A Corner for Beginners

Information for Readers.

OF late certain requests for tables and special information have been coming to hand, and are being dealt with through the "Beginner Corner." Readers should submit requests for any particular topic they would like discussed to the Technical Editor, who is always ready to assist readers, whether it is in their individual problems or in wider fields, as in the "Beginner Corner."

Microphonic Valves.

NEXT to valves whose emission have fallen off, microphonic valves give the most trouble. The detector valve is normally the worst offender, because the audio-frequency variation of plate current set up by mechanical vibration of the valve elements is amplified through all of the audio system.

While that same valve may not appear to be microphonic to the degree that it produces a howl, when placed in the first audio socket, it is not wise to do so, because the condition usually grows worse and within a short time the amplitude of vibration can become sufficiently great to produce sound from the loudspeaker when amplified by only the second transformer and last valve. If the microphonic condition in a set is to be remedied by shifting valves, it should, therefore, never be done by simply exchanging the detector and first audio frequency valves, but always by selecting a quiet valve from one of the high frequency sockets.

Sometimes proximity of the loudspeaker causes a degree of additional vibration. In these instances moving it farther away removes the microphonic condition which existed. In cases where a separate loudspeaker is used, that remedy is always worth trying. In some cases, when neither moving the loudspeaker nor shifting and replacing valves will effect a cure, the placing of lead weights—manufactured for that purpose—on top of the detector and first audio frequency valves may be effective.

If none of these remedies cures the trouble, the only remaining one is to remount the socket on sponge rubber, or other shock-absorbing material, and make flexible leads. In normal cases, when it is simply a case of valves themselves, no valve should be left in either of the two critical sockets if the ring caused by tapping it sharply with the forefinger is sustained for more than two seconds.—"Radio Broadcast."

A.: Approximately 500 milliampere hours. That would be sufficient for a week's use under normal drain.

Matching Impedances.

HOME constructors, and others who are concerned with good reproduction, should pay great attention to the matching of impedances, especially the relation of the primary of the radio frequency transformers to the impedance of the preceding valve. Not only will correctly matched impedances give better results, but the neutralisation problems will be reduced to a minimum.

With the B.-D. the following table of primary turns applies, though its application is not restricted to that receiver. With valves, the impedances of which range round 15,000 (UX, 199, Ce-Co BX, PM3, Cossor 410 HF, Philips 630), the optimum number is 25 turns. The lower impedance valves require a correspondingly lower number of turns. Those of the order of 10,000 ohms (201 A, Cossor 410 LF, and Philips 209) require 17 turns.

Capacities of Condensers.

EXPERIMENTERS who wish to obtain special capacities of fixed condensers by combining two of standard capacity will find the following table useful. Capacities are all expressed in microfarads. The first two columns contain the values of the two condensers to be combined, and the other two columns give the resultant capacity of the combination.

Separate Capacities			Combination.	
			Series	Parallel.
.0001	and	.00025	.000071	.00035
.0001	and	.0005	.000083	.0006
.0001	and	.001	.000093	.0011
.0001	and	.002	.000095	.0021
.0001	and	.005	.000098	.0051
.0001	and	.006	.000098	.0061
.00025	and	.0005	.00016	.00075
.00025	and	.001	.0002	.00125
.00025	and	.002	.00022	.00225
.00025	and	.005	.00023	.00325
.00025	and	.006	.00024	.00625
.0005	and	.001	.00033	.0015
.0005	and	.002	.0004	.0025
.0005	and	.005	.00045	.0055
.0005	and	.006	.00046	.0065
.001	and	.002	.00066	.003
.001	and	.005	.00083	.006
.001	and	.006	.00085	.007
.002	and	.005	.0014	.007
.002	and	.006	.0015	.008
.005	and	.006	.0027	.011

Numbers of Plates.

CORRESPONDENTS have asked for the number of plates in the different values of condensers. Here they are—the approximate capacities only can be given, as size of plates vary: It is to be understood that the spacing between plates is with one-eighth washers: 85 plates, .0015; 57 plates, .001; 43 plates, .00075; 29 plates, .0005; 19 plates, .0003; 13 plates, .0002; 7 plates, .0001.

When a condenser has only five plates it is generally termed "Vernier," and is used in conjunction with some other variable condenser.

Fixed condensers run as follow, assuming the dielectric to be of mica: .002 inches thickness; 7 foils, each 2 inches x 1 inch, .001 mfd.; 14 foils, same size; .002 mfds.; 21 foils, same size, .003 mfds.; 2 foils, half-inch by three-quarter inch, .001 mfds.; 5 foils, half by three-quarter inches, .0002 mfds.; 3 foils, 2

WHEN one condenser is connected in series with another condenser the total capacity of the two is always less than the capacity of the smaller condenser.