

H.E.S. No. 4
CABLING OF TYPICAL SYSTEMS
 (INCLUDES MODIFICATION FOR LOOP RINGING, SEE NOTE 19)

NOTES:-

1. Terminals 13-14 and 17-18 on BC 6A, are solder strapped on rear of Terminal Tablet. The extreme outer screws or pillars on the centre row of the terminal blocks on both BC 6A and BC 7A are block fixing devices not terminals.
2. Straps on BC 7A should be provided, using insulated wire, on rear of Terminal Tablet.
3. Terminals 41-42 and 49-50 are solder strapped on left hand side of Tag Block, as viewed from front of Relay-Unit Q 516.
4. When Relay-Unit Q 524 as shown in Fig. 8 is provided, at BC 7A connect as for Relay-Unit Q 519 except as follows:-
 - (a) Leave G-S and W/G-S wires spare.
 - (b) Connect G-BN wire to Terminal 36 for Extn 7
 35 for Extn 8 or 9
 39 for Extn 10
5. The Converter, Ringing, is included in Power-Unit No. 100A/2. The ringing supply is used when Relay-Unit Q 519, or Q 524 using 'G/AC OUT' signalling is provided. When a ringing supply is not required, use Cable 4W with bunched Pairs, in lieu of Cable 8W shown (Fig. 6). A Power-Unit No. 52A may be used if available.
6. When only one Relay-Unit Q 519 or Q 524 is provided, leave B-S and W/B-S wires spare (Figs. 7 and 8).
7. Connect B-G and W/B-G wires only when 'G/AC OUT' signalling is required (Fig. 8).
8. When Control-Unit Q 535 is provided, use Cable 24W instead of Cable 41W. Wires W/B, O, W/O, W/BN, W/B-W, B-G, W/B-G, O-W, W/O-W and W/O-G will be spare (Fig. 9). See Dgms Q 535 and Q 537 for cord connexions to Control-Units Q 535 and Q 537 respectively.

9. Wires B-G and W/B-G should only be connected when Relay-Unit provided is a Q 519, or Q 524 using 'G/AC OUT' signalling.
10. For internal strapping of Relay-Unit Q 524, (Fig. 8), which will vary dependent on signalling method used, see Dgm. Q 561.
11. When incoming exchange calls may be transferred to a Tieline, strap terminals in Relay-Unit Q 524 (Fig. 8) as follows:-

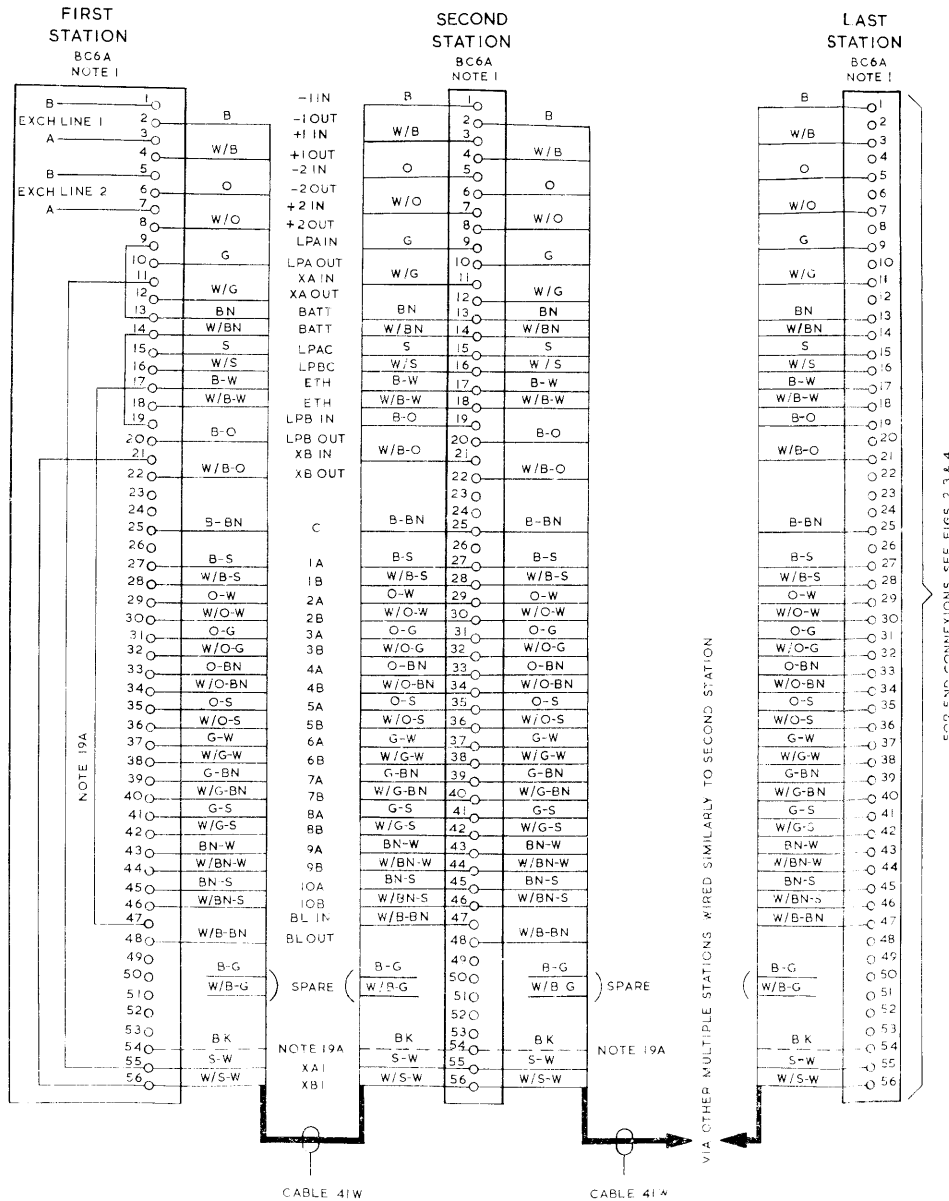
EXCH. LINE 1 74-84
 EXCH. LINE 2 75-85
12. If a Non-Multiple extension is allowed to receive and/or originate exchange calls, strap terminals in Relay-Unit Q 519 (Fig. 7) as follows:-

EXCH. LINE 1 24-34 Receive Calls
 26-36 Originate Calls
 EXCH. LINE 2 25-35 Receive Calls
 27-37 Originate Calls
13. When NIGHT SERVICE extension of calls to the Non-Multiple extn is required, in Relay-Unit Q 519 strap Terminals 26-36 and 28-38 for E.L.1., and strap Terminals 27-37, 29-39 and 30-40 for E.L.2. See Dgm. Q 516 if loop ringing is provided.
14. When NIGHT SERVICE extension of exchange calls over the private circuit is required, in Relay-Unit Q 524 (Fig. 8) strap Terminals 78-88 and 80-90 for E.L.1., and strap Terminals 79-89 and 80-90 for E.L.2.
15. When the distance between the last multiple station and the Relay-Unit Q 516 is small a Block Terminal need not be fitted between them. If Loop Ringing is provided a Block Terminal No. 378 should be used if necessary.
16. For Multiple Station numbering arrangement see Dgm. Q 540 note 2.
17. On previous issues of this diagram 21 wire cable was used. The Orange-Green wire used on 24 wire cable, was Black for 21 wire cable.
18. If incoming calls on LINE 2 are required to ring bells at different stations from calls on LINE 1, modify Relay-Unit Q 516 in accordance with the note on Dgm. Q 516. Use a spare cable connector to extend the bell circuit from the multiple.

NOTES CONTINUED ON PAGE 2

PO TELECOMMS HQRS.				
PAPER:- W	ISSUE			
DISTR:-		FIG. 8 AMENDED. NOTES REVISED, NOTES 18 AND 19 (LOOP RINGING) ADDED	11 9-75	
GENERAL		NOTE 17 ADDED. MINOR AMENDMENTS	19.3.70	

FIG. I. MULTIPLE STATIONS



Notes continued from page 1.

19. Loop Ringing:— The earthed ringing circuit of HES No. 4 may be modified to loop ringing for use on installations which have the ringing current applied to the 'A' wire and Earth, and the 'B' wire and Earth from different calling equipments of the same installation eg PABX No. 3, or when the ringing supply is not earthed. When loop ringing is required a Relay Unit Q516 wired to Dgm. Q516, Fig 2 must be used. See Dgm. Q516 for the necessary modifications to the Relay Unit.

- (a) At installations with Multiple stations only.
Q503 Fig. 1. Omit strap 17-47 and provide strap 47-54. Connect 'BK' wire to terminal 54 in BC6A at each multiple station.
Q503 Fig. 2. At Last Multiple station BC6A connect 'O-G' wire to terminal 4, 'B-S' wire to terminal 8, 'W/B-S' wire to terminal 54. At modified Relay Unit Q516, connect 'O-G' wire to terminal 2, 'B-S' wire to terminal 22, 'W/B-S' wire to terminal 7.
- (b) At installations with Non-Multiple Extensions or Inter-Switchboard Circuits.
Multiple Stations connected as shown on Fig. 1, modified as in (a) above
Q503 Fig. 3. Connect 'O-G' wire to terminal 54 in BC6A and BC7A. At BC7A connect 'O-G' wire of cable from Relay Unit Q516 to terminal 3, 'B-S' wire to terminal 6, 'W/B-S' wire to terminal 54.
Q503 Fig. 4. Connect 'BK' wire to terminal 54 in BC6A and BC7A. At BC7A connect 'O-G' wire of cable from Relay Unit Q516 to terminal 3, 'B-S' wire to terminal 6, 'W/B-S' wire to terminal 54.
Q503 Fig. 6. At modified Relay Unit Q516, connect 'O-G' wire to terminal 2, 'B-S' wire to terminal 22, 'W/B-S' wire to terminal 7, connect 'B-O' wire to terminal 13 and 'G-BN' wire to terminal 30 instead of terminals 33 and 37 respectively which are used for earth return ringing.

FIG. 2. MULTIPLE STATIONS ONLY

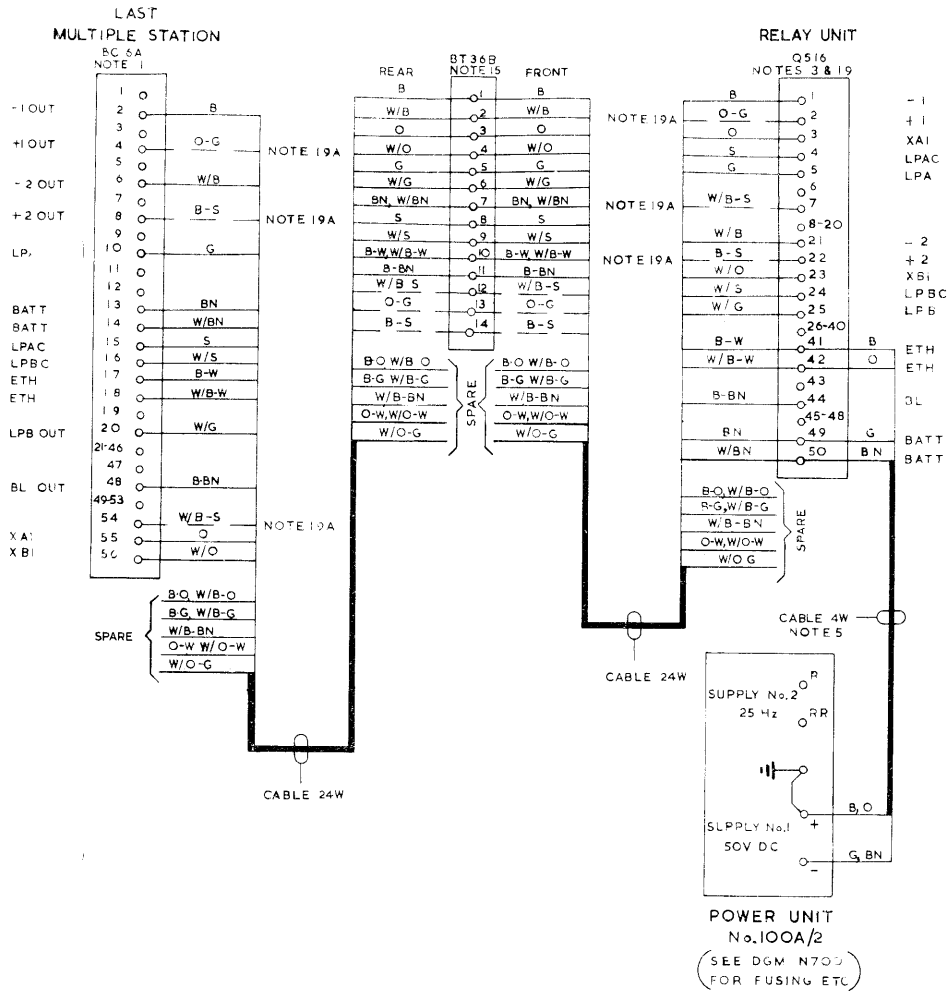


FIG. 3. ONE NON-MULTIPLE OR INTER-SWITCHBOARD CIRCUIT

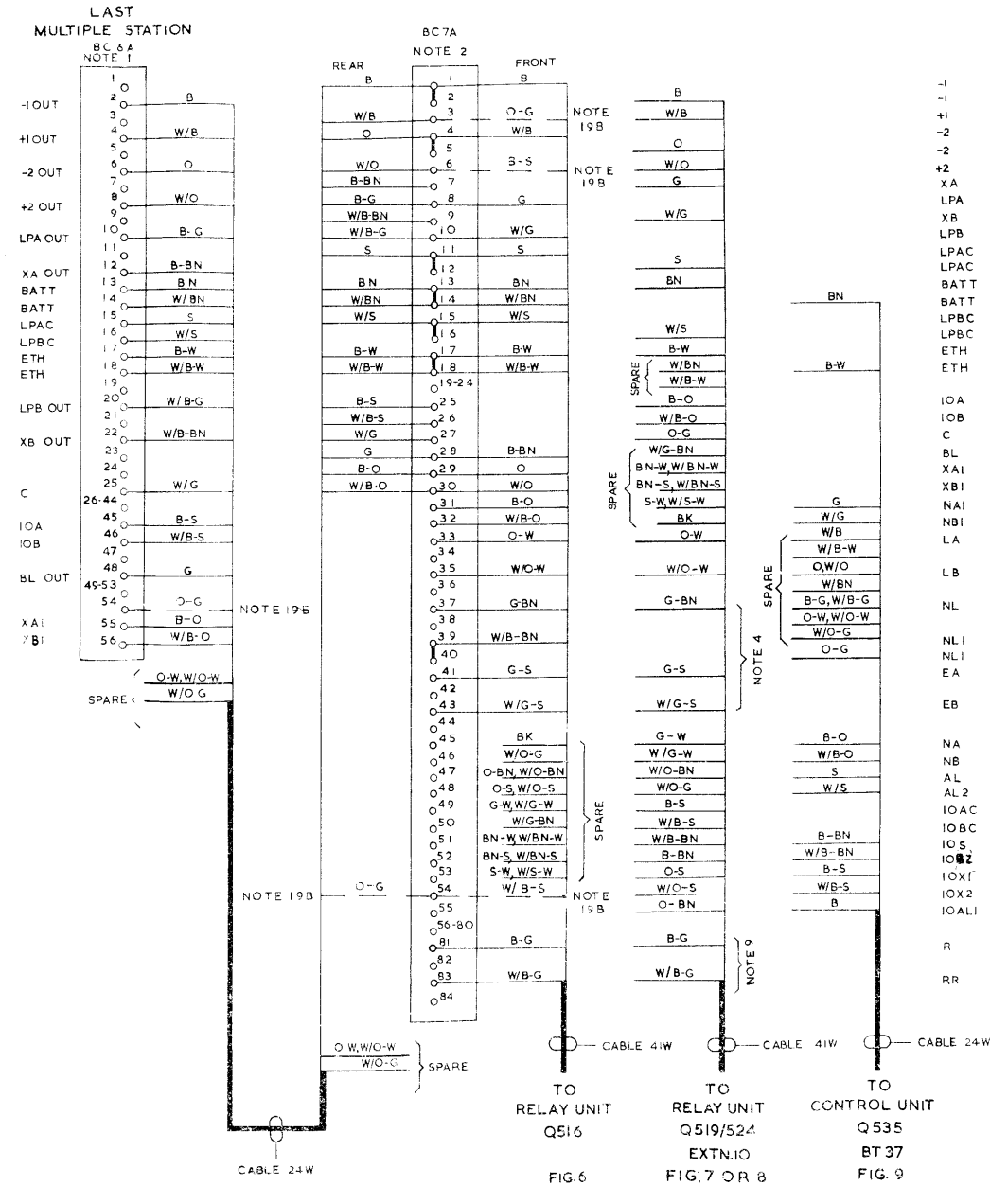


FIG. 6

FIG. 7 OR 8

FIG. 9

FIG. 5 TWO TO FOUR NON-MULTIPLE, OR INTER-SWITCHBOARD, CIRCUITS
'B' BLOCK

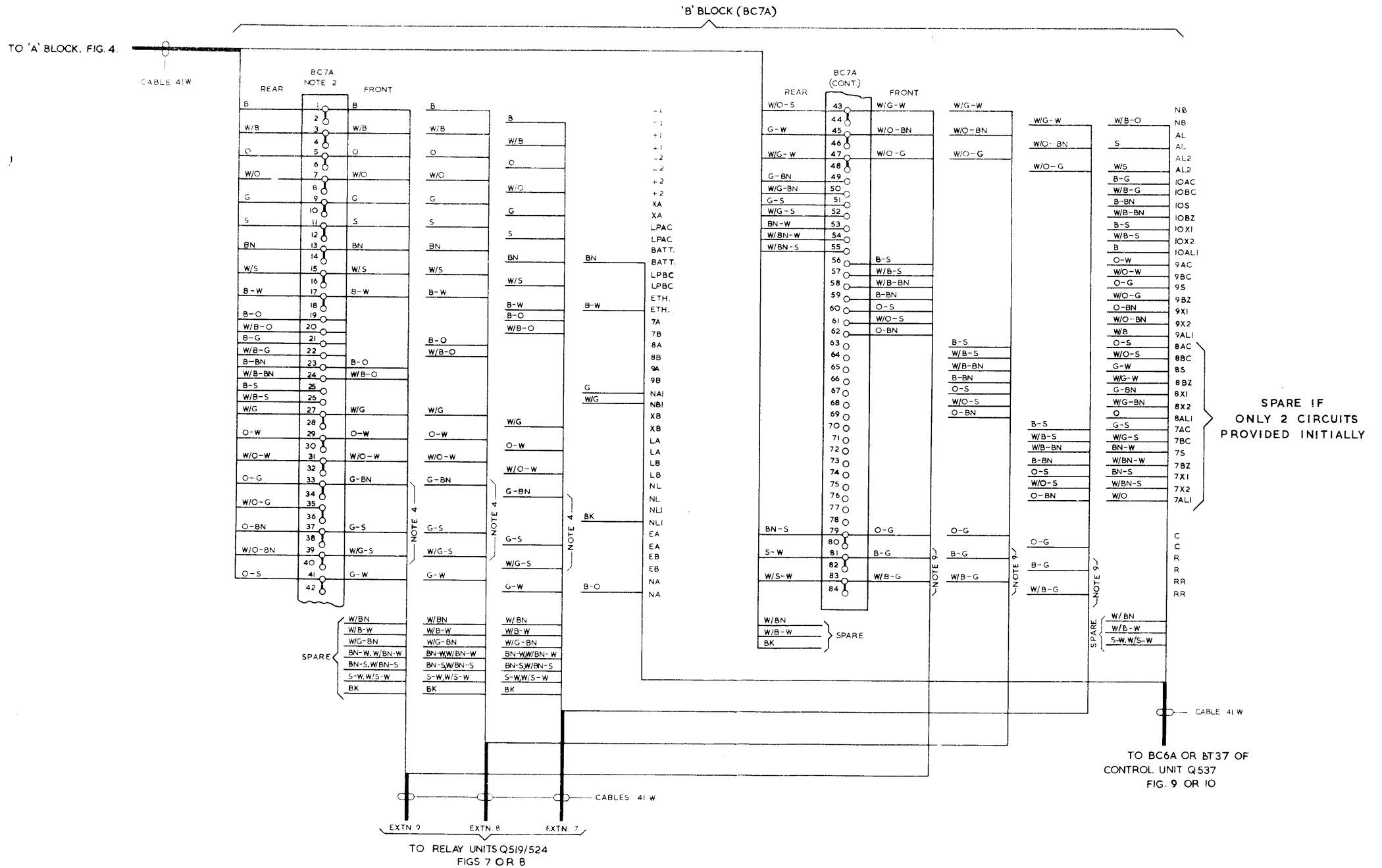
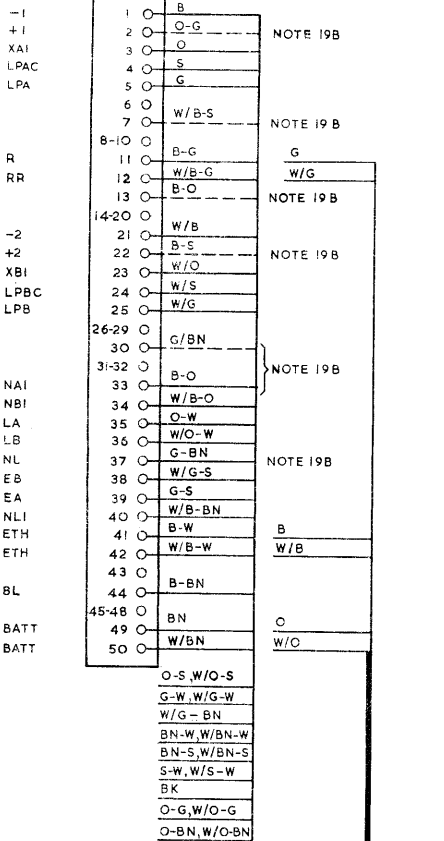


FIG. 5.
RELAY UNIT
Q516

NOTES 3 & 19



FIGS 3 & 4

POWER-UNIT No. 100A/2
(SEE DGM. N700 FOR FUSING ETC.)

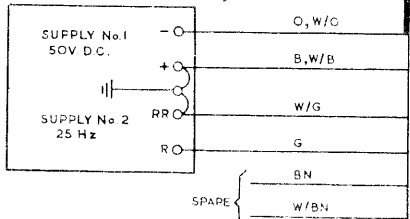
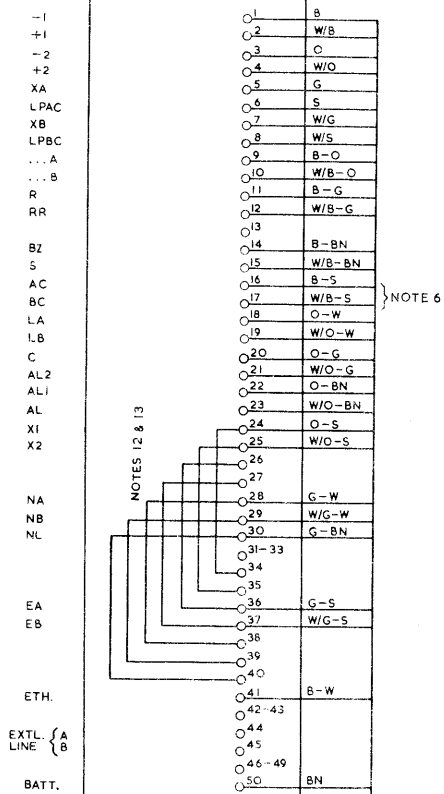
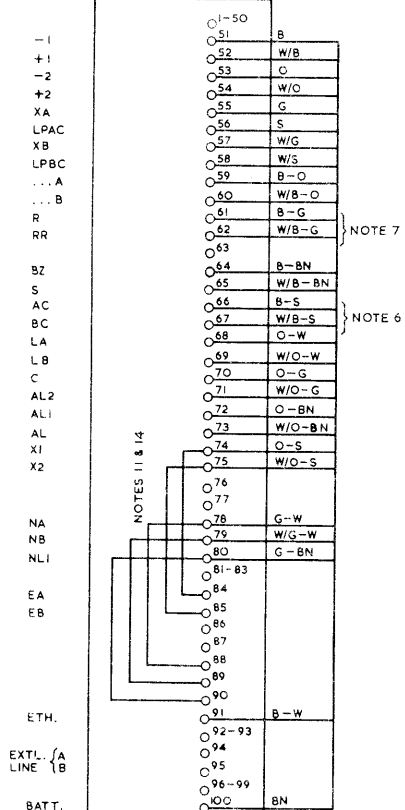


FIG. 7.
RELAY UNIT Q519



FIGS. 3, 4 OR 5

FIG. 8.
RELAY UNIT Q524 (NOTE 10)



FIGS. 3, 4 OR 5

FIG. 9.
CONTROL UNIT

Q535 (NOTE 8) 1 NON-MULT OR INTER SWBD CCT
Q537 2 NON-MULT OR INTER SWBD CCTS

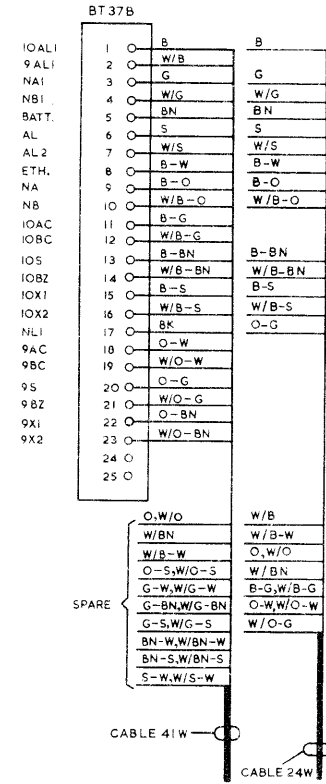


FIG. 5 OR FIG. 3

FIG. 10.
CONTROL UNIT Q537

3-4 NON-MULT OR INTER SWBD CCTS

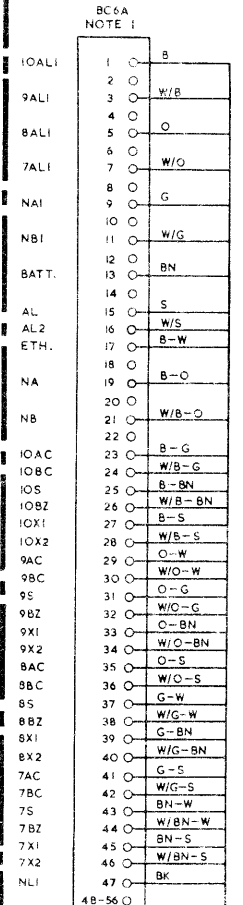


FIG. 5