DAU200 / DAU400
Wall Mount Intellevac Distributed Amplifier Units

The Intellevac DAU200 and DAU400 Distributed Amplifier Units are compact, self-contained, wall-mounted Voice Alarm Systems. These units contain all audio processing, amplification and battery back up elements needed to provide a fully BS5839 Pt 8 compliant system that is also extremely cost effective, and with amplification being provided by High Efficiency Class D amplifiers.

The DAU200 provides 200 W of total power configurable as four zones of 50 W, two zones of 100 W, or one zone of 200 W. The DAU400 provides 400 W of total power configurable as four zones of 100 W, two zones of 200 W, or one zone of 400 W. In four and two zone configurations each zone can be configured as A+B circuit or single circuit. In one zone configuration the zone can only be configured as A+B circuit. The total power of a zone will be equally divided between the circuits in an A+B circuit, while it will be fully provided to a single circuit.

Both units have a 100 W standby amplifier, and use DC monitoring for loudspeaker line surveillance. Each amplifier can be fitted with up to 10 x 10 kΩ End of Line resistors for spurred speaker circuits. The units may either operate in stand-alone mode, be connected to a local fire alarm panel, or be networked to form a larger distributed Voice Alarm System.

A built-in Digital Signal Processing (DSP) audio Router provides equalisation, chimes, and surveillance functions, as well as performing audio routing. All parameters are set digitally.

The units include storage for 4 DVA messages, 8 audio outputs, and 8 universal Mic/Line inputs1, each of which can be used with an ASL multi-zone Paging Microphone. A ninth audio input is provided for miscellaneous functions such as background music. Inputs 1 & 2 support Fire Microphones, which act as All-Call override in the event of processor failure, as required by BS5839 Pt 8. Four of the eight outputs are connected to the unit's integral amplifiers and the other four outputs may be connected to external expansion amplifier units.

Fire Alarm Interfaces are built-in, including 10 opto-isolated sounder circuit inputs; a RS485 serial port; and a common fault output relay. On ordering, the opto-isolated inputs can be replaced with 8 non-isolated analogue inputs and 8 digital outputs if required.

The units include a built-in, fully monitored, temperature compensated charger, and space for a battery pack, which can be ordered from Application Solutions Limited.

Ambient noise sensing, external volume control, and external programme selection functions are available by connecting the ASL range of ambient noise sensors and remote controls.

Built-in routing and general control inputs enable interfacing to advanced DVA or site control systems, while a serial control port gives the DAU the ability to be remotely monitored and configured. The DAU also has a front panel display and control interface that provides functions for system commissioning, fault monitoring, and audio monitoring.

For further details, and for information on other products, please visit www.asl-control.co.uk.

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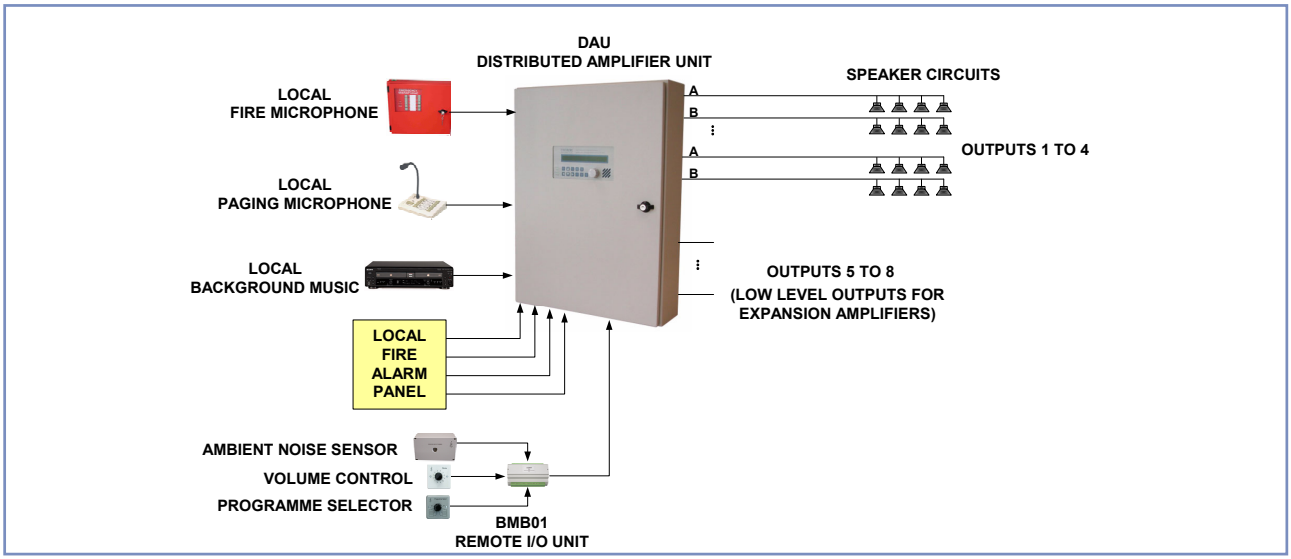
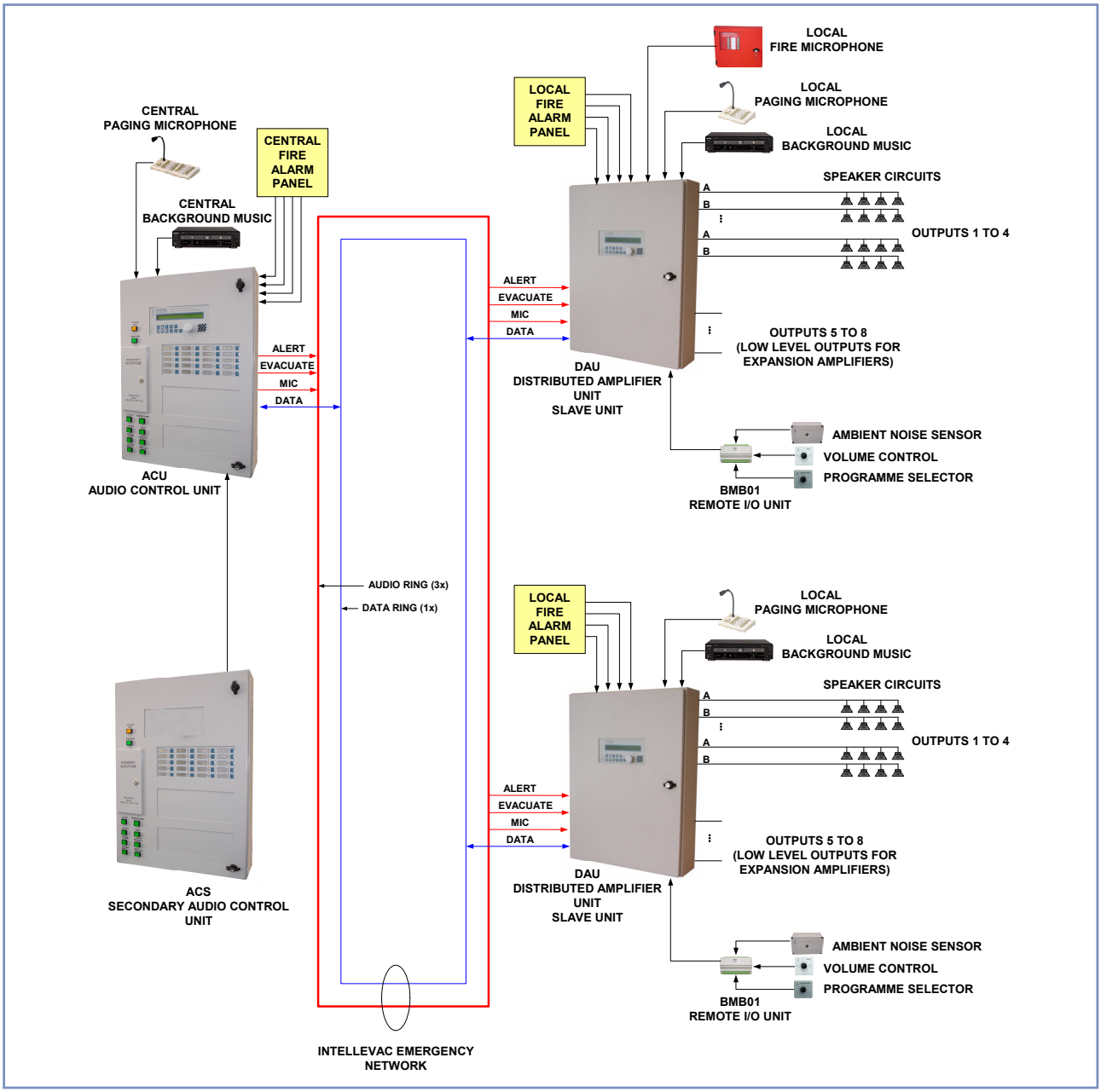
APPLICATION DIAGRAM – STAND-ALONE SYSTEM



NETWORK APPLICATION DIAGRAM – NETWORKED SYSTEM



SPECIFICATION

General

DAU200

Maximum AC Power Consumption (100 V 1 kHz sinewave into rated resistive loads) ..... 600 VA
AC Supply Fuse Rating (internal) (use fuses to IEC 60127)..... T5AH
Battery Capacity/Type for 24 h Standby +0.5 h Alarm Back-up.....2 x 12 V 24 Ah Valve regulated SLA[2]
Yuasa Part No.: NPL24–12IFR

DAU400

Maximum AC Power Consumption (100 V 1 kHz sinewave into rated resistive loads) ..... 800 VA
AC Supply Fuse Rating (internal) (use fuses to IEC 60127)..... T6.3AH
Battery Capacity and Type for 24 h Standby +0.5 h Alarm Back-up.....2 x 12 V 38 Ah Valve regulated SLA[2]
Yuasa Part No.: NPL38–12IFR

All Variants

AC Supply Voltage .....230 V +10, –6 % RMS 50 Hz AC
DC Supply Voltage.....21 to 27.6 V (from nominal 24 V lead acid battery)
DC Supply Fuse Rating..... T25A
Auxiliary DC supply for external equipment .....18 to 36 VDC @ 200 mA
Fault Log .....200 events
Real Time Clock (RTC) ..... Built-in (externally synchronisable)
Night Volume Control ..... Daily time controlled input / output level control
Format.....Wall mounting box
Colour ..... Light grey with light blue annotation

Audio Input

Balanced Audio Inputs ..... Inputs 1 to 8[3,4,5]
Sensitivity and Impedance..... –20 dBu (77 mV) @ Z ≥20 kΩ
Unbalanced Audio Input ..... Input 9
Sensitivity and Impedance..... Suits 1–2 V RMS units Z ≥5 kΩ
Input Overload Margin.....40 dB
Input Attenuator Range .....0 to –63 dB
Equalisation.....3 band plus LF Cut
Surveillance Tone .....20 to 30 Hz / Required Level 0 to –40 dBFS

DVA

Number of Digital Messages (DVA) ..... 2x50-second messages
2x66-second messages
DVA Bandwidth .....100 Hz to 8 kHz

[2] The DAU can be supplied without the batteries if required.
[3] Inputs 1 and 2: Hardwire bypass Fire Microphone inputs. Support Fire Microphone, Zoned Fire Microphone, Paging Microphone, Single Button Microphone, or Miscellaneous Input. Support up to 30 microphone buttons.
[4] Inputs 1, 3, and 4 Support Network Channel, and normally are used for system networking.
[5] Inputs 3 to 8: Support Paging Microphone, Single Button Microphone, or Miscellaneous Input. Support up to 20 microphone buttons.

Audio Output

Audio Outputs Connected to Built-in Amplifiers .....Outputs 1 to 4
DC monitoring for loudspeaker line surveillance
Up to 10xEOL10K per amplifier
Audio Outputs for Connection to Expansion Amplifiers .....Outputs 5 to 8
Level and Impedance.....0 dBu @ 600 Ω
Graphic Equalisation.....±12 dB at 125, 250, 500, 1 k, 2 k, 4 k, 8 k, 16 kHz
Surveillance Tone .....10 dBu to –30 dBu
30 Hz Pulsed Mode= 1s on 20 s off
Gain Control Range .....0 dB to –63 dB

Audio General

THD Input to Output..... <0.1 % @1 kHz
Crosstalk..... >70 dB @1 kHz
Residual Noise..... <78 dBu (A)
S/N Line ..... >70 dB (A)
Frequency Response (Input to Output).....100 Hz to 20 kHz, –3 dB
Audio Monitoring
SPL from Loudspeaker (Sounder Mode) .....≥50 dBA @ 1 m from the equipment enclosure
Frequency Response (From Input through to Speaker).....200 Hz to 10 kHz –3 dB
Gain Range Control (Front panel rotary encoder)..... 0 to –63 dB

Audio Routing

Number of Concurrent Host Routes..... 20 (max.)
Override per Output ..... 40 (max.)

Power Amplification – Outputs 1 to 4

Output Voltage Nominal
50 W Mode.....100 V RMS into 200 Ω
100 W Mode.....100 V RMS into 100 Ω
200 W Mode.....100 V RMS into 50 Ω
Output Power 50 W Mode
Nominal Rated (21 V battery)..... 50 W into 200 Ω
Maximum (Mains operation)..... 72 W into 200 Ω or 62.5 W into 160 Ω
Output Power 100 W Mode
Nominal Rated (21 V battery)..... 100 W into 100 Ω
Maximum (Mains operation)..... 144 W into 100 Ω or 125 W into 80 Ω
Output Power 200 W Mode
Nominal Rated (21 V battery)..... 200 W into 100 Ω
Maximum (Mains operation)..... 288 W into 100 Ω or 250 W into 80 Ω
Regulation at Rated Load .....No load to full load, better than 1.5 dB
Efficiency ..... 75 %
Fusing ..... 1xF6.3A 20 mm per amplifier
Frequency Response.....100 Hz to 18 kHz ±3 dB
Total Harmonic Distortion (at –3 dB below 100 V; full load) ..... <0.5 %
Residual Noise..... Better than 80 dB (A-weighted) below full output

Output Configuration – Outputs 1 to 4

DAU200

4 zones of 50 W ..... Each zone configurable as:
A+B circuit (25 W - A, 25 W - B)
OR single circuit (50 W)
+ 100 W Standby amplifier

2 zones of 100 W ..... Each zone configurable as:
A+B circuit (50 W - A, 50 W - B)
OR single circuit (100 W)
+ 100 W Standby amplifier

1 zone of 200 W ..... Configurable as:
A+B circuit (100 W - A, 100 W - B)
+ 100 W Standby amplifier

DAU400

4 zones of 100 W ..... Each zone configurable as:
A+B circuit (50 W - A, 50 W - B)
OR single circuit (100 W)
+ 100 W Standby amplifier

2 zones of 200 W ..... Each zone configurable as:
A+B circuit (100 W - A, 100 W - B)
OR single circuit (200 W)
+ 100 W Standby amplifier

1 zone of 400 W ..... Configurable as:
A+B circuit (200 W - A, 200 W - B)
+ 100 W Standby amplifier

Control Ports

Digital Inputs [6]

Number of Digital Inputs 10
Interface ..... Opto-isolated with built-in resistor to suit voltages of +12 to +40 V

Analogue Inputs [6]

Number of Analogue Inputs 8
Interface ..... Non-isolated analogue interfaces with internal pull-up to +5 V by 4.7 kΩ
Input Voltage Threshold 2.5V
Monitored Analogue Contact Thresholds
- Faulty – Open Circuit: ..... >3.7 V
- Healthy – Inactive: ..... 2.5 V – 3.7 V
- Indeterminate: ..... 0.8 V – 2.5 V
- Healthy – Active: ..... 0.2 V – 0.8 V
- Faulty – Short Circuit: ..... <0.2 V

Digital Outputs [6]

Number of Digital Outputs 8
Interface ..... Open-collector

Others

Open Collector Drive
(SPEAK NOW LED, ALL CALL LED) ..... 100 mA
Changeover Fault Relay 1
Maximum Global Fault Relay Contact Current Rating: 500 mA
RS485 Port 1
Up to 6 Remote I/O Units (BMB01) and/or Fire Loop Interfaces
RS232 Port 1
For mutually exclusive use by Host PC for configuration, Intellevac Network[7], or PC/DVA system[8]

Network

Network Audio Channels ..... 1, 2 or 3
Standard RS485
Data Rate ..... 38.4 kbaud
Distance between Nodes ..... 1 km (max.)
Network Control Response Time
(Fire Alarm trigger to DVA initiation) ..... <1 second
Fault tolerance ..... Any single open or short circuit can be detected and isolated

Dimensions and Weight

DAU200

Dimensions (H x W x D) . 700 mm x 510 mm x 155.2 mm
Weight ..... 51 kg total weight
31 kg less batteries
20 kg weight of batteries

DAU400

Dimensions (H x W x D) .... 790 mm x 580 mm x 204 mm
Weight ..... 70 kg total weight
42 kg less batteries
28 kg weight of batteries

Environmental

Temperature (Storage and Operating) .... −5 °C to +50 °C
Humidity Range ..... 0 % to 93 % Non-condensing

[6] Analogue inputs and digital outputs are available on ordering, and they replace the digital inputs, i.e, the unit does not support both digital inputs and analogue inputs/digital outputs.

[7] The RS232 port is internally used for system networking. It may be temporarily disconnected from the network, and connected to a Host PC for configuration purposes.

[8] PC/DVA system can only be connected to stand-alone DAU.

CE This equipment is designed and manufactured to conform to the following EC standards:
EMC EN55103-1/E1, EN55103-2/E5, EN50121-4, EN50130-4, EN61000-6-3, ENV50204
Safety EN60065

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