


VOICE PAGING ADAPTER
for TN-Private Automatic Exchanges
24 or 60 V

Cat. No. 220 28/2

Instruction Manual

A  PRODUCT

VOICE PAGING ADAPTER 22028/2

for PAX 15/2, 27/4, 50/6 24 V or 50/6 60 V

A) Introduction

The voice paging adapter can be used in conjunction with all Private Automatic Exchanges with an operating voltage of 24 V or 60 V DC except the PAX 10/1.

For the latter a special adapter Cat. No. 22028/3 is available.

The voice paging adapter provides the facility to page over a public address system, either existing or especially provided for this purpose, from any phone connected to the PAX. The adapter is installed between the PAX and the low impedance input of the P.A. system. If anyone desires to initiate a voice paging call, he merely lifts the handset of a telephone connected to the PAX and dials the predetermined number for this facility (for the PAX 15/2, usually "0"; for PAX 27/4, station number "4" to "7"; for 50/6 24 V, station number "3" to "6"; for 50/6 60 V, any station number or group selector level). This will connect the telephone set to the input of the amplifier and the message may be transmitted.

The person receiving the message may, if required, establish immediate contact with the person calling by dialing a predetermined digit from any other phone in the system. The P.A. system is automatically disconnected during the conversation. However, this procedure is not generally recommended because during such a conversation the paging system is blocked and 2 connecting links are used. Furthermore, the paging person has to remain on the phone until the paged person replies. The most advisable procedure is to inform the paged person of the station number where the paging person may be reached, for example:

"Mr. Brown, please call '91'".

The equipment is automatically released when the paging person replaces the handset.

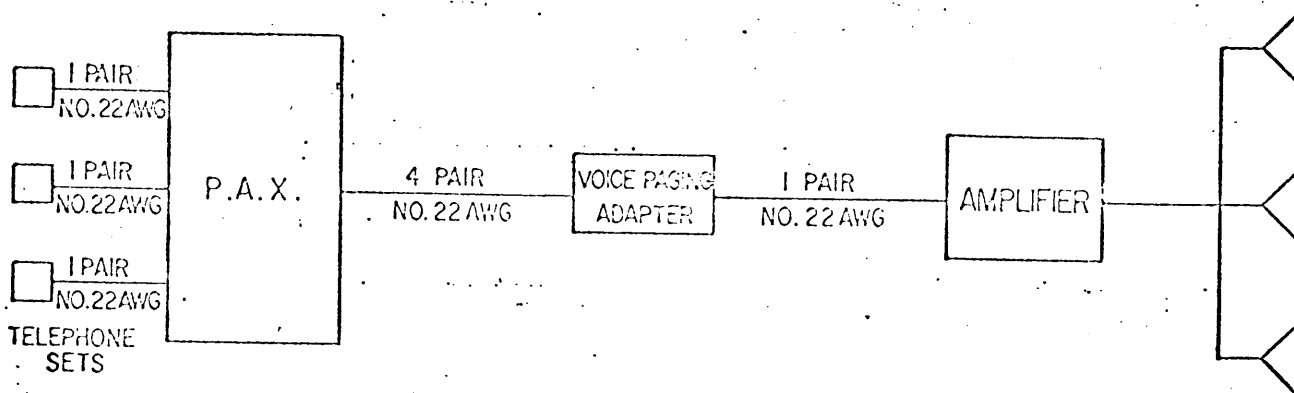
The adapter is very compact and measures only 8 1/2" x 6 1/2" x 5 1/4".

The net weight is approximately 6 lbs.

The location of the component parts and the arrangement of the terminal blocks are illustrated on drawing 22028/2 A+L E.

The catalog number of this adapter is 22028/2.

B) Installation



1. Mount adapter securely to the wall in the immediate vicinity of the PAX.
2. Determine the operating voltage of the PAX. If connected to the PAX 50/6 with an operating voltage of 60 V, remove the straps as listed in diagram S 10 i - 40/11 I E at terminal blocks I, II and III of the adapter. Access to terminal block I may be obtained by loosening the screw that holds the relay frame and swinging-out of the relay frame.

3. Ground base plate of the adapter properly.

4.a) Series 240 ... PAX 15/2, 27/4 and 50/6 24 V.

Connect terminals a, b and c (terminals 5, 6 and 7 of the adapter) to the a-LC, b-LC and c-LC terminals of the station number designated as paging number.

Remove straps a-LF/a-LC, b-LF/b-LC and CII-LF/ci-LC of the number designated as paging number on the terminal block of the PAX. (Not required by PAX 15/2 if "0" is used as paging number).

b) Series 241 ... PAX 50/6 to 100/12 60 V.

Connect terminals a, b and c of the adapter to the a, b and c terminals of the station number designated as paging number.
Important: Disconnect and insulate the wires from winding terminals 2, 3 and 5 of the line relay T of the same number.

c) Series 241 ... PAX over 100 extensions with group selectors. If regular numbers are used for voice paging, proceed as described under 4.b). If the adapter is to be connected to a group selector with the advantage that only a single digit is required as voice paging number, connect terminals a, b and c (terminals 5, 6 and 7 of the adapter) to the a, b and c terminals of the first step of a free group selector level (see instruction manual PAX 50/6).

In this case no disconnections at the PAX are necessary.

Important: Remove wire from c2 contact and strap 12-13 as indicated in diagram S 10 i - 40/11.

5. Connect terminals a and b (terminals 8 and 9 of the adapter) to the low impedance amplifier input. Amplifiers with a high impedance input require an additional matching transformer at the amplifier. Terminal An (terminal 10 of the adapter) is automatically connected to ground as soon as the adapter is seized. This feature may be used to operate a relay in the amplifier to switch from stand-by to service.
6. If the answering feature of the voice paging adapter is required, connect terminals a, b and c (terminals 1, 2 and 3 of the adapter) to the number designated as answering number.

- a) Series 240 ... PAX 15/2, 27/4 and 50/6 24 V.

Connect terminals a, b and c to the a-LC, b-LC and cI-LC terminals of the station number designated as answering number.

It is furthermore to be observed that on the terminal block of the PAX the straps a-LF/a-LC, b-LF/b-LC and cII-LF/cI-LC of the number designated as answering number must be removed.

- b) Series 241 ... PAX 50/6 to 100/12 60 V.

Connect terminals a, b and c (terminals 1, 2 and 3 of the adapter) to the a, b and c terminals of the station number designated as answering number.

Important: Disconnect and insulate the wires from winding terminals 2, 3 and 5 of the line relay T of the same number.

- c) Series 241 ... PAX over 100 extensions with group selectors. Proceed as described under 4.c).

Checking

With the amplifier and speakers properly installed and impedance matched, proceed with the following tests:

- a) Lift receiver of a connected telephone set, dial the number assigned as paging number and make a test announcement.

- b) Check whether all connected speakers respond properly.
- c) Lift receiver of a second telephone set and dial the number assigned as paging number, a busy signal shall be heard in the receiver.
- d) Replace the receiver of the second telephone set, lift it again and dial the number assigned as answering number. First and second telephone set should now be connected with each other. The P.A. system shall be cut off during the conversation.
- e) Replace both receivers and repeat testing procedure to insure that the paging adapter has properly released after the first announcement.

C Diagram Description

Diagram S 10 i - 40/11. I E illustrates the schematic of voice paging adapter 22028/2. The following description is based on an operating voltage of 24 V. In case the adapter is to be used at an operating voltage of 60 V, the modifications, as indicated in the diagram, must be made and of course be allowed for in the description.

1. Calling

The adapter is seized by a ground from the PAX. This ground is connected to the c wire and will cause the J relay to operate over:

ground - c term. (E5) - v4 (E6) - c4 (E7) -
 C 3-4/Re 2 (E7) - term. 6 (E8) - term. 5 (F8) -
 J 2-1 (F8) - batt.

Battery from fuse (H5) over:

V 6-5 (G6) - term. 11 (G6) - term. 12 (F6) -
 term. 13 (F6) - c2 (E6) - v4 (E6) - term. c (E5)

will, because of the low resistance of V 5-6, result in a high current flow through the PI relay of the PAX. PI will operate and prepare the connecting link of the PAX for immediate connection of the calling station to the voice paging adapter.

Contact j4 (F10) opens the short for C. C operates over:

ground - j4 (F10) - C 1-2 (F10) - term. 2 (F10) -
term. 1 (G10) - C 5-6 (G10) - batt.

Contact c4 (E7) opens the circuit for J, but J is now held over the a/b loop via:

ground - term. 3 (G8) - term. 4 (F8) - J 5-4 (F8) -
b wire - a wire - term. 6 (E8) - term. 5 (F8) -
J 2-1 (F8) - batt.

After the operation of C, battery to the c term. (E5) over:

V 6-5 (G6) - term. 11 (G6) - term. 12 (F6) -
term. 13 (F6) - Re 1 (E6) - c2 (E6) - c term.

will continue the test circuit to the PAX.

Contact j3 (E12) connects ground to the amplifier to operate a relay in the amplifier, in case the amplifier is equipped for stand-by use.

Contact c6 opens and the short that mutes the amplifier input is removed.

The amplifier input is connected to the a/b loop from the PAX over the transformer Tr and closed contacts c3 and c5 (D10).

The equipment is now prepared to receive the paging call or announcement.

2. Answering

In case the reply feature is used, the a, b and c wires (B/C5) are connected to identically designated terminals of the station number in the PAX which is designated for this purpose.

When hearing the paging call, the called person may proceed to any station connected to the PAX and dial the predetermined answering number. The connector of the PAX will test over"

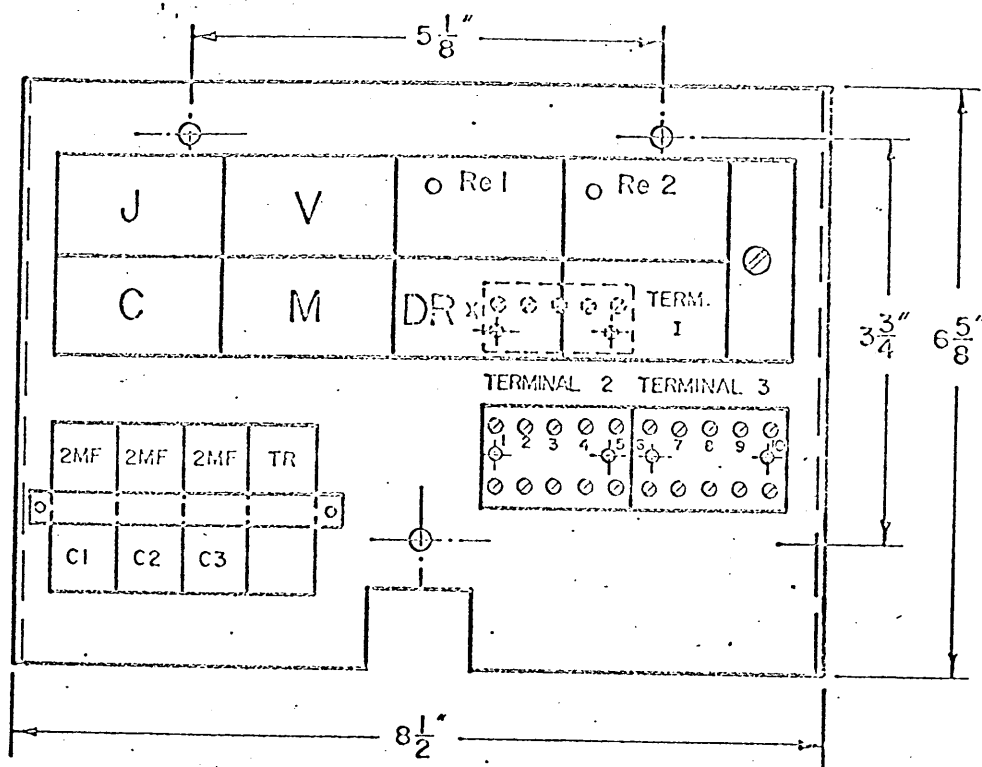
c term. (C5) - j2 (C5) - M 6-5/2-1 (C6) - batt.

A talking circuit between the a/b circuit of the calling party and the a/b circuit of the replying party is established over contacts m1 and m5 (D7) and the 2 MF condensers.

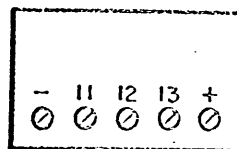
Contacts m2 (D9) and m6 (E9) disconnect the amplifier input which is now muted over m4 (C11) and c6 (D12).

3. Release

Release by the calling party will open the a/b circuit, which causes the release of J. Contact j4 (F10) opens the short for V 1-2 (F10) and V operates. Contact j4 (F10) shorts C 1-2 (F10) and C releases. Contact c2 (E6) opens the c wire to the PAX. Contact c1 (E10) opens the circuit for V 1-2, V releases slowly. Contact j6 (E8) opens the circuit. The adapter is restored to normal and the amplifier input is muted by restored c6 (D11).

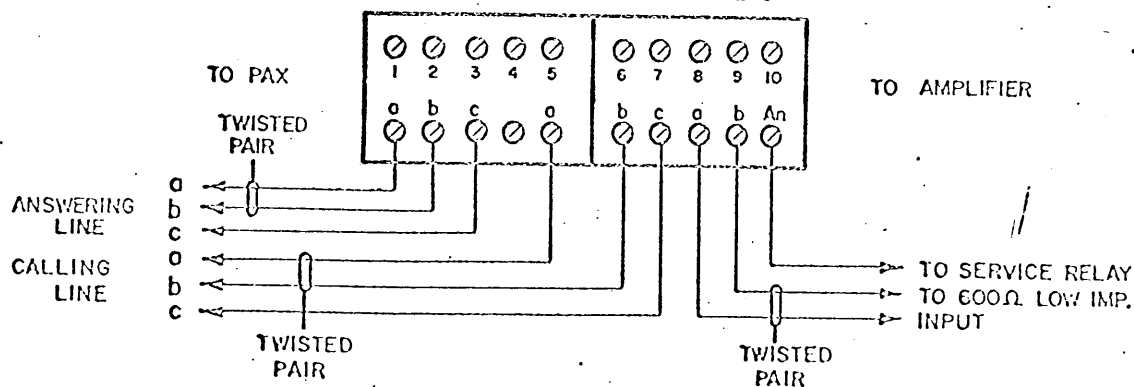


TERMINAL 1



TERMINAL 2

TERMINAL 3



DRWN. <i>S.H.</i>	ISSUE	DATE	ISSUE	DATE
CHKD. <i>K.W.</i>		<i>11/12</i>		
APPR.				

VOICE PAGING ADAPTER
OPERATING VOLTAGE 24 OR 60VDC

220 28/2 A+L
E

1 a	2 b	3 c	4 free	5 a	6 b	7 c	8 a	9 b	10 c
ANSWERING LINE			CALLING LINE			AMPLIFIER			

