

PA-40 Paging/Chime Module Installation Instructions

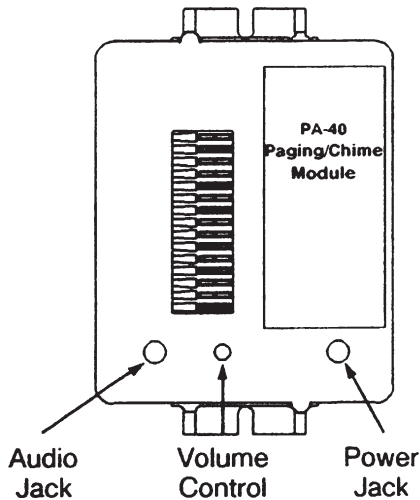
The Tone Commander PA-40 Paging/Chime Module provides dial access paging and night bell interface to an external paging amplifier using a standard "Plain Old Telephone Service" (POTS) telephone line. The PA-40 can detect both internal and external distinctive ringing patterns, allowing shared paging and night bell service with a single POTS telephone line. When used with a Tone Commander 2260d or 40d120 ISDN console, single key paging access may be accommodated. A beep-back feature alerts a caller before connecting to the paging system. Built-in chime circuitry announces ringing night service calls with a pleasant tone over the paging system. This compact wall-mounted module is powered using a 6 VDC wall plug-in transformer.

Installation

Mounting

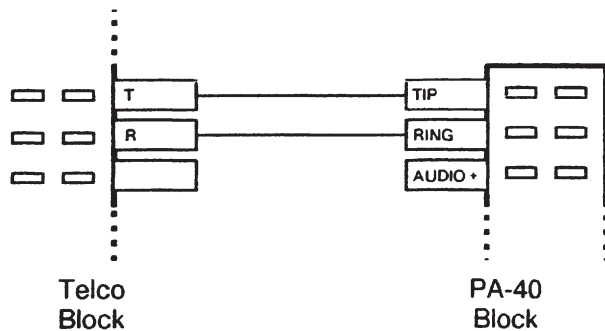
Mount the PA-40 to an equipment rack with the provided mounting screws, or mount to a plywood sheet or other wall surface using suitable fasteners. The terminal block, audio jack, power jack, and chime volume control should be easily accessible.

Power



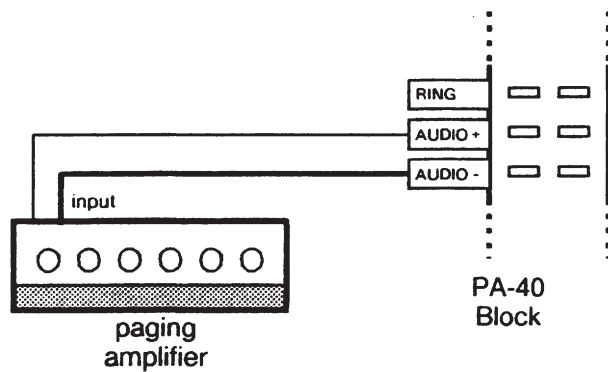
Connect the power cord barrel connector to the power jack on the PA-40 and then plug the plug into a standard 117 VAC, 60Hz grounded power outlet.

Paging Access Line



Cross connect *T* and *R* from the dedicated paging line to *Tip* and *Ring* on the PA-40's terminal block. These connections are not polarity sensitive.

Paging Audio Connection

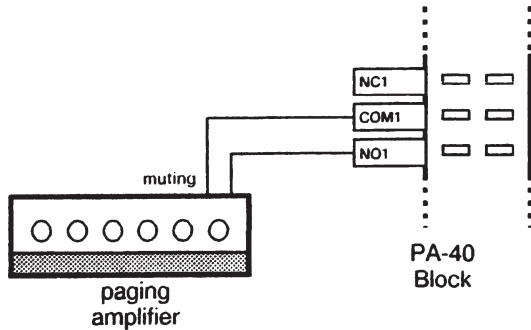


Connect the paging amplifier's input to *AUDIO+* and *AUDIO-* on the PA-40. If the amplifier has an unbalanced input (one side grounded), *AUDIO-* should connect to amplifier ground.

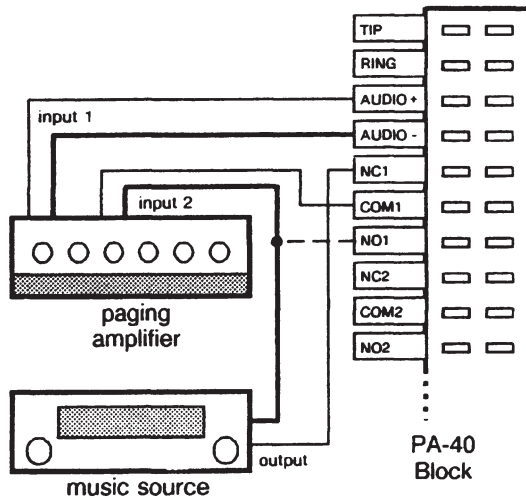
The audio jack on the PA-40 can be used in place of the block connections. Use a standard shielded audio cable with a phono (RCA-type) plug.

Auxiliary Relay Contacts

The relay contacts provided on the PA-40 can be used to switch a paging amplifier from music to paging mode, or to control other equipment. *COMx* (common) is switched to *NOx* (normally open) during paging, and back to *NCx* (normally closed) when the PA-40 is idle.



Some paging amplifiers include external connections for muting background music during paging. Connect to either *COMx/NOx* pair on the PA-40 (use *COMx/NCx* if an open circuit is required when paging).



The relay contacts can be used to switch off the music source during paging.

The connection shown with the dashed line may be required to reduce noise and hum during paging in some installations.

Volume Adjustment

There is no voice volume adjustment on the PA-40. Set the voice paging volume with the paging amplifier's volume control.

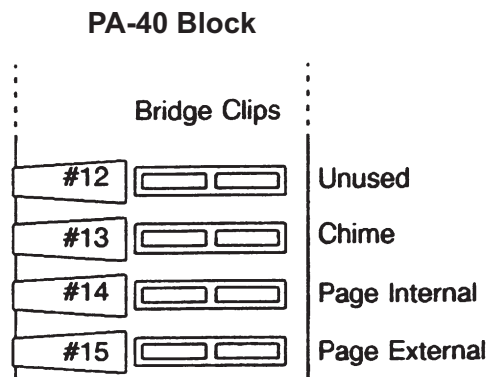
After the amplifier volume has been set, the chime volume can be adjusted with the control on the PA-40. Turn the control clockwise to increase the volume.

Tone Commander PA-40 Installation Instructions

Operation Modes

The PA-40 may be programmed to differentiate between internal and external calls, based on the incoming ringing pattern. For this feature to work correctly, the PA-40 telephone line pattern must be ordered with distinctive ringing from your telco. Internal calls are identified in the PA-40 by single-burst ringing; external calls are identified by double-burst ringing.

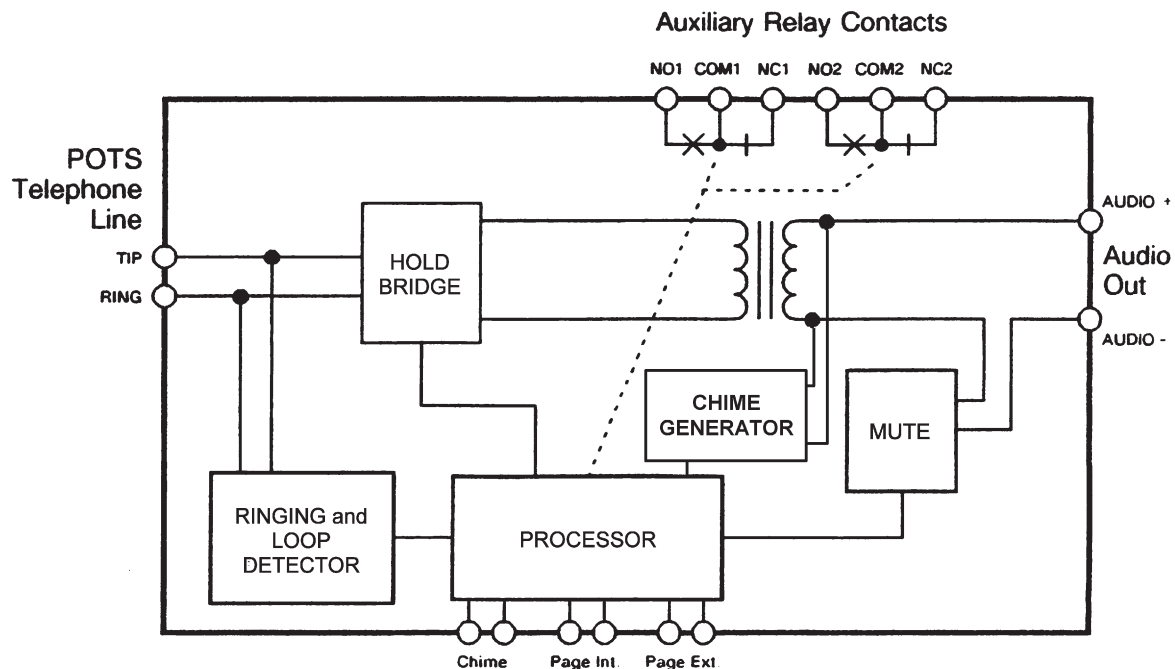
Paging and chime options are set with two bridge clips (provided) on the PA-40 punch down block. The available operation mode options are described below.



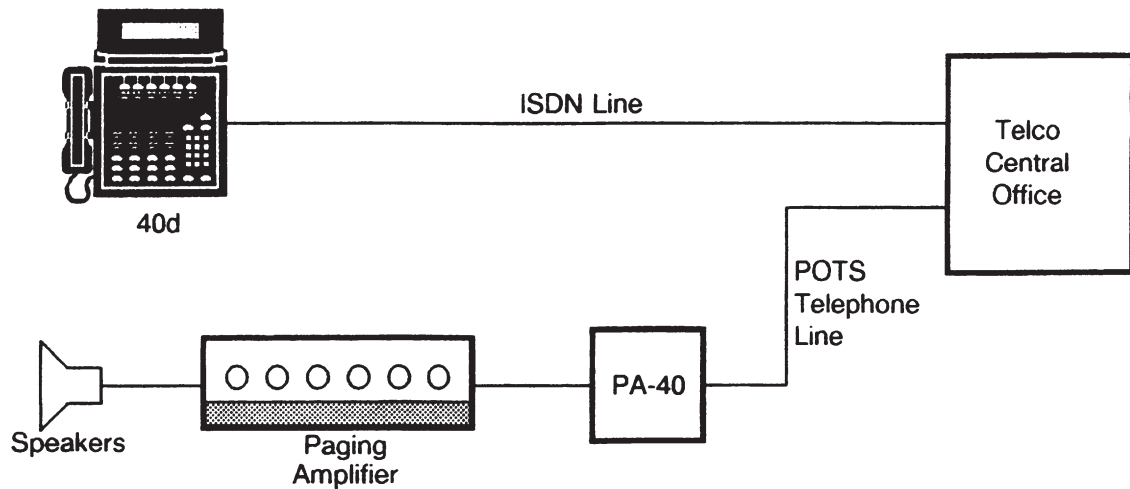
To set up:

- Page Internal/Chime External Rows 13 & 14 are bridge clipped
- Page Internal and External Rows 14 & 15 are bridge clipped
- Page Internal Only Rows 12 & 14 are bridge clipped
- Chime Internal and External Rows 12 & 13 are bridge clipped

PA-40 Block Diagram



Applications



Paging with the 2260d or 40d120

Paging may be provided through the PA-40 by setting the 2260d or 40d120 to page the PA-40 line.

1. Set jumpers on the PA-40 to enable paging.
2. A preprogrammed Page button is provided on the console (default setup). Set up its associated PA-40 telephone number.
3. To activate paging, press the preprogrammed PAGE key on the console. Paging is activated after a short alerting tone is heard from the PA-40.
4. To deactivate paging, press RELEASE or CANCEL on the console.

Night Service with the 2260d or 40d120

Night Service chime may be provided over the paging system through the PA-40 by setting the 2260d or 40d120 to call forward inbound calls to the PA-40 line.

1. Set jumpers on the PA-40 to enable chime.
2. Setting up Call Forwarding to the PA-40 line can be done in one of two ways: 1) by service order, or 2) by the user at any time by dialing a feature access code. Consult with your telco representative to determine which method applies in your area.
3. To activate call forwarding (night service), press the preprogrammed CALL FWD key on the console. When activated, the lamp over the key will light. All calls dialed to the console will now forward to the PA-40.
4. When night chime is heard over the paging system, any Centrex station can answer the call by dialing either the group call pickup code or the directed call pickup code for the PA-40 POTS line. Consult your telco for the appropriate codes.
5. To deactivate call forwarding (night service), press the preprogrammed CALL FWD key on the console again. The lamp over the key will turn off, indicating call forward deactivation. All incoming calls will now ring at the console.

Tone Commander PA-40 Installation Instructions

CAUTION: If the PA-40 is used for both paging and chime, internal calls that are dialed to the 40d when call forwarding is activated will access paging instead of chime, since the ringing pattern presented to the PA-40 is no different than normal paging access. If internal calls to the 40d are expected during night service, separate lines (different telephone numbers) must be used with two separate PA-40s to provide paging and night chime service; one PA-40 should be set for **Page Internal and External** or **Page Internal Only** and the other set for **Chime Internal and External**.

Paging with Other Tone Commander Consoles

Paging may be provided by dialing the directory number of the line connected to the PA-40 unit using the dial pad or a preprogrammed DSS key.

1. Set jumpers on the PA-40 to enable paging.
2. If repertory dialing is desired, program a spare DSS key to dial the directory number of the line connected to the PA-40.

Operational Test

Test Paging

1. Press the PAGE key on the console to access paging. You should hear ringback, followed by a short alerting tone from the PA-40. After the alerting tone, you should be connected to paging.
2. Press RELEASE or CANCEL on the console. The PA-40 should drop the line and disconnect from paging.
3. Internal Calls from other stations to the PA-40 number can also access paging. Paging disconnect may take several seconds from non-ISDN stations.

Test Chime

1. Press the CALL FWD key on the console. The lamp over the key should light.
2. Call the console from an external (outside your Centrex group) number. The caller will hear ringback and chime will sound over the paging system.
3. Dial the group call pickup or directed call pickup code for the POTS line from any Centrex station to answer the call.
4. Press the CALL FWD key on the console again. The lamp over the key should turn off. Calls to the console should no longer forward.

Specifications

All values listed in this section are nominal, and may differ from the actual values.

Audio Input and Output

Impedance 600 ohms
Insertion Loss less than 4 dB
Levels line level

Auxiliary Relay Contacts

Relay Contact Rating 1 amp @30 VDC

Timeout

Paging Access 30 seconds max. paging duration (fixed)

Power Requirements

Voltage 6 to 9 VDC
Current 200 mA max.

Physical

Dimensions 7" H, 4 7/8" W, 2 3/4" D
Weight 1 lb. 2 oz.

Environmental

Operating Temperature 32° to 122° F (0° to 50° C)
Storage Temperature -4° to 140° F (-20° to 60° C)
Humidity 5% to 95%, noncondensing

Tone Commander PA-40 Installation Instructions

Service

Repair of the PA-40 Paging/Chime Module must be done by Tone Commander. Prior to equipment removal, call Tone Commander Customer Technical Support for assistance in determining the source of the problem. This critical action can often prevent needless removal of equipment and subsequent customer inconvenience.

Tone Commander
Customer Technical Support Department
11609 49th Place West
Mukilteo, WA 98275-4255 USA

Phone: (800) 524-0024
(425) 349-1000

Fax: (425) 349-1010

E-mail: tech@tonecommander.com

Web: www.tonecommander.com

Tone Commander is committed to meeting the product needs of our customers. Please write or call us with any suggestions for improvement.

FCC Requirements

The Tone Commander **PA-40** complies with Part 68 of the FCC Rules. The label affixed to this equipment contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your telephone company.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

If your PA-40 Interface causes harm to the telephone network, the Telephone Company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice is not practical you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

Connections to party lines are subject to state tariffs. Contact your local telephone company if you plan to use this equipment on party lines.

This equipment cannot be used on public coin service lines provided by the telephone company.

If you have trouble with the PA-40 Interface please refer to the Troubleshooting section in this manual, or contact us at the address listed on the back of this manual for information on obtaining service or repairs. The telephone company may ask that you disconnect the PA-40 Interface from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

Warranty

Tone Commander Product Warranty

For a period of one year from date of dealer purchase, but not to exceed 16 months from date of manufacture, Tone Commander Systems, Inc. (Tone Commander) warrants its products to be free from defects in material and workmanship under conditions of normal use and service. Tone Commander shall, at its option, repair or replace any defective product which, in its opinion, has not been misused, damaged, or improperly installed.

Repair or replacement under this warranty will be performed at Tone Commander's factory. Authorization must be obtained from Tone Commander prior to returning a product for repair. Freight must be prepaid for all units returned to Tone Commander. Units repaired under warranty will be shipped UPS Ground (or equivalent), freight prepaid by Tone Commander.

Products that are older than the warranty period, but less than 7 years old, or still manufactured by Tone Commander may be repaired at the factory for a flat rate charge. Repaired out-of-warranty units are warranted for 90 days from the date of repair.

The repair or replacement of a product under this warranty represents the entire obligation of Tone Commander; Tone Commander shall not be liable for any special or consequential damages resulting from or caused by any defect, failure, incapacity or malfunction of any of its products.

The foregoing express warranty is in lieu of all other warranties, express or implied, including but not limited to any implied warranty of merchantability, fitness, or adequacy for any purpose or use, quality, productiveness or capacity; Tone Commander, to the extent permitted by law, hereby disclaims all such other warranties.

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