

## VOICE STATION SIGNALING ON MANUAL INTERCOMS IDENTIFICATION, INSTALLATION, AND MAINTENANCE

### 1. GENERAL

**1.01** This section covers voice signaling on manual intercom circuits using a 107B SPOKESMAN® loudspeaker set, a 6-, 10-, or 20-button telephone set, and CALL DIRECTOR® telephone sets.

**1.02** This section is reissued to:

- Add information on the use of 10- and 20-button telephone sets and CALL DIRECTOR telephone sets
- Add information on the use of a called loudspeaker station without an associated telephone set
- Revise Fig. 1
- Add new Fig. 2
- Add new Fig. 3
- Revise Tables A and B
- Revise connection and operation information
- Include loudspeaker housing as a replaceable component
- Include 24-volt key system battery as power source for loudspeaker.

Since this reissue is a general revision, arrows ordinarily used to indicate changes have been omitted.

### 2. IDENTIFICATION

**2.01 Purpose**—To provide voice signaling on manual intercoms.

**2.02 Application**—For use with all telephone sets shown in Table A.

#### 2.03 Ordering Guide

- Set, Loudspeaker, 107B-\*

##### (a) Replaceable Components:

- Cord, Mounting, D6AF-87 (available in 7-, 14-, or 25-foot lengths; specify length desired)
- Housing (see Table B).

##### (b) Associated Apparatus (order separately if required):

- Bracket, 77A
- Transformer, 2012B
- Key, 551A
- Buzzer, KS-20419L1
- Clamp, 2A
- Connecting Block, 66E8-25
- Adapter, 149B.

### 3. INSTALLATION

#### A. Planning

**3.01** An external 18- to 24-volt ac or dc power source is required. This power may be provided by:

- A 2012B transformer

\*Refer to Table B for color selection.

#### NOTICE

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

- The 18-volt ac terminals of available power plant
- A 24-volt key system battery
- For temporary power supply, a 22.5- to 30-volt battery.

**3.02** When a 2012B transformer is used for power, the customer must provide a separately fused ac receptacle *not* under control of a switch.

**3.03** The maximum length of IW cable used between the power supply and loudspeaker should not exceed 200 feet.

**3.04** The maximum length of IW cable used between the loudspeaker and the associated telephone set should not exceed 100 feet.

**B. Installing**

**3.05** When a spare button on telephone set is used to operate voice signaling on manual intercoms, the button must be converted from locking to nonlocking by removing the locking pin. For the method of removing the locking pin, refer to the section listed in Table A for the telephone set being used.

**3.06** When an external 551A key is used to operate voice signaling on manual intercom, mount key on 77A bracket.

**3.07 The 6-Button Telephone Sets**—Bring the loudspeaker mounting cord directly into the telephone set and insulate and store R and G leads. The power supply may be brought into the telephone set over spare cord conductors and connected to the loudspeaker set cord using spare terminals as shown in Table A and Fig. 1.

**3.08 The 10- and 20-Button Telephone Sets**—These sets do not have suitable spare leads or terminals for voice-signaling connections and require the use of a 66E8-25 connecting block at the called station for access to the required leads (Fig. 2).

*Note:* The 149B adapter can be used instead of the 66E8-25 in some applications; it does not provide access to all leads passing through it.

One of the line buttons of the calling station may be used for initiating the voice-signaling function as shown in Fig. 2. Power connections to the loudspeaker at the called station are via terminals on the 66-type block.

**3.09 Call Director Telephone Sets**—Screw terminals are not available in CALL DIRECTOR telephone sets; therefore, a 66E8-25 connecting block should be used at the called station for access to the required leads (Fig. 2).

**3.10 Standalone Arrangement**—The called station can consist of a loudspeaker alone without any associated telephone set. A generalized example of this arrangement is provided in Fig. 3.

**4. CONNECTIONS**

**4.01** An example of connections for voice signaling with manual intercom using typical 6-button telephone sets is shown in Fig. 1. Connections for typical 20-button sets using a 66-block at the called station are shown in Fig. 2. While there may be many ways to set up an arrangement for voice signaling with manual intercom, the following requirements must always be met:

- A manual intercom path consisting of a T, R pair must exist between the calling and called station
- The input of the loudspeaker at the called station must be bridged across the intercom T, R pair
- The power and ground, which turn on the loudspeaker for voice signaling, must be under the control of a button at the calling station.

**A. 6-Button Telephone Sets (Fig. 1)**

**4.02** Connect loudspeaker set mounting cord to telephone set at called station as follows:

- Connect (W) lead to tip of manual intercom line.
- Connect (BL) lead to ring of manual intercom line.
- Connect (Y) lead to BZ1 lead of telephone set using spare terminal as shown in Table

A. If BZ1 is not available, use spare conductor in telephone set mounting cord.

- Connect (BK) lead to SG terminal of telephone set.

**4.03** At calling station connect external 551A key or converted telephone set button—for 551A key, use spare conductors in telephone set mounting cord; for converted telephone set button, use appropriate cord conductors. See section pertaining to telephone set being used for conductor colors.

**Note:** Connections for a buzzer circuit in addition to intercom signaling are shown in Fig. 1. If buzzer is not required, these connections can be omitted.

**B. 10-, 20-Button, and CALL DIRECTOR Telephone Sets (Fig. 2)**

**4.04** At the called station, connect the cable for the key telephone system (KTS) equipment into the plug of the 66E8-25 block installed near the telephone. Connect the telephone mounting cord to the receptacle of the 66-type block.

**4.05** Connect the loudspeaker mounting cord to the 66E8-25 block as follows:

- Connect the (W) lead to the tip of the manual intercom line
- Connect the (BL) lead to the ring of the manual intercom line
- Connect the (Y) lead to the terminal of the 66-type block where 24-volt battery will be available
- Connect the (BK) lead to the terminal of the 66-type block where ground will be available.

**4.06** At the calling telephone set, modify the button selected for voice-signaling control so that it provides a path for battery to the distant loudspeaker. At the corresponding button on the called station, disconnect the lamp so that it does not light when the loudspeaker is turned on.

**4.07** Connect B ground through the connector cable to the terminal on the 66-type block where the loudspeaker ground lead is connected.

**4.08 Standalone Arrangement**—Use inside wire to apply manual intercom tip and ring and battery and ground to the loudspeaker set.

**5. OPERATION**

**5.01** The telephone set used to operate the voice signaling on manual intercom is used in the normal manner. The handset must be off-hook and the manual intercom line button depressed.

**5.02** Before using the voice-signaling arrangement, turn the ON/OFF switch of the 107B loudspeaker clockwise. This closes the power input path to the loudspeaker, allowing the operator of the calling telephone to control the on/off status of the loudspeaker with the voice-signaling button.

**5.03** Use the voice-signaling feature as follows:

- (1) At calling station, lift receiver off-hook, depress manual intercom line button
- (2) Depress voice-signaling button on operating telephone set and hold depressed during voice signaling



*The possibility of acoustic feedback (singing) exists whenever the called party receiver is off-hook on the intercom line and the calling party has the voice-signal key depressed. To avoid this problem, place the loudspeaker and telephone set as far apart as possible and set volume control of loudspeaker as low as possible.*

- (3) At called station, adjust volume control of 107B loudspeaker to a satisfactory level.

**5.04** Do not turn loudspeaker ON/OFF switch to the OFF position. This will disable the voice signaling.

**6. MAINTENANCE**

**6.01** For maintenance of the associated telephone sets, refer to the section covering the type of set involved.

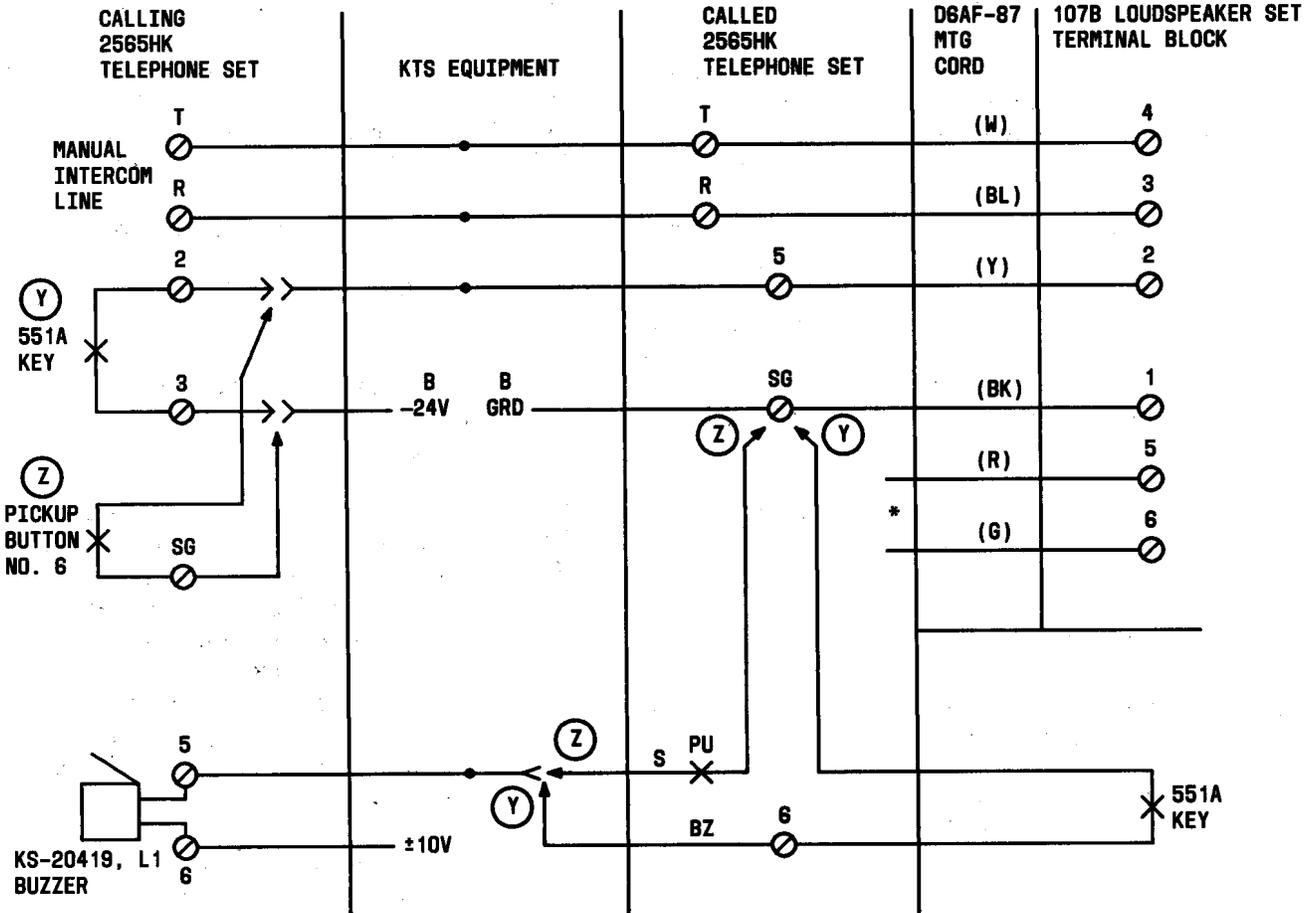
**6.02** Maintenance of the 107B loudspeaker is limited to replacing the mounting cord and the housing.

6.03 When it is reported that voice signaling does not operate, check the following:

- Volume control on 107B loudspeaker turned too low
- ON/OFF switch on 107B loudspeaker turned to OFF position

- Power source disconnected

- Wiring of loudspeaker and nonlocking key.



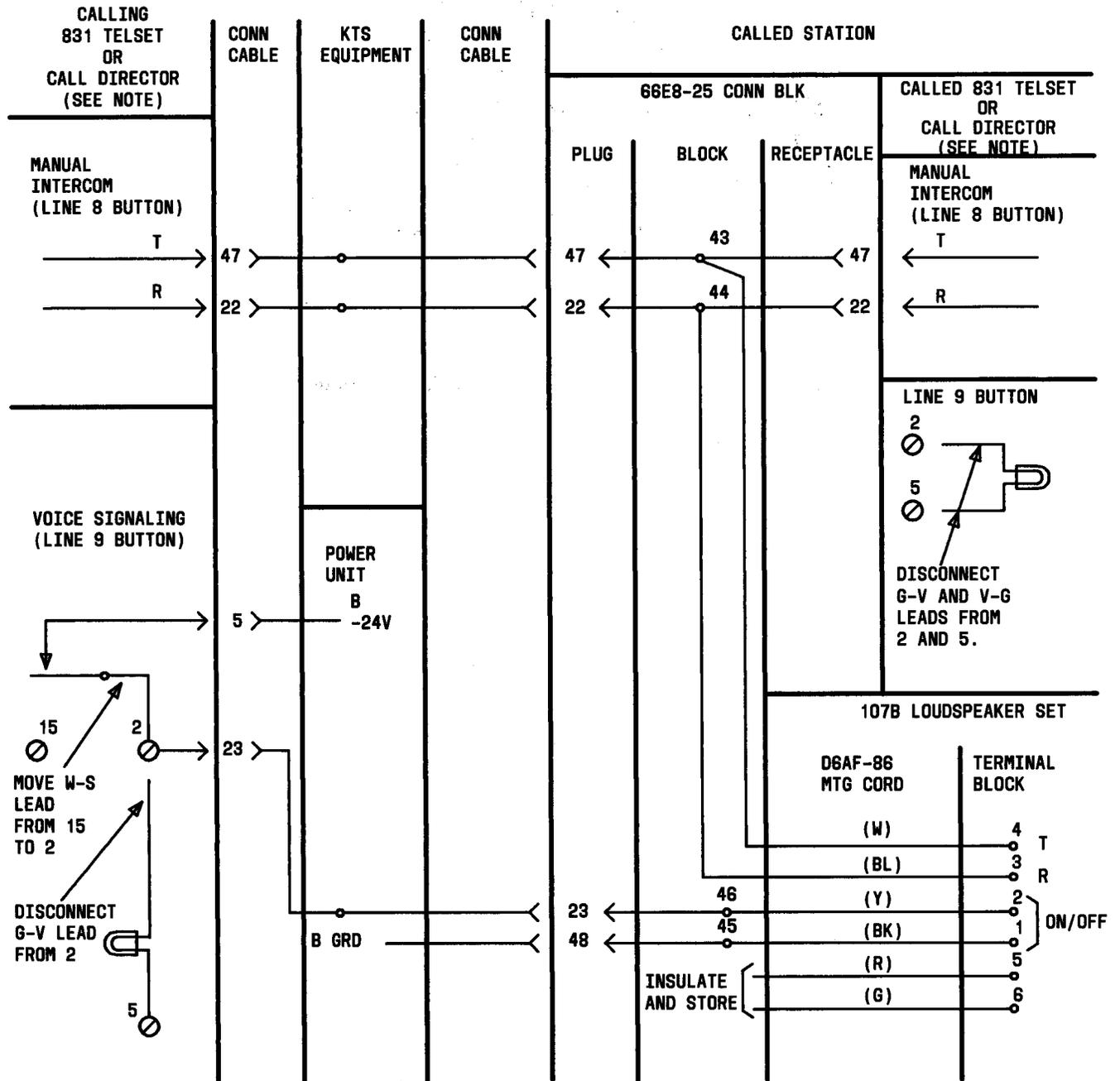
**LEGEND**

\*INSULATE AND STORE SPOKESMAN (R) LEADS

(Y) EXTERNALLY MOUNTED KEY

(Z) CONVERTIBLE NONLOCKING KEY ON TEL SET

Fig. 1—Example of Connections for Voice- and Conventional-Signaling Arrangements With Manual Intercom Using 2565HK Telephone Sets



NOTE: TELSET TERMINAL DESIGNATIONS SHOWN FOR 831 SET ONLY;  
SIMILAR DESIGNATION APPLY TO CALL DIRECTORS.

Fig. 2—Example of Connections for Voice-Signaling Arrangement With Manual Intercom Using 831-Type Telephone Sets

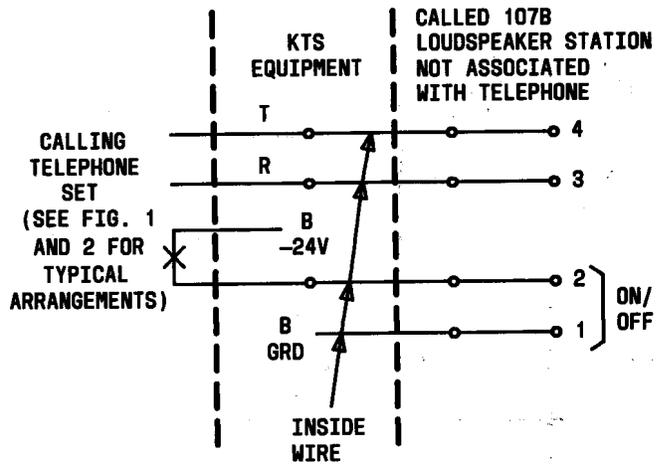


Fig. 3—Example of Standalone Voice-Signaling Arrangement

**TABLE A**  
**CONNECTIONS FOR SPOKESMAN POWER**

| TELEPHONE SETS | TERMINAL FOR BZ/BZ1 LEADS | SPARE TERMINAL | NUMBER OF SPARE LEADS | SEE SECTION |
|----------------|---------------------------|----------------|-----------------------|-------------|
| 564HD (MD)     |                           | *              | 4                     | 502-541-406 |
| 564HD (MD)     | 4,3                       | 5,6            | 2                     | 502-541-407 |
| 564HL          | 4,3                       | 5,6            | 2                     | 502-541-407 |
| 565HDR (MD)    |                           | 1,2,3,4        | 4                     | 502-541-410 |
| 565GK          |                           | 1,2,5,6,9      | 5                     | 502-541-414 |
| 565HK          | 5,6                       | 1,2,3,4        | 4                     | 502-541-415 |
| 565LK          | 5,6                       | 1,2,3,4        | 4                     | 502-541-416 |
| 630DAM         | 22,27                     | None†          | None†                 | 502-610-407 |
| 631DAM         | 22,27                     | None†          | None†                 | 502-610-407 |
| 636CAM         | 22,27                     | None†          | None†                 | 502-610-418 |
| 637DAM         | 22,27                     | None†          | None†                 | 502-610-418 |
| 830            | 12,14                     | None†          | None†                 | 502-701-101 |
| 831            | 12,14                     | None†          | None†                 | 502-702-101 |
| 852            | 20,21                     | None†          | None†                 | 503-701-102 |
| 2565GK         |                           | 2,5,6,9        | 4                     | 502-543-403 |
| 2565HK         | 5,6                       | 2,3,4          | 3                     | 502-543-405 |
| 2565LK         | 5,6                       | 2,3,4          | 3                     | 502-543-406 |
| 2630DAM        | 22,27                     | None†          | None†                 | 502-612-401 |
| 2631DAM        | 22,27                     | None†          | None†                 | 502-612-401 |
| 2636DAM        | 22,27                     | None†          | None†                 | 502-612-410 |
| 2637DAM        | 22,27                     | None†          | None†                 | 502-612-410 |
| 2830           | 12,14                     | None†          | None†                 | 502-701-101 |
| 2831           | 12,14                     | None†          | None†                 | 502-702-101 |
| 2832           | 20,21                     | None†          | None†                 | 502-701-102 |

\* Auxiliary terminal 812559623 (P-25E962).

† Use 66E8 connecting block or 149B adapter for access to required leads.

TABLE B  
COLOR ORDERING GUIDE

| APPARATUS                              | COLOR       | SUFFIX | COMCODE   |
|--|-------------|--------|-----------|
| Housing,<br>107B<br>Loudspeaker<br>Set | Black       | -03    | 828150037 |
|  | Ivory       | -50    | 828150508 |
|  | Green       | -51    | 828150516 |
|  | Red         | -53    | 828150532 |
|  | Light Beige | -60    | 828150607 |
|  | Yellow      | -56    | 828150565 |
|  | White       | -58    | 828150581 |
|  | Aqua Blue   | -62    | 828150623 |