

## KEY SERVICE UNITS

### 550- AND 551-TYPES

### CONNECTIONS AND MAINTENANCE

#### 1. GENERAL

1.01 This section is reissued to:

- Add information on 550B and 551B key service units.
- Show 550A and 551A key service units MD.

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

#### 2. CONNECTIONS

##### 66B5-37 CONNECTING BLOCK

- 2.01 Refer to Section 461-604-100 for methods of strapping and terminating wire and cable.
- 2.02 Power leads are terminated to same terminals for internally or externally powered KSUs (Fig. 1 or 2).
- 2.03 The  $\pm 105$ -volt ringing supply (if required) must be from an external source, such as 107-type frequency generator (101G-type power plant) or central office generator pair. Fig. 1 or 2 shows the terminating point on the 66B5-27 connecting block where audible signal supply ( $\pm 105$ ,  $\pm 18$  volt or 24 volts dc) is terminated.



*The 1A2 system 400-type KTUs require 20 volts dc power (minimum) signal battery source. If external power source is unmodified 101G-type power plant, do not supply other equipment from it because the voltage will drop below the minimum required for reliable relay operation. No more than 20 line lamps should be supplied through one 400-type KTU; no more than 50 lamps total should be supplied from one interrupter contact.*

2.04 Ground the KSU with a single number 14 gauge wire, or cable conductors equivalent to 14 gauge copper wire. (Fig. 1 or 2). Grounding should be in accordance with the appropriate section in the 460 Plant Series Division. **Do not bond or strap to third wire in power cord for this ground.**

2.05 Terminate incoming line (*T* and *R* leads) and connect key and running cables (*T*, *R*, *A*, *A1*, *LG*, and *L* leads) on connecting block as shown in Fig 3). Terminate the first cable on terminal A, the second cable on terminal B, and so on up to five cables. If more cables are required, use loop-through terminations or provide distribution facilities.

2.06 Pushbutton and buzzer signaling circuits associated with manual intercom service should be connected as required.

2.07 Fig. 4 and 5 show connections for optional audible signaling arrangements which are obtained by strapping terminals on the connecting block.

2.08 Factory wired leads for manual intercom line service are terminated at one end of line jacks 1, 2, 3, and 4 (Fig. 6).

2.09 Fig. 7 is included to explain the abbreviations shown on the designation strip.

#### 3. MAINTENANCE

- 3.01 Maintenance activity involving these units should be limited to the following:
- Clearing wiring troubles.
  - Fuse replacement as necessary on the 551A (MD) or 551B KSU.
  - Removal and replacement of defective or improperly operating 400-type KTUs.

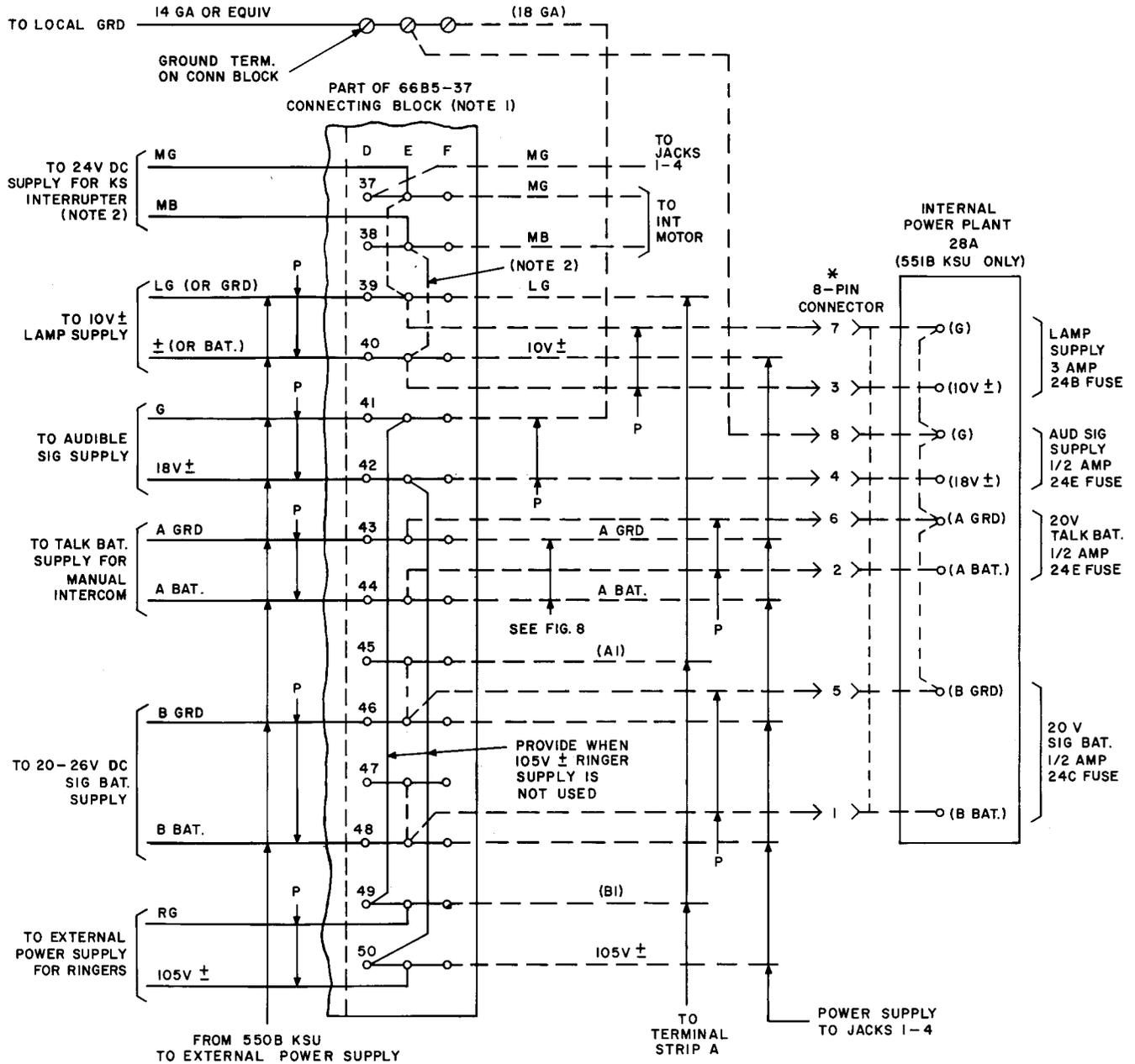
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**Note:** Exercise care when inserting or removing plug-in type KTUs to avoid damage to the printed wiring and other circuit components. Blister packs should be used when returning KTUs.

connections on line jack contacts, if required, for circuit testing. The 635B tool may be used to reterminate a wire on a wrapping terminal but must be soldered when reconnected to ensure circuit reliability.

### WIRE-WRAP CONNECTIONS

**3.02** The KS-16492, List 2 unwrapping tool should be used when removing solderless wrapped



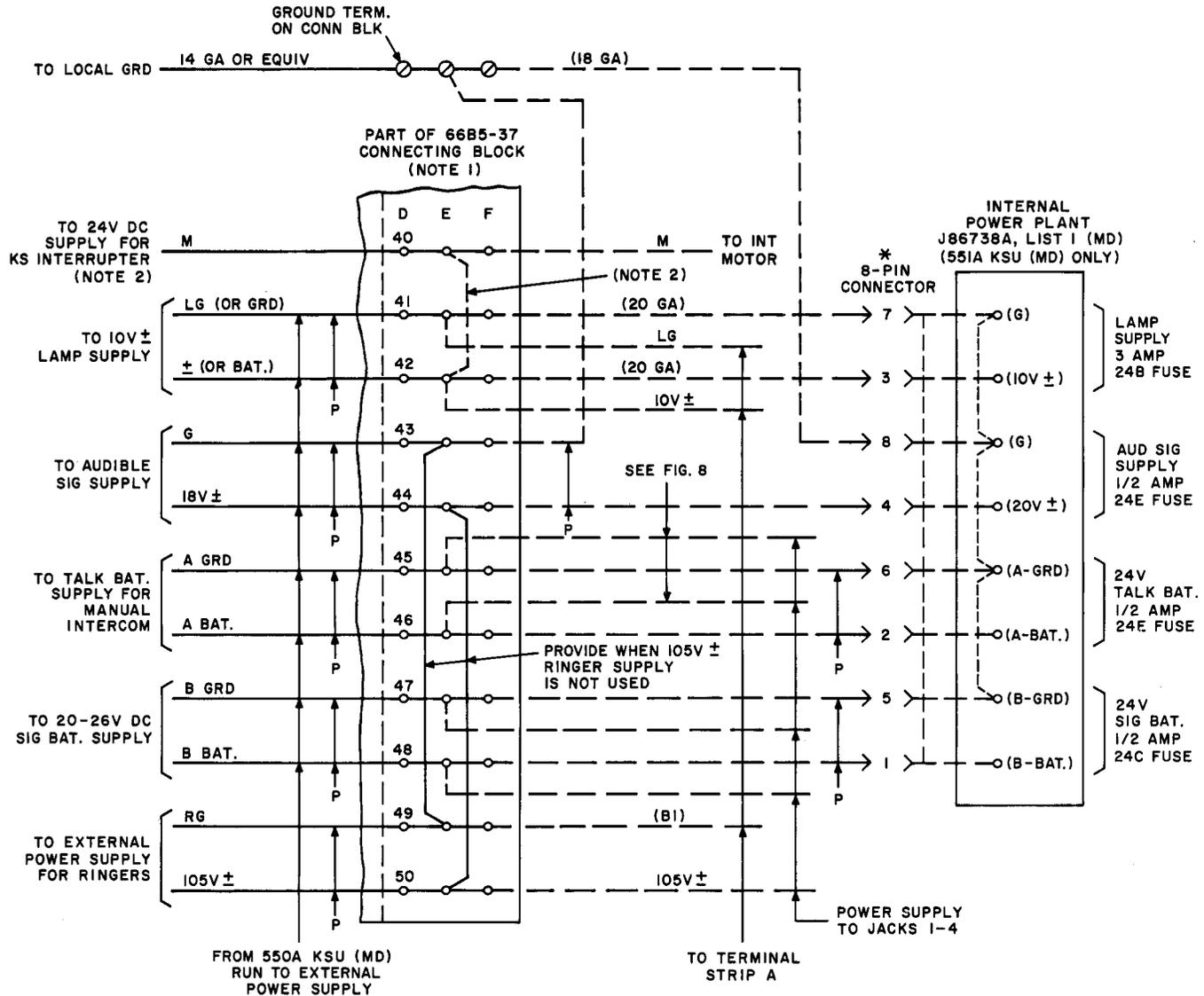
MOTOR SUPPLY	KS-19175, L1	KS-19385, L1 (MD)	KS-19385, L2
10V ±	38E (STRAPPED TO 40E)	—	—
GRD	37E (STRAPPED TO 39E)	—	—
24V DC	—	38E (STRAPPED TO 45D)	38E (STRAPPED TO 47F)
GRD	—	37E (STRAPPED TO 47F)	37E (STRAPPED TO 39E)

NOTES:

1. DASHED LINES REPRESENT FACTORY WIRING. SOLID LINES REPRESENT WIRES TO BE RUN AS REQUIRED.
  2. REMOVE FACTORY STRAPS BETWEEN 37B AND 39B AND 38E AND 40E FOR 24V DC KS INTERRUPTER OPERATION. THE POWER SUPPLY CONNECTIONS FOR EITHER INTERRUPTER MOTOR ARE SHOWN AT LEFT.
- \* 8-PIN CONNECTOR AND WIRING TO CONNECTING BLOCK FURNISHED IN BOTH 550B AND 551B KSU.

Fig. 1—Power Supply Connections for 550B and 551B KSU

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- NOTES:
1. DASHED LINES REPRESENT FACTORY WIRING. SOLID LINES REPRESENT WIRES TO BE RUN AS REQUIRED.
  2. REMOVE FACTORY STRAP BETWEEN 40F AND 42F FOR 24V DC KS INTERRUPTER OPERATION. THE POWER SUPPLY CONNECTIONS FOR EITHER INTERRUPTER MOTOR ARE SHOWN AT RIGHT.

\* 8-PIN CONNECTOR AND WIRING TO CONNECTING BLOCK FURNISHED IN BOTH 550A (MD) AND 551A KSU (MD).

MOTOR SUPPLY	KS-19175, L1	KS-19385, L1 (MD)	KS-19385, L2
10V ±	42F (STRAPPED TO 40F)	—	—
GRD	41E	—	—
24V DC	—	47F (STRAPPED TO 40F)	48F (STRAPPED TO 40F)
GRD	—	41E	41E

Fig. 2—Power Supply Connections for 550A(MD) and 551A (MD) KSU

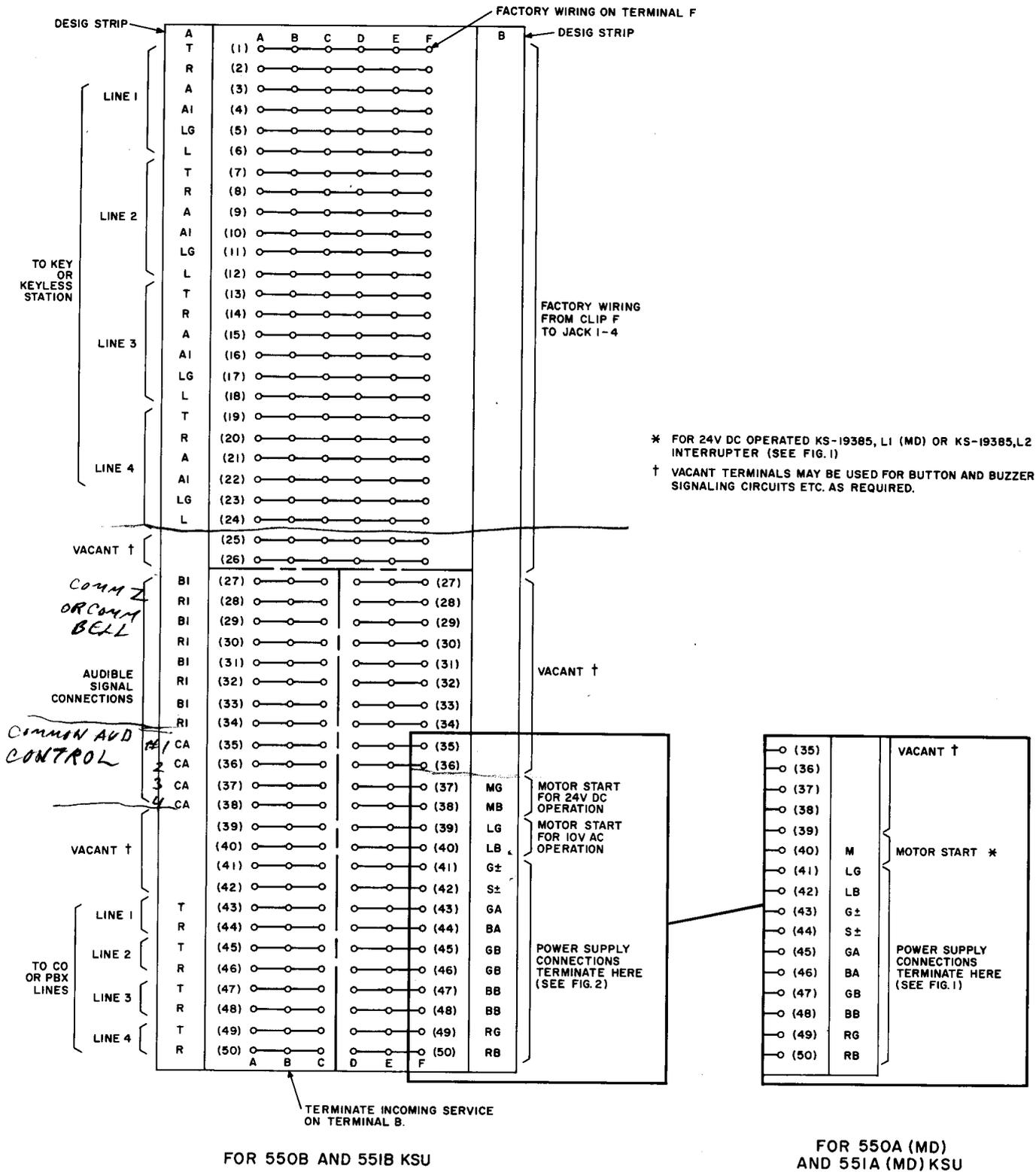


Fig. 3—Connections to 66B5-37 Connecting Block for Incoming Lines and Station Key Cables

PART OF 6685-37 CONNECTOR BLOCK

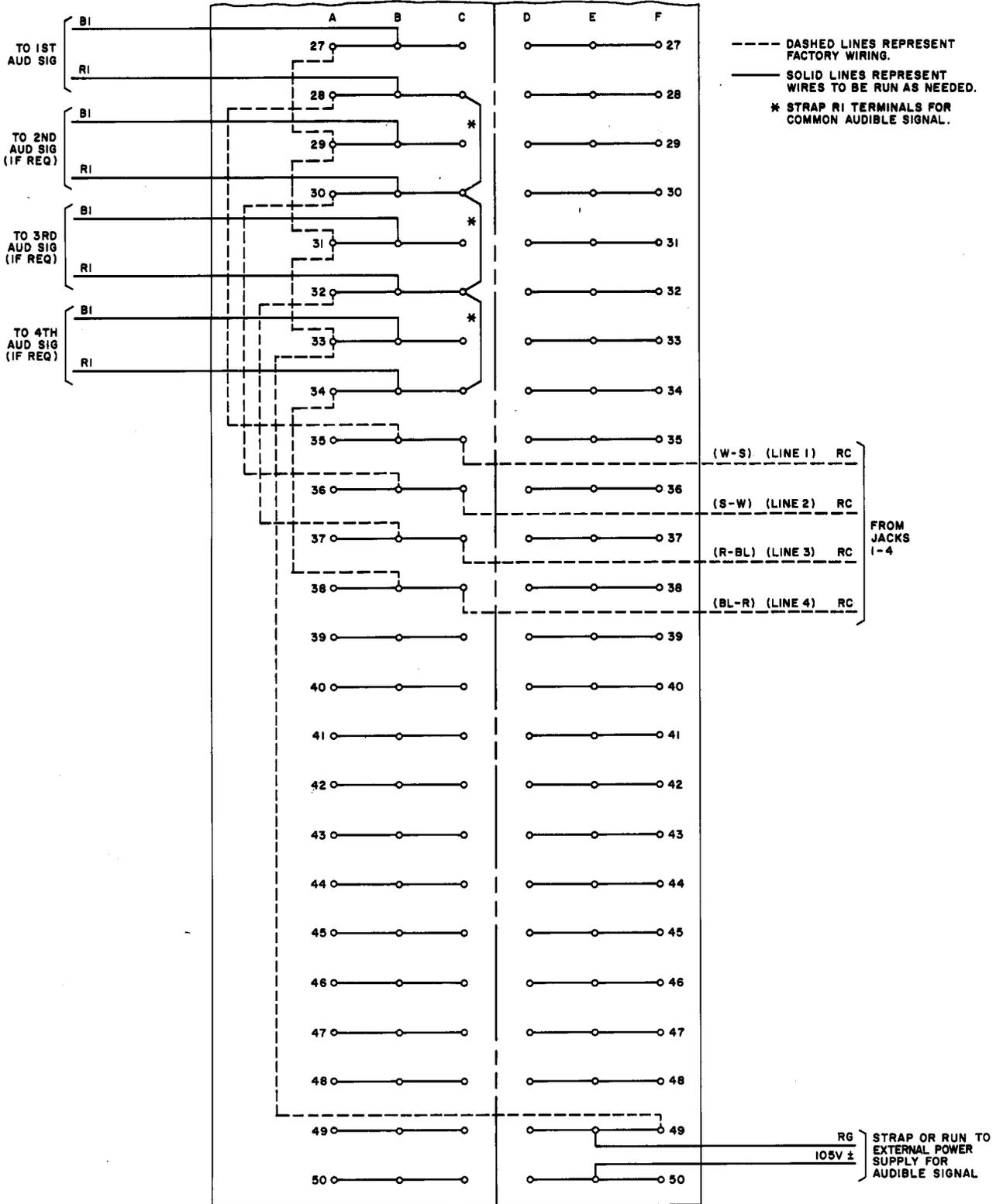


Fig. 4—Connections to Provide Individual or Common Audible Control

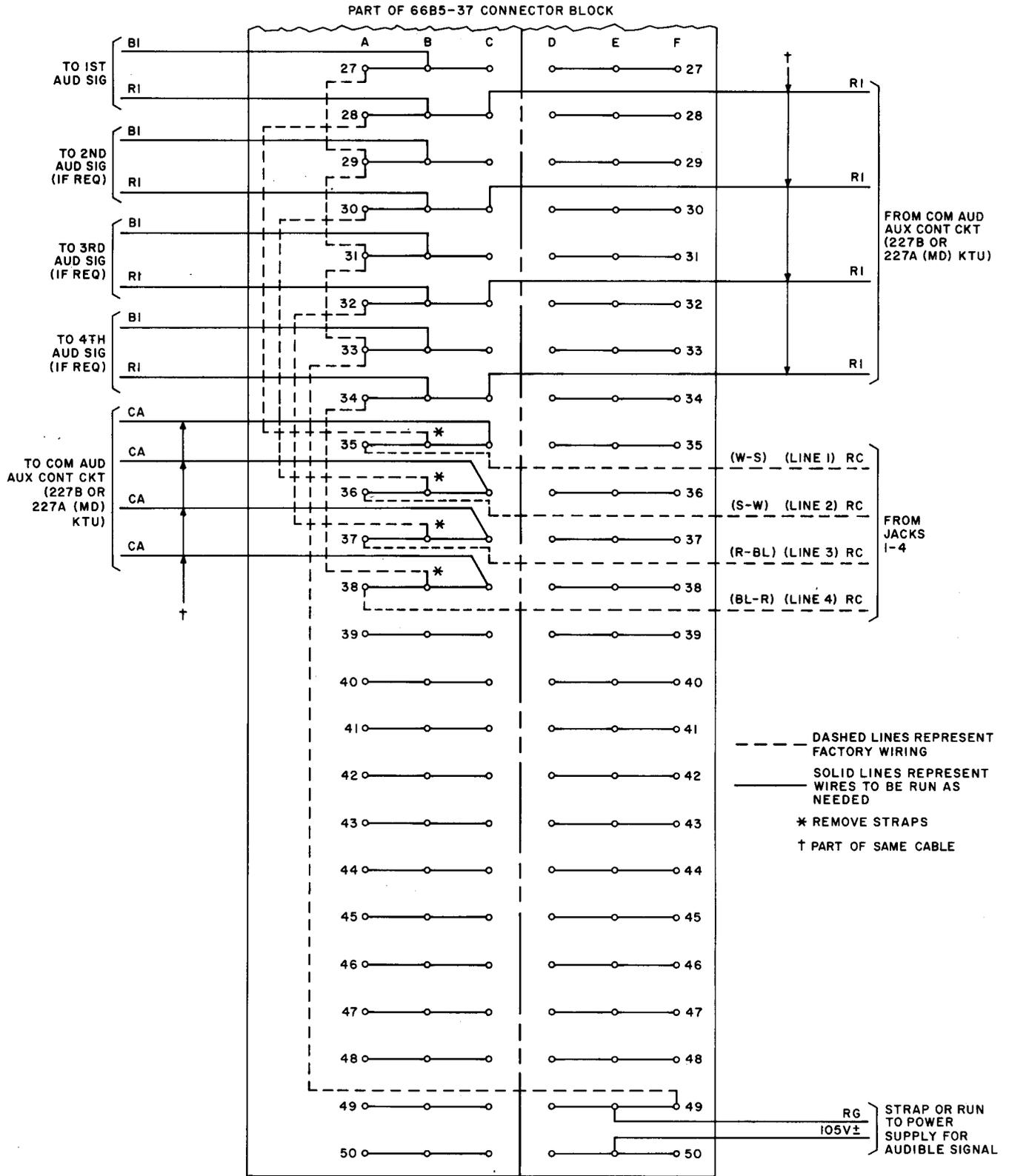
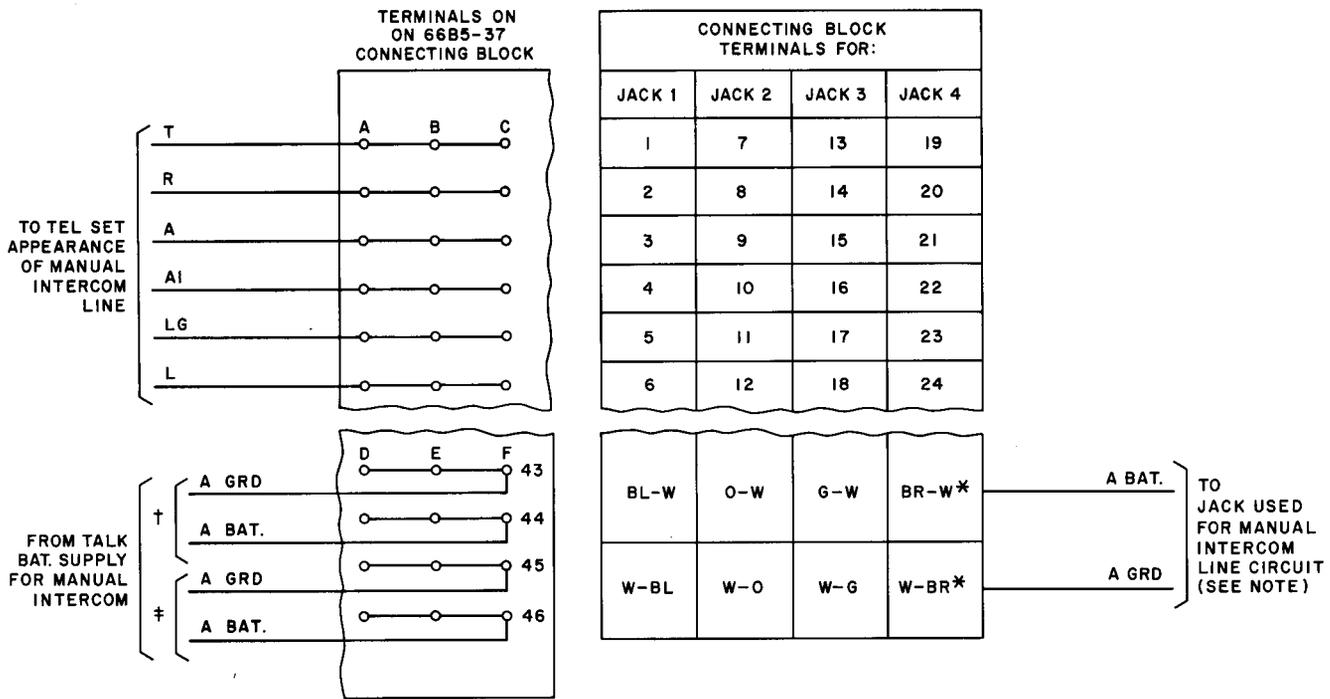


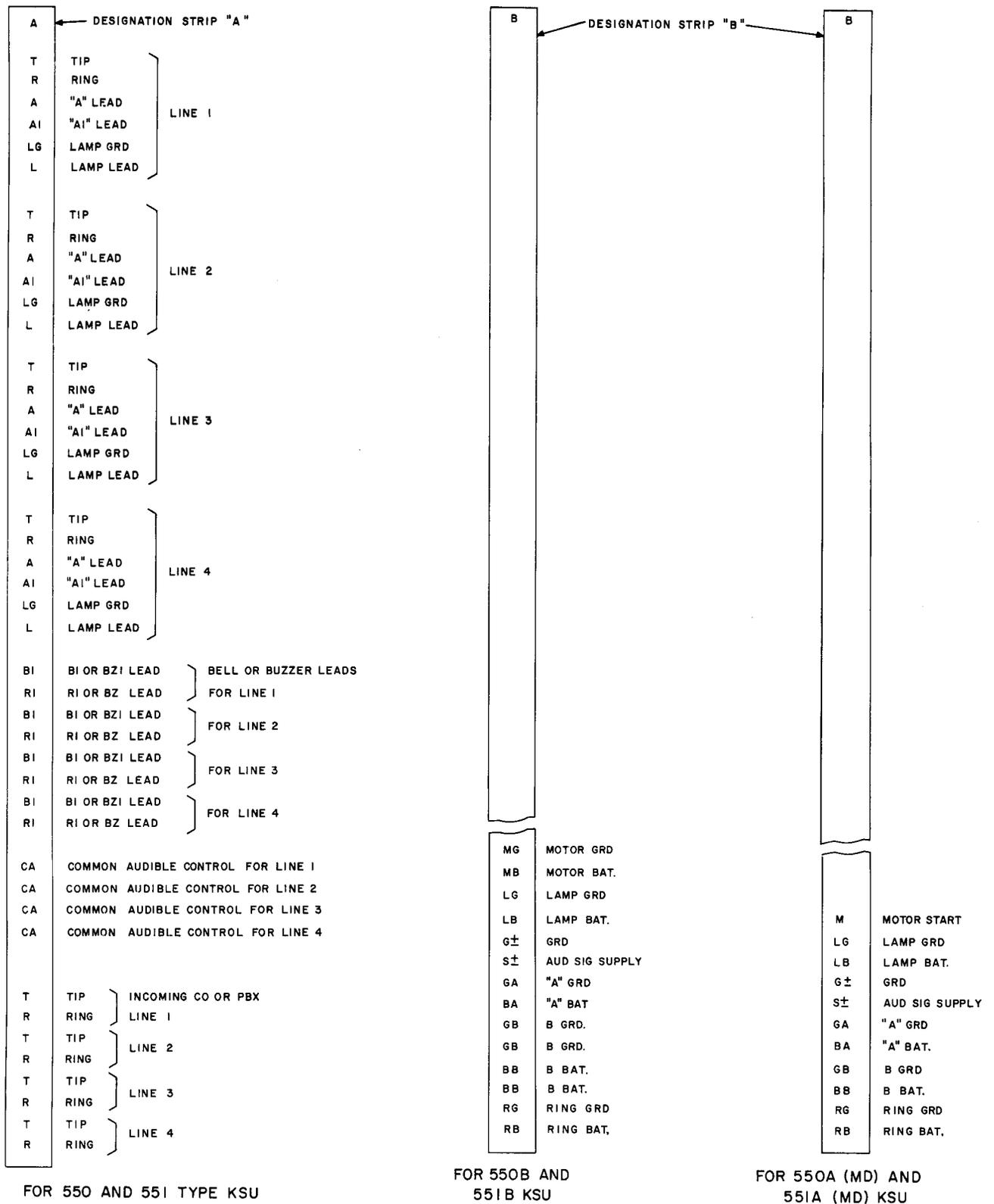
Fig. 5—Connections to Provide Audible Signal Auxiliary Control



NOTE:  
 IF OTHER THAN JACK 4 IS USED TO PROVIDE 401A KTU MANUAL INTERCOM SERVICE, DISCONNECT W-BR, BR-W, PAIR FROM TERMINALS AND RECONNECT APPROPRIATE PAIR (FACTORY DEAD DRESSED IN LOCAL CABLE FORM) FROM JACK 1, 2, OR 3 AS DESIRED.

- \* FACTORY TERMINATED
- † FOR 551B KSU
- ‡ FOR 551A KSU (MD)

Fig. 6—Connections for Manual Intercom Circuits



FOR 550 AND 551 TYPE KSU

FOR 550B AND 551B KSU

FOR 550A (MD) AND 551A (MD) KSU

Fig. 7—Lead Designation Key Sheet for 66B5-37 Connecting Block