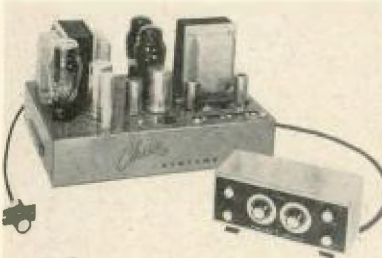
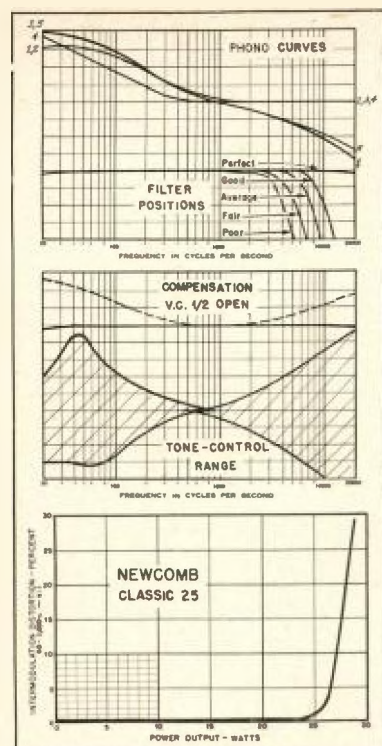


## NEWCOMB CLASSIC 25 AMPLIFIER



**M**OST COMPLETE and most powerful of the entire line of Newcomb custom home-music amplifiers, the Classic 25 provides a more than adequate power output for the listener's normal requirements and at an extremely low distortion figure. Continuing *Æ*'s tests, the submitted unit was checked for IM distortion at all output levels from 1 watt to 30; response curves were measured for all phono-equalizer positions, as well as for the limits of tone-control action; and the frequency response was measured with the volume control at the half-way position to determine the amount and type of loudness compensation that was employed. The curves are shown in Fig. 1, and the over-all schematic is reproduced in Fig. 3. Figure 2 shows the external appearance of the amplifier with its remote control.

Power-output measurement is accomplished by use of a thermocouple ammeter in series with the load resistance, adjusted so that the total resistance offered to the amplifier is that for which the output tap is normally intended. The indicated power is then multiplied by a factor of 1.47 to obtain the equivalent-sine-wave power output, as outlined by *Aston* (*Æ*, Sept. 1948). This is the first amplifier on which measurements were made in this manner—those rated heretofore had power-output curves plotted against the *average* power output as measured by the thermocouple ammeter. It will be noted that the distortion of the

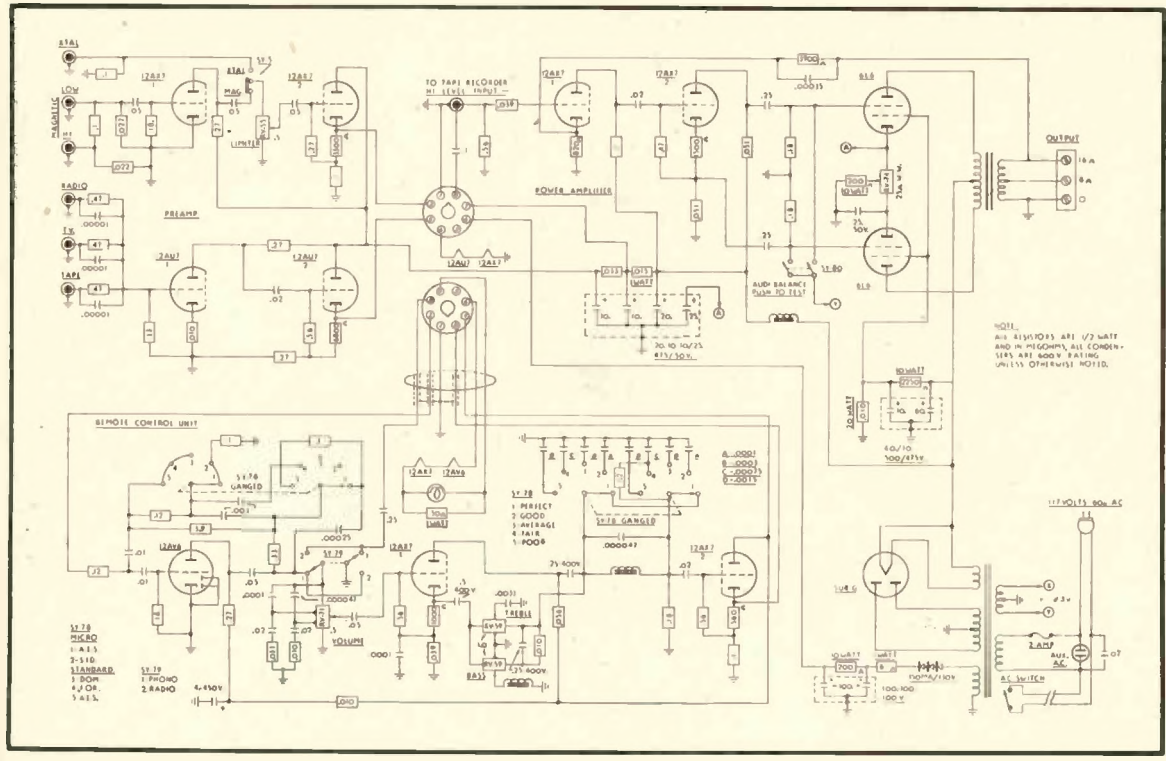
Classic 25 is extremely low—ranging from 0.1 to 0.3 per cent—up to an output of 24 watts, with the normal increase beyond that power as would be expected from any feedback amplifier.

The types of equalization provided are suitable for almost any type of recording now encountered, and provide a wide range of adjustment without resorting to the use of tone controls for either high- or low-end compensation. Once adjusted for average output level in the listener's home, the compensation in the volume control circuit offers satisfactory correction for loudness.

One particularly desirable feature is the adjustable low-pass filter, which operates on both radio and phono. The arrangement of the two chassis simplifies installation in the home and permits locating the amplifier in any convenient position with the control unit placed where it will be most accessible. All inputs are connected at the main chassis, with switching between phono and the various high-level inputs being accomplished at the remote-control unit.

Some of the amplifier's features are not apparent from either performance curves or from the schematic. The control unit is built with the "Adjusta-panel" so that it may be installed with no panel at all or with up to a 3/4-in. panel with the assurance that the knobs will be positioned close to the panel for neat appearance. The "Audi-Balance" control makes it possible to adjust the two tubes in the output stage for

*[Continued on page 63]*



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**EQUIPMENT REPORT**

[from page 38]

optimum dynamic balance without the need for any measuring instruments. Heaters of the preamplifier and control unit tubes are operated on d.c. and the amplifier may be said to be hum free—hum and noise being more than 65 db below maximum output for magnetic phono input, or more than 80 db below maximum output on the high-level outputs.

Construction is exceptionally sturdy—with many of the components—such as tubular coupling capacitors and all resistors over 5-watt rating—being held in place in spring clips rather than being supported solely by their leads. The chassis is adequately ventilated by perforations.

Table I shows the input signal required for 1-watt output with the volume control at maximum, tone controls at flat. For the phono inputs, the equalizer was set on "AES Microgroove"; the filter was set on "Perfect."

Three high-level inputs are provided—for tape recorder, TV, and AM-FM radio. One high-level input is provided for crystal pickups, and two low-level inputs are provided for magnetic pickups. The output circuit provides for 8- and 16-ohm loads. In addition to these normal inputs and outputs, a jack is also provided to furnish a signal to the tape recorder.

Listening quality is considered excellent, and the operation of the controls provides a wide variety of adjustment to suit practically any type of input signal.

**TABLE I**

Input Jack	Signal
Radio-TV-Tape	0.4 v
Crystal pickup	0.15 v
Lo-magnetic pickup	0.0016 v
Hi magnetic pickup	0.009 v
Signal available at Tape Recorder feed jack at 1-watt output	0.78 v

**SWITCHING PANEL**

[from page 25]

The advantages of this program dispatching system are low cost, simplicity, and flexibility. In fact, branches have been switched from one program channel to another, during speech, between sentences, without a word being lost. It has served a 5-kw AM transmitter installation, a 20-kw FM plant, a coast-to-coast radio network, (it was installed at one of the key stations of the network) and recording and audition-rehearsal activities for several years.

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**Brook Remote-Control Amplifiers**

Brook all-triode amplifiers are famous for their extremely wide, virtually distortionless response. They include the new Model 4 remote-control preamp with 9 playback positions to compensate for virtually all record characteristics. Five inputs including mike. Output impedances: 2, 4, 8, 16, 500 ohms.

- Model 10C4 Rating: 30 watts. Response: ±0.2 db, 20-30,000 cps at 30 watts. **98-700 Net \$331.50**
- Model 12A4 Rating: 10 watts. Response: ±0.5 db, 20-30,000 cps at 10 watts. **98-701 Net \$222.00**

**Acrosound Hi-Fi Transformers**

Model 10-300 Output transformer for Ultra Linear Acrosound and other Williamson-type amplifier circuits. Undistorted power response: 20 watts, 20-30,000 cps, 40 watts, 30-20,000 cps. For 4, 8 and 16 ohm speakers. Seamlux case. 4 1/2 x 3 3/4 x 3 1/2". **63-993 Net \$24.75**



Model 10-310 Similar to above, but for lower power amplifier. Undistorted power response: 10 watts, 20-30,000 cps, 20 watts, 30-20,000 cps. 4 1/2 x 3 3/4 x 3 1/2". **63-994 Net \$18.75**

**AUDIO TEST RECORDS**

- 69-930 Clarkston 9000S Steady state type. Flat, 50-10,000 cps. 78 rpm. 12" vinylite. Net \$3.90
- 69-993 Clarkston 90015 (90025) Steady state type. 33 1/3 MG. 50-10,000 cps. One side flat; other side NAB. 12" vinylite. Net \$3.90
- 69-931 Clarkston 102M Sweep frequency type. 20 sweeps per second, 70-10,000 cps; modified NAB. 33 1/3 MG. 12" vinylite. Net \$6.60
- 65-087 Cook Series 80 Thermal (White) noise test. Wide-band thermal noise. Simple, accurate audible check of phono, amplifier and speaker. Net \$4.00
- 65-085 Cook Series 10 Frequency and intermodulation test record. Tones from 35,20,000 cps. 78 rpm; can be played with Sid. or MG points. Net \$4.00
- 65-086 Cook Series 10A. As above, but for 33 1/3 microgroove. Net \$4.80

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