

CPA400 power amplifier



description

The Crest Audio CPA400 professional power amplifier is designed to achieve unsurpassed sonic performance and long-term reliability - even when operating under extreme stress - in touring or fixed installation applications.

Absolute sonic accuracy is the hallmark of every Crest amplifier. Bass is solid and defined to the limits of audibility, with ample current reserves delivered by an "over-engineered" power supply and advanced Class AB output circuit design. Wide-bandwidth output devices assure detailed, transparent high frequency response. And, thanks to Crest's exclusive IGM circuit, the CPA400 will drive 2Ω loads safely without compromise in performance.

Construction and Quality Control

The CPA400 is built exclusively in Crest's own USA manufacturing facility, with internal components selected for premium quality and proven durability. Each modular subassembly is pre-tested, and the assembled CPA400 receives a rigorous "hot room" burn-in before thorough final check-out on precision test equipment

features

- Crest's legendary "overbuilt" power supply
- toroidal power transformer
- latest generation of high-speed, wide-bandwidth output devices
- twin tunnel cooling with back-to-front air flow
- dual, variable speed DC fans
- massive, extruded aluminum heat sinks
- balanced XLR and 1/2-inch (TRS) inputs
- five-way binding post outputs or Speakon™ connectors (market dependent)
- stereo/parallel/bridged mono mode selector switch
- ground lift switch
- input sensitivity selection
- recessed, stepped attenuators
- front panel circuit breaker switch
- modular construction
- five-year warranty*

power specifications: other CPA Series power amplifiers

4Ω stereo	CPA600	CPA900	CPA1200	CPA1800
1kHz, 0.01% THD+N	600w	900w	1200w	1800w
20Hz-20kHz, 0.1% THD+N	500w	800w	1100w	1700w

TourClass® protection circuits

ACL ACTIVE CLIP LIMITING prevents speaker damage by providing gentle gain reduction at the clipping threshold.

IGM INSTANTANEOUS GAIN MODULATION monitors speaker loads to detect conditions that may overstress output devices, allowing safe operation into difficult impedances.

AUTORAMP gradually increases gain to the attenuator level-settings when the amplifier is turned on.

Protection features include: **SHORT CIRCUIT, DC VOLTAGE, COMPREHENSIVE THERMAL MANAGEMENT, CURRENT IN-RUSH TURN-ON/OFF TRANSIENT, AND SUB/ULTRASONIC INPUT.**



power specifications

CPA400

1kHz, 0.01% THD
20Hz-20kHz, 0.1% THD+N

8Ω stereo

250w
245w

4Ω stereo

435w
400w

2Ω stereo

500w
450w

8Ω bridged

830w
800w

4Ω bridged

1100w
900w

Power figures are watts per channel, both channels driven.



specifications

CPA400 power amplifier

architect's specifications

The power amplifier shall have two channels. At 8Ω, 20Hz - 20kHz, 0.1% THD+N, it shall deliver a minimum of 245 watts per channel. At 4Ω, 20Hz - 20kHz, 0.1% THD+N, it shall deliver a minimum of 400 watts per channel. In bridged mono mode with an 8Ω load, 20Hz - 20kHz, 0.1% THD+N, it shall deliver a minimum of 800 watts.

Two rear panel mounted variable speed DC fans (filters detachable without tools) shall provide back to front air flow through the chassis.

The amplifier shall have circuitry to protect itself from output short circuits, thermal overload or other adverse load conditions. The amplifier shall protect speaker loads from DC voltage on outputs. The amplifier shall have active clip limiting and impedance sensing circuitry. Output relays shall protect the speakers from amplifier failure.

Each channel shall have a standard (factory-set) input sensitivity of 0.775 Volts, and shall be fitted with an internal jumper which allows the gain to be altered to X20 or X40. The hum and noise level shall be 105 dB below rated output, "A" weighted. SMPTE IMD shall be less than 0.01% at rated power, 60Hz and 7kHz. The amplifier shall have a class AB output stage. The frequency response shall be 20Hz-20kHz, +0, -0.3dB (1W/8Ω).

The amplifier will operate at 100V-240V, 50-60 Hz AC (configured at factory). Maximum current draw shall not exceed 15 amperes at 120VAC (limited by front panel breaker for bench tests).

Front panel indicators shall include ACTIVE, PROTECT, SIGNAL, and CLIP LED's for each channel. Front panel attenuators shall be recessed and detented.

Rear panel input connectors shall be female TRS and XLR type, internally dealer-configurable for pin 2 (factory setting) or pin 3 positive. Output terminations shall be 5-way output binding posts or Speakon output connectors (market dependent). A ground lift switch and a Stereo/Parallel/Bridged Mono mode operation switch shall be provided.

A rear-panel IEC AC mains socket (with power cord) or single AC mains cord having an appropriate AC plug for the intended operating voltage shall be provided (market dependent).

The packaging of the amplifier shall allow for standard rack mounting without requiring space between similar units. Optional rack mount handles will be available. Dimensions shall be 19" (483mm) wide, 3.5" (89mm) high and 18" (457mm) deep. The amplifier shall weigh 41 lbs. (18.61 kg.) net, and shall be designated the Crest Audio model CPA400.

	1kHz, 0.1% THD+N	20Hz-20kHz, 0.1% THD+N
stereo power 8Ω	250W	245W
	4Ω 435W	400W
	2Ω 500W	450W
bridged mono power 8Ω	830W	800W
	4Ω 1000W	900W
maximum output voltage	58V rms, 82V peak each channel	

frequency response 1W @ 8Ω	20Hz-20kHz, +0 / -0.3dB, -3dB@135kHz
power bandwidth rated power @ 4Ω, 1% THD+N	20Hz-20kHz, -9dB/ +5.5dB

THD+N	<0.01% rated power @ 4Ω, 1kHz
SMPTE IMD	<0.01% rated power @ 8Ω, 60Hz and 7kHz
damping factor	550:1 10-400Hz @ 8Ω

input CMRR	>60dB @ 1kHz
input sensitivity rated power @ 8Ω	.775V standard, (switchable; see table below)
voltage gain	X61 standard, (switchable; see table below)
input impedance	>20kΩ balanced, >10kΩ unbalanced
hum and noise	-105dB, A-weighted full power @ 4Ω
crosstalk	> -60dB A-weighted full power @ 4Ω

class	AB	
power supply	100-240 vac @ 50-60Hz factory configured	
circuit breaker rating 4Ω	36A @ 120V	
current draw 1/8 power, 4Ω	<6.8A @120V	
	1/3 power, 4Ω	<10.0 @120V
	at power-up	<15.0A @120V
	at idle	<1.4A @120V
peak current draw	15A	

thermal emissions 1/8 Power, 4Ω	2030 BTU/Hr
	1/3 Power, 4Ω 2726 BTU/Hr
cooling	back-to-front via two rear-mounted variable-speed DC fans (filters removable without tools)

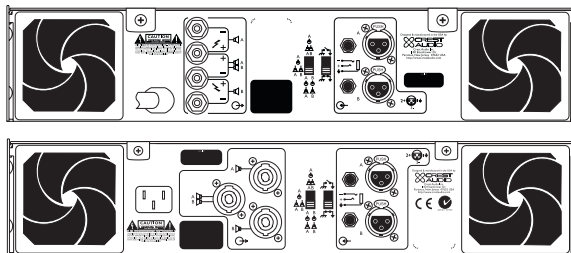
input connectors	female XLR pin 2+ dealer-configurable for pin 3+ TRS (tip+)
output connectors	speakon connectors or five-way output binding posts
controls	front panel: two attenuators, rear panel: signal ground-lift switch, mode select switch
LED indicators	ACL, SIGNAL, TEMP/DC: active
TourClass® protection	ACL, IGM, AUTORAMP, SHORT CIRCUIT, DC VOLTAGE, TURN-ON/-OFF TRANSIENT, CURRENT IN-RUSH, SUB/ULTRASONIC INPUT

construction	steel chassis, 16-gauge double thickness in rack-ear areas
dimensions	3.5" x 19" x 18" 89mm x 483 x 457mm height x width x depth
weight	gross: 46lbs 20.88kg
	net: 41lbs 18.61kg
warranty	five years* USA, Canada, United Kingdom, and many other countries

rear view CPA400

Power figures are watts per channel, both channels driven.

*Three-year Warranty with two additional years, if Registration Card is sent to Crest Audio.



dealer-configurable gain/sensitivity options

	gain	sens
factory standard	x61	.775V
option 1	x40	1.12V
option 2	x20	2.24V

Power figures are watts per channel, both channels driven.
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Crest Audio specification literature is available in downloadable PDF format at our website <http://www.crestaudio.com>

Crest Audio reserves the right to make improvements in manufacturing or design which may affect specification.



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