

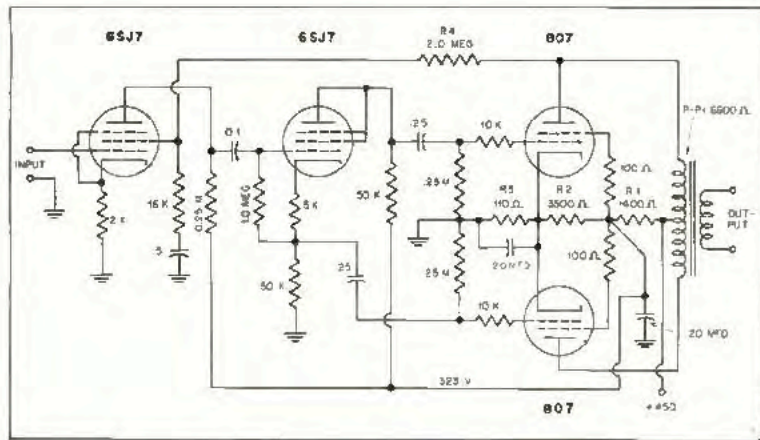
TECHNICANA

807 AMPLIFIERS

• Two types of 807 amplifiers are described in the March-April 1947 issue of *Radioelectronics* by R. H. Aston, one of which supplies thirty watts of output power with a plate voltage of 450, while the other is capable of supplying forty-five watts with a plate supply voltage of 670. Both amplifiers are similar in arrangement, employing a 68J7 as a

triode first stage, a 68J7 as a triode for the second stage in a cathodyne circuit, and the 807's in the final stage. Resistance coupling is used throughout.

The output transformer has extremely close coupling between primary and secondary windings, and care must be exercised to keep phase shift to a minimum throughout the feedback loop. The values shown in the schematic are for the 30-watt condition. For 45 watts output, R_1 is 2950 ohms,



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The basic schematic is shown above with the essential features being incorporated in the circuit. The feedback arrangement is rather unusual, since a direct connection is made from one 807 plate to the screen of the first tube, with a dropping resistor in series, and a series resistor and capacitor for partial by-passing. It will also be noted that each 807 screen is isolated from a-c ground by-passing by means of a 100-ohm series resistor, and the two control

grids have 10,000-ohm resistors in series with them. The output transformer has extremely close coupling between primary and secondary windings, and care must be exercised to keep phase shift to a minimum throughout the feedback loop. The values shown in the schematic are for the 30-watt condition. For 45 watts output, R_1 is 2950 ohms,

PARMLY ANECHOIC CHAMBER

• The recently completed Anechoic Chamber, constructed by the Parmlay Foundation at Technology Center, Chicago, is the subject of a complete constructional description in the November 1947 issue of *J. Acous. Soc. Am.* under the authorship of J. Peter J. Mills. The same issue contains an analysis of the performance of this chamber, by H. C. Hardy, F. G. Tyzzer, and H. H.

Hall. The anechoic chamber is a section of a complete sound laboratory.

The chamber itself is a 40-ton structure of concrete, steel, wood, and sheet-rock, fully suspended on Neoprene pads to have a natural frequency well below the audible spectrum—at four and a half cycles per second. Ventilation is furnished through ducts having sound insulation of 90 db at 128 cps, and the inside of the chamber has an absorption of 99 per cent at frequencies of 115 cps and above.

The interior of the chamber is lined with Fiberglas wedges having an eight-inch square base and a height of 29 inches, and a total of 2,320 wedges was used. The constructional data even provides information on the time required to cut and install the wedges—a total of 235 man hours being required to fabricate them and 144 man hours to install them. An additional 52 man hours were required to make the plugs and the door, also covered with wedges. The plugs are used to cover the ventilating ports when complete closure is necessary.

The chamber has been thoroughly measured over a band of frequencies from 60 to 24,000 cps, and the sound absorption follows the inverse square law very closely. Sound transmission through the walls from the outside is approximately 70 db below 150 cps, and increases to 140 db at 2,000 cps.

NEW UNIT OF RESISTANCE

• The International Committee of Weights and Measures which met in Paris in October, 1946, adopted what is known as the absolute ohm as a unit of resistance. The present International Ohm (I. S.) is equal to 1,000,495 absolute ohms. This makes the absolute ohm about 1/20% smaller than the present unit of resistance (International Ohm) now used.

Since most leading manufacturers of precision electrical measuring equipment have adopted this new unit, it will be necessary to manufacture precision resistors of 0.1% accuracy or better to this new standard.

IRC, in keeping with this new standard, will manufacture all precision resistors of 0.1% tolerance to the new absolute ohm standard. These units will be identified by "abs" stamped on the label. This conversion will take place by January, 1948, at which time all the precision instrument manufacturers plan to convert.