

# THE SSB-600



TUBES

# HAM NEWS

## GROUND-GRID LINEAR AMPLIFIER

— 600 Watts DC Input in  
600 Cubic Inches

By A. F. Prescott, W8DLD

### FEATURES —

1. Efficient high frequency pi-network output circuit;
2. Complete metering of each tube;
3. Two GL-814 pentodes in zero-bias triode connection;
4. Rugged, compact construction for mobile service;
5. Covers 3.5 to 30 megacycles;
6. Only 6 x 10 x 10 inches in size.

You probably remember the old saying, "Do as I say, not as I do." W8DLD has been *saying* how to build this mobile SSB linear amplifier for years, after first constructing a model from *junk-box* parts. He recently has been *doing*, instead of saying, however, by constructing a new — and much prettier — model of his amplifier especially for this publication.

Over five years of testing in mobile and fixed service have been chalked up by the original model. It has several worthy electrical and mechanical features that make it stand out from being "just another linear amplifier."

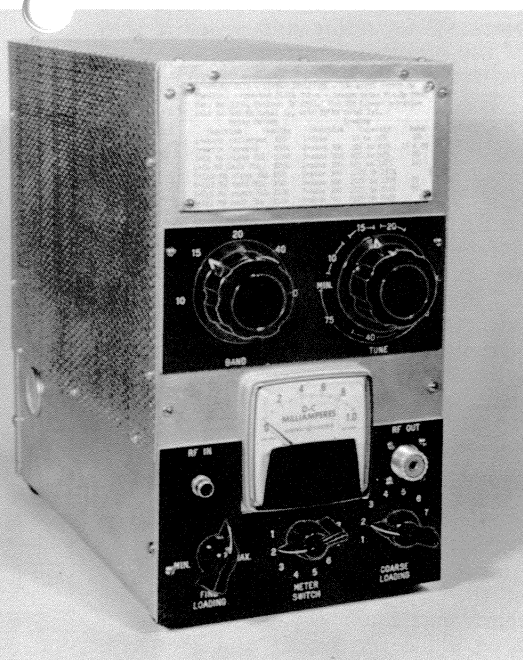
**THE GL-814 BEAM PENTODE** was chosen for an amplifier tube because, when connected as a triode (control, screen and suppressor grids all connected together and returned to the filament) it exhibits zero bias characteristics and draws only 25 milliamperes of plate current with 2,000 plate volts applied. Since the rated plate dissipation of the GL-814 is 70 watts in ICAS<sup>1</sup> service, it was decided to connect two tubes in parallel to obtain about 600 watts DC input

<sup>1</sup>Intermittent Commercial and Amateur Service ratings.

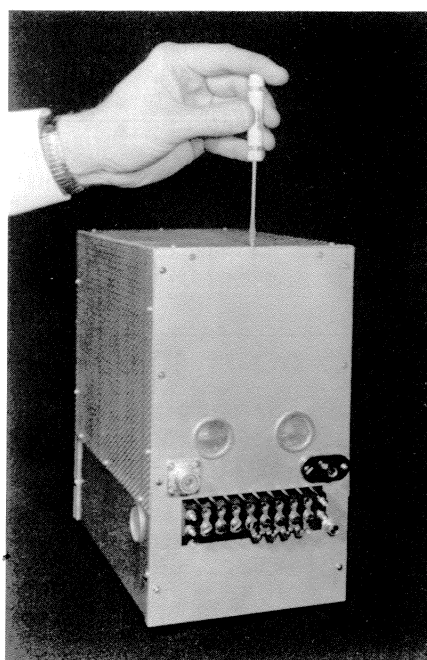
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W8DLD and W8WFH (right) run the SSB-600 linear amplifier through power-output tests. Equipment includes SSB exciter (left), modified BC-453 Command Set receiver, SSB-600 amplifier, and commercially-made r.f. wattmeter and dummy antenna load. W8DLD is supervisor of the Electronics Laboratory at General Electric's Cuyahoga Lamp Plant; and W8WFH, William C. Loudon, is technical counselor in Discharge Advance Engineering at G. E.'s Large Lamp Department, both at G. E.'s Nela Park in Cleveland, Ohio. W8DLD and W8WFH recently authored the **G-E HAM NEWS** series of articles on high-power Mobile Radio Systems, including Power Supply Ideas, Crystal Controlled Converters and a BC-453 Command Set receiver conversion, and a high-power Mobile Linear Amplifier with two GL-4D21/4-125-A's in parallel.



**CLOSEUP FRONT VIEW** of the SSB-600 amplifier. Note complete operating instructions at top of panel (see copy on page 7). Markings for panel controls were engraved on black plastic name plate material.



**REAR VIEW** of the amplifier. Locations for J<sub>3</sub>, J<sub>1</sub>, the high voltage connector, and terminal strip TS<sub>1</sub> can be determined from this view. Note ventilating snap-in buttons on sides and back.

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