

SERVICE
1A2 KEY TELEPHONE SYSTEM
626A MODULAR PANEL

1. GENERAL

1.01 This section contains identification, installation, connection, and maintenance information for the 626A modular panel.

1.02 Whenever this section is reissued, the reason for reissue will be listed in this paragraph.

1.03 This issue is based on CD- and SD-69658-01, Issue 3. If this section is to be used with equipment or apparatus reflecting a later issue of the drawing, reference should be made to the CD and SD to determine the extent of the change(s) and the manner in which the section may be affected.

2. DESCRIPTION

2.01 The 626A panel (Fig. 1) is designed for use with the 1A2 Key Telephone System (KTS). It provides a means for interconnecting a button-per-path type dial intercom service. The 626A panel can accommodate intercom configurations of 1, 2, or 3 paths with capacities of 19 or 37 stations. Rotary and/or TOUCH-TONE® dialing can be provided. Lead terminations are provided in a quick-connect field to facilitate connecting optional features and for connecting to station blocks of a 1A2 KTS cross-connect field.

2.02 The 626A panel measures 8-1/2 inches wide, 18-1/2 inches high, and 6 inches deep. It is equipped with eight 914B connectors paired vertically to accept four 8-inch key telephone units (KTUs). The connector section is arranged to mount, in order from left to right (on a dedicated basis), the following KTUs (Fig. 2):

- 424B or C—19-code selector circuit
- 460B—2-path access circuit

or

- 454B—3-path access circuit
- 444A—Selector extender circuit

• 440A

or

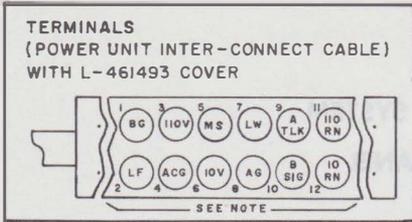
- 478B—TOUCH-TONE adapter circuit

2.03 The 2- and 3-path access circuits provide dial tone, selector seizure, and flashing lamps to all stations during selector seizure (dialing and ringing) and steady lamps to all stations while the circuit is in the busy mode. If 1-path intercom is provided (option Y or N), steady lamp only is supplied. The selector extender circuit is used with the intercom selector to extend the dial code capability of the intercom from 19 to 37 codes. Audible signaling in the 2- and 3-path intercoms is an interrupted signal, while the audible signal for the 1-path intercom is an uninterrupted single spurt signal.

2.04 Power for the 626A panel is provided by an external power source and is fed to the panel by a plug-ended power cable. The power cable is located at the top of the panel above the KTU connectors. Fuses are provided in a fuse block, located just below the power cable, for the -24V talk, -24V signal, and the 10V ac interrupted ringing sources (Fig. 2 and 3). Located below the KTU connectors and above the terminal field are seven lamps and six fuses. One lamp is connected to the code selector (424B or C KTU) lamp lead to indicate the status of the selector. The remaining six lamps and six fuses are connected to the path access circuit lamp leads on a 2-lamp/2-fuse per-path basis (Fig. 3).

NOTICE

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



NOTE:
NUMBERED FOR REFERENCE ONLY

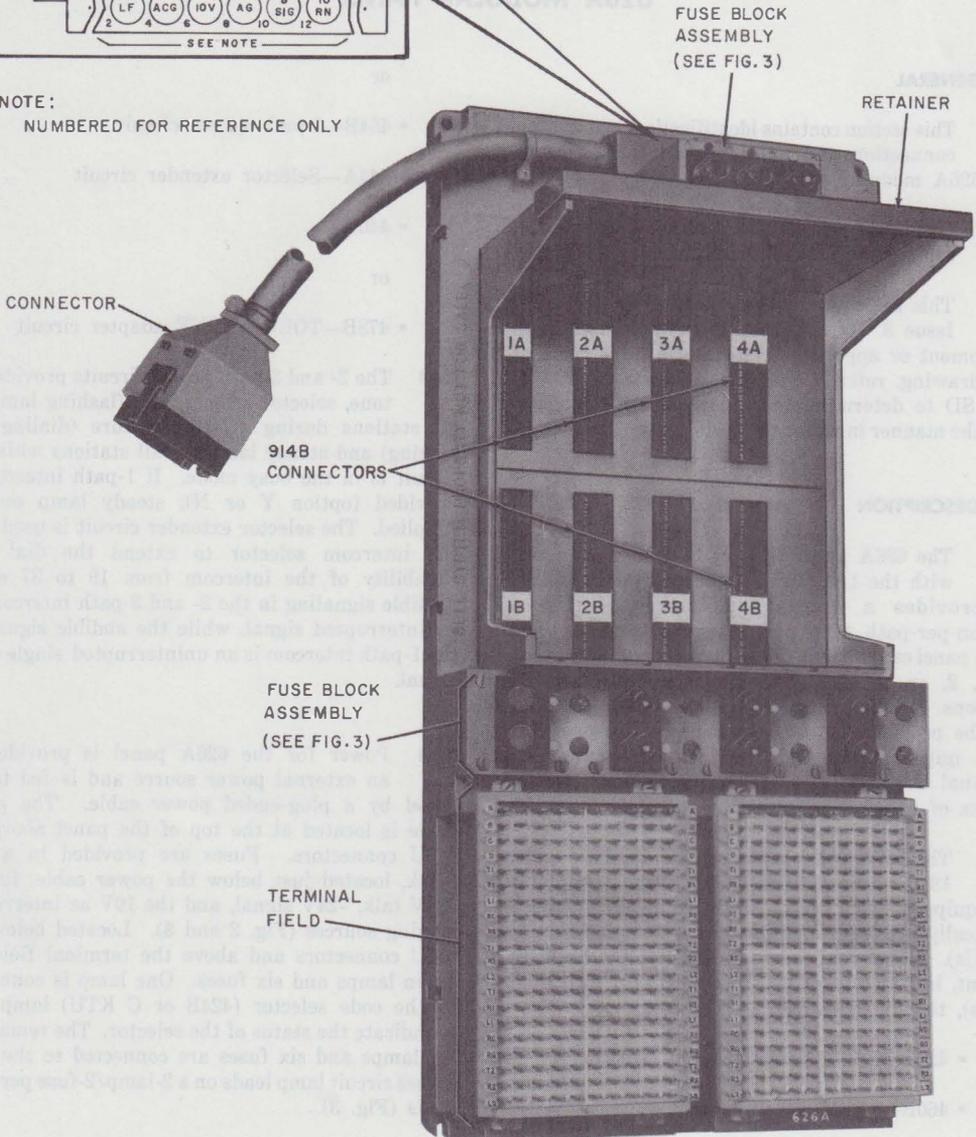
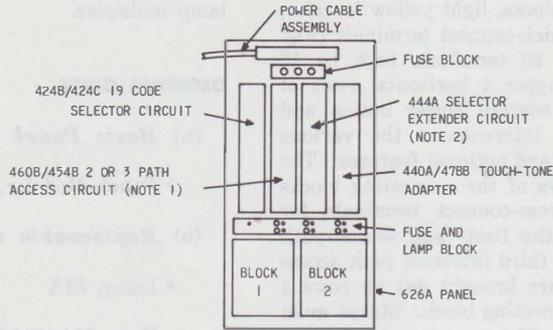


Fig. 1—626A panel



- NOTES:
1. THE 460B KTU IS A 2-PATH ACCESS CIRCUIT. THE 454B KTU IS A 3-PATH ACCESS CIRCUIT.
 2. THE 444A KTU CAN ONLY BE USED WITH THE 424B OR 424C KTU.

Fig. 2—KTU Arrangement, 626A Panel

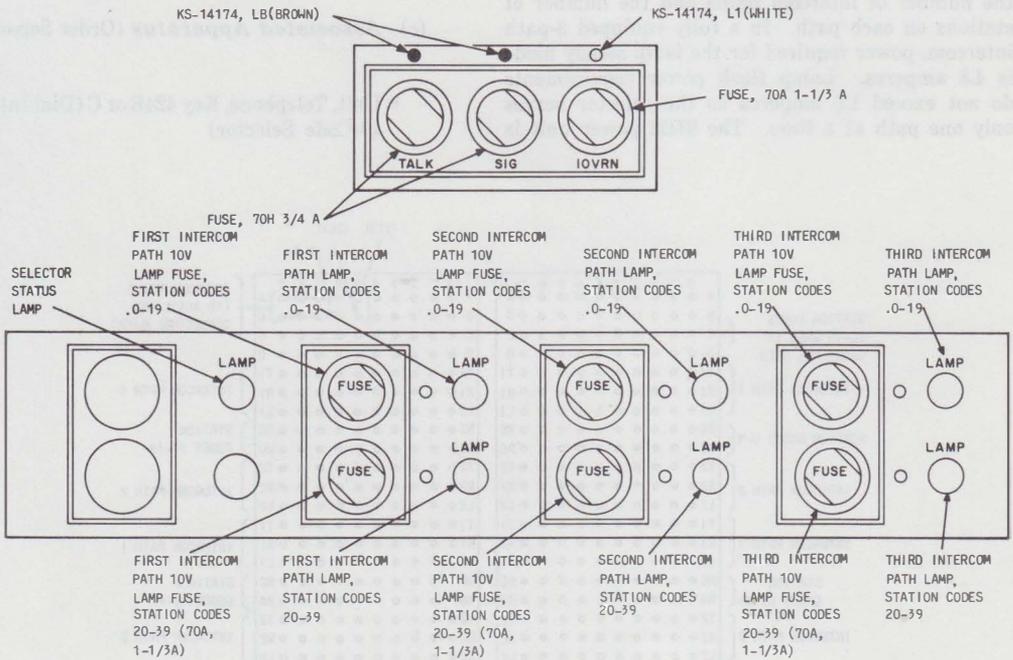


Fig. 3—Fuse and Lamp Arrangement, 626A Panel

2.05 The lower section of the 626A panel has two connecting blocks, light yellow in color, that contain 66-type quick-connect terminals (Fig. 4). These blocks are 20 terminals high by 10 terminals wide. The upper 4 horizontal rows of the connecting blocks contain power option and function terminals to interconnect the various intercom arrangements and optional features. The lower 16 horizontal rows of the connecting blocks provide the station cross-connect terminals for station codes and for the first- and second-path intercom stations. The third intercom path access circuit common leads are brought out on rows 1 and 2 of the second connecting block. Straps must be run to a separate 66-type connecting block (Fig. 5) for distribution to the third-path intercom station.

2.06 The total $\pm 10V$ lamp power required per intercom path is approximately 1.6 amperes (37 station lamps and 2 maintenance lamps). The maximum $\pm 10V$ power required is dependent on the number of intercom paths and the number of stations on each path. In a fully equipped 3-path intercom, power required for the lamp steady mode is 4.8 amperes. Lamp flash power requirements do not exceed 1.6 amperes as the selector serves only one path at a time. The 67D2 power unit is

recommended for intercom systems with large lamp multiples.

ORDERING GUIDE

(a) **Basic Panel**

- Panel, Modular, 626A

(b) **Replaceable Components**

- Lamp, 51A
- Fuse, 70A (1-1/3 amp)
- Fuse, 70H (3/4 amp)
- Designation Pin (Indicator, Fuse)

KS-14174, L1—White

KS-14174, L8—Brown

(c) **Associated Apparatus (Order Separately)**

- Unit, Telephone, Key 424B or C (Dial Intercom 19-Code Selector)

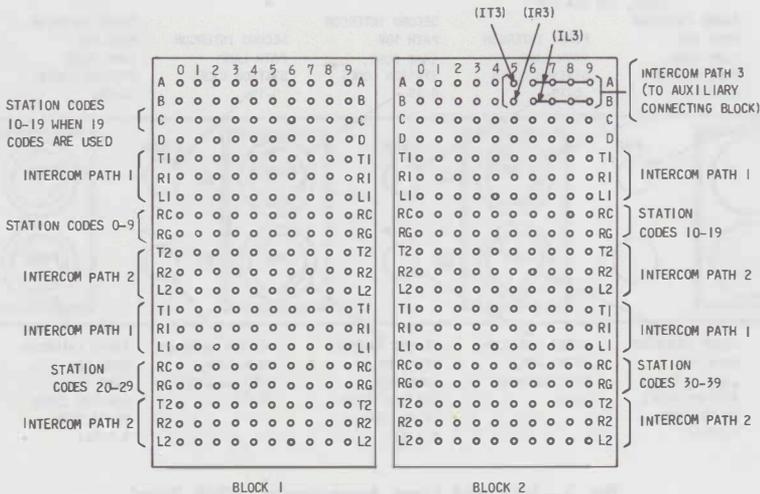


Fig. 4—Intercom Path and Station Code Terminations, 626A Panel

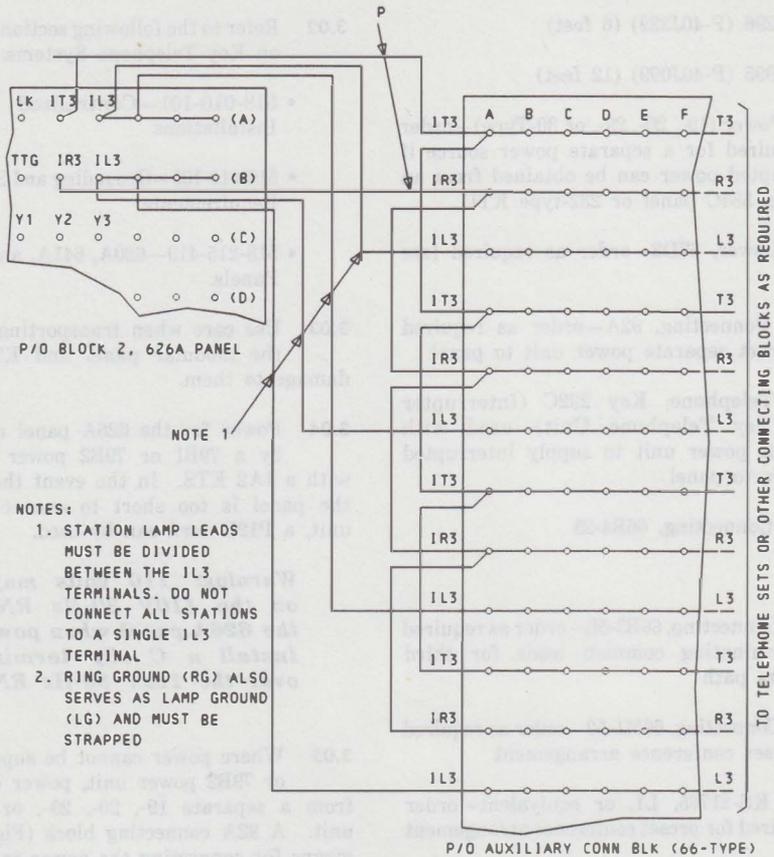


Fig. 5—Typical Arrangement for Connecting Stations to Third Intercom Path

Note: The 424A KTU is not recommended for use in the 626A panel as it is not compatible with the 444A KTU.

- Unit, Telephone, Key 440A

or

Unit, Telephone, Key 478B (TOUCH-TONE Adapter Circuit)—order when TOUCH-TONE service is provided

- Unit, Telephone, Key 444A (Selector Extender Circuit)—extends the codes of the 424B or C code selector to 37 codes

- Unit, Telephone, Key 454B (3-Path Access Circuit)—order when 3-path intercom service is provided
- Unit, Telephone, Key 460B (2-Path Access Circuit)—order when 2-path intercom service is provided
- Cord, P12D (Power Interconnect Cable)—order when necessary to extend the panel power cable
- Unit, Power, 79B2
- Cord, Power—order length required:
824013288 (P-40J328) (4 feet)

824013296 (P-40J329) (6 feet)

824010995 (P-40J099) (12 feet)

- Unit, Power (19-, 20-, 29-, or 30-Type)—order as required for a separate power source if interrupted power can be obtained from an existing 584C panel or 232-type KTU
- Unit, Power, 67D2—order as required (see 3.06)
- Block, Connecting, 92A—order as required to connect separate power unit to panel
- Unit, Telephone, Key 232C (Interrupter Type Key Telephone Unit)—used with separate power unit to supply interrupted voltages to panel
- Block, Connecting, 66B4-25

or

- Block, Connecting, 66B3-50—order as required for terminating common leads for third intercom path
- Block, Connecting, 66M1-50—order as required for preset conference arrangement
- Diode, KS-21765, L1, or equivalent—order as required for preset conference arrangement
- Insulator, Terminal, C Clip—order as required
- Cover, 151A
- Cover, 153A, End Cap
- Backboard, 185A1 (yellow)—order as required
- Adapter, Plug, Power Cord, Hubbell BL-12433
- Adapter, Bridging, 183B2—order as required.

3. INSTALLATION

3.01 The 626A is a wall-mounted panel and should be located with or in close proximity to 1A2 KTS panels and power sources.

3.02 Refer to the following sections for information on Key Telephone Systems:

- 518-010-101—Centralized Key Telephone Installations
- 518-010-105—Grounding and Special Protection Requirements
- 518-215-419—620A, 641A, and 642A Modular Panels.

3.03 Use care when transporting and unpacking the modular panel and KTUs to prevent damage to them.

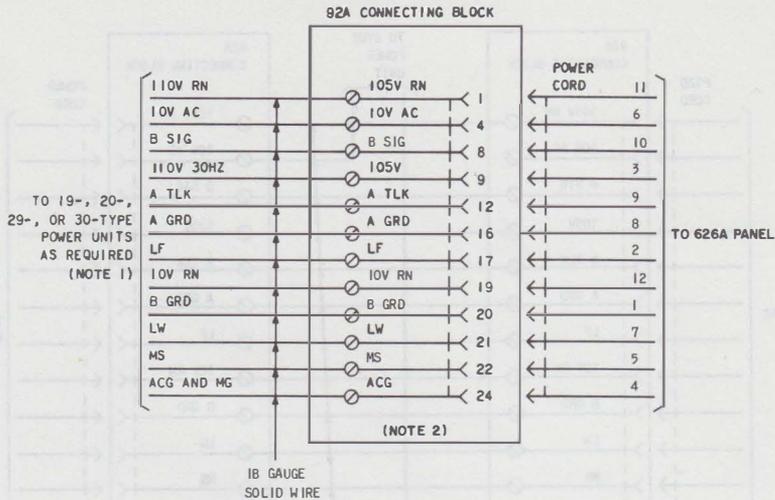
3.04 Power for the 626A panel may be supplied by a 79B1 or 79B2 power unit associated with a 1A2 KTS. In the event the power cord of the panel is too short to connect to the power unit, a P12D cord can be used.

Warning: 110 volts may be present on the 110V 30-Hz RN terminal of the 626A panel when power is applied. Install a C clip terminal insulator over the 110V 30-Hz RN terminal.

3.05 Where power cannot be supplied by a 79B1 or 79B2 power unit, power can be supplied from a separate 19-, 20-, 29-, or 30-type power unit. A 92A connecting block (Fig. 6) provides a means for connecting the power cable of the 626A panel to the power unit. An interrupter must be provided with the separate power unit to furnish the interrupted voltages to the panel. All straps between the power unit and the 92A connecting block are made with 18-gauge (solid) wire.

Note: In the 626A modular panel the Ring Ground (RG) also serves as Lamp Ground (LG) and must be connected on the station cross-connect field to the lamp grounds (continuous strapping is required).

3.06 For modular panel installations that are subject to expansion or where a large lamp multiple is anticipated, a 67D2 power unit, for 10V ac power, can be used with two 92A connecting blocks to provide the required power for the lamps (Fig. 7).



NOTES:

1. INTERRUPTED VOLTAGES, WHEN REQUIRED MUST BE SUPPLIED THROUGH AN INTERRUPTER.
2. CONNECTING BLOCK TERMINAL ARRANGEMENT

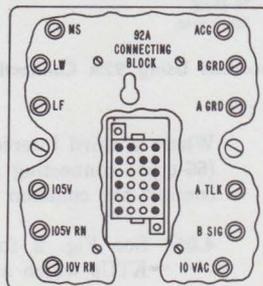


Fig. 6—19-, 20-, 29-, or 30-Type Power Unit Connection Using 92A Connecting Block

4. OPTIONS AND FEATURES

- 4.01 The various optional arrangements for the 626A panel are listed in Table A.

FW Option

- 4.02 The FW option (Fig. 8) is a factory-provided option. The FW option provides for two or three intercom paths with 37 station codes. Stations can utilize both rotary and TOUCH-TONE dialing. Digits 1, 2, and 3 are used as transfer digits and are not available for station codes. Where the third intercom path is used, an external (66-type)

connecting block (Fig. 5) is required to connect the common leads.



Transfer digits are not restricted to digits 1, 2 or 3. Any digit(s) can be used as a transfer digit(s). However, the digit(s) selected as a transfer digit(s) is forfeited as a station code.

- 4.03 See Fig. 2 for location of the following KTUs which are required for FW option:

- 424B or C—19-code selector circuit

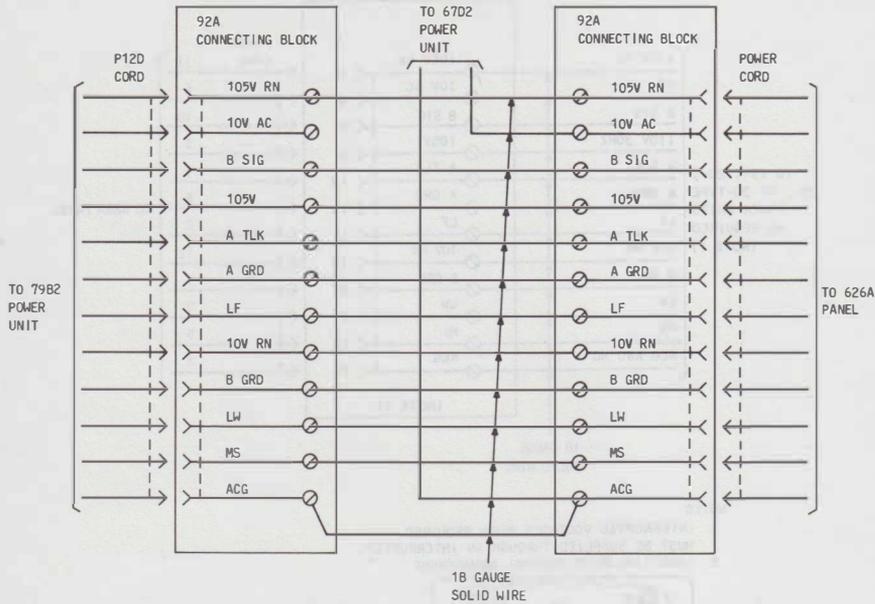


Fig. 7—67D2 Power Unit Connections Using 92A Connecting Block

- 460B—2-path access circuit
- or
- 454B—3-path access circuit
- 444A—Selector extender circuit
- 440A
- or

478B—TOUCH-TONE adapter, if required. (Z option must be applied where TOUCH-TONE adapter is not provided.)

S Option

4.04 The S option (Fig. 9) provides for two or three intercom paths with 19 station codes. Stations can utilize both rotary and TOUCH-TONE dialing. Digit 1 is used as the transfer digit and is not available for a station code. Station codes 10 through 19 are connected to row C, terminals 0 through 9 on block 1 of the 626A panel (Fig. 4).

Where a third intercom path is used, an external (66-type) connecting block (Fig. 5) is required to connect the common leads.

4.05 See Fig. 2 for location of the following KTUs which are required for S option:

- 424B or C—19-code selector circuit
- 460B—2-path access circuit
- or
- 454B—3-path access circuit
- 440A
- or

478B—TOUCH-TONE adapter, if required. (Z option must be applied where TOUCH-TONE adapter is not provided.)

TABLE A

626A PANEL OPTIONS

| OPTIONS | INTERCOM PATHS | STATION CODES | | REFER TO FIGURE |
|---------|--|---------------|----------------------------------|-----------------|
| FW* | 2 or 3 | 37 | Rotary and/or TOUCH-TONE dialing | 8 |
| S† | 2 or 3 | 19 | | 9 |
| Y | 1 | 37 | | 10 |
| N† | 1 | 19 | | 11 |
| Z | Non-TOUCH-TONE dialing | | | 12 |
| E | Interrupted ±10V buzzer | | | 13 |
| X | Interrupted 110V 30-Hz ringer | | | 14 |
| G | Uninterrupted (single spurt) ±10V buzzer or for 18V ac, 24V dc, ground, or as required for signaling purposes other than provided (may require an external power source) | | | 15 |

Note: Ring ground (RG) also serves as lamp ground (LG) and must be connected on the station cross-connect field to the lamp grounds (continuous strapping is required).

* Factory-provided option. The 1, 2, and 3 digits are factory-wired as transfer digits and cannot be used as station codes. Other digits can be used as transfer digits, but it is not recommended. In the event it becomes necessary to use other digits, consult supervisor.

† When no more than 19 codes are provided, obtain the R(10) to R(19) codes from the terminals on block 1, row C, terminals 0 to 9, respectively, and not from the R(10) to R(19) terminals of block 2.

Y Option

4.06 The Y option (Fig. 10) provides for one intercom path with 37 station codes. Stations can utilize both rotary and TOUCH-TONE dialing. Digits 1, 2, and 3 are used as transfer digits and are not available for station codes. Option G must be used with the Y option to provide audible signaling.

4.07 See Fig. 2 for location of the following KTUs which are required for Y option:

- 424B or C—19-code selector circuit

- 454B—2-path access circuit

- 444A—Selector extender circuit

- 440A

or

- 478B—TOUCH-TONE adapter, if required. (Z option must be applied where TOUCH-TONE adapter is not provided.)

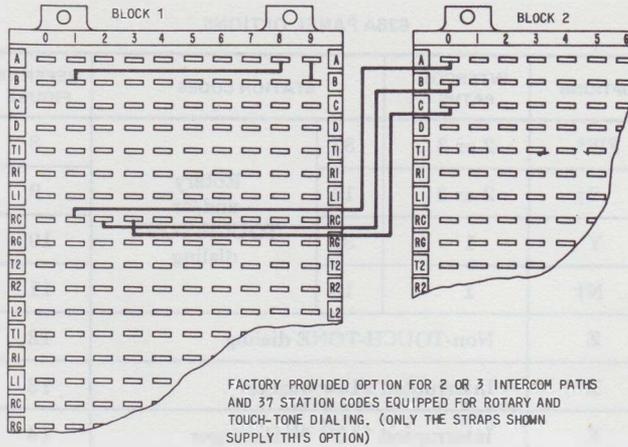


Fig. 8—FW Option

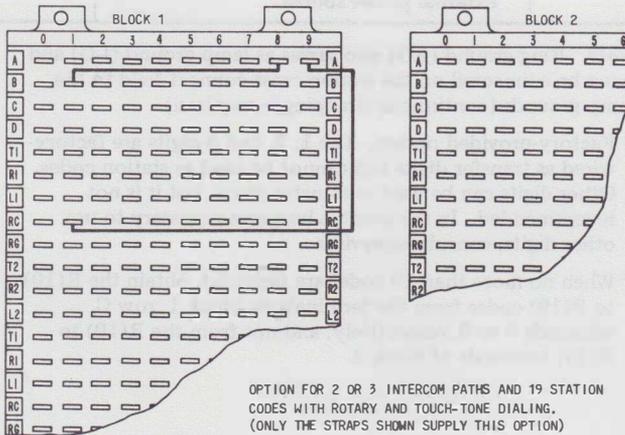


Fig. 9—S Option

N Option

Note: This option is a standard 1A2 KTS offering that can be provided with the 641A modular panel (see Section 518-215-419). It is included here for those installations that are expected to expand to two or three intercom

paths and where more station codes will be required in the future.

4.08 The N option (Fig. 11) provides for one intercom path with 19 station codes. Stations can utilize both rotary and TOUCH-TONE dialing. Digit 1 is used as the transfer digit and is not available for a station code. Station codes 10

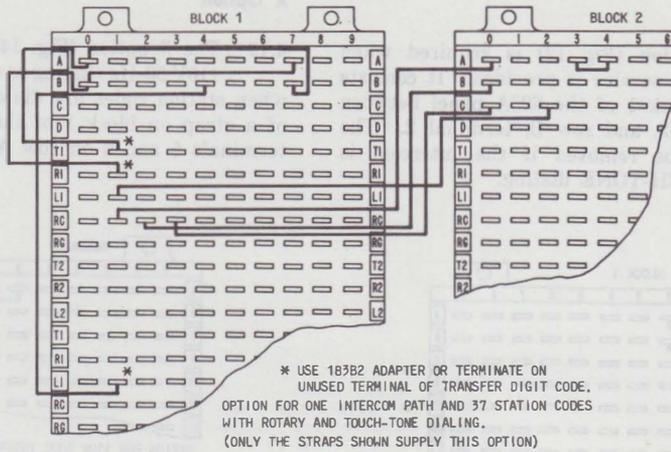


Fig. 10—Y Option

through 19 are connected to row C, terminals 0 through 9 on block 1 of the 626A panel (Fig. 4). Option G must be used with the N option to provide audible signaling.

4.09 See Fig. 2 for location of the following KTUs which are required for N option:

- 424B or C—19-code selector circuit

- 454B—2-path access circuit

- 440A

or

478B—TOUCH-TONE adapter, if required. (Z option must be applied where TOUCH-TONE adapter is not provided.)

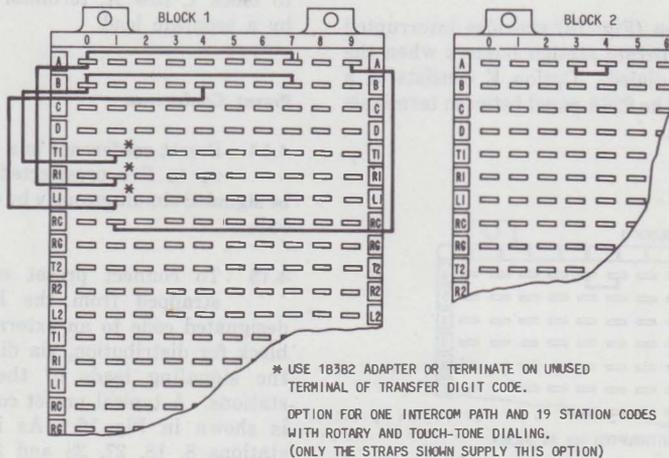


Fig. 11—N Option

Z Option

4.10 The Z option (Fig. 12) is required when rotary dial service is provided. It consists of a strap on block 1 of the 626A panel between row A, terminal 2, and row B, terminal 2. The Z option must be removed if the intercom is changed to TOUCH-TONE dialing.

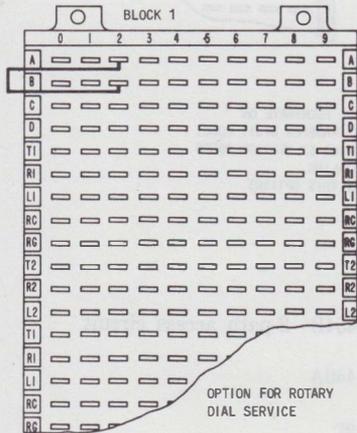


Fig. 12—Z Option

E Option

4.11 The E option (Fig. 13) provides interrupted 10V ac to operate station buzzers when the station codes are dialed. Option E consists of a strap on block 1 of the 626A panel between terminals 4 and 5 on row A.

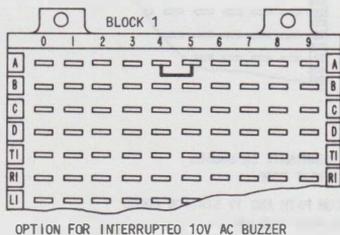


Fig. 13—E Option

X Option

4.12 The X option (Fig. 14) provides interrupted 110V 30-Hz ringing to operate station ringers when station codes are dialed. Option X consists of a strap on block 1 of the 626A panel between terminals 5 and 6 on row A.

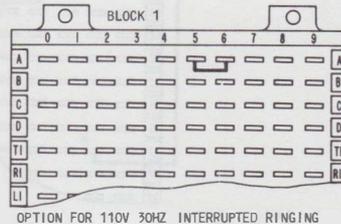


Fig. 14—X Option

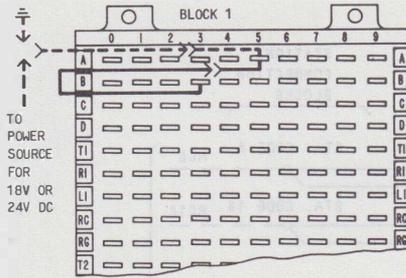
G Option

4.13 The G option (Fig. 15) is used with 1-path intercom only and provides uninterrupted 10V ac power (single spurt) to operate station buzzers when the station codes are dialed. Option G may also be 18V dc, 24V dc, ground, or other voltages that may be required for signaling purposes. When any potential (voltage or ground), other than 10V ac, is to be used for (uninterrupted single spurt) signaling, the potential must be connected to block 1, row A, terminal 5 of the 626A panel by a separate lead.

Preset Conference

4.14 Preset conference is a feature which permits up to five preselected intercom stations to be signaled simultaneously by dialing a predesignated code.

4.15 To connect preset conference, a lead is strapped from the R () terminal of the designated code to an external 66-type connecting block for distribution, via diodes (5 maximum), to the signaling leads of the selected conference stations. A typical preset conference arrangement is shown in Fig. 16. As illustrated in Fig. 16, stations 8, 18, 27, 28 and 29 are signaled when code 39 is dialed. In this arrangement, code 39 cannot be used as a station code.



OPTION FOR 10V AC BUZZER UNINTERRUPTED SIGNAL OR FOR 18V DC, 24V DC, GROUND OR AS REQUIRED FOR SIGNALING PURPOSES OTHER THAN PROVIDED (EXTERNAL POWER SOURCE MAY BE REQUIRED).

Fig. 15—G Option

4.16 When 10V ac signaling is used, the sound of the audible signal will be noticeably different on a conference call than on a normal call due to the effect of the diode on the signal voltage.

5. MAINTENANCE

5.01 Maintenance of the 626A panel is limited to normal station repairs (including cable and inside wire), wiring checks of the panel, replacement of defective lamps and fuses, and replacement of defective KTUs. The internal circuitry of the 626A panel consists of a flexible printed board and requires no maintenance.

5.02 Before considering the replacement of the 626A panel, make a check of the following:

- Fuses in place and not blown
- Lamps properly seated and not burnt out
- KTUs securely mounted in proper connectors with retainers in place
- Wiring on connecting blocks not loose, broken, or shorted
- Power cable is securely connected
- Proper options have been connected.

5.03 When it is suspected a KTU is defective, replace the KTU with one known to be in good working order. This will determine if the KTU is defective or if there is a trouble external to it. Should a replacement KTU not clear a trouble, the trouble is external and *the original KTU should be returned to service*. No field maintenance is to be performed on KTUs.

5.04 KTU functions are as follows:

- **424B or C**—Basic selector-only 19-code rotary dial intercom circuit, capacity of a maximum of nineteen 1- and 2-digit codes (refer to CD- and SD-69567-01).
- **440A**—Adapter circuit used to convert the multifrequency signals (TOUCH-TONE) from the telephone to contact closures which supply ground to the proper leads of the 424B or C selector (refer to CD- and SD-69906-01).
- **444A**—Extender circuit that expands the capacity of the 424B or C KTU to 37 codes by providing two additional transfer digits (refer to CD- and SD-69653-01).

Note: The 424A is not compatible with the 444A KTU.

- **454B**—3-path access circuit containing three separate intercom paths. Provides dial tone, flashing lamps during station selection, and steady lamps during a busy condition. Provides talking battery for all three intercom paths. Has the common control circuitry to connect the 424B or C KTU to one path at a time. Has a detect circuit to free the 424B or C KTU at the proper time (refer to CD- and SD-69930-01).
- **460B**—2-path access circuit with the same features as the 454B KTU except it operates on two intercom paths (refer to CD- and SD-69652-01).
- **478B**—Adapter circuit used to convert the multifrequency signals (TOUCH-TONE) from the telephone to supply ground to the proper leads of the 424B or C selector. When used with the 626A panel, Y (factory-provided) option must be provided on the 478B KTU. Can be used with the 626A panel in place

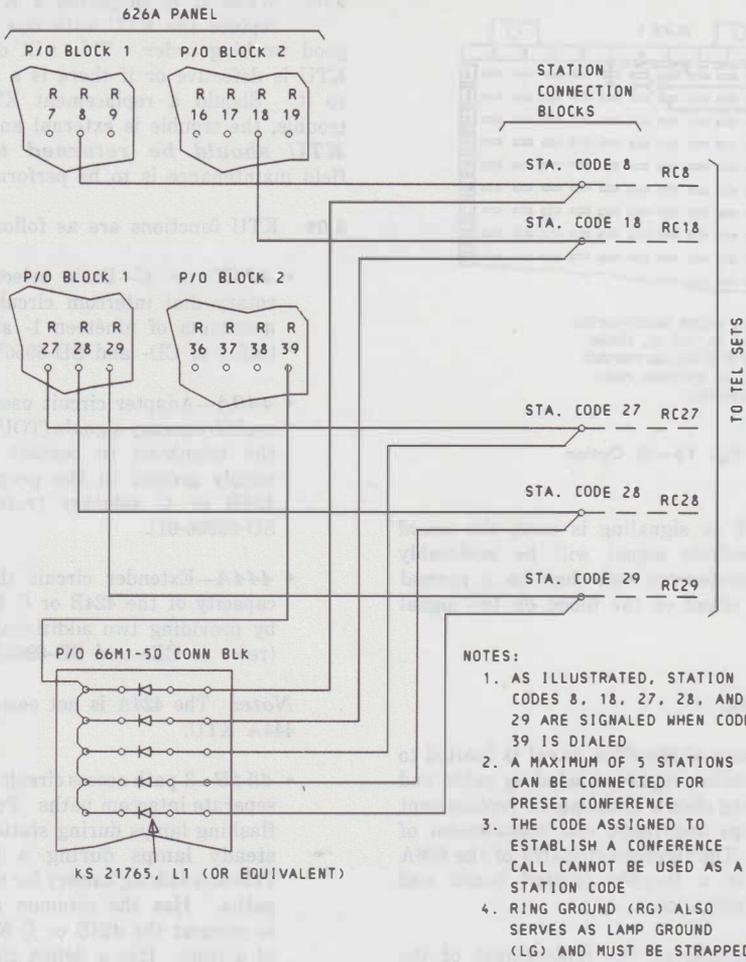


Fig. 16—Typical Preset Conference Arrangement

of the 440A KTU (refer to CD- and SD-69931-01).

5.05 As an aid for maintenance, Fig. 17 is provided to identify the terminals of the connecting blocks in the 626A panel. The letters above the

terminals are the terminal designations. The terminals are symbolized in order to identify them with a connector. The numbers below the terminals indicate the pin number of the connector. An asterisk below the terminal indicates the terminal is connected to the power cable.

NOTES:

1. NUMBERS UNDER TERMINALS DESIGNATE CONNECTOR PINS (SEE LEGEND).
UNNUMBERED TERMINALS APPEAR ON TERMINAL BLOCKS ONLY.

| LEGEND | |
|-----------------------|-----------------|
| CONNECTOR | TERMINAL SYMBOL |
| J1A | ○ |
| J1B | ⊙ |
| J2A | ● |
| J2B | ⊗ |
| J3A | □ |
| J3B | ⊠ |
| J4B | ⊡ |
| POWER CABLE TERMINALS | * |

2. AN AUXILIARY CONNECTING BLOCK IS REQUIRED WHEN THIRD INTERCOM PATH IS USED IN ORDER TO TERMINATE THE IT3, IR3, AND IL3 LEADS.
3. CONNECTOR ARRANGEMENT:

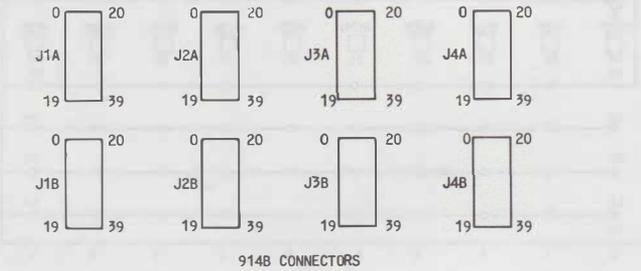


Fig. 17—Connecting Block Terminal Identification (Sheet 1 of 3)

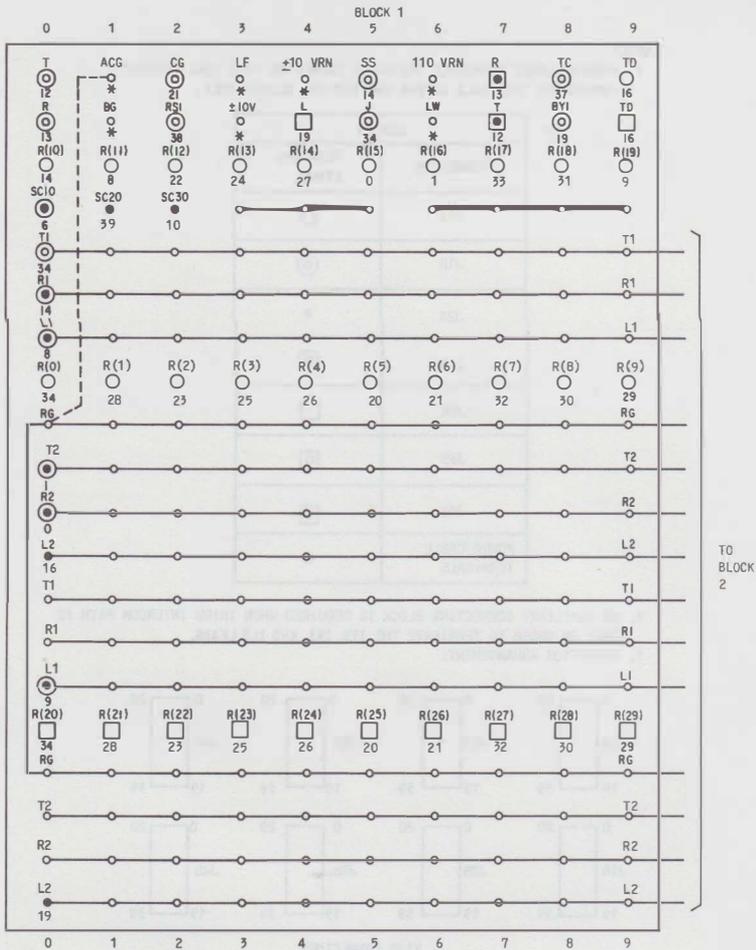


Fig. 17—Connecting Block Terminal Identification (Sheet 2 of 3)

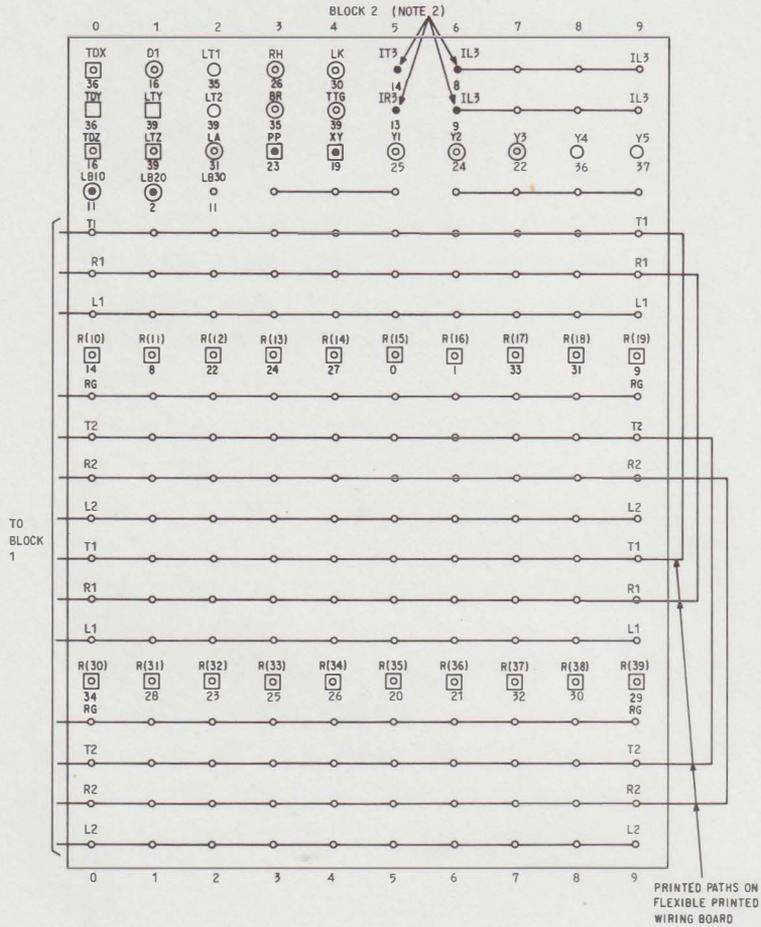


Fig. 17—Connecting Block Terminal Identification (Sheet 3 of 3)