

*Tank coil 4 turns on propane can*

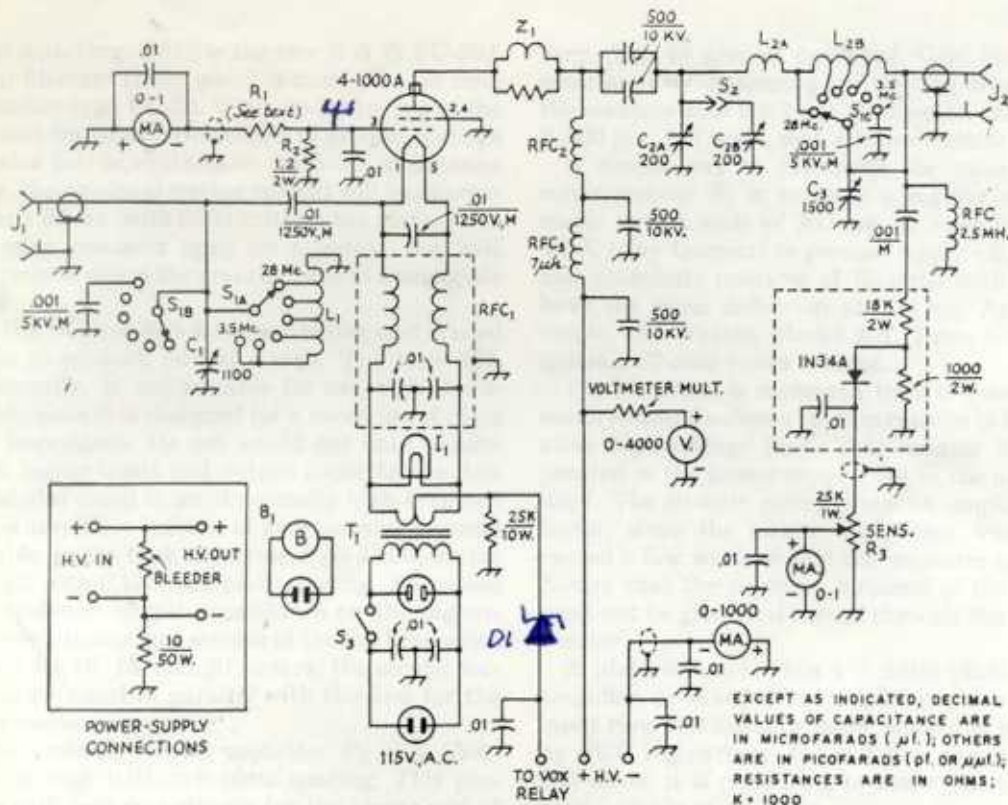


Fig. 2—Circuit of the 4-1000A grounded-grid amplifier. The 500-pf. 10-kv. fixed capacitors are TV doorknob type; others are 1-kv. disk ceramic, except M indicates mica.

- B<sub>1</sub>—Centrifugal blower, 60 c.f.m. at 0.6-inch static pressure (Ripley 8472).  
 C<sub>1</sub>—Triple-section broadcast-replacement-type variable, 365 pf. or more per section, sections connected in parallel.  
 C<sub>2</sub>—Dual air variable, 200 pf. per section, 7000 volts (Johnson 152-503/200CD70).  
 C<sub>3</sub>—Air variable, 0.03-inch plate spacing (Cardwell PL-8013 or B & W 51241).  
 I<sub>1</sub>—6-8-volt panel lamp.  
 J<sub>1</sub>, J<sub>2</sub>—Chassis-mounting coaxial receptacle (SO-239).  
 L<sub>1</sub>—6 turns No. 10, 1½-inch diam., 1½ inches long, tapped at 1¼, 1½, 2½, and 4½ turns from ground end.

*D<sub>1</sub> 50W Zener*

\* The Cardwell capacitor is listed in the 1963 Allied catalog. The B & W capacitor, which is identical, is not stocked by B & W as a retail item, and may or may not be available at any particular time, depending on manufacturing needs. It is advisable to check with B & W before ordering from this source.

- L<sub>2</sub>—Approximately 14 μh., tapped at 7, 3.5, 2.5 and 1.75 μh. (Barker & Williamson 850A band-switching inductor).  
 R<sub>1</sub>—Approx. 27 ohms; see text.  
 R<sub>2</sub>—Made up of four 4.7-ohm ½-watt carbon resistors in parallel.  
 R<sub>3</sub>—Linear control.  
 RFC<sub>1</sub>—30-amp. bifilar filament choke (B & W FC30A).  
 RFC<sub>2</sub>—Solenoid r.f. choke (B & W 800).  
 RFC<sub>3</sub>—Solenoid r.f. choke (Ohmite Z-50).  
 S<sub>1A-B</sub>—Single-section double-pole six-position ceramic rotary switch, 60-degree index (CRL 2551).  
 S<sub>1C</sub>—Heavy-duty single-pole six-position rotary switch (part of L<sub>2</sub> coil assembly, modified as described in the text).  
 S<sub>2</sub>—See text.  
 S<sub>3</sub>—S.p.s.t. toggle switch.  
 T<sub>1</sub>—7.5-volt, c.t., 21-amp. filament transformer (Stancor P-6457, Chicago F-725).  
 Z<sub>1</sub>—2 turns No. 8, ½-inch diam., shunted by three 150-ohm 1-watt carbon resistors in parallel.

*Z<sub>1</sub> 2 turns ½ wide copper wire*  
*4 270Ω 2 watt*

offers several advantages for sideband operation. First, no grid-bias or screen-voltage power supplies are needed. In addition, the drive level of this grounded-grid stage is compatible with the power-output level of modern sideband exciters. Finally, neutralization is not required.

### The Circuit

The circuit of the amplifier is shown in Fig. 2. Excitation is fed to the filament through a 0.01-μf. 1250-volt (working) mica capacitor. A ceramic capacitor is not suitable for coupling since it will not stand the current. The cathode coupler, consisting of C<sub>1</sub> and L<sub>1</sub>, does an excellent job of

struction time considerably, but it is not an absolute necessity. The meter holes can be cut with a bit brace, or with a hand drill and file. Best of all, every single component is standard merchandise and is readily available. Your favorite ham supplier may not have every item in stock, but he should be able to get any of them for you in a hurry.

### Triode Operation

The 4-1000A may be connected for high-μ triode operation by placing the grid and screen elements at the same d.c. and signal potentials; in this case, both are grounded. This connection