

2000 watts P. E. P.\*

1000 watts CW

1000 watts AM

\*with an auxiliary SSB exciter

# Viking "Kilowatt"

Here's the finest power amplifier ever designed for the amateur service! A sparkling concept of modern transmitter design and engineering craftsmanship, the Viking "Kilowatt" is the only amplifier that gives your signal the authority of maximum legal power in all modes. Class C final amplifier operation provides plate circuit efficiencies in excess of 70% with unequalled broadcast-type high level amplitude modulation. Tuning is continuous from 3.5 to 30 mc. Safety and protective features include: a tamper-proof, key-operated main switch; cabinet interlock; arc gaps; and RF output terminal choke. The Viking "Kilowatt" is available as a self-contained pedestal or with the matching executive desk assembly. The compact pedestal contains the complete "Kilowatt," including RF power amplifier, modulator, power supplies, and all control equipment. The entire unit rolls out of the pedestal, providing complete accessibility to all electrical components for adjustment or maintenance.

**EXCITATION REQUIREMENTS** — 30 watts RF and 10 watts audio for AM; only 10 watts peak envelope power is necessary for SSB excitation. The Viking "Ranger" transmitter exciter is an ideal RF and audio driver for AM and CW, and the new Viking "Invader" will drive the Viking "Kilowatt" to full output on SSB.

**OPERATING CONTROLS** — The operating controls are located on top of the pedestal within easy reach. These controls include: grid tuning and bandswitch; main plate tuning with slide rule indicator dial; auxiliary plate tuning switch and coarse and fine coupling controls. Plate current is indicated on a permanently connected plate meter, and a combination grid current/modulator current meter furnishes readings as desired with the flip of a switch. Less frequently used controls including the tamper-proof, key operated main switch are located on the lower panel. Plate overload reset and transmission "mode" switch, as well as fuses, indicator lights and the permanently connected plate voltmeter are also located on the lower panel.



Interior view showing conservatively rated power equipment, heavy-duty modulator.



Completely shielded, plug-in power amplifier.



Complete accessibility—unit rolls out for easy adjustment or maintenance.

**OUTPUT CIRCUIT** — The power amplifier is constructed as a completely shielded plug-in unit with all external leads thoroughly filtered for TVI suppression. Easily removed from the main unit for service, the amplifier employs two 4-400A tubes in parallel, bridge neutralized. The pi-network output circuit is designed to match nominal 50 to 500 ohm antenna loads and will tune out large amounts of load reactance as well. Two fans, located within the amplifier compartment, cool filament and plate seals for extended tube life.

**CLASS B PLATE MODULATOR** — High level amplitude modulation is employed with push-pull 810 tubes operating in class B—over modulation effects are reduced by plate saturation limiting and audio response is better than 1 db from 200 to 3500 cps. Less than 10 watts audio driving power is needed for full modulator power output. A reactor in series with the screen supply provides the necessary audio modulating voltage for the screen.

**TVI SUPPRESSION** — In addition to complete shielding and the use of double "L" section filters in every external lead, the amplifier chassis is divided into compartments to isolate strong RF fields. The completely enclosed meter compartment also utilizes double "L" section TVI filters in each outgoing lead. Contact washers are used on all control shafts for effective grounding. Shielded leads in critical RF fields and low inductance by-passing at appropriate circuit points further suppress harmonic energy.

**POWER SUPPLIES** — The high voltage power supply uses 872A rectifiers and delivers 2500 volts at better than 700 ma. The screen supply employs a 5R4GY rectifier and uses four VR tubes for screen voltage regulation on AM and SSB. A heavily bled (150 ma.) bias supply results in excellent regulation—individual potentiometers are used for the initial setting of modulator bias voltages. A VR90 is used for bias regulation on SSB.

**POWER REDUCER** — A shielded power reducer for 100-150 watt transmitters is available and will provide up to 20 watts continuous dissipation when used with transmitters such as the Johnson Viking I and II, Collins 32V or others, permitting them to serve as exciters for the Viking "Kilowatt." See page 26.

\*The F.C.C. permits a maximum one-kilowatt average power input for the amateur service. In SSB operation under normal conditions, this results in Peak Envelope Power inputs of 2,000 watts or more depending on individual voice characteristics.

## SPECIFICATIONS

### FREQUENCY RANGE:

Continuous coverage 3.5 to 30 megacycles

### EXCITATION REQUIREMENTS:

30 Watts RF and 10 Watts Audio for AM; 10 Watts P.E.P. for SSB

### PRIMARY AC VOLTAGE:

230 volts AC, 50-60 cycles, single phase

115 volts AC, 50-60 cycles, single phase. †

2500 watts maximum.

### POWER INPUT:

High Power Position

1000 Watts Continuous Wave

1000 Watts Amplitude

Modulated Phone

2000 Watts P.E.P.\* Single

Sideband

Low Power Position

300 Watts Continuous Wave

(Tune)

300 Watts Amplitude

Modulated Phone

† Recommended only when adequate heavy duty wiring from electric power source is available.

### FUSING:

Filaments and Bias Supply primary fuse, located on front panel — 5 amp. cartridge type. Screen Supply primary fuse, located on front panel — 5 amp. cartridge type.

## TUBE COMPLEMENT

4-400A—Final Amplifier (2)

810—Modulator, Class B (2)

872A—High Voltage Rectifier (2)

5R4GY—Screen Rectifier

5V4G—Bias Rectifier

VR-75 (1) — VR-150 (3)

Screen Voltage Regulators

VR90—Bias Regulator

The Viking "Kilowatt" is not available as a kit, but is furnished wired, adjusted, and laboratory tested only. Finished in soft grey with maroon trim and green nomenclature. Outside dimensions of the complete assembly without accessory desk: 29½" high, 19¾" wide, and 32¾" deep. With Accessory desk top, back, and three drawer pedestal: 29½" high, 63½" wide, and 32¾" deep. Weight of complete "Kilowatt" Power Amplifier is approximately 400 pounds; accessory desk assembly, 155 pounds.



Cat. No. 240-1000 Viking "Kilowatt" Power Amplifier including tubes, furnished wired, adjusted, and laboratory tested

AMATEUR NET

**\$1595<sup>00</sup>**

Cat. No. 251-101-1 Matching accessory desk top, back, three drawer unit for mounting to right of "Kilowatt" pedestal. \$132.00 F.O.B. Corry, Pa.

Cat. No. 251-101-2 Same as above, but mounts to left of "Kilowatt" pedestal.



For information concerning Civil Defense Certification — See inside back cover.

