DS-DB

Digital Series Distribution Board

NOTIFIER® by Honeywell

Voice Control Systems

General

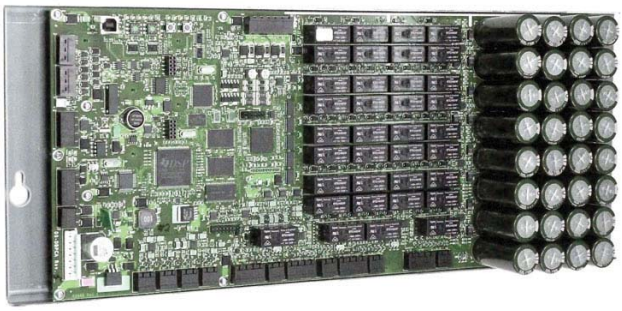
The DS-DB Digital Series Distribution Board and its associated amplifiers provide bulk amplification capability to the Digital Voice Command (DVC) system while retaining digital audio distribution capabilities. Up to four DS-AMP/E amplifiers can supply high-level risers spread throughout an installation.

The DS-DB converts digital audio to analog and routes it to audio amplifiers and optional backups. The amplifiers send back high-level audio, which the DS-DB routes to its risers. Control and status information passes between the DS-DB and its components via DS-BUS. The DS-DB communicates with the rest of the digital audio system through the DAL (digital audio loop), and takes up two of the 32 DAL addresses. It may be mixed with other devices on the same DAL, such as the DAA2 and DAX series amplifiers.

An optional Firefighters' telephone riser on the DS-DB supports local and network FFT communications.

Features

- Input capacity of four digital audio channels.
- Four low-level audio outputs for connection to amplifiers in the same cabinet.
- Eight high-level audio inputs (four primary, four backup), each input capable of handling 125W of audio at $25V_{RMS}$ or 100W at $70.7V_{RMS}$ when used with DS-AMP.
- Four Class A/eight Class B high-level 125W audio outputs, each of which can output all 125 watts from any one of the four high level primary inputs or four high-level backup inputs when used with DS-AMP.
- Two digital audio loop wire ports, which may be modified to single- or multi-mode fiber ports with fiber option modules.
- Local FFT riser, capable of acting as a connection on the digital FFT riser.
- DS-BUS interface to communicate with local bulk amplifiers and power supplies.
- Up to 106 seconds of standard quality backup digital message storage (from VeriFire Tools® message library, or created by the installer) for use in the event of communication loss with the DVC.
- Isolated alarm bus input, to be used for backup activation of alarm messages when normal communication with the DVC is lost.
- Audio output activation via network control-by-event equations resident within the DVC.
- USB port for VeriFire Tools® communication.
- Uploads and downloads via the DVC.
- 24 VDC input for local power.
- Works with AMPS-24 power supply and battery charger.



Installation

The DS-DB arrives from the factory already installed on its chassis. The DS-DB mounts in a CAB-4 Series cabinet, as well as in an EQCAB Series backbox.

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

Specifications

24 VDC Input (TB24): 0.6A alarm or standby, non-resettable. Power-limited by source, supervised. Any device connected to TB24 must be installed in the same enclosure, or within the same room in conduit.

Digital Audio Ports, wire media, A and B: EIA-485 protocol, power-limited. Maximum distance per segment is 1900 feet (579.12m) on Belden 5320UJ (18AWG, TP) FPL cable: 18AWG (0.821 mm^2) twisted-pair, unshielded, power-limited. For approved cable types, see wiring documentation, PN 52916ADD, *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 datasheet for fiber specifications.

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.

FFT Riser: Power-limited output, supervised. Class A or Class B operation. Class B 2-wire connections require a 3/9k ohm 1/2 watt resistor (PN R-3.9K). Max. wiring resistance (including individual telephone zone to last handset) permitted is 50 ohms, 10,000 ft (3048 m) max. wiring distance at 14 AWG to last handset.

DS-BUS: EIA-485 protocol, power-limited. DS-BUS points must be installed in the same enclosure or within the same room in conduit. End points require end-of-line resistors.

- DS-DB endpoint: set termination switch (SW8) to ON.
- DS-AMP endpoint: add 120 ohm resistor on empty TB1 terminals.

- AMPS-24 endpoint: resistor is present, and power supply must be an endpoint.

Use 14-18 AWG, twisted unshielded wire.

Audio Out: Power-limited outputs (exception: an output programmed for “Riser Mode to Control Modules”, “Riser Mode to RSM-AIM Series Modules”, or “Riser Mode to CIM/CSM Series Modules” is non-power-limited.)Up to 125 Watts output. Supervision determined by programming. $25V_{RMS}$ or $70V_{RMS}$, depending on amplifier setting. Class A or Class B operation. Class B requires 20k end-of-line resistors (included, PN ELR-20K). Class A required 10k end-of-line resistors (included, PN R-10K) on the return. 12-18 AWG twisted-pair (shielded recommended).

Primary and Backup 1 through 4: Four low-level audio outputs for connection to amplifiers. Non-power-limited inputs. Supervision programmable. Amplifiers must be installed in the same enclosure or within the same room in conduit. Recommended wiring: 14-18 AWG, twisted-pair, unshielded.

OUT: Four DVC-AO-level audio outputs for connection to amplifiers. Power-limited. Supervision programmable. Amplifiers must be installed in the same enclosure or within the same room in conduit. 14-18 AWG, twisted-pair, unshielded.

Product Weight: 7.2 lb (3.27 kg).

Standards and Codes

The DS-DB Digital Series Distribution Board complies 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.
- IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000 (Seismic).
- CBC 2007 (Seismic)

Listings and Approvals

These listings and approvals apply to the DS-DB Digital Distribution Board. 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: S635.
- ULC Listed: S635.
- CSFM: 7165-0028:0243 (NFS2-640/NFS-320), 7165-0028:0224 (NFS2-3030).
- Fire Dept. of New York: COA#6121 (NFS2-640/NFS-320), COA#6114 (NFS2-3030).

Product Line Information

DS-DB: Digital Series Distribution Board.

DS-AMP: 120 VAC Digital Audio Amplifier (50/60 Hz), 125W ($25V_{RMS}$), 100W ($70V_{RMS}$). Ships with chassis. *See DN-60663.*

DS-AMPE: 220-240 VAC Digital Audio Amplifier (50/60 Hz), 125W ($25V_{RMS}$), 100W ($70V_{RMS}$). $70V_{RMS}$ configuration requires step-up transformer. Ships with chassis. *See DN-60663.*

DS-BDA: Backup amplifier, provides an economical means of backup for DS-AMP amplifiers in a one-to-one primary/backup configuration. Can also provide a second audio channel for a DS-AMP when programmed as a primary amplifier. $25V_{RMS}$ or $70V_{RMS}$. $70V_{RMS}$ configuration requires step-up transformer. *See DN-60663.*

DS-XF70V: Step-up transformer, required for 70VRMS configuration of DS-AMP/E and DS-BDA. Ordered separately. *See DN-60663.*

DS-FM: Fiber option module for multi-mode fiber. Converts a wire DAP (digital audio port) to a multi-mode fiber port. *See DN-60633.*

DS-SFM: Fiber option module for single-mode fiber. Converts a wire DAP (digital audio port) to a single-mode fiber port. *See DN-60633.*

DS-RFM: Fiber option module for multi-mode fiber. Used exclusively for compatibility with multi-mode fiber DVC or DAA. *See DN-60633.*

NOTIFIER® and **VeriFire® Tools** are registered trademarks of Honeywell International Inc.
©2014 by Honeywell International Inc. All rights reserved. Unauthorized use of this document is strictly prohibited.

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com