

## REFERENCE

**500AD, ADM, E/F, FM, H, L/M, MM, P, R/S, SM, U, W/Y**

**YM, 501F, P, U, 514B, BM, AND 516B TELEPHONE SETS**

## IDENTIFICATION, INSTALLATION, MAINTENANCE, AND CONNECTIONS

### 1. GENERAL

**1.01** This section contains information for special purpose telephone sets.

**1.02** The reasons for reissuing this section are listed below. Revision arrows are used to emphasize the more significant changes.

- Revise Fig. 27 and 29
- Replace KS-19527L1 neon lamp with KS-19527L2 neon lamp for 500YM-type telephone set.
- Add 6A and 6B key telephone systems.

### 2. IDENTIFICATION

#### A. Purpose

**2.01** The 500- and 501-type telephone sets are single line sets.

#### B. Ordering Guide

**2.02** All parts of the set enclosed by the housing mount on a metal base. The network and line switch are riveted to the base and are not replaceable.

**2.03** Tables A and B list components of these sets.

**2.04** The D4BU mounting cord and H4DU handset cord must be ordered separately.

**2.05** These sets are available in standard colors as indicated in Table C. Components available in color include the dial or apparatus blank, handset, mounting cord, and housing. Components other than

the housing must have the code completed by adding the desired color suffix (Table C). For ordering information on caps and lamp caps, refer to Table D.

#### C. Design Features

**2.06** The 501-type telephone sets are identical to a similarly coded 500-type set except for the addition of a 3-element, cold-cathode, gas-filled tube, coded 426A. ♦The 501-type telephone sets are replaced by the 500FM with the 426A tube added.♦

##### (a) **500E/F(MD), 501F(MD), and 500FM:**

- (1) Equipped with plunger switch (Fig. 5) to avoid interference with dialing or talking of another customer on a party line.
- (2) With set off-hook, only the receiver is bridged on the line as a monitor until the plunger switch is lifted to connect the talking and dialing circuits.

##### (b) **500L/M(MD) and 500MM:**

- Supplied wired for 1A1, 1A2, ♦6A, and 6B♦ key telephone system. Can be wired for separate ringer circuit.
- Earlier sets which were converted for key telephone system use will have an asterisk (\*) stamped on the base after the code number.
- The 500L/M is equipped with 4-conductor mounting cord.
- The 500MM requires a H4DU handset cord and a D4BU, D6AM, or D6AP mounting cord which must be ordered separately.
- Current model sets are not equipped with a terminal strip (Fig. 6).

### NOTICE

Not for use or disclosure outside the  
Bell System except under written agreement

♦ TABLE A ♦

## TELEPHONE SET COMPONENT PARTS

| TEL SET | CODE | DIAL† | APP<br>BLANK‡ | RINGER§ | TUBE | HAND-<br>SET | HAND-<br>SET<br>CORD¶ | MTG<br>CORD¶       | HOUSING<br>ASSY           |
|---------|------|-------|---------------|---------|------|--------------|-----------------------|--------------------|---------------------------|
| 500     | AD*  | 9H    | —             | N1A     | —    | G3           | H4CJ                  | D20K               | Refer<br>to<br>Table<br>B |
|         | ADM  | 9HA   | —             | T1A     | —    | G15A         | H4DU                  | D20K               |                           |
|         | E*   | —     | 95C           | C4A     | —    | G3           | H4CJ                  | D3BN               |                           |
|         | F*   | 9CA   | —             | C4A     | —    | G3           | H4CJ                  | D3BN               |                           |
|         | FM   | 9CA   | —             | C4A     | —    | G15A         | H4DU                  | D4BU               |                           |
|         | H*   | 9CA   | —             | C4A     | —    | G3           | H4CJ                  | D4BJ               |                           |
|         | L*   | —     | 95C           | C4B     | —    | G3           | H4CJ                  | D4BJ               |                           |
|         | M*   | 9CA   | —             | C4B     | —    | G3           | H4CJ                  | D4BJ               |                           |
|         | MM   | 9CA   | —             | C4B     | —    | G15A         | H4DU                  | D4BU**             |                           |
|         | P*   | 9CA   | —             | C4A     | —    | G3           | H4CJ                  | D4BJ               |                           |
|         | U*   | 9CA   | —             | C4A     | —    | G3           | H4CJ                  | D4BJ               |                           |
|         | R*   | —     | 95C           | C4B     | —    | G3           | H4CJ                  | D4BJ               |                           |
|         | S*   | 9H    | —             | C4B     | —    | G3           | H4CJ                  | D4BJ               |                           |
|         | SM   | 9HA   | —             | C4B     | —    | G15          | H4DU                  | D4BU               |                           |
|         | W*   | —     | 95C           | C4B     | —    | G3           | H4CJ                  | D4BJ               |                           |
|         | Y*   | 9CA   | —             | C4B     | —    | G3           | H4CJ                  | D3BN               |                           |
|         | YM   | 9CA   | —             | C4B     | —    | G15A         | H4DU                  | D4BU               |                           |
| 501††   | F*   | 9CA   | —             | C4A     | 426A | G3           | H4CJ                  | D3BN               |                           |
|         | P*   | 9CA   | —             | C4A     | 426A | G3           | H4CJ                  | D4BJ               |                           |
|         | U*   | 9CA   | —             | C4A     | 426A | G3           | H4CJ                  | D4BJ               |                           |
| 514     | B*   | 9CA   | —             | N1A     | —    | G3           | H4CJ                  | D10P               |                           |
|         | BM   | 9CA   | —             | N1A     | —    | G15A         | H4DU                  | D6AM<br>or<br>D6AP |                           |
| 516     | B*   | 9CA   | —             | C4B     | —    | G3           | H4CJ                  | D6AA               |                           |

\* MD.

† 9CA replaces 7B, 7H, or 9C dial.

‡ 95C replaces 95A, or 95B apparatus blank.

§ C4A replaces C2A, C3A, or C4 ringers

¶ D4BU mounting cord and H4DU handset cord must be ordered separately.

\*\* Use D6AM-87 or D6AP-87 if used with common audible ringing.

†† Modular set replacement is 500FM with 426A gas tube added.

(c) **500H(MD), P(MD), and 501P(MD):**

- (1) Includes GE46 dial lamp which lights when the handset is lifted.
- (2) A 6-8 volt ac or dc power source must be provided.

(d) **500U(MD) and 501U(MD):**

- Equipped with 584C key, a GE46 lamp, and a

resistor to provide dial-light/night-light feature. When key is in ON position, lamp operates at reduced brilliance for night light.

- When handset is lifted off-hook, lamp lights at full brilliance.
- A 6-8 volt ac or dc power source must be provided.

(e) **500R/S(MD) and 500SM: Factory-wired**



Fig. 1—500FM, MM, or SM Telephone Set



Fig. 3—500W/Y (MD) Telephone Set

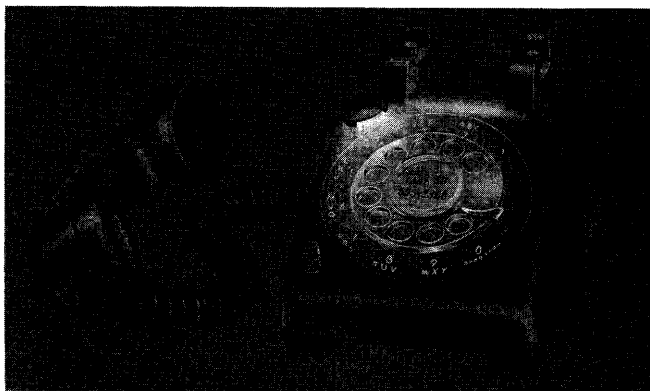


Fig. 2—500U (MD) or 501U (MD) Telephone Set

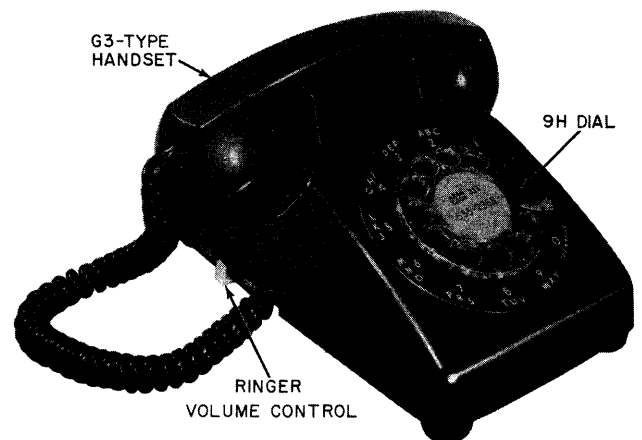


Fig. 4—500AD (MD) Telephone Set

for speakerphone.

(f) **500W(MD), 500Y(MD), and 500YM:**

Equipped with a neon lamp to provide message waiting service. ♦The 500W (MD) and the 500Y (MD) use the KS-19527L1 lamp, and the 500YM uses the KS-19527L2 lamp.♦

(g) **500AD(MD) and 500ADM:**

- Factory-wired for use with 4-wire private line circuits and 3-type (MD) or ♦4A♦ speakerphone.

- Can be modified for use on 2-wire line such as individual lines or 1A1, 1A2, ♦6A, and 6B♦ key telephone system.

- Individual or common line ringer.

- Expanded line switch with spare transfer and two spare make contacts.

(h) **514B(MD) and 514BM:** Equipped with headset jacks, a 637A key for handset ON-



Fig. 5—500F (MD) or 501F (MD) Telephone Set, Plunger Switch

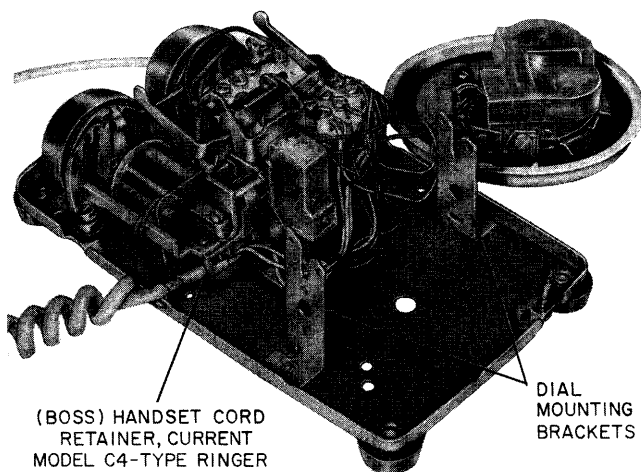


Fig. 6—500L/M (MD) Telephone Set, Interior View

OFF function (TURN) and flash function (PUSH) for operator recall.

(i) Current models have ringer volume control protruding through base pan. In early models control protrudes on side (Fig. 4).

(j) **Kits of Parts (Optional):** The 514-type telephone set may be equipped with a filament type lamp that requires a D-179968 or D-179969 Kit of Parts. When required, install kits as follows.

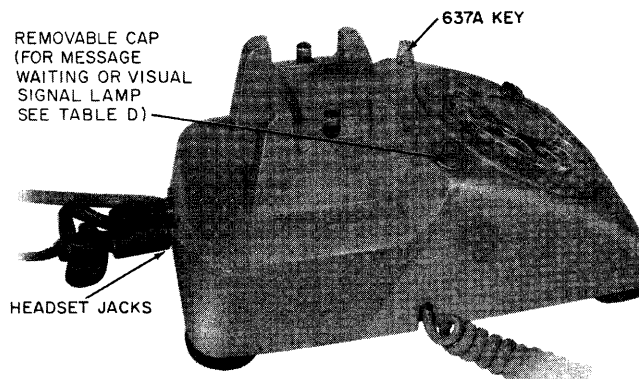
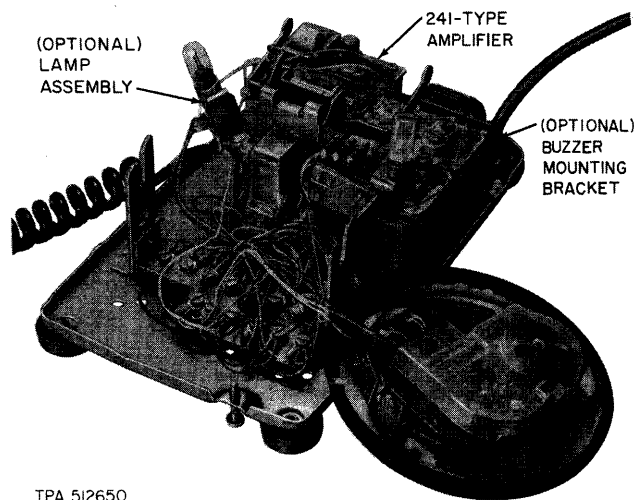


Fig. 7—514B Telephone Set



TPA 512650

Fig. 8—514B (MD) Telephone Set, Interior View

- (1) Remove housing from set.
- (2) Remove cap (Fig. 12) from housing by removing screw and clamp located inside housing assembly, discard cap.
- (3) Install bracket at location shown in (Fig. 8) and attach 812753895 (P-27E389) (bayonet base) or 811312644 (P-13A264) (screw base) lamp socket assembly to bracket arm.

- (4) Install KS-19527L1 lamp (ordered separately) in bayonet type socket and appropriate lamp for power supply used when screw type socket is installed.
- (5) Make necessary connections in accordance with appropriate connection section.
- (6) Install 811151000 (P-11E100) lamp cap assembly on housing of set.

(k) **516B(MD):**

- (1) Equipped with turnkey which activates an external make-busy circuit and illuminating a lamp on the set as an indication of key operation.
- (2) Initial use with 802A hotel/motel PBX system.

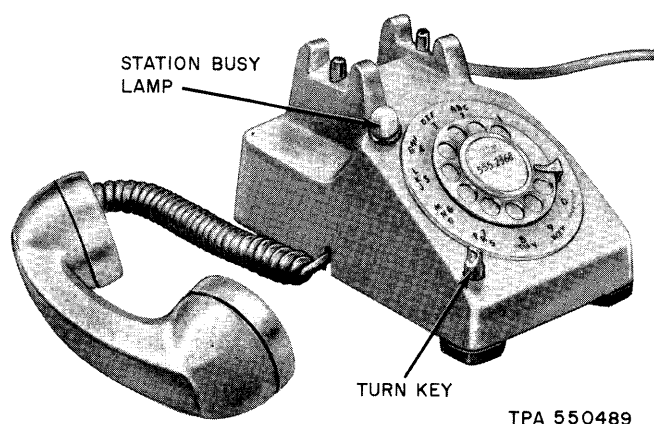


Fig. 9—516B (MD) Telephone Set

- (l) **814454203 (P-44E420) Jack and Component Assembly** (includes 241A amplifier, and N1A ringer).

- (m) **SIB-2416 Subscriber Instruction Booklet (shipped loose).**

### 3. INSTALLATION

- 3.01** Refer to Section 502-500-110 for installation information on housings, mounting cords, apparatus blanks, and buzzers.

(a) **Ringer:**

- (1) Mounted to base with two 814314503 (P-43A456) washerhead mounting screws in rubber grommets.
- (2) Ringer off position can be provided, when authorized locally, by bending back ringer stop spring to provide a fifth position (OFF) on the ringer volume control. Refer to Section 501-250-303 for detailed information.

**Note:** Current model C4-type ringers are equipped with a handset cord retainer (boss) (Fig. 6) for use with nonmodular 500- and 501-type telephone sets.

- (b) **Handsets:** The G3- or G15-type handsets normally used with these sets may be replaced by a G6-type for impaired hearing, a G7-type for weak speech, or a G8-type for noisy locations. Refer to Section 501-211-102 for additional information.

- (c) **TOUCH-TONE® Dialing:** A 1035-type dial may be connected to rotary type sets to provide for manual TOUCH-TONE dialing. Refer to Section 501-164-130 for additional information.

- (d) **Adjunct Repertory Dial:** An 870A1- (rotary service) or an 28701A- (TOUCH-TONE service) type adjunct dial may be connected to rotary type sets to provide automatic dialing of 31 recorded numbers. Refer to Section 501-164-201 for additional information.

- 3.02** ♦Refer to Section 501-320-100 for installation information on the 425A and 426A electron tube.♦

### 4. MAINTENANCE

- 4.01** Refer to Section 502-500-110 for maintenance information on plungers, bracket switch assemblies, and switch contacts.

- 4.02** Current models of the 500L/M, MM, R, S, SM, W, Y, and YM are equipped with a C4B (two lead) ringer. If a C4B ringer is replaced by a C4A (four lead) ringer, connect as shown in appropriate table.

(a) **Tube Assembly:**

- (1) Where excessive power induction exists, a 425A, 4-element tube may be substituted

for 426A. Refer to Section 500-112-100 on inductive noise for additional information.

- (2) Tube assembly is held to base of set with single screw (Fig. 11).

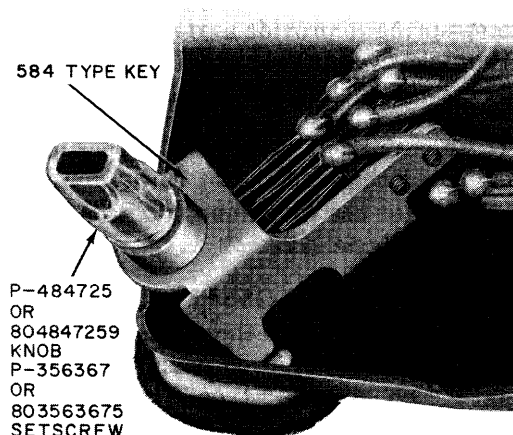


Fig. 10—Typical Turn Key

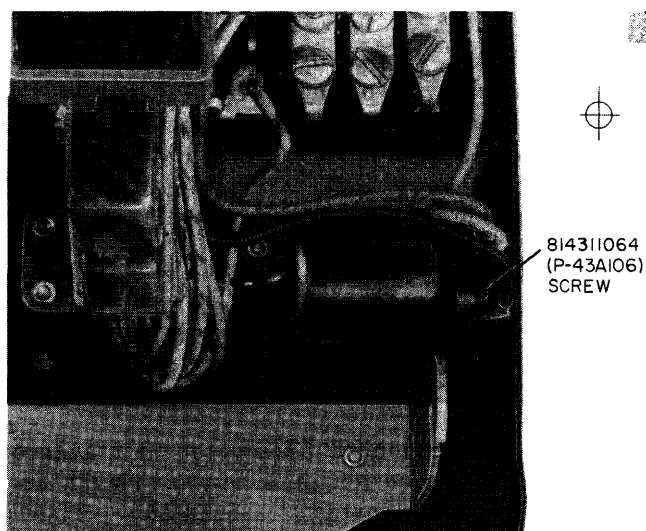


Fig. 11—501-Type Telephone Set, Tube Assembly

- (b) **Dial Light:** To remove, turn lamp cap and lamp counterclockwise (Fig. 12) and lift out.

- (c) **Lamp Cap Retainer Ring:**

- (1) The 500W,Y, YM, 514B, and BM telephone sets can be equipped with a retainer ring (Fig. 13) to prevent pilferage of the lamp cap assembly.

- (2) Install retainer ring as follows.

- (a) Remove set housing with lamp cap in place.
- (b) Press two tabs of retainer ring together.
- (c) Insert retainer ring into lamp cap so that retainer ring engaging pins fit into lamp cap slots (Fig. 14).
- (d) This prevents normal rotation and removal of the lamp cap.

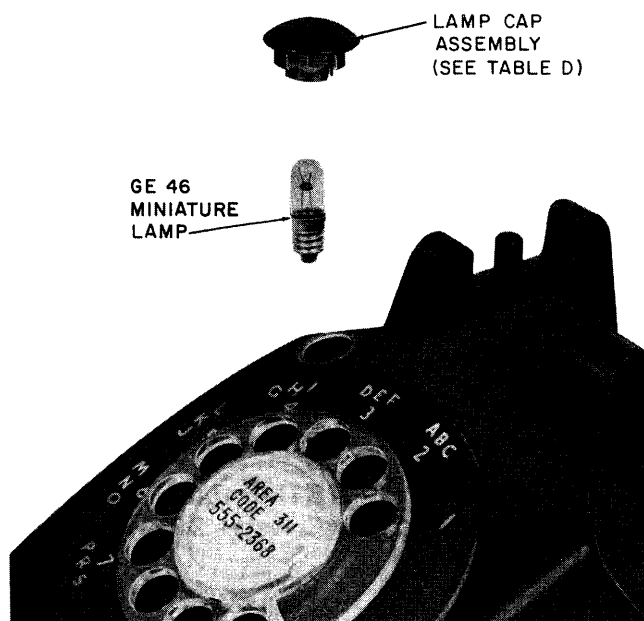


Fig. 12—500H (MD) Telephone Set, Lamp Assembly

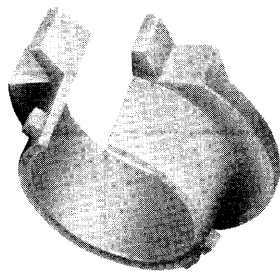


Fig. 13—811455824 (P-14E582) Retainer Ring

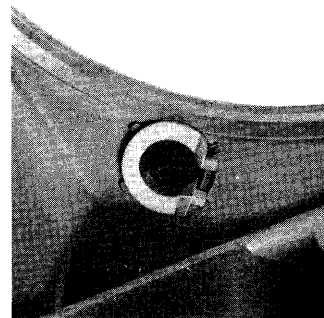


Fig. 14—Retainer Ring Mounted in Set Housing

TABLE B

HOUSING AND PLUNGER ASSEMBLY ORDERING GUIDE

| TEL SET | BASIC COMCODE (NOTE) | COLOR SUFFIX AND CHECK NUMBER (NOTE) |       |       |     |        |       |           |      |
|---------|----------------------|--------------------------------------|-------|-------|-----|--------|-------|-----------|------|
|         |                      | BLACK                                | IVORY | GREEN | RED | YELLOW | WHITE | LT. BEIGE | BLUE |
| 500ADM  | 841016----           | 751                                  | NA    | 769   | NA  | NA     | NA    | 777       | NA   |
| 500FM   | 841008----           | 006                                  | 014   | 022   | 030 | 043    | 055   | 063       | 071  |
| 500MM   | 840183----           | 032                                  | 503   | 511   | 537 | 560    | 586   | 602       | 628  |
| 500SM   | 841017---            | 353                                  | 361   | 379   | 387 | 395    | 403   | 411       | 429  |
| 500YM   | 841008----           | 501                                  | 519   | 527   | 535 | 543    | 550   | 568       | 576  |
| 514BM   | 841017----           | 056                                  | 064   | 072   | 080 | 098    | 106   | 114       | 122  |

*Note:* To complete comcode number add color suffix and check number shown.

(d) **241-Type Amplifier:** A defective 241-type amplifier will cause loss of or low output from the headset transmitter. **DO NOT ATTEMPT FIELDS REPAIRS ON THE 241-TYPE AMPLIFIER. Replace if amplifier is defective.**

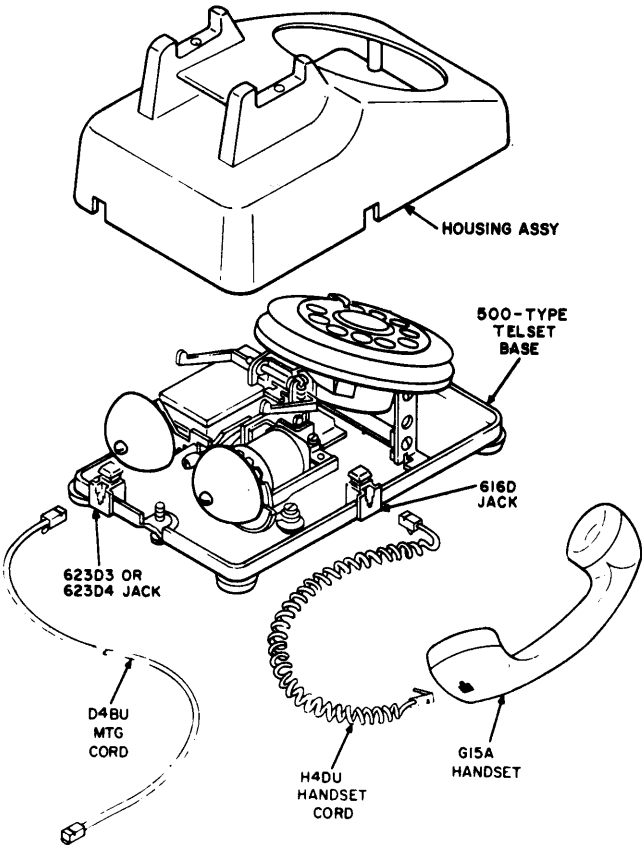


Fig. 15—500-Type (Modular) Telephone Set Assembly

TABLE C  
COLOR ORDERING GUIDE

| TELEPHONE SET, MOUNTING CORD, AND HANDSET |        |
|-------------------------------------------|--------|
| COLOR                                     | SUFFIX |
| Black                                     | —03    |
| Ivory                                     | —50    |
| Moss Green                                | —51    |
| Red                                       | —53    |
| Yellow                                    | —56    |
| White                                     | —58    |
| Lt. Beige                                 | —60    |
| Aqua Blue                                 | —62    |

**TABLE D**  
**LAMP CAP AND CAP ORDERING GUIDE FOR 500H (MD), 514B (MD), AND 514BM**  
**TELEPHONE SETS**

| COLOR      | LAMP CAP (500H, FIG. 12) |           | CAP (514B AND BM, FIG. 7) |           |
|------------|--------------------------|-----------|---------------------------|-----------|
|            | P-NUMBER                 | COMCODE   | P-NUMBER                  | COMCODE   |
| Black      | P-80F903                 | 818069031 | P-87C603                  | 818736035 |
| Ivory      | P-80F950                 | 818069502 | P-87C650                  | 818736506 |
| Moss Green | P-80F951                 | 818069510 | P-87C651                  | 818736514 |
| Red        | P-80F953                 | 818069536 | P-87C653                  | 818736530 |
| Yellow     | P-80F956                 | 818069569 | P-87C656                  | 818736563 |
| White      | P-80F958                 | 818069585 | P-87C658                  | 818736589 |
| Lt. Beige  | P-80F960                 | 818069601 | P-87C660                  | 818736605 |
| Aqua Blue  | P-80F962                 | 818069627 | P-87C662                  | 818736621 |

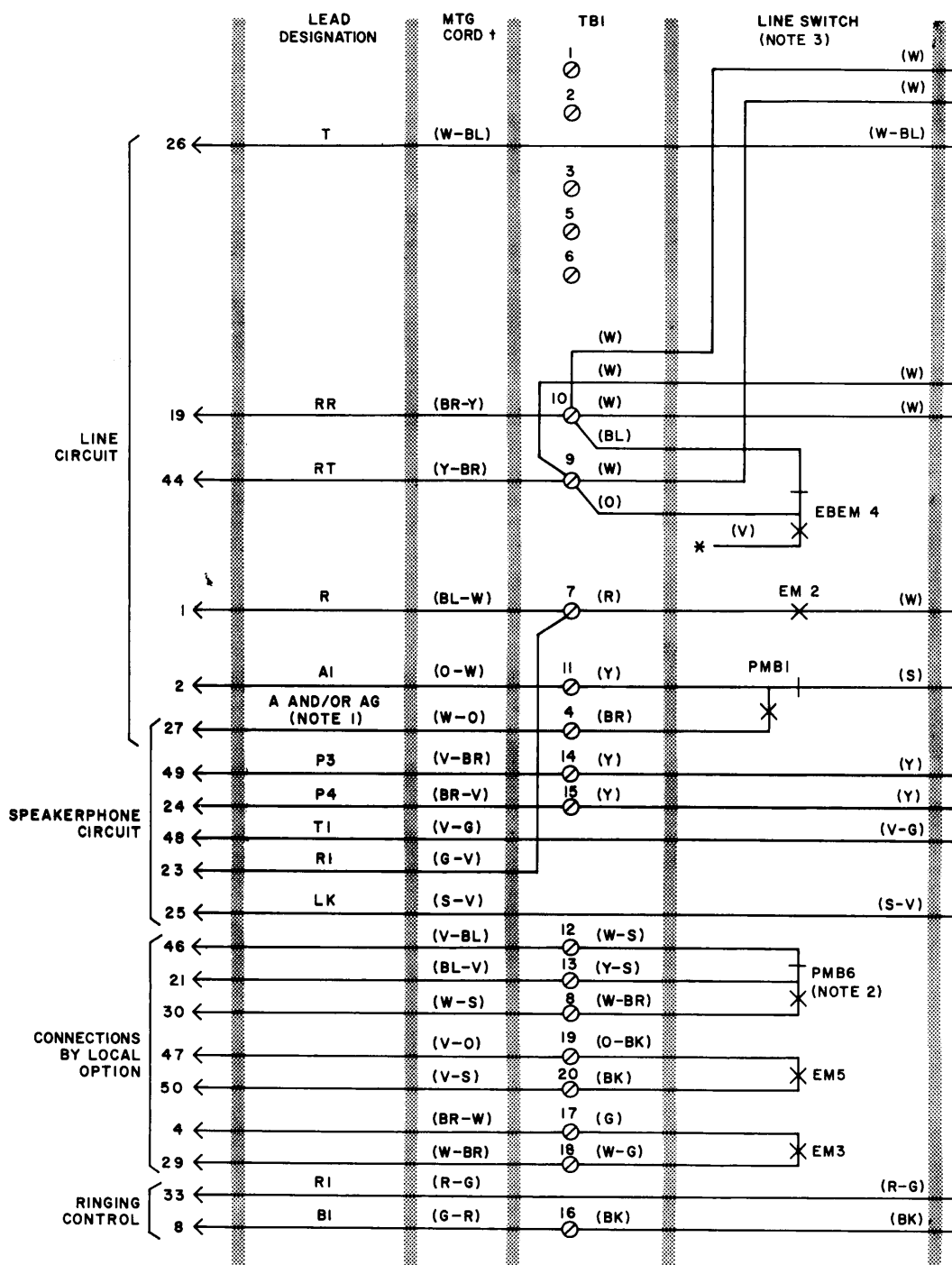


Fig. 16—500AD (MD) and ADM Telephone Set, Connections (Sheet 1 of 2)

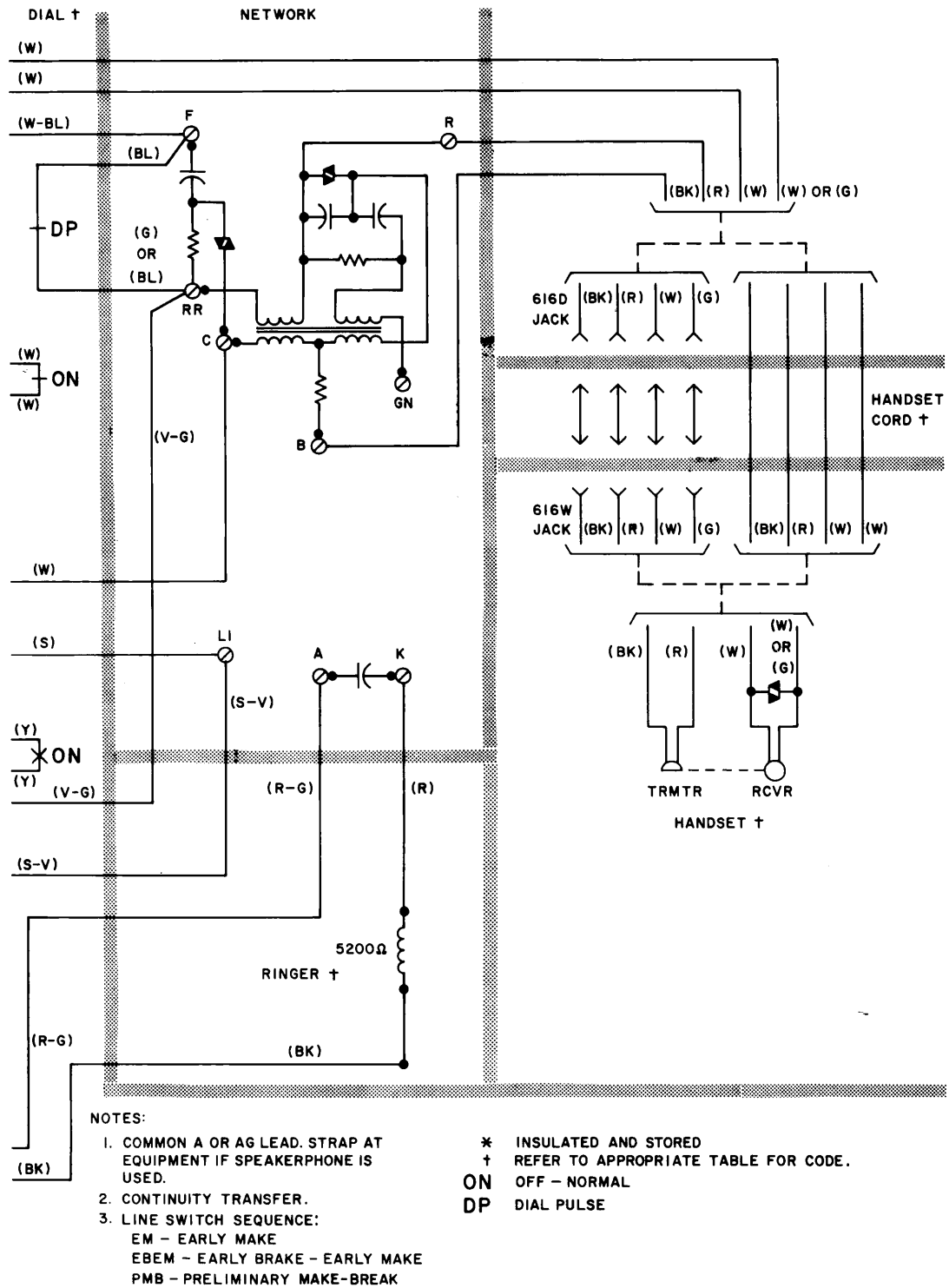


Fig. 16—500AD (MD) and ADM Telephone Set, Connections (Sheet 2 of 2)

TABLE E

**LINE AND RINGER CONNECTIONS FOR 500E/F (MD)  
AND 501F (MD) TELEPHONE SETS (NOTE 1)**

| TEL SET          | WIRE OR LEAD            |                    | COLOR               | INDIV OR BRIDGED   | RING PARTY        | TIP PARTY NO IDENT GRD | TIP PARTY IDENT GROUND |                  |                                              |                  | NEGATIVE(-) PARTIES* |               | POSITIVE(+) PARTIES* |                  |
|------------------|-------------------------|--------------------|---------------------|--------------------|-------------------|------------------------|------------------------|------------------|----------------------------------------------|------------------|----------------------|---------------|----------------------|------------------|
|                  |                         |                    |                     |                    |                   |                        | NORMAL CONNECTIONS     |                  | RINGER REV. WHEN CONN TO L.L. EQUIP (NOTE 2) |                  | RING (1-5)           | TIP (2-6)     | RING (3-7)           | TIP (4-8)        |
|                  |                         |                    |                     |                    |                   |                        | 1000Ω                  | 2650Ω            | 1000Ω                                        | 2650Ω            |                      |               |                      |                  |
| 500 E/F<br>501 F | Line Wire at Conn Block | Ring Tip Grd Spare | R<br>G<br>Y<br>BK   | R<br>G<br>Y<br>B   | R<br>G<br>Y<br>B  | R<br>G<br>Y<br>B       | R<br>G<br>Y<br>B       | R<br>G<br>Y<br>B | R<br>G<br>Y<br>B                             | R<br>G<br>Y<br>B | R<br>G<br>Y<br>B     | R<br>G<br>Y   | R<br>G<br>Y          | R<br>G<br>Y<br>B |
|                  | Mtg Cord at Conn Block  |                    | R<br>G<br>Y         | R<br>G<br>G        | R<br>G<br>Y       | G<br>R<br>Y            | G<br>R<br>Y            | G<br>R<br>Y      | G<br>R<br>Y                                  | G<br>R<br>Y      | R<br>G<br>Y          | G<br>R<br>Y   | R<br>G<br>Y          | G<br>R<br>Y      |
|                  | Mtg Cord in Set         |                    | R<br>G<br>Y         | L2<br>L1<br>G      | L2<br>L1<br>G     | L2<br>L1<br>G          | L2<br>L1<br>G          | L2<br>L1<br>G    | L2<br>L1<br>G                                | L2<br>L1<br>G    | L2<br>L1<br>G        | L2<br>L1<br>G | L2<br>L1<br>G        | L2<br>L1<br>G    |
| 500 E/F          | Line Switch Lead        |                    | Y                   | L2                 | L2                | L2                     | A                      | A                | A                                            | A                | L2                   | L2            | L2                   | L2               |
|                  | C4A Ringer Leads        |                    | R<br>BK<br>S<br>S-R | L2<br>L1<br>K<br>A | L2<br>G<br>K<br>A | L2<br>G<br>K<br>A      | K<br>G<br>B<br>B       | B<br>B<br>K<br>G | B<br>B<br>G<br>K                             | G<br>K<br>B<br>B |                      |               |                      |                  |
| 501 F            | 426A Tube (Note 4)      |                    | R<br>BK<br>Y        |                    |                   |                        |                        |                  |                                              |                  | G<br>K<br>L2         | G<br>K<br>L2  | L2<br>K<br>G         | L2<br>K<br>G     |

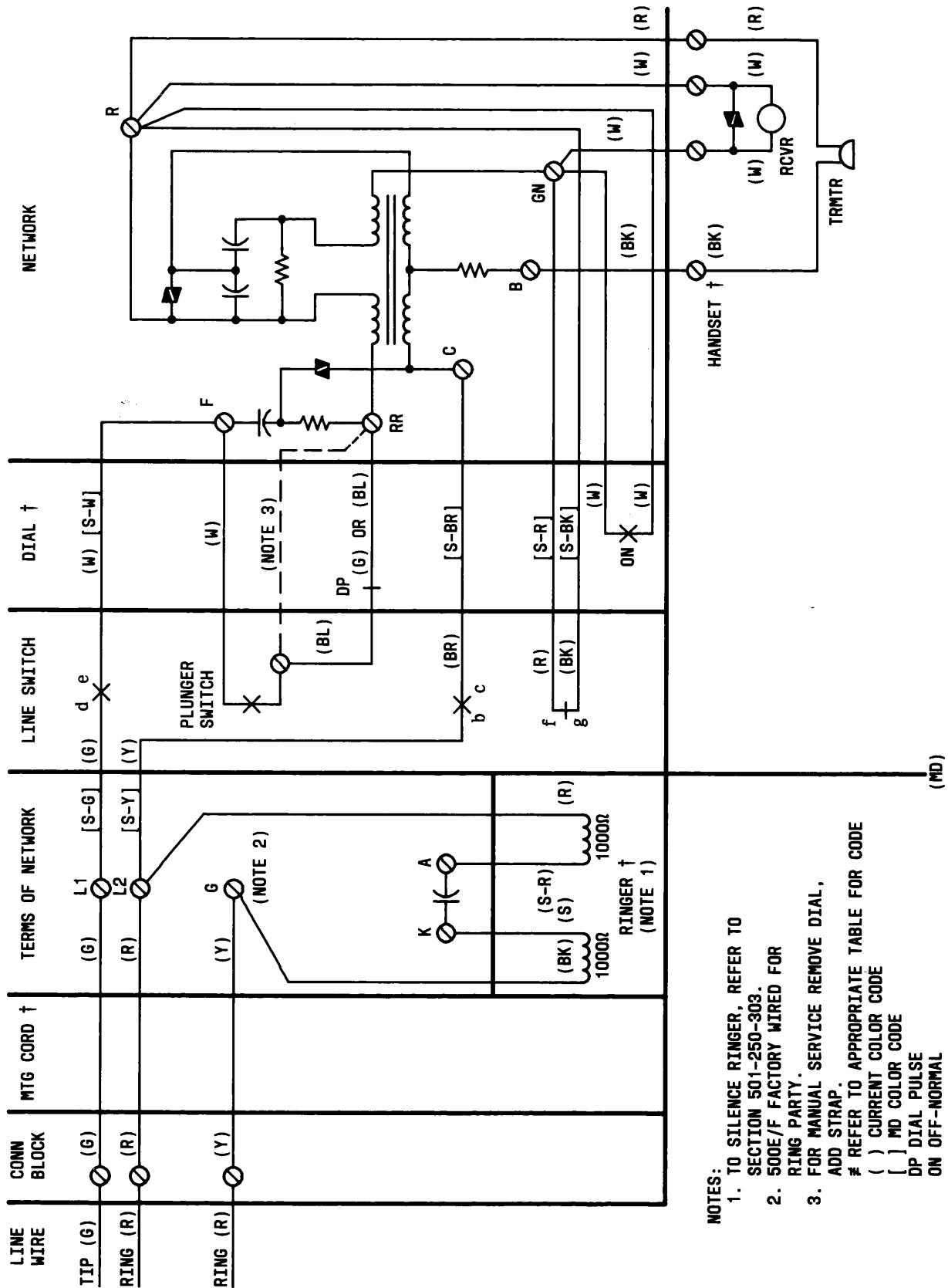
*Note 1.* To silence ringer refer to Section 501-250-303.

*Note 2.* If bell taps on stations connected to long line equipment, use these connections to retain the party ground identification.

*Note 3.* When grounded ringer arrangements are used on 96-volt long line circuits, a D-180036 ringer isolator must be used.

*Note 4.* Refer to section on inductive noise for connections using 4 element (425A) tube.

\*501-type telephones may only be used for negative and positive party connections.



**Fig. 17—500E/F (MD) Telephone Set, Connections**

◆ TABLE F ◆

## LINE AND RINGER CONNECTIONS FOR 500FM TELEPHONE SETS

| WIRE<br>OR<br>LEAD                         | COLOR | INDIV<br>OR<br>BRIDGED | RING<br>PARTY | TIP<br>PARTY<br>NO<br>IDENT<br>GRD | TIP PARTY IDENT GROUND |       |                                                       |       | NEGATIVE(-)<br>PARTIES |              | POSITIVE(+)<br>PARTIES |              |
|--------------------------------------------|-------|------------------------|---------------|------------------------------------|------------------------|-------|-------------------------------------------------------|-------|------------------------|--------------|------------------------|--------------|
|                                            |       |                        |               |                                    | NORMAL<br>CONNECTIONS  |       | RINGER REV.<br>WHEN CONN<br>TO L.L. EQUIP<br>(NOTE 2) |       | RING<br>(1-5)          | TIP<br>(2-6) | RING<br>(3-7)          | TIP<br>(4-8) |
|                                            |       |                        |               |                                    |                        |       |                                                       |       |                        |              |                        |              |
|                                            |       |                        |               |                                    | 1000Ω                  | 2650Ω | 1000Ω                                                 | 2650Ω |                        |              |                        |              |
| 645 Type Jack<br>at<br>Connecting<br>Block | R     | R                      | R             | R                                  | R                      | R     | R                                                     | R     | R                      | R            | R                      | R            |
|                                            | G     | G                      | G             | G                                  | G                      | G     | G                                                     | G     | G                      | G            | G                      | G            |
|                                            | Y     | Y                      | Y             | Y                                  | Y                      | Y     | Y                                                     | Y     | Y                      | Y            | Y                      | Y            |
|                                            | BK    | B                      | B             | B                                  | B                      | B     | B                                                     | B     | B                      | B            | B                      | B            |
| 623D4 Jack<br>in Set                       | R     | L2                     | L2            | L1                                 | L1                     | L1    | L1                                                    | L1    |                        |              |                        |              |
|                                            | G     | L1                     | L1            | L2                                 | L2                     | L2    | L2                                                    | L2    |                        |              |                        |              |
|                                            | Y     | G                      | G             | G                                  | G                      | G     | G                                                     | G     |                        |              |                        |              |
|                                            | BK    | *                      | *             | *                                  | *                      | *     | *                                                     | *     |                        |              |                        |              |
| C4A Ringer<br>Leads<br>(Notes 1 and 3)     | R     | L2                     | L2            | L2                                 | K                      | B     | B                                                     | G     | G                      | G            | L2                     | L2           |
|                                            | BK    | L1                     | G             | G                                  | G                      | B     | B                                                     | K     | G                      | G            | L2                     | L2           |
|                                            | S     | K                      | K             | K                                  | B                      | K     | G                                                     | B     | A                      | A            | A                      | A            |
|                                            | S-R   | A                      | A             | A                                  | B                      | G     | K                                                     | B     | K                      | K            | K                      | K            |
| 426A Tube<br>(Notes 4 and 5)               | R     |                        |               |                                    |                        |       |                                                       |       | G                      | G            | L2                     | L2           |
|                                            | BK    |                        |               |                                    |                        |       |                                                       |       | K                      | K            | K                      | K            |
|                                            | Y     |                        |               |                                    |                        |       |                                                       |       | L2                     | L2           | G                      | G            |

Note 1. To silence ringer refer to Section 501-250-303.

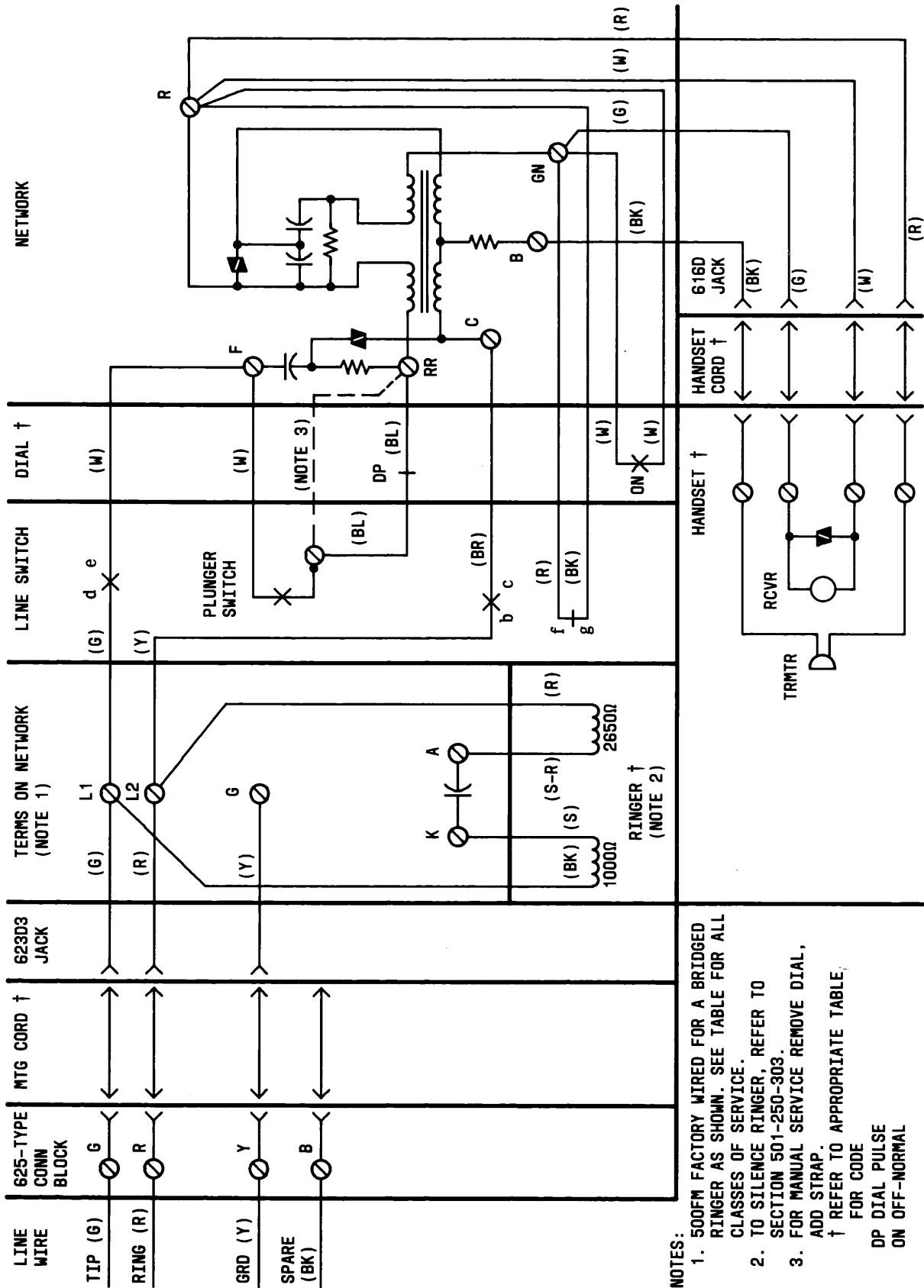
Note 2. If bell taps on stations connected to long line equipment, use these connections to retain the tip party ground identification.

Note 3. When grounded ringer arrangements are used on 96-volt long line circuits, a D-180036 ringer isolator is required.

Note 4. Refer to Section on inductive noise for connections using 4-element (425A) tube.

Note 5. With the 426A tube, the 500FM is the modular replacement for the 501F, P, and U.

\*Insulated and stored.



**Fig. 18—500FM Telephone Set, Connections**

◆TABLE G◆

## LINE AND RINGER CONNECTIONS FOR 500H (MD) TELEPHONE SETS

| WIRE OR LEAD              |              | COLOR | BRIDGED | RING PARTY | TIP PARTY NO IDENT GRD | NEG(-)PARTIES |         | POS(+)PARTIES |         |
|---------------------------|--------------|-------|---------|------------|------------------------|---------------|---------|---------------|---------|
|                           |              |       |         |            |                        | RING          | TIP     | RING          | TIP     |
|                           |              |       |         |            |                        | 1 AND 5       | 2 AND 6 | 3 AND 7       | 4 AND 8 |
| Inside Wire at Conn Block | Ring Tip GRD | R     | R       | R          | R                      | R             | R       | R             | R       |
|                           |              | G     | G       | G          | G                      | G             | G       | G             | G       |
|                           |              | Y     | Y       | Y          | Y                      | Y             | Y       | Y             | Y       |
| Mtg Cord at Conn Block    |              | R     | R       | R          | R                      | R             | G       | R             | G       |
|                           |              | G     | G       | G          | R                      | G             | R       | G             | R       |
|                           |              | Y     | G       | Y          | Y                      | Y             | Y       | Y             | Y       |
| Trnsf Leads at Conn Block |              | BK    | B       | B          | B                      | B             | B       | B             | B       |
|                           |              |       | Y       | Y          | Y                      | Y             | Y       | Y             | Y       |
|                           |              |       | B       | B          | B                      | B             | B       | B             | B       |
| Mtg Cord in Set           |              | R     | L2      | L2         | L2                     | L2            | L2      | L2            | L2      |
|                           |              | G     | F       | F          | F                      | F             | F       | F             | F       |
|                           |              | Y     | 5       | 5          | 5                      | 5             | 5       | 5             | 5       |
|                           |              | BK    | E1      | E1         | E1                     | E1            | E1      | E1            | E1      |
| 426A Tube (Note 2)        |              | R     |         |            |                        | F             | F       | L2            | L2      |
|                           |              | BK    |         |            |                        | K             | K       | K             | K       |
|                           |              | Y     |         |            |                        | L2            | L2      | G             | G       |
| C4A Ringer (Note 1)       |              | R     | L2      | L2         | L2                     | G             | G       | L2            | L2      |
|                           |              | BK    | G       | G          | G                      | G             | G       | L2            | L2      |
|                           |              | S     | K       | K          | K                      | A             | A       | A             | A       |
|                           |              | S-R   | A       | A          | A                      | K             | K       | K             | K       |

Note 1. To silence ringer for all classes of service, refer to Section 501-250-303.

Note 2. Refer to section on inductive noise for connections using 4-element (425A) tube.

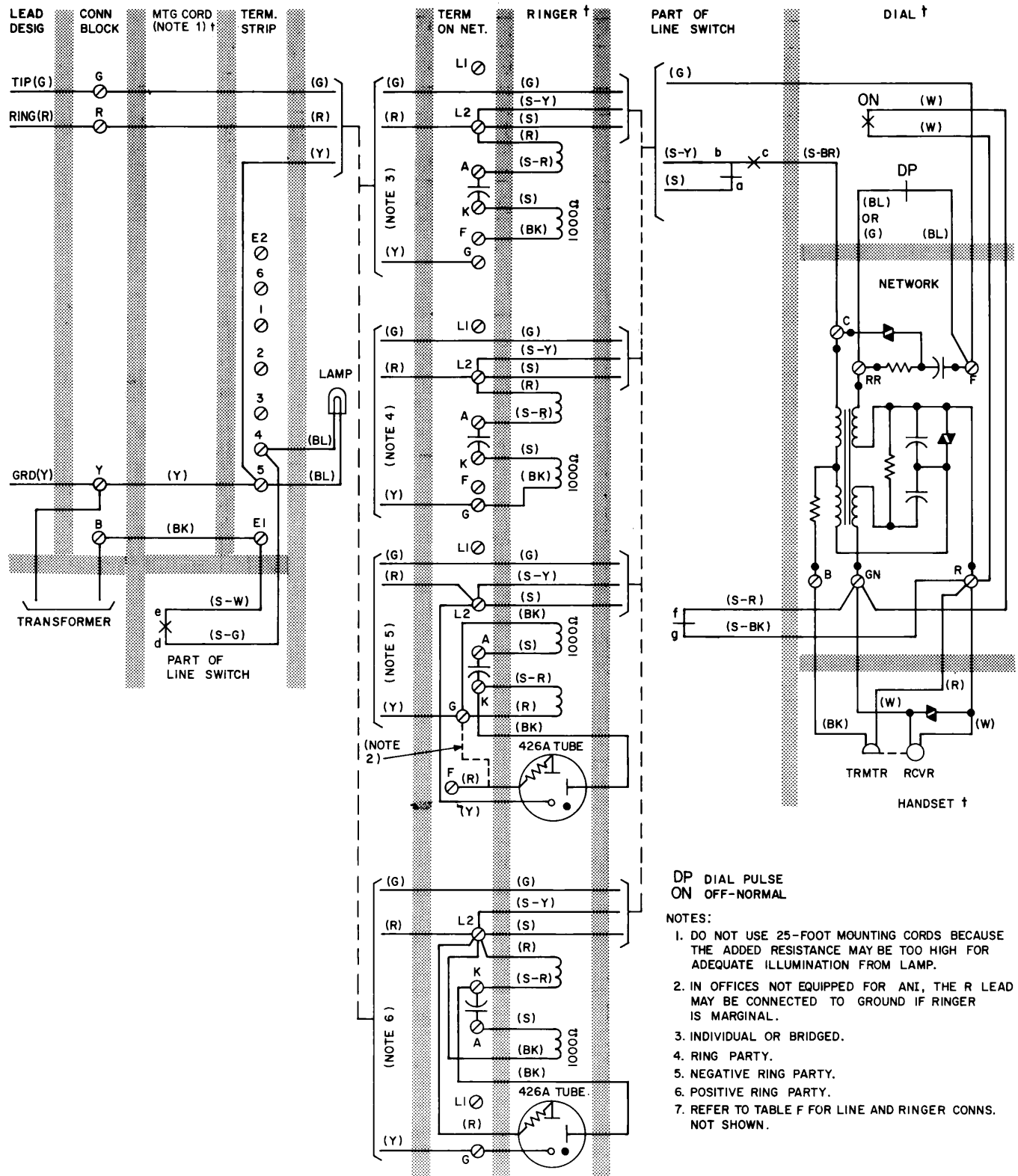


Fig. 19—500H (MD) Telephone Set, Connections

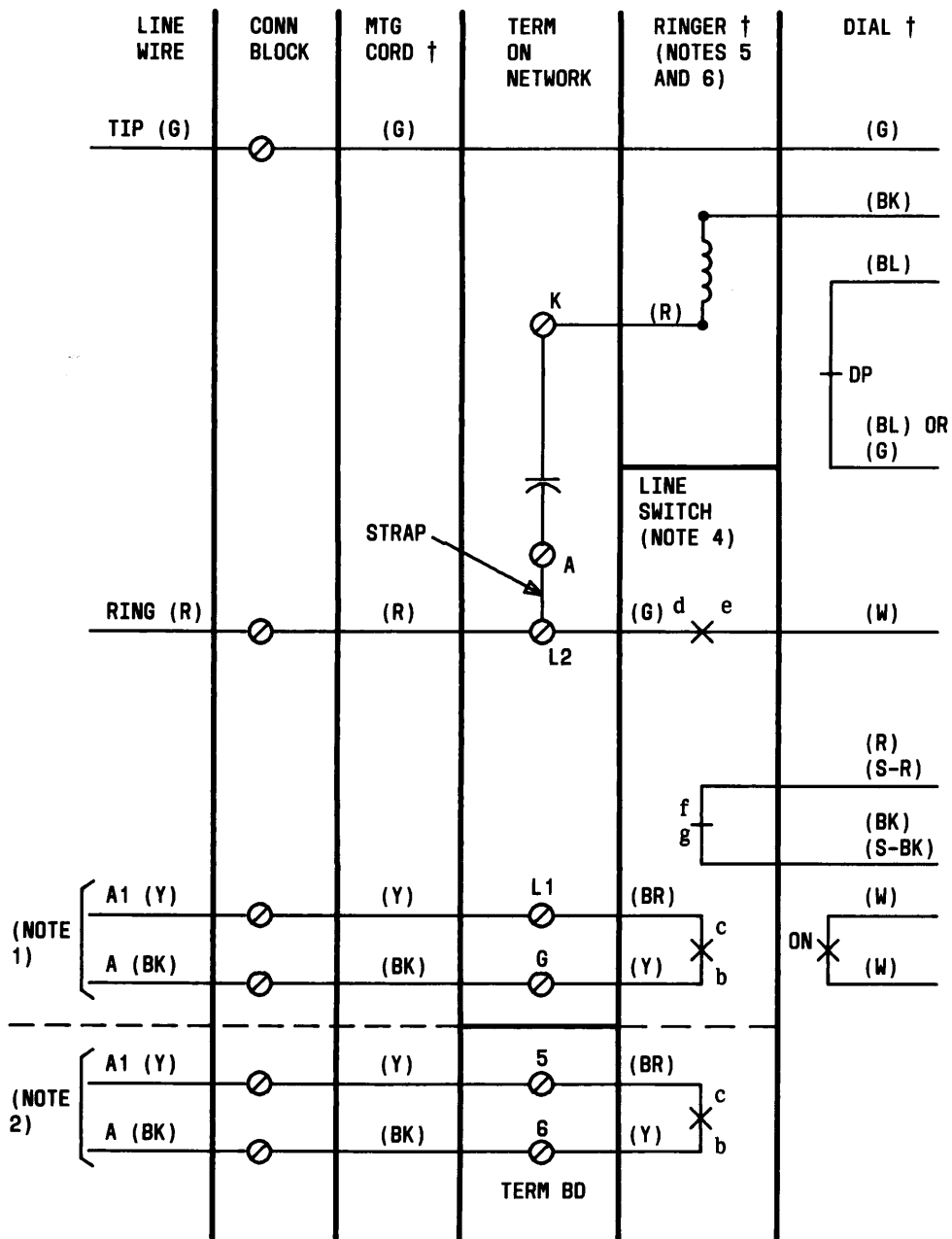
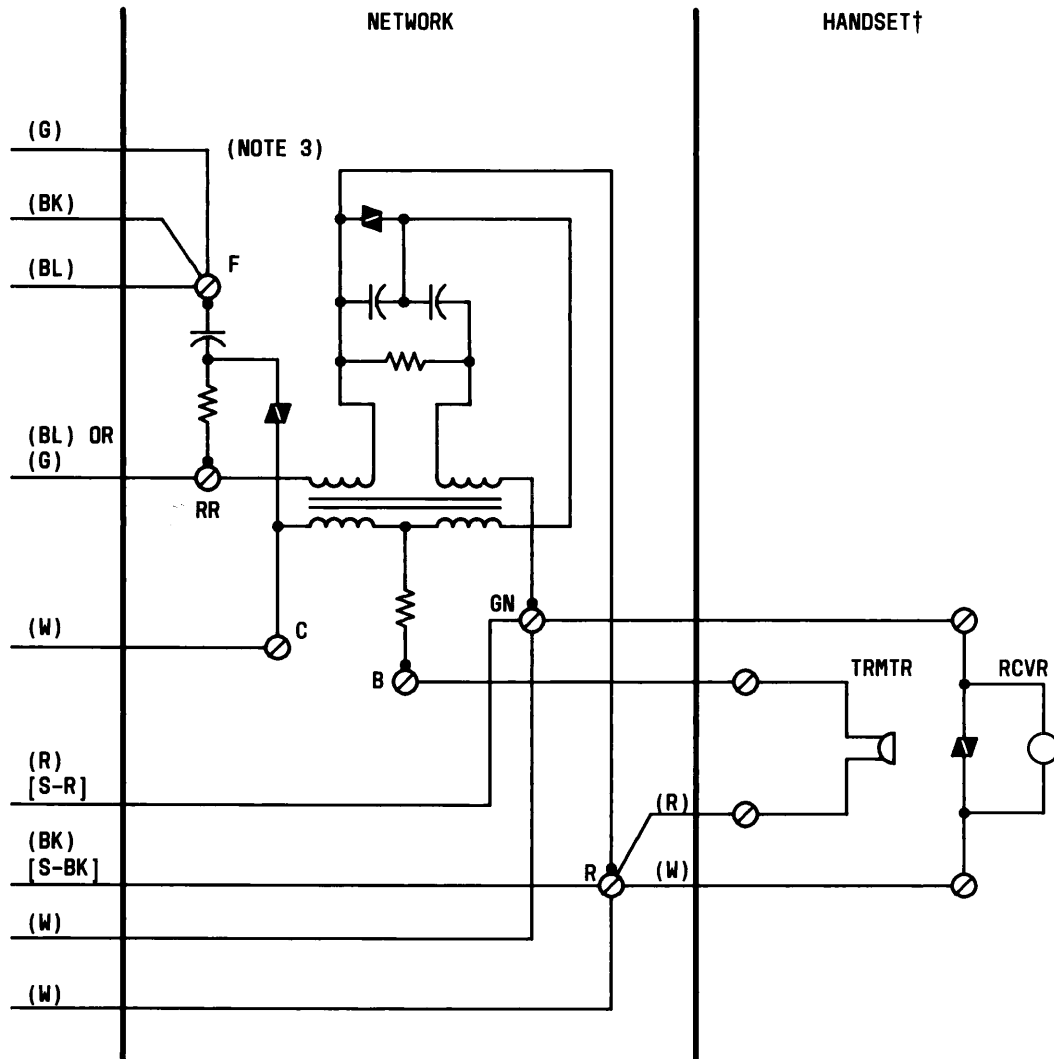


Fig. 20—500L/M (MD) Telephone Set, Connections (Sheet 1 of 2)



## NOTES:

1. 500L/M SET CONNECTIONS WITHOUT TERMINAL BOARD.
2. 500L/M SET CONNECTIONS WITH TERMINAL BOARD.
3. FOR MANUAL SERVICE ON 1A1, 1A2, 6A OR 6B KTS MOVE (G) MOUNTING CORD LEAD AND (BK) RINGER LEAD FROM TERMINAL F TO RR ON NETWORK. REPLACE DIAL WITH APPROPRIATE APPARATUS BLANK.
4. TO PREVENT A FALSE HOLD CONDITION WHEN GOING ON HOOK THE TIP AND RING CONTACTS OF THE LINE SWITCH MUST BREAK BEFORE A-LEAD CONTACTS BREAK.
5. TO SILENCE RINGER, REFER TO SECTION 501-250-303.
6. IF COMMON AUDIBLE RINGING IS REQUIRED, A 6-CONDUCTOR MOUNTING CORD IS REQUIRED. REFER TO TABLE FOR CONNECTIONS.

DP DIAL PULSE

ON-OFF NORMAL

( ) CURRENT CODE

[ ] MD CODE

† REFER TO APPROPRIATE TABLE FOR CODE

7. CONNECTIONS FOR C4B RINGER SHOWN. SETS WITH C4A RINGER WIRED AS FOLLOWS (BRIDGED RINGING):
  1. REMOVE STRAP BETWEEN A AND L2.
  2. CONNECT RINGER LEADS:
    - (BK) TO F
    - (S) TO K
    - (S-R) TO A
    - (R) TO L2

Fig. 20—500L/M (MD) Telephone Set, Connections (Sheet 2 of 2)

◆TABLE H◆

**LINE AND RINGER CONNECTIONS FOR  
500L/M (MD) TELEPHONE SETS**

| WIRE<br>OR<br>LEAD            |                        | COLOR | BRIDGED<br>RINGING | 1A1<br>OR<br>1A2<br>KTS |
|-------------------------------|------------------------|-------|--------------------|-------------------------|
| Line Wire<br>at<br>Conn Block | Ring<br>Tip<br>A1<br>A | R     | R                  | R                       |
|                               |                        | G     | G                  | G                       |
|                               |                        | Y     | Y                  | Y                       |
|                               |                        | BK    | B                  | B                       |
| Mtg Cord<br>at<br>Conn Block  |                        | R     | R                  | R                       |
|                               |                        | G     | G                  | G                       |
|                               |                        | Y     | Y                  | Y                       |
|                               |                        | BK    | B                  | B                       |
| Mtg Cord<br>In Set            |                        | R     | L2                 | L2                      |
|                               |                        | G     | F                  | F                       |
|                               |                        | Y     | L1*                | L1*                     |
|                               |                        | BK    | G                  | G                       |
| C4B Ringer                    |                        | BK    | F                  | F                       |
|                               |                        | R     | K                  | K                       |
| C4A Ringer                    |                        | BK    | F                  | F                       |
|                               |                        | S     | A                  | A                       |
|                               |                        | S-R   | K                  | K                       |
|                               |                        | R     | L2                 | L2                      |

\* 500L/M connections shown without terminal strip. For 500L/M with terminal strip, change L1 to terminal 6.

TABLE I

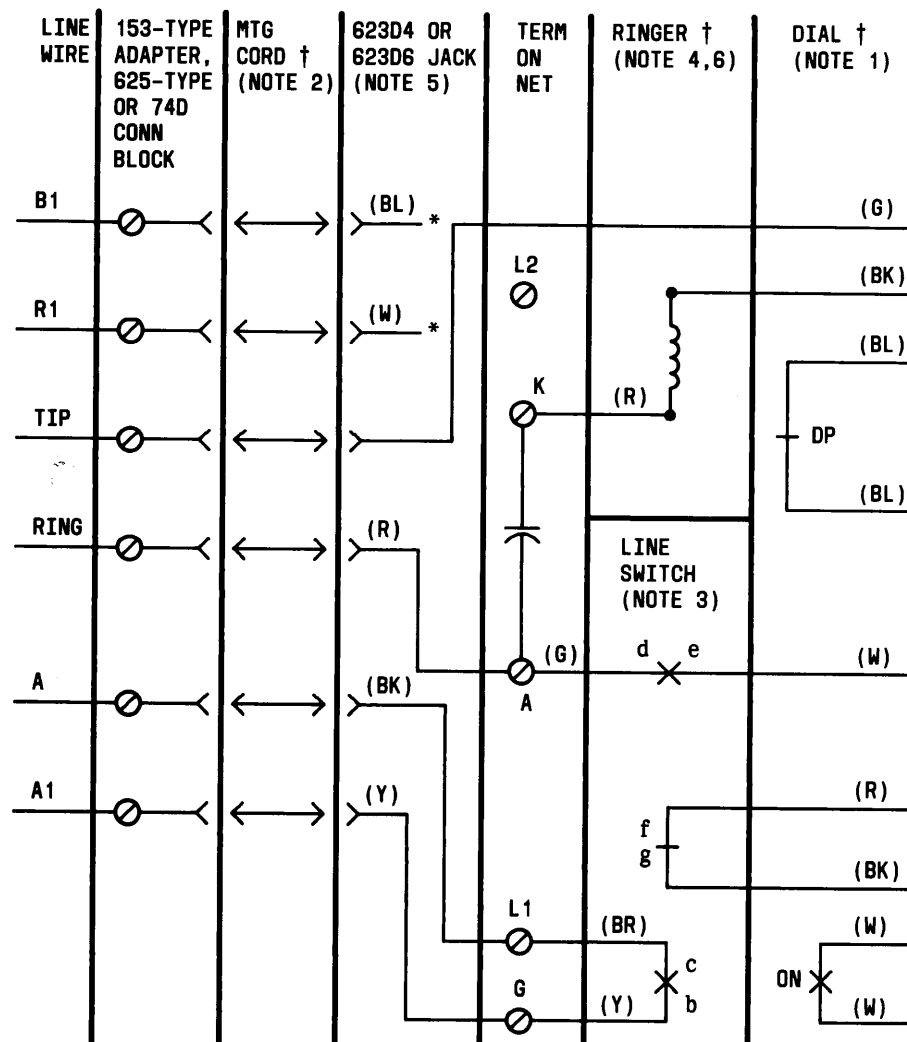
## LINE AND RINGER CONNECTIONS FOR 500MM TELEPHONE SET

| WIRE<br>OR<br>LEAD                |      | COLOR | BRIDGED<br>RINGING | 1A1<br>OR<br>1A2<br>KTS | 1A1 OR 1A2<br>KTS<br>COMMON<br>AUDIBLE<br>RINGING |
|-----------------------------------|------|-------|--------------------|-------------------------|---------------------------------------------------|
| 645-Type Jack<br>at<br>Conn Block | Ring | R     | R                  | R                       | R                                                 |
|                                   | Tip  | G     | G                  | G                       | G                                                 |
|                                   | A1   | Y     | Y                  | Y                       | Y                                                 |
|                                   | A    | BK    | B                  | B                       | B                                                 |
| 652A6 Jack<br>at<br>Conn Block    | Ring | R     | 2                  | 2                       | 2                                                 |
|                                   | Tip  | G     | 1                  | 1                       | 1                                                 |
|                                   | A1   | Y     | 3                  | 3                       | 3                                                 |
|                                   | A    | BK    | 4                  | 4                       | 4                                                 |
|                                   | B1   | BL    | 5                  | 5                       | 5                                                 |
|                                   | R1   | W     | 6                  | 6                       | 6                                                 |
| 623D4 Jack<br>In Set              |      | R     | A                  | A                       | A                                                 |
|                                   |      | G     | F                  | F                       | F                                                 |
|                                   |      | Y     | G                  | G                       | G                                                 |
|                                   |      | BK    | L1                 | L1                      | L1                                                |
| 623D6 Jack<br>In Set              |      | R     | A                  | A                       | A                                                 |
|                                   |      | G     | F                  | F                       | F                                                 |
|                                   |      | Y     | G                  | G                       | G                                                 |
|                                   |      | BK    | L1                 | L1                      | L1                                                |
|                                   |      | BL    | *                  | *                       | L2                                                |
|                                   |      | W     | *                  | *                       | †                                                 |
| C4B Ringer                        |      | BK    | F                  | F                       | L2                                                |
|                                   |      | R     | K                  | K                       | †                                                 |
| C4A Ringer                        |      | BK    | F                  | F                       | L2                                                |
|                                   |      | S     | A                  | A                       | ‡                                                 |
|                                   |      | S-R   | K                  | K                       | ‡                                                 |
|                                   |      | R     | L2                 | L2                      | †                                                 |

\* Insulate and store.

† Use D-161488 connector to connect (R) ringer lead to (W) jack lead.

‡ Use D-161488 connector to connect (S) and (S-R) ringer leads.



## NOTES:

1. FOR MANUAL SERVICE ON 1A1, 1A2, 6A OR 6B KTS, MOVE (G) JACK LEAD AND (BK) RINGER LEAD FROM TERMINAL F TO RR ON NETWORK. REPLACE DIAL WITH APPROPRIATE BLANK.
  2. MUST BE ORDERED SEPARATELY.
  3. TO PREVENT A FALSE HOLD CONDITION WHEN GOING ON HOOK, THE TIP AND RING CONTACTS OF THE LINE SWITCH MUST BREAK BEFORE A-LEAD CONTACTS BREAK.
  4. FACTORY WIRED FOR BRIDGED RINGING; SEE APPROPRIATE TABLE FOR OTHER CLASSES OF SERVICE.
  5. IF COMMON AUDIBLE RINGING IS PROVIDED, 623D6 JACK AND 6-CONDUCTOR MOUNTING CORD IS REQUIRED. REFER TO APPROPRIATE TABLE FOR CONNECTING INFORMATION.
  6. TO SILENCE RINGER, REFER TO SECTION 501-250-303.
- DP DIAL PULSE  
ON OFF-NORMAL  
\* INSULATE AND STORE.  
† REFER TO APPROPRIATE TABLE FOR CODE.

Fig. 21—500MM Telephone Set, Connections (Sheet 1 of 2)

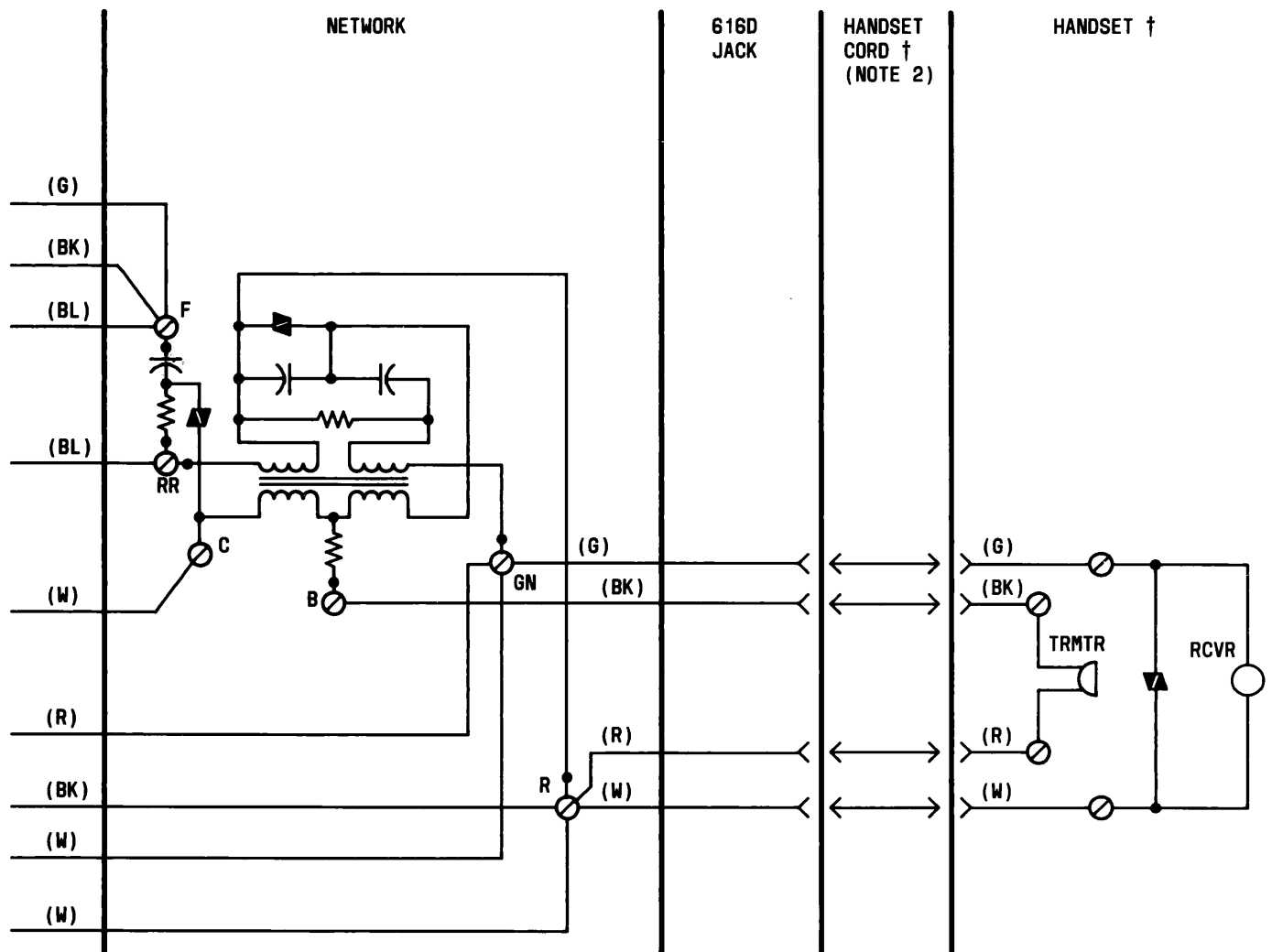
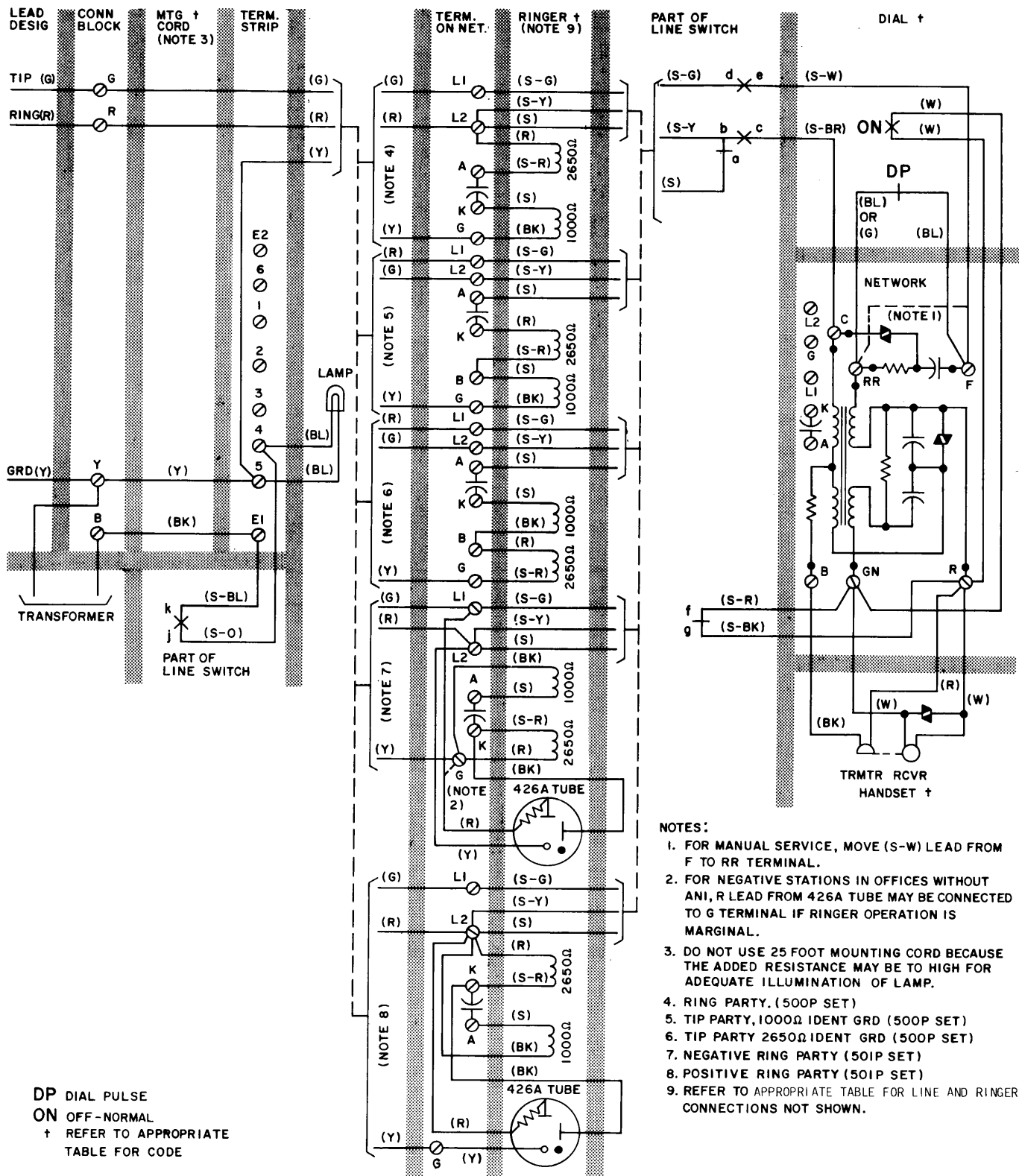


Fig. 21—500MM Telephone Set, Connections (Sheet 2 of 2)



**Fig. 22—500P (MD) and 501P (MD) Telephone Set, Connections**

◆ TABLE J ◆

## LINE, RINGER, AND TUBE CONNECTIONS FOR 500P (MD) AND 501P (MD) TELEPHONE SETS

| WIRE<br>OR<br>LEAD                  |  | COLOR               | BRIDGED             | RING<br>PARTY       | TIP<br>PARTY<br>NO<br>IDENT<br>GRD | TIP PARTY IDENT GROUND          |                     |                                           |                     | NEGATIVE (-)<br>PARTIES<br>(NOTE 2) |                     | POSITIVE (+)<br>PARTIES<br>(NOTE 2) |              |
|-------------------------------------|--|---------------------|---------------------|---------------------|------------------------------------|---------------------------------|---------------------|-------------------------------------------|---------------------|-------------------------------------|---------------------|-------------------------------------|--------------|
|                                     |  |                     |                     |                     |                                    | NORMAL<br>CONNEC-<br>TIONS      |                     | RINGER REV.<br>WHEN CONN<br>TO L.L. EQUIP |                     | RING<br>(1-5)                       | TIP<br>(2-5)        | RING<br>(3-7)                       | TIP<br>(4-8) |
|                                     |  |                     |                     |                     |                                    |                                 |                     |                                           |                     |                                     |                     |                                     |              |
|                                     |  |                     |                     |                     |                                    | Inside<br>Wire at<br>Conn Block | Ring<br>Tip<br>Grd  | R<br>G<br>Y                               | R<br>G<br>Y         | R<br>G<br>Y                         | R<br>G<br>Y         | R<br>G<br>Y                         | R<br>G<br>Y  |
| Mtg Cord<br>At<br>Conn Block        |  | R<br>G<br>Y<br>BK   | R<br>G<br>Y<br>B    | R<br>G<br>Y<br>B    | R<br>G<br>Y<br>B                   | R<br>G<br>Y<br>B                | R<br>G<br>Y<br>B    | R<br>G<br>Y<br>B                          | R<br>G<br>Y<br>B    | R<br>G<br>Y<br>B                    | R<br>G<br>Y<br>B    | R<br>G<br>Y<br>B                    |              |
| Trnsf At<br>Conn Block              |  |                     | Y<br>B              | Y<br>B              | Y<br>B                             | Y<br>B                          | Y<br>B              | Y<br>B                                    | Y<br>B              | Y<br>B                              | Y<br>B              | Y<br>B                              |              |
| Mtg Cord<br>In Set                  |  | R<br>G<br>Y<br>BK   | L2<br>L1<br>5<br>E1 | L2<br>L1<br>5<br>E1 | L2<br>L1<br>5<br>E1                | L2<br>L1<br>5<br>E1             | L2<br>L1<br>5<br>E1 | L2<br>L1<br>5<br>E1                       | L2<br>L1<br>5<br>E1 | L2<br>L1<br>5<br>E1                 | L2<br>L1<br>5<br>E1 | L2<br>L1<br>5<br>E1                 |              |
| 426A Tube<br>(501P Set)<br>(Note 3) |  | R<br><br>BK<br>Y    |                     |                     |                                    |                                 |                     |                                           | L1 or<br>G          | L1 or<br>G                          | L2<br>L2<br>L2      | L2<br>L2<br>L2                      |              |
| C4A Ringer<br>(Note 1)              |  | R<br>BK<br>S<br>S-R | L2<br>L1<br>K<br>A  | L2<br>G<br>K<br>A   | L2<br>G<br>K<br>A                  | B<br>B<br>K<br>B                | B<br>B<br>K<br>B    | B<br>B<br>K<br>B                          | G<br>G<br>G<br>K    | G<br>G<br>G<br>K                    | L2<br>L2<br>L2      | L2<br>L2<br>L2                      |              |
| Line Sw                             |  | S                   | L2                  | L2                  | L2                                 | A                               | A                   | A                                         | A                   | A                                   | A                   | A                                   |              |

Note 1. To silence ringer for all classes of service, refer to Section 501-250-303.

Note 2. To silence ringer for negative and positive parties, connect yellow strap to terminal 6 instead of terminal 5 on terminal strip.

Note 3. Refer to section on inductive noise for connections using 4-element (425A) tube.

◆TABLE K◆

## LINE AND RINGER CONNECTIONS FOR 500R/S (MD) TELEPHONE SETS (NOTE 4)

| WIRE<br>OR<br>LEAD                 |                   | COLOR           | INDIV<br>OR<br>BRIDGED | RING<br>PARTY | TIP PARTY<br>NO INDENT<br>GROUND<br>(NOTE 2) | TIP PARTY IDENT GROUND*                 |         |                                                                           |         |
|------------------------------------|-------------------|-----------------|------------------------|---------------|----------------------------------------------|-----------------------------------------|---------|---------------------------------------------------------------------------|---------|
|                                    |                   |                 |                        |               |                                              | NORMAL<br>CONNECTIONS<br>(NOTE 1 AND 2) |         | RINGER REVERSAL<br>WHEN CONNECTED<br>TO LONG LINE EQUIP<br>(NOTE 1 AND 2) |         |
|                                    |                   |                 |                        |               |                                              | 1000Ω                                   | 2650Ω   | 1000Ω                                                                     | 2650Ω   |
| Inside<br>Wire at<br>Conn<br>Block | Ring<br>Tip<br>R1 | R               | 1                      | 1             | 1                                            | 1                                       | 1       | 1                                                                         | 1       |
|                                    |                   | G               | 2                      | 2             | 2                                            | 2                                       | 2       | 2                                                                         | 2       |
|                                    |                   | Y               | 6                      | 6             | 6                                            | 6                                       | 6       | 6                                                                         | 6       |
| Mtg Cord<br>at<br>Conn Block       |                   | (BL-W)          | 1                      | 1             | 2                                            | 2                                       | 2       | 2                                                                         | 2       |
|                                    |                   | [BR-G]          |                        |               |                                              |                                         |         |                                                                           |         |
|                                    |                   | (W-BL)          | 2                      | 2             | 1                                            | 1                                       | 1       | 1                                                                         | 1       |
|                                    |                   | [G]             |                        |               |                                              |                                         |         |                                                                           |         |
|                                    |                   | (G-W)           | 6                      | 6             | 6                                            | 6                                       | 6       | 6                                                                         | 6       |
|                                    |                   | [R]             |                        |               |                                              |                                         |         |                                                                           |         |
| Mtg Cord<br>In Set                 |                   | (BL-W)          | 3                      | 3             | 3                                            | 3                                       | 3       | 3                                                                         | 3       |
|                                    |                   | [BR-G]          |                        |               |                                              |                                         |         |                                                                           |         |
|                                    |                   | (W-BL)          | G                      | F             | F                                            | F                                       | F       | F                                                                         | F       |
|                                    |                   | [G]             |                        |               |                                              |                                         |         |                                                                           |         |
|                                    |                   | (G-W)           | A                      | A             | A                                            | A                                       | A       | A                                                                         | A       |
|                                    |                   | [R]             |                        |               |                                              |                                         |         |                                                                           |         |
| Factory<br>Provided<br>Strap       |                   | (G)             | G to F                 | G to E1       | G to E1                                      | G to E1                                 | G to E1 | G to E1                                                                   | G to E1 |
| C4B Ringer<br>(Note 3)             |                   | (R)<br>(BK)     | K<br>G                 | K<br>G        | K<br>G                                       |                                         |         |                                                                           |         |
| C4A Ringer<br>(Note 3)             |                   | (R)             | L2                     | L2            | L2                                           | L2                                      | B       | B                                                                         | G       |
|                                    |                   | (BK)            | G                      | G             | G                                            | G                                       | B       | B                                                                         | K       |
|                                    |                   | (S)             | K                      | K             | K                                            | B                                       | K       | G                                                                         | B       |
|                                    |                   | (S-R)           | A                      | A             | A                                            | B                                       | G       | K                                                                         | B       |
| Line Sw                            |                   | (W-S)<br>[S-BR] | 2                      | 2             | 2                                            | A                                       | A       | A                                                                         | A       |

Note 1. Use normal connections on a tip party identification ground stations. If bell taps on stations connected to long line equipment, use ringer reversal column to retain tip party identification.

Note 2. Move strap at 44A connecting block from terminal 1 to 2.

Note 3. To silence ringer, refer to Section 501-250-303.

Note 4. For manual service, replace dial with apparatus blank and transfer (G) lead from F terminal on network to E2 terminal on terminal strip.

\* If long line equipment (SD-26129-01) is used, tip party identification connections can be made in a No. 5 crossbar central office ONLY. If long line equipment (SD-96588-01) is used, tip party identification connections can be made in any type office.

( ) Current color code.

[ ] MD color code.

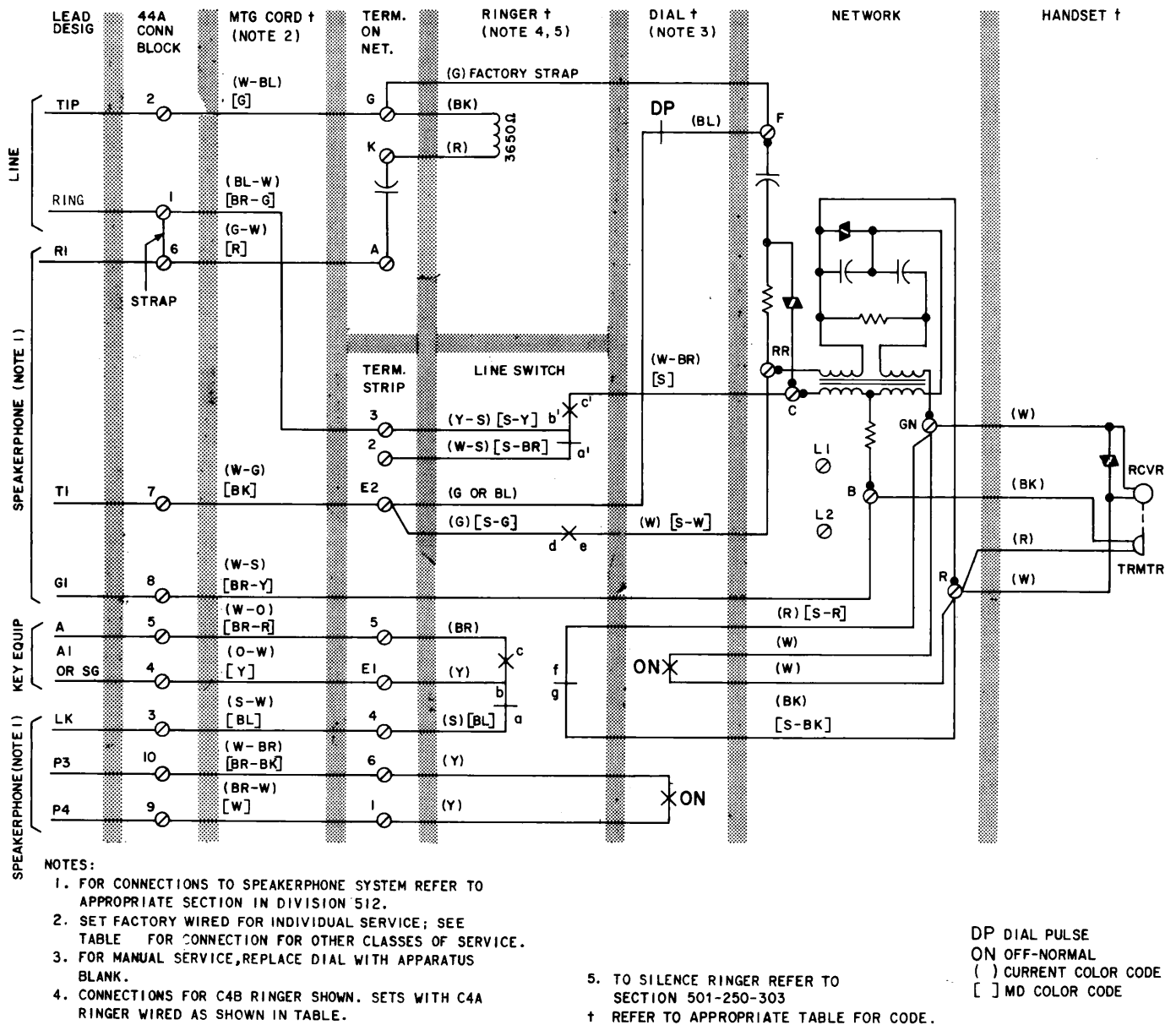


Fig. 23—500R/S (MD) Telephone Set, Connections

◆ TABLE L ◆  
LINE AND RINGER CONNECTIONS FOR 500SM TELEPHONE SETS

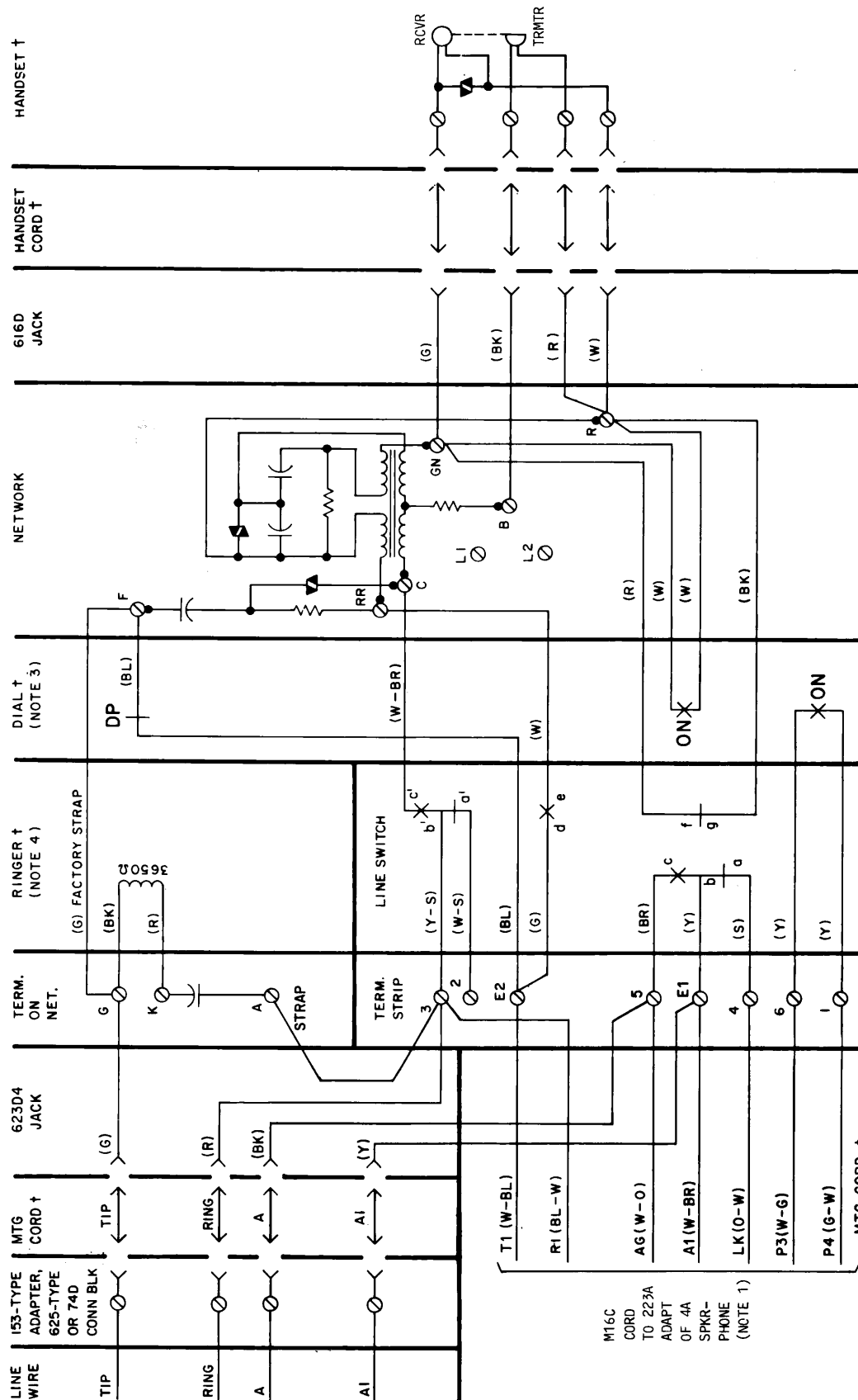
| WIRE<br>OR<br>LEAD                   |                        | COLOR               | INDIV<br>OR<br>BRIDGED | RING<br>PARTY     | TIP PARTY<br>NO INDENT<br>GROUND<br>(NOTE 2) | TIP PARTY IDENT GROUND*                 |                   |                                                                           |                   |
|--------------------------------------|------------------------|---------------------|------------------------|-------------------|----------------------------------------------|-----------------------------------------|-------------------|---------------------------------------------------------------------------|-------------------|
|                                      |                        |                     |                        |                   |                                              | NORMAL<br>CONNECTIONS<br>(NOTE 1 AND 2) |                   | RINGER REVERSAL<br>WHEN CONNECTED<br>TO LONG LINE EQUIP<br>(NOTE 1 AND 2) |                   |
|                                      |                        |                     |                        |                   |                                              | 1000Ω                                   | 2650Ω             | 1000Ω                                                                     | 2650Ω             |
| Inside<br>Wire at<br>Conn<br>Block   | Ring<br>Tip<br>A1<br>A | R<br>G<br>Y<br>BK   | R<br>G<br>Y<br>B       | R<br>G<br>Y<br>B  | R<br>G<br>Y<br>B                             | R<br>G<br>Y<br>B                        | R<br>G<br>Y<br>B  | R<br>G<br>Y<br>B                                                          | R<br>G<br>Y<br>B  |
| 645-type<br>Jack at<br>Conn<br>Block |                        | R<br>G<br>Y<br>BK   | R<br>G<br>Y<br>B       | R<br>G<br>Y<br>B  | R<br>G<br>Y<br>B                             | R<br>G<br>Y<br>B                        | R<br>G<br>Y<br>B  | R<br>G<br>Y<br>B                                                          | R<br>G<br>Y<br>B  |
| 623D4<br>Jack<br>In<br>Set           |                        | R<br>G<br>Y<br>BK   | 3<br>G<br>E1<br>5      | 3<br>F<br>E1<br>5 | F<br>3<br>E1<br>5                            | F<br>3<br>E1<br>5                       | F<br>3<br>E1<br>5 | F<br>3<br>E1<br>5                                                         | F<br>3<br>E1<br>5 |
| Factory Wiring<br>Strap              |                        | G                   | G to F                 | G to E1           | G to E1                                      | G to E1                                 | G to E1           | G to E1                                                                   | G to E1           |
| C4B Ringer<br>(Note 3)               |                        | R<br>BK             | K<br>G                 | K<br>G            | K<br>G                                       |                                         |                   |                                                                           |                   |
| C4A<br>Ringer<br>(Note 3)            |                        | R<br>BK<br>S<br>S-R | L2<br>G<br>K<br>A      | L2<br>G<br>K<br>A | L2<br>G<br>K<br>A                            | L2<br>G<br>B<br>B                       | B<br>B<br>K<br>G  | B<br>B<br>G<br>K                                                          | G<br>K<br>B<br>B  |
| Line Sw                              |                        | W-S                 | 2                      | 2                 | 2                                            | A                                       | A                 | A                                                                         | A                 |

*Note 1.* Use normal connections on a tip party identification ground stations. If bell taps on stations connected to long line equipment, use ringer reversal column to retain tip party identification.

*Note 2.* Move strap at 44A connecting block from terminal 1 to 2.

*Note 3.* To silence ringer, refer to Section 501-250-303.

\* If long line equipment (SD-26129-01) is used, tip party identification connections can be made in a No. 5 crossbar central office ONLY. If long line equipment (SD-96588-01) is used, tip party identification connections can be made in any type office.



## NOTES:

1. FOR CONNECTIONS TO SPEAKERPHONE SYSTEM REFER TO APPROPRIATE SECTION IN DIVISION 512.
2. SET FACTORY WIRED FOR INDIVIDUAL SERVICE; SEE TABLE FOR CONNECTION FOR OTHER CLASSES OF SERVICE.
3. FOR MANUAL SERVICE, REPLACE DIAL WITH APPARATUS BLANK.

4. CONNECTIONS FOR C4B RINGER SHOWN. SETS WITH C4A RINGER WIRED AS SHOWN IN TABLE.

5. TO SILENCE RINGER REFER TO SECTION 501-250-303.

6. TO PREVENT A FALSE HOLD CONDITION WHEN GOING ON HOOK, THE TIP AND RING CONTACTS OF THE LINE SWITCH MUST BREAK BEFORE THE A-LEAD CONTACTS BREAK.

† REFER TO APPROPRIATE TABLE FOR CODE.

DP DIAL PULSE  
ON OFF-NORMAL

Fig. 24—500SM Telephone Set, Connections

TABLE M

## LINE, RINGER, AND TUBE CONNECTIONS FOR 500U (MD) AND 501U (MD) TELEPHONE SETS

| WIRE OR LEAD                  |      | COLOR | BRIDGED | RING PARTY | TIP PARTY<br>NO IDENT GRD | TIP PARTY          |       | NEGATIVE (-)<br>PARTIES |     | POSITIVE (+)<br>PARTIES |     |
|-------------------------------|------|-------|---------|------------|---------------------------|--------------------|-------|-------------------------|-----|-------------------------|-----|
|                               |      |       |         |            |                           | IDENTIFYING GROUND |       |                         |     |                         |     |
|                               |      |       |         |            |                           | 1000Ω              | 2650Ω | RING                    | TIP | RING                    | TIP |
| Inside Wire At Conn Block     | Ring | R     | R       | R          | R                         | R                  | R     | R                       | R   | R                       | R   |
|                               | Tip  | G     | G       | G          | G                         | G                  | G     | G                       | G   | G                       | G   |
|                               | Grd  | Y     | Y       | Y          | Y                         | Y                  | Y     | Y                       | Y   | Y                       | Y   |
| Mtg Cord At Conn Block        |      | R     | R       | R          | G                         | G                  | G     | R                       | G   | R                       | G   |
|                               |      | G     | G       | G          | R                         | R                  | R     | G                       | R   | G                       | R   |
|                               |      | Y     | Y       | Y          | Y                         | Y                  | Y     | Y                       | Y   | Y                       | Y   |
|                               |      | BK    | B       | B          | B                         | B                  | B     | B                       | B   | B                       | B   |
| Trnsf At Conn Block           |      | --    | Y       | Y          | Y                         | Y                  | Y     | Y                       | Y   | Y                       | Y   |
|                               |      | -     | B       | B          | B                         | B                  | B     | B                       | B   | B                       | B   |
| Mtg Cord In Set               |      | R     | L2      | L2         | L2                        | L2                 | L2    | L2                      | L2  | L2                      | L2  |
|                               |      | G     | L1      | L1         | L1                        | L1                 | L1    | L1                      | L1  | L1                      | L1  |
|                               |      | Y     | 5       | 5          | 5                         | 5                  | 5     | 5                       | 5   | 5                       | 5   |
|                               |      | BK    | E1      | E1         | E1                        | E1                 | E1    | E1                      | E1  | E1                      | E1  |
| 462A Tube (501U Set) (Note 2) |      | R     | —       | —          | —                         | —                  | —     | L1                      | L1  | L2                      | L2  |
|                               |      | BK    | —       | —          | —                         | —                  | —     | K                       | K   | K                       | K   |
|                               |      | Y     | —       | —          | —                         | —                  | —     | L2                      | L2  | G                       | G   |
| C4A Ringer (Note 1)           |      | R     | L2      | L2         | L2                        | K                  | B     | G                       | G   | L2                      | L2  |
|                               |      | BK    | L1      | G          | G                         | G                  | B     | G                       | G   | L2                      | L2  |
|                               |      | S     | K       | K          | K                         | B                  | K     | A                       | A   | A                       | A   |
|                               |      | S-R   | A       | A          | A                         | B                  | G     | K                       | K   | K                       | K   |
| Line Switch                   |      | S     | L2      | L2         | L2                        | A                  | A     | L2                      | L2  | L2                      | L2  |

**Note 1.** To silence ringer for all classes of service, refer to Section 501-250-303.

**Note 2.** Refer to section on inductive noise for connections using 4-element (425A) tube.

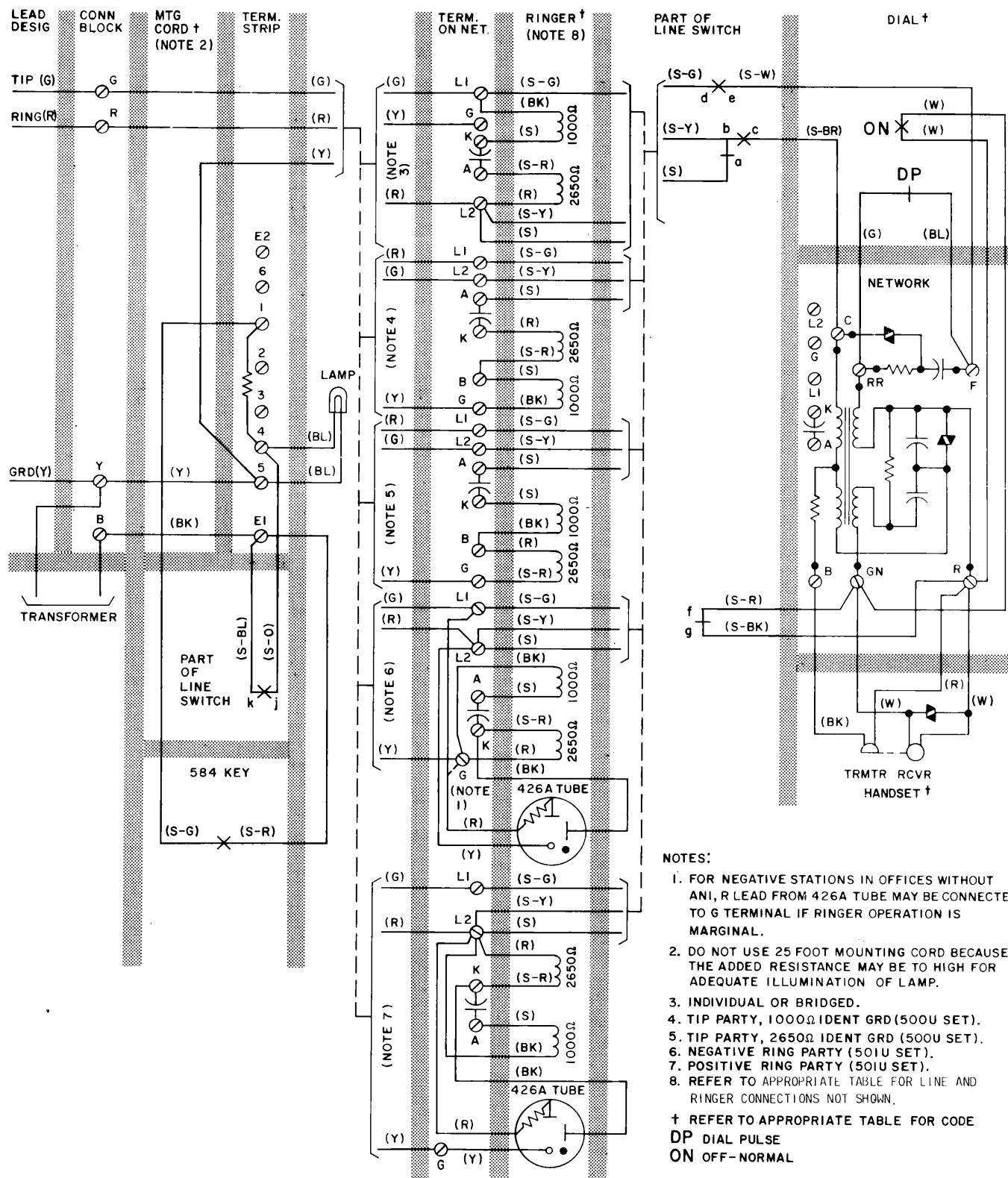


Fig. 25—500U (MD) and 501U (MD) Telephone Set, Connections

**TABLE N**  
**LINE AND RINGER CONNECTIONS FOR**  
**500W AND Y TELEPHONE SETS**

| WIRE OR LEAD                  |       | COLOR | INDIV.<br>OR<br>BRIDGED | RING<br>PARTY | RING<br>PARTY |
|-------------------------------|-------|-------|-------------------------|---------------|---------------|
| Line Wire<br>At<br>Conn Block | Ring  | R     | R                       | R             | R             |
|                               | Tip   | G     | G                       | G             | G             |
|                               | Grd   | Y     | Y                       | Y             | Y             |
|                               | Spare | BK    | B                       | B             | B             |
| Mtg Cord at<br>Conn Block     |       | R     | R                       | R             | G             |
|                               |       | G     | G                       | G             | R             |
|                               |       | Y     | G                       | Y             | Y             |
| Mtg Cord<br>In Set            |       | R     | L2                      | L2            | L2            |
|                               |       | G     | L1                      | L1            | L1            |
|                               |       | Y     | G                       | G             | G             |
| Neon Lamp                     |       | BL    | L1                      | L1            | L1            |
| C4B Ringer*                   |       | R     | K                       | K             | K             |
|                               |       | BK    | G                       | G             | G             |
| C4A Ringer*                   |       | R     | L2                      | L2            | L2            |
|                               |       | BK    | G                       | G             | G             |
|                               |       | S     | K                       | K             | K             |
|                               |       | S-R   | A                       | A             | A             |

\* To silence ringer for all classes of service, refer to Section 501-250-303.

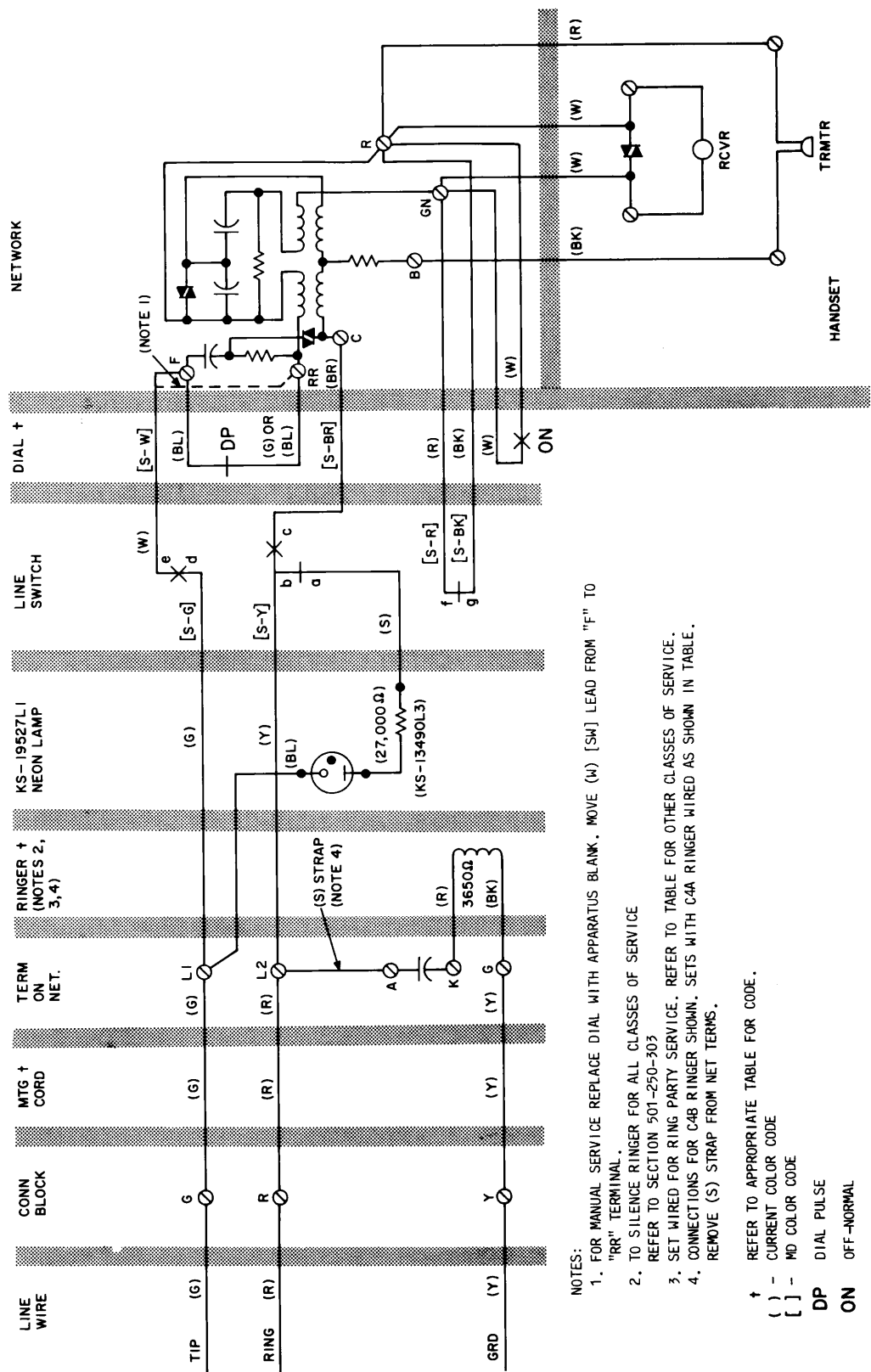


Fig. 26—500W/Y (MD) Telephone Set, Connections

TABLE O

## LINE AND RINGER CONNECTIONS FOR 500YM TELEPHONE SETS

| WIRE OR LEAD                      |       | COLOR | INDIV.<br>OR<br>BRIDGED | RING<br>PARTY | TIP<br>PARTY |
|-----------------------------------|-------|-------|-------------------------|---------------|--------------|
| 645-Type Jack<br>At<br>Conn Block | Ring  | R     | R                       | R             | G            |
|                                   | Tip   | G     | G                       | G             | R            |
|                                   | Grd   | Y     | G                       | Y             | Y            |
|                                   | Spare | BK    | B                       | B             | B            |
| 623D3 Jack In Set                 |       | R     | L2                      | L2            | L2           |
|                                   |       | G     | L1                      | L1            | L1           |
|                                   |       | Y     | G                       | G             | G            |
|                                   |       | BK    | *                       | *             | *            |
| Neon Lamp                         |       | BL    | L1                      | L1            | L1           |
| C4B Ringer (Note)                 |       | R     | K                       | K             | K            |
|                                   |       | BK    | G                       | G             | G            |
| C4A Ringer (Note)                 |       | R     | L2                      | L2            | L2           |
|                                   |       | BK    | G                       | G             | G            |
|                                   |       | S     | K                       | K             | K            |
|                                   |       | S-R   | A                       | A             | A            |

**Note:** To silence ringer for all classes of service, refer to Section 501-250-303.

\* Insulate and store.

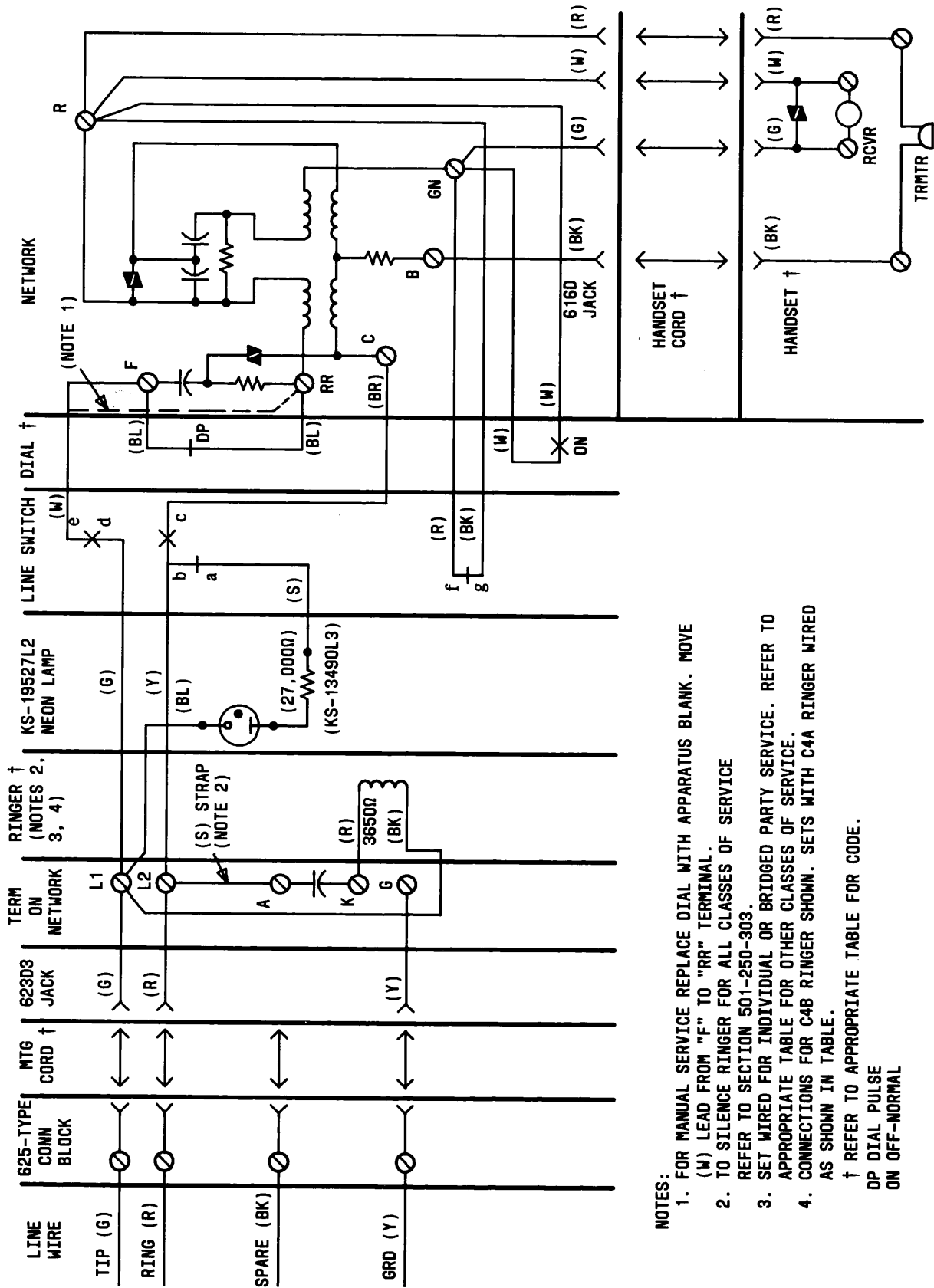
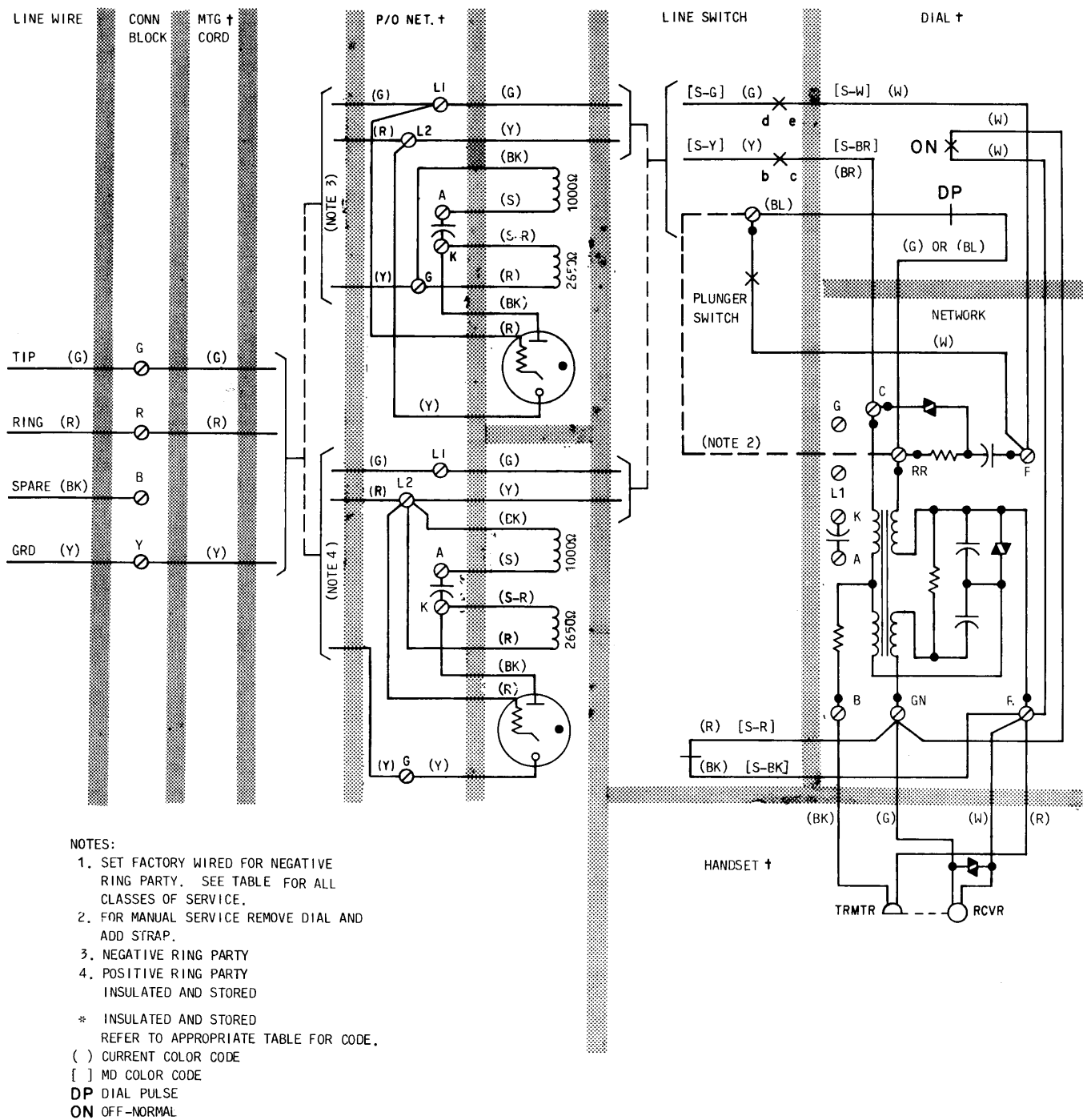


Fig. 27—500YM Telephone Set, Connections



### Fig. 28—501F (MD) Telephone Set, Connections

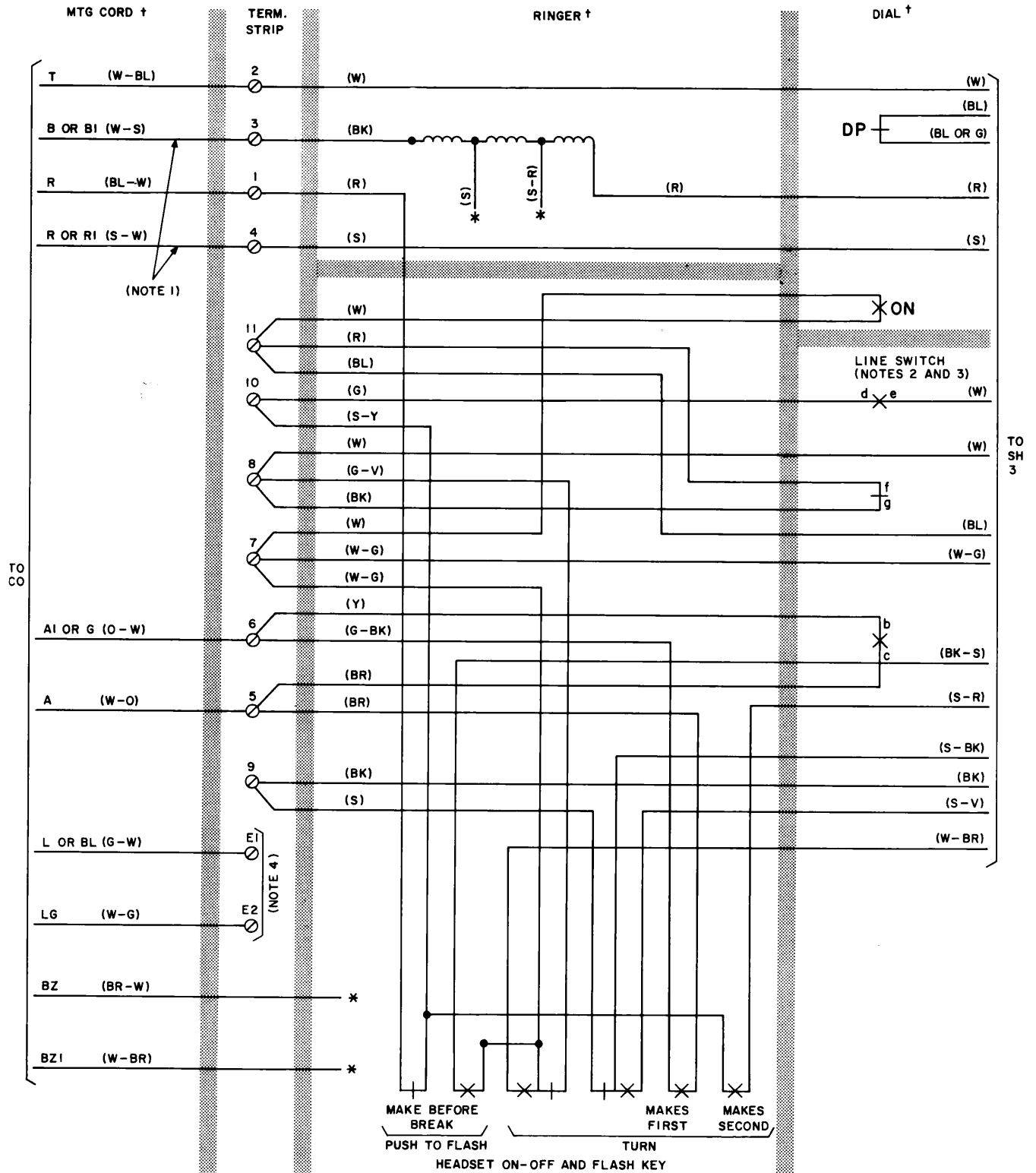


Fig. 29—514B (MD) and 514BM Telephone Set, Connections (Sheet 1 of 3)

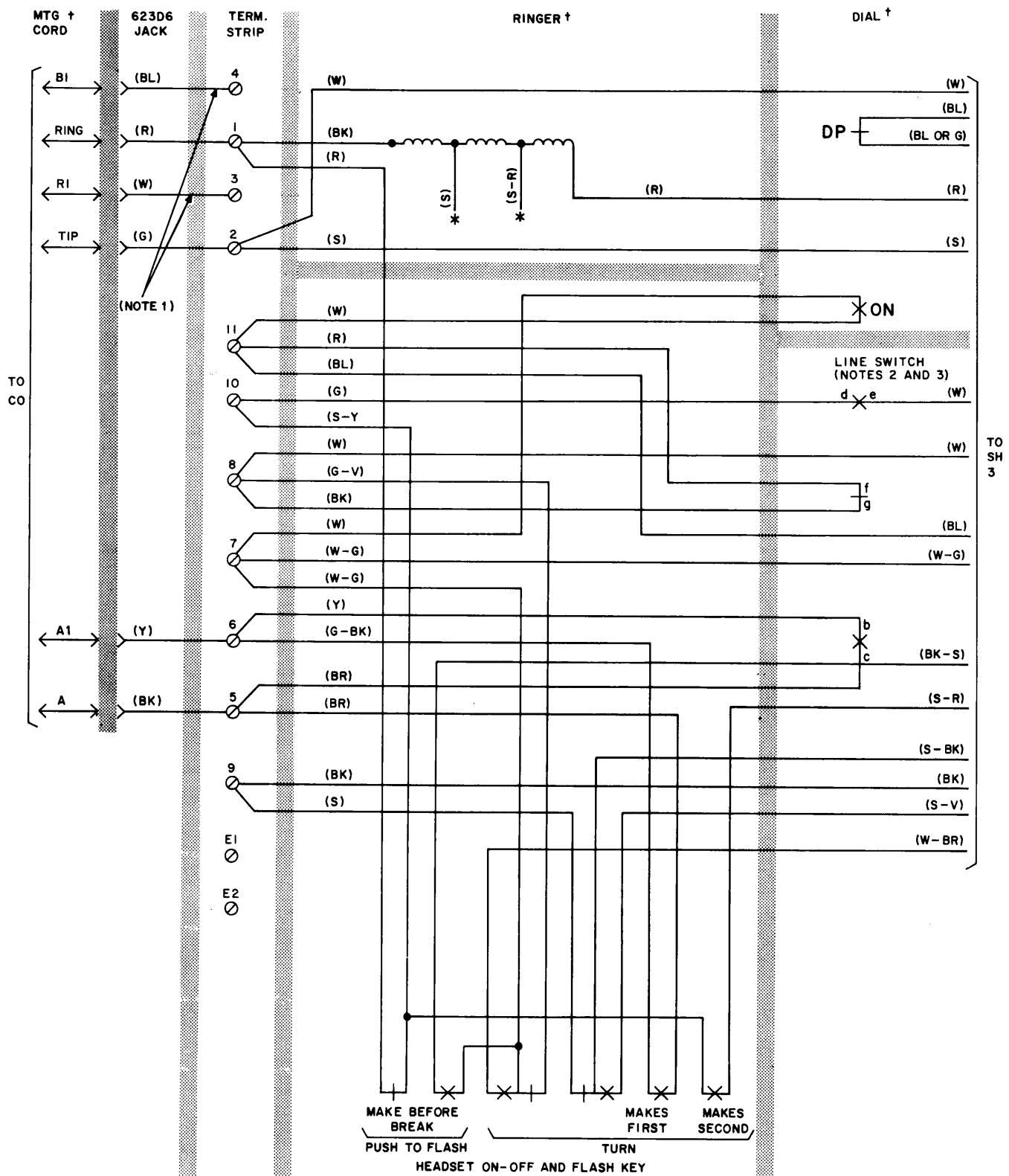
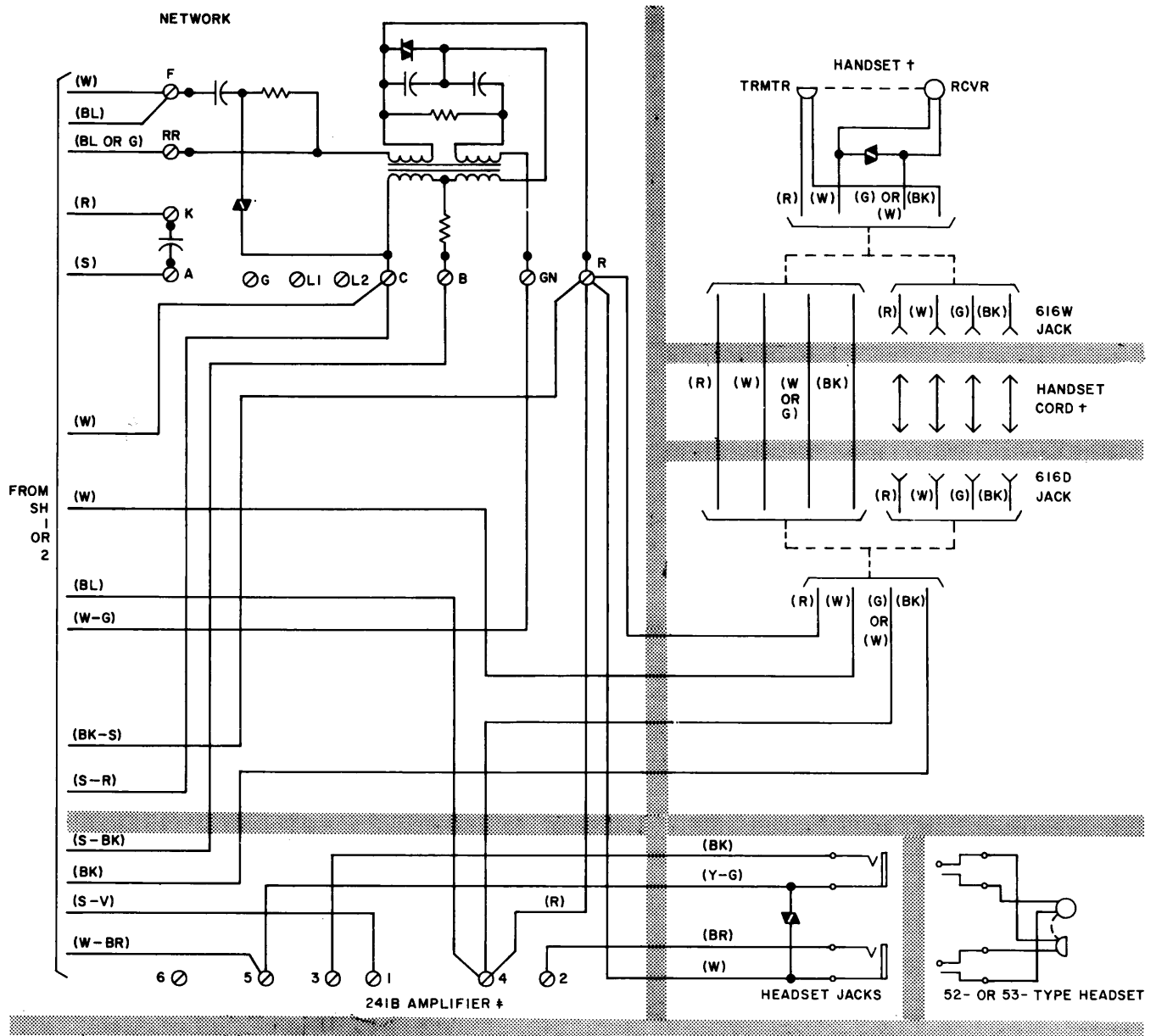


Fig. 29—514B (MD) and 514BM Telephone Set, Connections (Sheet 2 of 3)



## NOTES:

1. CONNECT TO TIP AND RING OR TO COMMON OR PRIVATE LINE RINGER CIRCUIT AT CONNECTING BLOCK AS REQUIRED.
2. CURRENT LINE SWITCH SEQUENCE, HANDSET REMOVED:  
(1) bc-MAKES (2) de-MAKES (3) gf-BREAKS
3. WHEN VISUAL SIGNAL INDICATION (D-179968 OR D-179969 KIT OF PARTS) IS PROVIDED, CONNECT LAMP LEADS TO TERMINAL E1 AND E2.
4. REFER TO APPROPRIATE TABLE FOR BUSY LAMP CONNECTIONS.

\* INSULATED AND STORED  
† REFER TO APPROPRIATE TABLE FOR CODE.

\* CURRENT SETS E/W 241B AMPLIFIER  
EARLY (MD) SETS E/W 241A AMPLIFIER  
DP DIAL PULSE  
ON OFF-NORMAL

Fig. 29—514B (MD) and 514BM Telephone Set, Connections (Sheet 3 of 3)

TABLE P

**MODIFICATION TO PROVIDE STATION BUSY LAMP IN  
514B (MD) TELEPHONE SET**

| LEAD                     | COLOR         | REMOVE FROM | CONNECT TO                                                                              |
|--------------------------|---------------|-------------|-----------------------------------------------------------------------------------------|
| Line<br>Switch           | (BR)<br>[S-W] | 5           | E1                                                                                      |
| Headset<br>On-Off<br>Key | (BR)          | 5           | E1                                                                                      |
| KS-15724, L1<br>Diode    |               |             | E1  5 |

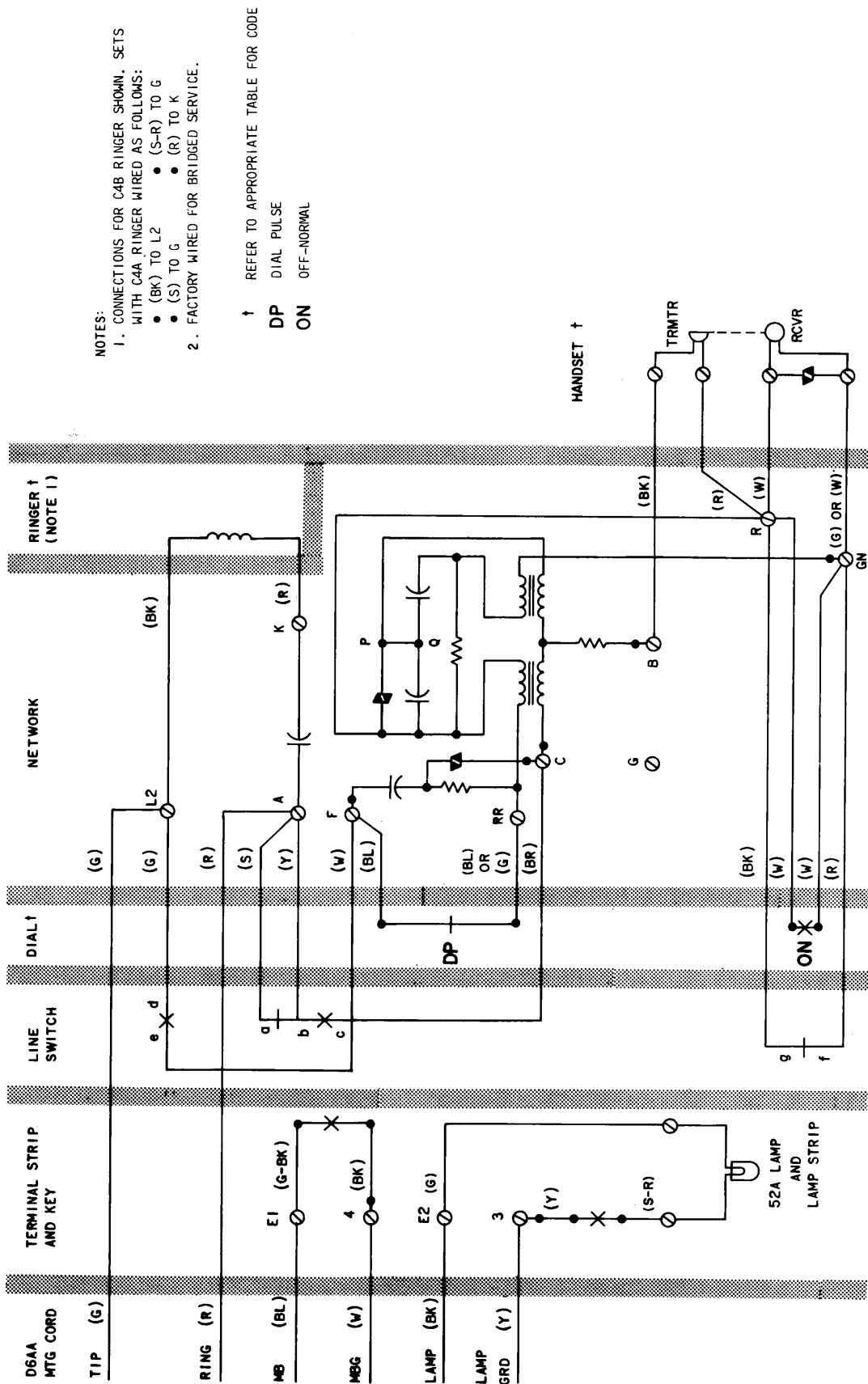


Fig. 30—516B (MD) Telephone Set, Connections

