



PagePac[®] Plus System

Zone Expansion Unit

Installation and Use

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Notice

Every effort was made to ensure that the information in this guide was complete and accurate at the time of printing. However, information is subject to change.

Trademarks

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Ordering and Reference Information

The order number for this book is 463-248-202. To order copies of this book, call:

1-800-432-6600 in the U.S. and
1-800-255-1242 in Canada.

For related product information, refer to the *PagePac Plus System Installation and Configuration Guide*, and the *AmpliCenter Installation and Use Guide*.



Important Safety Information

Always follow these basic safety precautions when installing and using the system:

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. DO NOT block or cover the ventilation slots and openings. They prevent the product from overheating. DO NOT place the product in a separate enclosure or cabinet, unless proper ventilation is provided.
4. Never spill liquid on the product or drop objects into the ventilation slots and openings. Doing so may result in serious damage to the components.

5. Repair or service must be performed by a factory authorized repair facility or AT&T technician.

6. The product is provided with a UL-CSA approved, 3-wire ground type plug. This is a safety feature. DO NOT defeat the safety purpose of the grounding type plug. DO NOT staple or otherwise attach the AC power supply cord to building surfaces.

7. DO NOT use the product near water or in a wet or damp place (such as a wet basement).

8. DO NOT use extension cords. The product must be installed within 6 feet of a grounded outlet receptacle.

9. DO NOT install telephone wiring during a lightning storm.

10. DO NOT install telephone jacks in a wet location unless the jack is specifically designed for wet locations.

11. Never touch uninsulated wires or terminals, unless the line has been disconnected at the paging or controller interface.

12. Use caution when installing or modifying paging or control lines.

Support Telephone Numbers

AT&T provides a toll-free customer Helpline 24 hours a day.

In the U.S., call the AT&T NTSC Group at 1-800-552-3293 or the AT&T Helpline at 1-800-628-2888 if you need assistance when installing, programming, or using your system. For service or technical assistance in Canada, call one of the following Technical Assistance Centers:

Eastern Canada and Ottawa:	1-800-363-1882
Ontario:	1-800-387-4268
Central and Western Canada:	1-800-663-9817

Domestic and International Approvals

UL813, C.S.A.- 22.2 No. 225-M90

Before You Start

Before installing your system, read and understand the safety instructions that follow. Be sure you have all the necessary parts, tools, and test equipment, listed below.

1 Read Important Product and Safety Information on Page 2.

2 Check Shipping Container Contents

- Zone Expansion Unit
- Mounting hardware (screws and brackets)
- Cable, 8-pin Molex
- This Installation and Use guide

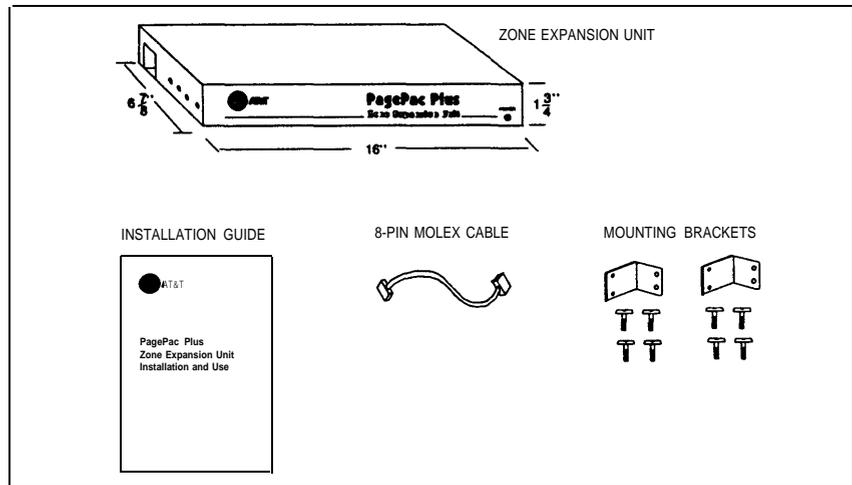


Figure 1. Zone Expansion Unit Components

3 Have Required Tools

The following tools are required for the installation of the system hardware and cabling.

- Phillips screwdriver (small and large)
- Standard blade screwdriver (small and large)
- Wire strippers (24 AWG - 12 AWG)
- Telephone test set (optional, for troubleshooting)
- Tone out circuit tester (optional, for troubleshooting)
- Portable 70V speaker (use cabling pulled for ceiling speakers) (optional, for troubleshooting)
- Volt-Ohm Meter (optional, for troubleshooting)
- 4 wood screws, if mounting on wall

Installation Steps

1

Mount the Zone Expansion Unit(s) (Z.E.U.) to either a wall, cabinet or a rack (below the Controller).

NOTE: When installing the Zone Expansion Unit, leave at least four inches space above and below for proper ventilation.

Install the paging equipment in a ventilated room where there is easy access to speaker cabling (preferably in the telephone equipment room).

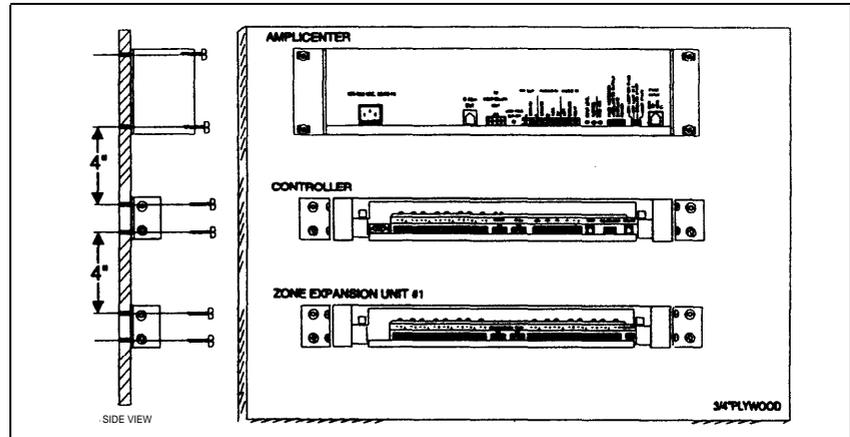


Figure 2. Wall Mounted Hardware

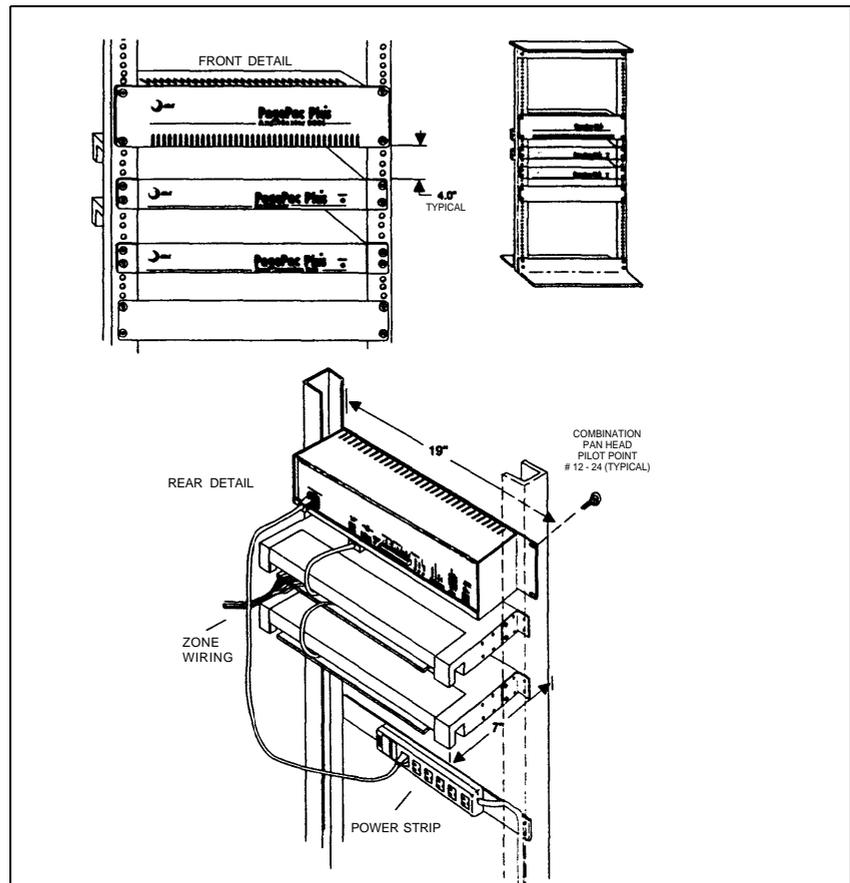


Figure 3. Rack Mounted Hardware

2

Connect 8-pin Molex from Controller to first Zone Expansion Unit, and next Z.E.U.'s, if used.

NOTE: Up to 3 Zone Expansion Units can be used, providing up to 56 paging and/or control zones.

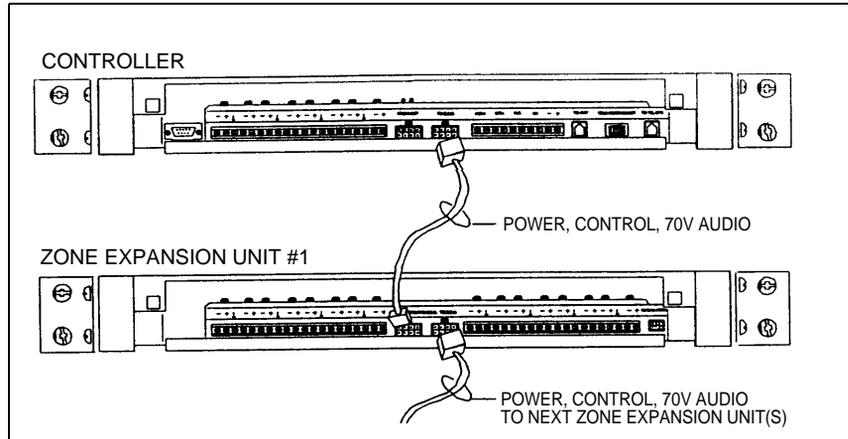


Figure 4. 8-pin Molex Connector from Controller to Zone Expansion Unit(s)

3

Set DIP switches on each Zone Expansion Unit(s).

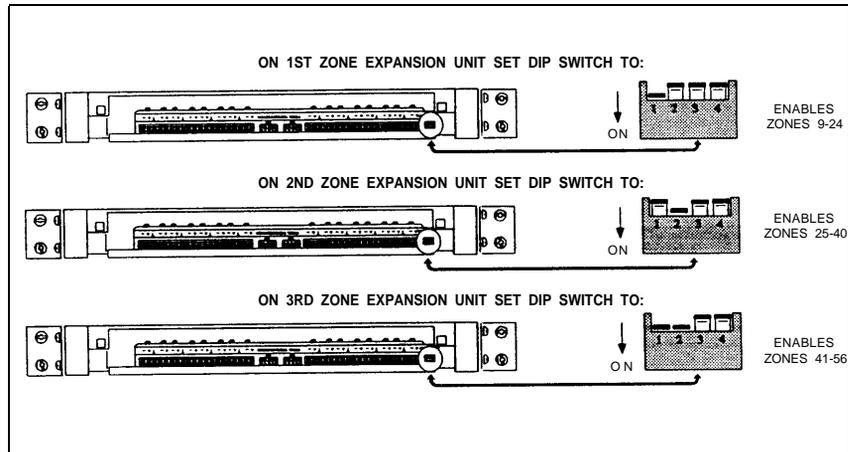


Figure 5. Setting Zone Expansion Unit DIP Switches

4

Set the Zone Option switches on the Controller and Zone Expansion Unit(s).

NOTE: For each zone used, no matter what its function, this switch needs to be set to one of three settings for proper zone operation.

The Controller has eight switches for zones 1-8. Each subsequent Zone Expansion Unit has switches for zones 9-24, 25-40, and 41-56.

Refer to the Zone Map and Zone Configuration Tables filled out during facility paging system design. You can find these in the PagePac System Installation and Configuration Guide.

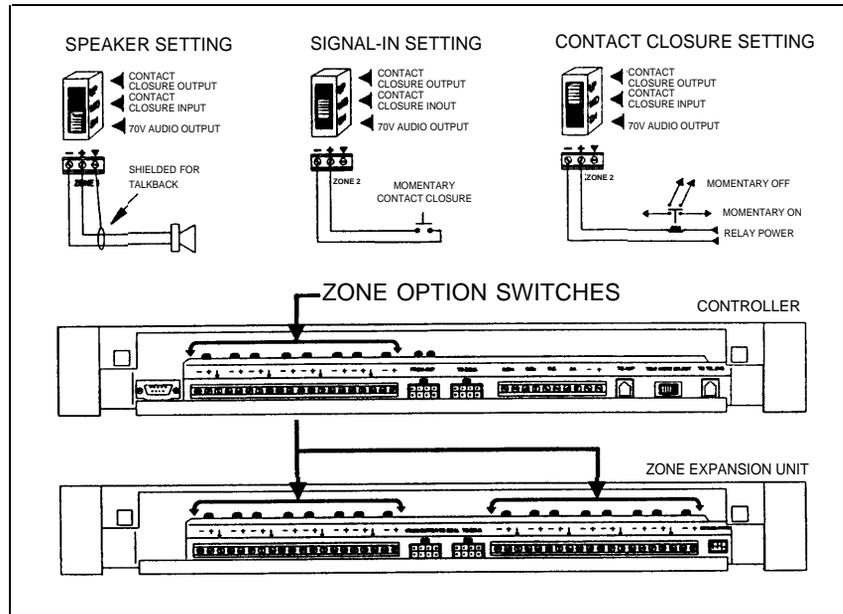


Figure 6. Setting Zone Option Switches on Controller and Zone Expansion Units

Connecting Speakers

5

Locate and mount all speakers in accordance with the floor plan drawing for this installation.

6

Connect each speaker to the appropriate Home Run or Speaker-to-speaker wiring scheme as shown on the floor plan.

NOTE: Adjust all speakers per volume and power requirements as noted on floor plan, during or after installation.

Figures 8 and 9, on the following pages, show wiring methods using local and zone connector blocks, and contact closure zone applications.

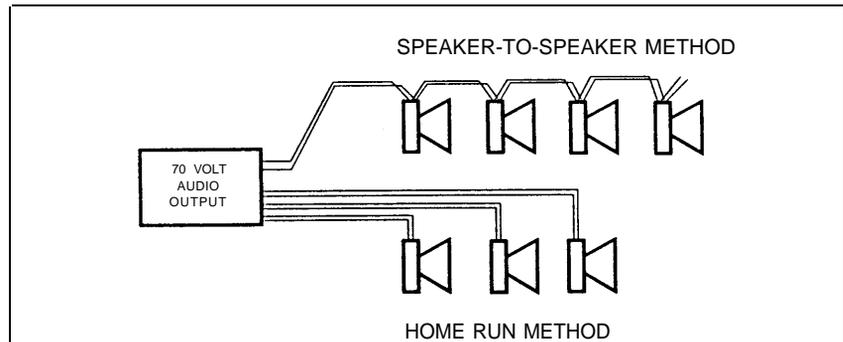


Figure 7. Speaker Wiring Methods

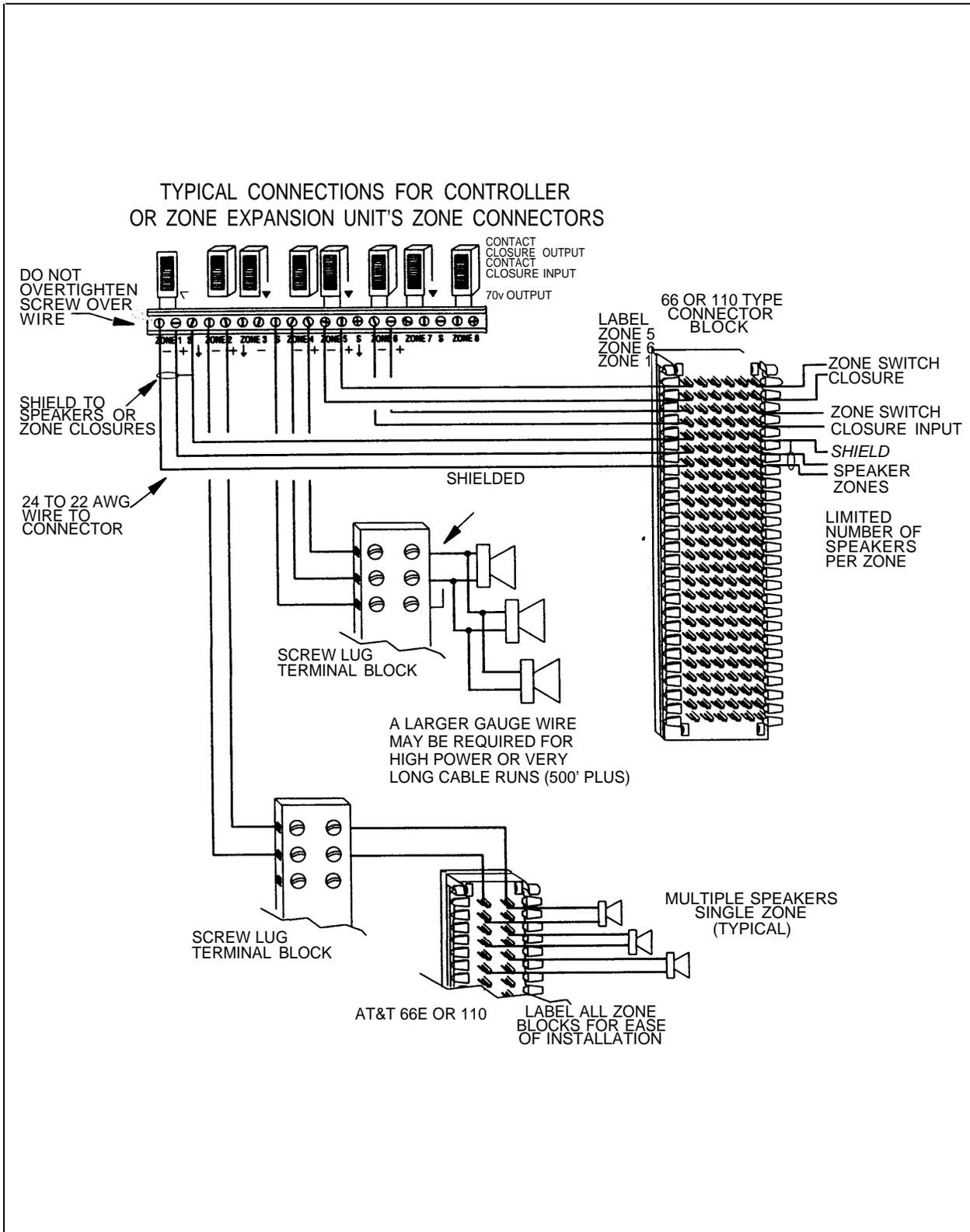


Figure 8. Zone Wiring Using Connector Blocks

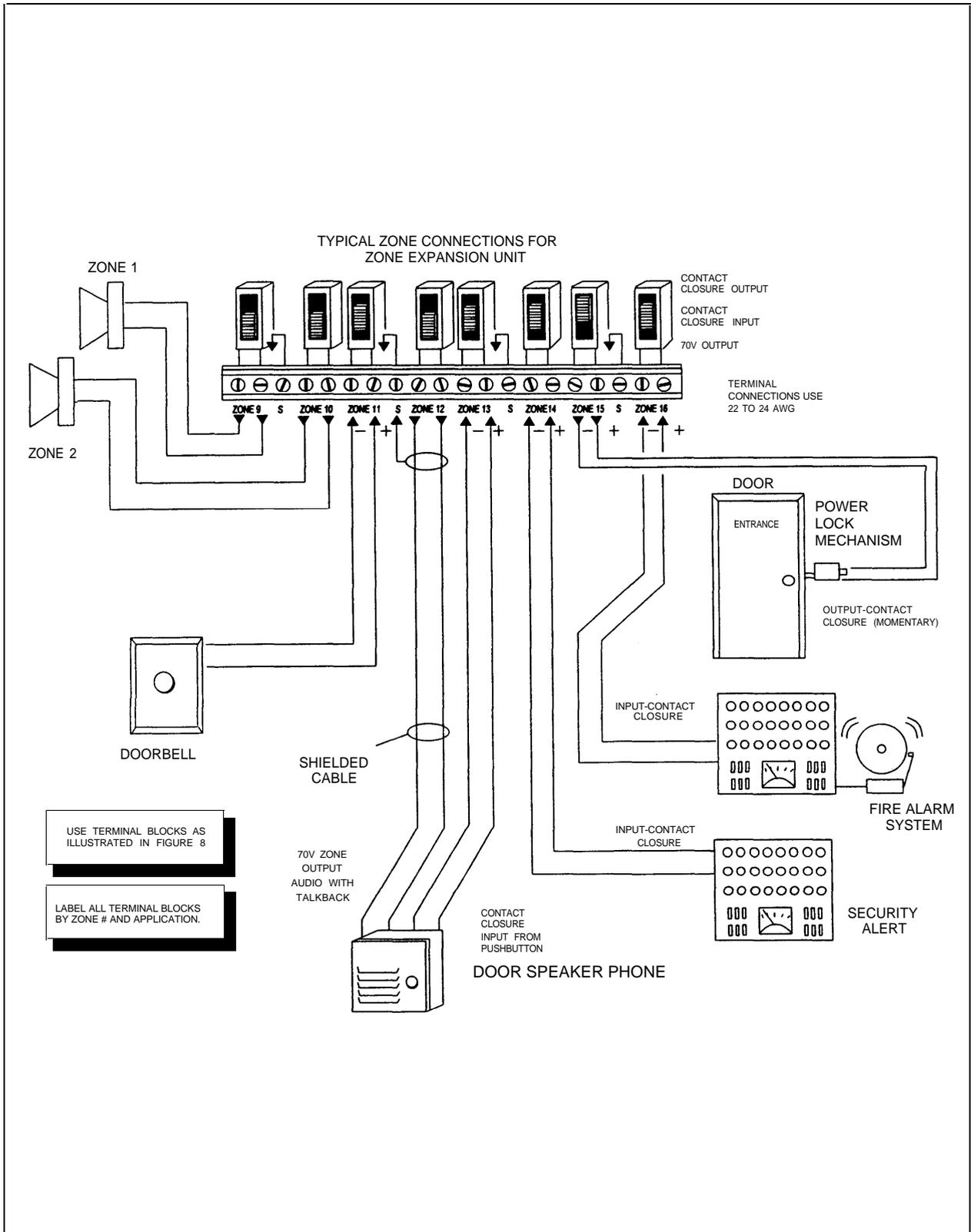


Figure 9. Contact Closure Zone Wiring to Zone Expansion Units and Controller

7

Test speaker wiring for short circuits

Measure the resistance of each home run wiring with an ohmmeter. Any pair indicating a value of less than 15 ohms must be rechecked for possible shorted wiring or speakers. Correct any problems and retest.

8

Make zone connections to Controller and Zone Expansion Units. (See Figures 6 thru 8.)

The zone connectors on the Controller and Zone Expansion Units can accommodate up to two 22 AWG wires or four 24 AWG wires per zone output. Check zone option switch setting with Zone Map and Zone Configuration Tables as you connect each zone.

NOTE: DO NOT over tighten zone connector screws.

CAUTION: A 70V audio output setting going to other than speakers may damage other equipment

Powering Up System

With all zones wired and connected to the Controller and Zone Expansion Unit(s), initial testing can begin. Once initial testing is done, you can begin to program the Controller with the features for each zone.

9

Plug the power cord into the A.C. input connector on the AmpliCenter. The following should happen.

1. The green Power LED on the AmpliCenter will turn on and stay on.
2. The green Page Access LED on the AmpliCenter also turns on, but will go out after a few seconds.
3. On the Controller, verify that the green Phone System Enabled LED is off.
4. On the Controller, verify that the yellow Attendant Access Enabled LED is off.
5. The green Power LED on the Zone Expansion Unit(s) will turn on and stay on.

NOTE: If during power up, the system does not respond as described, refer to the Troubleshooting section of this guide, and/or the PagePac Plus System Installation and Configuration Guide for detailed troubleshooting.

10

Begin programming the Controller

A quick reference card for telephone programming, along with detailed programming instructions, can be found in the *PagePac Plus System Installation and Configuration Guide*, programming section on page 29.

Troubleshooting

Some common problems encountered when the paging system is not operating are described below. Check each item in the order listed.

1. No AC power to AmpliCenter or Controller (They supply power to the Zone Expansion Units)
2. Host telephone system failure
3. Host system page port failure
4. A hardwire disconnect between host system and the Controller
5. AmpliCenter, Controller, or Zone Expansion Unit zone switches or DIP switch settings tampered with

If the problem has not been resolved by checking the preceding items, refer to the *Troubleshooting* tables in the *PagePac Plus Installation and Configuration Guide*.

Controls and Indicators, Terminals and Connectors

Figure 10 shows the controls and indicators, terminals and connectors on the rear panel of the Zone Expansion Units. Table 1 identifies them by function.

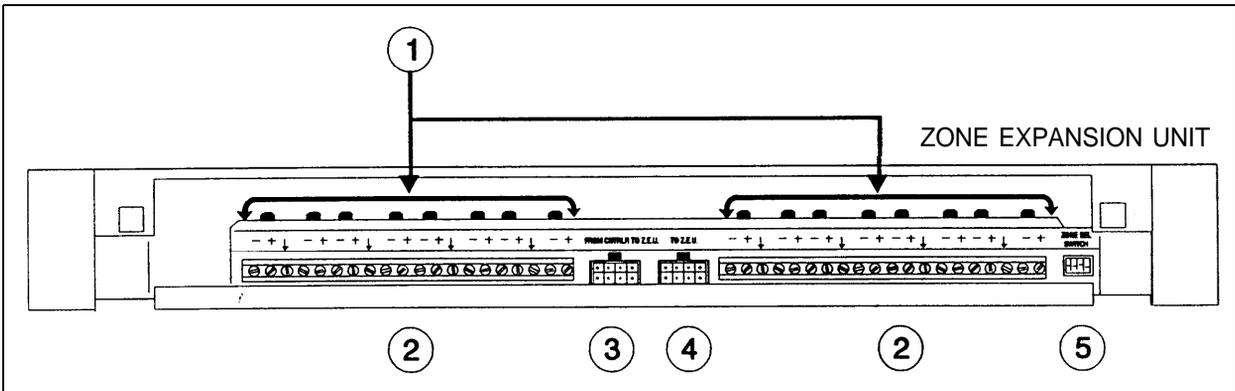


Figure 10. Zone Expansion Unit Back Panel.

Table 1. Controls and Indicators, Terminals and Connectors

1.	Zone option 3-position slide switch: 70V audio out, contact closure input, contact closure output
2.	Zone connector for expansion zones: plus, minus, and ground screw terminals
3.	8-pin Molex connector from controller: power, control, and audio or previous Zone Expansion Unit
4.	8-pin Molex connector to additional Zone Expansion Unit: power, control, and audio
5.	DIP switch to be set when one, two, or three Zone Expansion Unit(s) are used.

Controller Specifications

Table 2 describes the technical specifications of the Zone Expansion Unit.

Table 2. Zone Expansion Unit Specifications

Capacities	<ul style="list-style-type: none"> ▪ Each Zone Expansion Unit connects up to 16 zones of audio output (including talkback), contact closure outputs or inputs.
Dimensions and Weight	<ul style="list-style-type: none"> ▪ Height: 1.75 inches (4.4 cm). ▪ Width: 16 inches (40.64 cm) without brackets, 19 inches (48.3 cm) with brackets attached. ▪ Depth: 6.875 inches (17.5 cm). ▪ Weight: 3 pounds (6.6 kg).
Electrical Relay Contacts	<ul style="list-style-type: none"> ▪ Control Contact Closure: Contacts are rated at 120VAC/50VDC at 1 amp. ▪ Audio Zone: Contacts are rated at 2 amps.
Temperature Range:	<ul style="list-style-type: none"> ▪ 0 to +40 deg. C. (32 to 104 deg. F.) operational. ▪ -40 to +66 deg. C. (-40 to +150 deg. F.) storage and shipment.
Humidity Range:	<ul style="list-style-type: none"> ▪ 5% to 95% (non-condensing) storage/shipment and operation.
Altitude:	<ul style="list-style-type: none"> ▪ Sea level to 10,000 ft. operational (1048 to 648 millibars) 40,000 ft. max. shipment.
Environmental	<ul style="list-style-type: none"> ▪ Locate in an area free of excess moisture, corrosive gases, dust, and chemicals.
Interconnect Cable	<ul style="list-style-type: none"> ▪ 8-position, 5 amp contact rating, locking, keyed, 22 AWG wire, housing material 94V-2, providing 70.0 Vrms (4), common ground, +17 VDC, Serial Data and Clock Data.

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