

DPM 2500 A

Digital Paging Management Unit

Made
in
Germany



EN 54 16



APPLICATION

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

AREA OF USE

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

OVERVIEW

The Digital Paging Management Unit DPM-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 4 independent (DSP based) audio input channels. Expandable to 12 on the output side. The digital paging management unit is used in combination with DAA amplifiers and DAM-2525B/ DAM- 2526B or DMS 2021A/DMS-2022A to power multi independent loudspeakers outputs supporting class A or class A/B wiring.

Up to ten digital selective remote microphone units DPM-2550 A or DPM-2550 B can be operated with each DPM unit. If a DAM-2550 A system call station is to be connected to the paging management unit, this can be done over TCP/IP media or RS 485 connection.

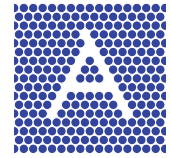
The audio signal processing allows simultaneous operation of 4 independent speech paths (4x4 matrix in connection with a supplementary software license. With the digital-analog input module, up to 4 monitored digital or analog inputs are available. The unit can be expanded with up to four DPM-2521 A modules (2 x 2), allowing for an integrated 12 x 12 digital audio matrix. 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 control allows plain text display and the display of pictograms. The 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.

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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) Gray 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 (optional). 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).

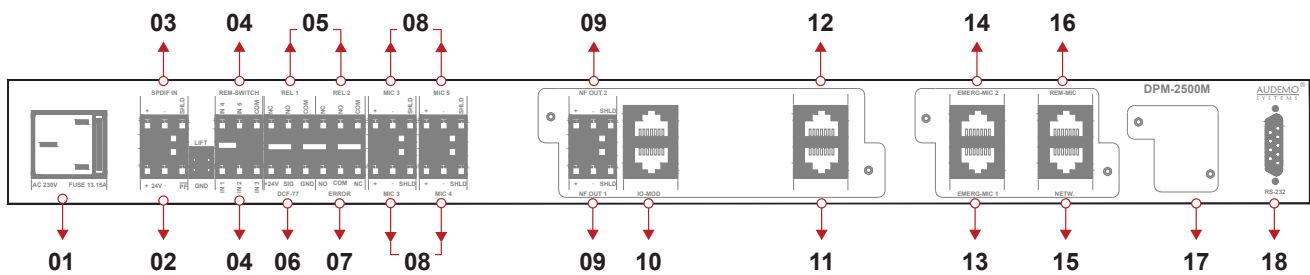
The DPM- 2500 A unit can be equipped with two optional digital interface module for networking:

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

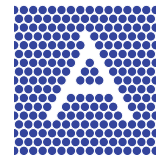
In addition, fiber optic network switch DMS 2026 AM or DMS-2026 AS is used with either one of the above mentioned network modules.

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

REAR PANEL CONNECTIONS:



1	240AC 50/60Hz MAIN POWER SUPPLY
2	+24VDC SECONDARY POWER SUPPLY
3	SPDF IN
4	PROGRAMMABLE CONTROL INPUTS(5 INPUTS-NO/NC)
5	PROGRAMMABLE RELAY OUTPUTS
6	GPS PORT
7	ERROR OUTPUT
8	PROGRAMMABLE LINE/MIC INPUTS
9	PROGRAMMABLE LINE OUTPUTS
10	IO-MOD(2 Nos): IO-MOD (2 PORTS): CONTROL THE DAM-2525 AND DAA-237X RANGE OF AMP+CONTROL AND POWER FOR(DMS-2021A+DMS-2022A)
11	PRIMARY DANTE PORT(DMS-2034A)
12	SECONDARY DANTE PORT(DMS-2034A)
13	WALL MOUNT MICROPHONE (PRIMARY PORT TO DRIVE DAISY CHAIN OF REMOTE PAGING MICROPHONES)
14	SECONDARY PORT TO DRIVE DAISY CHAIN OF REMOTE PAGING MICROPHONES
15	ETHERNET PORT (INTEGRATION WITH MODBUS)
16	THIRD PORT TO DRIVE REMOTE PAGING MICROPHONES OR TO DRIVE PoE MICROPHONES
17	PROVISION TO DRIVE PERIPHERAL DEVICES LIKE DPA 2274A, DMS-2041A AND DAE 2020C
18	SERIAL LINK FOR PROGRAMMING



TECHNICAL DATA

Audio matrix	4 x 4 Expandable to 12 x 12
Frequency range	20 - 20,000 Hz
Signal - to - noise ratio	> 92 dB
Gain Control	- 42 dB
Distortion	<0.01%
Inputs (Mic)	- 50 dBu, 600 Ohm, balanced
Input (Line)	- 10 dBu, 600 Ohm, balanced
Phantom power	24V
VOX Input	Programmable
Control inputs	Five monitored (NO/NC)
GPS port	1
Audio outputs	4 Expandable to 12
Output	0/+6 dB, 600 Ohm, balanced
I-MOD control port	2 x RJ45
Remote MIC connection (RS 485 Protocol)	1, up to 10 cascadable microphones or to drive PoE microphones - Port 16
MIC connection (2 ports) Ports 13 and 14	2 , up to 10 cascadable microphones
DSP	Mixer and equalizer
Equalizer	5 for each input, each output
Type of equalizer	HPF, LPF, BF, Notch, Low/High Shelf
Automatic gain control	Supported by DMS 2064A
Error output	One
Faults log	2047 faults
Timer and Scheduler	Up to 1000 events defined by data, duration and time
Digital voice memory control module	Up to 4 GB or 11 hours of WAV messages using 48 KHz/16 bits
Ethernet connection	Using network card with sampling rate of 48 KHz and 24 bits
Dante connection	Connection technology 2 X RJ45 Bus type: Ethernet 1 GB Sampling rate: 48 KHz Bit depth : 24 bits/ 32 bits No of digital input audio channel : 8 No of digital output audio channel: 8:
RS485 port (DMS-2064)	Driving up to 20 units of any combination of volume control/ channel selector and noise sensing microphone
NETW port	Modbus Integration and third party integration
Dimensions	483 x 44 x 300 mm (1 U)
Weight	4.7 KG without DMS -2034A/ without DMS -2036A/ without DMS-2064A
IP Protection	IP30
Operating temperature	-5° C to +55° C
Main power supply	220-240 VAC, 50/60 Hz
Emergency power supply	24 VDC (optional)

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