

## 851- AND 2851-TYPE TELEPHONE SETS

### CONNECTIONS

### SPEAKERPHONE SYSTEM—4A

#### 1. GENERAL

1.01 This section contains information necessary to connect the 851- and 2851-type telephone sets to provide 4A speakerphone service. Refer to Section 512-700-100 for detailed information on components of the 4A speakerphone system.

1.02 This section is reissued to:

- Revise safety information for the 85B1 power unit
- Revise Fig. 2 and 3
- Add installation information pertaining to the length of adapter cord.

1.03 Rotary telephone sets equipped with an 8RA dial must be equipped with an 8CA dial when used with 4A speakerphone. The two (Y) leads of second set of off-normal contacts on 8CA dial shall connect to same set terminals as P3 and P4 speakerphone leads.

#### 2. CONNECTIONS

##### A. 223-Type Adapter

**Note:** ♦When planning an installation of 4A speakerphone components with the 851- or 2851-type telephone set, careful consideration must be given to the location of the 223A (MD) or 223D adapter because the M16C (MD) or M16H adapter cord is available in 7- and 14-foot lengths only.♦

2.01 Telephone sets are connected to the speakerphone system by means of a 223A (MD) or 223D adapter which consists of the following.

(a) Plastic housing.

(b) M16C (MD) or M16H cord for connecting to telephone set.

(c) M2FG cord for connecting the power supply.

**Note:** Cords from the 108-type loudspeaker set, 680-type transmitter, and 85B1 power unit plug into the connector of the adapter cord.

2.02 After cords are installed in the proper receptacles of the adapter, the cover must be fastened securely to assure proper mating of connectors.

2.03 **Ringer Cutoff** can be provided by connecting ringer leads as shown in Fig. 2 or 3. Ringer cutoff provides cut off of the telephone set ringer through the loudspeaker set relay contacts while on speakerphone.

2.04 **Auxiliary Relay** feature provides a contact closure for operation of an auxiliary relay key telephone unit when it is desired to cut off several signals (Fig. 2 or 3).

2.05 When a nonspeakerphone equipped 851- or 2851-type telephone set is multiplied with sets furnishing speakerphone features, certain leads must be disconnected, insulated, and stored to avoid interference with working circuits. The designation of leads to be removed are as follows: T1 (V-G), R1 (G-V), P3 or IT (V-BR), P4 or IR (BR-V), AG (V-S), and LK (S-V). Refer to Section 502-110-100 for detailed information.

##### B. 108-Type Loudspeaker Set

2.06 Loudspeaker set and transmitter must be a minimum of one foot apart.

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**C. 680-Type Transmitter**

2.07 Transmitter must be at least two feet from transformer or any ac powered device.

**D. 85B1 Power Unit**

2.08 Use an ac power outlet (not under control of a switch) as close as possible to the system being installed. A retaining clamp (841050818) will be shipped with the 85B1 power unit and should be mounted to the ac receptacle to hold power unit securely and to prevent accidental loss of power.

2.09 Power can be provided by making connections as shown in Fig. 1, 2, and 3.

2.10 The 85B1 power unit should be located less than 125 feet from 108-type loudspeaker set when using 24 gauge wire or less than 85 feet when using 26 gauge wire. Refer to Section 512-700-100 for detailed information on power supply applications.

**Danger:** ♦For safety, securely attach retaining clamp to ac outlet using outlet cover screw before attempting to install 85B1 power unit. The power unit and any other cord plugged into the ac outlet should always be

*unplugged completely from outlet BEFORE attempting to attach or remove the retaining clamp. This will prevent the possibility of a loosened retainer clamp or metallic outlet cover making contact with the ac prongs on the 85B1 power unit when partially withdrawn from outlet. Do not use retaining clamp on outlets where cover mounting screw holds the duplex outlet in the box.♦*

**Warning:** ♦Care should be taken to trim and dress leads connecting to low voltage output terminals of 85B1 power unit to assure that inadvertent connection to conducting surfaces or other power source does not occur. If more than one power unit is plugged into a multiple receptacle power strip, there must be at least one inch separation between power units. Only UL listed receptacle power strips with adequate power rating shall be used. Use of a continuous terminal power strip that allows the secondary output terminals of the transformer to be in close proximity to the ac line source is not recommended.♦

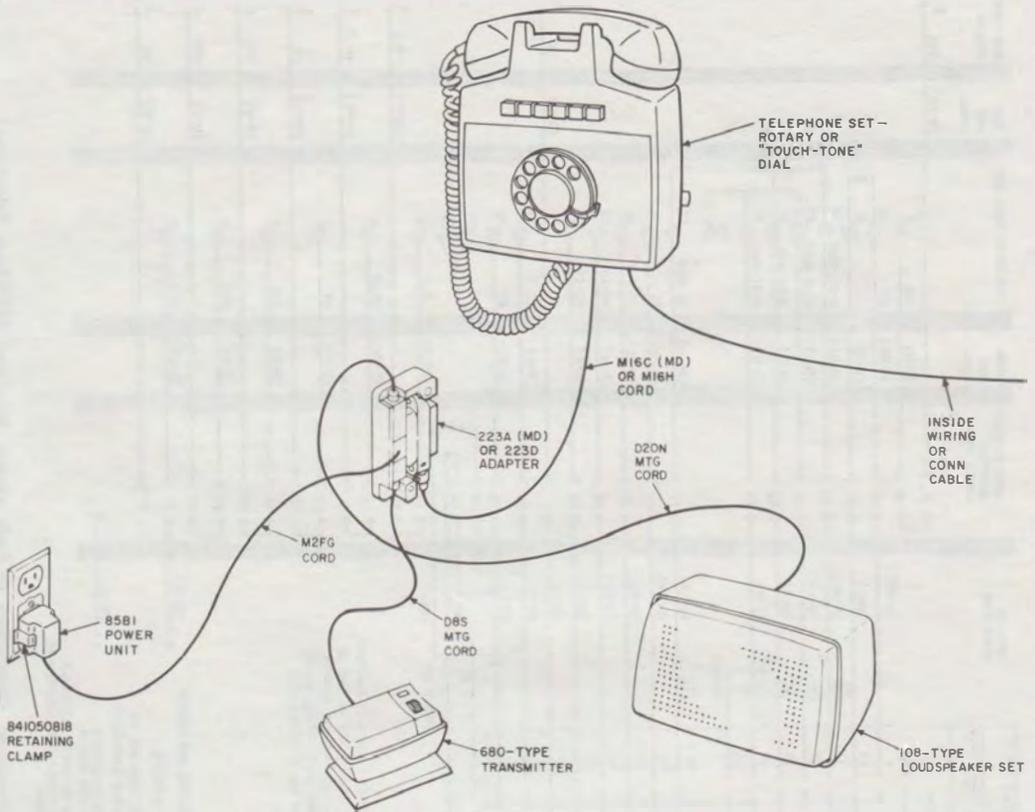


Fig. 1—4A Speakerphone System Arrangement, 6-Button Wall Telephone Set



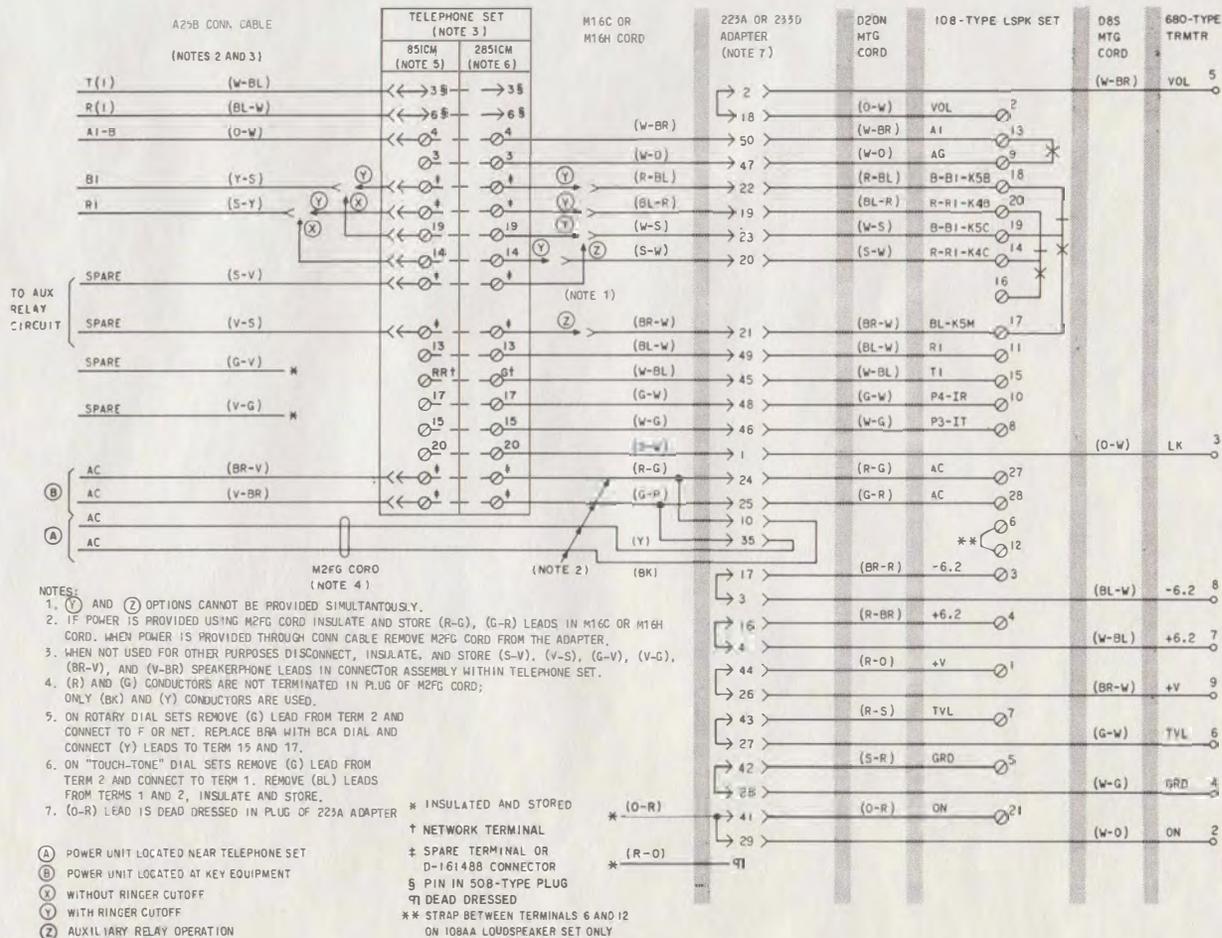


Fig. 3—4A Speakerphone System Arrangement, Connections to 851CM or 2851CM Telephone Sets

## 852- AND 2852-TYPE TELEPHONE SETS

### CONNECTIONS

### SPEAKERPHONE SYSTEM—4A

#### 1. GENERAL

**1.01** This section contains information necessary to connect the 852- and 2852-type telephone sets to provide 4A speakerphone service. Refer to Section 512-700-100 for detailed information on components of the 4A speakerphone system.

**1.02** This section is reissued to:

- Add safety information for the 85B1 power unit
- Revise Fig. 2.

**1.03** Rotary telephone sets equipped with an 8RA dial must be equipped with an 8CA dial when used with a 4A speakerphone.

#### 2. CONNECTIONS

##### A. 223D Adapter

**Note:** When planning an installation of 4A speakerphone components with the 852- or 2852-type telephone set, careful consideration must be given to the location of the 223D adapter because the M16H cord is available in 7- and 14-foot lengths only.

**2.01** Telephone sets are connected to the speakerphone system by means of a 223D adapter which consists of the following.

- (a) Plastic housing.
- (b) M16H cord for connecting to telephone set.
- (c) M2FG cord for connecting the power supply.

**Note:** Cords from the 108-type loudspeaker set, 680-type transmitter, and 85B1 power unit plug into the connector of the M16H cord.

**2.02** After cords are installed in the proper receptacles of the adapter, the cover must be fastened securely to assure proper mating of connectors.

**2.03** *Ringer Cutoff* can be provided by connecting ringer leads as shown in Fig. 2. Ringer cutoff provides cut off of the telephone set ringer through the loudspeaker set relay contacts while on speakerphone.

**2.04** *Auxiliary Relay* feature provides a contact closure for operation of an auxiliary relay key telephone unit when it is desired to cut off several signals (Fig. 2).

**2.05** When an 852- or 2852-type telephone set is multiplied with sets furnishing speakerphone features, certain leads must be disconnected, insulated, and stored to avoid interference with working circuits. The designation of leads to be removed are as follows: T1 (V-G), R1 (G-V), P3 or IT (V-BR), P4 or IR (BR-V), AG (V-S), and LK (S-V).

##### B. 108-Type Loudspeaker Set

**2.06** Loudspeaker set and transmitter must be a minimum of one foot apart.

##### C. 680-Type Transmitter

**2.07** Transmitter must be at least two feet from transformer or any ac powered device.

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**D. 85B1 Power Unit**

**2.08** Use an ac power outlet (not under control of a switch) as close as possible to the system being installed. A retaining clamp (841050818) will be shipped with the 85B1 power unit and should be mounted to the ac receptacle to hold power unit securely to prevent accidental loss of power.

**2.09** Power can be provided by making connections as shown in Fig. 1 and 2.

**2.10** The M2FG cord is furnished as part of the 223D adapter for connecting the 85B1 power unit.

**2.11** The 85B1 power unit should be located less than 125 feet from 108-type loudspeaker set when using 24 gauge wire or less than 85 feet when using 26 gauge wire. Refer to Section 512-700-100 for detailed information on power supply applications.

**Danger:** ⚡ *For safety, securely attach retaining clamp to ac outlet using outlet cover screw before attempting to install 85B1 power unit. The power unit and any other cord plugged into the ac outlet should always be unplugged completely from outlet*

**BEFORE attempting to attach or remove the retaining clamp. This will prevent the possibility of a loosened retainer clamp or metallic outlet cover making contact with the ac prongs on the 85B1 power unit when partially withdrawn from outlet. Do not use retaining clamp on outlets where cover mounting screw holds the duplex outlet in the box.**⚡

**Warning:** ⚡ *Care should be taken to trim and dress leads connecting to low voltage output terminals of 85B1 power unit to assure that inadvertent connection to conducting surfaces or other power source does not occur. If more than one power unit is plugged into a multiple receptacle power strip, there must be at least one inch separation between power units. Only UL listed receptacle power strips with adequate power rating shall be used. Use of a continuous terminal power strip that allows the secondary output terminals of the transformer to be in close proximity to the ac line source is not recommended.*⚡

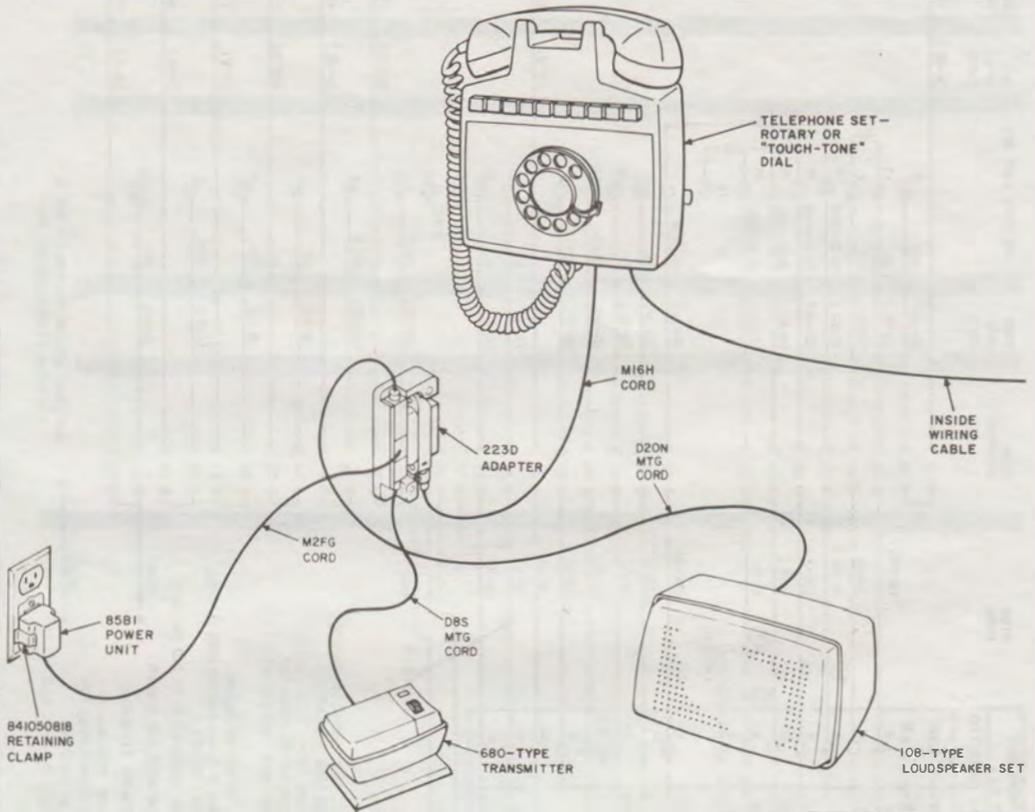
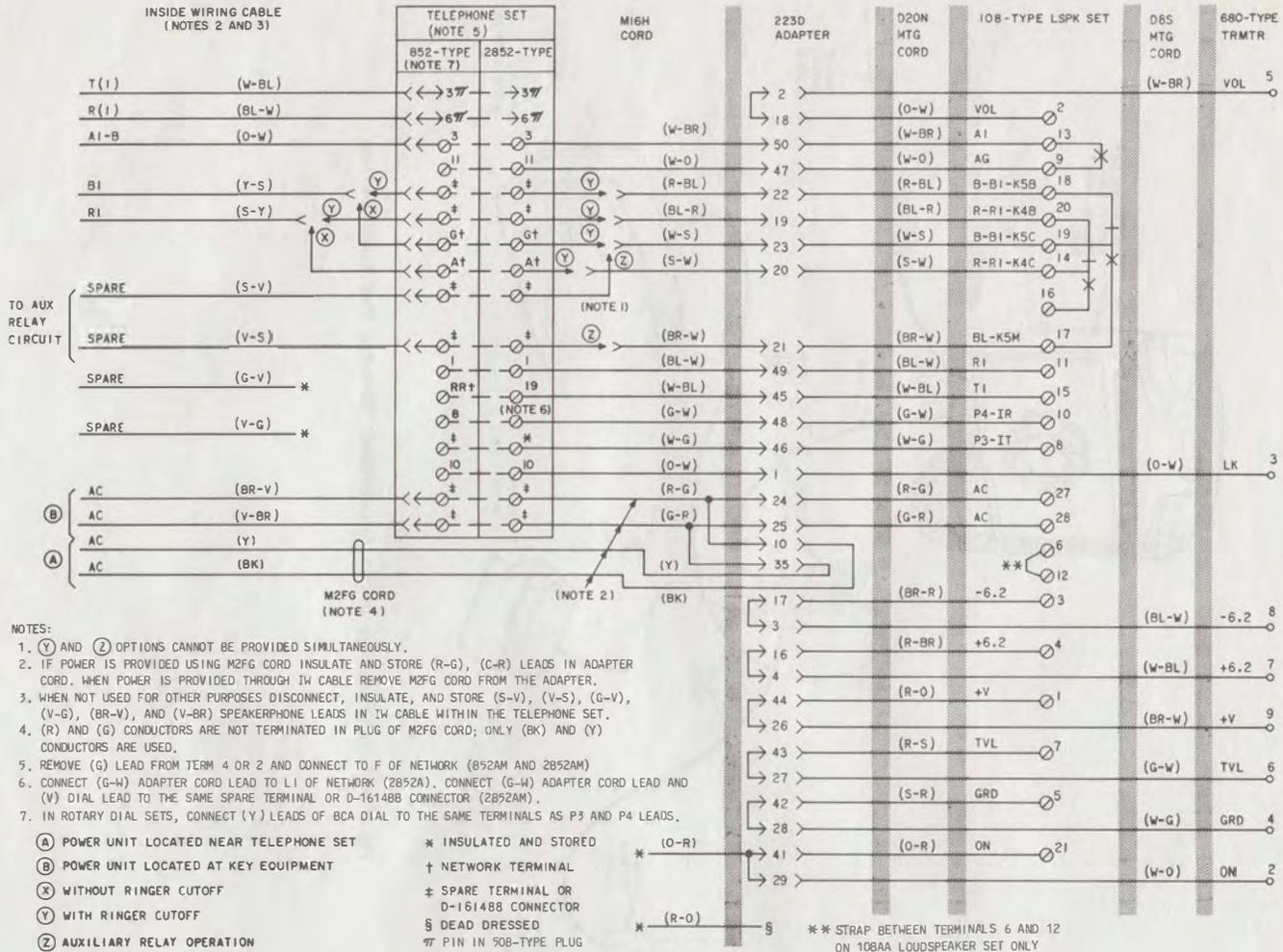


Fig. 1—4A Speakerphone System Arrangement, 10-Button Wall Telephone Sets



NOTES:

1. (Y) AND (Z) OPTIONS CANNOT BE PROVIDED SIMULTANEOUSLY.
2. IF POWER IS PROVIDED USING M2FG CORD INSULATE AND STORE (R-G), (C-R) LEADS IN ADAPTER CORD. WHEN POWER IS PROVIDED THROUGH IW CABLE REMOVE M2FG CORD FROM THE ADAPTER.
3. WHEN NOT USED FOR OTHER PURPOSES DISCONNECT, INSULATE, AND STORE (S-V), (V-S), (R-V), (V-G), (BR-V), AND (V-BR) SPEAKERPHONE LEADS IN IW CABLE WITHIN THE TELEPHONE SET.
4. (R) AND (G) CONDUCTORS ARE NOT TERMINATED IN PLUG OF M2FG CORD; ONLY (BK) AND (Y) CONDUCTORS ARE USED.
5. REMOVE (G) LEAD FROM TERM 4 OR 2 AND CONNECT TO F OF NETWORK (852AM AND 2852AM)
6. CONNECT (G-H) ADAPTER CORD LEAD TO L1 OF NETWORK (2852A). CONNECT (G-W) ADAPTER CORD LEAD AND (V) DIAL LEAD TO THE SAME SPARE TERMINAL OR D-161488 CONNECTOR (2852AM).
7. IN ROTARY DIAL SETS, CONNECT (Y) LEADS OF BCA DIAL TO THE SAME TERMINALS AS P3 AND P4 LEADS.

- (A) POWER UNIT LOCATED NEAR TELEPHONE SET
- (B) POWER UNIT LOCATED AT KEY EQUIPMENT
- (X) WITHOUT RINGER CUTOFF
- (Y) WITH RINGER CUTOFF
- (Z) AUXILIARY RELAY OPERATION
- \* INSULATED AND STORED
- † NETWORK TERMINAL
- ‡ SPARE TERMINAL OR D-161488 CONNECTOR
- § DEAD DRESSED
- ¶ PIN IN 508-TYPE PLUG

\*\* STRAP BETWEEN TERMINALS 6 AND 12 ON 108AA LOUDSPEAKER SET ONLY

Fig. 2—4A Speakerphone System Connections, Connections to 852- and 2852-Type Telephone Sets