

H.E.S No.3 KEYMASTER TERMINATION OF PRIVATE AND INTERSWITCHBOARD CIRCUITS USING RELAY UNIT Q 415 SIGNALLING GROUP (i) d A/WE BOTHWAYS

Q 442
PAGE 1-3
ISSUE A

NOTES:-

1. Relay Unit Q415 replaces the last multiple station, but must be connected before the non-multiple extension if fitted. More than one Relay Unit Q415 may be fitted.
2. Relay Unit Q405, OR Q410 when fitted, must be connected after the last station. See Dgms Q403 & Q404. In this dgm typical connexions for Relay Unit Q405 are shown.
3. These connexions will depend on the number of the station replaced by the Relay Unit Q415, and also the number of the main station, see Dgm Q441 notes 3 & 4.
4. This connexion is provided at the main station only if the extension of exchange calls over the private circuit is authorised on the advice note.
5. For arrangement of straps in Relay Unit Q415, see Dgm Q441.

CIRCUIT OPERATION

1. OUTGOING CALL

Lifting handset at a multiple station operates IL, IL1 puts earth on intercom engaged lamp wire. Operation of the calling button (KR) extends earth to operate Relay JG via SA5. Relay S operates via JG1 to earth on intercom engaged wire. S3 and JG3 hold Relay JG. S1 extends earth via Relay LA to call distant end.

2. ANSWERING CONDITIONS

On answering, earth from distant end operates Relay LB. LB1 operating releases Relay JG. Relay S holds via LB1 and LB 2 operates Relay RC. JG2 releasing extends earth via RC3 and S5 to operate Relay SA. SA2 completes speech path. SA5 completes station engaged condition.

3. INCOMING CALL

An earth is connected on the A wire at the distant end, and this operates Relay LB. LB2 operates Relay RC. Earth is extended via JG2, RC3, S5 and SA6 to operate buzzer at main station. On answering the main station connects earth to intercom engaged lamp wire and Relay S operates via LB1. Relay LA operates via S1 to battery at distant end. S5 operating cuts off calling signal and operates Relay SA. SA2 completes speech path.

4. CLEARING

(a) Distant end clears first. When earth on B wire removed Relay LB releases. LB1 releases Relay S. LB2 releases Relay RC. RC3 releases Relay SA. S1 releases Relay LA. Circuit now normal.

(b) Calling station clears first. Replacing handset removes intercom engaged lamp earth and Relay S releases. S1 releases Relay LA. S5 prepares release of Relay SA which holds via SA6 to JG2 earth. When distant end clears Relay LB releases. LB2 releases Relay RC. RC3 releases Relay SA. Circuit now normal.

5. EXCHANGE CALLS (see note A)

Exchange calls received on multiple stations may be extended to the tie line.

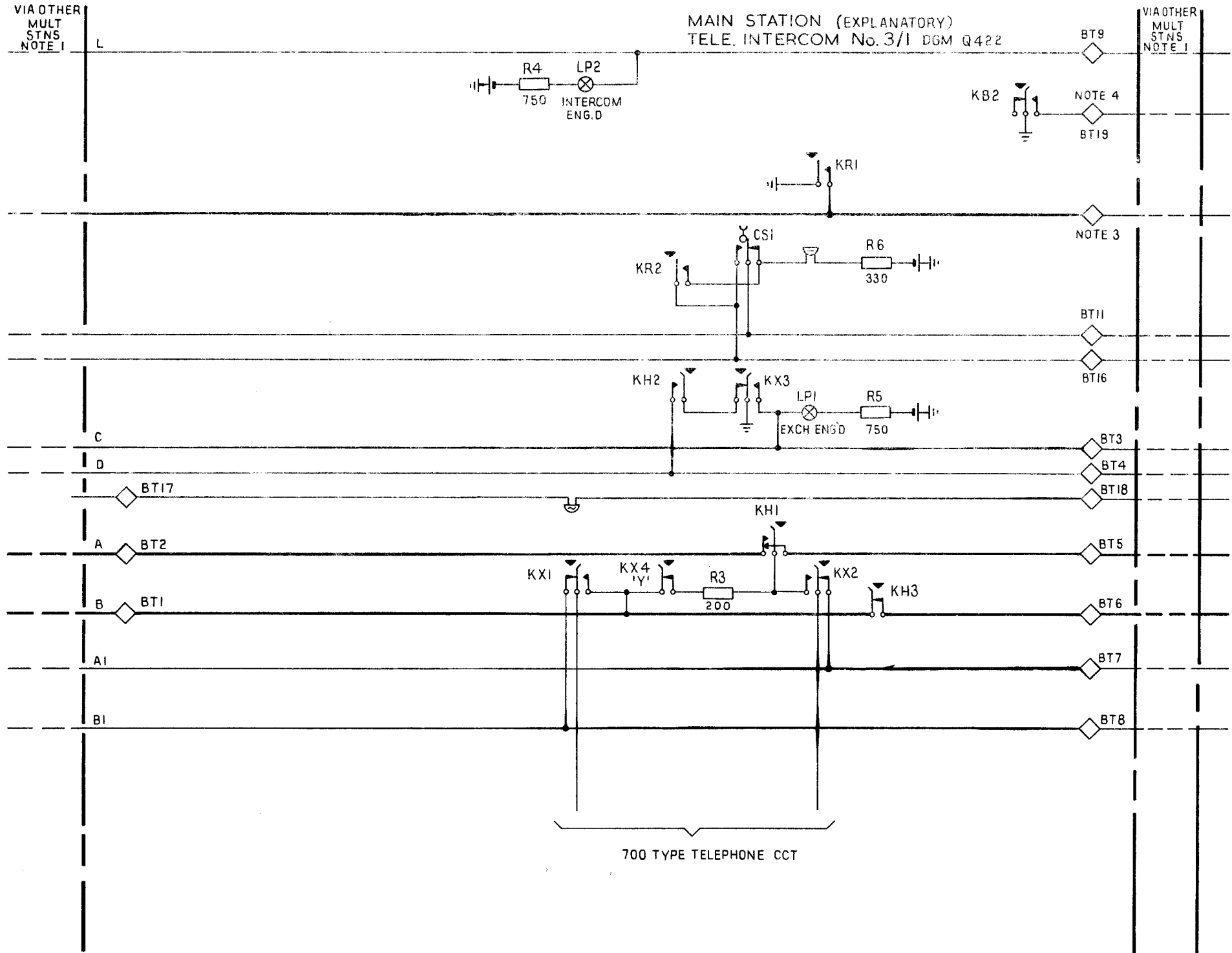
The tie line is first called as in Paras 1 and 2. Distant end is then informed that an exchange call is being forwarded and the NS button (KB) is pressed at the main station. This extends earth to operate Relay EL. EL2, 3, 6 and 7 switch the tie line from intercom cct to exchange line. Earth at EL5 holds Relays EL and S via LB1 and EL4. The exchange line cct is held until the tie line clears and removes earth from B wire to release Relay LB. LB1 releases Relays EL and S. LB2 releases Relay RC. RC3 releases Relay SA. SA2 removes loop from exchange line.

PC TELECOMMS HQRS FAPER: W DISTN:- GENERAL	ISSUE				
		A	NEW FORMAT & UPDATED TERMINAL A48 WAS SHOWN AS A42	<i>JKR</i> TD 7.2.1	23.5.78
			J.H CAMBRIDGE S1/3		

VIA OTHER
MULT
STNS
NOTE 1

MAIN STATION (EXPLANATORY)
TELE. INTERCOM No. 3/1 DGM Q422

VIA OTHER
MULT
STNS
NOTE 1



RELAY UNIT Q415, CIRCUIT FOR A/WE BOTHWAY SIGNALLING

TO OTHER STNS
NOTE 1

RELAY UNIT Q405
(EXPLANATORY)
NOTE 2

