



DATA
SHEET

**HQ-180A
SERIES**

APRIL, 1970

Technical Data

GENERAL COVERAGE VERSATILITY



HQ-180A HQ-180AX

WITH UNEQUALLED BANDSPREAD

Hammarlund's HQ-180 general coverage receiver attained world recognition by creating new standards of performance . . . Now, the HQ-180A and HQ-180AX raise these standards to an unsurpassed high. Some of the **NEW** features which make these receivers unexcelled for general coverage (540 kHz to 30 MHz) and amateur reception, include improved electrical and mechanical stability, tunable BFO for CW or fixed BFO for optimum SSB, silicon rectifiers, accessory power supply, and 115/230v, 50/60 HERTZ operation.

For SSB reception at its very best, the HQ-180A combines a linear product detector, selectable sideband, 60 kHz third IF, and vernier IF passband tuning. Selectivity is adjustable from 500 HERTZ to 6 kHz and a tunable slot filter provides heterodyne and adjacent channel attenuation of up to 60 db. An input signal of less than .8 μ volts will produce a 10/1 signal to noise ratio.

180AX

SPECIAL CRYSTAL-CONTROLLED FIXED FREQUENCY MODEL



The HQ-180AX retains all of the outstanding features of the HQ-180A but additionally provides the versatility of crystal-fixed frequency, accuracy, and stability for net, MARS, WWV, etc., operation. A unique feature of the HQ-180AX is that minor crystal differences can be compensated for with the vernier passband tuning control which provides a ± 3 kHz deviation from the crystal frequency.

The HQ-180AX features 11 fixed-frequency crystal positions in addition to the VFO; six of which are available on the face of the instrument (in the area formally provided for the 24-hour clock-timer) the balance accessible through the trap door design of the cabinet. (Crystals extra).

HAMMARLUND

HQ-180A SPECIFICATIONS

Improved electrical and mechanical stability.

Panel mounted three position switch to select fixed BFO for optimum SSB, variable BFO for CW or AM reception-plus "off" position.

500 and 3.2 ohm audio output.

Separate systems socket for convenient transmitter/receiver control.

Multi-purpose power transformer for 115/230 volt, 50/60 HERTZ operation.

Separate, continuously running filament transformer reduces HF Oscillator and Mixer warm up time to an absolute minimum.

Accessory power supply for converters, etc.

TRIPLE CONVERSION—17-tube superheterodyne circuit.

FREQUENCY RANGE—Full dial coverage from .54 MHz to 30.0 MHz.

BANDSPREAD—Bandspread calibration marks every 5 kHz on 15, 20, 40, and 80 meter bands and every 10 kHz on 10 meter band plus a 0-100 logging scale.

SEPARATE VERNIER TUNING— ± 3 kHz pass-band tuning range remains constant throughout the frequency spectrum (540 kHz to 30 MHz).

NEW HIGH FREQUENCY CRYSTAL FILTER—A new version of the renowned Hammarlund Crystal Filter is employed at 3035 kHz to improve selectivity and shape factor of the 1st IF amplifier. Second converter crystal controlled for high stability.

SLOT FILTER—Razor sharp 1.5 kHz at 6 db. Adjustable ± 5 kHz over passband. Provides better than 60 db attenuation.

CRYSTAL CALIBRATOR—Built-in 100 kHz crystal calibrator.

DIAL SCALE RESET—Adjustable calibration for bandspread dial.

SEPARATE LINEAR DETECTOR—Linear product detector for CW and SSB reception, plus normal diode AM detection.

60 kHz IF AMPLIFIER—Seven selectivity positions provide mechanical filter type selectivity.

SELECTIBLE SIDEBAND—Upper, lower, or both sidebands selectable from front panel.

FAST ATTACK AVC—Selectable, OFF, SLOW, MEDIUM, FAST decay speeds. AVC obtained from high selectivity 60 kHz IF.

ANTENNA INPUT—Balanced or unbalanced.

Antenna compensator.

FREQUENCY RANGE

540 kHz to 30 MHz, covered in the following ranges: .54-1.05 MHz; 1.05-2.05 MHz; 2.05-4.04 MHz; 4.0-7.85 MHz; 7.85-15.35 MHz; 15.35-30.0 MHz.

AMATEUR BANDS COVERED

10, 15, 20, 40, 80 and 160 meter bands.

BANDSPREAD CALIBRATION

Dial markings every 5 kHz on 15, 20, 40 and 80 meter bands; every 10 kHz on 10 meter band; plus 0-100 logging scale for short wave.

AVC ACTION

Operates on RF and 3 IF stages. Provides fast charge—adjustable discharge, smooth acting AVC. Delayed AVC applied to the RF stage. Better than .001 second attack time and .01—.1—1 second decay time. Off position.

ADJUSTABLE SELECTIVITY AND SELECTABLE SIDEBANDS

6 db bandwidths. Upper sideband 1-2-3 kHz. Lower sideband 1-2-3 kHz. Both sidebands .5-2-4-6 kHz.

SENSITIVITY

Less than .8 microvolt on SSB and CW produces 10:1 signal-to-noise ratio.

TUBE COMPLEMENT

6BZ6, RF Amplifier	6BE6, 3rd. Converter	12AU7, BFO—"S" Meter Amp.
6BE6, 1st. Converter	6BA6, 60 kHz IF Amp.	6AV6, 1st. AF Amp.—Delayed AVC
6C4, HF Oscillator	6BA6, 60 kHz IF Amp.	6AQ5, Audio Power Output
6BE6, 2nd. Converter	6BV8, 60 kHz IF Amp.	OA2, Voltage Regulator
— crystal controlled	— AVC-AM Det.	6BZ6, Crystal Calibrator
6BA6, 455 kHz Gate	12AU7, SSB Product Det.	
6BA6, 455 kHz IF Amp.	6AL5, Noise Limiter	

SEMICONDUCTOR COMPLEMENT

Two 800v P.I.V., 1/2 amp. silicon rectifiers.

POWER SUPPLY

115/230 Volts, 50/60 HERTZ, A.C. Power Consumption 120 watts.

"S" METER

Calibrated 1 to 9 in steps approximately 6 db each. Also includes db scale above S-9 to plus 40 db. (Meter deflects on all type signals.)

NOISE LIMITER

Adjustable series-type provides both positive and negative clipping.

FRONT PANEL EQUIPMENT

Main Tuning	Antenna Compensator	AVC, off, slow, medium, fast.
Band Spread Tuning	Tuning Range (Band Selector)	Send-Receive-Calibrate Switch
Sensitivity (RF Gain): on/off Switch	Function Switch: AM-SSB-CW	"S" Meter
Selectivity: 0.5-1-2-3 kHz per sideband	Slot Freq. Control	Phone Jack
Sideband: Upper-Lower-Both	CW Tone (BFO Pitch)	Dial Scale Reset
Audio Gain	Noise Limiter (adjustable), ON/OFF Switch	Vernier Bandpass Tuning

REAR PANEL EQUIPMENT

Terminal for speaker connections. Line Fuse.

Terminals for balanced and unbalanced antennas, with separate coaxial connector.

Systems socket for simplified associated transmitter/receiver control.

Accessory power socket for preamp, Q-multiplier, or converter.

DIMENSIONS

10-1/2"H x 19"W x 13"D. Wt. 38 lbs. Shipping Wt. 45 lbs.

Prices and Specifications of all listed Hammarlund products subject to change without notice.



The **HAMMARLUND**
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