

406A AND 408A KEY TELEPHONE UNITS IDENTIFICATION, INSTALLATION, CONNECTIONS, AND MAINTENANCE

1. GENERAL

1.01 The 406A and 408A key telephone units (Fig. 1 and 2) used together provide supplementary hold visual signaling in 1A1 and 1A2 key telephone systems. The units produce a lamp-flutter indication at a station set to signify a special hold condition, in addition to the normal lamp-wink or steady visual signal associated with the regular hold.

1.02 Supplementary hold signaling may be used to provide two distinct features:

(a) *Priority Hold* (sometimes referred to as *panic hold*)—installed where the flutter indication is desired at all stations having access to line(s) so equipped. It serves to alert personnel that an incoming call has been answered (acknowledged only), placed on hold, and should be completed promptly as soon as the first available attendant is able to do so.

(b) *I Hold*—installed where the flutter indication is desired on the line *only* at the station initiating the hold. It allows the station attendant to readily determine between calls he has placed

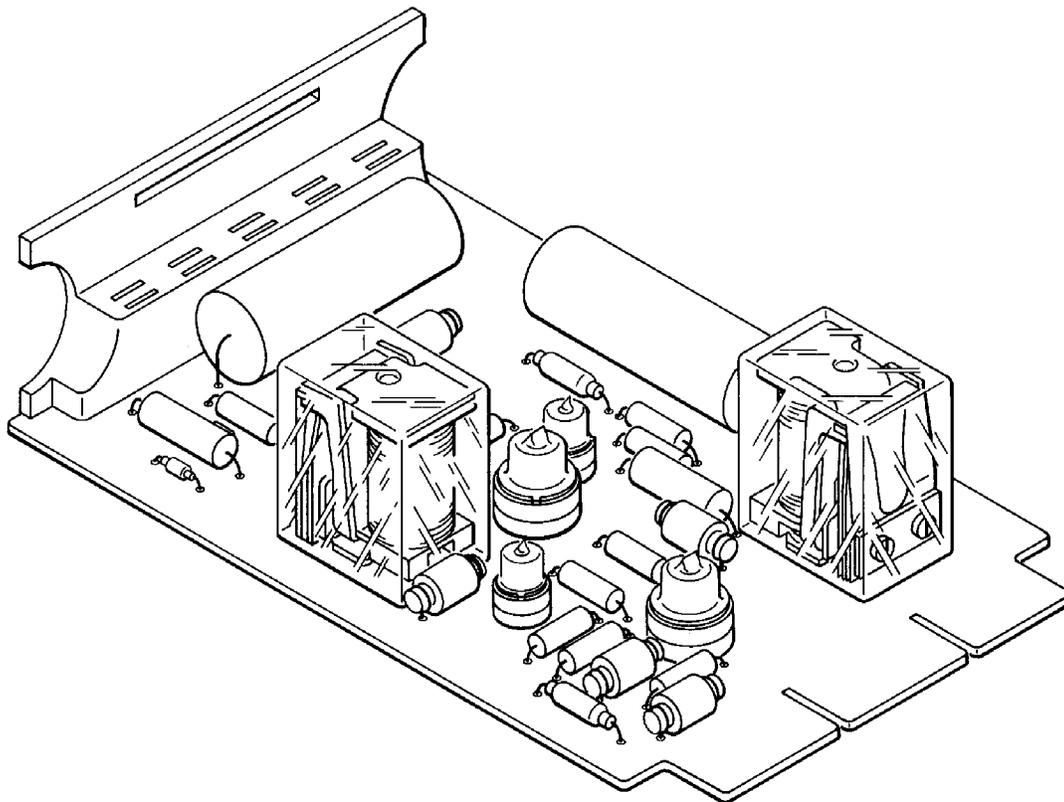


Fig. 1—406A Key Telephone Unit

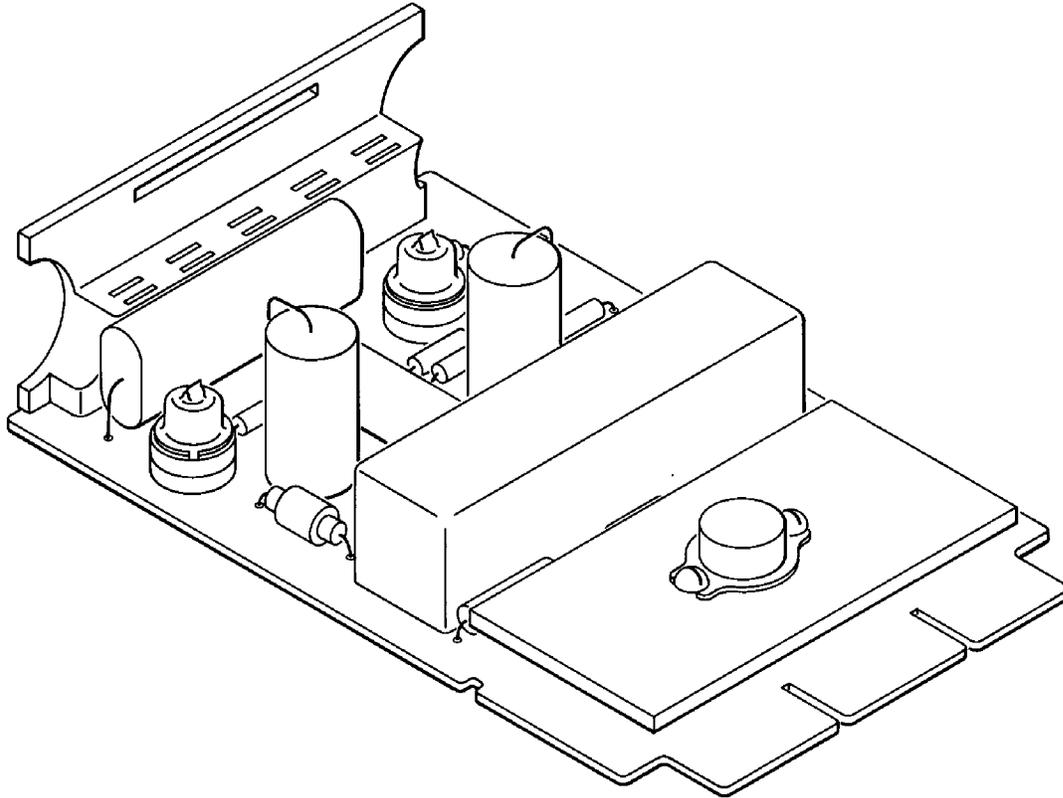


Fig. 2—408A Key Telephone Unit

on hold and calls being held by associate attendants. All other station appearances of that line receive the normal wink or steady visual signal when the line is placed on hold.

Note: The priority hold feature requires one detector circuit for each line. The I hold feature requires one circuit for each line *per station*.

2. IDENTIFICATION

2.01 The 406A and 408A KTUs are plug-in epoxy-coated metal boards on which are mounted MA-type miniature relays (406A), a mercury relay (408A), and various transistors, diodes, capacitors, and resistors.

2.02 The plug-end of each KTU is designed for inserting into the 18-contact 259A KTU or the 20-contact 259B KTU.

2.03 The 406A KTU provides two hold detector circuits mounted on the same board. Each detector circuit will equip one CO or PBX line with the supplementary hold feature.

2.04 The hold detectors provide relay control of the lamp circuit and a flutter generator which mounts on the 408A KTU. Control of a message register is also available when desired for traffic studies.

2.05 The flutter generator interrupts the lamp current 12 times a second to provide the lamp-flutter indication at a station set. The generator can supply a maximum of 100 lamps.

2.06 The 408A KTU is also equipped with a current limiter which provides voltage for operating a hold detector on the 406A KTU through an operated supplementary hold button. Unless heavy use is expected, the current limiter can supply up to a maximum of 20 stations since each

station only uses the unit momentarily. The current limiter can supply five stations simultaneously.

2.07 The current limiter also affords protection for the associated power supply in the event that a line button on one set is operated simultaneously with a supplementary hold button on another set. This condition is possible in multiple set installations.

2.08 Table A indicates the hold status of an operated pickup line when using either the supplementary hold or regular hold button.

3. INSTALLATION

3.01 The installation of one 406A KTU will provide two detector circuits. One circuit is required for each CO or PBX line to be equipped with the priority hold feature, or for each line *per station* to be equipped with the I hold feature.

3.02 Install one 408A KTU for each 20 stations or 100 controlled lamps.

3.03 Install the 406A and 408A KTUs by inserting the plug-end of the boards into receptacles of a 259-type KTU, or equivalent mounting facilities. The plug-ends are slotted in two places to ensure proper orientation when installed.



The plug-edge of each KTU is treated with a wax lubricant to assist in removal from and inserting in its mounting receptacle. DO NOT WIPE OFF LUBRICANT.

3.04 Install the 259-type KTU with or near the associated key telephone system line circuit units. Refer to appropriate sections for detailed information.

Note: Exercise care when handling and inserting plug-in KTUs to avoid damage to the printed wiring and other components.

3.05 When the priority hold feature is provided, the key containing the hold button must be removed from the station set and replaced by one containing two hold buttons. The 599H key is so equipped and may be used to replace the old key. Refer to Section 512-230-100 and SD-69530-01 for detailed information on the key.

Note: When the system is equipped with the I hold feature, the key replacement is not required providing the existing hold key may be wired to transfer the A lead from ground to the SP lead.

4. CONNECTIONS

4.01 Connect the 406A and 408A KTUs as shown in Fig. 3.

4.02 When the I hold feature is used, the hold key wiring in each equipped telephone set must be modified. Change the wiring so that when the hold key is operated, the A lead is opened to ground and closed to the -24 volts provided on the SP lead (Fig. 3).

4.03 When the 599H key is provided, connect as shown in SD-69530-01.

TABLE A

LINE HOLD STATUS

OPERATED HOLD BUTTON	LINE EQUIPPED WITH HOLD DETECTOR		LINE NOT EQUIPPED WITH HOLD DETECTOR
	PRIORITY HOLD	I HOLD	
Supplementary	Supplementary Hold Condition At All Stations	Supplementary Hold Condition At Initiating Station Only	Regular Hold Condition
Regular	Regular Hold Condition		

SECTION 518-220-406

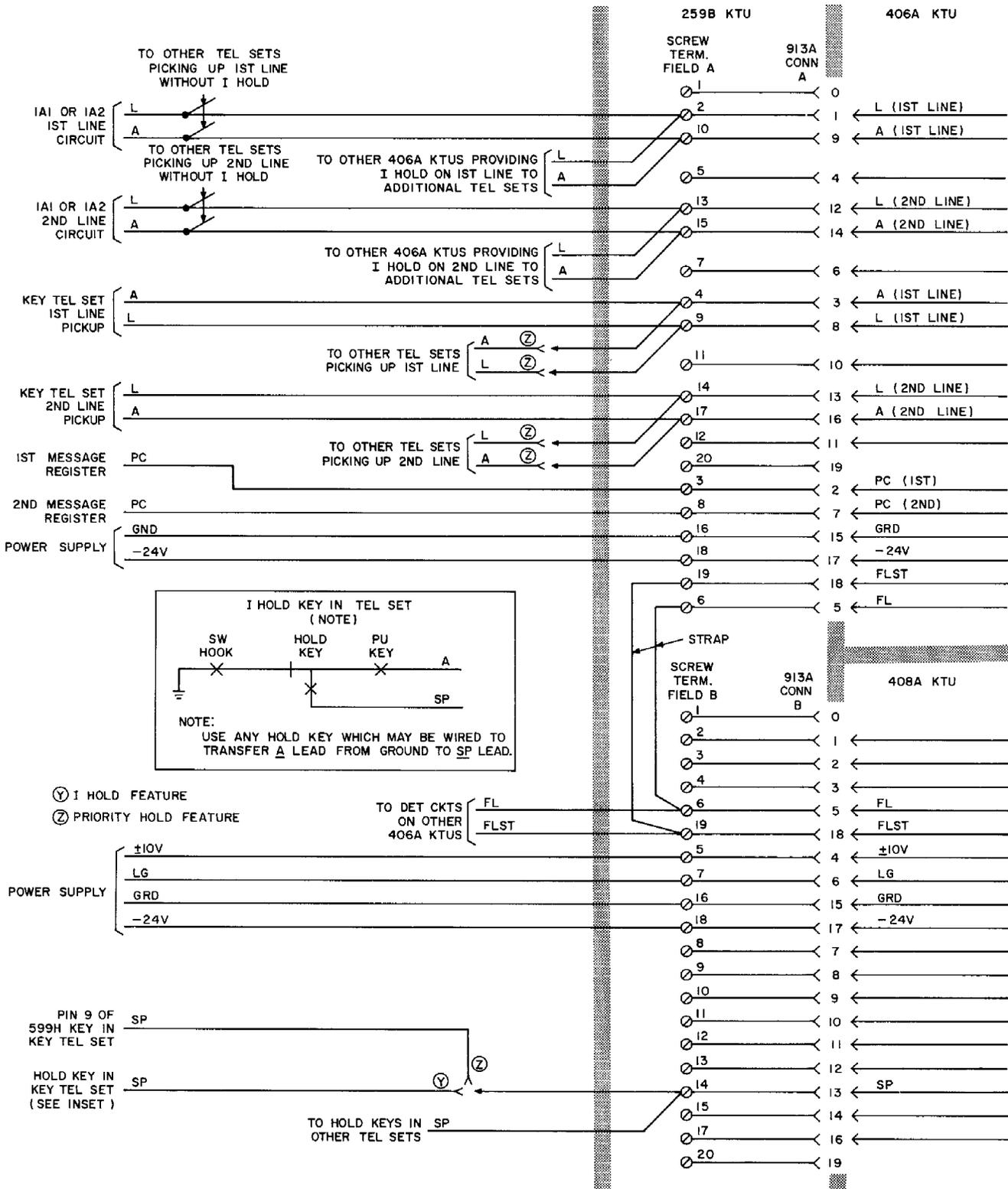


Fig. 3—Typical Connections for 406A and 408A KTUs Using a 259B KTU Adapter

5. MAINTENANCE

5.01 If trouble is encountered with either a 406A or 408A KTU, interchange it with one known to be working properly to determine if the trouble is in the KTU or external to it. If the KTU is proved defective, replace it with a good unit.

5.02 The relays on the KTUs are factory adjusted and field maintenance or adjustment shall not be attempted.

5.03 When a functional schematic or a description of circuit operation is required to assist in overall circuit trouble shooting, refer to SD- or CD-69530-01.



To avoid accidental damage, use blister pack when transporting or storing the 406A or 408A KTU. Overpack when necessary.