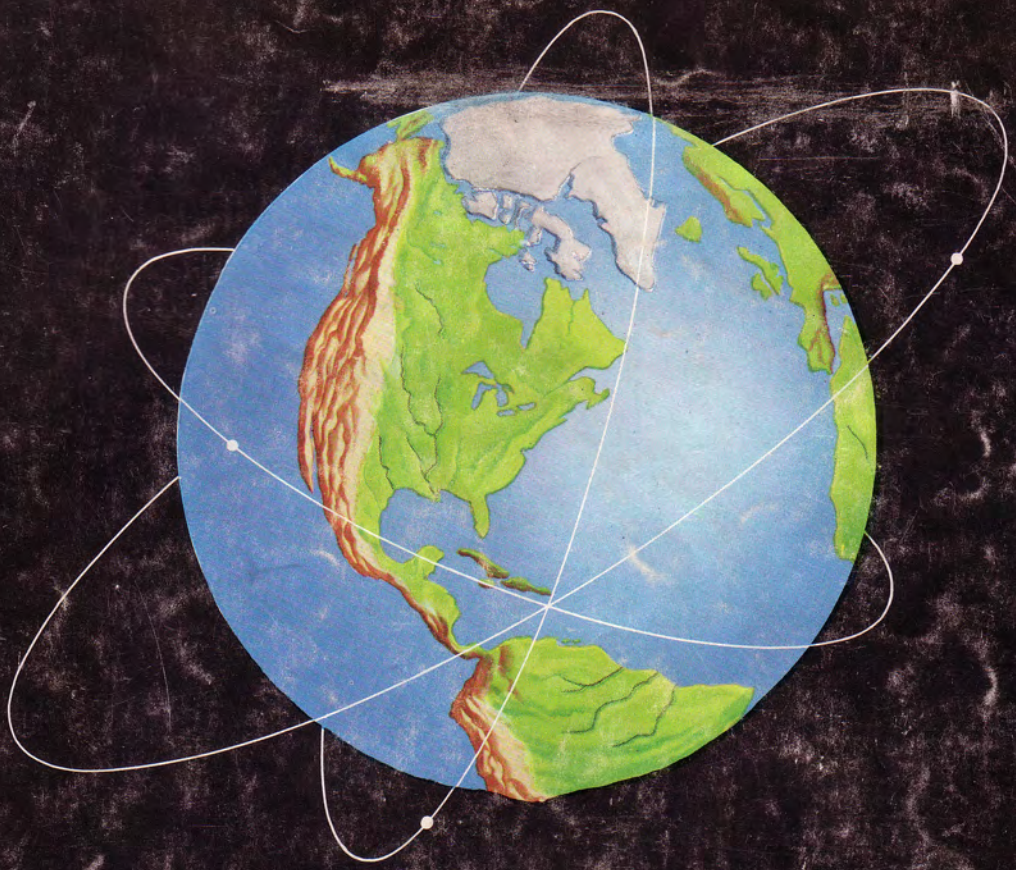
CATALOG NO. **957**



world famous Viking amateur radio equipment

Johnson Amateur Equipment
. . . For Full Communication POWER!

Top performance isn't simply a matter of watts. Only carefully integrated equipment design can be relied on to develop effective power that punches your signal home every time. That's what we call "communication power" . . . and your Viking transmitter will deliver it in full measure!



E. F. Johnson Company
WASECA, MINNESOTA

amateur radio is fun



And the fortunate amateur who owns Viking equipment enjoys the maximum amount of operating pleasure and performance.

Since the first Viking transmitter was built, amateurs everywhere have looked to the E. F. Johnson Company for leadership in transmitter design.

Owning a Viking means more than just having the best transmitter . . . it means more than the DX record you build; it means that your station has arrived.

For effective practical design and honest dollar value, Viking transmitters stand ahead of all others. Whether you choose the "Adventurer" as your first transmitter, or the fabulous "Kilowatt" as the "last word," you know beyond a doubt that your transmitter dollar is soundly invested. The big "J" on the front panel tells you that!

VISIT YOUR DISTRIBUTOR—HE'S HELPFUL AND FRIENDLY

The E. F. Johnson Company sells its products only through authorized distributors. We have long recognized the valuable services an established distributor can render to the amateur.

Your distributor offers a wide choice of equipment and accessories. He has considerable experience in the field and can offer helpful suggestions. Most distributors offer convenient time payment plans to suit your budget and often as little as 10% down is all that is required to get you on the air.

Visit your distributor soon . . . see and compare the exciting new Johnson equipment!

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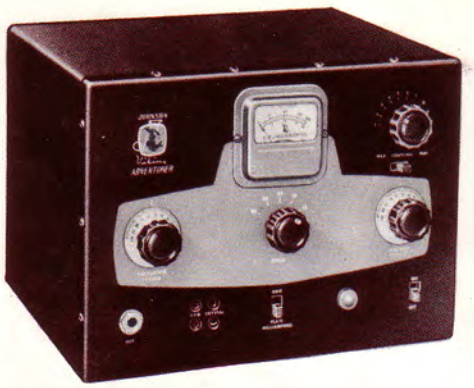
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50 watts CW input

Bandswitching 80

through 10 meters

Viking "Adventurer"



This power-packed transmitter was used to earn the first Novice WAC (Worked All Continents) — and with only two crystals! More than just a novice transmitter, the "Adventurer" is completely self-contained . . . single knob bandswitching 80 through 10 meters . . . effectively TVI suppressed . . . and puts 50 watts of power into a rugged 807 transmitting tube. The "Adventurer" may be operated by crystal or external VFO control, and front panel meter switching permits monitoring of the final grid or plate currents . . . keying is clean and crisp.

FREQUENCY CONTROL — The "Adventurer" may be controlled by plug-in crystals or by any VFO delivering 5 milliwatts (8 to 10 volts across 22,000 ohms) or more output on 160 or 80 and 40 meters.

OUTPUT CIRCUIT—The wide range pi-network output circuit is designed to handle a wide variety of antennas without using a separate antenna tuner. It will accommodate antenna impedances from 50 to 600 ohms and is also capable of tuning out large amounts of reactance.

TVI SUPPRESSION — The "Adventurer" cabinet completely shields the unit electrically, and a large metal-to-metal overlap at the front panel and cabinet junction completes the electrical seal. The antenna lead is brought through a coaxial type output connector and a matching plug is furnished for connection to the antenna system. Inductance-capacity type TVI filters are used at the AC input and key leads. Low inductance by-pass capacitors suppress RF harmonic energy at the filament and meter connections. In addition, pi-network output tuning provides up to 30 db high frequency harmonic attenuation in the RF output circuit.

POWER SUPPLY — The built-in power supply delivers 450 volts DC at 150 ma and 6.3 volts AC at 2 amps. An octal power receptacle located on the rear apron provides for the operation of auxiliary equipment such as a VFO, signal monitor, or modulator for phone operation. This receptacle also permits using the full output of the supply to power other equipment when the transmitter is not operating. Power supply is fused to provide protection from overload damage.

SPECIFICATIONS

FREQUENCY RANGE:
80, 40, 20, 15, 11, and 10 meters

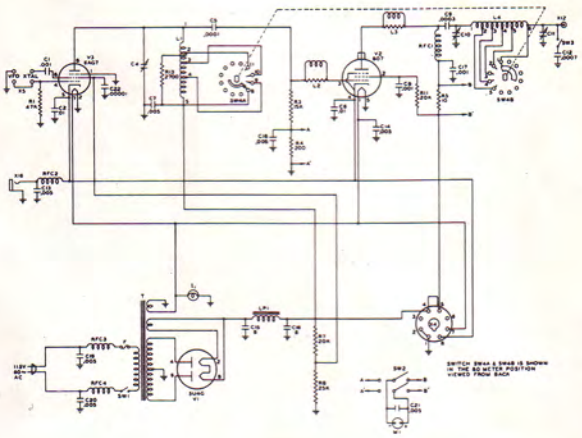
POWER INPUT:
50 Watts Continuous Wave

POWER REQUIREMENTS:
105-120 V AC, 50-60 cycles, single phase

FUSE PROTECTION:
Fuse located in power supply circuit. Spare fuse furnished with kit.

TUBE COMPLEMENT

6AG7—Oscillator
5U4G—Rectifier
807—Transmitting Type Power Amplifier



Professional in appearance and extremely compact, the "Adventurer" is engineered throughout for easy construction and operation by the amateur with a minimum of equipment wiring and operating experience. Wire, punched chassis, all parts, hardware, tubes and connectors furnished. Complete step-by-step assembly instructions and operating directions included. Handsome etched aluminum cabinet is finished in maroon and grey, with green nomenclature. Dimensions: 7⅜" x 10⅜" x 8⅛". Net Weight: 13 lbs. Shipping Weight: 19 lbs.

Cat. No. 240-181-1 Viking "Adventurer" Kit complete with tubes, less crystals and key . . . . . **$54.95** Amateur Net



SPEECH AMPLIFIER/MODULATOR — This compact speech amplifier/screen modulator has been designed to provide phone operation for the Viking "Adventurer." High gain — may be used with either crystal or dynamic microphones. Installation is simple, and only minor wiring changes are necessary in the "Adventurer" to use the 250-40. Power is obtained from the "Adventurer" — Speech Amplifier/modulator plugs directly into the rear socket on the "Adventurer" chassis. Tube complement: 12AX7 dual triode cascade speech amplifier; 12AU7 dual triode, paralleled, modulator. Dimensions: 4⅜" wide x 4" deep x 4¾" high. Shipping Weight: 1 lb.

Cat. No. 250-40 Speech Amplifier/Modulator Kit, with tubes. **$12.25** Amateur Net

40 watts CW

Bandswitching

Transmitter/Exciter

Viking "Navigator"

This splendid new CW Transmitter/Exciter will appeal particularly to the discriminating CW operator who requires a flexible, highly stable VFO; an excellent keying system; means for rapid QSY and bandswitching; all coupled with substantial RF output. The "Navigator" has ample RF power to excite most high powered final amplifiers on CW or AM. Bandswitching 160 through 10 meters. Internal VFO or crystal control provides flexibility with full TVI suppression and filtering. Other features: Electronic time sequence keying and wide range pi-network output.

FREQUENCY CONTROL — The "Navigator" is equipped with an extremely stable, temperature compensated, built-in VFO. Separate, calibrated bandspread dial scales for each of the seven bands and a 6 to 1 planetary drive mechanism results in exceptional tuning accuracy and velvet-smooth control.

The Plexiglas dial is edge-lighted — Plexiglas pointer is positioned to insure a minimum of parallax. Precise 10 kc. calibration increments on each band provide uniform and accurate dial interpolation.

OUTPUT CIRCUIT — An efficient pi-network tank circuit is used in the final amplifier. Designed to handle 40 to 600 ohm resistive antenna loads it will also tune out large amounts of reactance. Plate circuit capacitor switching provides the best combination of variable and padding capacity for easy tuning and proper loading. Final amplifier tube is a 6146.

TIMED SEQUENCE KEYING — This highly flexible keying system applies wave shaping to the keyed amplifier stages for perfect "make" and "break" on your keyed signal. Signal clicks and chirps are eliminated, yet the "break-in" advantages of a keyed VFO are retained. The system operates so fast that a breaking station may be heard between transmitted dots! Electrically operated, this timed sequence keying system uses no relays and only one dual triode plus a rectifier tube for the grid block bias.

TVI SUPPRESSION — Effectively TVI suppressed! Power line and relay jack have double "L" type filters — all auxiliary socket, meter, key, and dial lamp leads have "L" filter networks. Interior harness leads and filaments are by-passed. Careful by-passing of the final and special circuit techniques minimize harmonics in the output circuit.

POWER SUPPLY — The built-in power supply delivers 360 volts DC at 175 ma., 6.3 VAC at 3 amps, and 5 volts AC at 3 amps. Power supply is fused to provide protection from overload damage.

TUBE COMPLEMENT

6AU6—Variable Frequency Oscillator
6CL6—Crystal Oscillator/Buffer-Multiplier
6146—Final Amplifier
12AU7—Time Sequence Keyer
6X4—Bias Rectifier
5U4—High Voltage Rectifier
VR-150—Screen Regulator (VFO and Final)

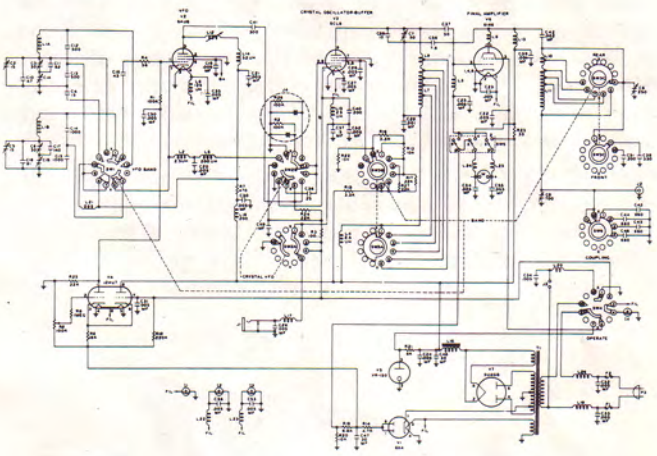


SPECIFICATIONS

FREQUENCY RANGE:
160, 80, 40, 20, 15, 11 and 10 meters

POWER INPUT:
40 watts Continuous Wave

POWER REQUIREMENTS:
105-125 volts AC, 50-60 cycle single phase. Transformer power supply for isolation and safety. Fused line plug.



The Viking "Navigator" is available completely wired and tested or as an easy to assemble kit. The 18 gauge steel cabinet is finished in attractive maroon and grey, with green nomenclature. Assembly instructions for the kit include photographs, diagrams and step-by-step wiring directions. Wiring harness, all necessary hardware furnished — no drilling or metal work necessary. Dimensions: 13¼" long x 9⅛" high x 10⅜" deep. Net Weight: 22 lbs. Shipping Weight: 27 lbs.

Cat. No. 240-126-1 Viking "Navigator" Kit with tubes . . . . . .

AMATEUR NET **$149.50**

Cat. No. 240-126-2 Viking "Navigator" wired and tested, with tubes . . . . **$199.50** Amateur Net

75 watts CW input

65 watts phone

Completely self-contained

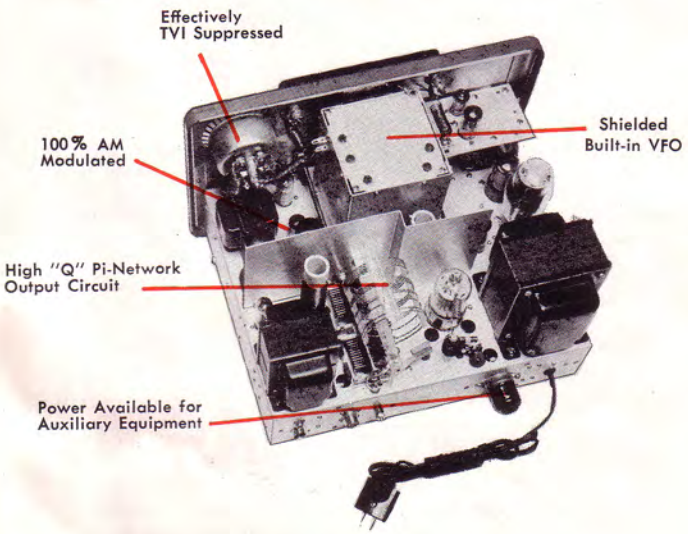
Viking "Ranger"

Effectively TVI suppressed, and completely self-contained, the Viking "Ranger" transmitter/exciter is available as a complete, easily assembled kit or as a wired and tested unit. A phone and CW transmitter for 10 through 160 meters, the "Ranger" may also be used as a flexible exciter without modification.

As a transmitter, the "Ranger" is a rugged and compact 75 watt CW input or 65 watt phone unit. The "Ranger" has a pi-network coupling system that will match antenna loads from 50 to 500 ohms and will tune out large amounts of reactance. Single-knob bandswitching on seven amateur bands: 160, 80, 40, 20, 15, 11, and 10 meters — built-in VFO or crystal control. Timed sequence (grid block) keying provides ideal "make" or "break" on your keyed signal, yet the "break-in" advantages of a keyed VFO are retained.

As an exciter, the "Ranger" will drive any of the popular kilowatt level tubes and will provide a high quality speech driver system for high powered modulators. Control functions for the high powered stage may be handled right at the exciter — no modification required to shift from transmitter to exciter operation. A nine pin receptacle on the rear of the transmitter brings out TVI filtered control and audio leads for exciter operation. This receptacle also permits the "Ranger" to be used as a filament and plate power source, and also as a modulator for auxiliary equipment such as the Viking "6N2" VHF transmitter.

FREQUENCY CONTROL — The "Ranger" is equipped with an extremely stable, temperature compensated built-in VFO. Separate, calibrated, bandspread dial scales for each of the seven bands and a 6 to 1 planetary drive mechanism result in exceptional tuning accuracy and velvet smooth control.



Plexiglas dial is edgelighted — Plexiglas pointer is positioned to insure a minimum of parallax. Precise 10 kc calibration increments on each band provide uniform and accurate dial interpolation.

TUNING — The "Ranger's" basic tuning controls are located on the VFO dial escutcheon. QSY within the phone or CW portion of a band is usually possible by merely changing the VFO frequency setting. For larger frequency excursions, simply touch up the grid (Buffer) tuning, adjust loading, and dip the final.

OUTPUT CIRCUIT — An efficient pi-network tank circuit is used in the final amplifier. Designed to handle 50 to 500 ohm resistive antenna loads it will also tune out large amounts of reactance. Plate circuit capacitor switching provides the best combination of variable and padding capacity for easy tuning and proper loading. Final amplifier tube is a 6146.

TIMED SEQUENCE KEYING — This highly flexible keying system applies wave shaping to the keyed amplifier stages for perfect "make" and "break" on your keyed signal. Signal clicks and chirps are eliminated, yet the "break-in" advantages of a keyed VFO are retained. The system operates so fast that a breaking station may be heard between transmitted dots! Electrically operated, this timed sequence keying system uses no relays and only one dual triode plus a rectifier tube for the grid block bias.

AUDIO SYSTEM — An all-triode speech amplifier permits the use of any crystal or high impedance dynamic microphone. Push-pull 1614 modulators provide 100% modulation, response is limited to 250-3000 cycles for maximum communication effectiveness.

TVI SUPPRESSION — Completely TVI suppressed, the "Ranger" cabinet is electrically sealed with flexible monel braid on the inside of the front panel and large cabinet overlap. A cup type shield seals the meter, and spring contact washers on the front panel shafts prevent possible radiation from shaft clearance openings. Power line and relay jack have double L type filters; all auxiliary socket, meter, dial lamp, key, and meter lamp leads equipped with L filter networks. To minimize chassis harmonics, interior harness leads and filaments are by-passed. Careful by-passing of the final and special circuit techniques minimize harmonics in the output circuit.

POWER SUPPLIES — Self-contained high and low voltage power supplies use choke input filtering — high voltage supply delivers 500 to 525 V DC to the final and modulators — low voltage supply delivers 300 V DC for the exciter and speech stages. A separate relay jack provides 115 V AC for antenna change-over and control relays, and is energized by the "operate" switch on the front panel.

SPECIFICATIONS

FREQUENCY RANGE:

160, 80, 40, 20, 15, 11, and 10 meters

POWER REQUIREMENTS:

105-120 V AC, 50-60 cycles, single phase

POWER INPUT:

75 Watts Continuous Wave
65 Watts Amplitude Modulated Phone

FUSE PROTECTION:

Transmitter fuses are located in the 115 V. power plug.

TUBE COMPLEMENT

6AU6—Variable Frequency Oscillator
6CL6—Crystal Oscillator/VFO Isolator
6CL6—Buffer/Doubler
12AU7—Keyer Tube
12AX7—Dual Triode Speech Amplifier
12AU7—Dual Triode Audio Driver
OA2—Voltage Regulator
6146—Final Amplifier
6AQ5—Clamper
1614—Push-Pull Modulators (2)
6AL5—Bias Rectifier
6AX5GT—Low Voltage Rectifier
5R4GY—High Voltage Rectifier

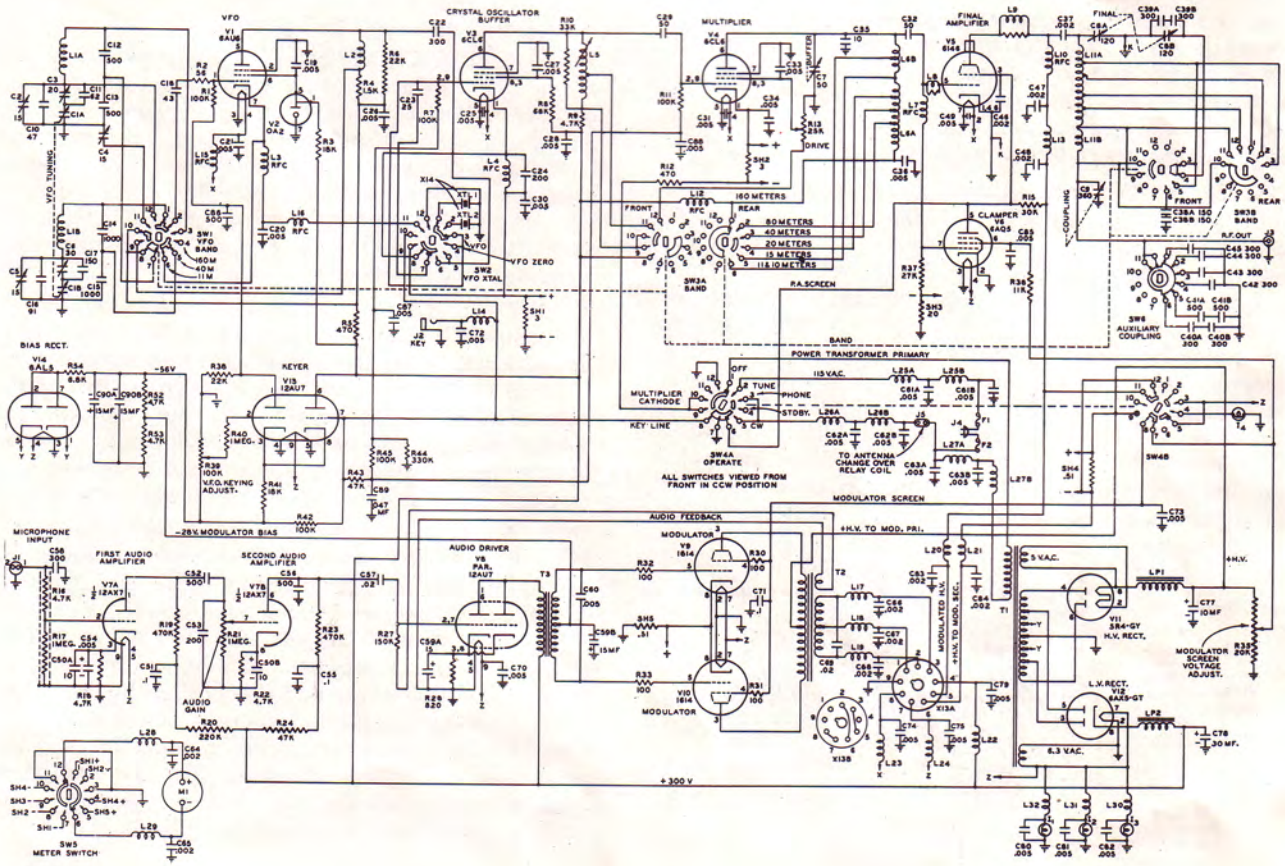
The Viking "Ranger" is available completely wired and tested or as a complete, ready to assemble kit. The 18 gauge steel cabinet is finished in attractive maroon and grey, with green nomenclature. Assembly instructions for the kit include photographs, diagrams and step-by-step wiring directions — wiring harness, all necessary hardware, and connectors furnished — no drilling or metal work necessary. Dimensions: 15½" long x 9⅝" high x 14" deep. Net Weight: 43 pounds. Shipping Weight: 54 pounds.



Cat. No. 240-161-1 Viking "Ranger" Kit with tubes, less crystals, key and microphone

AMATEUR NET **$229.50**

Cat. No. 240-161-2 Viking "Ranger" wired and tested with tubes, less crystals, key and microphone . . . . . **$329.50 Amateur Net**



275 watts CW and SSB*

200 watts phone

Bandswitching 160 through 10 meters

* with an auxiliary SSB exciter

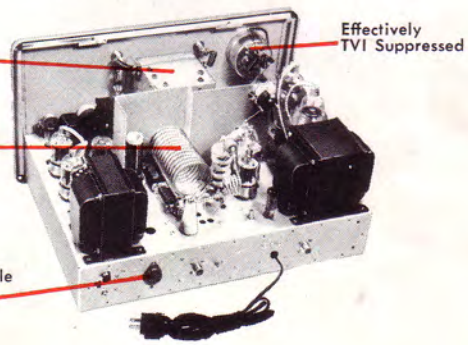
Viking "Valiant"

This compact transmitter gives you outstanding flexibility and performance . . . power to punch through terrific QRM! Built-in VFO or crystal controlled, the "Valiant" is completely bandswitching on all amateur bands 160 through 10 meters . . . delivers a full 275 watts input on CW and SSB (with an auxiliary SSB exciter) and 200 watts on AM. VFO is temperature compensated and extremely stable — operates in the 1.75 to 2.0 mc and 7.0 to 7.45 mc ranges.

The "Valiant" is designed with a high efficiency pi-network tank circuit which will match antenna loads from 50 to 600 ohms and tune out large amounts of reactance — final tank coil is silver plated. Other features: complete TVI suppression; timed sequence (grid block) keying; high gain push-to-talk audio system for use with high impedance crystal or dynamic microphones; low level audio clipping; built-in low pass audio filter; self contained power supplies; and single control mode switching.

As an exciter, the "Valiant" will drive any of the popular kilowatt level tubes and will provide a high quality speech driver system for high powered modulators. A nine pin receptacle on the rear of the transmitter brings out TVI filtered control and audio leads for exciter operation. This receptacle permits the "Valiant" to be used as a filament and plate power source, and also as a modulator for auxiliary equipment such as a VHF transmitter.

FREQUENCY CONTROL — The "Valiant" may be operated by built-in VFO or crystal control. The VFO is temperature compensated and extremely stable . . . each band has separate bandspread calibration. Dual tank circuit operates on 1.7 to 2.0 and 7.0 to 7.45 mcs with separate compensation for each frequency range. Excellent tuning accuracy and extremely smooth control is possible with the 6 to 1 planetary drive mechanism which controls tuning. Plexiglas dial is edge-lighted, Plexiglas pointer is positioned to insure a minimum of parallax. Each band is divided into precise 10 kc increments for accurate dial readings and interpolation. The broad range of the VFO permits coverage of an entire band and VFO is easy to tune . . . may be zeroed to any receiver.



TUNING — The "Valiant's" basic tuning controls are located on the VFO dial escutcheon. QSY within the phone or CW portion of a band is usually possible by merely changing the VFO frequency setting. For larger frequency excursions, simply touch up the grid (Buffer) tuning, adjust loading, and dip the final.

OUTPUT CIRCUIT — An efficient pi-network tank circuit with a silver plated inductor is used in the final amplifier. Designed to handle 50 to 600 ohm resistive antenna loads, it will also tune out large amounts of reactance. Final amplifier tubes are three 6146's. RF output is available through a standard SO-239 coaxial connector at the rear of the chassis.

AUDIO SYSTEM — The "Valiant" has a high gain audio circuit which provides reserve gain for use with high impedance crystal or dynamic microphones and features push-to-talk control. Low level audio clipping prevents overmodulation and increases average modulation level and intelligibility. Built-in low pass audio filter restricts the audio range to 3500 CPS, thus providing maximum communication effectiveness with minimum bandwidth.

TIMED SEQUENCE KEYING — This highly flexible keying system applies wave shaping to the keyed amplifier stages for perfect "make" and "break" on your keyed signal. Signal clicks and chirps are eliminated, yet the "break-in" advantages of a keyed VFO are retained. The system operates so fast that a breaking station may be heard between transmitted dots! Electrically operated, this timed sequence keying system uses no relays and only one dual triode plus a rectifier tube for the grid block bias.

TVI SUPPRESSION — Completely TVI suppressed, the "Valiant" cabinet is electrically sealed with flexible monel braid on the inside of the front panel and large cabinet overlap — a cup type shield seals the meter. Power line and relay jack have double "L" type filters — all auxiliary socket, meter, key, and dial lamp leads have "L" filter networks. Interior harness leads and filaments are by-passed. Careful by-passing of the final and special circuit techniques minimize harmonics in the output circuit.

POWER SUPPLIES — Self-contained high voltage power supply uses choke input filtering — delivers 620 volts at 500 ma. Self-contained low voltage power supply will deliver 300 volts at 90 ma and 6.3 volts AC at 6 amps. A separate relay jack provides 115 V AC for antenna changeover and control relays, and is energized by the "operate" switch on the front panel or the push-to-talk circuit.
Two VR-105 voltage regulators are used to regulate the final amplifier screen voltage in SSB operation and the modulator screen voltage during AM operation. VFO screen voltage is regulated by an OA2 voltage regulator.

275 watts CW and SSB*

200 watts phone

Bandswitching 160 through 10 meters

* with an auxiliary SSB exciter

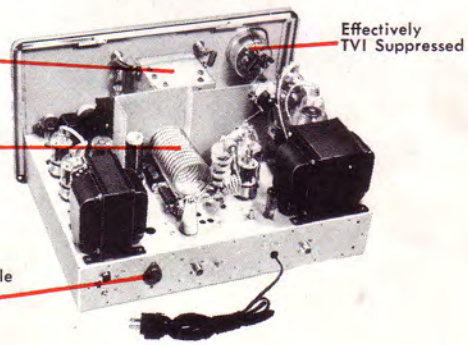
Viking "Valiant"

This compact transmitter gives you outstanding flexibility and performance . . . power to punch through terrific QRM! Built-in VFO or crystal controlled, the "Valiant" is completely bandswitching on all amateur bands 160 through 10 meters . . . delivers a full 275 watts input on CW and SSB (with an auxiliary SSB exciter) and 200 watts on AM. VFO is temperature compensated and extremely stable — operates in the 1.75 to 2.0 mc and 7.0 to 7.45 mc ranges.

The "Valiant" is designed with a high efficiency pi-network tank circuit which will match antenna loads from 50 to 600 ohms and tune out large amounts of reactance — final tank coil is silver plated. Other features: complete TVI suppression; timed sequence (grid block) keying; high gain push-to-talk audio system for use with high impedance crystal or dynamic microphones; low level audio clipping; built-in low pass audio filter; self contained power supplies; and single control mode switching.

As an exciter, the "Valiant" will drive any of the popular kilowatt level tubes and will provide a high quality speech driver system for high powered modulators. A nine pin receptacle on the rear of the transmitter brings out TVI filtered control and audio leads for exciter operation. This receptacle permits the "Valiant" to be used as a filament and plate power source, and also as a modulator for auxiliary equipment such as a VHF transmitter.

FREQUENCY CONTROL — The "Valiant" may be operated by built-in VFO or crystal control. The VFO is temperature compensated and extremely stable . . . each band has separate bandspread calibration. Dual tank circuit operates on 1.7 to 2.0 and 7.0 to 7.45 mcs with separate compensation for each frequency range. Excellent tuning accuracy and extremely smooth control is possible with the 6 to 1 planetary drive mechanism which controls tuning. Plexiglas dial is edge-lighted, Plexiglas pointer is positioned to insure a minimum of parallax. Each band is divided into precise 10 kc increments for accurate dial readings and interpolation. The broad range of the VFO permits coverage of an entire band and VFO is easy to tune . . . may be zeroed to any receiver.



TUNING — The "Valiant's" basic tuning controls are located on the VFO dial escutcheon. QSY within the phone or CW portion of a band is usually possible by merely changing the VFO frequency setting. For larger frequency excursions, simply touch up the grid (Buffer) tuning, adjust loading, and dip the final.

OUTPUT CIRCUIT — An efficient pi-network tank circuit with a silver plated inductor is used in the final amplifier. Designed to handle 50 to 600 ohm resistive antenna loads, it will also tune out large amounts of reactance. Final amplifier tubes are three 6146's. RF output is available through a standard SO-239 coaxial connector at the rear of the chassis.

AUDIO SYSTEM — The "Valiant" has a high gain audio circuit which provides reserve gain for use with high impedance crystal or dynamic microphones and features push-to-talk control. Low level audio clipping prevents overmodulation and increases average modulation level and intelligibility. Built-in low pass audio filter restricts the audio range to 3500 CPS, thus providing maximum communication effectiveness with minimum bandwidth.

TIMED SEQUENCE KEYING — This highly flexible keying system applies wave shaping to the keyed amplifier stages for perfect "make" and "break" on your keyed signal. Signal clicks and chirps are eliminated, yet the "break-in" advantages of a keyed VFO are retained. The system operates so fast that a breaking station may be heard between transmitted dots! Electrically operated, this timed sequence keying system uses no relays and only one dual triode plus a rectifier tube for the grid block bias.

TVI SUPPRESSION — Completely TVI suppressed, the "Valiant" cabinet is electrically sealed with flexible monel braid on the inside of the front panel and large cabinet overlap — a cup type shield seals the meter. Power line and relay jack have double "L" type filters — all auxiliary socket, meter, key, and dial lamp leads have "L" filter networks. Interior harness leads and filaments are by-passed. Careful by-passing of the final and special circuit techniques minimize harmonics in the output circuit.

POWER SUPPLIES — Self-contained high voltage power supply uses choke input filtering — delivers 620 volts at 500 ma. Self-contained low voltage power supply will deliver 300 volts at 90 ma and 6.3 volts AC at 6 amps. A separate relay jack provides 115 V AC for antenna changeover and control relays, and is energized by the "operate" switch on the front panel or the push-to-talk circuit.
Two VR-105 voltage regulators are used to regulate the final amplifier screen voltage in SSB operation and the modulator screen voltage during AM operation. VFO screen voltage is regulated by an OA2 voltage regulator.

600 watts CW

500 watts phone

500 watts SSB*

*with an auxiliary SSB exciter

Viking "Five Hundred"

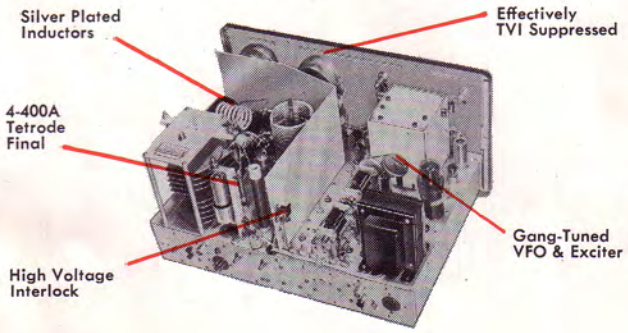
The Viking "Five Hundred" is a complete 500 watt transmitter for the 80 through 10 meter amateur bands. All exciter stages are ganged to the VFO tuning . . . unit is designed throughout for outstanding operating convenience and flexibility. The "Five Hundred" consists of two compact units: an RF unit small enough to place on your operating desk beside your receiver; and a power supply/modulator unit so compact it may be placed in most any convenient location. All operating controls are located on the front panel of the RF unit within easy reach of the operator.

The Viking "Five Hundred" has been designed for either crystal or VFO control. Instant bandswitching, the "Five Hundred" is effectively TVI suppressed and filtered . . . contains a Pi-L network output circuit, with silver plated final tank coil, for loading virtually any antenna system. Safety and protective features include: a tamperproof, key-operated main switch; cabinet interlocks; excitation and bias failure protection; fused filament and plate supplies; and high voltage time delay.

FREQUENCY CONTROL — The "Five Hundred" may be operated by built-in VFO or crystal control. The VFO is temperature compensated and extremely stable . . . covered crystal socket accommodates two type FT243 quartz crystals. Each band on the VFO dial has separate bandspread calibration, and a 6 to 1 planetary drive mechanism permits exceptional tuning accuracy and extremely smooth control. Plexiglas dial is edge-lighted, Plexiglas pointer is positioned to insure a minimum of parallax. Each band is divided into precise 10 kc increments for accurate dial readings and interpolation.

TUNING — All exciter stages are ganged to the VFO tuning, eliminating the need to tune intermediate stages between the VFO and final. The broad range of the VFO permits coverage of an entire band and VFO is easy to tune . . . may be zeroed to any receiver.

OPERATING CONTROLS — All operating controls for the "Five Hundred" are located on the front panel of the RF unit within easy reach of the operator. These controls include: exciter tuning; bandswitch; power amplifier tuning and loading; crystal/VFO selector switch; drive adjustment; tune/operate switch; standby/zero/transmit switch; plate overload reset; transmission "mode" switch; audio gain; and key-operated main switch. Plate current is indicated on a permanently connected plate meter and a second meter reads exciter or modulator currents as desired at the flip of a switch.



OUTPUT CIRCUIT — The final amplifier uses a type 4-400A high efficiency tetrode with low driving power requirements working into an efficient Pi-L network. Final tank coil is silver plated . . . network will handle unbalanced 52 ohm loads with standing wave ratios up to 3:1; or unbalanced resistive loads of 15-200 ohms. The pi-section provides excellent reduction of harmonics of the carrier frequency — the "L" section provides from 15 to 20 db additional attenuation of second harmonic energy and reduces higher order harmonic energy by an even greater amount.

AUDIO SYSTEM — The "Five Hundred" has a high gain audio circuit which provides reserve gain for use with high impedance crystal or dynamic microphones and features push-to-talk control. A 600 ohm phone patch input is independent of audio gain control — speech filter restricts frequency response to 200-3500 CPS for maximum communication effectiveness, with minimum bandwidth. Low level audio clipping prevents overmodulation and increases average modulation level and intelligibility.

TIMED SEQUENCE KEYING — This highly flexible keying system applies wave shaping to the keyed amplifier stages for perfect "make" and "break" on your keyed signal. Signal clicks and chirps are eliminated, yet the "break-in" advantages of a keyed VFO are retained. The system operates so fast that a breaking station may be heard between transmitted dots! Electrically operated, this timed sequence keying system uses no relays and only one dual triode plus a rectifier tube for the grid block bias.

TVI SUPPRESSION — In addition to complete shielding and the use of double "L" section filters in every lead, the amplifier is electrically sealed with flexible monel braid — cup-type shields seal the meters. Interior harness leads and filaments are by-passed. Careful by-passing of the final and special circuit techniques minimize harmonics in the output circuit.

POWER SUPPLIES — Power supplies are located in a separate cabinet which is connected to the RF unit by plug-in cables. (This cabinet also contains the push-pull modulator tubes and the modulation transformer.) Four VR150 and one VR105 voltage regulators are used to regulate the final amplifier screen voltage during SSB operation. VFO screen voltage is regulated by an 0A2 voltage regulator.

SPECIFICATIONS

FREQUENCY RANGE:

80, 40, 20, 15, 11, and 10 meters

POWER REQUIREMENTS:

115V AC, 2 wire or 230 V AC, 3 wire, 50-60 cycles, single phase, 1500 watts.

POWER INPUT:

600 Watts Continuous Wave
500 Watts Amplitude Modulated Phone
500 Watts Single Sideband (P.E.P. using accessory SSB exciter delivering 3 watts across 52 ohms)

FUSE PROTECTION:

The following fuses are located in the power supply: RF Filament Supply Fuse; Low Voltage Supply Fuse; and Two High Voltage Supply Fuses.

TUBE COMPLEMENT

6AU6—Variable Frequency Oscillator
0A2—Voltage Regulator for VFO
6CL6—Buffer
6CL6—Multiplier
5763—RF Driver
4-400A—Power Amplifier
12AZ7—Keyer
807—Clamper
12AX7—1st & 2nd Audio Amplifier
6AU6—3rd Audio Amplifier
6AL5—Audio Peak Clipper
6B4G—Audio Driver
811A(2)—Modulator
6AX5GT—Bias Rectifier
5U4G—Low Voltage Rectifier
866/866A(2)—High Voltage Rectifier
VR105—Voltage Regulator
VR150(4)—Voltage Regulators

The Viking "Five Hundred" is available completely wired and tested or as an easy to assemble kit. The RF unit is housed in an 18 gauge steel cabinet, finished in attractive maroon and grey, with green nomenclature. The power supply cabinet is finished in maroon enamel. Dimensions: RF Unit — 21" long x 11⅝" high x 16½" deep. Power Supply — 20⅜" long x 15¾" high x 10⅞" deep. Total Net Weight: 173 lbs. Shipping Weight: 200 lbs.

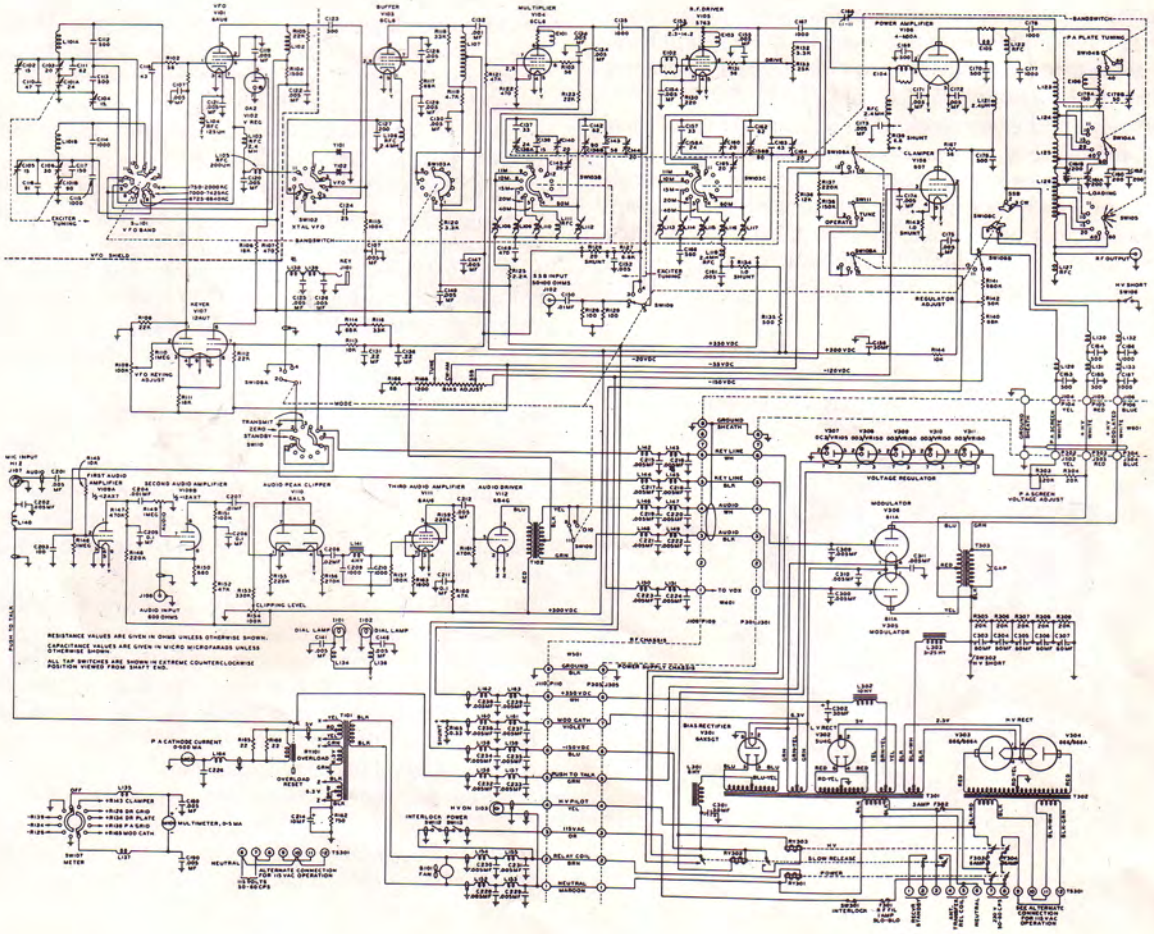


Cat. No. 240-500-1 Viking "Five Hundred" Kit complete with tubes, less crystals, key and microphone . . . . . .

AMATEUR NET $749.50

Cat. No. 240-500-2 Viking "Five Hundred" wired and tested with tubes, less crystals, key and microphone . . . . . **$949.50 Amateur Net**

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



500 watts P.E.P.*

500 watts CW

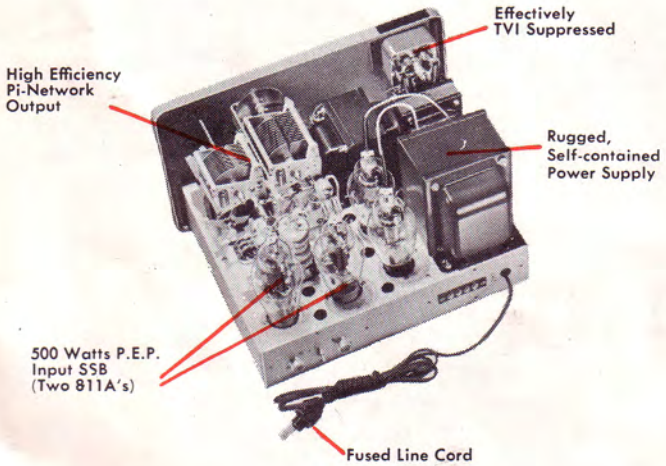
200 watts AM linear

* with an auxiliary SSB exciter

Viking "Courier"

The new Viking "Courier" delivers full communication power — rated a solid one-half kilowatt P.E.P.* input as a class B linear amplifier; one-half kilowatt input on CW or 200 watts in AM linear mode; in a completely self-contained desk-top package. The Viking "Courier" may be driven by the Viking "Navigator," "Ranger," "Pacemaker" or other unit of comparable output. Continuous coverage 3.5 to 30 megacycles (bandswitched) — high efficiency pi-network output circuit. Rotary tank coil and plate tuning capacitor are ganged to single control and provide uniform loaded tank circuit Q throughout operating range. Unique laboratory stability tests assure an amplifier with exceptional overall stability appreciably superior to other amplifiers. Fully TVI suppressed and filtered; completely self-contained with built-in power supply.

Cabinet type and dimensions are the same as the Viking "Ranger," providing a very compact and neatly packaged desk top layout when used together. Operating controls and meter are easily accessible for operation and testing. Molded rubber feet attached to cabinet base protect table top and help to insure adequate ventilation.



"COURIER" POWER GAIN

Driver **		Power increase-times
Adventurer	CW	10.0
Navigator	CW	12.5
Ranger	CW	6.6
Ranger	AM	2.5
Viking I & II	CW	2.8
Pacemaker	SSB & CW	5.5
Pacemaker	AM	5.0

**Proper wave shaping of the keyed signal, producing a clean, crisp CW note free of clicks and chirps, is essential in high-power operation. Information necessary to modify units without the famous Johnson Timed Sequence Keying System will be made available upon request.

EXCITATION REQUIREMENTS — Drive requirements are 5 to 35 watts depending upon the mode and frequency desired. The Viking "Courier" may be driven by the Viking "Navigator," "Ranger," "Pacemaker" or other unit of comparable output. Use of the Viking I, II or similar unit as an exciter for the Viking "Courier" requires use of the Johnson power reducer, **Cat. No. 250-29.**

OPERATING CONTROLS — The operating controls for the "Courier" are conveniently located on the front panel within easy reach of the operator. These controls include: grid tuning and bandswitch; plate tuning with slide rule indicator dial; filament switch; plate switch; coarse and fine coupling controls. Amplifier grid and plate current for both class B and C operation may be read as desired with the flip of a switch on the front panel.

OUTPUT CIRCUIT — The Viking "Courier" linear amplifier employs two Type 811A triode tubes in parallel. The pi-network output circuit is designed to match nominal 40 to 600 ohm antenna loads and will tune out large amounts of load reactance as well. A fan is located on the inside of the amplifier cabinet to cool the unit and provide extended tube and component life.

TVI SUPPRESSION — In addition to complete shielding and the use of double "L" section filters in all outgoing leads, the Viking "Courier" cabinet is electrically sealed with flexible monel braid. A cup-type shield seals the meter — interior harness leads and filaments are by-passed. Careful by-passing of the final and special circuit techniques minimize harmonics in the output circuit.

POWER SUPPLIES — The high voltage power supply uses 866-A rectifiers and delivers adequate voltage and current for the rated input power. Built-in blocking bias is provided for SSB linear operation.

SPECIFICATIONS

FREQUENCY RANGE:

Continuous coverage 3.5 through 30 megacycles (Bandswitched).

POWER INPUT:

500 Watts CW . . . . . Class C
200 Watts AM Linear . . . . . Class B
500 Watts P.E.P.* Linear . . . . . Class B

POWER REQUIREMENTS:

115 volts AC, 50-60 cycle single phase. Fused line plug.

TUBE COMPLEMENT

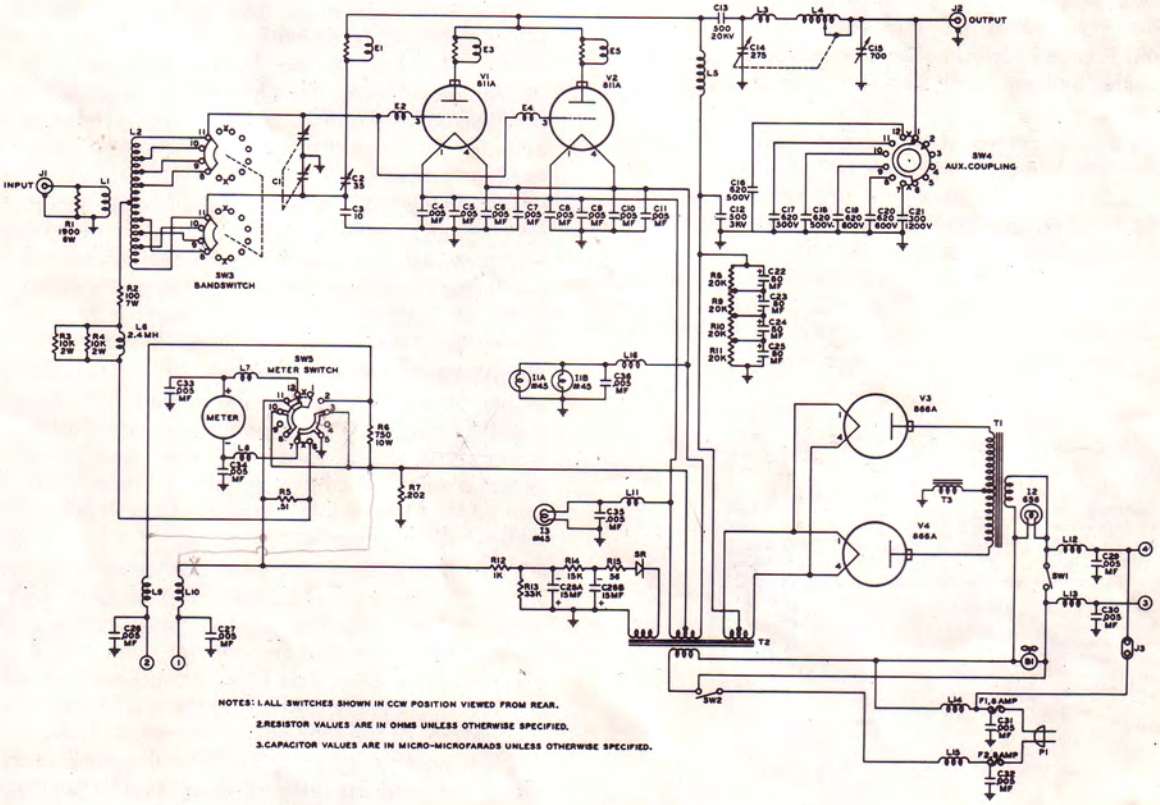
(2) 811A triode—Final Amplifier (2) 866A—High Voltage Rectifier

The Viking "Courier" is available completely wired and tested or as an easy to assemble kit. The 18 gauge steel cabinet is finished in attractive maroon and grey, with green nomenclature. Complete kit includes assembly instructions, photographs, diagrams and step-by-step wiring directions. Wiring harness, all necessary hardware furnished — no drilling or metal work necessary. Dimensions: 15½" long x 9⅝" high x 14" deep. Net Weight: 58 lbs. Shipping Weight: 68 lbs.



Cat. No. 240-352-1 Viking "Courier" Kit with tubes . . . . . **AMATEUR NET** **$244.50**

Cat. No. 240-352-2 Viking "Courier" wired and tested with tubes . . . . . **$289.50 Amateur Net**



For Single Sideband

90 watts input

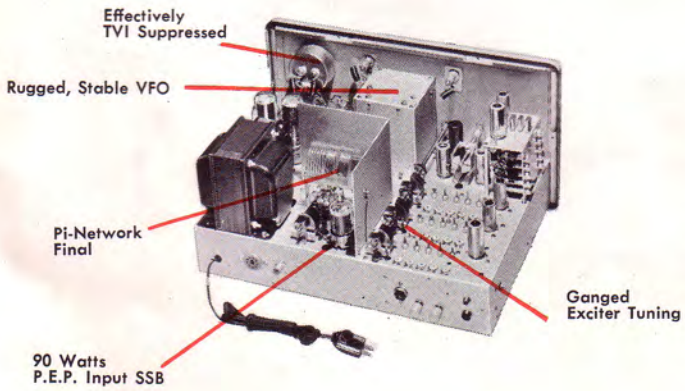
Stable, rugged VFO

Viking "Pacemaker"

Here to stay! The "Pacemaker" is an outstanding power bargain when used as a transmitter or as an exciter. 90 watts input CW and SSB (P.E.P.) . . . 35 watts AM! Single knob bandswitching on 80, 40, 20, 15 and 10 meters, the "Pacemaker" has an extremely stable built-in VFO which provides complete coverage of all bands without crystal switching or re-tuning. Unique circuitry uses only 1 mixer for improved spurious signal rejection greater than 50 db. Eliminates great multiplicity of sum and difference spurious products inherent in systems utilizing 2 or 3 mixers. Balanced range audio does not sacrifice low frequency response as is usually necessary in filter-type equipment. VOX and anti-trip circuits are provided for voice controlled operation. Plenty of power to drive conventional or grounded-grid kilowatt amplifiers.

FREQUENCY CONTROL — The "Pacemaker" has an extremely stable, temperature compensated built-in VFO. Each band has a separate bandspread calibration. A 6 to 1 planetary drive mechanism results in exceptional tuning accuracy and velvet smooth control. Plexiglas dial is edge-lighted, Plexiglas pointer is positioned to insure a minimum of parallax. Precise, 10 Kc. calibration increments on each band provide uniform and accurate dial reading and interpolation.

Separate crystal control is provided for each band and five crystals are supplied with the unit for this purpose. Crystals are internally located and are selected with the front panel bandswitch. The VFO signal is hetrodyned with the crystal controlled SSB signal to yield the desired operating frequency, thus drift and calibration errors are not multiplied. The broad range of the VFO permits coverage of the entire band, not just a segment, and the VFO is easy to tune . . . may be zeroed to any receiver.



SINGLE SIDEBAND OPERATION — Single sideband operation is derived through use of the "phasing" method. A carrier insertion control for CW or AM operation as well as a separate SSB carrier suppression control are provided.

Once controls are properly set, accurate carrier level or suppression is automatically provided when the type of emission is selected. Upper or lower sideband may be selected with a front panel control . . . unwanted sideband suppression exceeds normal requirements, regardless of which sideband is in use.

VOICE CONTROL — The VOX threshold and anti-trip circuits are electronically pre-set and may be adjusted at the rear of the cabinet by the operator. The anti-trip circuit is controlled by the receiver audio signal which is fed through a connector at the rear of the cabinet.

DRIVING AN AM KILOWATT — When the transmitter is being used as an exciter for a high powered RF amplifier for AM, additional audio amplification is necessary to drive the high powered modulator. An auxiliary amplifier* is available as a separate item and the Pacemaker's audio signal is available through a connector at the rear of the cabinet. Turning the front panel mode switch to "AM HI" automatically routes the signal from the speech amplifier to this auxiliary amplifier. When using a high powered RF amplifier for **single sideband** operation no auxiliary amplifier is necessary.

OUTPUT CIRCUIT — The final amplifier is designed around an efficient pi-network tank circuit which will handle 50 to 600 ohm resistive antenna loads and is capable of tuning out large amounts of reactance. Final amplifier tube is a 6146. RF output is available through a standard SO-239 connector at the rear of the chassis.

TVI SUPPRESSION — Completely TVI suppressed, the "Pacemaker" cabinet is electrically sealed with flexible monel braid on the inside front panel and large cabinet overlap. A cup type shield seals the meter, and power line and antenna relay jack have double "L" type filters. All auxiliary sockets, meter, dial lamp, and key leads are equipped with "L" filter networks.

POWER SUPPLIES — A triple section power supply contained within the transmitter cabinet supplies both high and low voltages for all sections of the transmitter as well as bias voltage for the transmitter and for control of a high powered final amplifier. This bias voltage may be run through a spare set of relay contacts in the transmitter and through a connector at the rear of the cabinet. 115VAC is available through another set of contacts on the same relay for control of an antenna relay or other control functions. When transmitting, this voltage is available at the rear connector. Voltages to the 6146 screen, balanced modulator and VFO are regulated through the use of VR tubes.

SPECIFICATIONS

FREQUENCY RANGE:

80, 40, 20, 15, and 10 meters

POWER REQUIREMENTS:

105-120 V AC, 50-60 Cycles, Single Phase

POWER OUTPUT:

60 Watts Peak Envelope in All Modes

POWER INPUT:

90 Watts Single Sideband
90 Watts Continuous Wave
35 Watts Amplitude Modulated Phone

FUSE PROTECTION:

Transmitter fuses are located in the 115 V. power plug.

TUBE COMPLEMENT

12AT7—First Audio
12AU7—Second Audio and Anti-Trip
12AT7—VOX and Relay Amplifier
6AL5—VOX Rectifier
12AT7—Phase Inverter
12AT7—Balanced Modulator (2)
6BE6—Mixer
6AU6—RF Amplifier
6CL6—RF Driver
6146—Final Amplifier
6AU6—VFO
OA2—Voltage Regulator
6AU6—Crystal Oscillator
12BH7—Cathode Follower
5U4—LV Rectifier
5R4—HV Rectifier
6AL5—Bias Rectifier
OB2—Voltage Regulator (2)

The Viking "Pacemaker" is available as a completely wired and tested unit only. The 18 gauge steel cabinet is finished in attractive maroon and grey, with green nomenclature. Dimensions: 21" long x 11⅝" high x 16⅝" deep. Net Weight: 61 pounds. Shipping Weight: 74 pounds.

*When using the pacemaker to drive a Kilowatt on AM, additional audio is necessary to drive the Kilowatt's modulators. See the Johnson Audio Amplifier on page 23.

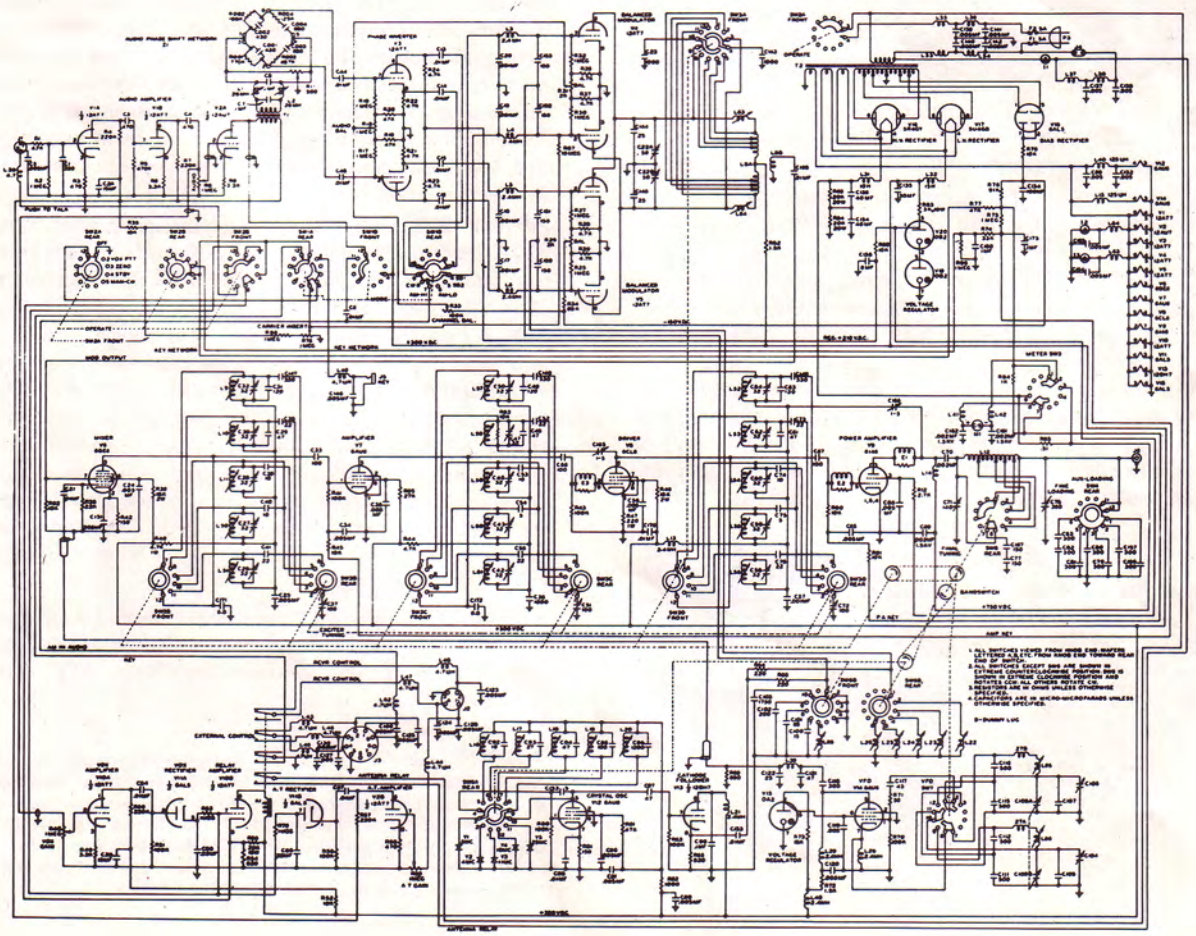


Cat. No. 240-301-2 Viking "Pacemaker" wired and tested with tubes, crystals, less key and microphone

AMATEUR NET **$495.00**

POWER DIVIDER — Provides up to 35 watts continuous dissipation for proper output loading of the "Pacemaker" when used to drive the Viking "Kilowatt." See page 22.

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



2000 watts P.E.P.*

1000 watts CW

1,000 watts AM

*** with an auxiliary SSB exciter**

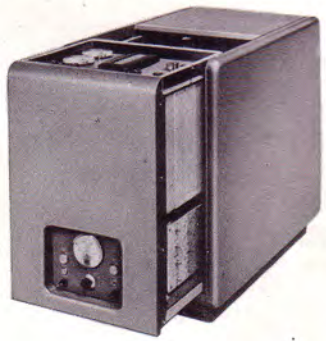
Viking "Kilowatt"

Powered with authority and designed for convenience, the Viking "Kilowatt" Power Amplifier is truly tomorrow's concept of electronic equipment design. All controls may be easily reached from a seated operating position and meters are angled for direct viewing. Low power or maximum legal input AM, CW, or SSB may be selected with the flip of a single switch. Tuning is continuous from 3.5 to 30 mc. Completely enclosed, the Viking "Kilowatt" requires no internal adjustment or coil changing — accidental contact is thereby prevented. 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 2-3 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 "Pacemaker" will drive the Viking "Kilowatt" to full output on SSB, CW, or AM.

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.



COMPLETE ACCESSIBILITY—Housed within this pedestal, the Viking Kilowatt is compact yet accessible. All parts are mounted in a heavy, angle steel frame and the removal of just two thumb screws and three quick-disconnect plugs permits the entire unit to roll out of the cabinet on ball bearing rollers for quick and complete accessibility.

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, Collins 32V or others, permitting them to serve as exciters for the Viking "Kilowatt." See page 22.

FOR AM OPERATION, the Johnson Audio Amplifier is used where the exciter has no audio system or where the speech signal is insufficient to drive the "Kilowatt's" modulators. See page 23.

*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. The Viking "Kilowatt" in linear amplifier operation produces these higher powers and is the only equipment available to amateurs which can reach the maximum legal input of "talk-power," other than the Viking "Thunderbolt."

SPECIFICATIONS

FREQUENCY RANGE:
Continuous coverage 3.5 to 30 megacycles

EXCITATION REQUIREMENTS:
30 Watts RF and 10 Watts Audio for AM; 2-3 Watts P.E.P. for SSB

PRIMARY AC VOLTAGE:
230 volts AC, 50-60 cycles, single phase (three wire)
115 volts AC, 50-60 cycles, single phase*

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

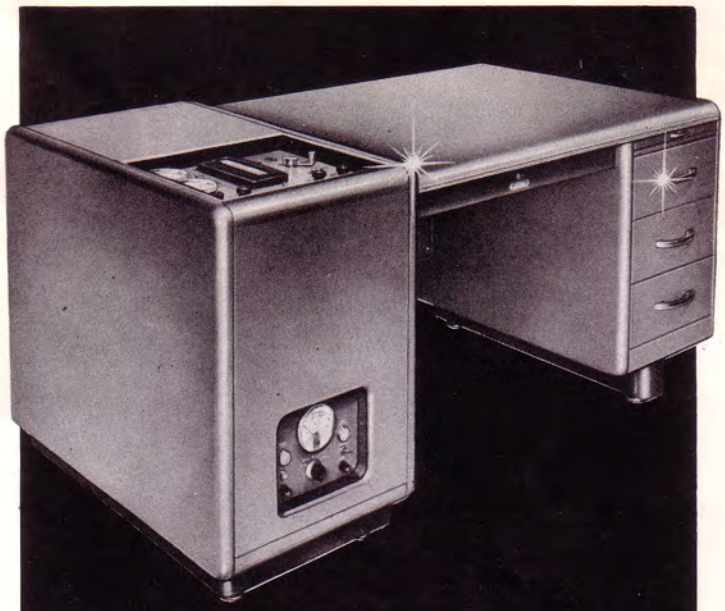
*Recommended only when adequate heavy duty wiring from electric power source is available.

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
VR150 (2) — VR105 (2) 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 32⅞" deep. With Accessory desk top, back, and three drawer pedestal: 29½" high, 63½" wide, and 32⅞" deep. Weight of complete "Kilowatt" Power Amplifier is approximately 400 pounds; accessory desk assembly, 155 pounds.



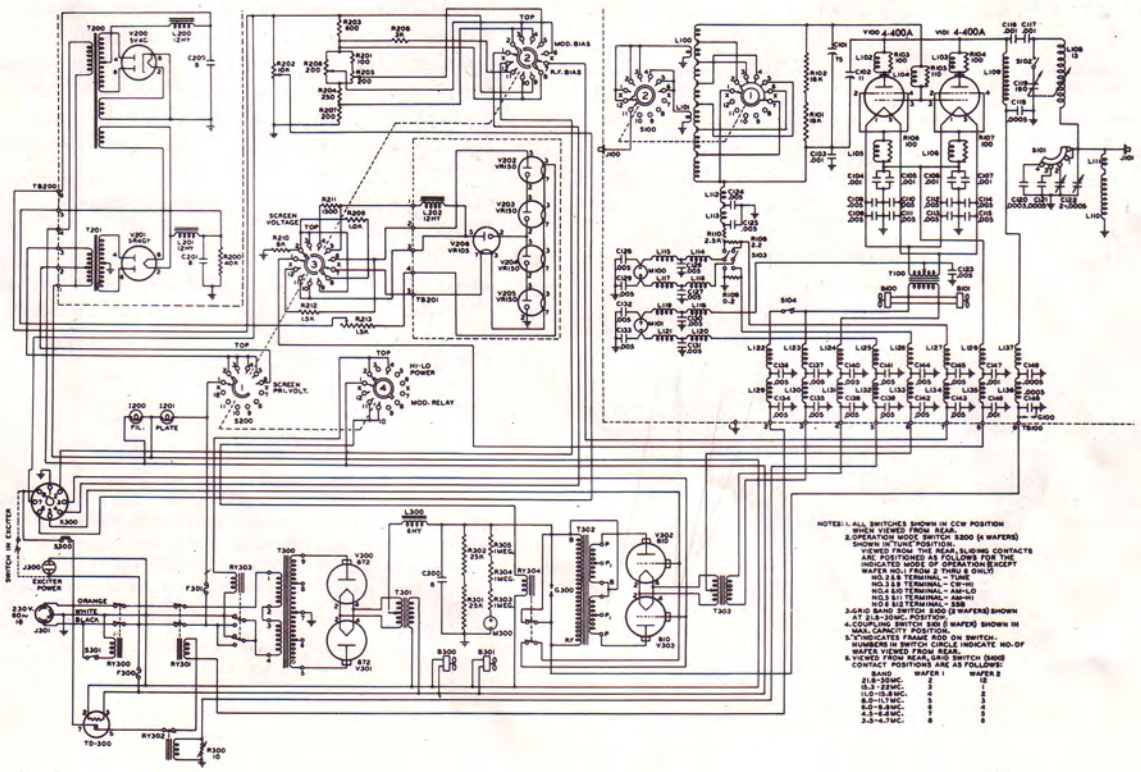
Cat. No. 240-1000 Viking "Kilowatt" Power Amplifier including tubes, furnished wired, adjusted, and laboratory tested

AMATEUR NET $1595.00

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.



2000 watts P.E.P.*

1000 watts CW

750 watts AM linear

*** with an auxiliary SSB exciter**

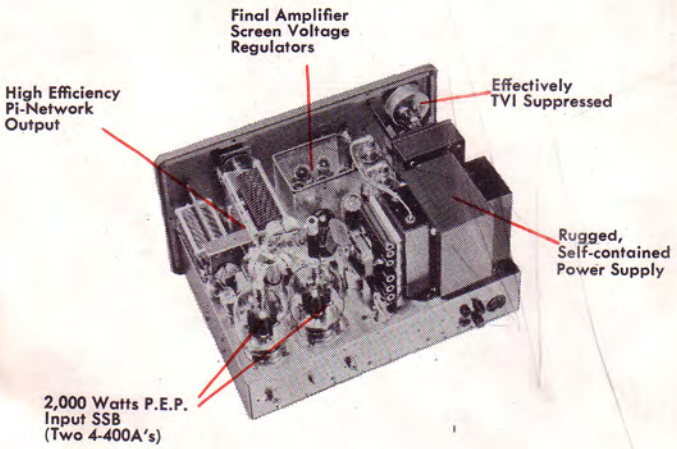
Viking "Thunderbolt"

Introducing the Viking "Thunderbolt" — the hottest linear amplifier on the market today! Here's solid communication power — 2,000 watts P.E.P.* input; 1,000 watts CW; 750 watts AM linear; in a completely self-contained desk-top package. The "Thunderbolt" may be driven by the Viking "Navigator," "Ranger," "Pacemaker" or other unit of comparable output. Continuous coverage 3.5 to 30 megacycles (bandswitched) — wide range pi-network output circuit. The "Thunderbolt" has been engineered to provide maximum "talk-power" to smash through QRM — delivers a dominant signal on all amateur bands. Completely self-contained with internal blocking bias, voltage regulated screen and bias supplies, and plate power supply.

"THUNDERBOLT" POWER GAIN

Driver**		Power increase-times
Adventurer	CW	20.0
Navigator	CW	25.0
Ranger	CW	13.3
Ranger	AM	5.7
Viking I & II	CW	5.6
Viking I & II	AM	3.8
Pacemaker	SSB	22.0
Pacemaker	CW	11.1
Pacemaker	AM	18.7

****Proper wave shaping of the keyed signal, producing a clean, crisp CW note free of clicks and chirps, is essential in high-power operation. Information necessary to modify units without the famous Johnson Timed Sequence Keying System will be made available upon request.**



EXCITATION REQUIREMENTS — Drive requirements are approximately 10 watts in class AB_2 linear, 20 watts class C continuous wave. When used with the Viking "Pacemaker" or similar exciter, the non-inductive input circuit of the "Thunderbolt" requires no grid tuning. Use of the Viking I, II or similar unit as an exciter for the Viking "Thunderbolt" requires use of the Johnson power reducer, **Cat. No. 250-29.**

OPERATING CONTROLS — The operating controls for the "Thunderbolt" are conveniently located on the front panel within easy reach of the operator. These controls include: grid tuning and bandswitch; plate tuning with slide rule indicator dial; coarse and fine coupling controls; filament; plate; "mode"; and meter switches. Two meters provide a constant visual check of operation. Plate current meter also reads watts input and the second meter will read either grid current or plate voltage.

OUTPUT CIRCUIT — The Viking "Thunderbolt" amplifier employs two Type 4-400A tetrode tubes in parallel, bridge neutralized. The pi-network output is designed to match nominal 40 to 600 ohm antenna loads and will tune out large amounts of load reactance as well. Two fans, located within the amplifier cabinet, cool filament and plate seals for extended tube life.

TVI SUPPRESSION — In addition to complete shielding and the use of double "L" section filters in all outgoing leads, the "Thunderbolt" cabinet is electrically sealed with flexible monel braid — cup-type shields seal the meters, and interior harness leads and filaments are by-passed. Careful by-passing of the final, and special circuit techniques minimize harmonics in the output circuit.

POWER SUPPLIES — The high voltage power supply uses 866-A rectifiers and delivers adequate voltage and current for the rated input power. The screen supply employs a 5V4 rectifier and uses four VR tubes for screen voltage regulation in Class AB_2 operation. A 6BY5 rectifier and VR 75 regulator comprise the bias supply for the two 4-400A final amplifier tubes.

*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. The Viking "Thunderbolt" linear amplifier produces these higher powers and is the only equipment available to amateurs which can reach the maximum legal input of "talk-power," other than the Viking "Kilowatt."

SPECIFICATIONS

FREQUENCY RANGE:

Continuous coverage 3.5 through 30 megacycles (Bandswitched).

POWER INPUT:

1,000 Watts CW . . . . . Class C
750 Watts AM Linear . . . . . Class AB_2
2,000 Watts P.E.P.* Linear . . . . . Class AB_2

POWER REQUIREMENTS:

115 volts AC two wire or 230 volts AC three wire, 50-60 cycle single phase. Fuses accessible on rear of chassis.

TUBE COMPLEMENT

(2) 4-400A tetrode—Final Amplifier
(2) 866A—High Voltage Rectifier
(1) 6BY5—Bias Rectifier
(1) 5U4—Screen Voltage Rectifier
(1) VR 75—Bias Regulator
(2) VR 105, (2) VR 150 — Screen Voltage Regulator

The Viking "Thunderbolt" is available completely wired and tested or as an easy to assemble kit. The 18 gauge steel cabinet is finished in attractive maroon and grey, with green nomenclature. Complete kit includes assembly instructions, photographs, diagrams and step-by-step wiring directions. Wiring harness, all necessary hardware furnished — no drilling or metal work necessary. Dimensions: 21" long x 11⅝" high x 16 7/16" deep. Net Weight: 120 lbs. Shipping Weight: 140 lbs.

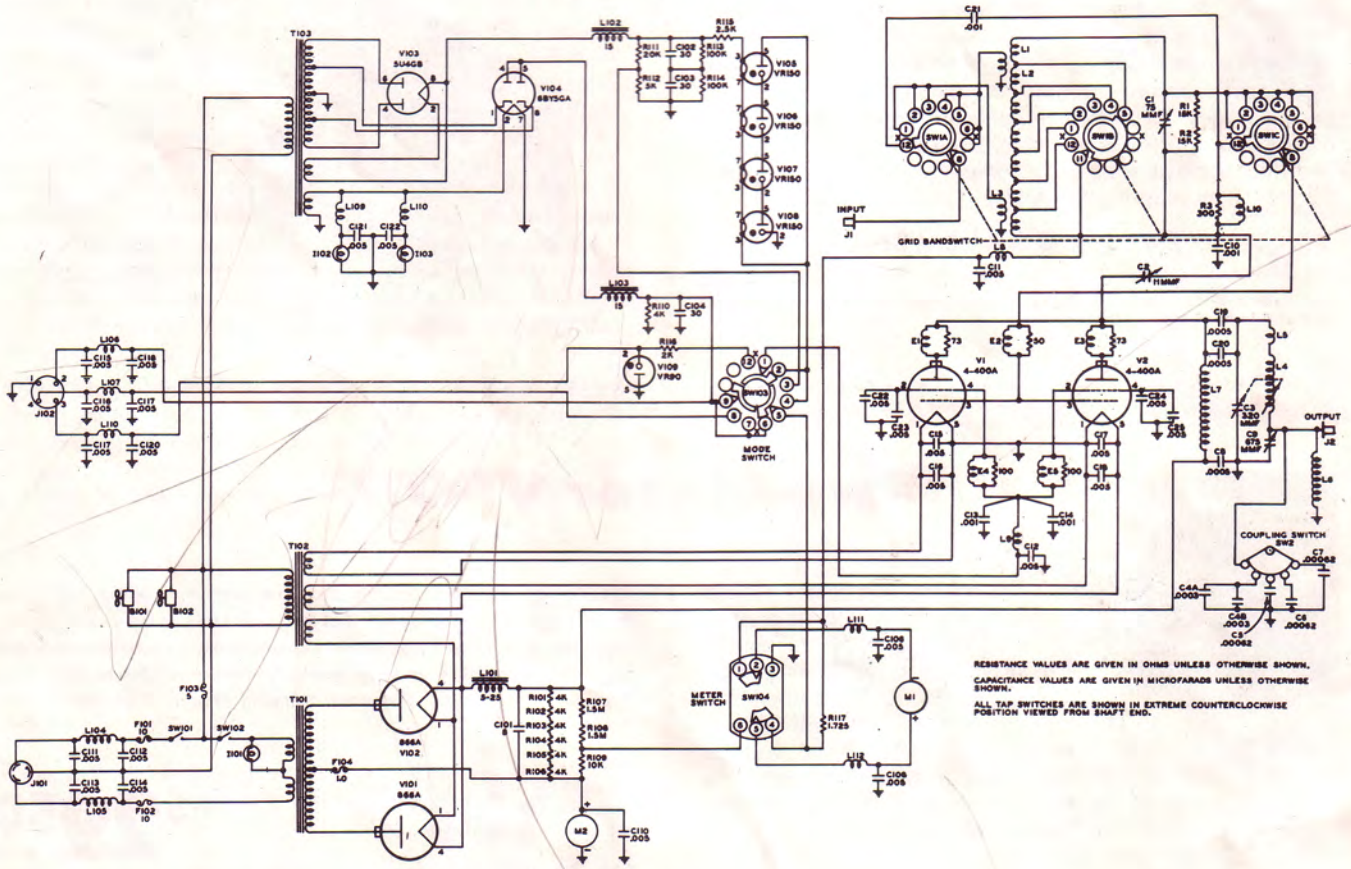


Cat. No. 240-353-1 Viking "Thunderbolt" Kit with tubes

AMATEUR NET **$450.00†**

Cat. No. 240-353-2 Viking "Thunderbolt" wired and tested, with tubes **$525.00 Amateur Net†**

†Prices subject to revision



150 watts CW

100 watts phone

Bandswitching 6 and 2 meters

Viking "6N2"

This compact VHF transmitter offers instant bandswitching coverage of both 6 and 2 meters. Completely shielded and TVI suppressed, the "6N2" may be used with the Viking "Ranger," Viking I, Viking II, or similar power supply-modulator combinations capable of at least 6.3 VAC at 3.5 amp., 300 VDC at 70 ma., 300 to 750 VDC at 200 ma. and 30 or more watts of audio. Power input is rated at 150 watts CW and 100 watts AM phone . . . cathode keying results in excellent waveform.

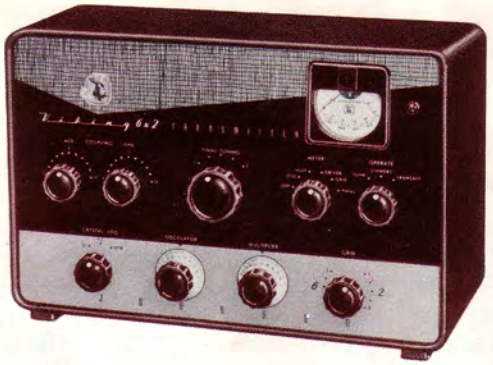
FREQUENCY CONTROL — The Viking "6N2" may be operated by external VFO or built-in crystal control. 8 to 9 mc crystals are used in a pentode oscillator, which doubles in the plate circuit. This avoids tricky overtone circuits, eliminates critical adjustment and prevents frequency output which is not harmonically related to the fundamental of the crystal. VFO operation may be obtained simply by plugging in an external VFO with an 8-9 mc output and turning the VFO/Crystal switch to the VFO position. Provision for zeroing the VFO is also provided.

TUNING — All tuning controls for the "6N2" are located on the front panel of the transmitter. All circuits metered for easy tune-up . . . Tune-Standby-Operate switch permits tune-up through driver and receiver zeroing.

OUTPUT CIRCUIT — The final amplifier uses a type 5894 dual tetrode in a push-pull circuit. It is capable of 150 watts input on CW or FM and 100 watts input on AM phone. The final tank is a dual band device and requires no switching when changing bands. High efficiency is obtained by the use of silver plated balanced tank circuits with parallel lines for maximum efficiency on 2 meters. The output link, which is adjustable, is also a two band device. Series capacitive reactance compensation is incorporated for maximum coupling flexibility.

TUBE COMPLEMENT

6U8 — (pentode section) — crystal — oscillator — doubler
6U8 — (triode section) — tripler
6360 — tripler-driver
5894 — final amplifier
6AQ5 — clamper

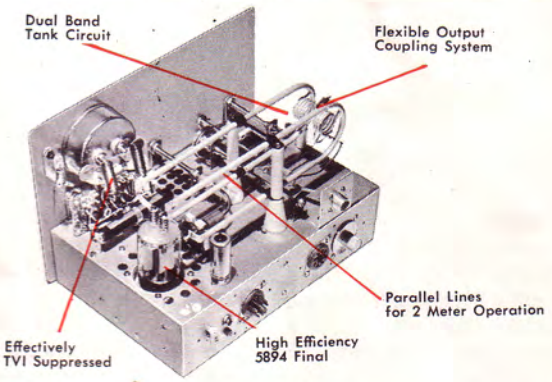


The Viking "6N2" is available completely wired and tested or as an easy-to-assemble kit. Cabinet is finished in attractive maroon and grey with green nomenclature. Complete kit includes assembly instructions, photographs, diagrams, and step-by-step wiring directions. Wiring, all necessary hardware furnished — no drilling or metal work necessary. Dimensions: 13⅛" x 8⅜" x 8½". Net Weight: 10 pounds. Shipping Weight: 14 pounds.

Cat. No. 240-201-1 Viking "6N2" Kit with tubes, less crystals, key and microphone.

Cat. No. 240-201-2 Viking "6N2" wired and tested with tubes, less crystals, keys and microphone . . . **$169.50** Amateur Net

$129.50 Amateur Net





"Two Meter VFO"

The Viking Two Meter VFO is designed to replace 8 mc crystals in most existing two meter equipment, including types using overtone oscillators. Unit is temperature compensated and exceptionally stable . . . series tuned oscillator is a 6BH6; voltage regulator tube is an OA2. Output frequency range is 7.995 mc to 8.235 mc — edge-lighted lucite dial is calibrated 144 to 148 mc. Power requirements are only 6.3 volts at .3 amp. and 250-325 volts at 10 ma. and may easily be taken from the transmitter — power cable and octal power plug furnished.

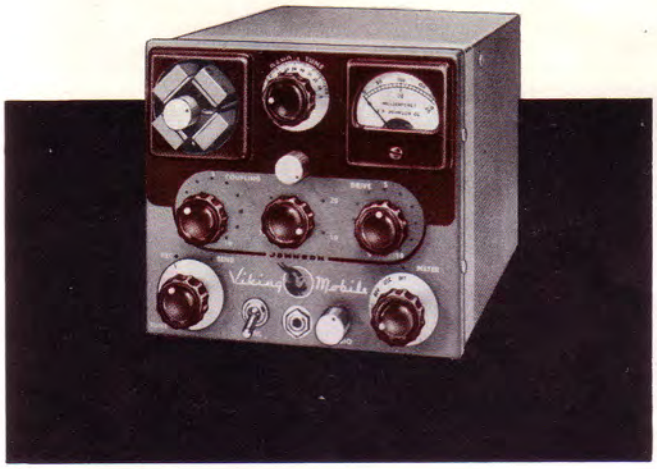
The Viking Two Meter VFO is available completely wired and tested or as an easy-to-assemble kit. Cabinet is finished in attractive maroon and grey with green nomenclature. Complete kit includes assembly and operating instructions and all necessary hardware. Dimensions: 4" x 4½" x 5". Net Weight: 2 pounds. Shipping Weight: 3 pounds.

Cat. No. 240-132-1 Two Meter VFO Kit, with tubes and pre-calibrated dial . . . . . **$29.50** Amateur Net

Cat. No. 240-132-2 Two Meter VFO, wired and tested with tubes and pre-calibrated dial. **$46.50** Amateur Net

Viking

"Mobile"



This power-packed mobile transmitter is an outstanding performer on the 75, 40, 20, 15 and 11-10 meter amateur bands. Coupling system is engineered for maximum power transfer — all stages ganged to a single tuning knob for greater operating safety while driving — simple, fast, positive tuning. 3 separate ganged coupling links provide maximum power transfer to antenna. A separate PA trimmer permits large frequency excursions without antenna loading coil adjustments. RF bias supply means lower battery drain — also protects modulator and final amplifier in case of excitation failure. RF section: 6BH6 oscillator, 6AQ5 buffer/doubler, 807 power amplifier. Powerful PP 807 modulator is designed for extra audio punch. 6BH6 speech amplifier and 6BH6 driver has sufficient gain for either high impedance or carbon microphone. Unique RF bias system protects RF tubes and modulators. "TUNE-RECEIVE-TRANSMIT" switch allows "non-swish" VFO tuning and receiver muting.

The Viking "Mobile" Transmitter is designed for under-dash mounting and all controls are readily accessible to the operator. Unit may be wired for either 6 or 12 volts . . . requires power supply delivering 300 volts (30 watts PA input) to 600 volts (60 watts PA input) at 200 ma.

The Viking "Mobile" is available wired and tested or as a complete kit, less tubes. Kit includes punched chassis, hardware, and connectors. Instructions are completely illustrated for simplified assembly by the experienced amateur. Dimensions: 6 7/16" x 7 1/8" x 10 5/16". Net Weight: 13 lbs. Shipping Weight: 16 lbs.

Cat. No. 240-141 Viking "Mobile" Transmitter Kit, less tubes, crystals, microphone, and power supply . . . . . .

Cat. No. 240-141-2 Viking "Mobile" Transmitter, wired and tested less tubes, crystal, microphone and power supply, available as special order.

$107.00
Amateur Net

"Mobile VFO"



This diminutive variable frequency oscillator has been designed specifically for mobile use. Rugged construction minimizes frequency shift due to road shock and vibration . . . small size permits steering post mounting. Temperature compensated and voltage regulated. Calibrated for 75 through 10 meters . . . 3.75 to 4 mc output for 75 meters and 7.05 to 7.45 from 40 through 10 meters. 10.5 mc output also available for straight doubling to 15 meters. Tube line-up: 6BH6 oscillator, 6BH6 buffer/multiplier and OA2 regulator. Output will drive any straight pentode crystal stage. Complete kit includes all parts, tubes, hardware, assembly and operating instructions. Specify 6 or 12 volts. Dimensions: 4" x 4¼" x 5". Shipping Weight: 4 lbs.

Cat. No. 240-152-1 Viking Mobile VFO Kit, with tubes

Cat. No. 240-152-2 Viking Mobile VFO, wired and tested, with tubes . . . . . **$52.50** Amateur Net

$33.95
Amateur Net

"Whipload-6"



The "Whipload-6" provides high efficiency base loading for mobile whips with instant bandswitch selection of six amateur bands: 75, 40, 20, 15, 11 and 10 meters. Airwound, large diameter high "Q" coil . . . taps for each band require initial adjustment only. Tuning is continuous on 75 meters with accurate reset possible on any frequency. Complete coverage available on other bands without tuning. Fiberglas housing protects the unit. Designed for standard mobile whip mounting — all hardware furnished. Dimensions: 5" high x 4" diameter. Shipping Weight: 3 lbs.

Cat. No. 250-26

$16.95
Amateur Net

Dynamator Power Supplies and Base Kits



Supplies voltages for all stages of Viking "Mobile" and Viking Mobile VFO. Base contains contactor, fuses, filter and adjustable 50 watt dropping resistor. Supplied with connectors for Viking "Mobile." Rated 500 volts, 200 ma. intermittent. Base kits accommodate PE-103, Carter and others.

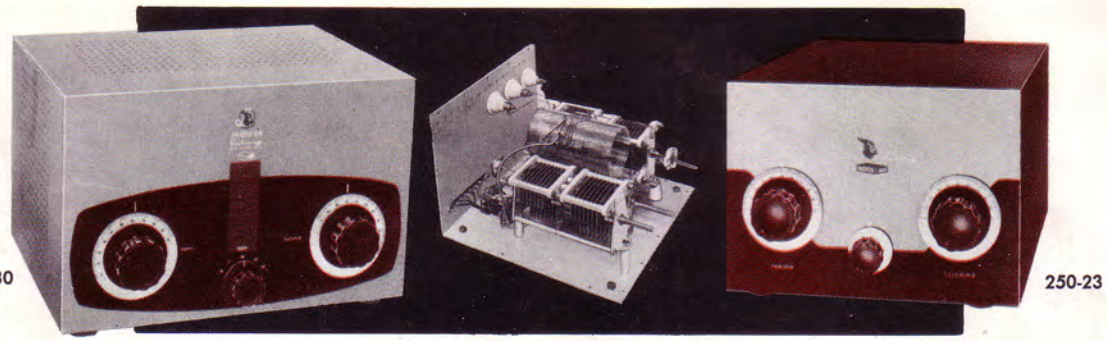
Cat. No.		Amateur Net
239-102	Dynamotor power supply, 6 volt primary	$98.50
239-104	Dynamotor power supply, 12 volt primary	99.50
239-101	Base kit for 6 volt operation	19.65
239-103	Base kit for 12 volt operation	21.20

Bandswitching

Self-contained

No plug-in coils

Viking "Matchboxes"



250-30 250-23

The Viking "Matchboxes" provide completely integrated antenna matching and switching systems for kilowatt or 275-watt transmitters. Bandswitching on 80, 40, 20, 15 and 11-10 meters and completely front panel controlled, these versatile "Matchboxes" quickly and easily match the transmitter to balanced or unbalanced lines over a wide range of antenna impedances. In addition, these units are capable of tuning out large amounts of capacitive or inductive reactance. Revolutionary circuit design does away with the annoying use of "plug-in" coils and completely eliminates "load-tapping" necessary in other antenna couplers.

"Matchboxes" are also designed to provide separate matching of the antenna system to the receiver. A self-contained, heavy duty change-over relay switches the antenna from receiver to transmitter, grounding the receiver antenna terminal and muting the receiver while transmitting. A terminal on the rear apron of the unit permits the installation of an RF probe for signal monitoring with an oscilloscope or signal monitor such as the Johnson 250-25 "Signal Sentry."

Antenna tuning and matching is accomplished with just two front panel controls. When changing bands, simply switch to the correct band position and adjust to pre-determined values for proper RF energy transfer. Tuning is sufficiently broad so that a single setting of the controls will cover a large segment of an amateur band.

All "Matchbox" connections are conveniently located at the rear of the unit. Cabinet is attractively finished in maroon and grey and is effectively shielded to reduce harmonic radiation. Rubber mounting feet protect the operating table. Supplied as an assembled, wired and pre-tested unit only — complete operating instructions included.

IMPORTANT NOTE: A suitable RF measuring device such as a SWR bridge is essential for proper tuning and adjustment of any antenna coupler. The Johnson 250-24 SWR Bridge (described on page 23) is a suitable unit combining economy with precision operation.



275 WATT "MATCHBOX"

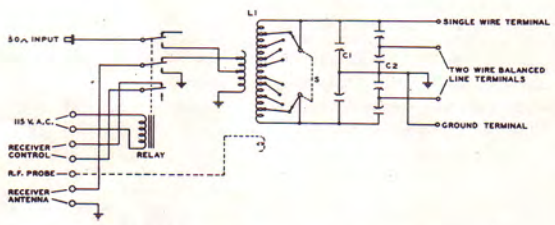
Designed to match a 52 ohm coaxial link line to reactive and non-reactive loads ranging from 25 to 1250 ohms for balanced lines, and 25 to 3000 ohms for unbalanced lines, this "Matchbox" will match virtually any transmission line terminal impedance, within the above values, throughout the 3.5 to 30 mc amateur band. The link line operates without standing waves, providing a convenient point for the installation of a Johnson 250-20 Low Pass RF Filter for improved harmonic suppression. Feed-through insulators are provided for connecting balanced or unbalanced feedlines. Dimensions: 9⅞" wide x 10½" deep x 7" high. Net Weight: 7¼ lb. Shipping Weight: 11 lbs. For transmitters with a maximum power input of 275 watts.

Cat. No. 250-23 **$54.95** Amateur Net

KILOWATT "MATCHBOX"

The Kilowatt "Matchbox" is designed to handle unbalanced line impedances from 50 to 1200 ohms, balanced line impedances from 50 to 2000 ohms. The antenna change-over system includes a time delay circuit for the relay, providing "fast make — slow break" action to prevent arcing or sticking of relay contacts. This feature also protects the transmitter and the receiver components from possible damage due to high voltage transients during antenna change-over switching. Feed-through insulators are provided for connecting balanced or unbalanced lines. A standard SO-239 connector is provided for 52 ohm coaxial lines. Dimensions: 17¼" wide x 12⅛" deep x 10⅞" high. Net Weight: 19 lbs. Shipping Weight: 24 lbs. For transmitters with a maximum power input of 1000 watts.

Cat. No. 250-30 ..... **$124.50** Amateur Net



275 WATT "MATCHBOX"