

Class D Audio Amplifier 4  $\Omega$ /70/100V

# DPA-SERIES

DPA-300S/DPA-300D/DPA-300T/DPA-300Q  
DPA-600S/DPA-600D/DPA-900S/DPA-1200S



## SUMMARY

The DPA-Series offers both low impedance and High impedance outputs in one package Ideal for applications where high power and large quantity of long-line speaker installation is required. The superior efficiency of a Class-D amplifier means higher power output and greater compactness than an analog amplifier offers.

## OVERVIEW

The DPA Series is a amplifier operate in 4 - 8  $\Omega$  /70V/100V modes and are capable of delivering a total 1200 watts of Power. Respectively housed in 2 RU compact chassis, these Class D amplifiers offer High power in reduced size and weight. The combination Class D topology amplification circuitry combined with SMPS (Switch mode Power Supplies) creates a high efficiency amplifier offering reduced power consumption and low heat dissipation. The DPA-Series offers both low impedance and High impedance outputs in one package Ideal for applications where high power and large quantity of long-line speaker installation is required such as Airports Arena, shopping malls, transportation stadiums or any large scale facilities.

# Inter-M, PA AMPLIFIER

## CLASS D

Class D audio amplifier offer greater power efficiency over traditional amplifiers. Among their advantages is their reduced physical size and lower heat dissipation. They offer less than 1 % THD, total harmonic distortion with an increased signal to noise ratio to 90 dB and a widened frequency response from 30 Hz~20 KHz

Class D audio amplifier offers greater than 90 % power efficiency over traditional amplifiers. SMPS – Switch mode power supply provides high efficiency and low weigh. Among their advantages is their reduced physical size and lower heat dissipation. The DPA series is fully equipped with a protection circuit against short circuit, overload, power and DC output.

## Same Powerful Output from a More Compact Amp

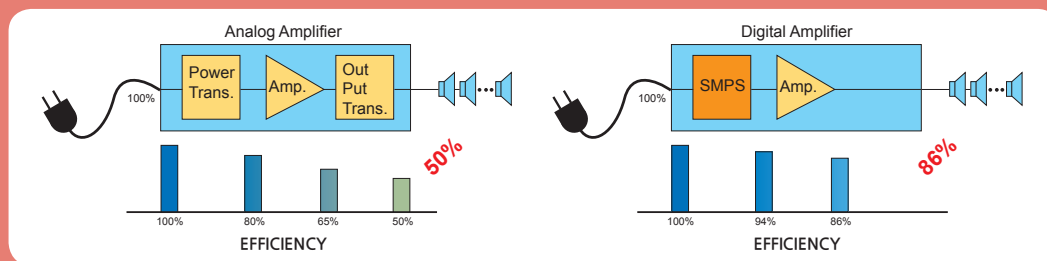
The superior efficiency of a Class-D amplifier means higher power output and greater compactness than an analog amplifier offers. Only 2 rack units in size, the DPA Class D audio amplifier with ECO Digital design offers greater than 90 % power efficiency and lower heat dissipation over traditional low efficiency and noise from analog amplifier.

## Efficiently Compact and Lots of Power

Class-D amplifiers overcome the inefficiencies of traditional Class-A or AB amplifiers. The Inter-M DPA Class-D amplifiers transform very little power into heat so a higher percentage of the power supply is transformed into the load. This results in a very compact amplifier which needs less input power to produce very high output power.

## Why Use Class D-Amplifiers

Class-D amplifiers deliver more output watts ratio to input AC power than conventional analogue amplifiers. How? The Class-D amplifier's PWM (Pulse Width Modulator) modulates the original audio input signal with a triangulated signal wave which has a much higher fixed frequency. The result is a digital signal which contains both the input signal and a band of frequency components around the modulation frequency. A LPF (Low Pass Filter) then filters out the high frequency pulses and the resulting amplified output signal is then sent to the speakers.



## SMPS provides high efficiency and low weight

SMPS – Switch mode power supply provides high efficiency and low weight. Among their advantages is their reduced physical size and lower heat dissipation, SMPS offer power efficiency and reduced power consumption over traditional amplifiers.

## High Performance

The DPA-SERIES amplifier offers superior incomparable performance and hi-definition sound with better S/N and THD than any other class D power amplifier in the market.

	Inter-M DPA-600S	Other Brand A	Other Brand B
Rated Output	600 W	600 W	600 W
S/N	103 dB	100 dB	100 dB
THD	0.03 %	0.03 %	0.02 %
Power consumption(1/8)	130 W	156 W	170 W

## THD : Total harmonic distortion

THD: Total harmonic distortion stands. The lower THD means that the equipment produces a more accurate reproduction by reducing harmonics added by electronics and audio media.

## S/N : Signal to Noise Ratio

S/N Ratio: stands for Signal to Noise Ratio expressed in dB. It is a measurement that compares the level of a desired signal to the level of background noise. It is defined as the ratio of signal power to the noise power. The higher the ratio indicates more signal than noise.

$$P = I^2R = V^2/R$$

P : Amp Output Power(Watt)

V : Amp Output Voltage

R : Speaker Impedance(Ohm :  $\Omega$ )

I : Amp Output Current(Ampere)

Amplifier Power	Hi Z – Public Address Amplifier		Lo Z – Professional(SR)
	70,7 V	100 V	8 $\Omega$
300 W	16,6 $\Omega$	33 $\Omega$	49 V
600 W	8,3 $\Omega$	16 $\Omega$	69,3 V
900 W	5,5 $\Omega$	11 $\Omega$	85 V
1200 W	4 $\Omega$	8,3 $\Omega$	98 V

## The relationship between the output of amplifiers and the impedance of speakers

The DPA amplifier can be used in both low impedance and high impedance applications. This is possible because the amplifier operates in a constant voltage output hence delivering maximum power.

The following mathematical formula based on Ohms Law demonstrates the relationship between speaker impedance, power and voltage.

## Wide Range of Selection

1CH(S) : 1200 W/900 W/600 W/300 W(4 Models)    2CH(D) : 600+600 W/300+300 W(2 Models)

3CH(T) : 300+300+300 W(1 Model)    4CH(Q) : 300+300+300+300 W(1 Model)

## **Full Rated Output on DC 24 V backup operation**

The DPA-Series amplifiers will deliver full program power output when operating in DC backup mode.

## **Remote Power On/Off Control with control input**

The user can control the Power On/OFF over long distance by using a simple dry contact control input.

## **AC & DC Dual Power Operation**

Simultaneous dual redundant AC and DC power operation offering un-interrupted operation with 24 DC emergency backup battery in the event of an AC mains power outage.

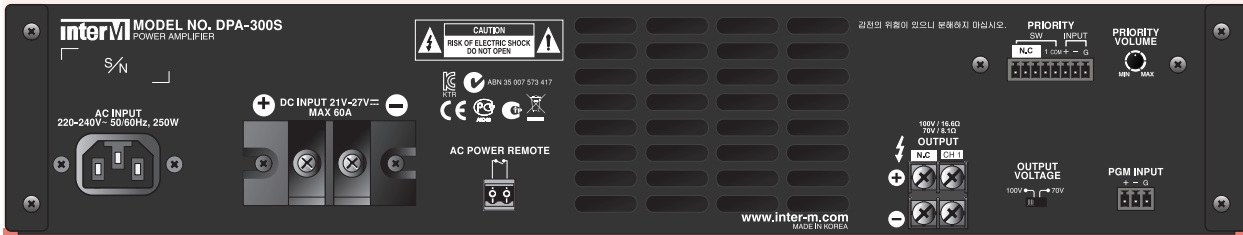
**High power amplifier is A MUST,  
not a choice for good sound quality!!**

## **Priority Program Override**

Each amplifier module has 2 audio inputs. The Primary program input, PGM and Priority input, PRI. The primary regular broadcast program input, PGM is interrupted and over ridden by the Priority input, PRI, when a contact closure is received on the PRI select terminal. This is Ideal for Emergency message broadcasting applications.

## **LED Display**

Amplifier status monitoring is easy with a LED display  
(Power on, Standby, Signal/−30 dB, −10 dB, Clip, fault, AC, DC).



## FEATURE

- High Power CLASS-D Amplifier
- Compact 2U rack size
- Compact and lightweight form factor
- High efficiency SMPS(switching-mode power supply)
- Balanced input Euroblock connection
- Low power consumption, low heat dissipation and light weight
- THD less than 0.03 %
- S/N, greater than 103 dB
- Protection circuitry(over heat, over current, speaker short, DC protection)
- LED status indicator(-30 dB, -10dB signal level, signal clip, protection, AC, DC, Standby, power)
- Remote power control
- DC back up power
- Choice of 8 models
  - 1 channel(S): 1200 W/900 W/600 W/300 W(4 models)
  - 2-channel(D): 600 +600 W/300 +300 W(2 models)
  - 3-channel(T): 300 +300 +300 W(1 model)
  - 4-channel 300 +300 +300 +300 W(1 model)

# APPLICATION

DPA-300Q are ideal for multi-zone applications where high power and large quantity of long-line speaker installation is required such as Airports Arena, shopping malls, transportation stadiums or any large scale facilities.

The DPA-300Q offers 4 channels of High impedance Ideal for applications where high power and large quantity of long-line speaker installation is required such as Airports Arena, shopping malls, transportation stadiums or any large scale facilities.



# SPECIFICATIONS

## ❖ Single Channel

Acquired certificate : KC, KCC, CE, CSA C-US, FCC, FC, GOST

	DPA-300S	DPA-600S	DPA-900S	DPA-1200S
Rated Output (T,H,D 0.1 %, AES17)	300 W	600 W	900 W	1200 W
Peak Power	480 W	680 W	1050 W	1260 W
Output Voltage/Impedance Input	100 V/33.3 Ω 70 V/16.3 Ω, 49 V/8 Ω	100 V/16.6 Ω 70 V/8.1 Ω, 69.3 V/8 Ω	100 V/11.1 Ω 70 V/5.4 Ω, 84.9 V/8 Ω	100 V/8.3 Ω 70 V/4.1 Ω, 98 V/8 Ω
Input Sensitivity	1 V/10 kΩ			
T,H,D (AES17)	Rated Output	Less than 0.1 %		
	1/3 Power	Less than 0.03 %		
Signal to Noise(20 kHz LPF)	Better than 103 dB			
Frequency Response( 1W, ±3dB)	50 Hz~20 kHz		60 Hz~20 kHz	
Operating temperature	-10 °C~40 °C			
Operating Power	120 V AC, 60 Hz, 220-240 V AC, 50/60 Hz DC 24 V			
Power consumption(1/8 Power)	130 W		250 W	
Weight(SET)	6.5 kg/14.3 lbs	6.6 kg/14.6 lbs	7.7 kg/17 lbs	
Dimensions(SET)	482(W)×88(H)×397(D) mm/19(W)×3.5(H)×15.6(D)in		482(W) x 88(H) x 450(D)mm/19(W)×3.5(H)×17.7(D)in	

## ❖ Dual Channel

Acquired certificate : KC, KCC, CE, CSA C-US, FCC, FC, GOST

	DPA-300D	DPA-600D
Rated Output (T,H,D 0.1 %, AES17)	300 W×2	600 W×2
Peak Power	350 W/CH	680 W/CH
Output Voltage/Impedance Input	100 V/33.3 Ω, 70 V/16.3 Ω, 49 V/8 Ω	100 V/16.6 Ω, 70 V/8.1 Ω, 69.3 V/8 Ω
Input Sensitivity	1 V/10 kΩ	
T,H,D (AES17)	Rated Output	Less than 0.1 %
	1/3 Power	Less than 0.03 %
Signal to Noise(20 kHz LPF)	Better than 103 dB	
Frequency Response(1 W, ±3dB)	50 Hz~20 kHz	
Operating temperature	-10 °C~40 °C	
Operating Power	120 V AC, 60 Hz, 220-240 V AC, 50/60 Hz DC 24 V	
Power consumption (1/8 Power)	130 W	250 W
Weight(SET)	7.1 kg/15.7 lbs	8.1 kg/17.9 lbs
Dimensions(SET)	482(W)×88(H)×397(D) mm/19(W)×3.5(H)×15.6(D) in	482(W)×88(H)×450(D) mm/19(W)×3.5(H)×17.7(D) in

## ❖ Triple / Quad Channel

Acquired certificate : KC, KCC, CE, CSA C-US, FCC, FC, GOST

	DPA-300T	DPA-300Q
Rated Output (T,H,D 0.1 %, AES17)	300 W×3	300 W×4
Peak Power	350 W/CH	350 W/CH
Output Voltage/Impedance Input	100 V/33.3 Ω, 70 V/16.3 Ω, 49 V/8 Ω	100 V/33.3 Ω, 70 V/16.3 Ω, 49 V/8 Ω
Input Sensitivity	1 V/10 kΩ	
T,H,D (AES17)	Rated Output	Less than 0.1 %
	1/3 Power	Less than 0.03 %
Signal to Noise(20 kHz LPF)	Better than 103 dB	
Frequency Response(1 W, ±3dB)	50 Hz~20 kHz	
Operating temperature	-10 °C~40 °C	
Operating Power	120 V AC, 60Hz, 220-240 V AC, 50/60 Hz DC 24 V	
Power consumption(1/8 Power)	250 W	
Weight(SET)	8.2 kg/18.1 lbs	8.4 kg/18.5 lbs
Dimensions(SET)	482(W)×88(H)×450(D) mm/19(W)×3.5(H)×17.7(D) in	

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※ Design and specification are subject to be changed for the improvement of product quality without pre notice.

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