

Replacing R. F.

Amplifier Tubes

BY W. F. FRANKART,* WB6BLA

MANY pieces of amateur equipment can stand an increase in gain for improved performance. Frequently the increase can be had with no modifications or at worst a slight circuit change. The answer lies in careful selection or changing of tubes, particularly those in i.f. or r.f. amplifiers. The gain provided by a tube may be judged best by its value of transconductance (also called mutual conductance and shown as g_m), rated in micromhos. The higher the value of transconductance, the better the tube will perform, generally. To get the rated g_m the proper cathode bias resistor must be used and the value required for each tube is indicated in the charts below.

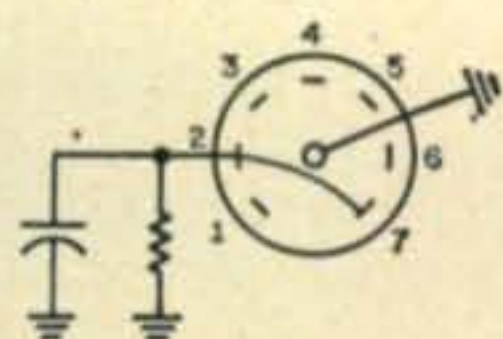


Fig. 1—When the tube socket is wired as shown left, any of the types listed in the Table may be used without rewiring.

Note that the chart is divided into three groups, with identical socket basing within each group. If the tube changes are confined to the same group, no rewiring is necessary other than the changing of the cathode resistor, R_c , if indicated. If the socket is wired as shown in fig. 1, then all the tubes are directly interchangeable. ■

*c/o Gonset, 1515 Manchester Ave., Anaheim, California.

TABLE I

Basing A			<p>(A)</p>
Type	g_m	R_c	
6BZ6	8K	100	
6CB6	8K	100	
6CF6	8K	100	
6DE6	8K	100	
6DC6	5.5K	180	
6BH6	4.6K	100	
6BJ6	3.6K	100	
6DT6	2K	200	

Basing B			<p>(B)</p>
Type	g_m	R_c	
6BA6	4.4K	68	
6AH6	9K	160	
6AU6	4.5K	100	
6BD6	2K	200	

Basing C			<p>(C)</p>
Type	g_m	R_c	
6A65	6K	180	
6AK5	5K	180	
6BC5	6K	180	

Table I—The tube types listed above are directly interchangeable within the grouped types. If the tube socket is wired as shown in fig. 1, then all the types are directly interchangeable. The g_m figures are based on a plate voltage of 250 and a screen voltage of 100 volts.

The Japanese Blind Hams Club

IN Japan today there are more than 200,000 blind people. Out of consideration for these people, the Japanese Amateur Radio League assisted in the formation of the Japanese Blind Hams Club (JBHC) 5 years ago. Through JARL the nucleus of 5 original members has grown to over 300.



A sheet of JBHC seals.

In Japan, as in any other country, amateur radio for the blind (and/or other handicapped) presents the opportunity to lift their own confidence and create pride of accomplishment by doing something worthwhile. It is a means of greatly enlarging their somewhat limited world of expression. However, the Japanese aspirant must pass the state examination. Over there, this requires a rather high level of knowledge and technical ability. Unfortunately there are no Braille reference books on the subject in Japan. This makes the task of getting a license extremely difficult.

The JBHC has now begun a program with the assistance of the JARL similar to the Xmas Seal program. The money gathered will go towards printing reference books in Japanese Braille.

There is no organized solicitation outside of Japan. Anyone wishing to participate in this program can send a donation to: The Japanese Blind Hams Club, c/o The Japanese Amateur Radio League, Mr. K. Shirai, Box 377, Tokyo, Japan. We thank Ray Eichman, WA6IVM for bringing this to our attention.