

DPM 2500 P

Digital Audio Management Unit



APPLICATION

- Public Address • Background Music
- Audio Visual

AREA OF USE

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

OVERVIEW

The Digital Audio Management Unit DPM-2500 P 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 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 system buses. In general, the unit is equipped with 8 independent (DSP based) audio input channels. On the output side, you can use 8 independent preamplifier outputs. The digital Audio management unit is used in combination with DAA amplifiers.

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 audio management unit, this can be done over TCP/IP media or remote microphone port.

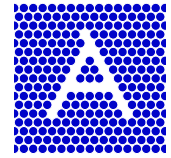
The audio signal processing allows simultaneous operation of 8 independent speech paths (8x8) matrix in connection with a supplementary software license. With the digital-analog input module, up to 8 monitored digital or analog inputs are available. In order to play a selected input channel with priority,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

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

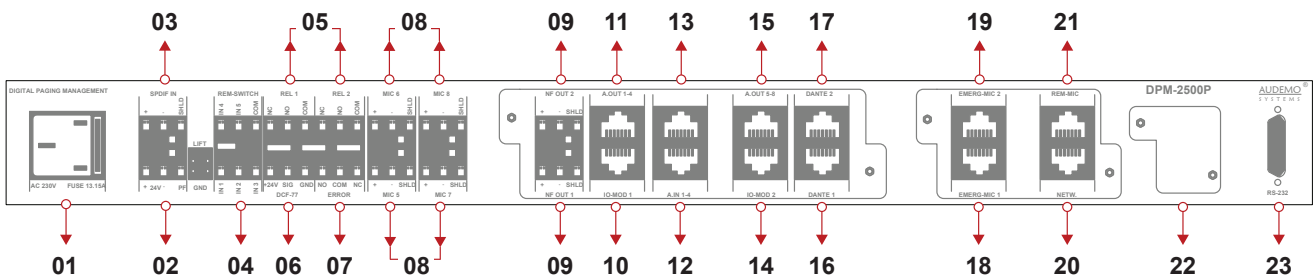
The watchdog-monitored alarm output (2-pole potential-free changeover contact) deliver a defined error status even if the processor fails.

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

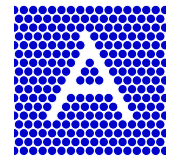
- 1) DMS-2034 A: Digital Media Network Module (Dante)
- 2) DMS-2036 A: Digital Ethernet Network Module

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:



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|----|--|
| 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 (5-8) |
| 9 | PROGRAMMABLE LINE OUTPUTS (A.OUT 1-2) |
| 10 | IO-MOD 1: CONTROL THE DAM-2525 AND DAA-237X RANGE OF AMP+CONTROL AND POWER FOR (DMS-2021A+DMS-2022A) |
| 11 | PROGRAMMABLE LINE OUTPUTS (A.OUT 1-4) |
| 12 | PROGRAMMABLE LINE/MIC INPUTS (1-4) |
| 13 | RESERVED |
| 14 | IO-MOD 2: CONTROL THE DAM-2525 AND DAA-237X RANGE OF AMP+CONTROL AND POWER FOR (DMS-2021A+DMS-2022A) |
| 15 | PROGRAMMABLE LINE OUTPUTS (A.OUT 5-8) |
| 16 | PRIMARY DANTE PORT (DMS-2034A) |
| 17 | SECONDARY DANTE PORT (DMS-2034A) |
| 18 | WALL MOUNT MICROPHONE (PRIMARY PORT TO DRIVE DAISY CHAIN OF REMOTE PAGING MICROPHONES) |
| 19 | SECONDARY PORT TO DRIVE DAISY CHAIN OF REMOTE PAGING MICROPHONES |
| 20 | ETHERNET PORT (INTEGRATION WITH MOD-BUS) |
| 21 | THIRD PORT TO DRIVE REMOTE PAGING MICROPHONES OR TO DRIVE PoE MICROPHONES |
| 22 | PROVISION TO DRIVE PERIPHERAL DEVICES LIKE DPA2274A/B AND DMS-2041A |
| 23 | SERIAL LINK FOR PROGRAMMING |



TECHNICAL DATA

Audio matrix	8 x 8
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	8
Output	0/+6 dB, 600 Ohm, balanced
IO-MOD control port	2 x RJ45
Remote MIC connection	1, up to 10 cascadable microphones using RS485 portal or to drive PoE microphones
MIC connection (2 ports)	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 8000 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	5 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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