

# DAX Series

## Digital Audio Amplifiers



Voice Control Systems

### General

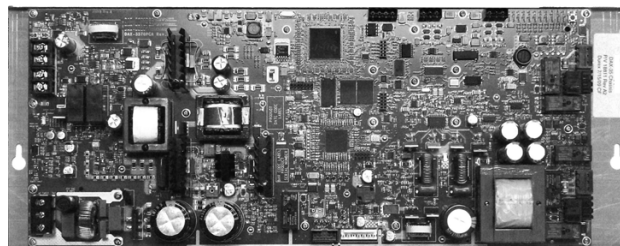
The DAX Series Amplifiers are multi-featured amplifiers that provide an economical alternative for applications that do not require all of the features of DAA2 or DAA Series Amplifiers. DAX amplifiers come in 35 watt and 50 watt models. The BDA Backup Digital Amplifier can be used with all DAX models to provide one-to-one amplifier backup.

Each DAX is capable of accessing and processing one of up to eight audio channels on the DVC audio loop, amplifying the signal, and distributing it via two Class B or one Class A output(s).

The DAX has two wire digital audio ports to connect to wire DAL segments. Either or both ports may be converted to fiber using DS-FM, DS-SFM or DS-RFM fiber option modules.

Up to 32 devices, such as DAX amplifiers, can be connected to the DAL (digital audio loop) on one DVC Digital Voice Command unit. DAX amplifiers may be mixed with DAA2 and DAA series amplifiers on the same DAL.

DAX amplifiers can store backup alarm and trouble messages that can be activated in the event of loss of DAL communication.



### Features

- Listed to UL Standard 864, 9th edition.
- 35 watt total power at 25V<sub>RMS</sub> (DAX-3525 models) or 70V<sub>RMS</sub> (DAX-3570 models). 35 watt models support battery charging.
- 50 watt total power at 25V<sub>RMS</sub> (DAX-5025 models) or 70V<sub>RMS</sub> (DAX-5070 models). 50 watt models require an external battery charger.
- Supports one Class A high-level audio output, or two Class B outputs to distribute one channel of digital audio.
- Audio output activation via network control-by-event equations resident within the DVC.
- Two wire digital audio ports that can be converted to fiber using fiber option modules. Support Style 4 or 7 configurations.
- Isolated alarm bus input, to be used for backup activation of alarm messages when normal digital communication is lost.
- Programmable through **VeriFire® Tools**.
- Up to 106 seconds of backup digital message storage for use in the event of communication loss (from the **VeriFire® Tools** message library, or created by the installer).
- Battery charger with disable function that provides battery sharing option for up to four DAXs. (DAX-35 boards only. DAX-50 does not support battery charging.)

### Installation

The DAX arrives from the factory already installed on its chassis. It mounts in one row of any EQ or CAB-4 Series cabinet: The CAB-4 row can be covered using a DP-1B dress panel, ordered separately.

One or two fiber option modules will plug directly onto a DAX for simple installation. A BDA backup amplifier mounts directly onto a DAX.

### Specifications

**AC Power (TB7):** 120 VAC, 50/60 Hz input, 2.5 A max.;

- DAX-5025 - 2.09A max.
- DAX-5070 - 2.35A max.
- DAX-3525 - 2.97A max.
- DAX-3570 - 3.06A max.

**“E” versions, 220-240 VAC, 50/60 Hz input, 1.4 A max.**

- DAX-5025E - 1.18A max.
- DAX-5070E - 1.31A max.
- DAX-3525E - 1.66A max.
- DAX-3570E - 1.72A max.

Recommended wiring: 12-14 AWG (1.6 mm OD) with 600 VAC insulation.

**Battery Connections:** Supplied cable connections to batteries.

**Battery Charger (DAX-35 Boards Only):** Current-limited sealed lead acid battery which charges two 12 volt batteries in series, up to 26 AH. Recommended wiring: 12-18 AWG.

**Alarm Bus:** Power-limited, supervised by source. Recommended wiring: 14-18 AWG twisted-pair. Requires 16VDC minimum @ 20mA across the terminals to activate. Nominal 24VDC.

**Digital Audio Ports, wire media, A and B (TB1, TB2):** Maximum distance per segment is 1900 feet (579.12 m) on Belden 5320UJ (18AWG, TP) FPL cable: 18 AWG (0.821 mm<sup>2</sup>) twisted-pair, unshielded, power-limited. For approved cable types, see wiring documentation, P/N 52916ADD: C Approved Wire Cables for Digital Audio Loops.

**Digital Audio Ports, fiber media, fiber option modules:** Digital audio loop connectors support single- and multi-mode fiber with the use of fiber option modules. Refer to the Fiber Option Module datasheet for fiber specifications.

**Speaker circuits:** Power-limited outputs (exception: a DAX-3570 or DAX-5070 used with any Canadian Room Isolator module is non-power-limited.) Supervision determined by programming. DAX-5025/70 - each circuit is rated up to 50 watts. DAX-3525/70 - each circuit is rated up to 35 watts. Recommended wiring: 12-18 AWG twisted-pair (shielded recommended). Class B or Class A: Class B requires 20k end-of-line resistors (P/N ELR-20K). Class A requires 10k end-of-line resistors (included, P/N R-10K) on the return.

**Backup:** High-level audio input: 25V<sub>RMS</sub> (DAX-5025 and DAX-3525). 70V<sub>RMS</sub> (DAX-5070 and DAX-3570). Recommended wiring AWG twisted pair (shielding recommended). Not supervised when inactive. Supervised by backup source when active. Must be in same room or enclosure.

## Standards and Codes

The DAX Series Digital Audio Amplifiers comply with the following standards:

- NFPA 72 2007 National Fire Alarm Code
- Underwriter Laboratories Standard UL 864
- Underwriter Laboratories of Canada (ULC) ULC-S527-99 Standard of Control Units for Fire Alarm Systems.
- Part 15 Class A conducted and radiated emissions as required by the FCC.

## Listings and Approvals

These listings and approvals apply to the basic DAX Series Digital Audio Amplifiers. In some cases, certain modules may not be listed by certain agencies, or listing may be in process. Consult factory for latest listing status.

- UL Listed: file S635
- ULC Listed: file S635

## Product Line Information

### 35 WATT DAX AMPLIFIERS:

Shipped mounted to the chassis. Onboard power supply capable of charging batteries.

**DAX-3525:** 120 VAC Digital Audio Amplifier (35 W, 25 VRMS).

**DAX-3570:** 120 VAC Digital Audio Amplifier (35 W, 70 VRMS).

**DAX-3525E:** 220-240 VAC Digital Audio Amplifier (35 W, 25 VRMS).

**DAX-3570E:** 224-240 VAC Digital Audio Amplifier (35 W, 70 VRMS).

### 50 WATT AMPLIFIERS:

Shipped mounted to its chassis. Onboard power supply.

**DAX-5025:** 120 VAC Digital Audio Amplifier (50 W, 25 VRMS).

**DAX-5070:** 120 VAC Digital Audio Amplifier (50 W, 70 VRMS).

**DAX-5025E:** 220-240 VAC Digital Audio Amplifier (50 W, 25 VRMS).

**DAX-5070E:** 220-240 VAC Digital Audio Amplifier (50 W, 70 VRMS).

## BDA BACKUP DIGITAL AMPLIFIERS

**BDA-25V:** Backup Digital Amplifier (25 VRMS), switch settings for 50 and 35 W operation.

**BDA-70V:** Backup Digital Amplifier (70 VRMS), switch settings for 50 and 35 W operation.

## FIBER OPTION MODULES

**DS-FM:** Fiber option module for multi-mode fiber. Converts a wire DAP (digital audio port) to a multi-mode fiber port.

**DS-SFM:** Fiber option module for single-mode fiber. Converts a wire DAP (digital audio port) to a single-mode fiber port.

**DS-RFM:** Fiber option module for multi-mode fiber. Used for compatibility with multi-mode fiber DVC or DAA.

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