

Recent Equipment

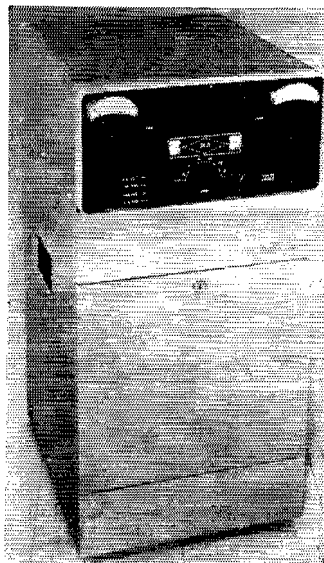


To acquaint you with the technical features of current amateur gear.

Henry 2K-2 Linear Amplifier

If you compare the photograph alongside with the one that headed up the earlier description of the Henry 2K¹, you may well be excused for wondering where the new model differs from the original. Externally, the difference is small—a slightly different arrangement on the front panel and a lock on the door to the power supply. Internally, it's a different story.

The 2K-2 r.f. amplifier circuit still has two 3-400Zs in parallel, cathode driven, with switched pi-network input circuits to the cathodes and a pi-L tapped-coil plate tank. These were features of the 2K. An added attraction, however, is a standing-wave ratio bridge, and there is a change in the method of checking grid current, which is now measured by using the meter to indicate the d.c. voltage drop in a low resistance (less than one ohm) between the grids and chassis.² The multimeter now does four jobs instead of the original two: besides measuring plate voltage and grid current, it also is used for indicating forward and reflected voltage in conjunction with the s.w.r. bridge. This change is responsible for a minor difference in the front-panel appear-

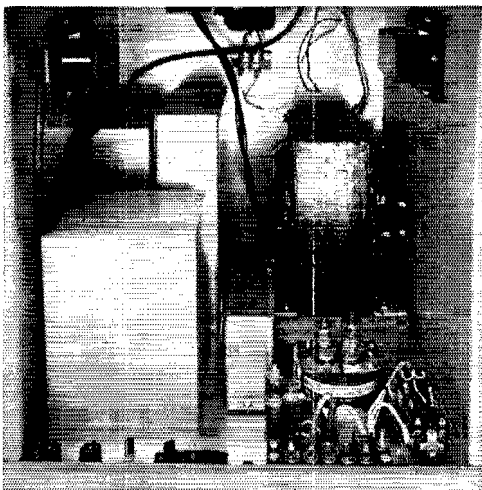


ance, a four-position meter switch being used to replace the voltage push-button on the 2K. The plate meter, which has no other job, is in the negative high-voltage lead as in the 2K.

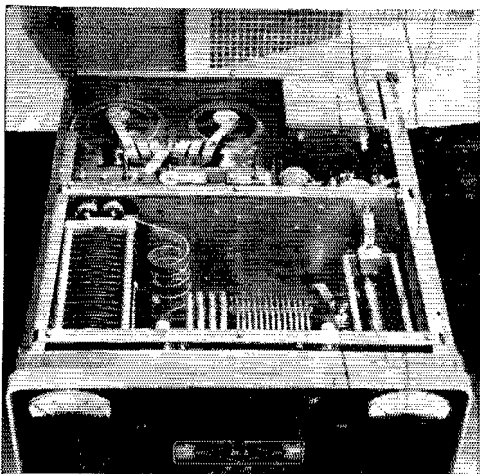
But the principal difference between the old and new amplifiers is the physical arrangement of the circuits. In the 2K, the tubes and plate tank were in one large compartment occupying the rear of the chassis space (see June 1965 *QST*); in the 2K-2, the tank circuit is in the front, shielded from everything else as shown in the accompanying photo. The tubes are at the back, and between them and the tank there is a shielded section in which plug-in cathode-tank modules are installed. Although these need no tuning during regular operation, being preset for each of the five bands (3.5 through 28 Mc.) covered by the amplifier, they do have adjustable inductances for optimizing the tuning. Also, the plug-in feature increases the flexibility of the amplifier in that modules designed for non-amateur frequencies can be installed for use in other services.

The s.w.r. bridge and metering resistors are in a shielded box occupying a rear corner of the chassis. The antenna relay is close by; as in the 2K, this relay connects the antenna to the exciter when the amplifier power is off, so "barefoot" operation is simple.

The shielding of the 2K-2 has been tightened up as compared with the 2K. There is an inside perforated-metal cover (see photo) which is screwed down to the top of the amplifier compartment to complete the shielding afforded by



Inside the power-supply section. Rectifier and filter components are at the left, control relays at the near right. The plate-power control relay, immediately in front of the power transformer, is a mercury-plunger type. The plate transformer in this early "edition" of the 2K-2 is uncased; later production has a cased transformer. Part of the blower motor is visible at the top of this picture.



The amplifier tank-circuit components occupy the front section of the enclosure, separated by a metal wall from the two 3-400Z tubes. Parasitic suppressors are coiled strap between the two plate caps, and a strap connection from the center goes to the blocking capacitors mounted on the rear of the plate tuning capacitor at the left. Cathode modules are between the tubes and the shield wall. The s.w.r. bridge is in the compartment at the rear right; the antenna relay is directly in front of it.

the chassis and inside walls. This is in addition to the wrap-around cover for the entire amplifier section. TVI checks show this shielding to be highly effective, combined with the filtering of the supply leads where they leave the chassis.

In the power-supply section, the major difference, as compared with the 2K, is the use of silicon rectifiers instead of tubes. This eliminates a filament transformer, and, since no filament warm-up time is needed, the power-control circuits no longer have the time-delay arrangement used in the 2K. A built-in 12-volt d.c. supply continues to furnish power for the on-off relay (now a mercury-plunger type) which breaks both sides of the 230-volt supply. A new feature is a latching relay for overload protection, in

case of excessive load on the power supply. The high-voltage smoothing filter is similar to that in the 2K — choke input with a 20- μ f. capacitor.

Another safety feature has been added to the original interlocks — switches which automatically short-circuit the high-voltage line when the power-supply door is opened or the internal cover is taken off the r.f. section. These are uncomplicated devices — just bent strips of flat stiff spring material, grounded, with a hole through which a post connected to the high-voltage line projects. When the door or cover is in place the strip is pushed clear of the post, but opening the door or removing the cover lets the grounded strip spring back to make positive contact with the post. Simple, but about as effective a safety device as anything could be. The one in the power-supply compartment is in the upper left corner of the photograph.

There has been no change in the ratings of the amplifier, which remain at 2 kilowatts p.e.p. input or 1 kilowatt d.c. input for a driving power of approximately 80 watts. Except for the changes just described, what was said in the earlier article still applies, particularly those remarks about the rugged construction and conservative ratings of components. Since the 3-400Zs have very good characteristics as linear amplifiers, the amplifier easily meets its specifications for power-handling capacity and low intermodulation products.

— W1DF

Henry 2K-2 Linear Amplifier

Height: 29½ inches.

Width: 14½ inches.

Depth: 13 inches.

Power Requirements: 230 volts a.c., 15 amp., 50-60 c.p.s. or 115 volts a.c., 30 amp., 50-60 c.p.s.

Price Class: \$675.

Manufacturer: Henry Radio, 11240 W. Olympic Blvd., Los Angeles, Calif. 90061.

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Knight-Kit KG-661 Low-Voltage Power Supply

To the inveterate circuit tinkerer, a real "indispensable" is an adjustable-output power supply, preferably regulated. Many such supplies, for both tubes and transistors, have been described constructionally in these pages over the years. Also, laboratory-type supplies of various types have been commercially available for quite some time, but they have been rather

