

PAGING ADAPTER CIRCUIT

278A ADAPTER

1. GENERAL

1.01 This section contains identification, installation, connection, operation, and maintenance information for paging 278A adapter.

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

1.03 This issue of the section is based on the following drawing:

- CD- and SD-69922-01, Issue 2

2. IDENTIFICATION

PURPOSE

2.01 Provides an intercom paging access circuit in 1A1, 1A2 and 6B intercom systems (DIALOG*) and the 32A communication system (HORIZON*).

ORDERING GUIDE

(a) Basic Unit:

Unit, Adapter, 278A - order one for each paging zone required (maximum 3). No additional unit is required for all zone paging.

(b) Associated Apparatus (order separately):

- Coupler, 33A - required when music-on-hold on CO lines and background music on the paging amplifier(s) is to be supplied.

(c) Replaceable Components:

- Fuse F1 70F .25A
- Fuse F2 70F .25A

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- Fuse F3 70F .25A
- Fuse F4 70H .75A
- Fuse F5 70H .75A
- Kit of Parts D-180768 (additional option plugs)

DESIGN FEATURES

2.03 The 278A adapter provides paging access circuitry for key system intercoms.

Other features are:

- Approximate dimensions are 5.2 inches wide, 5.0 inches long, and 1.68 inches high (Fig. 1).
- Exposed screw terminals for all customer-provided connections.
- **Background music** - a music input is provided via circuitry built into the 278A. Music can be fed to the paging amplifiers any time the paging access is not in use, and is only cut off to the zones that are being accessed. No additional circuitry is needed for this feature. However, if background music is to be provided to the paging amplifiers along with music-on-hold to the CO lines, a 33A coupler will be necessary.
- **Busy-out** - a toggle switch, accessible by the customer, on the adapter can be thrown to disable that particular zone. In the 1A1/1A2 configuration the lamp associated with the signal key is lit at this time to warn potential page calls of the busy condition, but does not electrically prevent a page. In the HORIZON and DIALOG systems, an attempt to access a zone in the busy-out

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Bell System except under written agreement

mode will result in busy tone being returned. This feature is expected to be used when customer equipment is being serviced, etc.

- **Customer-provided tones** - customer-provided tones for coffee breaks, lunch breaks, etc, are not prohibited nor provided by the access circuit. A tone source connection must be made on the amplifier side of the access circuit allowing superposition of tones with background music or voice pages.
- **Contact closure** - a spare contact closure with capacity for 0.25 amperes at 117 volts is provided any time the voice path is completed through to the amplifier. This can be used in locally engineered situations where amplifier control or behind the amplifier zone switching is required.
- **Click Suppression** - circuitry is employed in the 278A adapter to minimize audible clicks heard when the adapter is accessed or when the calling party terminates the page. It does not, however, act on transients that may occur during an actual page.
- Fuses are provided to protect the 278 adapter from excessive currents from the customer-provided equipment (CPE).

2.04 Features or service options are connected in the 278A adapter by means of option plugs. Option plugs are available by ordering a D-180768 Kit of Parts.

3. INSTALLATION AND CONNECTIONS

Note: All wiring should be completed before applying power to prevent damage to adapter components.

- 3.01** The 278A adapter is contained in a wall or shelf mountable housing.
- 3.02** All telephone company connections are made to the screw terminals under the cover. A separate terminal strip is provided for customer connections.
- 3.03** Refer to Table A for placement of options on the 278A adapter. Options should be added before connecting power.

3.04 Connections between the 278A adapter and the 1A1 and 1A2 KTS are shown in Fig. 2, 3, and 4.

3.05 Connections between the 278A adapter and the 68 intercom system (DIALOG) is shown in Fig. 5.

3.06 Connections between the 278A adapter and the 32A communication system (HORIZON) is shown in Fig. 6.

4. OPERATION

4.01 When the 278A is used with 1A1/1A2 Manual Intercoms, the circuit has two operational modes. The first utilizes two signaling buttons, one locking and one nonlocking. If the locking button is depressed at any off-hook station, the manual intercom is accessed but does not connect to the paging access circuit. When the second nonlocking button is momentarily depressed ground is placed on lead BZ2 through 1C1 to the lamp lead BZ1. Relay A operates and locks through its own contacts, strap J-K to the lamp lead or ground. The page connection is established and remains established until the calling party abandons the call. Lamping indication is given to both buttons for the duration of the page. The second operation requires one locking signaling button to be depressed by an off-hook station which in turn provides immediate access to the paging amplifier.

4.02 When the 278A is used in HORIZON paging access is accomplished via dialing a code. Up to three page zones and an all zone page are allowed, all under control of the system. A confirmation tone is heard by the person paging if the zone(s) desired is (are) not busy. Otherwise, a busy signal is generated.

4.03 When the 278A is used in DIALOG, paging access is accomplished via dialing a code. Up to three page zones and an all zone page are allowed, all under control of the system. A confirming tone is heard by the person paging if the zone(s) desired is (are) not busy. Otherwise, a busy signal is generated.

Power

4.04 The 278A adapter is designed to operate on -24 Vdc supply obtained from the associated

key system if capacity is available. Current drain is .030 amps at -24 Vdc.

5. MAINTENANCE

5.01 Maintenance is limited to checking for blown fuses, loose or broken connections and verification that the wiring is good.

5.02 When trouble is suspected in the 278A unit have customer remove all wiring from terminals C1, C2, CT, CR, M1, M2 and GND, then replace unit.



Do not attempt any tests or repairs to the CPE.

5.03 When in the judgment of repair personnel the trouble is located in the CPE, the customer should be notified so that proper maintenance can be initiated.

6. COMPATIBILITY

6.01 The 278A adapter is compatible with the following:

- DIALOG and HORIZON
- 211A, 232B, and 401 KTUs - Manual Intercom

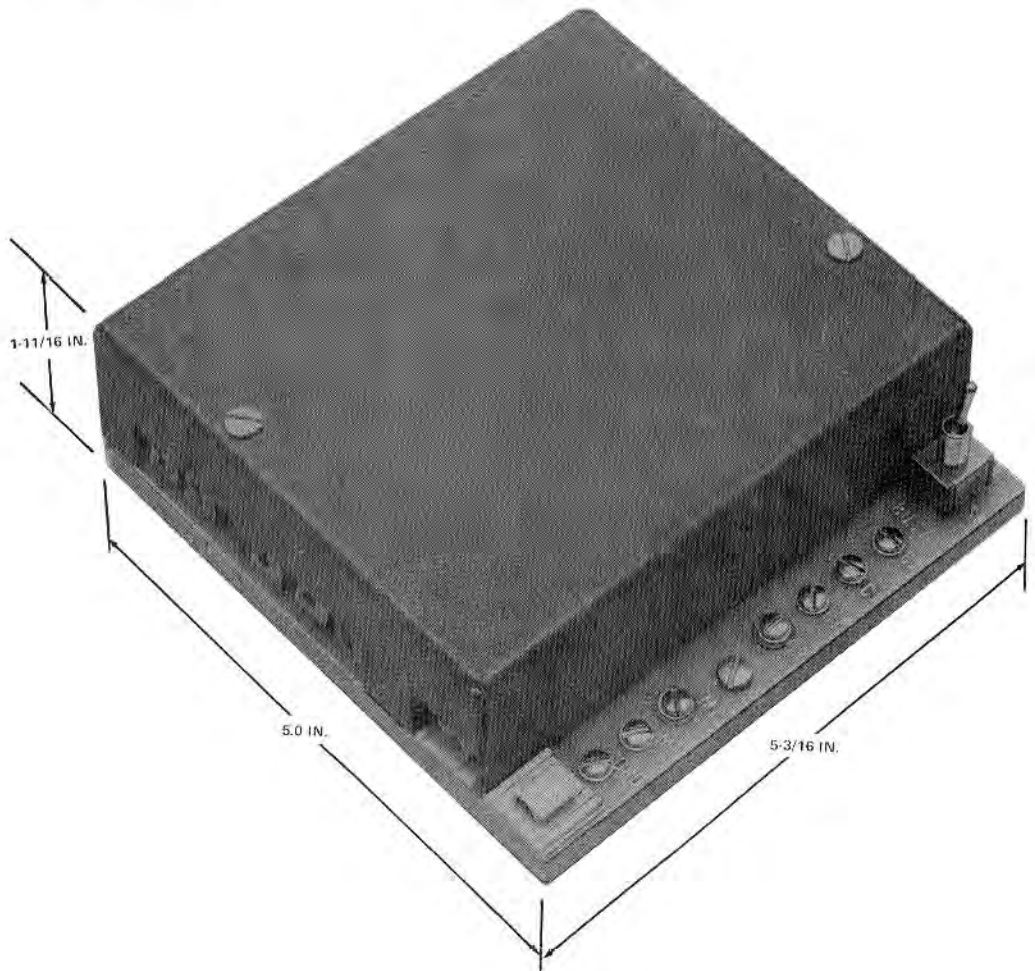


Fig. 1—278A Paging Adapter

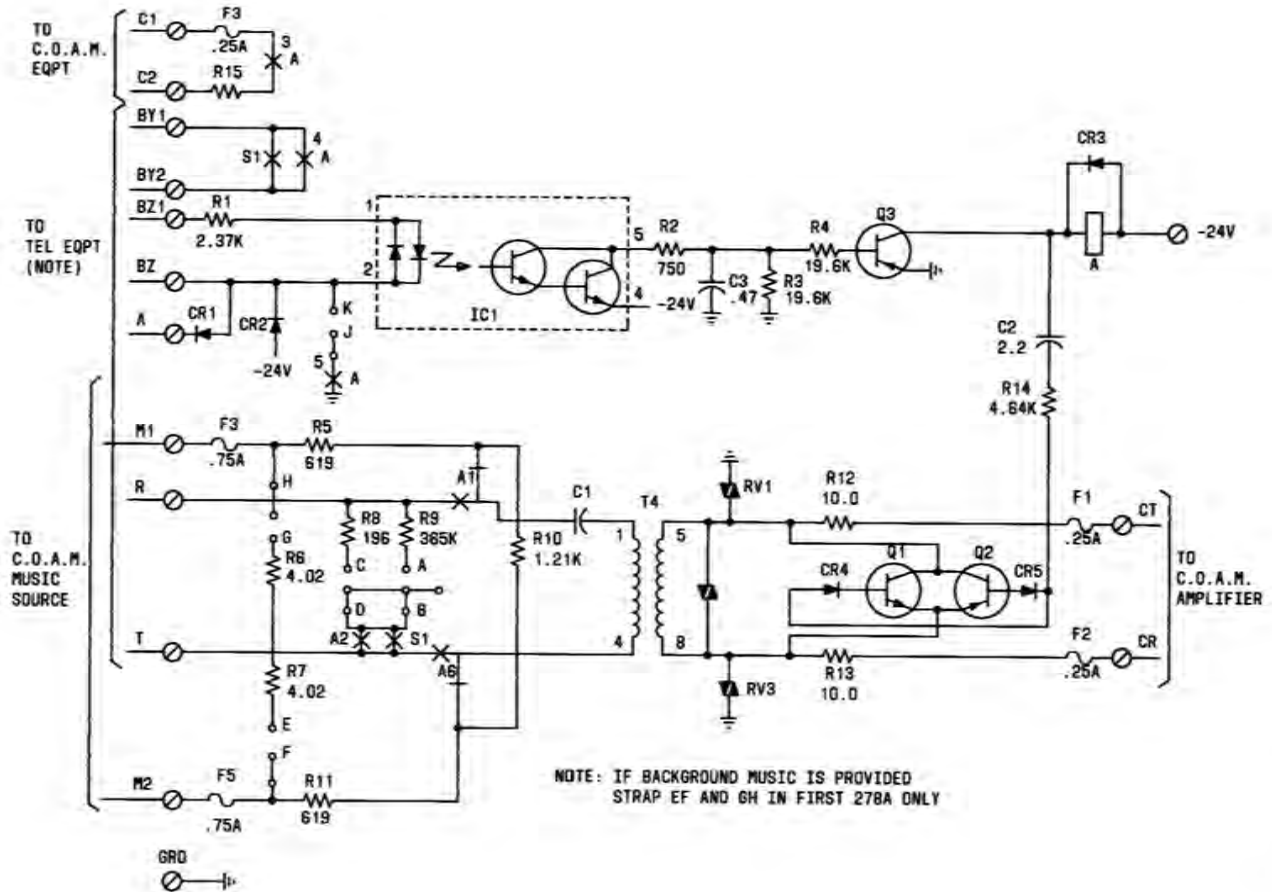


Fig. 2—Schematic Diagram - 278A

TABLE A
OPTION STRAPPING

OPTION	TERMINAL										
	A	B	C	D	E	F	G	H	J	K	
DIALOG	○—○										
HORIZON			○—○								
1A1: 211A or 232B, KTU (nonlocking)										○—○	
1A2: 401A KTU (nonlocking)										○—○	
1A2: 401A KTU (locking)											
Background Music*					○—○		○—○				

* Provide in first 278A only.

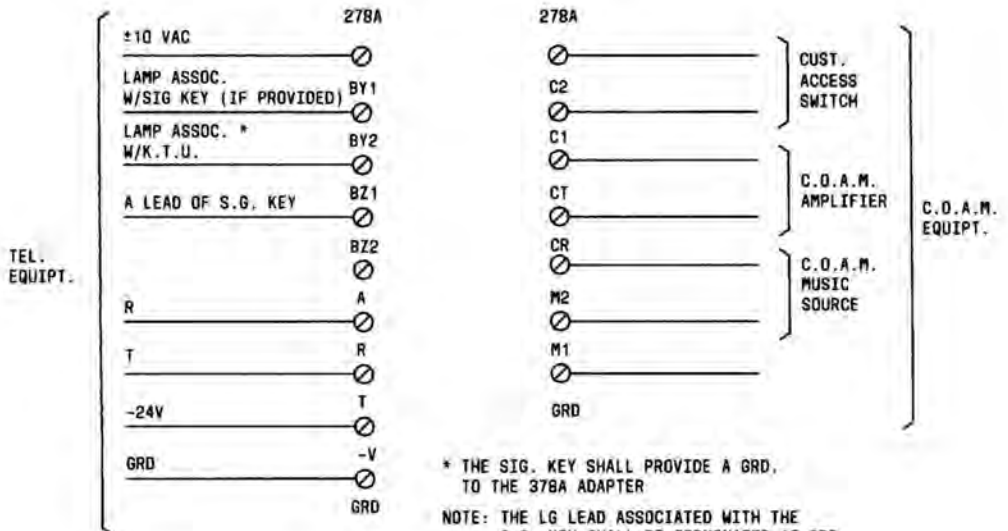


Fig. 3—Connections for 1A/1A2 (Nonlocking Sig. Key)

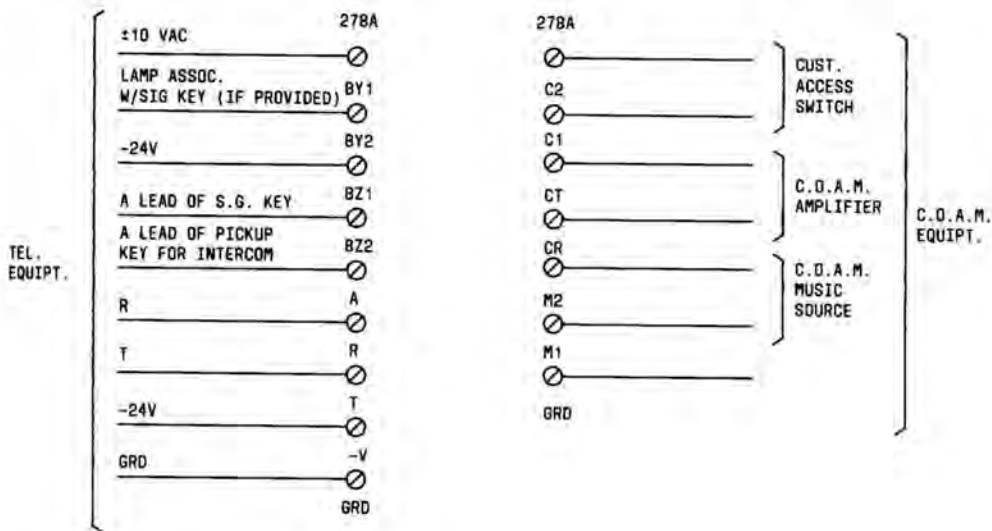


Fig. 4—Connections for 1A2 (Locking Key)

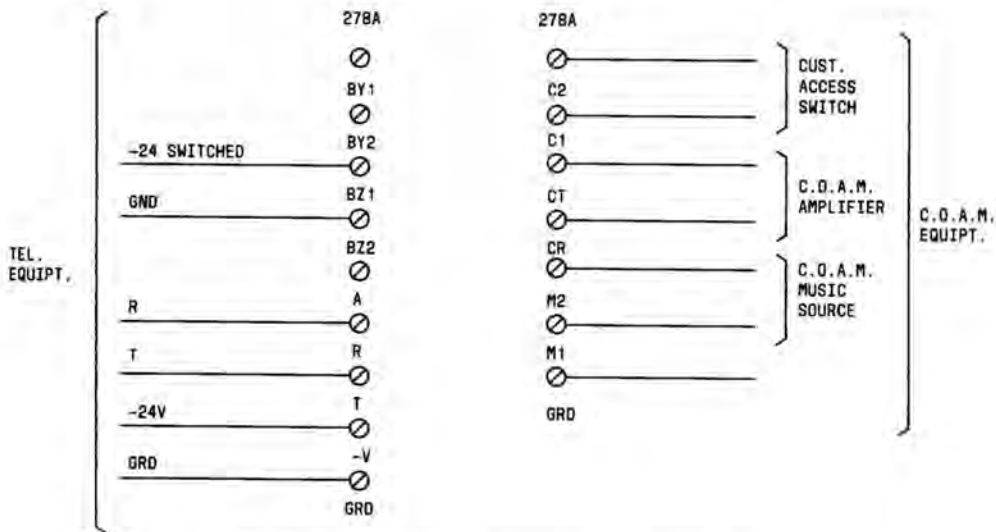


Fig. 5—Connections for 6B Intercom System (DIALOG)

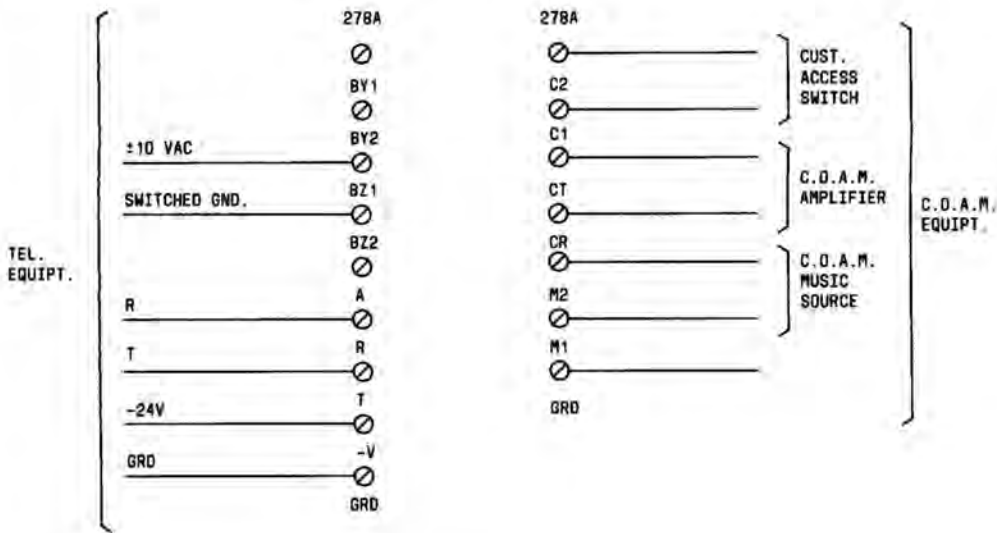


Fig. 6—Connections for 32A Communication System (HORIZON)