

TELEPHONE SETS

568 TYPES

COMMON BATTERY - CONNECTIONS

1.00 INTRODUCTION

1.01 This section covers connections for the 568HB telephone set (rotary dialing), Fig. 1, and the 568HT telephone set (touch-tone calling), Fig. 3.

1.02 Tables A, B, C and D are used in conjunction with Fig. 1 and 3.

2.00 GENERAL

2.01 The key and telephone circuit is arranged for use with 2- and 4-wire common battery lines. The sets are furnished wired for key telephone systems using A lead control.

2.02 These sets do not provide connections for 4-wire local battery private lines, speakerphone feature, or busy lamp feature.

3.00 WORKING LIMITS

Maximum connector cable resistance per conductor:

Lamp L leads - 25 ohms
4-wire relay FW lead - 50 ohms

4.00 FW (4-WIRE) RELAY

4.01 The FW relay switches the receiver from 2-wire to 4-wire circuitry.

- On 2-wire lines, the relay in its normal position connects the receiver to the 425E network. The handset and network function in the usual manner as a common battery subscriber station circuit.
- On 4-wire lines, the relay operates and disconnects the receiver from the network and connects the receiver to the RR and RT leads. The transmitter and network function in the usual manner as a common battery transmitter circuit. The receiver leads are externally switched to impedance-matching repeating coils in the associated line circuits.

4.02 The FW relay operates on a 20- to 26-volt dc range. The minimum operating current is 32 milliamperes. Since the relay cover is hermetically sealed, relay operation cannot be observed and the contacts cannot be adjusted. Test the relay by making an operation test on both 2-wire and 4-wire lines by

listening to the receiver or using a test set. Circuit requirements for the relay are covered in SD-69423-01 and SD-69425-01. If the relay is defective, replace the telephone set.

TABLE A
PICKUP-SIGNAL KEY CONVERSION*

| Convertible-Key Options | Key Leads | | |
|-------------------------|-----------|------|-------|
| | BR | S-BR | BK-BR |
| HPPPPP | M | M | X |
| HPPPPS | M | M | SG |
| HPPSSS | M | SG | X |
| HPSSSS | X | SG | X |

* All convertible key positions are arranged in the shop as pickup positions. To convert a key position from pickup (locking) to signal (nonlocking), remove the screw detail (P-12A892) and store the removed screw (or screws) in notches furnished on the edge of the 589H key in the set for this purpose. Make the necessary connection changes. To convert a key position from nonlocking to locking, reverse the above procedure. When using convertible keys for signaling, use S lead of key involved for signal circuit and G lead for common signal ground.

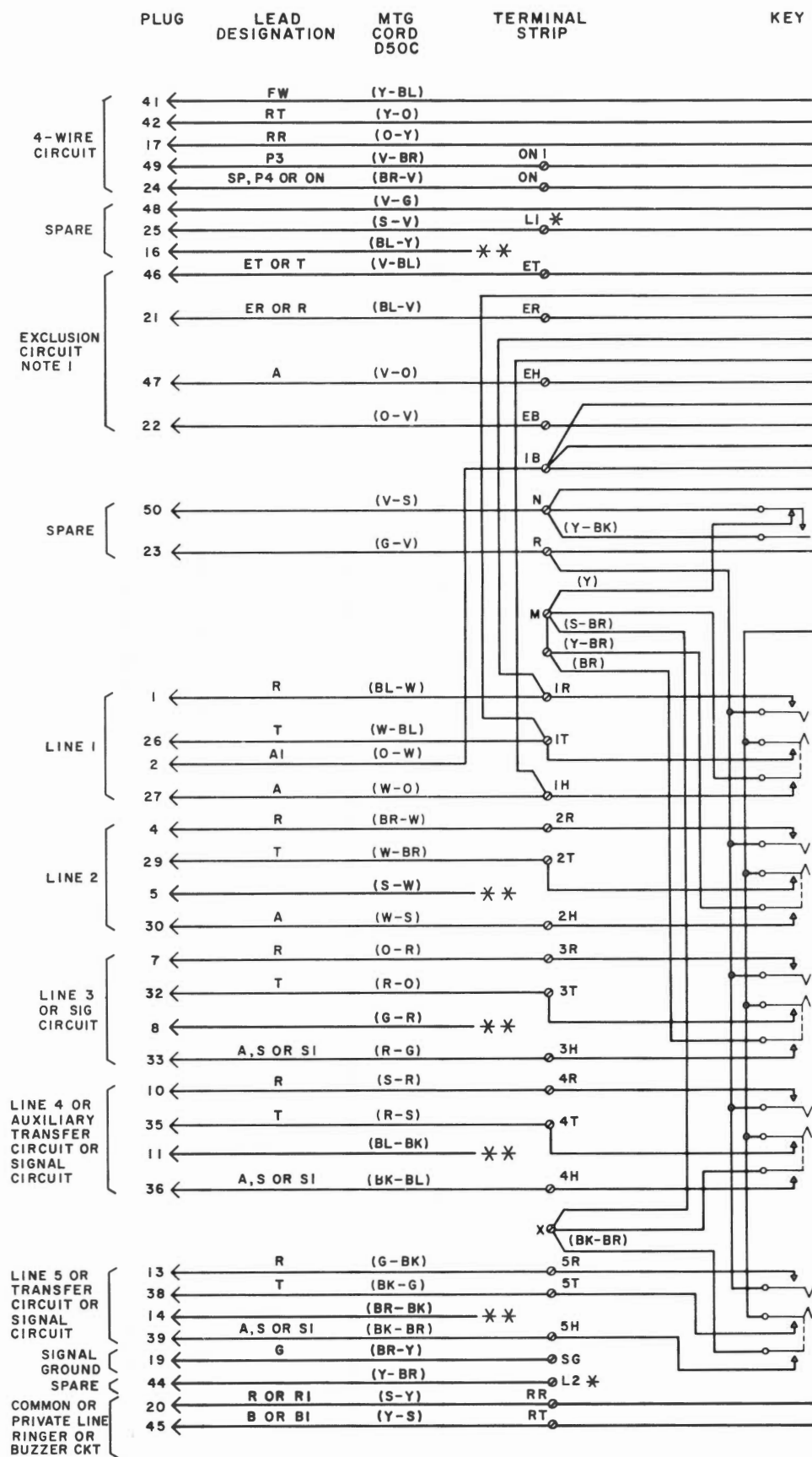
TABLE B
RINGER OR BUZZER CONNECTIONS

| Option | | Ringer or Buzzer Lead | | | |
|--|-------------------|-----------------------|----|----|----|
| | | SL-R | SL | BK | R |
| When used as bridged ringer on any one line* | | A | K | RT | RR |
| When used as private line, common sig, or other use† | With capacitor | A | K | | |
| | Without capacitor | A | A | | |
| Set ringer not used‡ | | A | K | | |

* Connect cable pair associated with the ringer leads to the desired 2-wire line.

† Connect ringer without capacitor on all common, private, or intercommunicating lines, unless otherwise specified.

‡ Do not terminate associated cable pair at distribution terminal when ringer is not used.

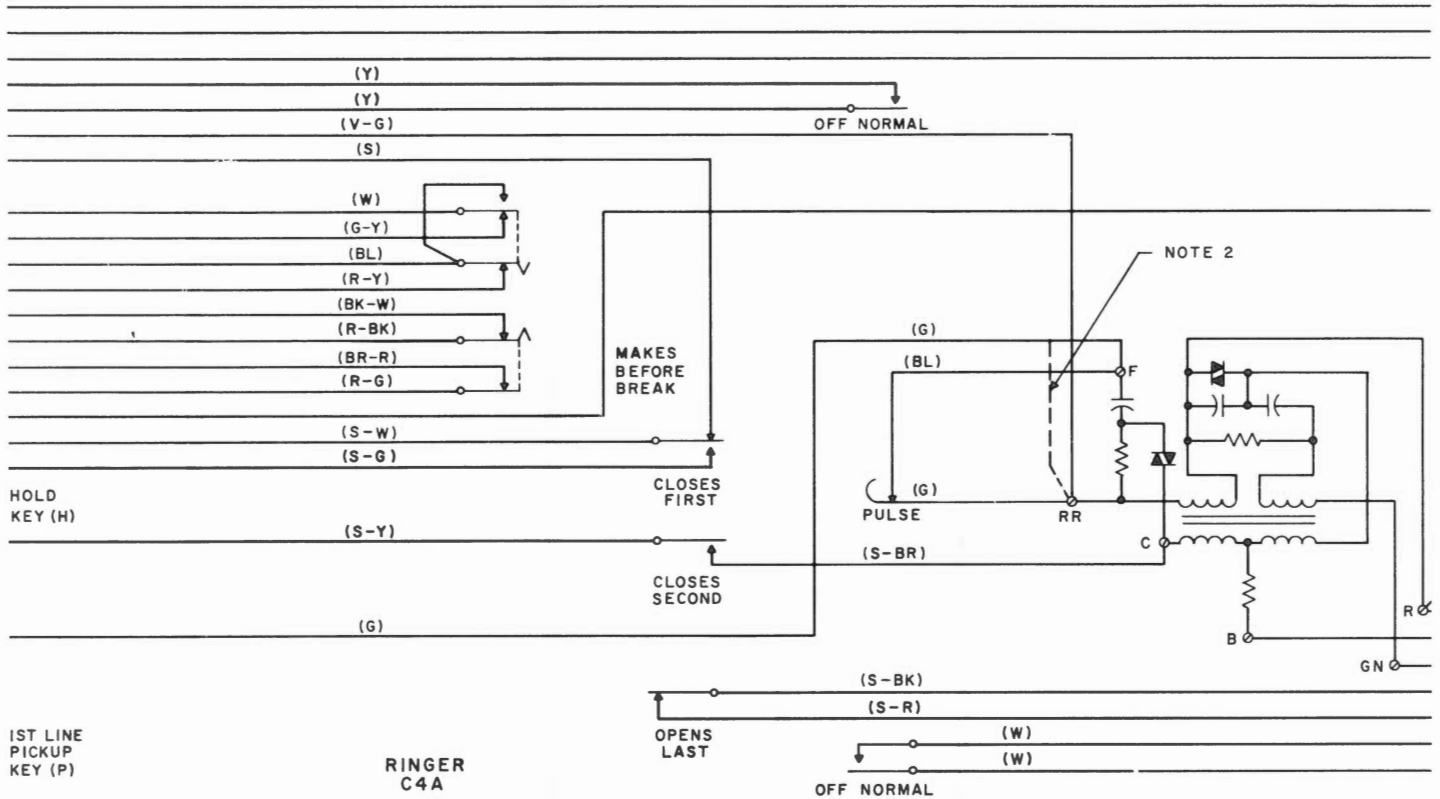


EXCLUSION
KEY

SWITCH
ASSEMBLY

DIAL
7H OR 7G

NETWORK
425E



1ST LINE
PICKUP
KEY (P)

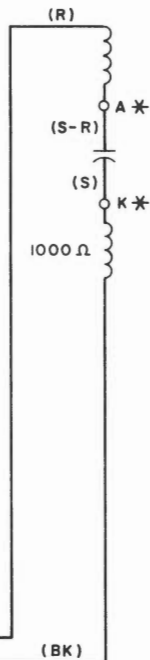
RINGER
C4A

2ND LINE
PICKUP
KEY (P)

3RD LINE
PICKUP OR
SIGNAL KEY
(CONVERTIBLE)
(PS)

4TH LINE
PICKUP OR
SIGNAL KEY
(CONVERTIBLE)
(PS)

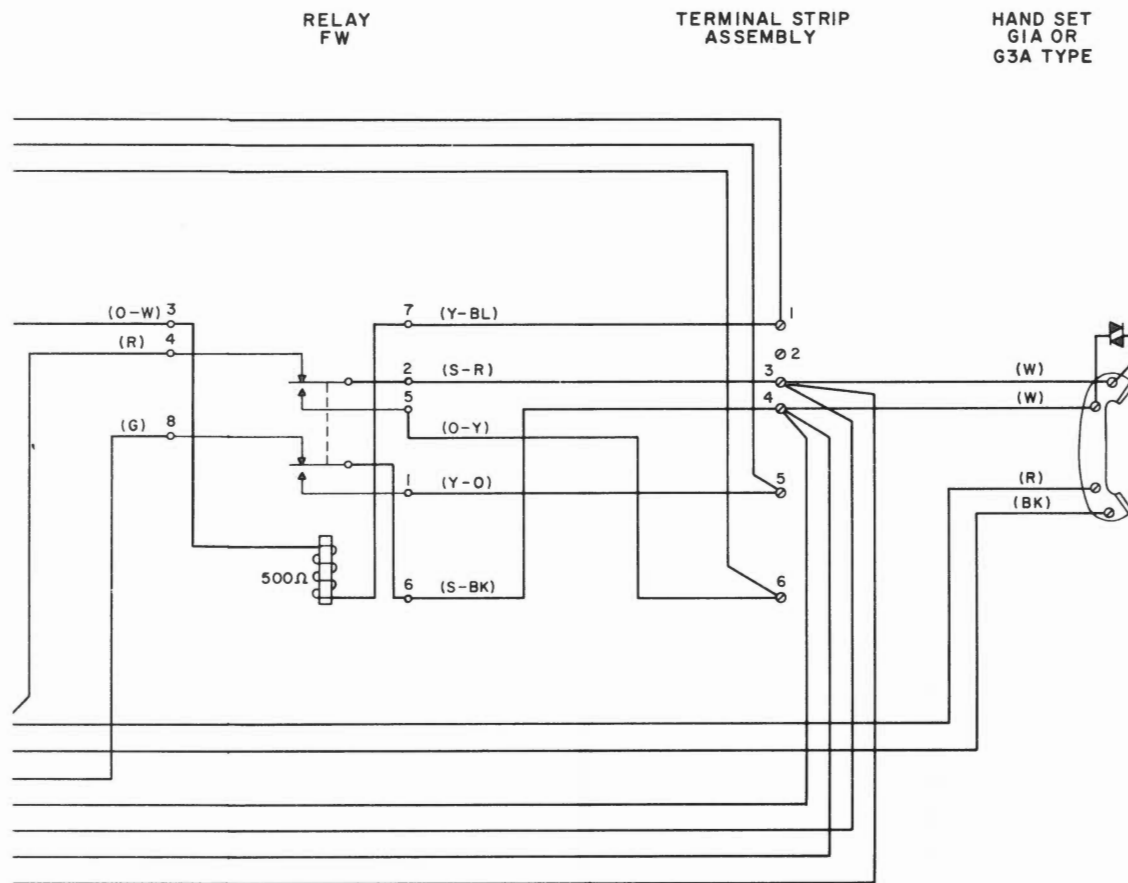
5TH LINE
PICKUP OR
SIGNAL KEY
(CONVERTIBLE)
(PS)



| PLUG | MTG CORD D50C | LAMP STRIP |
|------|------------------|------------|
| 3 ← | (G-W) | 1L |
| 28 ← | (W-G) | 1LG |
| 6 ← | (BL-R) | 2L |
| 31 ← | (R-BL) | 2LG |
| 9 ← | (BR-R) | 3L |
| 34 ← | (R-BR) | 3LG |
| 12 ← | (O-BK) | 4L |
| 37 ← | (BK-O) | 4LG |
| 15 ← | (S-BK) | 5L |
| 40 ← | (BK-S) | 5LG |
| 18 ← | (G-Y) | HL |
| 43 ← | (Y-G) | HLG |

* TERMINALS ON NETWORK.

** LEADS ARE INDIVIDUALLY TAPED
AND STORED UNDER TERMINAL STRIP.



NOTE 1: WHEN EXCLUSION IS PROVIDED ON A 4-WIRE LINE, DISCONNECT TAPE, AND STORE THE R-Y, G-Y, AND BR-W EXCLUSION KEY LEADS. CONNECT ET AND ER LEADS FROM SET TO EXTERNAL PICKUP RELAY ASSOCIATED WITH CONTROL STATION. WHEN EXCLUSION IS PROVIDED ON A 2-WIRE LINE, CONNECT THE R-Y, G-Y, AND BK-W EXCLUSION KEY LEADS TO R, T, AND H TERMINALS OF LINE INVOLVED. (SET IS FURNISHED WITH EXCLUSION KEY LEADS WIRED TO EXCLUDE LINE 1.)

NOTE 2: FOR MANUAL SERVICE, REPLACE DIAL WITH APPARATUS BLANK AND TRANSFER GREEN KEY LEAD FROM F TERMINAL TO RR TERMINAL ON NETWORK.

Fig. 1 - 568HB Key Telephone Set

5.00 22A (PUSHBUTTON-TYPE) DIAL

5.01 A pushbutton-type dial is provided in the 568HT set (Fig. 3) to operate the associated central office equipment. This dial includes a transistor oscillator capable of generating two frequencies simultaneously. The oscillator is powered by line current from the common battery source.

5.02 With no buttons depressed, the tip side of the 2-wire line (or the transmitting tip of a 4-wire line) is connected through the dial to the network, effectively introducing only a small resistance in series with the line. The ring side of the line connects directly to the network, thus providing a satisfactory transmission path from the line to the network and transmitter.

5.03 When a button is depressed, two tuned circuits are selected corresponding to the two frequencies required (see Fig. 2), and the dial circuit is closed to the ring side of the line over the C lead. The two frequencies generated by the oscillator are transmitted over the line to the central office receiving equipment which registers the corresponding digit.

5.04 The P (Priority) and SG (Special Grade) buttons may be used on 4-wire lines as a preliminary code to indicate a request for special handling of the call on a priority basis or special transmission consideration for data-type messages. The latter requires a simultaneous dc signal for the station equipment which is provided by a set of contacts operated by the SG button and results in a closure of the SP and P3 leads.

5.05 If the 22A dial is defective, replace the telephone set.

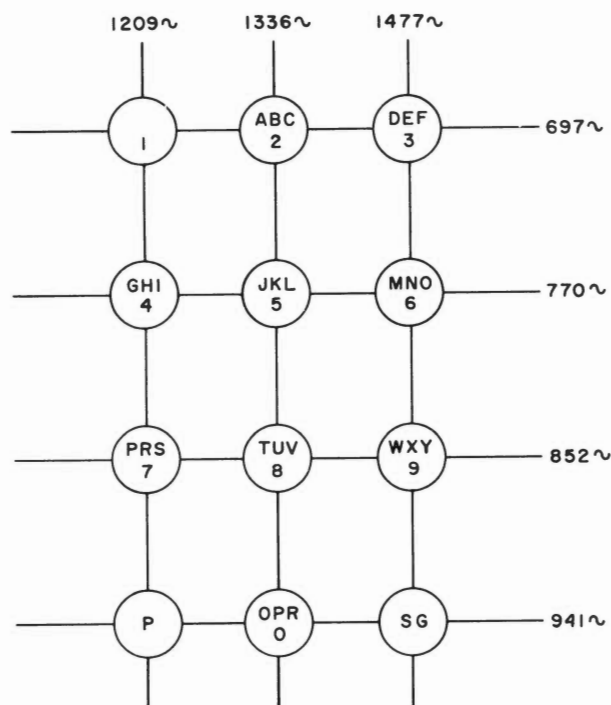
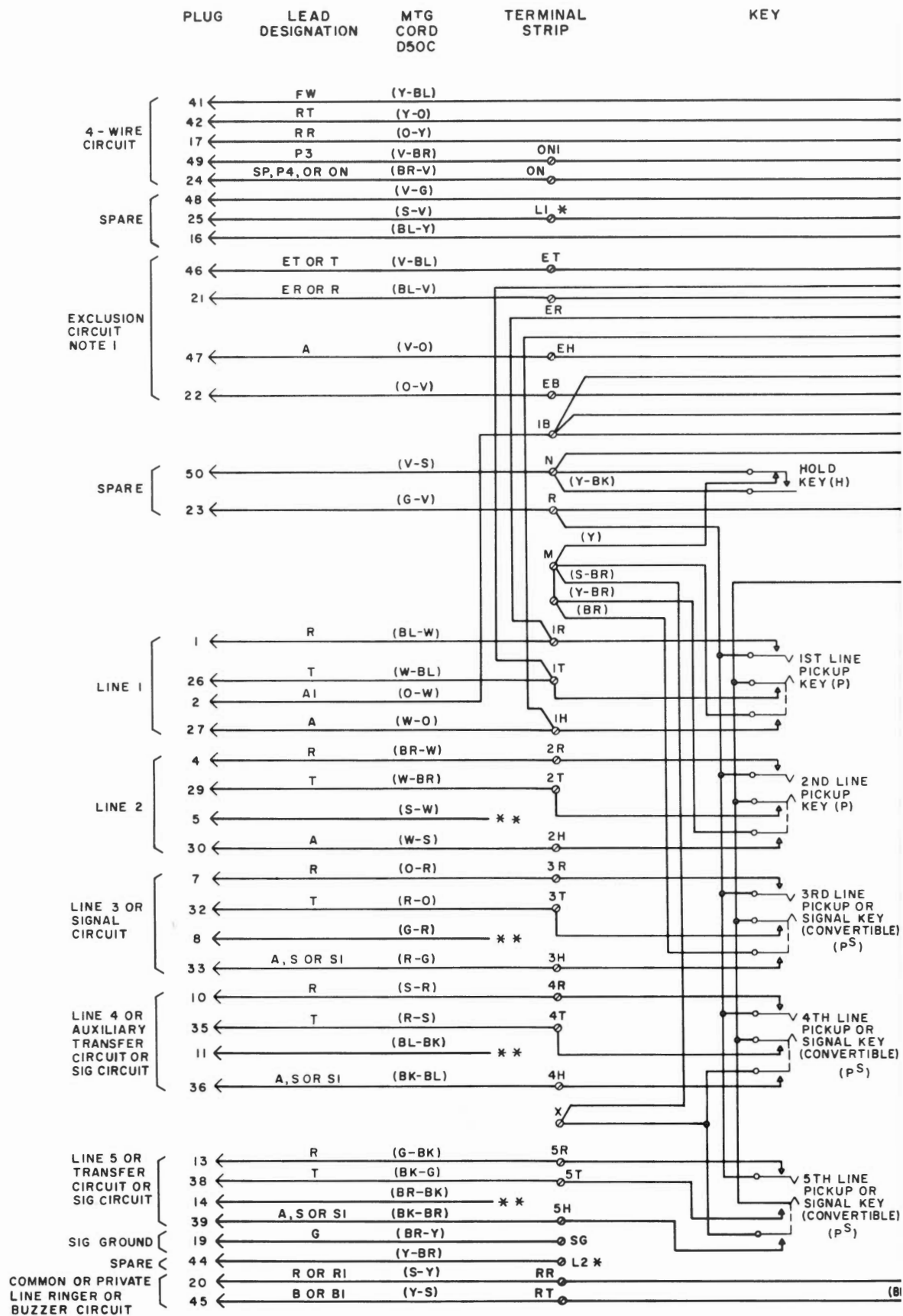


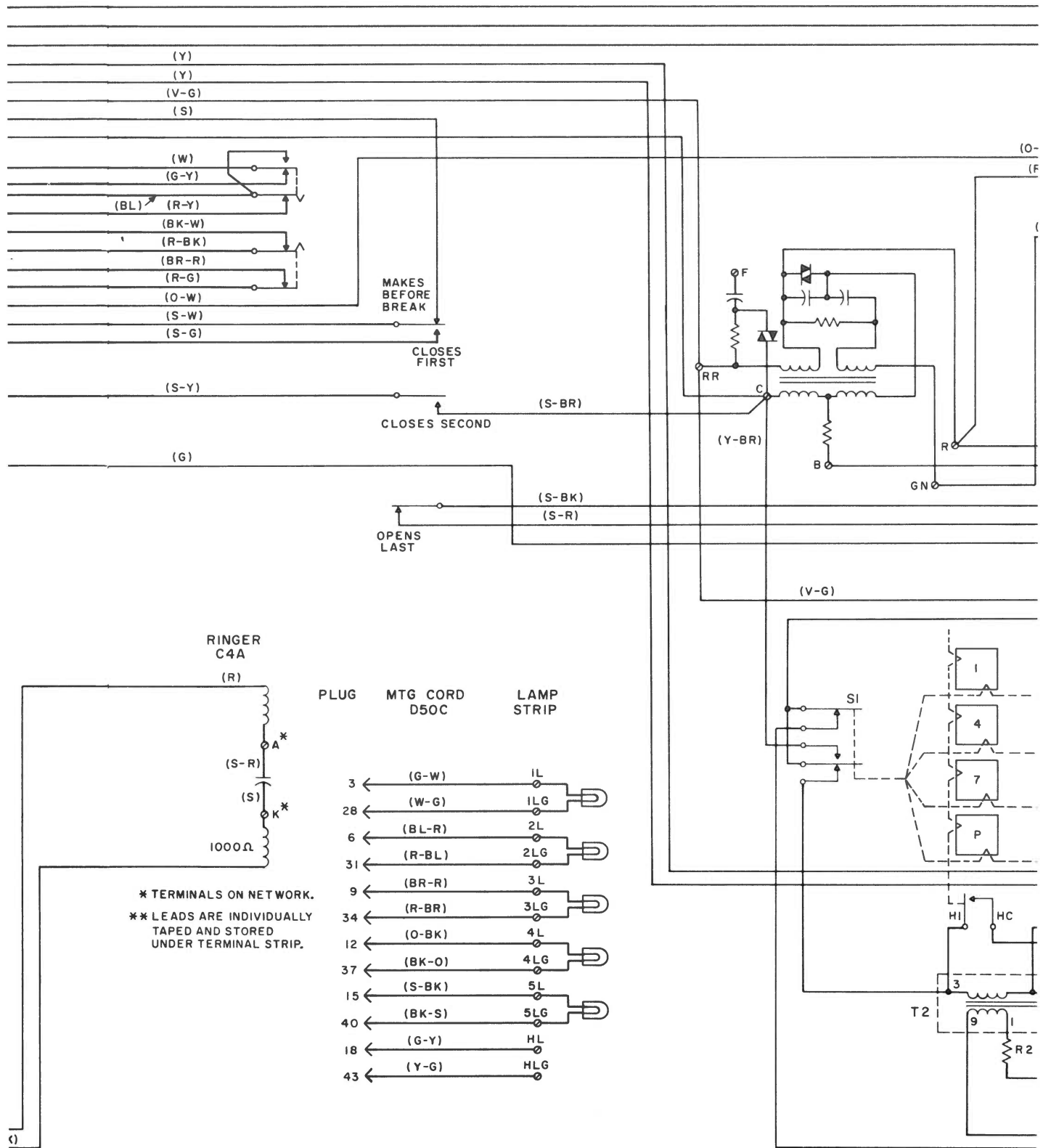
Fig. 2 - Dial Frequencies



EXCLUSION KEY

SWITCH ASSEMBLY

NETWORK 425E



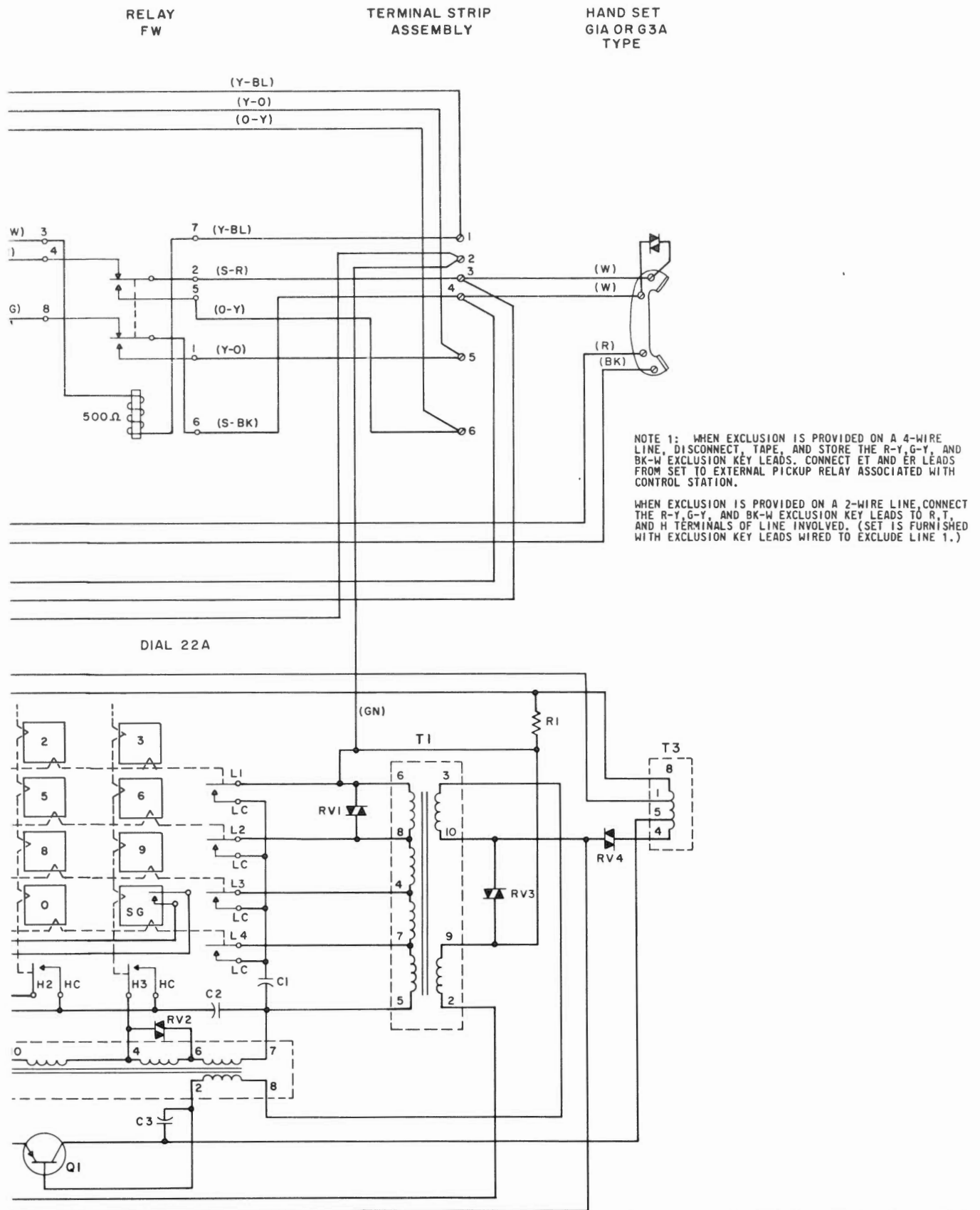


Fig. 3 - 568HT Key Telephone Set

TABLE C
D50C (MOUNTING) CORD
TERMINATION

| LEAD DESIGNATION | TERM. STRIP ON KEY ASSEM | CORD COLOR | PLUG |
|------------------|--------------------------|------------|------|
| R | 1R | BL - W | 1 |
| T | 1T | W - BL | 26 |
| A1 | 1B | O - W | 2 |
| A | 1H | W - O | 27 |
| L | 1L | G - W | 3 |
| LG | 1LG | W - G | 28 |
| R | 2R | BR - W | 4 |
| T | 2T | W - BR | 29 |
| VACANT | * | S - W | 5 |
| A | 2H | W - S | 30 |
| L | 2L | BL - R | 6 |
| LG | 2LG | R - BL | 31 |
| R | 3R | O - R | 7 |
| T | 3T | R - O | 32 |
| VACANT | * | G - R | 8 |
| A-S-S1 | 3H | R - G | 33 |
| L | 3L | BR - R | 9 |
| LG | 3LG | R - BR | 34 |
| R | 4R | S - R | 10 |
| T | 4T | R - S | 35 |
| VACANT | * | BL - BK | 11 |
| A-S-S1 | 4H | BK - BL | 36 |
| L | 4L | O - BK | 12 |
| LG | 4LG | BK - O | 37 |
| R | 5R | G - BK | 13 |
| T | 5T | BK - G | 38 |
| VACANT | * | BR - BK | 14 |
| A-S-S1 | 5H | BK - BR | 39 |
| L | 5L | S - BK | 15 |
| LG | 5LG | BK - S | 40 |
| VACANT | C † | BL - Y | 16 |
| FW | 1 | Y - BL | 41 |
| RR | 6 | O - Y | 17 |
| RT | 5 | Y - O | 42 |
| VACANT | HL | G - Y | 18 |
| VACANT | HLG | Y - G | 43 |
| G | SG | BR - Y | 19 |
| VACANT | L2 † | Y - BR | 44 |
| R-R1 | RR | S - Y | 20 |
| B-B1 | RT | Y - S | 45 |
| ER-R | ER | BL - V | 21 |
| ET-T | ET | V - BL | 46 |
| VACANT | EB | O - V | 22 |
| A | EH | V - O | 47 |
| VACANT | R | G - V | 23 |
| VACANT | RR † | V - G | 48 |
| SP-P4-ON | ON | BR - V | 24 |
| P3 | ON1 | V - BR | 49 |
| VACANT | L1 † | S - V | 25 |
| VACANT | N | V - S | 50 |

TABLE D
A25B CONNECTOR
TERMINATION

| CONNECTOR | CABLE COLOR | CABLE PAIR | LEAD DESIGNATION | TO |
|-----------|-------------|------------|------------------|--|
| 1 | BL - W | 1 | R | DISTRIBUTION TERMINAL OR APPARATUS CABINET |
| 26 | W - BL | | T | |
| 2 | O - W | 2 | A1 | |
| 27 | W - O | | A | |
| 3 | G - W | 3 | L | |
| 28 | W - G | | LG | |
| 4 | BR - W | 4 | R | |
| 29 | W - BR | | T | |
| 5 | S - W | 5 | SPARE | |
| 30 | W - S | | A | |
| 6 | BL - R | 6 | L | |
| 31 | R - BL | | LG | |
| 7 | O - R | 7 | R | |
| 32 | R - O | | T | |
| 8 | G - R | 8 | SPARE | |
| 33 | R - G | | A-S-S1 | |
| 9 | BR - R | 9 | L | |
| 34 | R - BR | | LG | |
| 10 | S - R | 10 | R | |
| 35 | R - S | | T | |
| 11 | BL - BK | 11 | SPARE | |
| 36 | BK - BL | | A-S-S1 | |
| 12 | O - BK | 12 | L | |
| 37 | BK - O | | LG | |
| 13 | G - BK | 13 | R | |
| 38 | BK - G | | T | |
| 14 | BR - BK | 14 | SPARE | |
| 39 | BK - BR | | A-S-S1 | |
| 15 | S - BK | 15 | L | |
| 40 | BK - S | | LG | |
| 16 | BL - Y | 16 | SPARE | |
| 41 | Y - BL | | FW | |
| 17 | O - Y | 17 | RR | |
| 42 | Y - O | | RT | |
| 18 | G - Y | 18 | SPARE | |
| 43 | Y - G | | SPARE | |
| 19 | BR - Y | 19 | G | |
| 44 | Y - BR | | SPARE | |
| 20 | S - Y | 20 | R-R1 | |
| 45 | Y - S | | B-B1 | |
| 21 | BL - V | 21 | ER-R | |
| 46 | V - BL | | ET-T | |
| 22 | O - V | 22 | SPARE | |
| 47 | V - O | | A | |
| 23 | G - V | 23 | SPARE | |
| 48 | V - G | | SPARE | |
| 24 | BR - V | 24 | SP-P4-ON | |
| 49 | V - BR | | P3 | |
| 25 | S - V | 25 | SPARE | |
| 50 | V - S | | SPARE | |

* LEADS INDIVIDUALLY TAPED AND STORED UNDER TERMINAL STRIP.
† TERMINAL ON NETWORK.
‡ TAPED AND STORED IN 568HB TELEPHONE SET.