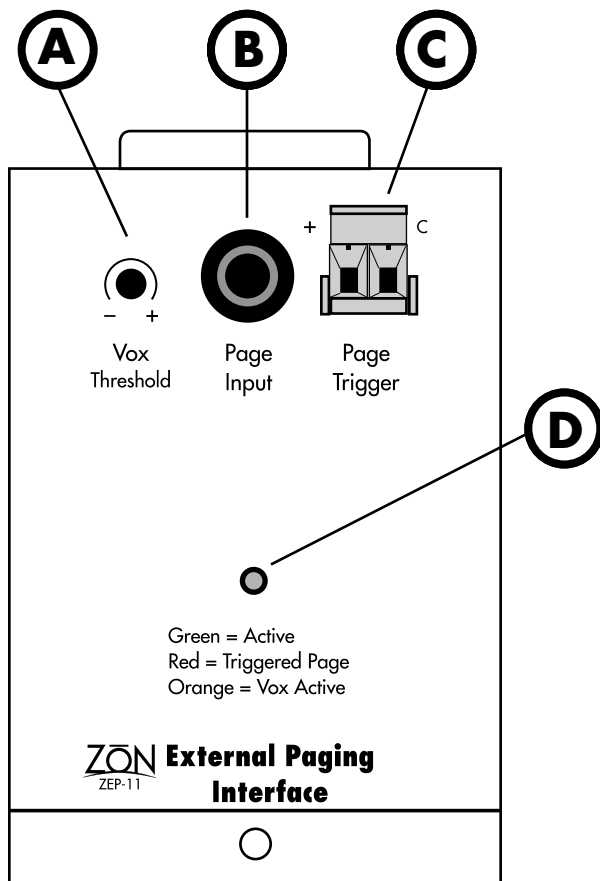# *Application Guide*

ZEP-11 External Paging Interface Expansion Module

The ZEP-11 External Paging Interface expands the capabilities of the ZON whole house digital audio system. Integrate telephone and security systems, intercoms - and even weather radios - into a ZON system quickly and easily.

Custom engineered for the ZON ZR-98 Router, the ZEP-11 features an auto-sensing audio input (single RCA jack). An adjustable VOX threshold setting allows you to fine tune the sensitivity of the auto-sensing input. Audio received by the ZEP-11 is automatically routed to the paging bus and processed according to the paging configuration(s) in place for the ZON system.

A dry contact closure "trigger" adds additional flexibility. When used alone, the trigger is suitable for creating a system-wide mute, allowing the system to mute on external events such as doorbells, telephone and security systems. The trigger can also be used in conjunction with the page bus input to add sound to external events.
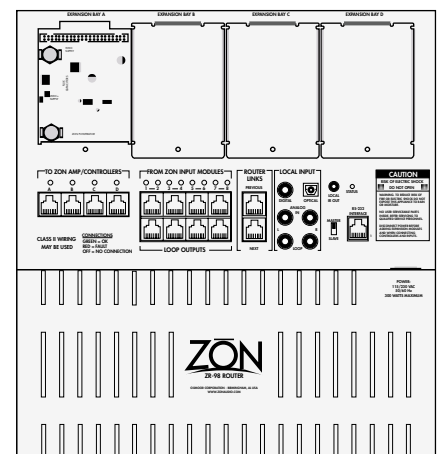

ZEP-11 External Paging Interface Legend

A. **VOX Threshold Adjustment** - User-adjustable potentiometer to fine tune VOX (Voice Operated Relay) operation. Requires small, flat-blade screwdriver to adjust.

B. **Page Input** - RCA-type audio input.

C. **Page Trigger** - "Dry" contact closure. When closed, sends signal coming through Page Input to the ZON system's page bus.

D. **LED Status Indicator** - Provides an indication of the module's status. Illuminates steady green when the module is powered on and active. Illuminates steady red when the page trigger connection is active. Illuminates steady orange when the VOX connection is active.

Installing the Module

1. Unplug the ZON router's power cord. Never install or remove expansion bay covers or expansion modules with a live (powered) router.
2. Remove an Expansion Bay cover. Retain the screw.
3. Connect the module's 40 pin ribbon cable to the ZON router. The connector is keyed to help you install the cable with the proper pin placement.
4. Insert the module into the ZON router. Align the tab on the module's top with the opening on the router's frame. Slide the module in and up.
5. Re-install the screw removed in Step 1. When the module is properly installed, the screw hole on the bottom tab will be aligned with the threaded hole on the router's frame.
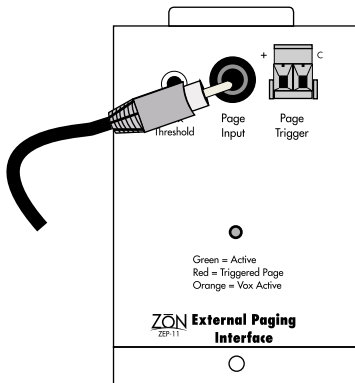6. Reconnect the router's power.

Working With Page Input (Fig. A)

Page audio from external devices are attached via the RCA jack labeled "Page Input". This input was designed to work with many different sources (e.g., weather radios, phone systems, external intercom systems, etc.).

Sources have different signal levels. The VOX Threshold allows you to set the level at which the ZEP-11 acts upon the incoming signal. Adjustments to the "Vox Threshold" are made with a small, flat-blade screwdriver.

Fig. A

Working With Page Trigger (Fig. B)

The "Page Trigger" is a "dry" contact closure that, when closed, causes the ZEP-11 to generate a page. If there is no audio connected to the "Page Input" jack, the ZEP-11 will generate a page with no audio (mute). This is ideal applications involving doorbells or security systems.

To connect closure wiring to the module, insert one conductor (stripped about 1/8") into the opening. Using a small screwdriver, tighten the wire clamp until there is suitable pressure to hold the wire firmly in place. The positive terminal is on the left, and common on the right (as viewed from the front).
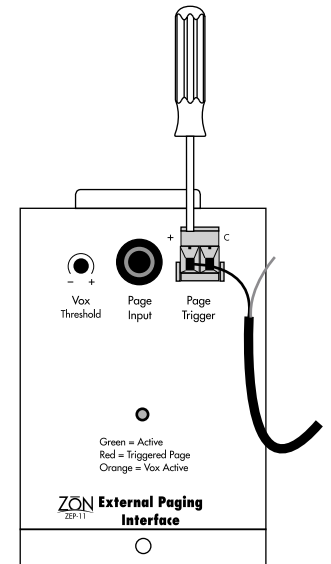
Fig. B

Creating "Mute" Durations (Fig. C)

Momentary contact closures (such as a single doorbell button push) can be used to mute the ZON system for a specific amount of time. All that is needed is a single polarized electrolytic capacitor inserted into the page trigger terminals. The value of the capacitor determines the duration of the mute (or delay).

The rule of thumb for determining the capacitor value is 110 µF per second of delay. For example, a 1000 µF capacitor yields approximately 8 seconds of delay. A 2200 µF yields approximately 20 seconds.

When inserting the capacitor into the page trigger terminals, be sure to place the negative lead of the capacitor in the proper terminal. The negative lead goes into the right-hand terminal (marked "C" on the module).

Make sure that you either remove AC power from the ZON router or remove the terminal block from the ZEP-11 before making capacitor connections.
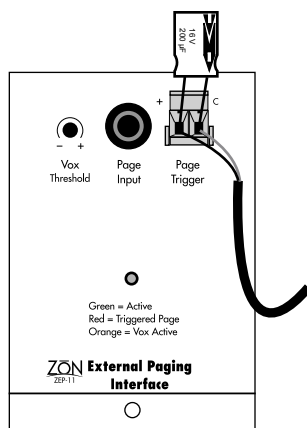
Fig. C

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