and what do you
have? UNMATCHED, AWARD-
WINNING DX CAPABILITY!*

Unlike any other VFO, the HA-20 uniquely lets you receive two frequencies simultaneously. You can roam the bands for a second contact even while you are working another. And of course, the HA-20 enables conventional DX operation with a transmit frequency completely independent of receive frequency.



The HA-20's dial is calibrated for true 1 kHz readout, just like the SR-400. In fact, the HA-20 is identical to the built-in VFO in the SR-400, including the same exceptional temperature stability for completely matched performance. An expanded scale VSWR meter complete with remote bridge connection allows you to continuously check the performance of your antenna, right across the bands. The HA-20 is self powered with its own built-in power supply. Size: 7" h x 12 1/4" d x 15" w. Shipping wt. 11 lbs.

SR-400 Specifications

Additional features: Accurately calibrated VFO with excellent mechanical and temperature stability. Constant tuning rate on all bands. Crystal lattice 1650 kHz filter with 6 poles for optimum selectivity and single sideband response. Product detector with crystal controlled beat frequency oscillator injection for maximum stability. Keyed sidetone for monitoring CW transmissions. Excellent cross modulation and overload characteristics. Complete metering. "S" meter for receiver, RFO or plate current metering for transmitter tuning convenience, and AALC metering. Built-in 100 kHz crystal calibrator for exact dial calibration. Provision for switching external relays.

Tubes and functions: 12DK6 Receiver RF Amplifier; 7059 Receiver and Transmitter 1st Mixer; 7059 IF Amplifier and AALC Amplifier; 12AT7 2nd Receiver Mixer and VFO Amplifier 7059 Noise Amplifier and Pulse Amplifier, 6GX6 1st 1650 kc IF Amplifier and Blanking; 7059 2nd 1650 kc IF Amplifier and Side Tone Amplifier 7059 AGC Amplifier and Meter Amplifier, 12AT7 Product Detector and 1st Audio Amplifier O2 Voltage Regulator; 6AW8-A 2nd Transmitter Mixer and 100 kHz Crystal Oscillator 7056 Heterodyne Oscillator 12BA6 VFO, 12AT7 BFO/Carrier Oscillator and 3rd Mic. Amplifier 6AQ5 Audio Output, (2) 6HF5's Transmitter Power Amplifier 12BY7-A Transmitter Driver; 12AT7 1st Mic. Amplifier and 2nd Mic. Amplifier 12AT7 VOX Amplifier and Relay Amplifier.

GENERAL SPECIFICATIONS

Types of emission: SSB, selectable USB/LSB with suppressed carrier. CW, keyed RF carrier.

Frequency control: Self-contained VFO for transmit and receive modes. Accessory Model HA-20 DX Adaptor unit permits: Transmit with HA-20 VFO and receive with SR-400 VFO, receive and transmit with HA-20 VFO, and dual simultaneous receive with HA-20 and SR-400 VFO's for band scanning.

Transmission control: Single Sideband Operation: MOX-Manual (Push-to-talk), VOX-Voice control. CW Operation MOX-Manual, VOX-Semi-Automatic break-in.

Dial calibration: One kHz increments, 500 kHz

tuning range, Internal 100 kHz crystal controlled calibrator for calibration checks.

Calibration accuracy: Less than 2 kc error across the dial after indexing at high frequency end of the dial. Band to band calibration error less than ± 2 kc.

Frequency stability: Less than 250 cycles drift in first hour, after a fifteen minute warm-up, and less than 100 cycles per hour thereafter.

Cable connector data: Front Panel MIC connector—Amphenol type 80-MC2M, PHONES Jack—Standard $\frac{1}{4}$ -inch two conductor phone plug, Rear Cabinet KEY jack—Standard $\frac{1}{4}$ -inch two conductor

phone plug. ANTENNA connector—Mil. No. PL-259 (49190) UHF series. RCVR OUTPUT connector—Standard RCA type phono plug. POWER connector—Cinch-Jones type S-312-CCTL (12-pin plug). ACCESSORY connector—Amphenol type 86-PM11 (11-pin plug).

Power supply requirements: 105/125 VAC—Model PS-500 AC, 210/250 VAC—Model PS-500-A-AC, DC—Model PS-500-DC. Refer to data for power supplies.

Dimensions: (HWD) : $7\frac{1}{2}$ x $16\frac{1}{2}$ x 15 inches.

Shipping weight: 26 lbs.

TRANSMITTER

Power input: SSB-400 watts PEP, CW-360 watts max.

Output impedance: 50 ohms nominal. Adjustable, 40 to 70 ohms essentially non-reactive.

Type of sideband generation: Solid state modulator with 1650 kHz, 6 pole crystal filter. (Nominal 3 db BW = 2.1 kHz, 60 db = 4.2 kHz).

Microphone input: High impedance. Input sensitivity of 5 millivolts RMS or less for rated PEP output.

Audio response overall: 500 to 2400 cps (6 db).

Distortion products: 30 db minimum at rated output.

Unwanted sideband rejection: 50 db below desired output at 500 to 2500 cps input.

Carrier suppression: 50 db below rated PEP output.

Spurious emission: 50 db or more below rated PEP output.

CW side tone: 800 cps nominal.

RECEIVER

Antenna input: 50 ohms nominal.

Audio output impedance: 3.2 ohms and 500 ohms.

Sensitivity: 0.3 or less for 10 db signal to noise ratio.

Audio output: One watt with less than 10% distortion.

Dual conversion system: First IF = 6 MHz to 6.5 MHz. Second IF = 1650 kHz with crystal lattice filter.

Crystal lattice filter: Six pole, symmetrical passband. Center frequency = 1651.2400 kHz. B/W = 2.1 kHz (3 db), B/W = 4.2 kHz (50 db). Carrier frequencies: USB = 1652.800 kHz; LSB = 1650.000.

AVC figure of merit: 60 db or more RF input change for less than 10 db change in audio output.

RIT frequency range: 4 kHz minimum.

In band tweets: Less than one microvolt equivalent CW signal.

First IF rejection: Better than 50 db (4.0 MHz and 7.0 MHz). Better than 60 db at all other frequencies.

Image and spurious rejection: Better than 50 db.



PS-500

SR-400 ACCESSORIES

PS-500 AC Power Supply. Styled as a companion unit to the SR-400, this power supply is designed to operate the transceiver in fixed installations where 105-125 V, 50/60 cycle power is available. The PS-500 AC has a built-in 3 x 5 inch speaker with a frequency response optimized for the voice frequency range. Solid state construction is employed throughout for cool, maintenance free operation. Shipped from factory with line cord wired and fitted with a plug for 115 V, 2 wire service.

PS-500-A-AC POWER SUPPLY. Similar to PS-500 AC, but for 210-250 volt, 50/60 cycle operation.

PS-500 DC POWER SUPPLY. This all solid state supply is designed to operate the SR-400 in any mobile installation where available power is from 11 to 16 volts, negative ground DC. Shipped with power cable suitable for 12 volt DC operation. Does not have built-in speaker.

R-49 Speaker. Compact 4" communications speaker required with SR-400 in a mobile installation. Has smooth audio response throughout voice range to provide maximum speech clarity. Constructed of rugged drawn steel. Size: $5\frac{1}{4}$ x $5\frac{1}{4}$ x $3\frac{1}{4}$ ". Supplied with 4' cable and trunion bracket.

MR-400 Mobile Mounting Rack Includes universal mounting brackets and all necessary hardware to neatly install the SR-400 transceiver in an automobile.

HA-20 Remote VFO and VSWR Console Built-in power supply. 1kHz readout. Remote bridge pick-up.



The new ideas in communications are born at

the hallicrafters co.

A Subsidiary of Northrop Corporation

600 Hicks Road, Rolling Meadows, Illinois 60008 U.S.A.

Phone: 312-259-9600

TWX: 312-392-1962

Telex: 25-4784 • Cable: Hallcraft