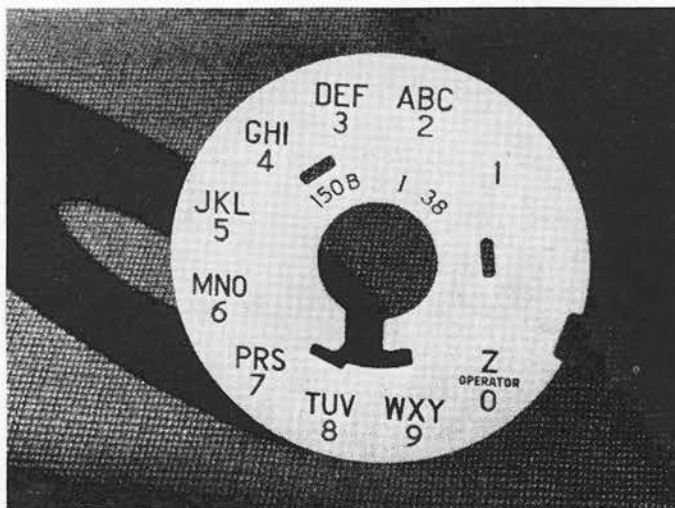


battery E1, will cause a current to flow through C1 and C2, raising the negative bias so that the gain of the vario-repeater is reduced to an amount that maintains the desired output volume with the increased input volume. This condition will persist until the talker lowers his volume. During the period that GT1 is broken down, the gain-increase-disabler tube V4, is also conducting, and thus prevents the gain-increaser from operating. When the talker lowers his volume sufficiently, however, both GT1 and V4 will cease conducting, and the negative bias on V3 will decrease so that the gain-increaser will again come into action. The result is that the gain of the vario-repeater is varying almost continuously and the

speech volume delivered to the radio transmitter is kept within much closer limits than it otherwise would be. When the subscriber ceases to talk, or his volume drops practically to the noise level, the tubes GT2 and GT3 will be extinguished because of the decreased output, and thus further increase in gain is prevented.

The vograd here described is about as simple a circuit as justifies the name, and the drawing and description are still simpler than the actual device. It is, however, adequate for circuits where a range of volume of about 40 db is to be reduced to a range of possibly 5 db. For circuits having a greater input range or requiring a smaller output range, much more complex vograd are required.



*The front of this new dial number-plate is finished with an improved ceramic material instead of cellulose acetate as at present. Comparative tests show that this enamel finish is superior in resisting wear and scratches. The new plate will improve the appearance of dials in service and effect economies in dial maintenance*