POST OFFICE ENGINEERING DEPARTMENT

SPECIFICATION

for

LOUDSPEAKING-TELEPHONE NO. 2

Engineer-in-Chief's Diagram SA4156.

Note. Specification D 1000 shall be taken as forming part of this specification.

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1. INTRODUCTION

The P.O. Loudspeaking-Telephone No. 2 is the G.E.C. PAX Loudspeaking Telephone except that the 10 direct access keys and associated switching relays shall be omitted and the key strip replaced by a suitable blanking plate.

2. CONSTRUCTION

The general construction and design of the set shall be to the satisfaction of the Engineering Department (S3). The electrical circuit is shown on Dgm. SA4156 and the component arrangement is given on Drg. CD1652.

3. PERFORMANCE

The performance shall be not inferior to that of the sample Paxmasters supplied by G.E.C. in December 1958 and subsequently tested by the P.O. Engineering Department, but the following improvements shall be introduced.

3.1 The loud-speaker amplifier shall have a minimum output of 200 mW with not more than 5% distortion over a frequency range of from 300 to 3000 c/s.

3.2 The quality of the loudspeaker performance shall be improved in respect of its low frequency response.

3.3 The acceptable performance shall be achieved under ambient temperature conditions of up to 55°C.

3.4 The handset shall be a Handset No. 3, and the handset transmission circuit shall be similar to the 700 type telephone, and arranged as shown in Dgm. SA4156. Four additional terminals shall be provided on the junction box to enable access to both sides of the AC buzzer and to both sides of the capacitor in the handset transmission circuit. Spare terminals shall also be provided if this is possible.

3.5 Suitable terminal points shall be provided so that, when required, the amplifier power supply can be switched on by the "ON" key, instead of by the operation of relay RA as at present.

3.6 Suitable terminal points shall be provided to facilitate conversion from 2-wire working to 4-wire working (separate GO and RETURN lines).

3.7 Suitable terminals shall be provided to enable additional connexions to be made to the microphone wires.

3.8 The multi-way cord to the connexion box shall be AJ type cordage, Specification CW 185.

The performance will be judged by results of conversational tests on a loudspeaking set when connected over a junction to a distant P.O. standard telephone handset instrument and also when connected to a distant loudspeaking set. The junction attenuation shall be varied from zero to 12 dB, while the local line conditions to each end shall be 600 ohms fed from a standard 50 volt exchange transmission bridge.

Special attention will be paid, when judging acceptable performance to quality of reproduction, loudness, and degree of clipping under average room noise conditions.

4. TEST CONDITIONS

In addition to the normal conversation method of assessing performance, objective measurements will be made to ensure that each set is not inferior to the sample in the following respects:-

4.1 Transmit amplifier output level to line and frequency response.

4.2 Receive amplifier gain/frequency response.

4.3 Switching attenuation in send and receive paths.

4.4 Switching time delay

4.5 Switching bias performance in both directions of transmission.

5. MARKING

A suitable label showing the P.O. stock list title, the approved code letters identifying the manufacturer and the year of manufacture, shall be fixed to the back of the case: e.g.

LOUDSPEAKING-TELEPHONE NO. 2
FH60

Specification and Diagram referred to in this Specification.

Specification	Diagram
D 1000 CW 185	SA4156 CD1652

END OF SPECIFICATION

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Subscribers Apparatus & Miscellaneous Services Branch,
P.O. Engineering Department,
2/12 Gresham Street,
LONDON, E.C.2.

Xerox 15256/S