

# 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. On the output side, you can use four independent preamplifier outputs. The digital paging management unit is used in combination with DAA amplifiers and DAM-2526B 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.

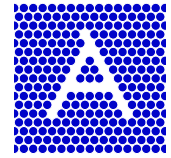
The audio signal processing allows simultaneous operation of 4 independent speech paths (4x4 matrix in connection with a supplementary software license. With the digital-analog input module, up to 4 monitored digital or analog inputs are available. In order to play a selected input channel with priority, 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

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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) 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).

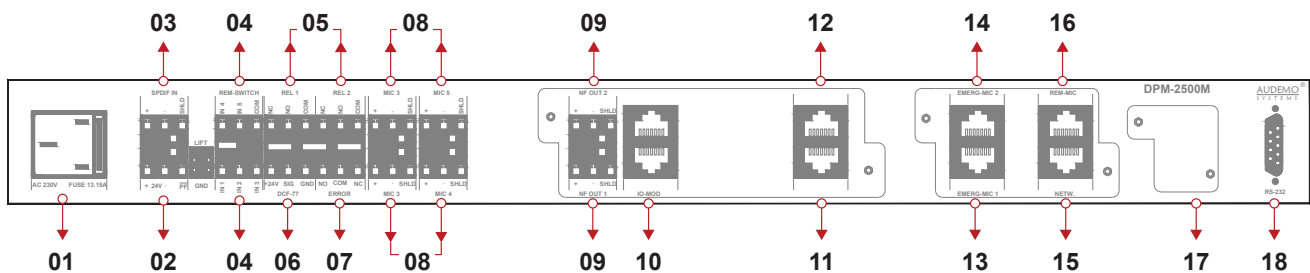
The DPM- 2500 A unit can be equipped with two optional digital interface module for networking:

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

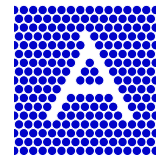
In addition, fiber optic network switch DMS 2026 AM or DMS-2026 AS is used with either one of the above mentioned network modules.

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  | SPDIF 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):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 /B AND DMS-2041A                                   |
| 18 | SERIAL LINK FOR PROGRAMMING   |



## TECHNICAL DATA

|   |   |
|---|---|
| Audio matrix                              | 4 x 4   |
| 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   |
| 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<br>Bus type: Ethernet 1 GB<br>Sampling rate: 48 KHz<br>Bit depth : 24 bits/ 32 bits<br>No of digital input audio channel : 8<br>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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