



TECHNICAL DATA

- RF output: 1500-2000 W keyed carrier or SSB - no time limit. Constant carrier modes 1500W RF output - no time limit with auxiliary cooling fan.
- Frequency coverage: All amateur bands 1.8-24.5 MHz. 28 Mhz only with modification by licensed amateurs.
- Bandchange / Tuneup: Initial output matching process in less than 3 secs (typically 0.5 secs). Preset matching process / bandchange takes less than 0.2 second to move to different segment, same band and less than 1 sec for QSY to different band.
- Tuning memories: Non-volatile for up to 10 antennas per frequency segment.
- Drive power: Typically 50W for 1500W output.
- Input impedance: 50 ohms nominal. VSWR <1.5:1.
- Output tolerance: Up to 3:1 VSWR (2:1 on 160m) at full rated output before SWR protection circuit actuates. Higher SWR's tolerated at lower output.
- Harmonics: At least 50 dB below peak output at 1500W.
- Intermodulation: At least 35 dB below peak output at 1500W.
- T/R and keying: Vacuum Relay: QSK capable.
- Tubes and circuit: 4CX800A/GU74b tetrodes (2); resistive grid, PI-L output with RF negative feedback. Regulated screen grid voltage.
- ALC: Negative going, grid derived, -11v max, rear panel adjustable.
- Metering: Comprehensive. Remote Control Unit provides flexible monitoring of all amplifier operating parameters.
- Protection: Grid and screen current limiting, power inrush (soft-start provided), trip to excessive reflected power, RF arcs, password access protection if needed, correct T/R sequencing, tube exhaust overheat, cover interlock and HV crowbar.
- Fault diagnosis: Remote Control Unit display and LED's plus "INFO Box" for 12 most recent events. PC interface (RS-232), plus remote phone line interrogation feature.
- Cooling: Full cabinet forced-air. Rubber isolated blower.

- Transformer: 3.5 kVA with strip-wound Unisil-Hâ core.
- AC power requirements: 100/120/200/220/240 VAC nominal. 50-60 Hz. 3500VA single phase at full power.
- Physical: RF Unit: 440W x 180H x 450D mm, RCU: 135 X 25H X 170D mm.
- Shipping: Shipped in two cartons total weight 80lb (36kg.) Plug in transformer for ease of installation and transport.
- Other: No controls on RF unit except ON/OFF. RF unit may be located up to 3 metres (10m with optional kit) from RCU.

PRODUCT DESCRIPTION

The ACOM 2000A Automatic HF Linear Amplifier is the world's most advanced HF amplifier designed for amateur use. The ACOM 2000A is the first amateur HF amplifier to include both fully automatic tuning and sophisticated digital control capabilities. This revolutionary new amplifier delivers maximum legal power in all modes and operates on all HF amateur bands.

A New Standard in Amplifier Features and Performance

The ACOM 2000A represents a major advance in the state-of-the-art in HF amplifier design. It changes forever the way radio amateurs employ HF power amplifiers in their stations.

Instantaneous, automatic tuning makes slow, cumbersome band changes a thing of the past.

A built-in, wide-range antenna tuner matches loads with high VSWR (up to 3:1), often eliminating the cost and complexity of an external, high-power antenna tuner.

RS-232 digital control permits full integration into any computer-driven station configuration.

Advanced protection circuits ensure amplifier safety under every potential combination of operating conditions.

Remote diagnostic features and modular design ease fault isolation and repair

Cutting-Edge Technology Enhances a Classic Design

At the core of the ACOM 2000A is a classic HF amplifier design, employing two Svetlana 4CX800A (GU74B) high performance ceramic metal tetrodes operating in a grid-driven configuration. This design was chosen for its inherent stability and extremely low production of spurious emissions. ACOM coupled this tried-and-true configuration with today's most advanced digital control technology to create an amplifier with outstanding performance, features and reliability.

Clean Signal

Grid-driven tetrodes, cathode negative feedback, excellent transceiver loading (typically below 1.2:1 input VSWR), and regulated SG voltage result in an extremely low distorted output. Measured typical IMD are - 40dB (3-rd order) and - 45dB (5-th order). Classical Pi-L network, all-air coils (no ferrite), and carefully designed layout of the output tank offer typical harmonic emissions as low as - 55dBc (second) and below - 70dBc (third and above). Thus, probability of QRM, BCI or TVI is dramatically minimized.

Fully Automatic Tuning

The automatic tuning features in the ACOM 2000A represent a real breakthrough in HF amplifier design. Never think about an ATU for VSWR up to 3:1 (2:1 on 160 m). Matching the actual antenna impedances to the optimum tubes load is completely automated. Typically 1 second and no skill is required.

By completely eliminating time-consuming tune-up procedures, the ACOM 2000A has gives contesters a real edge. It is now possible to change bands without a moment's thought. You can work every multiplier spotted using software point-and-shoot – regardless of band. And always know the amp is properly tuned and operating safely. The amplifier follows your transceiver's band and frequency automatically in less than a second. No special cables are required. Just a dot on CW or "Ah" on SSB are enough.

The ACOM 2000A breaks every amateur band into multiple frequency segments. The user can store up to ten (10) sets of tuning adjustments for every frequency segment - allowing individual settings for multiple antennas on each band. VSWR can increase considerably when an antenna is operated away from its resonant frequency. Unlike other amplifiers on the market today, the ACOM 2000 output matching network allows the amplifier to operate at full power, even with VSWR as high as 3:1 (2:1 on 160m).

Advanced Digital Control

Microprocessor control improves performance and makes possible a wide range of new, advanced features.

QSK

Full break-in (QSK) based on a built-in vacuum relay. Transmit / receive switching sequence is secured by a dedicated microprocessor.



Remote Control Unit (RCU)



RCU Size: 167 x 130 x 25mm (6-2/3" x 5-1/8" x 1")

Only the Remote Control Unit needs to be placed near the operator. The main unit can be installed up to 3 meters (10 feet) away. RCU features include: amplifier status shown on LCD display, control of all functions, measuring and/or monitoring of the 20 most important parameters, on-board technical assistance, troubleshooting suggestions, record of power-on hours, password provided.

Easy Maintenance

The protection system makes damaging the amplifier a difficult job. Information on the 12 most recent protection trips is stored in an INFO BOX for remote diagnostics via phone line, PC, and Internet.



RS232 and Network

All functions are accessible from a PC via RS232 serial port. Local network may include more than one amplifier / antenna unit set working in a system.

Protection



All tubes voltages and currents, supply voltages, overheating, overdrive, insufficient flow of cooling air, internal and external RF arcs (in the amplifier, antenna selector, tuner or antennas), T/R sequencing, antenna relay contact hot switching, antenna matching quality, reflected power, stored data, inrush power-on current, and cover interlock for operator safety.