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ACT-25 Audio Coupling Transformer Product Installation Document

PN 53432:A 7/07/2008 08-484

This product has been certified to comply with requirements in the Standard for Control Units and accessories for Fire Alarm Systems, UL 864 9th Edition. Operation of this product with products not tested for UL 864 9th Edition has not been evaluated. Such operation requires the approval of the local Authority Having Jurisdiction.

Products mentioned in this document that have not received UL 864 9th Edition certification:

- AMG-1

Applications

When used with the high-level output of an AA-30 (driven by a low-level source, such as the AMG-1, RM-1, or DVC-AO), or with the high-level output of a DAA in riser mode, ACT-25 Audio Coupling Transformers will provide a means to drive thousands of amplifiers in large audio system applications.

- It attenuates high-level 25V_{RMS} to create a low-level audio signal.
- It isolates input from output.
- It provides CMNR (Common Mode Noise Rejection)

The low-level signal created by the ACT-25 may be used to deliver audio to analog amplifiers, as well as to the AUX B inputs of the DVC and DAA. Refer to the Digital Audio Manual for more DVC and DAA information.

The ACT-25 provides electrical isolation between its input and output and attenuates the signal from high-level audio to low-level audio. Ground faults on the AUDIO IN input must be detected by the amplifier driving the audio. Ground faults on the THRU output must be detected by the destination. Ground fault detection for the input and output can be merged together by using the "COMM" input. Up to 40 analog audio amplifiers may be fed by the output of an ACT-25 as long as the wiring does not exceed 200 ft (61 m), 18-12 AWG (0.75-3.25 mm^2).

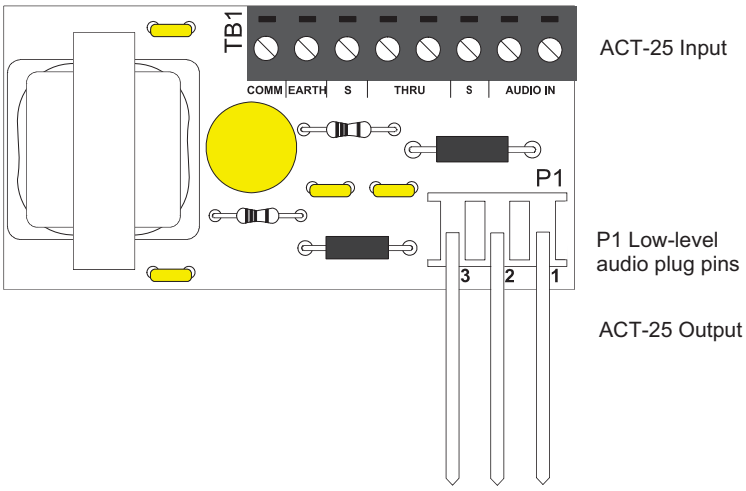


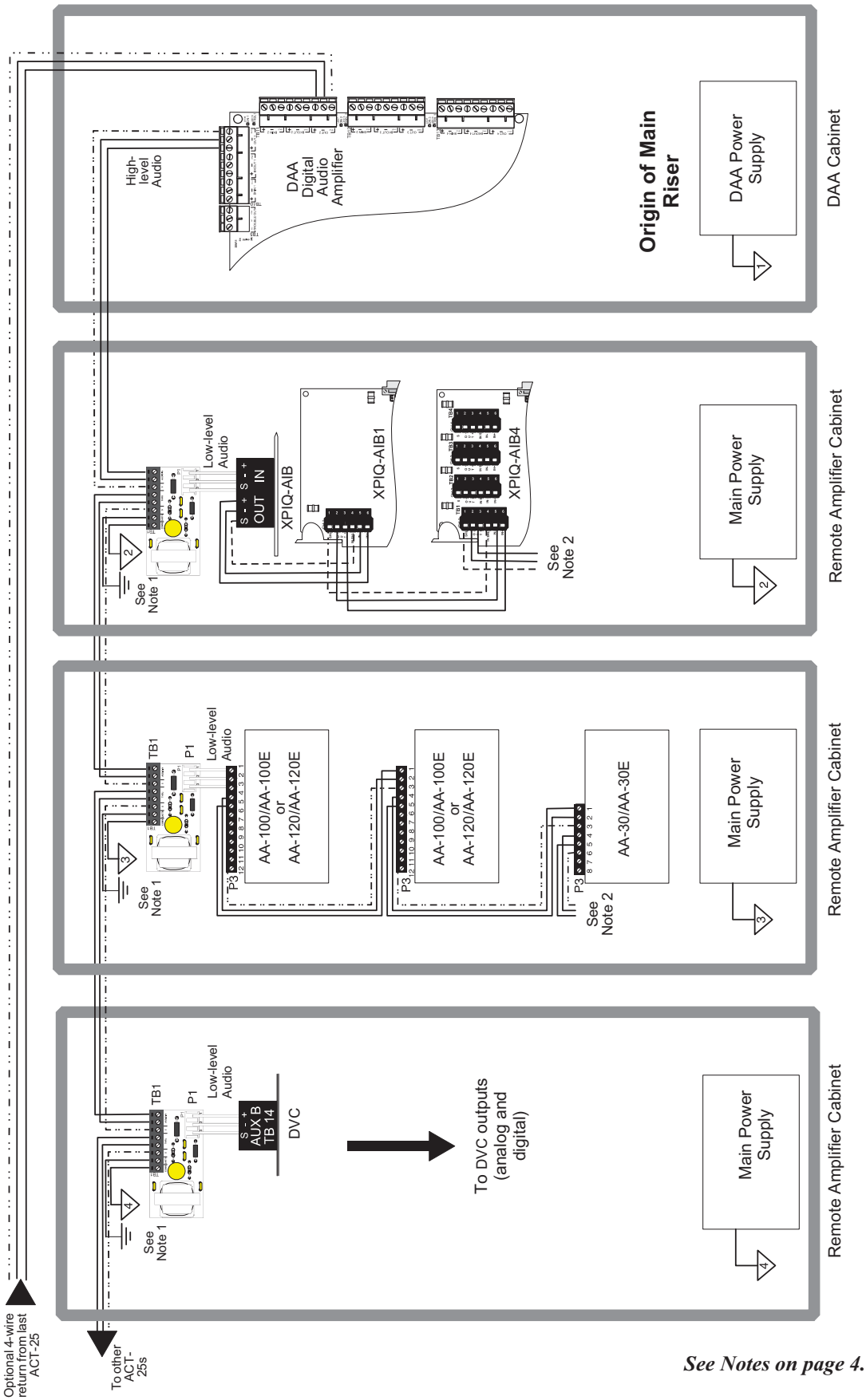
Figure 1 The ACT-25

Suitable Configurations

Signal from a Digital Audio Amplifier in Riser Mode

The ACT-25 will accept high-level audio signals from any DAA digital audio amplifier with a 25 volt output. It can then drive a DVC, AA-120/AA-120E, AA-100, and/or AA-30/AA-30E audio amplifiers, as well as the XPIQ-AIB audio input boards.

The high-level output of the DAA amplifier will support a Class A or Class B wiring arrangement and can be fed to the input of up to 500 ACT-25 units. The outputs of each of the 500 ACT-25 transformers may then be used to feed a low-level audio signal to the input of as many as 40 additional AA Series amplifiers. The output of an ACT-25 supports Class B wiring only.



See Notes on page 4.

Figure 2 Wiring Illustration: Signal from DAA in Riser Mode

Figure 3 Wiring Illustration: Signal from AA-30

NOTES: In Figure 2, note the following:

1. Using the grounding wire supplied, connect the "EARTH" ground terminal of each ACT-25 to P8, terminal 9 or 10 on the AA-100/AA-100E or AA-120/AA-120E, or to P2, terminal 1 or 8 of the AA-30/AA-30E. The "COMM" terminal is intended for shielding of the output of the ACT-25. Connect to the common of the local power supply.
2.  This symbol indicates a local common, in this case for power supply number three.
3. Dotted lines indicate shield.

Refer to the appropriate fire system manual for further information.