

INTRODUCING THE EXCITING NEW ATLAS 110 LINE

ATLAS RX-110

*A high performance Ham Band Receiver
at a fantastic low price.*

- **Frequency Coverage:** 3500-4000 kHz, 7000-7500 kHz, 14,000-14,500 kHz, 21,000-21,500 kHz, 28,000-29,000 kHz.
- **All Solid State, High Performance Design.** Excellent Sensitivity, Selectivity, and Dynamic Range. Superior to Most Receivers currently on the market.
- **Receives CW and normal SSB.** Lower Sideband on 3.5 and 7 MHz bands. Upper Sideband on 14, 21, and 28 MHz bands.
- **Built-in AC supply and loud speaker.**
- **EXCITING NEW FEATURE:** The RX-110 converts to a 110-X Transceiver by plugging in the TM-110 Transmitter Module. The two units may be attached with brackets, if desired.



This is the amateur band receiver you've been waiting for! It's perfect for the newcomer to amateur radio who wants a low cost receiver to monitor all the action on the ham bands, or for the old timer who wants an extra receiver without having to spend a fortune.

The RX-110's solid state design, with high sensitivity, selectivity, and dynamic range makes it comparable to receivers costing several times more. Yet because of its simplicity of design, and our well known value engineering, the cost is remarkably low.

TX-110 TRANSMIT MODULE

*Add The TX-110 Module to the RX-110
and PRESTO! A Complete Ham Band
Transceiver.*

**A REAL BREAKTHROUGH IN VERSATILE LOW
COST AMATEUR EQUIPMENT!**

- **Provides CW and SSB communications**
- **All solid state**
- **Full band coverage** on 15 through 80 meters, 28 to 29 MHz on 10 meters
- **Choice of 15 watts** input or 200 watts input, with power amplifier



With this completely new concept in receiver/transceiver design we've produced a real breakthrough in low cost amateur equipment. A superb low cost receiver to start with, and for the small extra cost of the TX-110 module, a complete 5 band CW-SSB transceiver.

RX-110 SPECIFICATIONS

Frequency Coverage: 3500-4000 kHz; 7000-7500 kHz; 14,000-14,500 kHz; 21,000-21,500 kHz; 28,000-29,000 kHz.

Frequency Control: Tuning dial reads to 5 kHz, with 1 kHz increments on skirt of tuning knob. Accuracy of dial is plus or minus 10 kHz when trimmer has been adjusted accurately at band center. Tuning rate on lower bands is 22 kHz per revolution. On 10 meters tuning rate is double, or 44 kHz/rev.

Frequency Stability: Less than 2 kHz drift during first 30 minutes. Less than 500 Hz per hour after 30 minutes operation. Less than 100 Hz shift with supply voltage change from 100 to 140 volts AC, or 11 to 15 volts DC.

Solid State Design: 4 IC's, 8 Transistors, 25 Diodes.

Modes of Reception: CW and SSB on Normally Used Sideband. Lower Sideband on 3.5 and 7 MHz bands. Upper Sideband on 14, 21, and 28 MHz bands.

Circuit Design: Single conversion to 5595 kHz I.F., using double balanced diode ring, providing high dynamic range, at least 80 db above noise floor of 130 dBm. Triple tuned input filters provide high out of band rejection.

Third order intercept point, + 3 dBm.

Sensitivity is 0.25 microvolts at 50 ohms for 10 db signal-plus-noise to noise ratio on 3.5 through 21 MHz bands. 0.4 uv at 28 MHz.

Selectivity is 2.7 kHz bandwidth at 6 db down, 2.2 shape factor, 6 to 60 db. Ultimate rejection more than 100 db. 6 pole ladder crystal filter at 5595 kHz.

Image Rejection better than 60 db. Internal spurious less than equivalent 2 uv signal.

AGC system, less than 10 db audio output change from 5 uv to 3 volt signal input.

Overall Gain, requires less than 2 microvolt signal for 0.5 watts audio output, (CW carrier with 1000 Hz heterodyne).

Audio output power, 2 watts at 10% distortion, 300 to 3000 Hz, plus or minus 3 db, 4 ohm speaker load.

Internal Speaker, 3 in. 4 ohm, .68 oz. magnet. Front jack provides for plugging in headphones, disconnecting speaker.

Headphones should be 500 ohms resistance, or greater. Low imp. phones may be used, but require a series resistor to reduce audio power.

Rear Panel: Antenna Jack, RCA Phono Type, (Phono Plug included). 12 pin socket provides for plug-in of TX-110 Transmitter Module to form five band transceiver. A jumper plug is also included with RX-110 for operation without the transmitter module. Banana connectors provide for 12 to 14 volt DC operation from car battery or other battery supply (not included).

AC Power consumption: 100 to 130 volts AC, 50-60 Hz, 10 watts with RX-110 alone, (Export model, 200-260 volts AC, 50-60 Hz). With TX-110 Transmitter module, peak power consumption in transmit mode will be 40 watts, (Higher power for 200 watt Power Amplifier is supplied by separate AC supply).

DC Operation, 12 to 14 volts. Current Drain: 0.2 Amps, 12 to 14 volts, for RX-110 alone. With TX-110 Transmitter Module, peak current drain in transmit mode will be 2 amps. to low current line. High current line is for 200 watt Power Amp., if used, and peak current to this line in transmit mode will be 16 amps.

Size and Weight: 8 1/8 in. (20.6 cm) wide, 3 3/4 in. (9.5 cm) cabinet height, 9 3/4 in. (24.8 cm) cabinet depth. 7 lbs. (3.2 Kg) net weight. 9 lbs. (4.1 Kg) shipping weight.

TX-110 SPECIFICATIONS

Note: The TX-110 combines with the Atlas RX-110 receiver to form a 5 band transceiver. The TX-110 is not a transmitter by itself, since it is dependent on certain portions of the RX-110 before it will function as a transmitter.

Low Power Model, TX-110-L (push-pull Driver Stage only) runs 15 watts input on 3.5, 7, and 14 MHz bands, 10 watts input on 21 and 28 MHz bands. Approximately 50% efficiency results in power output equal to one-half the input power.

High Power Model, TX-110-H (includes push-pull Power Amplifier, model PA-200, installed internally). 200 watts input on 3.5, 7, and 14 MHz bands, 150 watts on 21 bands, and 100 watts on 28 MHz bands. Amplifier efficiency, approximately 50%.

NOTE 1: The PA-200 Power Amplifier may be installed inside the TX-110-L Transmit Module at a later date.

NOTE 2: Power specifications are made with nominal supply voltage of 120 volts AC, or 14 volts DC.

Frequency Coverage: Same as RX-110 receiver.

Broad Band Design: No transmitter tuning.

Harmonic and Spurious Output: Exceeds FCC requirements of 40 db down by wide margin. Typically, better than 50 db.

Carrier Suppression: More than 40 db; typically 60 db down.

Unwanted Sideband: More than 50 db; typically 60 db down.

Third Order Distortion: Approximately 30 db below peak power.

Modes of Operation: CW transmit with semi-break-in keying as a standard feature. Sidetone is provided to the RX-110 audio, for monitoring of CW keying. CW transmit frequency is offset from receive frequency by 800 Hertz. SSB voice transmission, lower sideband on 3.5 and 7 MHz bands, upper sideband on 14, 21, and 28 MHz.

CW Keying Circuit: 12 volts @ 125 ma. positive to chassis ground. Requires 2 circuit 1/4 in. phone plug (not supplied).

Microphone: High impedance dynamic or crystal, with PTT (Press-To-Talk) switch or button. Requires 3 circuit 1/4 in. phone plug (not supplied).

Metering: Front panel meter indicates relative power output. Varies with antenna load, and frequency. Miniature phone jack, (2 circuit normally closed), on rear panel of TX-110 may be used to measure collector current to the driver stage, (0-2 Ampere Range). Meter with cord and plug available from Atlas Dealer, or Atlas Radio, Inc. Standard 1/4 in. jack on rear panel of PS-110 (Separate AC supply for 200 watt amplifier) may be used to measure collector current to 200 watt amplifier, (0-16 Ampere Range). Meter with cord and plug available from Atlas Dealer, or Atlas Radio, Inc.

Connector Cables extend from rear of Transmitter Module, and plug into rear of RX-110 receiver, making all necessary connections for transceiver operation.

Hardware and Brackets are supplied to physically join the TX-110 and RX-110, making them one integral unit.

Size and Weight: 4 1/8 in. (10.5 cm) wide, 3 3/4 in. (9.5 cm) cabinet height, 9 3/4 in. (24.8 cm) cabinet depth. Net weight: TX-110-L, Low Power module, 3 lbs. (1.4 Kg). Shipping weight: 4 lbs. (2.1 Kg). Add 1 lb. (0.5 Kg) for TX-110-H, High Power Module.



**ATLAS
RADIO INC.**