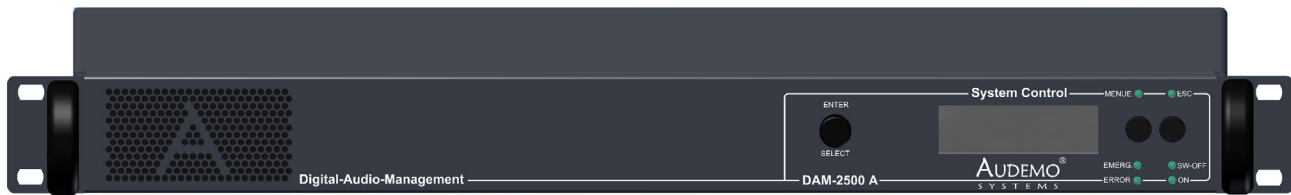


DAM-2500 A

Digital Audio Management Unit

Made
in
Germany



EN 54 16

APPLICATION

- Public Address and Voice Alarm
- Aackground Music
- Audio Visual

AREA OF USE

- Health
- Education
- Retail
- Hospitality
- Stadiums
- Transportation
- Theme parks
- Military

OVERVIEW

The Digital Audio Management Unit DAM-2500 A is a digital signaling audio control unit used to initiate/manage live paging, audio signal routing and playing pre-recorded audio messages. The unit is ideal for different audio applications including the voice alarm, mass notification (general alarm), background music and professional public address. It is equipped with an internal monitoring of all alarm-relevant parts, internal error logging and permanent monitoring of all PADES® 2000 system buses as well as the audio signal path from the signal source to the loudspeaker line in accordance with the standard requirements of VDE 0828 and EN54 Part 16. In general, the unit is equipped with 8 independent (DSP based) audio input channels. On the output side, you can use eight independent preamplifier outputs. The digital audio management unit is used in combination with DAA amplifiers and DAM-2526B or (DMS-2022 + DMS 2021) to power multi independent supervised loudspeakers outputs supporting class A or class A/B wiring .

DAM-2550A Ethernet based call paging station (PoE) can communicate with the DAM -2500 A audio controller through remote mic ports .Up to ten digital selective remote microphone units DPM-2550 A or DPM-2550 B can be operated with each DAM unit using one of the pre-configured emergency microphone port.

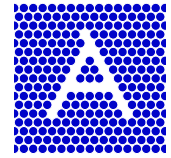
The audio signal processing allows simultaneous operation of 8 independent speech paths (8x8 matrix in connection with a supplementary software license. With the digital-analog input module, up to 8 monitored digital or analog inputs are available. In order to play a selected input

channel with priority, the NF-Digital-1-Channel-Priority-Control-Module is used. Furthermore, an NF-Digital External Volume Control Module allows remote volume control of a selected input channel. On the input side, there are high-performance audio AD converters with 128x oversampling and input channel gain adjustable in 6 dB steps (0 - 42 dB) and on the output side with high-performance audio DA converter with 128x oversampling and switchable output channel gain (0/6 dB) is available. For a professional, unadulterated reproduction of speech and music, each input/output features five bands parametric equalizer. Each audio input could be configured as Line or Mic input supporting Phantom power or VOX input type.

The digital signal processor (DSP part) supports a sampling frequency of 48 kHz. The current device configuration (commissioning presets) and the factory settings (delivery status) are stored in a non-volatile memory (EEPROM). The Digital Paging Management Control has integrated 32- bit ARM Cortex M3 digital processor (120 MHz) that offers sufficient computing power for real- time control of all processes. The unit is equipped with 4GB Inbuilt message storage (48 KHz /16 bits)

The digital control of all operating functions is carried out by 2 function keys, a rotary encoder, as well as through 8 additional, freely assignable rotary encoders (or alternatively with an optional RS-232 Interface Module). The graphic LCD display with 32 x 120 pixels and 16-bit 20MHz slave controller allows plain text display and the display of pictograms. The

PADES [®] 2000-Series



software license enables operation with a display in the respective national language. The special software license includes all user-specific factory programming of the system, e.g. the times for the start of periodically repeated announcements or going signals, as well as the group definitions for an alarm or a call announcement.

The automatically changing background color of the display is used to visualize error states. The color of the backlighting of the display is switched depending on the activated operating mode. The colour assignments are as follows:

- 1) Green(Grey) color : Snooze mode is active
- 2) Blue color: Normal Operation
- 3) Yellow color: Fault status
- 4) Red color: Emergency status is active
- 5) Purple color: Service status is active

The watchdog-monitored alarm output (2-pole potential-free changeover contact) deliver a defined error status even if the processor fails . In the event of a power failure, there

is an optional automatic switchover to emergency power operation with simultaneous actuation of the mains failure output (potential-free changeover contact). In the event of a total failure of the processors, an analog bypass is also available for signal transmission from the fire brigade call station (DAM- 2530 A) to DAA amplifiers to initiate “ All Call” live paging.

The DAM- 2500 A unit can be equipped with two optional digital interface module for networking:

- 1) DMS-2034 A: Digital Media Network Module (Dante)
- 2) DMS-2036 A: Digital Ethernet Network Module

In addition, fiber optic network switch DMS 2026 AM or DMS-2026 AS is used with either one of the above mentioned network modules.

The audio sampling rate over the Ethernet media is 48 KHZ with bit depth of 24 bits. Each unit can transmit up to eight simultaneous audio channels on the TCP/IP network.

TECHNICAL DATA

Amplifier Data

Audio matrix	8 x 8
Frequency response	20 - 20,000 Hz
Signal to noise ratio	> 92 dB
Gain control	- 42 dB
Distortion	< 0.01 %
Inputs (Mic)	-50 dBu, 600 Ohm, Balanced
VOX input	-10 dBu, 600 Ohm, Balanced
Control port	Programmble
GPS port	1
Audio outputs	8
Output type	Using DAM 2525B or DMS-2061A
IMOD control port	2 X RJ45
Remote MIC connection port (Ethernet)	2 ports to drive DAM-2550A type of Mic.
Emergency MIC connection port	2, each port is configurable to drive up to 10 cascable emergency microphones
Emergency MIC connection port	One port can be configured to drive DPM
Emergency MIC connection port	Could be configured as bypass port
DSP	Mixer and equalizer
Type of equalizer	HPF, LPF, BF, Notch, Low/High Shelf
Automatic gain control	Supported by DMS- 2064A



Delay synchronization	Up to 50 milliseconds
Error outputs	One
Faults log	2047 faults
Timer and scheduler	Up to 1000 events defined by date, duration and time
Digital voice memory control module	Up to 4 GB or 11 hours of WAV messages Using 48 KHz/16 bits
RS485 Port (DMS-2064)	Driving up to 20 units of DPA -2774 A /B and DMS- 2041A and DMS-2042 A
Bus type	RS- 485, galvanically isolated
Analog signal	Bidirectional, differential, digital (AES3), galvanically isolated
Control signal	Bidirectional, digital, galvanically isolated
NETW port	2, Modbus integration and unit configuration
Ethernet connection	Using network card with sampling rate of 48 KHz and 24 bit depth
Operating temperature	-5 C° to + 50°
Power supply (main supply)	220-240 VAC, 50/60 Hz
Emergency input voltage	24 VDC
IP rating	IP 30
Dimensions (W x H x D) mm	483 x 44 x 300 mm (1U)
Weight	5 kg

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