

DAA-50 Series

Digital Audio Amplifiers



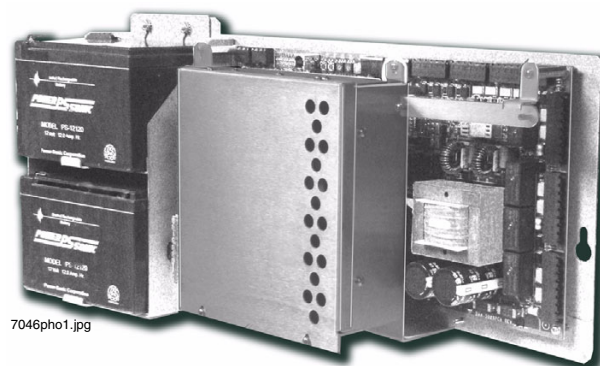
Voice Control Systems

General

The **DAA-50 Series Amplifiers** are multi-featured Digital Audio Amplifiers designed for audio networks of up to 32 DAA amplifiers terminating at a DVC Digital Voice Command. Each DAA 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 four Class B or two Class A outputs at 50 watts. DAA-50 amplifiers can store backup alarm and trouble messages, and provide an adjustable background music input. An optional Firefighter's telephone riser on each DAA-50 amplifier supports FFT communications riser. Each DAA-50 incorporates a powerful digital signal processor, a charging power supply, a 50 watt amplifier, built-in audio NAC outputs, and a chassis which mounts in a single row of CAB-4 and EQ Series cabinets. An optional battery chassis mounts two 12.0 AH batteries in the same standard chassis row.

Features

- Listed to **UL Standard 864, 9th edition.**
- 50 W total output power at 25 VRMS (DAA-5025 series) or 70.7 VRMS (DAA-5070 series)
- Multiple versions provide connection options for twisted-pair wire, single-mode fiber, and multi-mode fiber media
- Two Class A high-level audio outputs; or alternately, four Class B outputs supported. Outputs dynamically share the 50 W - the total power can be dedicated to a single output if required.
- FireFighter's Telephone Riser supports 7 active firefighter telephones. Release 3.0 and higher supports optional configurations: direct connection for up to 7 firefighter telephones, or connection to multiple FTM-1 modules.
- Audio output activation via network control-by-event equations resident within the DVC
- Two digital audio ports support Style 4 or 7 configurations.
- Auxiliary input for 12 Vp-p analog low-level audio.
- Auxiliary input for 1 VRMS, to be used for background music input, an interface with a telephone paging source, or other compatible audio sources. Audio levels can be adjusted by end user. Continuous supervision for active DAA output circuits.
- Programmable through **VeriFire® Tools.**
- Up to two minutes of standard quality backup digital message storage (from a **VeriFire Tools** message library, or created by the installer) for use in the event of communication loss.
- Power supply and battery charger capable or supporting up to 55 AH batteries
- Battery charger disable provides battery sharing option for one or more DAA-50 amplifiers or with a charging power supply
- Isolated alarm bus input, to be used for backup activation of alarm messages when normal digital communication is lost
- Relay contacts that will activate on a trouble condition provide an option for redundant annunciation to a local panel



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Installation

The DAA arrives from the factory already installed on its chassis. The DAA mounts in one tier of any CAB-4 Series or EQ Series cabinet; the DAA tier can be covered using a DP-1B dress panel, ordered separately (CAB-4 Series only).

Batteries for the DAA may be installed in any of the following configurations:

- In a **CHS-BH1** optional battery chassis. The CHS-BH1 battery chassis will hold two 12.0 AH batteries, and mounts on the left side of the DAA chassis, so that the DAA and batteries are contained in a single cabinet tier.
- In the battery row (bottom) of the CAB-4 Series cabinet, or in the bottom row of an EQ Series cabinet.
- In a cabinet adjacent to the cabinet that holds the DAA, with connections in conduit. External battery charging is supported.

Specifications

DAA-PS POWER SUPPLY BOARD

- **AC power (TB1):** 115 - 120 VAC, 60 Hz input, 4.5 A maximum; **or for "E" versions,** 220 - 240 VAC, 50/60 Hz input, 2.3 A maximum. **Recommended wiring:** 12 to 14 AWG (1.6 mm O.D.) with 600 VAC insulation
- **Battery connections (TB3):** Supplied cable connections to batteries.

DAA-5025/70 BOARDS

Digital audio ports, wire media, A and B (TB2, TB3):

- Maximum distance per segment is 1900 feet (579.12 m) on Belden 5320UJ (18 AWG, TP) FPL cable: 18 AWG (0.821 mm²) twisted-pair, unshielded, power-limited. See wiring documentation, P/N 52916ADD: *C Addendum to DVC and DAA Manuals*. Electrically isolated ports support Style 4 or 7 wiring.
- **Digital audio ports, "F" versions:** Digital audio loop connectors A and B support multi-mode fiber. Maximum attenuation is 4.2 dB for multi-mode with 50/125 micrometer cable @ 850 nm; 8.0 dB for multi-mode with 62.5/125 micrometer cable @ 850 nm.

- **Digital audio ports, "SF" versions:** Digital audio loop connectors A and B support single-mode fiber. Maximum attenuation is 5.0 dB for single-mode with 9/125 micrometer cable @ 1300 nm.
- **Alarm bus (TB4):** Power-limited by source. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **Trouble bus (TB5):** Dry contact. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **FFT riser (TB13):** Power-limited output. Class A (Style Z) or Class B (Style Y) operation. Style Y two-wire connections require a 3.9K ohm, 1/2 watt resistor (P/N R-3.9K). Maximum wiring resistance (including individual telephone zone to last handset) permitted is 50 ohms, 10,000 feet (3048 m) maximum wiring distance at 12 AWG (3.31 mm²) to last handset.
- **Auxiliary input A (AUX A, TB9):** Signal strength from low-level analog audio input: 1 VRMS maximum. Optional supervision (selected through programming). Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair. Auxiliary input must be in the same room as the DAA.
- **Auxiliary input B (AUX B, TB8):** Signal strength from low-level analog audio input: 12 Vp-p nominal, 15 Vp-p maximum. Optional supervision (selected through programming). Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **Speaker circuits (TB10, TB11, TB12, and TB13):** Power-limited outputs. 50 watts dynamically shared among the four outputs. Supervision determined by programming. Recommended wiring: 12 to 18 AWG (3.31 to 0.821 mm²) twisted-pair.
- **End-of-line resistors:** For Class A: 10K ohm, 1/2 watt, P/N **R-10K**. For Class B: 20K ohm, 1/2 watt, P/N **R-20K**.

Standards and Codes

The DAA-50 Series Digital Audio Amplifiers comply with the following standards:

- NFPA 72 2002 National Fire Alarm Code.
- Underwriters Laboratories Standard UL 864; 9th Edition.
- Underwriters Laboratories of Canada (ULC) ULC-S527-99 Standard of Control Units for Fire Alarm Systems.
- Part 15 Class A of the conducted and radiated emissions as required by FCC.

Listings and Approvals

These listings and approvals apply to the basic DAA-50 Series Digital Audio Amplifiers. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** file S635.
- **ULC Listed:** file S635.
- **FM Approved**
- **CSFM approved:** file 7170-0028:223, 7170-0028:244.
- **MEA approved:** file 232-06-E, 128-07-E (wire only).
- **City of Chicago approved:** High Rise, Class 1, Class 2 (NFS2-3030, NFS2-640, NCA-2).
- **City of Denver approved.**
- **PSB Corporation approved (Singapore) (NFS2-3030).**

Product Line Information

DAA-5025: Digital Audio Amplifier (50 W, 25 VRMS), assembly with DAA-PS power supply board, shipped mounted to its chassis.

DAA-5025F: Digital Audio Amplifier (50W, 25 VRMS), multi-mode fiber, assembly with DAA-PS power supply board, shipped mounted to its chassis.

DAA-5025SF: Digital Audio Amplifier (50W, 25 VRMS), single-mode fiber, assembly with DAA-PS power supply board, shipped mounted to its chassis.

DAA-5070: Digital Audio Amplifier (50 W, 70.7 VRMS), assembly with DAA-PS power supply board, shipped mounted to its chassis.

DAA-5070F: Digital Audio Amplifier (50 W, 70.7 VRMS), multimode fiber, assembly with DAA-PS power supply board, shipped mounted to its chassis.

DAA-5070SF: Digital Audio Amplifier (50 W, 70.7 VRMS), single-mode fiber, assembly with DAA-PS power supply board, shipped mounted to its chassis.

220-240VAC VERSIONS

DAA-5025E: Digital Audio Amplifier (50 W, 25 VRMS, 240 VAC), assembly with DAA-PS power supply board, shipped mounted to its chassis.

DAA-5025EF: Digital Audio Amplifier (50 W, 25 VRMS), multi-mode fiber, 240 VAC, assembly with DAA-PS power supply board, shipped mounted to its chassis.

DAA-5025ESF: Digital Audio Amplifier (50 W, 25 VRMS), single-mode fiber, 240 VAC, assembly with DAA-PS power supply board, shipped mounted to its chassis.

DAA-5070E: Digital Audio Amplifier (50 W, 70.7 VRMS, 240VAC), assembly with DAA-PS power supply board, shipped mounted to its chassis.

DAA-5070EF: Digital Audio Amplifier (50 W, 70.7 VRMS), multimode fiber, 240 VAC, assembly with DAA-PS power supply board, shipped mounted to its chassis.

DAA-5070ESF: Digital Audio Amplifier (50 W, 70.7 VRMS), single-mode fiber, 240 VAC, assembly with DAA-PS power supply board, shipped mounted to its chassis.

ACCESSORIES

DP-1B: Dress panel; covers one tier of CAB-4 Series cabinet.

CHS-BH1: Battery chassis; holds two 12.0 AH batteries. Mounts on the left side of DAA chassis.

ACT-25, ACT-70: Audio-coupling transformers. Used with AA-30 or DAA-series amplifiers to drive thousands of amplifiers in large system applications.

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