

NOTES

1. This diagram with circuit operation notes is of a typical installation with one private circuit and one or more non-multiple extensions. The private circuit is numbered extension 10.
2. Relay Unit Q 524 must be fitted beyond the last multiple station, see Dgms. Q 502 and 503.
3. The extension of exchange calls over the private circuit is not permitted, using this method of signalling.
4. For arrangement of straps in Relay Unit Q 524 see Dgms. Q 503 and 561.

CIRCUIT OPERATION

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CIRCUIT OPERATION

1.0 OUTGOING CALL ON TIE-LINE (PRIVATE CIRCUIT)

Lifting the handset and fully operating to overpress the local key at a multiple station connects earth to B wire, resistance battery to A wire, of multiple pair to Relay Unit Q524. Relay RC, via diode D1, and relay F operate. Contact F1 operates relay FR. Contacts FR4 and FR5 disconnect relay AC, connect relay LB to line circuit. Relay LB operates. Contact LB2 operates relay RO. Release of overpress of local key at multiple station connects normal conditions, earth A wire, battery B wire, telephone circuit between wires, to multiple pair of Relay Unit Q 524. Relay RC releases.

1.1 DISTANT END ANSWERS

No change in condition of line circuit takes place. No further relay operations in Relay Unit Q 524. Conversation takes place.

2.0 INCOMING CALL ON TIE-LINE (PRIVATE CIRCUIT)

Incoming ringing current operates relay AC. Contact AC1 operates relay RR. Contact AC2 holds relay AC operated when ringing current is disconnected. Contact RR2 lights call lamp, RR3 operates buzzer, in Control Unit Q 537. Main station answers by lifting handset and operating local key, which connects earth A wire, battery B wire, telephone circuit between wires, to multiple pair of Relay Unit Q 524. Relay F operates. Contact F5 releases relay AC. Contact AC1 releases relay RR. Contacts RR2 and RR3 disconnect calling lamp and buzzer in Control Unit Q 537. Contact RR1 operates relay FR. Contacts FR4 and FR5 disconnect relay AC, connect relay LB to line circuit. Relay LB operates. Contact LB2 operates relay RO. Conversation can now take place.

2.1 TRANSFER OF CALL TO (a) MULTIPLE STATION, OR (b) NON-MULTIPLE EXTENSION

(a) CONNECT and TEST key is operated on Control Unit Q 537. Relay F releases when main station calls the wanted station. Relay FR holds to earth on S wire from Control Unit Q 537 via contacts FR3, ELR5, EL2 and F1. Relay F will re-operate when station seizes circuit. CONNECT and TEST key is restored.

(b) As in (a) CONNECT and TEST key is operated and relay F will release whilst non-multiple extension is being called. When extension answers, its CONNECT and TEST key is operated to complete speech path.

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2.2 RECALL OF MAIN STATION BY MULTIPLE STATION

Overpress of local key at multiple station connects earth to B wire, resistance battery to A wire, of multiple pair, holding relay F and operating relay RC. Contact RC4 operates relay RR. Contacts RR2 and RR3 light call lamp and operate buzzer in Control Unit Q 537. Release of overpress restores normal conditions to multiple pair, releasing relay RC. Contact RC4 releases relay RR, contacts RR2 and RR3 disconnect call lamp and buzzer.

2.3 CLEARING

MULTIPLE STATION CALL

(a) Distant end clears first. No change in condition of line circuit takes place. When handset at multiple station is replaced, relay F releases. Contact F1 releases relay FR. Contacts FR4 and FR5 disconnect relay LB, and connect relay AC to line circuit. Relay LB releases. Contact LB2 releases relay RO. Circuit is now normal.

(b) Multiple station clears first. Replacing of handset releases relay F. Contact F1 releases relay FR. Contacts FR4 and FR5 disconnect relay LB, and connect relay AC to line circuit. Relay LB releases. Contact LB2 releases relay RO. When distant end clears, no change in condition of line circuit takes place. Circuit now normal.

NON-MULTIPLE EXTENSION CALL

(c) Distant end clears first. No change in condition of line circuit takes place. When non-multiple extension clears, main will restore CONNECT and TEST keys on Control Unit Q 537. Relay FR will release. Contacts FR4 and FR5 disconnect relay LB, and connect relay AC to line circuit. Relay LB releases. Contact LB2 releases relay RO. Circuit now normal.

(d) Non-multiple extension clears first. When extension clears, main will restore CONNECT and TEST keys on Control Unit Q 537. Operation will be then as in (c). When distant end clears, no change in condition of line circuit will take place. Circuit now normal.

SPARE

(DGM. Q540)



