A PERFECT FINISH TO A PERFECT JOB

THE DP-47

A new attractive DIAL PLATE for miniature sets, combining volume indicator and station selector, complete with knobs to match.
Finished in gold and black with CREAM numerals.
Dimensions 3½in. x 1-7/8in., Calibration 0-100.

Particularly suitable for the "R. and H." Minavox Mantel Set, also the "R. & H." Handie-Talkie.

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RADIO MASTER DIALS

EFCO MANUFACTURING CO. PTY. LTD. ARNCLIFFE N.S.W.

Latest Transformer Development by Ferguson!

Of the many factors involved in the design of a high fidelity amplifier, there are quite a few which are dependent on the output transformer design.
An illustration of this fact may be again seen in an article "The Design of a High Fidelity Amplifier" Radiotronics No. 128.
The main requirements of a high quality output transformer are:—

(1) **Wide Frequency Range 30-20,000 C/S.**
(2) **Negligible Phase Shift.**
(3) **Low Waveform Distortion.**
(4) **Low Insertion Loss.**

Requirements Nos. 1 & 2 are closely related in that negligible phase shift is experienced only if the transformer has been designed with a linear response over the desired frequency range.
Phase shift in the transformer will limit the amount of negative feedback that can be applied around the transformer without causing undesired phase shift oscillations.
A transformer with good frequency response and low phase shift can be made by paying particular attention to the primary and leakage inductances with respect to the primary impedance.
Requirement No. 3 is satisfied when the peak flux density in the transformer core at the lowest desired frequency is well below the saturation point of the iron used in the core.
LOW INSERTION loss can be achieved by using a generous amount of copper in the windings and a high grade iron for the core material.
We were interested in the amplifier described in Radiotronics and so decided to make available an output transformer with performance characteristics equal to or better than those called for in the specifications. Here are the performance details of the transformer developed.

"TRANSFORMER TYPE OP-25"

PRIMARY IMPEDANCE ... 10,000 ohms P-P.
PRIMARY INDUCTANCE 110 Henries at 5V A.C. Rms. 50 C/S.
FREQUENCY RESPONSE 20 C/S—30,000 C/S. ±0.5 db.
LEAKAGE INDUCTANCE.
½ Primary to ½ Primary ... 25 Milliheries.
Primary to Secondary ... 14 Milliheries.
INSERTION LOSS at 1000 C/S .... 0.3 Db.
SECONDARY IMPEDANCE Single voice coil*

"Add voice coil impedance required after type No. e.g. OP25/8.3.

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