

# Speaker Management Systems

DPA Series - DPA480

**DPA480** is a High End 4-IN/8-OUT digital speaker management system. Designed for maximum versatility, it provides all the processing and control necessary for both live and fixed installation use. 4 analog inputs, 8 analog outputs and 2 digital S/PDIF inputs are managed by a powerful MARANI® DSP Engine, for a full 96kHz processing, in addition to 24 bit AD/DA Converters. Each input channel provides 30 PEQ, Gain control, Noise Gate, RMS Compressor, Internal White/Pink Noise Generator and configurable

crossover filters which themselves provide slopes from 6 to 48dB/Octave. Each output path also features Peak Limiter, RMS Compressor and configurable Delay. A 12 dB Headroom is provided for internal overflow process. The DPA480 supports a full matrix mixing mode where inputs may be routed/mixed in any ratio to any output. For remote configuration and control the DPA480 can be connected via USB/RS485/TCP-IP connections.



## Features

### Outstanding Performance

Excellent sonic performance with 24bit high end converters coupled with 96kHz sample rate 4 inputs, 8 outputs with full matrix mixing

### Top-grade DSP Engine

30 band parametric equalization per input channel  
11 band parametric equalization per output channel  
Each band can be switched to Bell, Shelving, HP/LP, Band Pass, Notch Filter, All Pass  
Crossover filters with slopes from 6dB/Octave up to 48dB/Octave including Butterworth, Bessel, Linkwitz-Riley  
Process Overflow limiting  
Each output features a precision dynamic range

controller composed of a Limiter working on RMS value of the limiter's input  
Adjustable Delay time up to 480 ms for every input channel and 270 ms for each output channel  
Phase correction per input and output channel

### Direct PC/Network Connection and Control

Rear panel USB connector for direct PC communications  
RS485/TCP-IP connection for system setup, monitoring and control via fully manageable remote PC software

Front panel interactive LCD display for local access and configuration  
Simultaneous control up to 32 units via PC software  
Up to 32 storable user presets  
Security Lockout

## Applications

- Auditoriums
- Houses of Worship
- Theaters
- Performing Art Centers
- Convention Centers
- Stadiums and Arenas
- Touring Musicians
- Stage Monitoring System digital

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## Audio

Digital Input	2 SPDIF; Gain 0dBu
THD+N	<0.005% at 1kHz 0dBu
S/N(A-Weighted)	>112dBA
Frequency Response	20Hz - 20kHz; -0.5dBu at 20Hz and 20kHz
AD & DA Converters	24bit - 96kHz
Max Input/Output Level	+20 dB

## DSP & Processing

DSP Engine	MARANI® DSP
DSP Resolution	54 bit accumulation registers. 96 bit precision on intermediate processing data
Parametric Equalization	30 PEQ filters per input; 11 filters per output
Input&Output Gain	From -18dB to +12dB by 0.1dBu resolution steps
Filter Type	Bell, Shelving, HP/LP, Band Pass, Notch Filter, All Pass; Gain: +/-15dBu
Center Frequency	from 20Hz up to 20kHz with 1Hz resolution steps
Filter Q/BW	Bell Type: Q from 0.4 up to 128 in 100 steps Shelv/HP/LP Type: Q from 0.1 up to 5.1 in 100 steps BandPass/Notch Type/All Pass: Q from 4 up to 104 in 100 steps
Crossover Section HPF/LPF	Butterworth 6/12/18/24/36/48dB per octave Bessel 12/24dB per octave Linkwitz-Riley 12/24/36/48dB per octave
Input Noise Gate	Threshold: -80dBu ~ -50dBu, or not active Attack time: 1ms ~ 1000ms; Release time: 10ms ~ 1000ms
Input/Output RMS Compressor	Threshold: 20dBu ~ -10dBu Ratio: 2:1~32:1; Knee: 0~100%; Makeup: -12dBu ~ +12dBu Attack time: 5ms ~ 200ms; Release time: 0.1s ~ 3s
Output Peak Limiter	Threshold: 20dBu ~ -10dBu; Attack time: 1ms ~ 900ms; Release time: 0.1s ~ 5s
Delay	480 ms per each input, 270ms per output
Ground noise	-90 dBu

## General

Device Presets	User Presets: 32
Dimensions	19"x 1.75"x 9" (483x44x229mm) 1RU
Weight. Net/Shipping	7.71 lbs (3.5 Kg) / 8.82 lb (4 Kg)