

NEW COLLINS

30L-1

LINEAR AMPLIFIER



Collins 30L-1 Linear Amplifier has 1000 watts PEP power input and may be driven by Collins 32S-1 Transmitter, Collins KWM-2 or KWM-1 Transceiver, or most 70-100 watt exciters. Finished in the same attractive exterior color (slate gray) as Collins famous S/Line equipments and the KWM-2, the 30L-1 has all controls conveniently accessible on the front panel.

This linear is entirely self-contained and designed for table-top use. It is easily transported in a CC-2 carrying case. The 30L-1's exterior dimensions are the same as the KWM-2 (14 $\frac{3}{4}$ " W, 6-9/16" H, 13 $\frac{3}{4}$ " D), and it weighs only 38 pounds. Here are some of the 30L-1's other outstanding features:

- Automatic Load Control
- RF Inverse Feedback
- Solid State Rectifiers
- Self-contained Power Supply
- Automatic Antenna Transfer on the on-off switch
- Comparator Tuning Meter (the same as the Collins 30S-1 Linear)

The 30L-1 provides single sideband and CW emission and covers the 80, 40, 20, 15 and 10 meter bands. Provisions are made for limited general coverage use, too. Automatic Load Control voltage from the 30L-1 is fed back to the transmitter, providing maximum talking power without overdriving and distortion. In combination with RF inverse feedback, Collins exclusive Automatic Load Control provides not only more power but a sharper signal than any comparable unit in the amateur field.

The 30L-1 is a grounded grid linear amplifier with four 811A Triodes. They may be replaced without removing the unit from the cabinet. The 811A's are instantly heated; thus there is no delay in warm-up.

Controls include the band selector, power amplifier loading, power amplifier tuning, a meter switch and on-off switch. The unit automatically transfers the antenna to the exciter when the switch is in the off position.

Indicating devices on the 30L-1 are a panel meter, monitoring final amplifier plate current, plate voltage, and tuning circuit; with the meter switch in tune position, the 30L-1 can be tuned by simply tuning and loading to zero the meter.

30L-1 SPECIFICATIONS

TYPE AND FUNCTION OF EQUIPMENT: The Type 30L-1 is a 1000 watt PEP input (500 watt nominal output) amateur linear amplifier covering the 80, 40, 20, 15 and 10 meter bands. Provisions are made for limited general coverage use. The power supply uses solid state rectifiers.

TYPE OF EMISSION: SSB, CW.

TYPE OF SERVICE: Attended operation.

SSB — Continuous voice modulation.

CW — 50% duty cycle.

SIZE: Basic transmitter — Same size as KWM-2 (14 3/4" W, 6-9/16" H, 13 3/4" D).

WEIGHT: 38 lbs.

AMBIENT TEMPERATURE RANGE: 0°-50° C.

AMBIENT HUMIDITY RANGE: 0%-90%.

ALTITUDE: 0-10,000 ft.

POWER SOURCE: 115/230 v, 50-400 cps. 400 cps operation requires auxiliary 60 cps inverter for fan motor.

POWER REQUIREMENTS:

CW, key closed — 1200 watts ac.

SSB, speech modulated — 550 watts ac.

SSB, no modulation — 300 watts ac.

POWER OUTPUT: 500 watts PEP into a 50 ohm load.

OUTPUT IMPEDANCE: Variable. Nominally 52 ohms unbalanced with not more than 2.0 SWR (amateur bands).

FREQUENCY RANGE: 80, 40, 20, 15 and 10 meter amateur bands with sufficient overlap to allow general coverage 3.4-30 mc. Input circuit requires trimming at frequencies far removed from amateur bands. Also output load impedance should be held at 50 ohms on out-of-band frequencies.

HARMONIC AND OTHER SPURIOUS RADIATION: Second harmonic —50 db. Third order distortion —30 db at full power output.

AUDIO COMPRESSION CHARACTERISTICS: ALC operates from the RF amplifier. RF plate voltage. Threshold is adjustable and factory preset.

NOISE LEVEL: —40 db below one tone carrier.

CONTROLS: Band selector, PA loading, PA tuning, Meter Switch (Tune, Plate Voltage, Plate Current), On-Off Switch.

INDICATING DEVICES: Panel meter monitors final amplifier plate current, plate voltage and tuning circuit. With meter switch in tune position, the 30L-1 may be tuned quite simply by using the tuning and loading controls to zero the meter.

TUBE COMPLEMENT: Four 811A Triodes. Tubes may be replaced without removing unit from cabinet.

EQUIPMENT INCLUDED: The unit is supplied with tubes and interconnecting cables.

DRIVE POWER REQUIRED: 70-100 watts.

REAR CONNECTORS: ALC, RF input, antenna relay, RF output (Type N coaxial).

PROTECTIVE DEVICES: All removable panels interlocked. Input line fused — 6A each side.

SPECIAL FEATURES:

Since the 811A's are instant heating and there is no delay for warm-up of the power supply, the 30L-1 may be switched on without delay.

Automatically transfers antenna to the exciter when 30L-1 switch in off position.



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