

## 227A (MD) AND 227B KEY TELEPHONE UNITS AUDIBLE AND VISUAL SIGNALING

### IDENTIFICATION AND CONNECTIONS

#### 1. GENERAL

1.01 This section is reissued to:

- Include the 227B KTU.

#### 2. IDENTIFICATION

- Rate the 227A KTU Manufacture Discontinued.

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

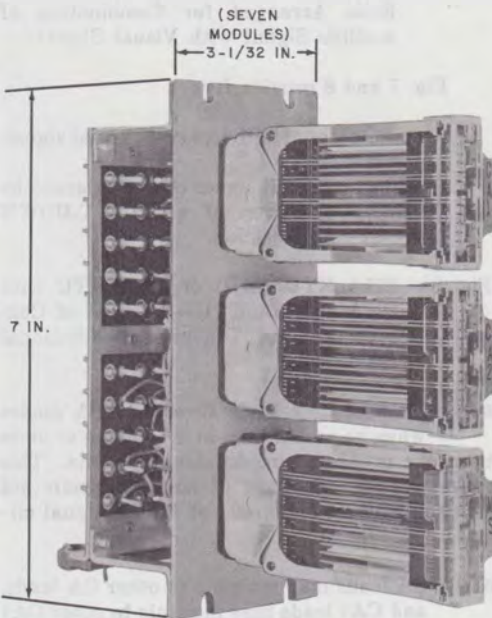


Fig. 1 — 227A (MD) and 227B KTU  
(Front View)

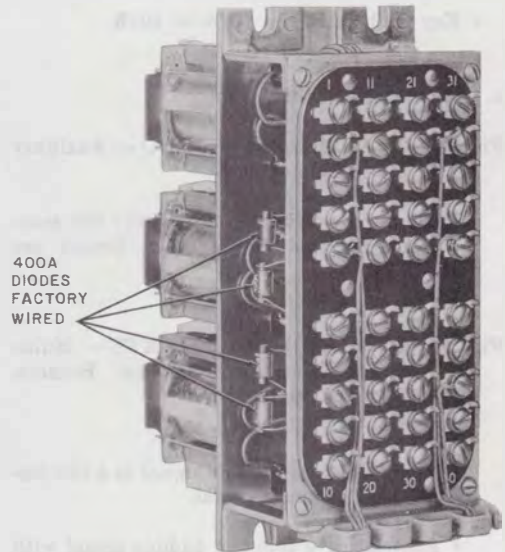


Fig. 2 — 227A (MD) and 227B  
KTU (Rear View)

**3. PURPOSE**

**3.01** To serve as a visual and audible signaling control, and switching relay for key telephone systems.

**4. DESIGN FEATURES**

- (a) Operates on 14 to 26 volts dc.
- (b) 227B KTU— all wire spring relay contacts factory-connected to screw terminals on back panel.
- (c) 227B KTU— (CA1) and (CA2) relay windings are not commonly strapped within the unit as in the 227A KTU (MD).
- (d) Four 400A diodes factory-wired to provide four CA1 leads.

**5. APPLICATION**

- 1A, 1A1, 1A2, and 6A key telephone systems.
- 2A communication system.
- Key equipment No. 101A or 101B.

**6. CONNECTION INDEX**

**Fig. 3** — 227A (MD) or 227B KTU — Auxiliary Lamp Relay Circuit.

- Used when additional lamps over the maximum permitted for a given circuit are required.

**Fig. 4** — 227A (MD) or 227B KTU — Multi-signal Control Circuit for Buzzers, Bells, or Ringers.

Provides for:

- Using the same audible signal as a line signal and common signal.
- Associating a common audible signal with one or more groups of line or signal circuits.
- Operating one or more audible signals from one line or signal circuit.

- Operating two or more signals which require different operating voltages.

**Fig. 5** — 227A (MD) or 227B KTU — Multi-signal Control for Ringers.

- A power failure feature is provided by having the common or line signals, with capacitors, connected to the tip and ring of CO, PBX or private line while relays are unoperated.

**Fig. 6** — 227A (MD) or 227B KTU — Common Audible or Station Audible for 6A Key Telephone System.

**Fig. 7** — 227A (MD) or 227B KTU — Multi-signal Control Circuit for Ringers Arranged for Combination of Audible Signal and Visual Signal.

**Fig. 8** — 227A (MD) or 227B KTU — Multi-signal Control Circuit for Buzzers or Bells Arranged for Combination of Audible Signal with Visual Signal.

**Fig. 7 and 8** provide for:

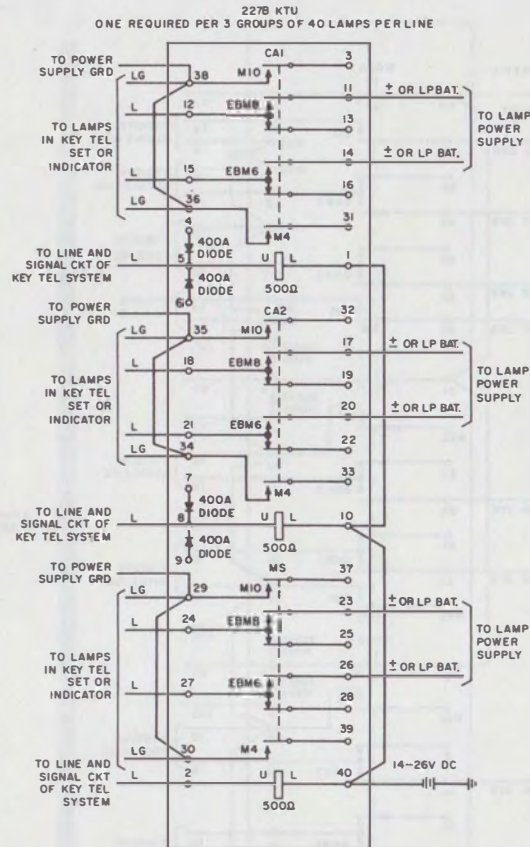
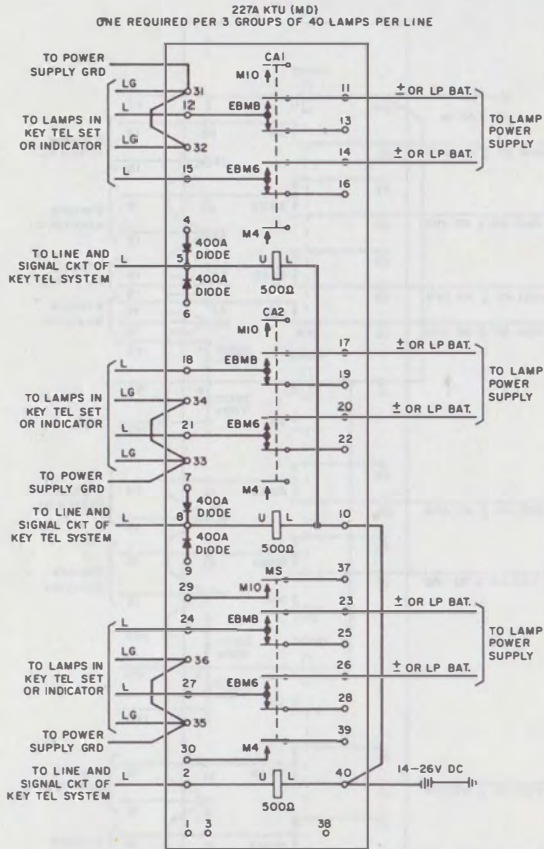
- Audible signal with locked-in visual signal.
- Locked-in visual signal can be released by manual operation of a SHUNT-DOWN key at called station.

**Fig. 9** — 227A KTU (MD) or 227B KTU with 228A or 265A KTU — Method of Connecting 400A Diodes for Additional CA1 Leads.

**6.01** Connect CA1 leads through 400A diodes when an audible signal is common to more than one group of line or signal circuits. This prevents false operation of audible signals not common to the same group of line or signal circuits.

**6.02** CA leads may multiple to other CA leads, and CA1 leads may multiple to other CA1 leads if they are common to the same line or signal circuit.

**6.03** For additional information refer to SD-69294-01.



**NOTES:**

1. CONNECT ALL LAMPS ASSOCIATED WITH THE LINE TO THIS FIGURE.
2. CONNECT RELAY GROUND TO TERMINALS DESIGNATED LAMP BATTERY ON LINE AND SIGNAL CIRCUIT.
3. CONNECT L LEAD OF 227A OR 8 KTU TO L LEAD OF LINE AND SIGNAL CIRCUIT.
4. MAXIMUM 20 LAMPS PER L LEAD.

**Fig. 3 — 227A (MD) or 227B KTU — Auxiliary Lamp Relay Circuit**

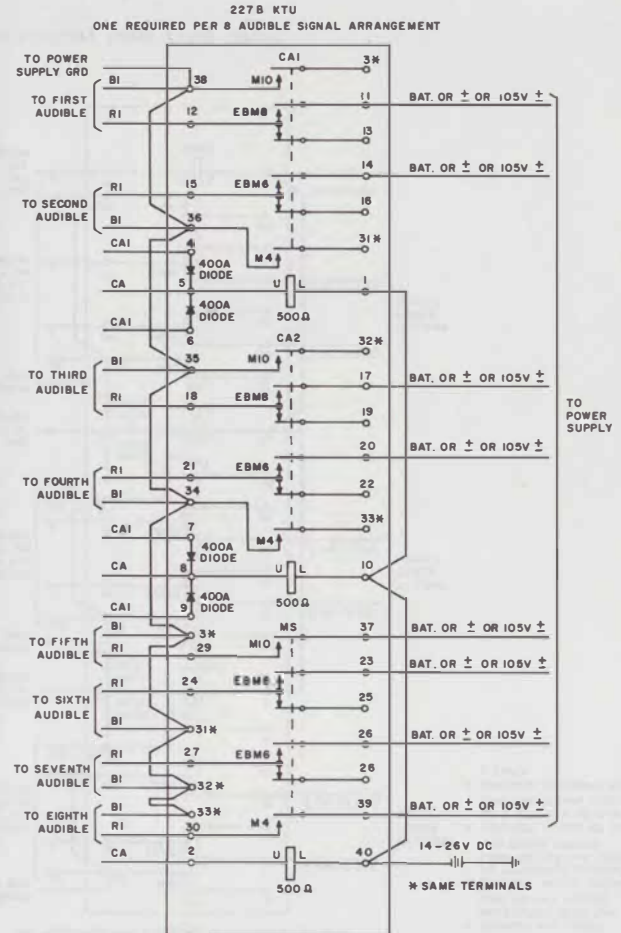
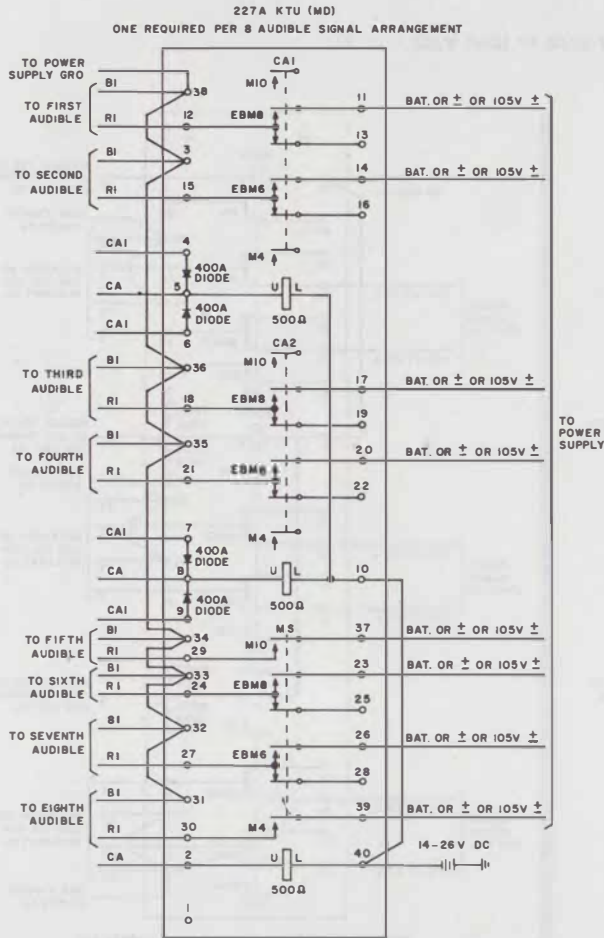
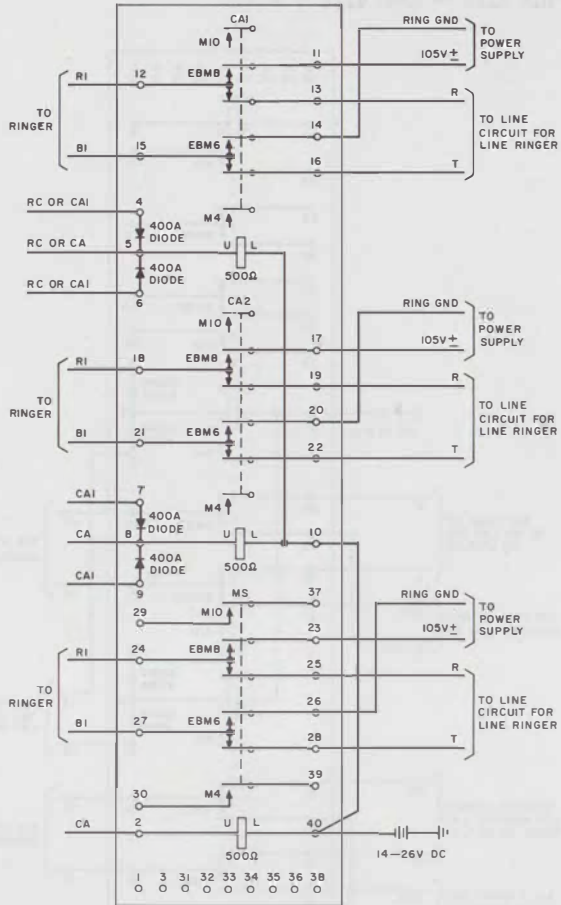


Fig. 4 — 227A (MD) or 227B KTU— Multisignal Control Circuit for Buzzers, Bells, or Ringers

227A KTU (MD)  
ONE REQUIRED PER 3 AUDIBLE SIGNAL ARRANGEMENT



227B KTU  
ONE REQUIRED PER 3 AUDIBLE SIGNAL ARRANGEMENT

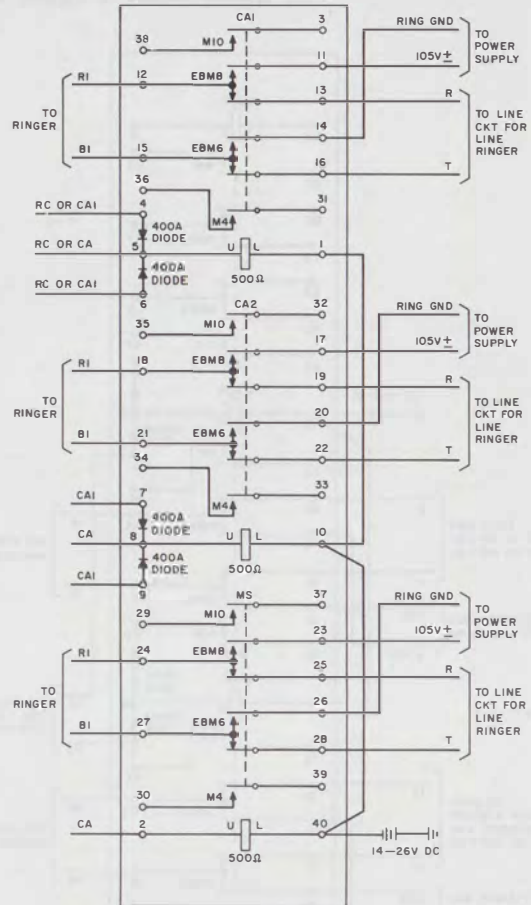


Fig. 5—227A (MD) or 227B KTU—Multisignal Control for Ringers

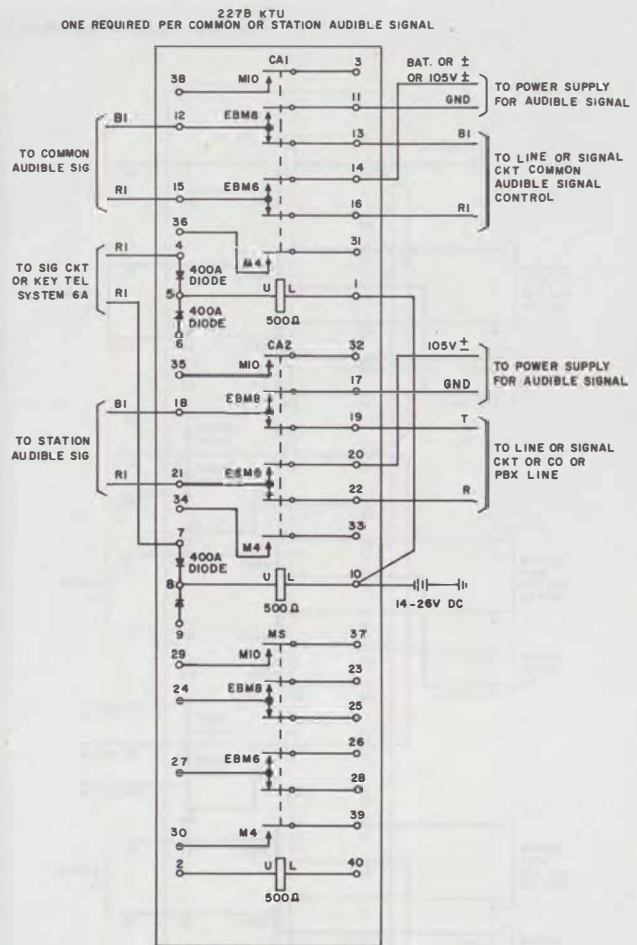
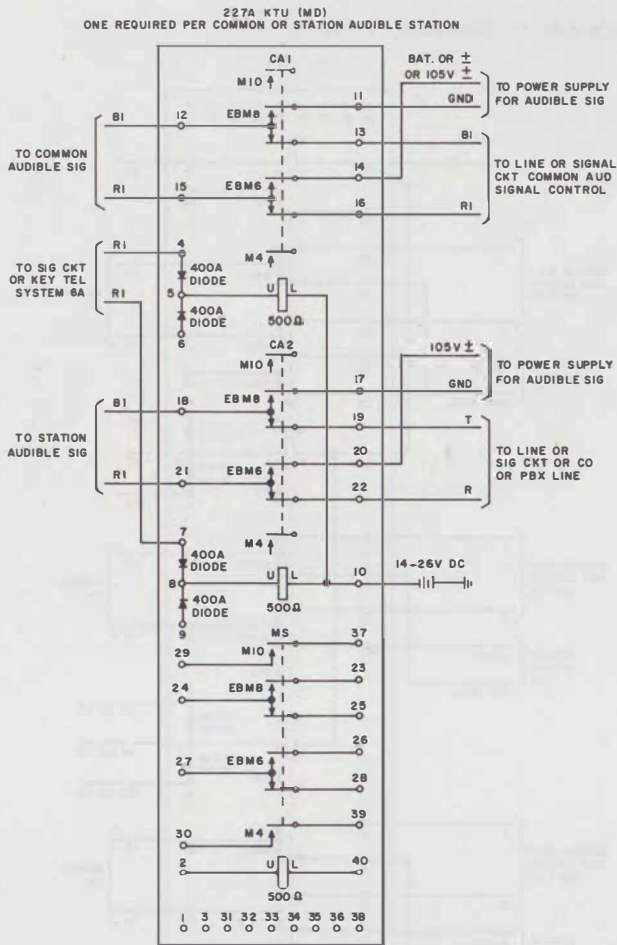


Fig. 6 - 227A (MD) or 227B KTU - Common Audible or Station Audible for 6A Key Telephone System

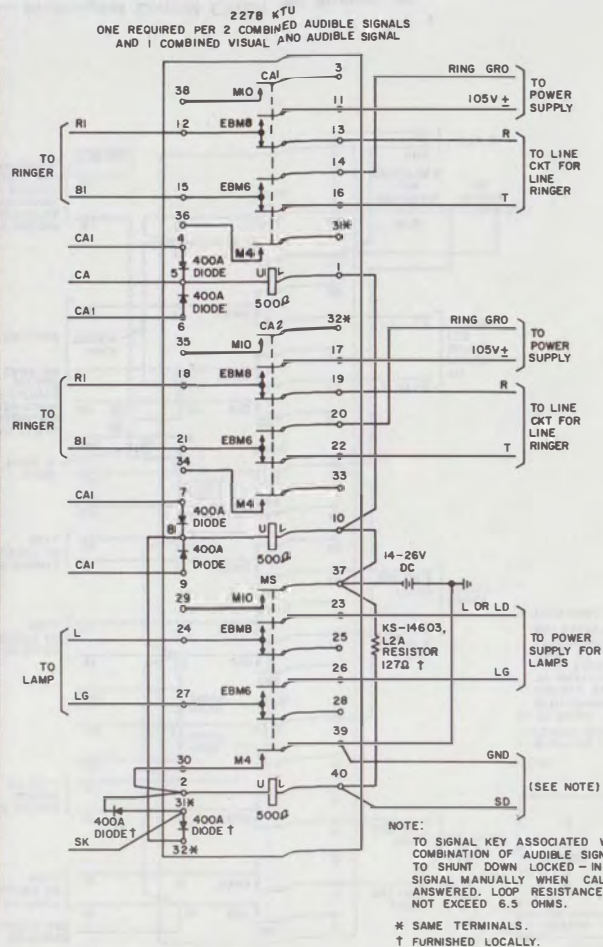
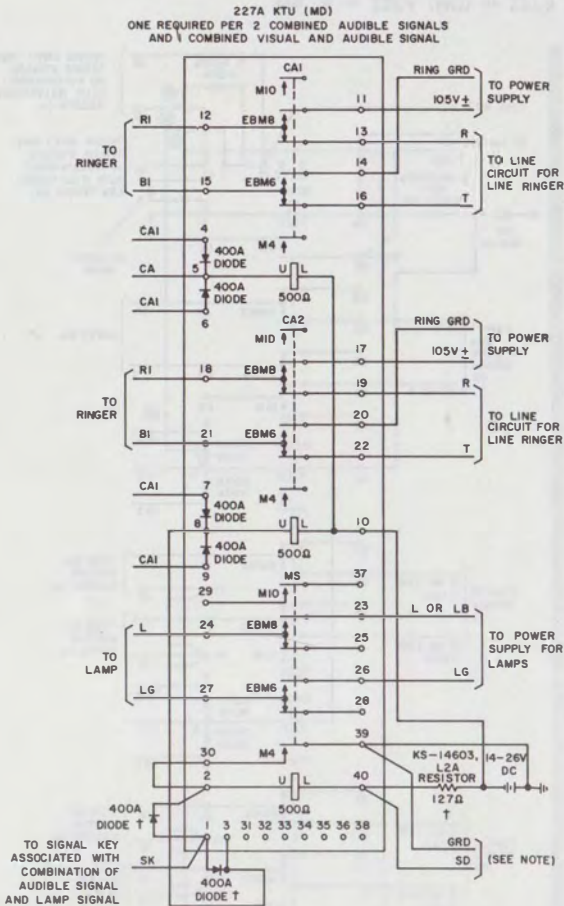
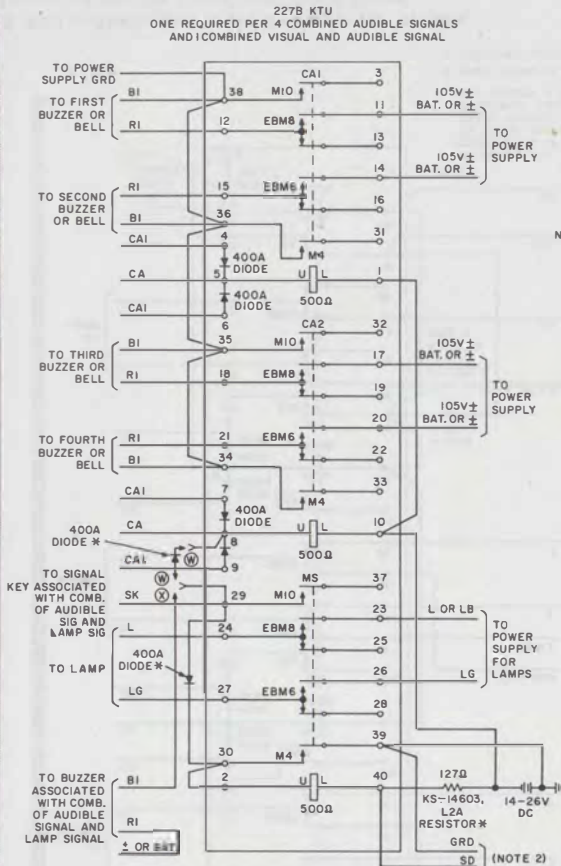
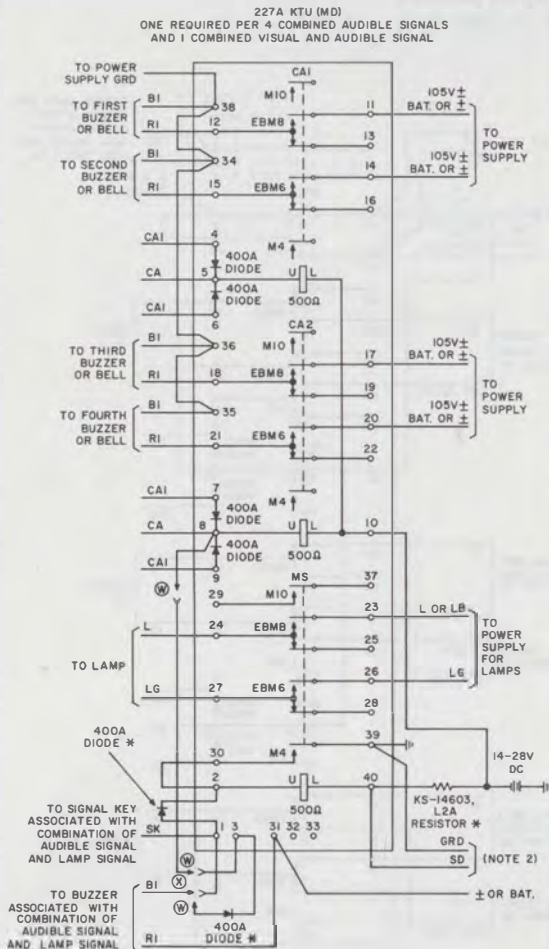


Fig. 7 - 227A (MD) or 227B KTU — Multisignal Control Circuit for Ringers, Arranged for Combination of Audible Signal and Visual Signal



OPTION TABLE

OPTION	FEATURE
W	INDIRECT OPERATION OF BUZZER OF COMB. SIG
X	DIRECT OPERATION OF BUZZER OF COMB. SIG

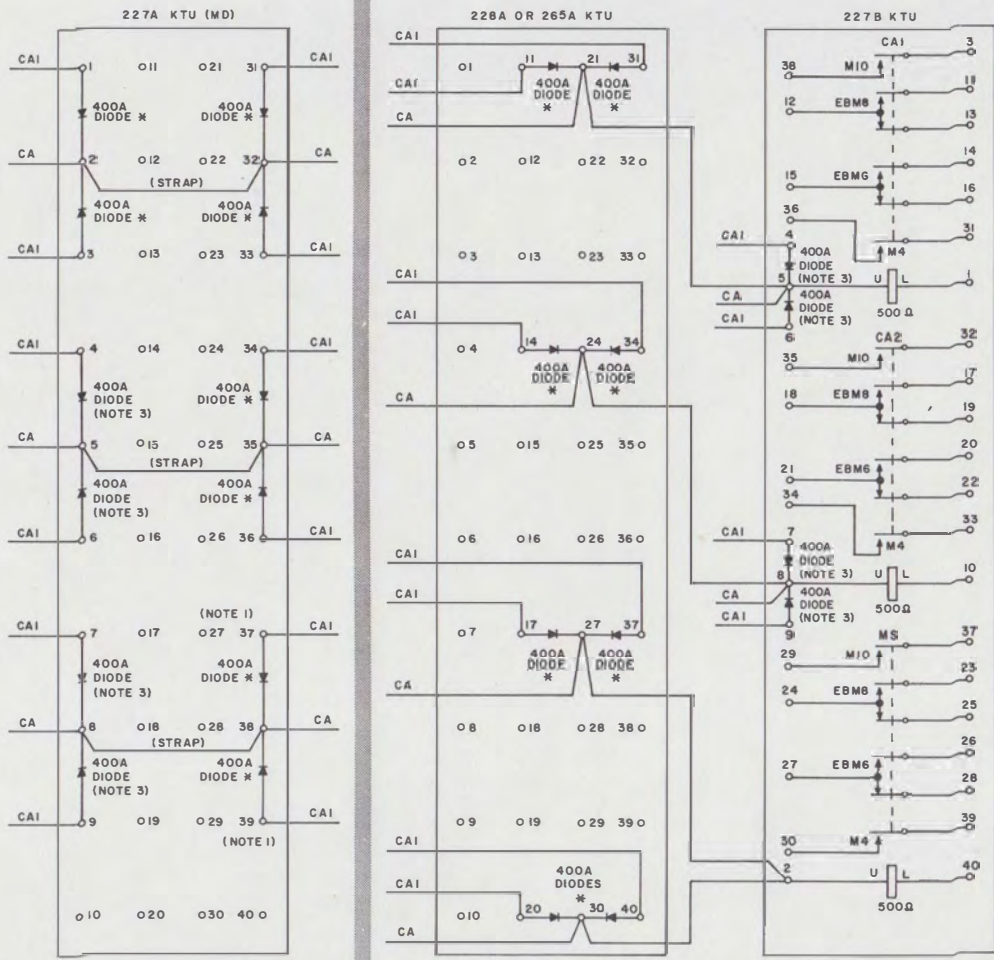
NOTES:

1. W OPTION USE THIRD AND/OR FOURTH AUDIBLE CIRCUIT.
2. TO SIGNAL KEY ASSOCIATED WITH COMBINATION OF AUDIBLE SIGNAL ARRANGED TO SHUNT DOWN LOCKED IN LAMP SIGNAL MANUALLY WHEN CALL IS ANSWERED. LOOP RESISTANCE SHALL NOT EXCEED 6.5 OHMS.

\* FURNISHED LOCALLY

Fig. 8 — 227A (MD) or 227B KTU — Multisignal Control Circuit for Buzzer or Bells Arranged for Combination of Audible Signal with Visual Signal





- NOTES:
1. DO NOT USE TERMINALS 29 AND 30 FOR ANY CONNECTIONS.
  2. STRAP NEGATIVE END OF 400A DIODE TO OPERATING LEAD OF RELAY.
  3. 400A DIODE FURNISHED WIRED AS SHOWN.
- \* PROVIDE LOCALLY.

Fig. 9 — 227A KTU (MD) or 227B KTU with 228A or 265A KTU — Method of Connecting 400A Diodes for Additional CA1 Leads