## Test Equipment

## PRECISION E-100 SIGNAL GENERATOR

THE Precision Model E-100 signal generator is an all-wave, 400 cycle modulated instrument with a constant impedance output, built-in dummy antenna and output cable. A 6 -in. illuminated dial with a 19 to 1 tuning ratio provides an effective scale length of approximately 4 feet. The scales read directly in frequency with the addition of a double 0 to 100 division scale for easy listing of oft used points.

## Spectifications

Finish: Oven-baked black crinkle. Controls: Tuning dial, band selector, r-f attenuator, r-f multiplier, modulation switch, audio attenuator and line switch.


Unit coil assembly used in the Precision E-100 signal generator. The coils, trimmers, all the resistors, etc., associated with them as well as the 6 K 8 r-f oscillatorbuffer amplifier are mounted directly on the band switch.

Power supply: 110 volt, 60 cycle.
Power consumption: 30 watts.
Frequency range: 100 kc to 15.0 mc continuous.
Bands: 6.
Modulation: 400-cycle, audio; variable from 0 to $100 \%$.
R-F output: Approx. 0.1 volts.
A-F output: Approx. 25.0 volts.
Accuracy: Better than $2 \%$.
Output attenuator: Constant impedance, 4 -step ladder and continuously variable input attenuator.
Output impedance: Constant at 250 ohms.
Tubes:
R-F oscillator-buffer amplifier: 6K8 A-F modulator: 6C5.
Rectifier: 80.
(Continued on page 52)

Precision E-100 signal generator circuit.

STATEMENT OF THE OWNERSHIP, MANAGEMENT CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of SERVICE-A Monthly Digest of Radio and Allied Mainte nance published monthly at New York, N. Y., for October 1, 1938. County of New York, \} ss.
State of New York,
Before me, a Notary Public, in and for the State and county aforesaid, personally appeared B. S. Davis, who, having been Business Manager of SERVICE-A and says that he is the and Allied Maintenance, and that the following is, to the best of and Alied Maintenance, and that the following is, to the best of agement, (and if a daily paper, the circulation), etc., of the aforeagement, and if a daily paper, the circulation), etc., of the aforethe Act of August 24, 1912, as amended by the Act of March 3 , 1933 , embodied in section 53 , Postal Laws and Regulations to wit: 1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, Bryan Davis Publishing Co., Inc., 19 East 47th Street, New York, N. Y.; Editor, Robert G. Herzog, New York, N. Y.; Managing Editor, None; Business Manager, B. S. Davis, Ghent, N. Y.
2. That the owners are: Bryan Davis Publishing Co., Inc., 19 E. 47 th St., New York, N. Y.; B. S. Davis, Ghent, N. Y.; J. C. Munn, Union City, Pa.; J. A.' Walker, St. Albans, L. I., N. Y. A. B. Goodenough, New Rochelle, N. Y.; S. R. Cowan, Brooklyn, N. Y.; P. S. Weil, Brooklyn, N. Y.
3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.
4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stocknolders and security holders as they appear polder or security holder popers upon the boks of the stock holder or security holder appears upon the books of the company person or corporation for whom such trustee is acting, is given. also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock, and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.
(Signed) B. S. DAVIS, Business Manager. Sworn to and subscribed before me, this 27 th day of September Queens Co. Clk's No. 2034; Reg. No. 5634. New York Co. Clk's No. 433, Reg. No. 9-W-299. Commission expires March 30, 1939.


Common r-f and i-f allgmment frequencies are listed for rapid reference and give needle positions (on the 0 to 100 scale) to an accuracy of $1 / 2$ percent.

All resistors, by-pass and blocking condensers associated with the oscillator circuit are mounted directly on
the switch assembly with the coils and the 6 K 8 oscillator tube. Six bands are employed to cover the range from 100 kc to 15.0 mc . The sixth band is so designed that it generates even order harmonics that are of sufficient strength to provide signals (with sufficient ac-

Precision E-100 signal generator.

curacy) for two additional bands which cover the ranges from 14.0 mc to 60 mc .

## A-F Generator

The 6C5 audio oscillator provides 400 -cycle modulation of adjustable intensity up to 25.0 volts for amplifier and speaker testing. Audio and r-f (modulated or unmodulated) are available independently of one another. This is accomplished through the use of a specially constructed three winding output transformer in the oscillator circuit. Inverse feedback is also used to assure pure sine-wave form.

## G. E. MM-1 MULTIMETER

THE General Electric Model MM-1 multimeter is a general purpose meter with functions and arrangements so chosen to give a maximum of usefulness to the Service Man.

## Functions

The instrument provides for the measurement of a-c and d-c voltages, and $\mathrm{d}-\mathrm{c}$ milliamperes commonly encountered in radio receivers with the scale calibrated directly for all the ranges provided.

Four ranges are provided for the measurement of d-c resistance. The scale is calibrated to read from 0.5 ohms to 4,000 ohms, with a center reading of 40 ohms. For the 40,000 , the 4 -meg,

