



CMXa Series

CMX 300Va | CMX 500Va |
CMX 800Va | CMX 2000Va

Professional Power Amplifiers



Features

- "Flex-Use" loading options allow you to drive low-impedance loads down to 2 ohms and certain models to drive 70 and 100V distributed loudspeaker systems
- "Flex-Use" Input connectivity choices including actively balanced barrier strip, XLR, or 1/4" TRS
- "Flex-Use" Output connectivity choices include NL4 Speakon™ and detachable terminal block
- Rack mountable with chassis less than 16" or 40.6 mm deep
- 1 dB recessed, detented gain controls for fast, accurate and repeatable settings
- Tamper-proof security cover for gain controls
- Recessed rear DIP switches for easy selection of stereo, parallel, or bridged mode operation, and the additional choice of enabling/disabling low frequency filter protection
- Low-noise variable-speed fans with rear-to-front airflow keep amplifiers and racks cool

The New CMXa Series is an economical and rugged power amplifier designed to meet the needs of system integrators. It is based upon the proven, rock-solid, reliable performance found in the award winning RMX Series.

The CMXa feature sets are designed for wide-ranging application in facilities such as performance halls, houses of worship, sports clubs, gymnasiums, dance venues, pubs, and FGM/BGM systems. The CMXa Series provides unmatched performance, the right power for the job and an affordable price point.

Proven and Reliable Power Plant

CMXa amplifiers incorporate everything QSC has learned in more than forty years of striving to deliver worry-free operations without failures. The design of these amplifiers starts with our world-class power supplies. The CMXa uses a powerful, high-current toroidal transformer and filtering to ensure generous energy reserves. This allows the amplifiers to effortlessly handle high-level transients, even when driving abusive 2 ohm speaker loads.

The amplifier output sections feature rugged class AB and class H architecture depending on power level. Efficient class H output sections on the CMX 800Va and CMX 2000Va reduce AC current draw and cut down on waste heat.

All CMXa amplifiers are protected from damage from shorted outputs. Automatic current limiting protects the amplifier from damage until the short is corrected.

CMXa amplifiers also feature DC protection systems to prevent loudspeaker damage in

the unlikely event of an output transistor failure. DC voltage from the power supply is never passed directly to your speakers, even in the event of an output circuit failure.

Superior Performance

The CMXa amplifiers deliver true and accurate studio-quality sound. A full complementary output circuit using high-grade linear output devices generates accurate, flat-frequency response with low distortion. SMT (Surface Mount Technology) triples small-signal component density, enabling high power output in a 2 rack unit chassis (3 RU for the CMX 2000Va). Unlike other designs, CMXa output devices are directly mounted to the heat sink for optimum thermal coupling and cooling.

The CMXa Series is available in four models. Three 2-rackspace models range in power from 300 to 800 watts per channel at 4 ohms. One 3-rackspace model provides 2500 watts per channel at 2 ohms. All four models feature a compact chassis less than 16" deep.

The V in the model name designates the ability to directly drive 70-volt and/or 100-volt distributed loudspeakers. The CMX 300Va and CMX 500Va must be configured for bridged-mono operation in order to directly drive high-impedance systems while the CMX 800Va and 2000Va may be used in either stereo or mono mode.

For installations requiring a transformer isolated output, the CMX has optional accessories to cover your needs.

CMXa Power Amplifiers

		Watts per channel		
		4Ω*	2Ω**	Bridged 4Ω**
2RU Models	8Ω	4Ω*	2Ω**	Bridged 4Ω**
CMX 300Va	200	300	430	830
CMX 500Va	300	500	700	1400
CMX 800Va	500	800	1200	2400
		Watts per channel		
3RU Model	8Ω	4Ω**	2Ω**	Bridged 4Ω**
CMX 2000Va	1100	2000	2500	5000

1 kHz, 0.1% THD *1 kHz, 0.5% THD **1 kHz, 1% THD

CMXa Details

	CM X300Va	CMX 500Va	CMX 800Va	CMX 2000Va
Stereo Mode (both channels driven)				
8Ω / FTC 20 Hz – 20 kHz / 0.1% THD	185 W	260 W	450 W	1050 W
8Ω / EIA 1 kHz / 0.1% THD	200 W	300 W	500 W	1100 W
4Ω / FTC 20 Hz – 20 kHz / 0.1% THD	280 W	400 W	650 W	1600 W
4Ω / EIA 1 kHz / 0.5% THD	300 W	500 W	800 W	2000 W (1% THD)
2Ω / EIA 1 kHz / 1% THD	430 W	700 W	1200 W	2500 W
70V Direct Drive / EIA 1 kHz / 1% THD	–	–	400 W	2500 W
100V Direct Drive / EIA 1 kHz / 1% THD	–	–	–	1000 W
Bridge Mono Mode				
8Ω / FTC 20 Hz – 20 kHz / 0.1% THD	530 W	800 W	1300 W	3200 W
8Ω / EIA 1 kHz / 0.1% THD	600 W	900 W	1500 W	3600 W
4Ω / EIA 1 kHz / 1% THD	830 W	1400 W	2400 W	5000 W
70V Direct Drive / EIA 1 kHz / 1% THD	600 W	1200 W	2000 W	5000 W
100V Direct Drive / EIA 1 kHz / 1% THD	–	600 W	2300 W	3600 W
Signal to Noise (20 Hz – 20 kHz, 8Ω)	> -100 dB	> -100 dB	> -100 dB	> -100 dB
Input Sensitivity at 8Ω	1.15 V (+3.4 dBu)	1.14 V (+3.4 dBu)	1.23 V (+4.0 dBu)	1.42 V (+5.3 dBu)
Voltage Gain at 8Ω	31.6 x (30 dB)	40 x (32 dB)	46 x (33 dB)	64 x (36 dB)
Output Circuitry	Class AB	Class AB	2-tier Class H	3-tier Class H
Power Requirements				
Typical, 1/8 power pink noise at 4Ω, 120 VAC	4.4 A	5.4 A	6.3 A	13.9 A
Typical, 1/8 power pink noise at 4Ω, 230 VAC	2.2 A	2.7 A	3.2 A	7 A
Severe, 1/3 power pink noise at 4Ω, 120 VAC	6.6 A	9.6 A	15.6 A	26.9 A
Severe, 1/3 power pink noise at 4Ω, 230 VAC	3.3 A	4.8 A	7.8 A	13.5 A
Distortion (SMPTE-M)	< 0.02%	< 0.01%	< 0.01%	< 0.01%
Distortion (typical)				
20 Hz – 20 kHz: 10 dB below rated power	< 0.03% THD / 4Ω and 8Ω			
1.0 kHz and below: full-rated power	< 0.03% THD / 4Ω and 8Ω			
Frequency Response	20 Hz – 20 kHz: ±1 dB -3 dB points: 5 Hz – 50 kHz			
Damping Factor (1 kHz and below)	> 300 at 8Ω			
Input Impedance	10k ohms unbalanced, 20k ohms balanced			
Input Clipping	10 Vrms (+22 dB)			
Cooling	Continuously variable-speed fan, rear-to-front air flow			
Connectors (each channel)	Input: Active balanced; barrier strip, XLR and 1/4" (6.3 mm) – TRS tip and XLR pin 2 positive Output: Detachable terminal block and Neutrik™ Speakon™			
Controls	Front: AC switch, Ch. 1 & 2 gain knobs Rear: 10-position DIP switch			
Indicators	Power-on: Green LED / Signal: Green LED (1 per channel) / Clip: Red LED (1 per channel)			
Amplifier Protection	Stable into reactive or mismatched loads			
Load Protection	On/off muting, AC coupling (CMX 300Va and CMX 500Va), triac crowbar (CMX 800Va and CMX 2000Va on each channel)			
Power Requirements	120 and 230 VAC, 50 – 60 Hz			
Dimensions (HWD)				
2 RU models	3.5" (8.9 cm) 2 rack spaces x 19" (48.3 cm) rack mounting x 15.9" (40 cm) deep to rear support ears			
3 RU model (CMX 2000Va)	5.25" (13.3 cm) 3 rack spaces x 19" (48.3 cm) rack mounting x 15.9" (40 cm) deep to rear support ears			
Weight - Net	35 lb (15.9 kg)	40 lb (18.2 kg)	44.5 lb (20.2 kg)	75 lb (33.1 kg)
Weight - Shipping	41 lb (18.6 kg)	46 lb (20.9 kg)	50.5 lb (23 kg)	87 lb (37.2 kg)

Specifications subject to change without notice.



1675 MacArthur Boulevard • Costa Mesa, CA 92626 • Ph: 800/854-4079 or 714/957-7100 • Fax: 714/754-6174

© 2013 QSC Audio Products, LLC. All rights reserved. QSC and the QSC logo are registered trademarks of QSC Audio Products, LLC in the U.S. Patent and Trademark office and other countries. Speakon is a trademark of Neutrik. All other trademarks are the property of their respective owners. Patents may apply or be pending.

CMXa Spec Sheet 08/9/2013



please recycle