

S159

FORMERLY

B 18.6.37.

Specification No. D.1292 A.

SWITCHBOARDS

P.A. 350, $\frac{10 + 20 + 5}{50}$ (Mark 1) and $\frac{20 + 20 + 5}{50}$ (Mark 1)

E. in C.'s Drawing Nos. 63405, 63411 and 9475.

Schematic Diagram. E. in C.'s Diagram P.A. 350.

Wiring Diagram " " " " " L.D. 49.

Note. Specification No.D.1000 to be taken as forming part of this specification.

Each switchboard comprises the relative items shown in the Table of Components. The relative drawings, diagrams and specifications are specified therein. If patterns only are held this also is stated therein.

TABLE OF COMPONENTS.

Stock Title	Quantities		Drawing No.	Specification No.
	$\frac{10+20+5}{50}$	$\frac{20+20+5}{50}$		
Bell No. 56E.	1	1	8181 8182 }	D.557
Bracket Mounting B.H.	1	1	61129	-
Caps Lamp No.2/1A	10	10	10346	D.625
" " No.2/1B	1	1	10346	D.625
" " No.2/1C	1	1	10346	D.625
Clip No. 20 $1\frac{1}{2}$ "	2	2	60735	-
" No.20 2"	1	1	60735	-
Coil Bridging No. 1P	1	1	1565	D.177
" " No. 6E	13	13	1565	D.177
" Induction No.16	1	1	9896	D.844
" Retardation No.12A	1	1	Pattern	-
" " No.39A	26	26	9563/4	D.747
Condenser MC No.101	11	21	9208	D.742
" " No.102	30	30	9208	D.741
" " No.103	2	2	9208	D.741
" " No.119	5	5	9208	D.741
" Dummy No.100 $\frac{1}{2}$ "	10	-	60842	-
" Electrolytic 160 μ F	2	2	-	-
Cords SW/Bd No. 384 Black	12	12	60873	342
" " " Red	14	14	60873	342
Fasteners Cord No.1	78	78	10097	-
Fuses No.35/1	24	24	9987	D.868
Fuse Mounting No. 2435 A	1	1	9562	-
Generator No. 8A	1	1	8800	D.682
Handle Generator No. 15	1	1	8802	D.682
Hooks No.8	26	26	10353	-

Indicators/

TABLE OF COMPONENTS (Contd.)

Stock Title	Quantities		Drawing No.	Specification No.
	$\frac{10+20+5}{50}$	$\frac{20+20+5}{50}$		
Indicators No. 410 B.P.	3	3	8187	D.168
" No.2210 A.O.	1	2	7791	D.476
" No.3300 B	26	26	9609	D.627
Jack No.19	1	1	10255	D.195
" No.301 BN	1	1	61085	D.1172
" No.510 BS	3	3	61086	D.1172
" No.710 BO	1	2	61086	D.1172
Jack Lamp No.10	12	12	10079	D. 483
" " No.12	1	1	Pattern	-
Key No. 68 Black	1	1	60123	D. 484
" No. 68 Grey	1	1	60123	D. 484
" No.172 Black	13	13	60127	D. 484
" No.216 Black	5	5	60138	D. 484
" No.293 Red	13	13	60172	D. 484
Key Dummy No. 1	6	6	12015	-
" Mounting V	28	28	10087	D. 658
" " V Dummy	4	4	10087	D. 658
Label No. 22 white (modified) - Dimension A - $\frac{11}{16}$ " " C - $\frac{3}{8}$ "	10	10	11242	-
Label No. 44 white (engraved)	13	13	10083	-
" No. 44 " (plain)	2	2	10083	-
" No.105 " (engraved)	30	30	10050	-
" No.105 " (plain)	10	20	10050	-
" No.120 " (engraved)	12	12	10083	-
Label similar to No. 164 but modified to 1" wide.	1	1	10746	-
Lock Screw No.1E	1	1	10059	-
Mounting No.84/20D	1	1	8129	-
" No.127/2A	13	13	8450	-
" No.127/2A, dummy	3	3	8450	-
" No.146/20C	3	3	9627	-
" No.F.151/14 AH	1	1	63108	-
" No.160/1 A	1	1	8154	-
" Special. Parts 1, 2 and 3	1 each	1 each	63411	-
Plates Connection No. 7.	5	5	10060	-
Plugs No. 316 Red	26	26	60183	D.571
Plugs Dummy No.1	5	5	10271	-
Riley-Weights No.16	26	26	10218	-
Rectifier Element No.2/2 A	1	1	CD.81	D.1195

TABLE OF COMPONENTS (Contd.)

Stock Title	Quantities		Drawing No.	Specification No.
	<u>10+20+5</u>	<u>20+20+5</u>		
	50	50		
Relay No. 502 A	39	39	9989	D.898
" No. 502 B	1	1	9989	D.899
" No. 503 C	5	5	9989	D.947
" No. 511 A	5	5	9989	D.1158
" No.3169	1	1	-	D.864
" No.4005	1	1	-	D.864
" No.5359	1	1	-	D.864
" No.5360	5	5	-	D.864
" Cover A K	50	50	11784	-
" " A N (modified) (Handles, see Dwg.No.63405)	8	8	12034	-
Resistor Coil No. 9 100 ohm.	1	1	9278	D.748
" " No.12 600 "	2	2	9263	D.737
" Spool No.6 200 "	2	2	62200	D.1230
Seats Plug No.3	26	26	10111	-
Strip Connection No.36	2	2	10229	D.528
Switch Tumbler No.1M	1	1	-	D.271

GENERAL

The general design and outline dimensions to be in accordance with Drawing No. 63405 and the key shelf in accordance with Drawing No.9475.

All woodwork unless otherwise specified where exposed to view to be of sound well seasoned mahogany, free from shakes and other blemishes and to conform in colour and finish to the standard samples agreed for Telephone Switchboards.

The removable panel door at the rear of the switchboards to be of whitewood stained and varnished to match the mahogany.

The key and plug-shelves and the front panel to the bottom of the jack field to be covered with red fibre finished with semi-matt polish.

The cords to be alternately red and black commencing with red, from the left, looking at the front of the switchboard. The answering and calling cords of each circuit to be of the same colour.

A diagram approved by the Engineer-in-Chief, showing the electrical connections of the switchboard and bearing the stock list title, mark number, and the number of the LD Diagram (with suffix letter if any) to which the board is wired to be securely fixed to the inside of the rear door and varnished.

Spare copies of the diagram, equal in number to 25 per cent. of the number of switchboards supplied under any contract are to be delivered separately to the Controller, Stores Department, Holloway Factory, London, N.7.

The/

The Pulley-weights to be suitably protected and tied to prevent damage to the wiring during transit.

The Keys No.216 in the Call Point Circuits to be wired so that calling is effected when the key is depressed downwards.

An ebonised spacer $1 \frac{5}{16}$ in. wide to be fitted in the space for the Multi-phone keys and drillings provided in the stile-bars so that the spaces may be replaced by a Key-Mounting K.P, (Drawing No. 8583), when required.

An ebonised spacer $1 \frac{3}{8}$ in. wide to be fitted in the extension indicator positions 21-30.

CAPACITY AND EQUIPMENT.

The Switchboard to be equipped in accordance with the following schedule and to be fully wired for the capacity quoted.

Circuits	$\frac{10 + 20 + 5}{50}$		$\frac{20 + 20 + 5}{50}$	
	Capacity	Equipped	Capacity	Equipped
Exchange Lines	10	10	20	20
Extension "	30	20	20	20
Cord Circuits	13	13	13	13
N.A. "	1	1	1	1
Operators "	1	1	1	1
Ringling "	1	1	1	1
Dial "	1	1	1	1
Cord Test "	1	1	1	1
Call Point "	10	5	10	5
Power Failure Alarm Cct.	1	1	1	1

Call Points 1 - 5 to be equipped.

Extensions 1 -20 " " "

Cord Circuits 1 - 13 " "

Dummy Key and Indicators to be provided in the unequipped positions.

WIRING.

The boards to be wired in accordance with Diagram LD.49.

The wire to be (a) Wire Switchboard, D.S. and C.C., No.23 S.W.G., 9.2 lb. to Specification No.39 for the general wiring and (b) Wire, I.R.V. Flameproof No.22 S.W.G. 12.5 lb. to Specification No.379 for the power wires and other common leads as indicated on Diag. LD.49. The cable form to be thoroughly dried out and impregnated in beeswax. Where contact with ironwork may occur, the form to be wrapped before impregnation with unbleached linen tape overlapped to give three thicknesses of covering; cleats to be waxed webbing. No shellac or adhesive tape to be used.

The/

The speaking circuits and generator leads to be made up of twisted pairs, and where made up in cable form to be laced and formed in a workmanlike manner. Sufficient slake to be allowed to permit the removal of any strip or single piece of apparatus. No flux other than resin to be used in soldering connections.

The Switchboard wiring to the Strips Connections No.36 to be terminated on the tags facing the front of the board. The tags having the double wiring slots to face the rear.

The wiring for the keysender to be so provided as to enable a Key No.68, green, and a Relay No. 509A to be inserted and wired in the positions indicated on Drawing No.63405.

INSULATION RESISTANCE

The insulation resistance between any two points that are not required to be electrically connected to be not less than one megohm when tested with 500 volts D.C.

FUSES.

Power to be distributed to the switchboard through a Fuse Mounting No.2435A rigidly mounted inside the section. The fuses to be No.35/1 and allocated as follows, the terminals being marked as indicated on Drawing No.63405.

Nos.1-13	Cord Circuits.
14	Extension Lines and Exch. Jack Earth.
15	Operators Circuit.
16	N.A. "
17	8 μ F
18	Call Point Lamps and Indicator Earth.
19	Call Point Relays 1 - 3
20	" " " 4 - 6
21	" " " 6 - 10
22	X, Y and Z Relays
23	G. relays
24	KS Relay and P.F. alarm

MARKINGS.

The various pieces of apparatus to be marked to indicate the circuit to which they belong as shown on Drawing No. 63405.

Typical Markings:- FH37/1. To be stamped on the inner side of the roof of the switchboard.

In addition, a brass label similar to Label No.164 (Drawing No.10746) but 1 in. wide engraved with the stock list title of the switchboard and the number and suffix (if any) of the circuit diagram thus:-

$$\begin{array}{ccc} \text{Swbd} & \text{PA} & 350 \\ \frac{10 + 20 + 5}{50} & \text{or} & \frac{20 + 20 + 5}{50} \end{array}$$

Diag. PA 350

to be fitted on the back of each switchboard, outside, in the centre close to the top edge.

SCHEDULE OF DRAWINGS, DIAGRAMS AND SPECIFICATIONS
REFERRED TO IN THIS SPECIFICATION

Drawing No.		Diagram No.	Specification No.
1565	10271	LD.49	39
7791	10346	PA.350	342
8129	10353		379
8154	10746		D.168
8181	11242		D.177
8182	11784		D.195
8187	12015		D.271
8450	12034		D.476
8583	60123		D.484
8800	60127		D.528
8802	60138		D.557
9208	60172		D.571
9263	60183		D.625
9278	60735		D.627
9475	60873		D.658
9562	61085		D.682
9563	61086		D.737
9564	61129		D.741
9609	62200		D.742
9627	63108		D.747
9896	63405		D.748
9987	63411		D.844
9989	CD 81		D.864
10050			D.868
10059			D.898
10060			D.899
10083			D.947
10087			D.1000
10097			D.1158
10111			D.1172
10218			D.1195
10229			D.1230
10255			

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