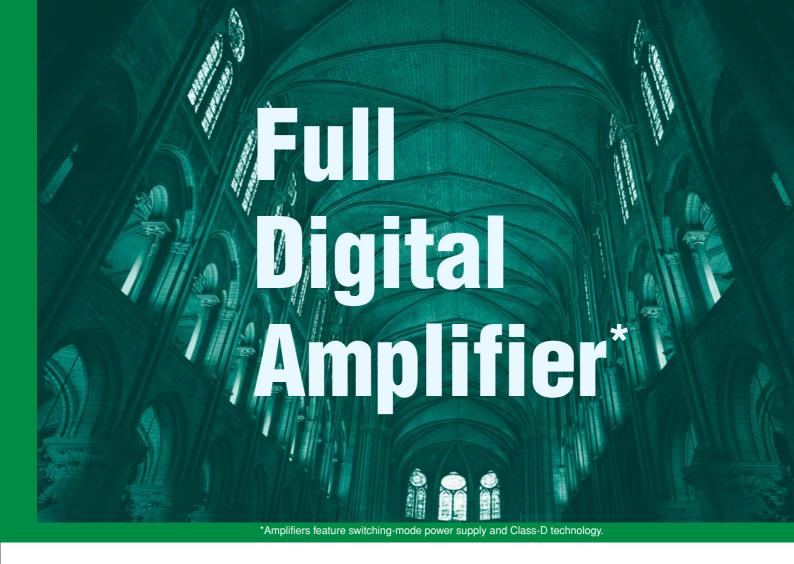


MULTI-CHANNEL DIGITAL POWER AMPLIFIERS

DA-250F/250FH/250D/250DH/550F/500FH



Top-of-the-line operation and performance efficiency



TOA Digital Amplifier technology redefines the very concept of amplifiers.

The power supply unit is the heart of the amplifier.

To ensure consistently high performance and reliable operation,

TOA engineers have given the DA Series

a system that provides power independently to

each of the four channels.

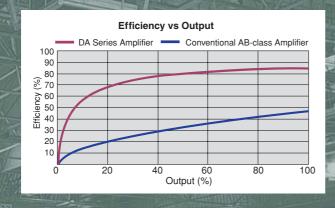
This testifies to TOA's attitude to product development, which is always totally motivated by the desire to provide high-quality products that offer worry-free use.

Never compromise — that's the TOA philosophy.

BEATURES

High efficiency

Extremely high amplification efficiency of 80-90%, resulting in reduction in power consumption by more than 60% compared with Class-AB amplifiers.



Highly durable

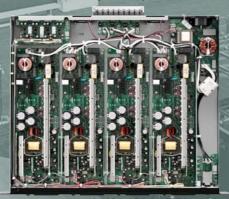
Stands up to extended hours of operation. The DA amplifier has undergone a large number of rigorous tests to prove its durability. In addition, TOA has been conducting a "non-stop driving test" of the DA Series.

High reliability

The DA amplifier has a comprehensive protection circuitry for protection against excessive current flow due to overload, short circuit, unusual DC voltage output, power amplifier heat sink temperature rise (DA-250D/DH, DA-550F/500FH: over 100°C, DA-250F/FH: over 110°C), power supply temperature rise (DA-550F/500FH: over 80°C), and temperature rise inside the unit (DA-250D/DH, DA-250F/FH: over 80°C).

Independent power supply

Each of the channels has its own power supply. If the power supply of Channel 1 should fail, this won't affect the operation of Channels 2-4. It is also possible to use one of the channels as a spare amplifier.



Inside of DA-250F/FH model.

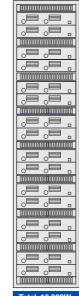
Amplifier with world-class lightweight design*

Installation has become much easier thanks to the lightweight design.

*TOA comparative data (weight/watt)

Compact design

The DA-250 Series is 1-unit size and the DA-500 Series is 2-unit size, and they can be efficiently mounted on a rack, so they require only a small installation space. Because the amplifiers do not generate much heat, 5 units can be stacked together in a rack.



Total: 16,000W 41U

> Power Supply

Conventional Amplifier

Power supply from transformer

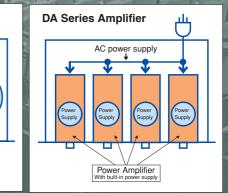
Power Amplifier



Total: 16,000W 21U



Total: 16,000W





Design optimization for efficient and reliable high-level performance

The TOA DA-250F/FH, DA-250D/DH and DA-550F/500FH multi-channel power amplifiers offer a wider choice of power ratings, advanced Class D amplification circuitry, and a highly efficient AC mains to output power ratio, for the complete technological superiority it takes to support long-term installation applications. These



energy-efficient, space-saving amplifiers are designed to combine high levels of performance and efficiency, and are well-suited to ensure sound reinforcement reliability in a wide range of venue types. The "F" and "D" models are ideal for multi-zone applications such as presentation and pressconference rooms, restaurants and similar-sized locations. The "FH" and "DH" units are well-suited to such locations as exhibition halls, sports facilities, multipurpose halls and houses of worship.







DA-250D (rear)



DA-250F (rear)



DA-500FH (rear)

OPTION

MT-251H

Matching Transformer

Capacity: 0 – 250W

Primary impedance: 100V line: 40Ω (250W), 70V line: 19.6Ω (250W)

 $\textbf{Secondary impedance:}\ 100V\ \text{line:}\ 40\Omega\ (250W),\ 70V\ \text{line:}\ 19.6\Omega\ (250W),\ 50V\ \text{line:}\ 10\Omega\ (250W),\ 35V\ \text{line:}\ 4.9\Omega\ (250W)$

 $\textbf{Frequency response:} \quad 30 \text{Hz} - 18 \text{kHz} \ (+0 \text{dB}, -3 \text{dB})$

Connection terminal: M3 screw terminal, distance between barriers: 6.6mm

Dimensions: $108(W) \times 122(H) \times 80(D) \text{ mm}$

Weight: 2.4kg

SPECIFICATIONS

Model		DA-250F	DA-250FH	DA-250D	DA-250DH	DA-550F	DA-500FH	
Power Requi	rement				AC, 50/60Hz			
Number of Ch			4		2	4	4	
	All Channel Driven	1000W (1kHz, 4Ω) 680W (1kHz, 8Ω)	1000W (1kHz, 40Ω: 100V line)		500W (1kHz, 40Ω: 100V line)		2000W (1kHz, 20Ω: 100V line	
Output Voltag	ge per Channel	31.6V (1kHz, 4Ω) 36.9V (1kHz, 8Ω)	100V (1kHz, 40Ω: 100V line)	31.6V (1kHz, 4Ω) 36.9V (1kHz, 8Ω)	100V (1kHz, 40Ω: 100V line)	46.9V (1kHz, 4Ω) 52.9V (1kHz, 8Ω)	100V (1kHz, 20Ω: 100V line)	
Output Curre	nt per Channel	7.9A (1kHz, 4Ω) 4.6A (1kHz, 8Ω)	2.5A (1kHz, 40Ω: 100V line)	7.9A (1kHz, 4Ω) 4.6A (1kHz, 8Ω)	2.5A (1kHz, 40Ω: 100V line)	11.7A (1kHz, 4Ω) 6.6A (1kHz, 8Ω)	5A (1kHz, 20Ω: 100V line)	
4 ohms p 16 ohms 8 ohms b	er channel er channel bridged	170W 250W 340W 500W		170W 250W 340W 500W	 250W	350W 550W 700W 1100W		
Power Consu Idle powe	mption* er consumption	48W, 0.3A	75W, 0.5A	27W, 0.3A	46W, 0.5A	57W, 0.4A	65W, 0.5A	
Rated pov	wer consumption 8 ohms 1kHz 4 ohms 100 Volts	800W, 5.8A 1200W, 8.7A	 1150W, 8.3A	400W, 2.8A 620W, 4.2A		1550W, 11.3A 2750W, 19.9A		
1/8 Powe	r 8 ohms Pink noise 4 ohms 100 Volts	167W, 1.2A 248W, 1.6A	 	95W, 0.8A 126W, 0.9A —	 143W, 1.1A	325W, 2.2A 442W, 2.7A —	 493W, 3.1A	
1/3 Powe	r 8 ohms 4 ohms 100 Volts	349W, 2.4A 511W, 3.7A —	 491W, 3.5A	184W, 1.3A 267W, 1.9A —	 278W, 2.0A	733W, 5.1A 1119W, 8.0A —	 1026W, 7.4A	
1/8 Powe	r 8 ohms 1kHz 4 ohms 100 Volts	143W,1.0A 202W, 1.4A —	 230W, 1.6A	79W, 0.7A 110W, 0.9A —	 128W, 1.0A	273W, 1.8A 411W, 2.7A —	 399W, 2.6A	
1/3 Powe	r 8 ohms 4 ohms 100 Volts	284W, 1.9A 437W, 3.0A —	 443W, 3.0A	150W, 1.1A 215W, 1.5A —	 237.7W, 1.7A	632W, 4.4A 958W, 6.9A —	 860W, 6.1A	
Frequency Re	esponse	20Hz – 20kHz (±1dB)	50Hz – 20kHz (-3dB, +1dB)	20Hz – 20kHz (±1dB)	50Hz - 20kHz (-3dB, +1dB)	20Hz – 20kHz (–2dB, +1dB)	50Hz - 20kHz (-3dB, +1dB)	
THD		0.1 % (1kHz) 0.3 % (20Hz – 20kHz)	0.1 % (1kHz) 0.3 % (100Hz – 20kHz)	0.1 % (1kHz) 0.3 % (20Hz – 20kHz)	0.1 % (1kHz) 0.3 % (100Hz – 20kHz)	0.1 % (1kHz) 0.15 % (20Hz – 20kHz)	0.1 % (1kHz) 0.3 % (100Hz – 20kHz)	
S/N Ratio (A weighted)		100dB						
Crosstalk at 10kHz (A weighted)		70dB						
DC Offset*		±5mV						
Voltage Gain	*	29.5dB	38.2dB	29.5dB	38.2dB	32.6dB	38.2dB	
Damping Fac	tor*	100 (1kHz, 8Ω)	300 (1kHz, 40 Ω : 100V line)	100 (1kHz, 8Ω)	300 (1kHz, 40Ω: 100V line)	95 (1kHz, 8Ω)	240 (1kHz, 20Ω: 100V line)	
Inputs	Input impedance Input sensitivity Input clipping	$\begin{array}{ccc} 10k\Omega \ (unbalanced), 20k\Omega \ (balanced) & 10k\Omega \ (unbalanced), 20k\Omega \ (balanced) \\ +4dB \ (1.23V) & +4dB \ (1.23V) \\ 14V \ (25.1dBu) & 12V \ (23.8dBu) \end{array}$					(1.23V)	
Protection Ci	rcuit Amplifier section Power supply section	DC output, overheat protection, load shorting, overload current, maximum output Overheat protection, AC rush current						
Cooling		Continuously constant speed fan 50,000 hours life t					Continuously constant speed fan with front-to-rear airflow, 100,000 hours life time at 25°C	
Operating Temperature		−10°C to +40°C						
Operating Hu	midity			Under 90% RH (no condensation)			
Dimensions		482 (W) × 44 (H) × 401.8 (D)mm				482 (W) × 88.4 (H) × 404.2 (D)mm		
Weight		6.8kg 5.3kg 9kg						
Finish			Par	nel: Aluminum, alumite proce	ss, black/Case: Plated steel sh	eet		
Accessories		Power cord(2m) \times 1, Euro style terminal block connector (3-pin) \times 4, Tamper-proof cap \times 4, Rack mounting screw \times 4 Tamper-proof cap \times 2, Rack mounting screw \times 2				Power $cord(2m) \times 1$, Euro style terminal block connector (3-pin) \times 4, Tamper-proof $cap \times 4$, $Rack mounting screw \times 4$		
Accessories								

0dB=0.775Vrms *Typical data

