

**MANUAL MOBILE RADIO**  
**BASE STATION TERMINAL EQUIPMENT**  
**B1 AND B2 VOGADS**  
**GENERAL**

**1. GENERAL**

**1.01** The B1 and B2 vogads (Voice Operated Gain Adjusting Device) are electrically similar except in their arrangement for the application of filament power.

**1.02** As the name implies, the vogad is a device that functions over a range of input voice levels to provide an essentially constant output voice level. With no input, the gain of the vogad is approximately 20 db. As the input level varies, the gain of the vogad varies over a range of from 0 to 40 db. In so operating, it is capable of reducing a range of input speech levels of from -34 to +6 vu to an essentially constant +4 vu output.

**1.03** Typical applications of the B-type vogad in the Bell System are: (1) in mobile radiotelephone service and in coastal harbor service the B-type vogad is used in the transmitting branch of the G2 or E1 control terminal, respectively, and (2) in the transoceanic radiotelephone service, the B-type vogad is associated with the radio receiver.

**1.04** In mobile radiotelephone service and coastal harbor service, the B2 vogad is used in the transmitting branch of the respec-

tive control terminals to provide a more uniform transmitting level to the base station radio transmitter, thereby allowing a high degree of transmitter modulation.

**1.05** The B2 vogad is utilized in the receiving branch of transoceanic radiotelephone systems in order to minimize variations in the received speech volume, which tend to result from selective fading, i.e., where the side band and carrier frequencies do not fade simultaneously. The vogad is designed to accept either normal speech or speech that has passed through a channel shifter (2250-5000 cps).

**1.06** The apparatus is mounted on a metal panel 15-3/4 inches high and 19 inches wide designed for standard relay rack mounting and weighing approximately 60 pounds. Where central office power sources are used, +130-volt plate and *regulated* -24-volt battery are required. Where battery supplies are not available, a rectifier power supply is required to furnish the following potentials: +130V d-c, -20V d-c and a source of 24V a-c power for the vacuum tube filaments in the B1 vogad or 10V a-c in the case of the B2 vogad.