SWITCHBOARDS N1070 $\frac{10\ 30}{65}$, $\frac{10\ 50}{65}$ & $\frac{10\ 60}{180}$

FOR WIRING DIAGRAM SEE LD 133

SUPERSEDES N1093 AND N1096 FOR NEW WORK

NOTES:

1. Fusing All figs. except fig. 5, Fuse No. 44A/0.25. Fig. 5 only, Fuse No. 44A/1.

2. When a Hand Set is required as operating instrument at switchboard, provide Handset No. 3 and Plug No. 420 Grey-3A and Hook Receiver 'N'.

3. Cord Ccts. No. 1-5 only are taken through Night Service Key (KNS). Additional night service circuits may be provided by the use of double ended cords.

4. For provision of Power Supply see TI C3 Q0020-0040. For provision of Ringing Supply see TI C3 Q0005.

5. Exchange Jacks (JKA) and Extension Jacks Nos. 1 to 10 (JKB) have additional springs for connexion to auxiliary apparatus when required. On Switchboards $\frac{10 + 30}{65}$ & $\frac{10 + 50}{65}$ the Cord Test Jack (JKE) occupies the first position and Routine Test Jack (JKD) the last position of Jack No. 510... fitted above the Exchange Line Jacks. On Switchboards $\frac{10 + 60}{180}$ the position of Cord Test and Routine Test Jacks are reversed. The remaining Jacks are not wired and are for misc. circuits when required e.g. for the provision of additional exch. lines.

6. Contacts in Jack Lamp No. 12 to be strapped.

7. On Switchboards $\frac{10 + 60}{180}$ this item is Coil Bridging No. 1P.

8. On Switchboards $\frac{10 + 60}{180}$ this item is Capacitor MC. No. 102C.

9. On earlier issues coil resistances are 500Ω + 500Ω.

10. Capacitors C9 and C10 to be requisitioned and fitted locally when the Swbd. is supplied from a power lead.

11. When subscribers private metering is provided cord ccts to be modified to N1072 and Works Spec. S(W) 2044, TI C3 0301 refers.

12. Audible Alarm. Buzzer No. 33A and Clip No. 91B to be used for new work and maintenance replacement of Bell No. 56C.

13. These leads were for Keysender, not now used. See LD 133.

PO TELECOMMS HQRS PAPER:- W DISTN: GENERAL	ISSUE		
		E	REDRAWN. PAGE 4 ADDED. NOTES 11, 12 AND 13 ADDED. NOTE 2 AMENDED. NEW NOTE 4. MINOR AMENDMENTS. 2783. TD7.2.1 — 26-3-75
		D	NEW FORMAT. MINOR AMENDMENT. F.L.R. — 8.8.67

FIG. 1. CORD CIRCUIT

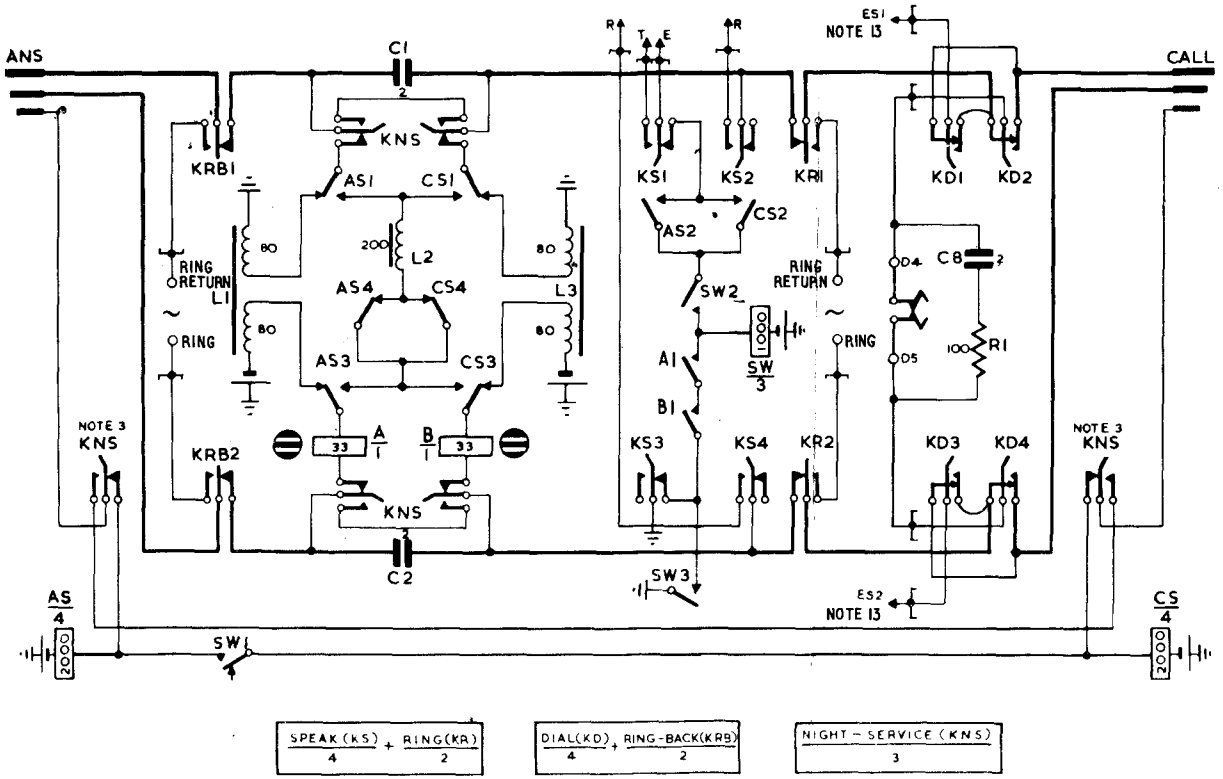
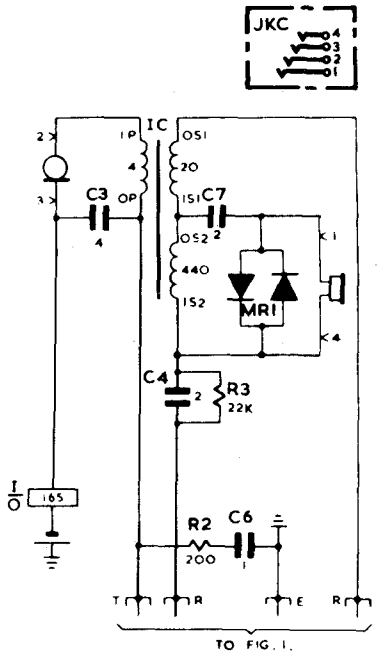


FIG. 2 OPERATOR'S CIRCUIT (NOTE 2) SUPERSEDED BY FIG 2B ON 10+30/65 AND 10+50/65 AND BY FIG 2A ON 10+60/180



CIRCUIT OPERATION NOTES:-

INCOMING EXCHANGE LINE CALL

Ringing on exchange line operates EA via C5. Operator inserts ANS plug in JKA. Earth on bush operates AS. AS1 and 3 disconnect local CB from tip and ring of ANS plug and substitute L2 hold loop. AS4 makes hold loop dependant on operation of CS relay. AS2 prepares hold path for SW. A supy operates in series with hold loop to exchange CB. AI prepares SW operate circuit.
Speak key operated. KS1 connects T and E of operators circuit energising transmitter. KS2 and 4 connect operators circuit across tip and ring. KS3 prevents operation of SW while the operator remains in circuit. Operator speaks to caller, ascertains requirements, inserts call plug in JKB. Inner springs dis. extension indicator. Ring key operated. Ringing to extension KR1-2. Operator leaves circuit, KS released. B supy operates to local CB via CS1 and 3. BI operates SW via AI, BI, KS3. SW1 operates CS to earth on bush of JKA. SW2 completes hold circuit for SW. SW3 holds SW if operator re-enters circuit when extension speaking to exchange. CS1 and 2 dis local CB and extend extension loop to exchange via A and B supys, AS1-3, CS1-3. CS4 dis L2 hold loop. CS2 alternative hold path to AS2.

CLEARDOWN

Clear from extension A and B supys release giving visual negative clear to operator dis. to clear exchange. AI and BI release making hold circuit for SW dependant on AS2, CS2, KS1. If operator enters circuit to check clear SW released by KS1 releases CS. CS4 loop to exchange via A supy. Plugs removed. AS released. A supy released. If operator removes plugs without checking clear AS, CS release AS2. CS2 release SW.

O/G EXCHANGE CALL

Extension calls. Loop operates XA. ANS plug inserted in JKB. CB to extension via AS1-3. A supy operates. Speak key operated, operators circuit across tip and ring. Call plug inserted in JKA, exchange. CB operates supy B, earth on bush of JKA operates CS. Operator may now dial on exchange line. KD operated dial connected across tip and ring of call cord. KD restored on completion of dialling. KS restored, SW operates via KS3. SW1 operates AS. AS1 and 3 extend exchange to extension AS4 removes L2 hold loop. If extension is to dial call, operator leaves circuit before dialling. Circuit operation as before. Extension may dial when L2 hold loop removed by AS4. Clear down as on incoming call.

EXTENSION TO EXTENSION CALL

No circuit operation consequent to insertion of plugs and operation of speak and ring keys. Non-operation of AS, CS and SW allows divided battery feed to each extension. Supys A and B giving visual negative clear signals. Contacts not effective.

MAINS FAIL (FIG 2B)

Used on installations without stand-by power. MF relay normally held operated by 24v. When main fails MF releases. MF1-2 connect operators telephone circuit across tip and ring of cord circuit enabling operator to answer exchange line calls. Transmitter energised by line current.

NIGHT SERVICE

KNS key disconnects sleeve circuit relays, local battery circuits and by-pass supys. Tip, ring and sleeve of ANS and call plugs connected direct. Normal relay and supy operation on restoration of KNS to prevent disconnexion of calls in progress.

FIG. 2A OPERATOR'S CIRCUIT (NOTE 2) SUPERSEDED BY FIG 2B FOR NEW WORK ON $\frac{10+30}{65}$ AND $\frac{10+50}{65}$

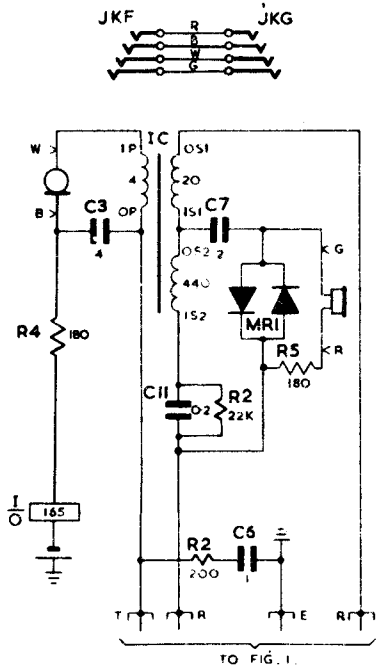


FIG. 2B OPERATOR'S CIRCUIT (NOTE 2) FOR $\frac{10+30}{65}$ AND $\frac{10+50}{65}$ SIZES

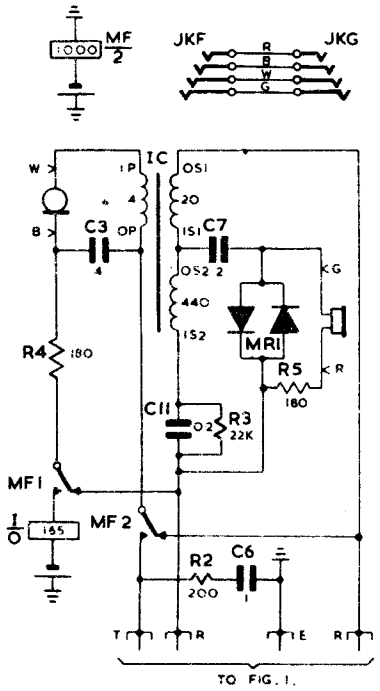


FIG. 3. ROUTINE TEST JACK (NOTE 5)

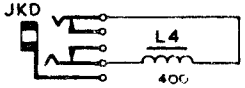


FIG. 4 AUDIBLE ALARM CIRCUIT (NOTE 12)

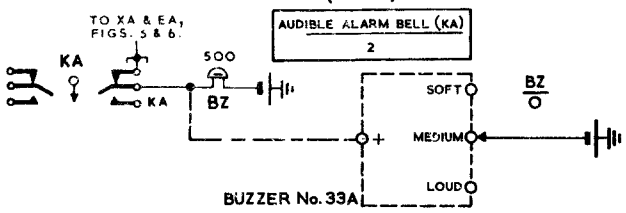


FIG. 5 EXTENSION LINE

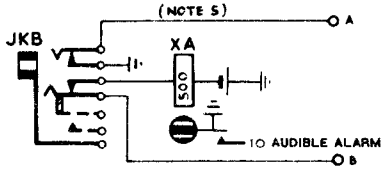


FIG. 6 EXCHANGE LINE (NOTE 9)

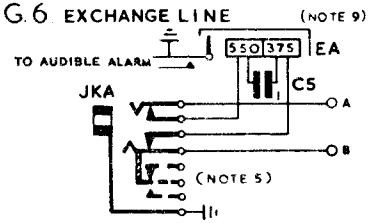


FIG. 7 POWER SUPPLY

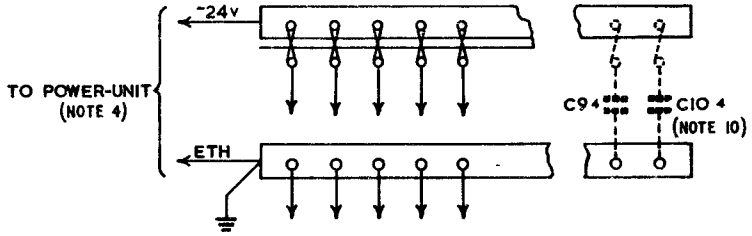


FIG. 8 RINGING CIRCUIT

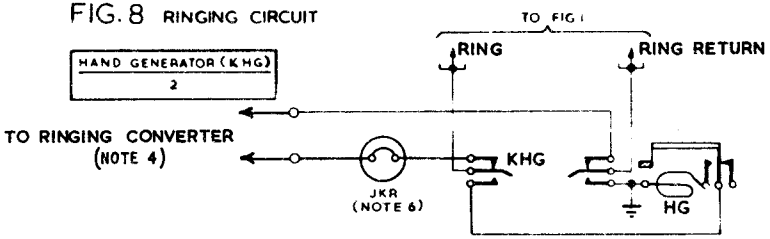


FIG. 9 DIAL CIRCUIT.

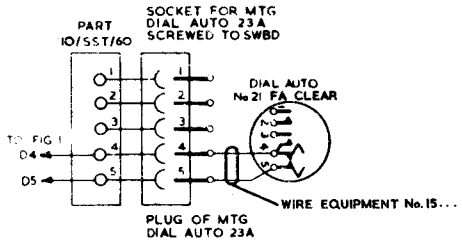
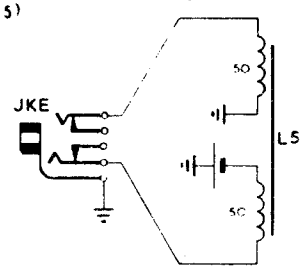


FIG. 10 CORD TEST JACK (NOTE 5)



APPARATUS SCHEDULE

ITEM	RATE BOOK TITLE
L4	Coil, Bridging No. 6P (Note 7)
L2	" " No. 6C
L5	" " No. 4D
1C	" Induction No. 3/16
L1 & L3	" Retardation No. 39A
1	" " No. 3416
C5 & C6	Capacitor M.C. No. 101
C7 & C8	" " No. 102 (Note 8)
C1 & C2	" " No. 102C
C3, C9 & C10	" " No. 103C
HG	Generator No. 26A
XA	Indicator No. 4C0B
EA	" No. 2200A
A & B	" No. 3300B
C11 (Fig. 2A & 2B)	Capacitor Paper No. 7726
JKR	Jack Lamp No. 12
KA	Key No. 68 Black
KHG	" No. 68 Grey
KS with KR	" No. 172 Black
KD with KRB	" No. 293 Red
KNS	" No. 289 with Handle Key No. 3
Plugs & Cords	Plugs No. 316, Cords Switchboard No. 384 Red or Black
Operators Inst. (Fig. 2A & 2B) Note 2	Head Set No. 1 & Plug No. 420 with Cord No. 4/77L - 54" Handset No. 3 Grey & Plug No. 420 Grey - 3A.
MR1	Rectifier Element No. 2/2A
AS & CS	Relay No. 514A
SW	" No. 507A
BZ	Buzzer No. 33A with Clip No. 91B
BL	Bell 56C

ITEM	RATE BOOK TITLE
MF	Relay No. 502A & Relay Cover AK
R1	Resistor, Spool No. 6 - 100Ω
R2	" Spool No. 6 - 200Ω
	" Carbon No. 1 - 22K
	" Coil No. 12 - 180Ω

Jacks (Note 5)	10 + 30 / 65	10 + 50 / 65	10 + 60 / 180
JKA	No. 710 BO	No. 710 BO	No. 810 BN
JKB Extns. No. 1-10	No. 710 BO	No. 710 BO	No. 810 BN
" No. 11-30	No. 510 BS	No. 510 BS	No. 510 BO
" No. 31-50		No. 510 BS	No. 510 BO
" No. 51-60			No. 510 BO
JKC	No. 510 BS	No. 510 BS	No. 510 BO
JKE	No. 510 BS	No. 510 BS	No. 510 BO

JKC	Jack No. 20
JKF & JKG	Jacks No. 84A on Part 1/DPL/695
JKR	Jack No. 12
Dial	Dial Auto. No. 21 FA Clear with Mounting Dial Auto No. 23A