1. The digit stored in the fourth storage relay set is the fourth digit of an arithmetical order and defines the tens group in which the receiving address is to be found, or the second digit of a non-arithmetical order and defines the type of order as follows:

Digit 1 - Examination of sign

2 - Transfer of control

3 - Unconditional search

5 - Conditional search

7 - Selection of print layout

8 - Selection of shift

O - Signal

Digit 4 and 6 are now redundant but were originally allocated for conditional and unconditional reverse search.

- 2. The D 4 relay set marks out a digit on leads D<sub>4</sub>51 to D 69 (numerical values 1 to O). These digits are routed<sup>4</sup>via NCX normal and BG operated to select the tens group of the receiving address, or via NCX operated and BG normal to select relays controlling the non-arithmetical operations. The tens group or other relay extends the marking earth over checking contacts to operate the DM relay.
- 3. Taking first the non-arithmetical orders for which NC $\hat{Y}$  is operated and BG normal: Digit 7 from D<sub>4</sub>63, via NCX 22.23 operates the two TG relays, which gate the units leads from D<sub>5</sub> into the T relay sets. The earth is extended over TG 5.4 and operates DM.

- Digit 3 from D<sub>4</sub>55 via BG(5.4) operates BSA, BSB and BSC, and also CJ, CJS and CJR, and the earth is extended over BSA 3.2. Digit 5 from D<sub>4</sub>59 via BG 8.7 and BRV 4.5 can also operate the CJ and BS relays if NEP has been operated by a previous sign examination order (see C 47588). If NEP is not operated this earth appears at N 71 on the "order completed" line (C 47594). The redundant circuits from D<sub>4</sub>57 and D<sub>4</sub>61 operate BRV and then join the same route to operate CJ and BS relays.
- Digit 1 from  $D_451$  via NCX 28.29 operates NEX and is checked by contact NEX 2.3 and the previous route.
- Digit 2 from  $D_463$  via NCX 25.26 operates NCS and is checked by NCS 2.3 and the previous route.
  - Digit O from  $D_469$  via NCX 2.3 operates JS and is checked by JS 2.3 and the previous route.
- Digit 8 from D<sub>4</sub>65 via NCX 8.9 operates WGA and WGB and is extended by WGB 23.22 to operate DM.
- 4. For arithmetical orders NCX is normal and BG is operated. Digits 1, 2, 3 and 4 from D<sub>4</sub>51, 53, 55 and 57 are routed by NCX normal contacts over connector 8 to the storage rack and operate the receive tens relays, SRA, SRB, SRC and SRD, of a storage group. The marking earth is extended by the SRC 5.4 contact via a strapping between 10P and 10Q where a second rack of stores could be inserted and over the previously described JS, NCS, NEX, BSA and TG contact to operate DM.
  - Digits 5, 6, 7 and 8 are available at connector 10 if a second rack of stores is added.
  - Digit O from D469 via NCX 2.1 operates the PT relays in the two printer control sets and also GRG in the lower accumulator unit. This earth is forwarded by GRG and the PT relays operated over the previous route.