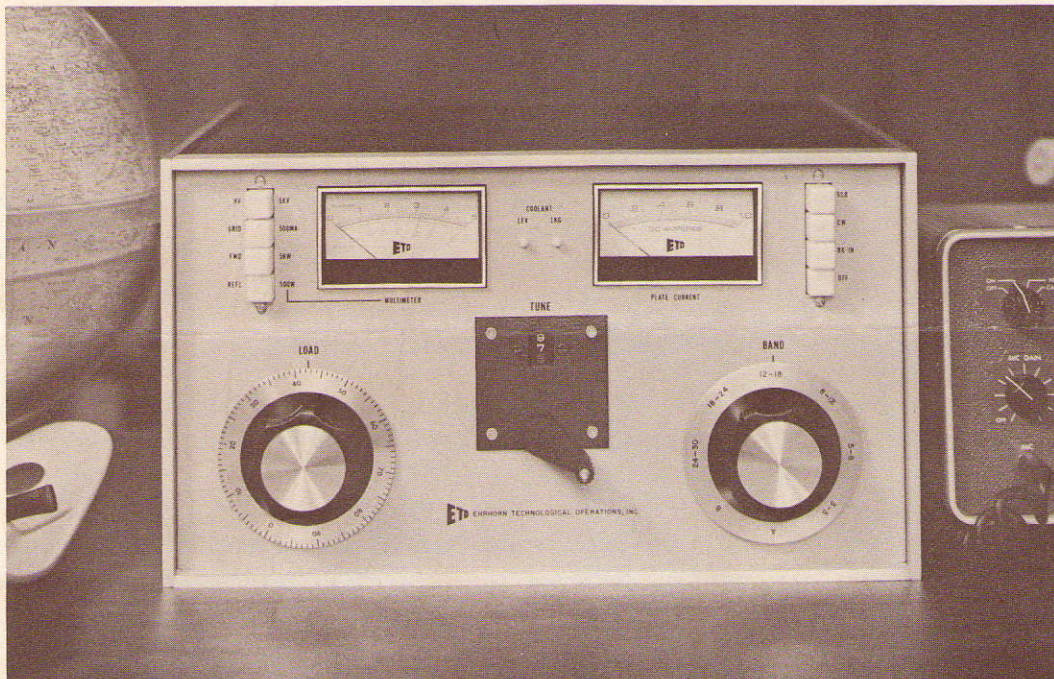


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EHRHORN TECHNOLOGICAL OPERATIONS, INC. PRESENTS

THE *ALPHA SEVENTY*



POWER AMPLIFIER OF THE *SEVENTIES*

The *ALPHA SEVENTY* is a new generation HIGH POWER LINEAR AMPLIFIER incorporating major state-of-the-art advances in several different areas of engineering design. It easily handles maximum legal amateur power in any mode without limitation as to duty cycle or "on" time, yet is completely self-contained in a desk-top cabinet no larger than many receivers. It's available either air cooled or vapor phase cooled, and both versions run cooler than conventional linears — even those which are much larger and heavier. The vapor cooled PA70-V is *whisper-quiet*; even at maximum power it makes no more noise than a typical exciter.

The *ALPHA SEVENTY* is a *no-compromise powerhouse*; designed and rated for continuous commercial service, it is available for use by advanced amateurs who demand the ultimate in every respect. It is compatible with all modern exciters and transceivers.

We believe it is the finest power amplifier ever offered for this class of service. As you study the details in the following pages, count the corners that *could* have been cut in creating the *ALPHA SEVENTY* -- but *weren't*.

The *ALPHA SEVENTY* offers an unprecedented combination of **FEATURES FOR YOUR OPERATING PLEASURE AND CONVENIENCE . . .**

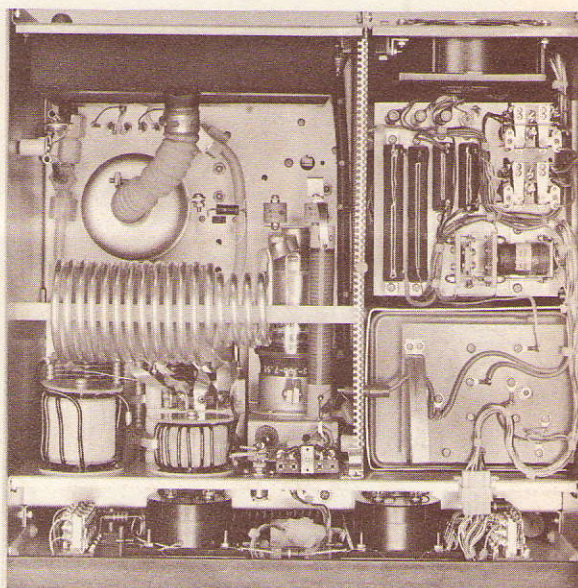
- *Maximum legal (amateur) power* in any mode with ample reserve; no duty cycle or "on" time restriction.
- *Full coverage* from 3-30 MHz, including 80 through 10 meter amateur bands, standard; 1.8-3.0 MHz on special order.
- *Versatile but simple controls* - instant push-button selection of the most efficient operating conditions for any desired mode and power level.
- *Easy, quick tune-up* with plenty of power supply and dissipation reserve to accept occasional operator error without damage.
- *Complete metering* of important parameters - plate current, plate voltage, grid current, forward and reflected RF power.
- *Built-in electronic T/R switch* takes advantage of amplifier plate tank for receive preselection, avoids TVI problems, permits full break-in operation without keying relays.
- *Electronic bias switch* cuts off plate current flow in the absence of RF drive signal; eliminates noise feed-through to receiver during break-in operation and minimizes total heat generation.
- *Quiet operation* — extremely efficient vapor phase cooling employed in the model PA70-V requires only *low velocity* air circulation through the cabinet and heat exchanger — eliminates "wind" noise and permits use of an extremely quiet instrument-type fan.

The air cooled model PA70-A is equipped with a large diameter, ball bearing, MIL-SPEC centrifugal blower. Thermostatic speed control allows quiet low-speed operation under all normal conditions, with ample reserve to back up the full 1500 watt dissipation capability of the rugged 3CX100A7 tube when necessary.

Quiet in another way, too — vacuum-sealed T/R relays don't "clank!"
- *Cool operation* because in both the air- and vapor-cooled models hot exhaust air is ducted directly out the rear, not allowed to circulate inside the cabinet and make it into an oven.
- *Big, solid controls* with legible markings. Heavy fluted knobs you can get a grip on, illuminated push-button switches that "snap" with authority, and a three-digit counter dial with crank and spinner knob for smooth control and easy resettability of the vacuum variable tuning capacitor.
- *Safety protection* for both operator and amplifier through extensive mechanical and electrical interlocking.

The *ALPHA SEVENTY* is engineered and built like no other amplifier available for this class of service. Its imaginative design and superb quality are well illustrated by these **EXCLUSIVE DESIGN HIGHLIGHTS . . .**

- *"Battleship"* construction utilizing quarter-inch-thick aluminum end plates; top and bottom covers slide in machined slots for excellent shielding plus quick, easy access.
- *Modular assembly* — power supply, RF deck, and control panel are quickly and completely removable without soldering or special tools.
- *Ceramic-metal triode*, air cooled in model PA70-A and vapor cooled in the PA70-V, combines high power and excellent linearity with exceptional ruggedness.
- *Vacuum variable* plate tuning capacitor permits efficient operation over an exceptionally wide frequency range. Its 7500 volt rating and small size contribute to ruggedness, compactness of the amplifier.
- *Vacuum relays* provide silent transmit-receive switching, are fast enough to be keyed for special CW applications.
- *1500 watt continuous* duty power transformer. Tape-wound core of grain-oriented Hipersil[®] or Silectron[®] steel cuts size and weight to about 40% of conventional designs and permits remarkable power capacity in a self-contained supply.
- *25 microfarad, 4000 volt* oil-filled polypropylene dielectric filter capacitor. (Modern design yields superior quality and small size.)



Of course other premium features abound in the *ALPHA SEVENTY* . . .

- Massive plate coil silver-soldered for reliability and heavily silver plated for efficiency. Husky toroids minimize coupling between pi-L network sections.
- Rugged bandswitch with 20 ampere silver contacts and 6000 volt insulation.
- Heavy duty resonant input circuit for lowest distortion and minimum drive power.
- Time sequence power control permits "instant-on" operation without large current surges. All relays d-c operated.

SUMMARY OF SPECIFICATIONS -- the ALPHA SEVENTY (models PA70-A and PA70-V)

FREQUENCY COVERAGE: 3-30 MHz in six ranges (1.8-3 MHz on special order).

PLATE POWER INPUT: "SSB" button — 3 kilowatts PEP SSB continuous duty or 2.5 KW keyed carrier 50% duty. "CW" or "BK-IN" button — 1.5 KW PEP or 1.25 KW carrier continuous duty.

DRIVE REQUIREMENTS: 100 watts PEP nominal for 2.5 KW PEP plate input. 50 watts nominal for 1 KW carrier input.

LINEARITY: Third order products more than 30 db below each of two equal test tones at 2.5 KW PEP input.

ALC OUTPUT: D-C coupled, adjustable threshold.

PRIMARY POWER REQUIREMENTS: 120/240 volts, 60 cycle, 3 wire, single phase; approximately 15 amperes at maximum rated input (240 volt line).

CONTROLS: BAND switch, plate TUNE, plate LOAD, meter selector and mode selector illuminated pushbuttons, ALC threshold (rear panel).

METERING: 3½ inch taut-band meters, illuminated. One continuously monitors PLATE CURRENT; MULTIMETER switchable to indicate high voltage, grid current, forward RF watts, reflected RF watts.

TUBE: Eimac ceramic-metal triode, 1500 watt plate dissipation rating; air cooled 3CX1000A7 in model PA70-A, vapor cooled 3CV1500A7 in PA70-V.

PROTECTIVE CIRCUITS: Primary power cut off for cover open, plate overcurrent, excessive tube temperature. HV line grounded when cover open. Thermostat activates reserve cooling under excessive dissipation conditions. Primary and grid circuits fused. Panel lamps on PA70-V warn of coolant water contamination or low level.

OPTIONS: Extra-duty package for continuous operation at 2.5 KW carrier input; remote control package for automatic channel or band change and tune-up; special 1.8-3 MHz coverage.

SIZE: Self-contained in desk-top cabinet 9½" high x 17" wide x 18" deep.

WEIGHT: Net, 70 pounds; shipping, 90 pounds.

PRICE: Air cooled model PA70-A . . . \$1595

Vapor cooled model PA70-V . . . \$1775

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