

Fig. 2—Block diagram of the Model K converter.

"right-on-the-nose" for 30 or 60 ma. or other desired values. Adjusting the slider on an accessible internal resistor lets the user respect the printer manufacturer's exact specifications for his machine, or change equipment from series to paralleled magnet connections. The internal 120-volt d.c. supply for the printer and keyer tube is independent of the plate supply for the rest of the converter circuit. This lets you put the printer loop at ground potential.

A separate adjustable resistor and metering jack lets you adjust the loop supply to give correct bias current for an internal or external polar relay (which is not furnished) for f.s.k. or a.f.s.k. uses.

Front panel controls allow the dual tuning-eye indicator, V_6 , to be set. Adjustment is made so that the mark eye just closes when a 2125-c.p.s. mark signal is tuned correctly, and so that the space eye closes when a 2975-c.p.s. signal is tuned in.

Other provisions in the converter include an

octal socket in which a polar relay (optional) may be plugged. This is used for frequency shifting a v.f.o. for transmission. The keyboard in series with the printer loop activates this relay when the converter is switched to SEND. An output plug is provided on the back of the Model K, so that the converter can in this same way operate an external polar relay for transmission, additional loop circuits, etc.

—F. E. H.

Alltronics Model K RTTY Converter

Height: 4 inches.

Width: 19 inches.

Depth: 8 inches.

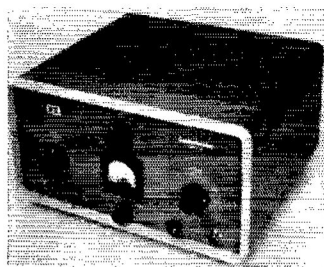
Weight: 7 pounds.

Power requirements: 117 volts, 60 cycles, 50 watts maximum.

Price class: \$190.

Manufacturer: Alltronics-Howard Co., Box 19, Boston 1, Mass.

The Loudenboomer Linear Amplifier



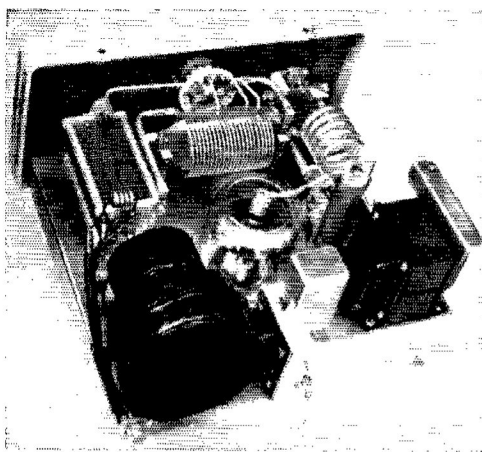
So far as we know, the Radio Industries Loudenboomer, Mark II, is the first commercial rig to use the new Eimac 3-400Z high- μ zero-bias triode.¹ Probably the most convenient feature of the tube, and thus of the amplifier, is that no bias or screen voltage is necessary. This greatly simplifies the power-supply problem, as only a single high-voltage power supply, delivering about 2500 to 3000 volts at 350 ma., is necessary to operate the amplifier at the full legal input.

Designed for table-top operation, your external power supply (a matching power supply is available from Radio Industries), is placed on the floor or in any other convenient spot away from the amplifier. Since all of the operating controls for

the power supply are on the amplifier unit, the power supply need not be touched by the operator when turning the unit on and off or when going from send to receive.

About 40 watts of drive are required for full input to the amplifier and, since the tube is connected in grounded grid, a large percentage of drive power appears as useful r.f. output. Drive is applied to the 3-400Z filament through a broadband transformer designed for an input impedance of approximately 50 ohms on all bands from 80 to 10 meters. A pi-network plate tank, using an adjustable output loading capacitor, allows for working the amplifier into a variety of load impedances, but the amplifier is nominally designed for operation into a 50-ohm nonreactive load. In order to maintain low minimum capaci-

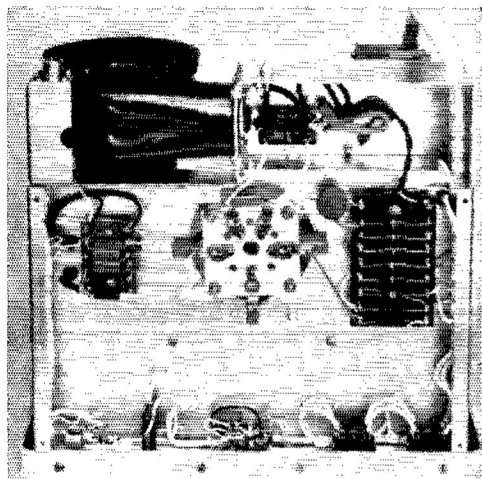
¹ Barber and Sutherland, "High-Power Zero-Bias Grounded-Grid Linear," *QST*, September 1961, p. 11.



A neat layout of components is evident from this view of the Loudenboomer grounded-grid linear amplifier. A glass chimney surrounds the 3-400Z tube. The subchassis to the right of the blower contains the filament isolation circuit. The phono jack on this chassis is for introducing the drive to the amplifier. Notice the safety interlock switch assembly attached to the filament transformer. Amplifier output is taken from the SO-239 connector which is to the bottom left of the blower. Power for the amplifier is fed through the multiconductor cable running in at the lower right of the photograph.

tance, the Loudenboomer uses a 100- μ f. tank tuning capacitor for the bands 40 through 10 meters. On 80 meters an additional 100- μ f. fixed ceramic capacitor is switched in parallel with the main tuning capacitor by a lever-operated rotary switch located just below the main TUNING control on the front panel.

In addition to the TUNING and LOADING controls, there is a five-position BAND SWITCH, two



Bottom view of the Loudenboomer with its cabinet removed. The blower supplies air, which feeds into the shielded compartment at the upper right, then into the main chassis and out through the hole around the tube base. The resistor board to the right of the tube socket contains components associated with the voltage divider for the plate voltage meter.

15-amp. toggle switches (PLATE and FIL) for remote control of the power supply (the FIL switch also controls the blower, and heater voltage for the tube in the amplifier), and a four-position meter switch. Grid current, plate current, relative r.f. output voltage, and d.c. plate voltage are measured. A 1N34A diode is connected through a voltage divider to the amplifier tank circuit for measuring the relative r.f. output voltage.

A cable is part of the amplifier package for connection to the remote power supply. High voltage for the amplifier goes through a separate lead to a safety terminal at the rear of the amplifier chassis.

Safety has not been overlooked in the Loudenboomer. A safety interlock switch is operated by the hinged lid on the amplifier cabinet and opens the 117-volt primary circuit when triggered. However, the metering circuit requires that the negative power-supply lead be above amplifier chassis ground by about one quarter of an ohm. For this reason it is, of course, necessary for the power supply also to have its negative output lead above ground since, in the interest of good safety, the power supply and amplifier chassis should both be connected to the "slack" ground.

The instruction manual furnished with the amplifier contains the usual installation, operating and circuit information.

— E. L. C.

Radio Industries Loudenboomer Linear Amplifier

Height: 7 $\frac{1}{2}$ inches.

Width: 11 $\frac{1}{8}$ inches.

Depth: 12 $\frac{1}{2}$ inches.

Weight: 25 pounds.

Power requirements: 117 volts a.c., 2500 to 3000 v.d.c., 350 ma.

Price class: \$280 (power supply, \$160).

Manufacturer: Radio Industries, Inc.,
1307 Central Ave., Kansas City, Kansas.

Strays

All for Want of a Penny

An applicant for an amateur examination by mail forged the signature of a licensed amateur as certifying to his qualifications. However, since the would-be ham failed to put sufficient postage (a difference of one cent) on the envelope, it was not delivered to the FCC but was forwarded to the licensed amateur whose return address appeared on the envelope. The amateur immediately reported the attempted deception to the Los Angeles field office. The case is under study by FCC.

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WA2SLY and WA2RAT are brothers, and sons of WA2QAO.

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Congratulations to KH6IJ, recently appointed assistant professor of physics at the University of Hawaii.