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POWER AMPLIFIER
MA/PA SERIES
MA2030 / PA2030 / MA2120 / PA2120

A Smart Simple Solution

With a quick, easy setup and simple intuitive operation, it's never been easier to bring your commercial space to life than with Yamaha's latest additions to our Commercial Installation Solutions lineup, the MA/PA Series compact power amplifiers. In addition to the existing MA2030 and PA2030, which have proven ideal for audio solutions in retail stores, eateries and even class rooms or hospitals, the newly introduced MA2120 and PA2120 models have been developed to meet the demands of a wider range of applications that require higher power and more flexibility in DSP functions and zone control.

All models combine a familiar, unassuming construction with efficient, flexible performance, while the MA2030 and MA2120 offer mixing capability with source EQ (Bass/Treble), as well as a number of the same acclaimed Yamaha state-of-the-art DSP technologies featured in our professional audio gear. Whether providing background music for a cafe or restaurant, or powering a conference room or any number of applications requiring a microphone, the MA/PA Series provides you with a simple, yet powerful tool to help shape your ideal commercial sound environment.





Casual. Smart. Powerful.

Designed for Effortless Everyday Use

The MA/PA Series packs Yamaha's decades of commercial audio experience and know-how into compact, powerful, and reliable amplifiers protected by a rugged metal chassis.

The MA/PA Series feature interfaces that have been specifically designed for effortless operation. A layout that gives priority to the frequently used output volume knob while other controls are visually subdued, for example, significantly enhances control efficiency in normal day-to-day operation. What's more, there is no need for computers or complex programming procedures for installation or operation. After a quick, easy setup procedure that requires no special knowledge or skill, the system is ready to deliver outstanding sound in a wide range of applications.



Yamaha DSP Features for Enhanced Music and Mic Operation



The versatile lineup of the MA/PA Series was developed to cover a diverse range of small to mid-sized installations—often needing only a single model to power the entire sound system.

Features that contribute to high quality music playback and microphone use include Feedback Suppressor which effectively eliminates unwanted feedback, Priority Ducker which smoothly adjusts the background program level when a microphone is used for announcements simultaneously, and Leveler, an intelligent algorithm that keeps overall volume constant regardless of changes in source level. In addition, the newly added MA2120 model features an onboard Compressor* that adjusts varying mic levels, as well as Reverb and Echo* effects for multi-purpose MCing.



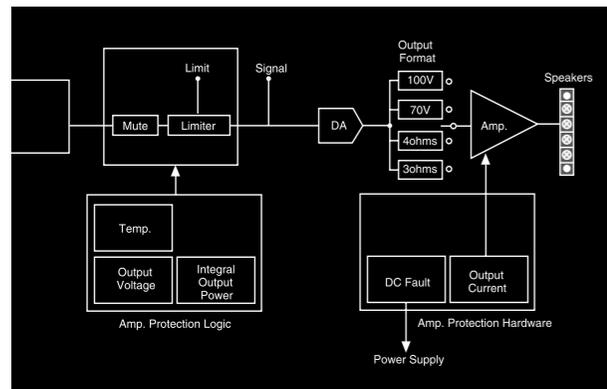
Safe and Efficient in Any Environment



At the heart of MA/PA Series is a high-efficiency Class-D amplifier that delivers sufficient power for small scale applications while consuming a minimum of power during operation. Intelligent protection functions inherited from Yamaha's flagship touring power amplifiers are included in the power supply and amplifier sections to prevent damage to the amplifier as well as the connected speaker system in the case of overload. For absolutely quiet operation as well as superior reliability, all MA/PA Series models feature thermal designs that achieve efficient cooling without the need for cooling fans.

The newly added MA2120 and PA2120 are both certified by ENERGY STAR*, the internationally recognized standard of environmentally-friendly equipment and facilities. The MA2120 and PA2120 both feature an auto standby function that greatly diminishes power consumption in applications where announcements or music playback are delivered intermittently. When audio signals are not detected for more than 25 minutes, the MA2120 and PA2120's power automatically switches to standby mode, and then back on again shortly after detecting any signal from the systems input devices.

The energy-friendly MA/PA Series amplifiers are also certified as Yamaha Eco Products**



Note:

* ENERGY STAR is a US Environmental Protection Agency (EPA) voluntary program that helps businesses and individuals save money and protect the climate through superior energy efficiency. For more information, please visit the Website: <https://www.energystar.gov/>

**Yamaha Eco Products are part of Yamaha's voluntary initiative dedicated to environmentally-friendly product development. For more details, please visit our Website:

http://yamaha.com/about_yamaha/csr/guideline_eco_products/

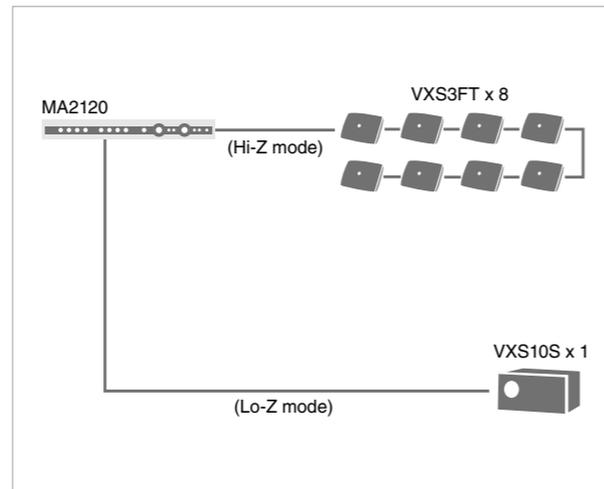


The Flexibility You Need

Supports Lo-Z and Hi-Z Speaker Systems



The MA/PA Series directly support low impedance and high impedance speaker systems without the need for additional transformers or other hardware that can take up valuable installation space and increase costs. When used to drive a 3Ω or higher low-impedance speaker system (3Ω/4Ω selectable) the MA2030 and PA2030 amplifiers deliver up to 30W per channel into two channels. With a high-impedance 70V or 100V line connection output is a single channel at up to 60W. Likewise, when driving a low-impedance system of 4Ω, the MA2120 and PA2120 amplifiers deliver up to 120W to each of two output channels. When driven at 3Ω/8Ω mode, these amplifiers can deliver up to 100W per channel. With a high-impedance 70V or 100V line connection, a single channel can output up to 200W, which is ideal for powering mid-size installations. In addition, since the MA/PA Series can be used with all Yamaha commercial installation speakers*, you have the choice and flexibility to design a sound system that meets your specific requirements. For example, as indicated, a single unit of MA2120 can support full-range speaker systems at high-impedance mode, and subwoofers at low-impedance mode at the same time**.



Note:

* Includes the VXS series, VXC series, VS series, S series, NS-AW series and NS-IC series. The S series, NS-AW series and NS-IC series are not available in some regions.

**The MA2030 and PA2030 can support either Lo-Z or Hi-Z, since they have one output channel.

Flexible Connectivity



The MA2030 and MA2120 mixing power amplifiers offer flexible connectivity to adapt to a wide range of applications. MA2030 comes equipped with 2 mic inputs (XLR combo jack and Euro-block) and 3 stereo inputs (RCA pin). The XLR combo jack in the front panel makes speaking engagements fast and easy. The MA2120 features 6 mic/line inputs (Euroblock) and 2 stereo inputs (RCA pin, stereo mini phone). All 6 mic inputs feature a 24V setting for phantom power, and inputs 5 and 6 can be also used as 2 MONO SUM inputs, allowing for more input capacity.



Flexible EQ Functions

The MA2030 features bass and treble stereo source EQ controls. With EQ knobs of MA2030 front panel, the low and high frequency contours of the stereo input sources can be adjusted. The source EQ also includes an enhancer function that adds harmonics as necessary for improved sound. The MA2120 features the stereo source EQ with an enhancer function for Input 7 - 8, as well as the source EQ for Input 1 - 6. Also, an output EQ can be set for each output channel. In addition to the source EQ, all MA/PA Series amplifiers come equipped with speaker EQ that provides ideal equalization for Yamaha speakers. EQ settings for VXS/VXC speakers can be selected using a DIP switch on the MA2030 and PA2030's rear panel. MA2120 and PA2120 models also feature EQ settings for VXS subwoofers, as well as HPF and selectable LPF settings.



Build A System That Meets Your Needs

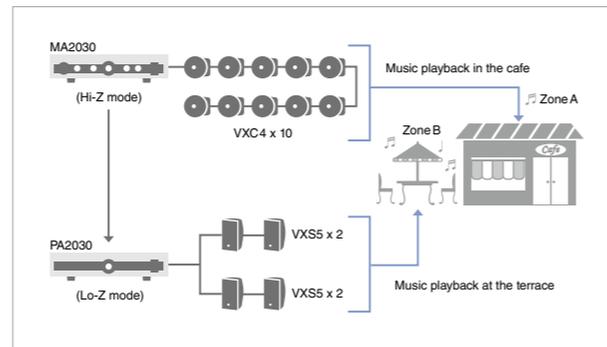


The MA/PA Series is capable of controlling input sources and volumes for two separate areas (source / volume zoning). For example, in an apparel store with the women's section downstairs and the men's section upstairs, or in a restaurant with dinner tables and a bar area, different background music and announcements can be delivered at different volumes to best complement the atmosphere of each environment.

Because the MA2120 has two output channels, users can easily manage source/ volume zoning for two separate areas with a unit. (Refer to P12 Example 2) In addition to volume zoning, the rear-panel ROUTE switches enable input source selection for each area. Speaker output levels in both areas can also be matched via the DIP switch settings. For a larger space, PA2120s can be added to the system, expanding service areas with volume zoning. (Refer to P14)

A MA2030 system combined with a PA2030 can cover two service areas with volume zoning. For example, as shown in the image, background music can be played inside a cafe at a low volume level while the same music plays at a moderate level for an outdoor terrace.

The optional DCP control panels* allow remote volume control, microphone ON/OFF switching, and triggering the built-in chime for announcements.



*One unit of DCP1V4S can be connected to MA2030. DCP1V4S, DCP4S and DCP4V4S, up to two units in total, can be connected to MA2120 and PA2120.

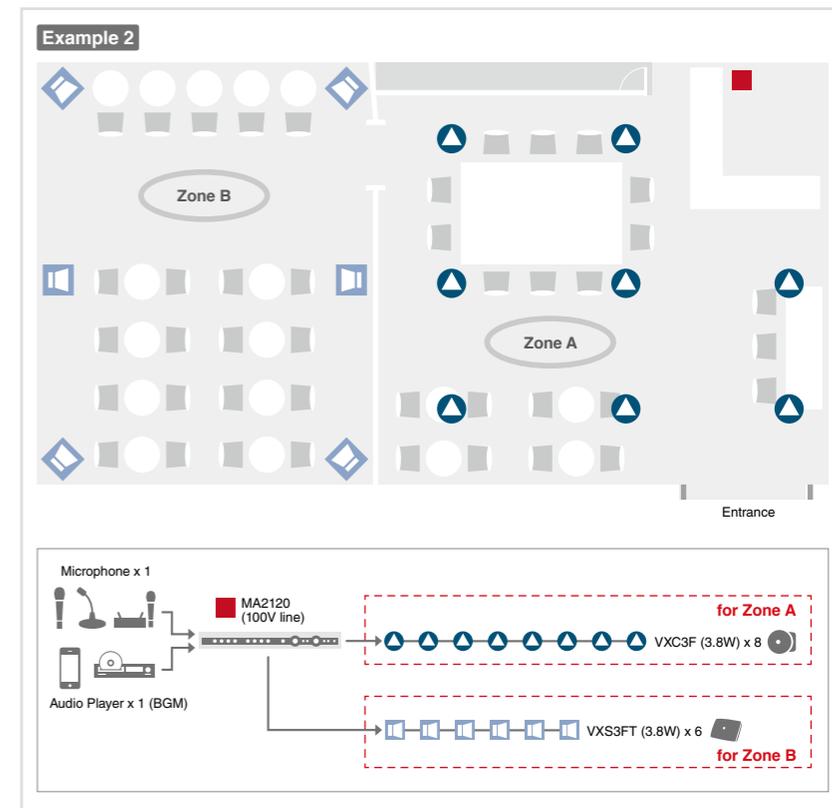
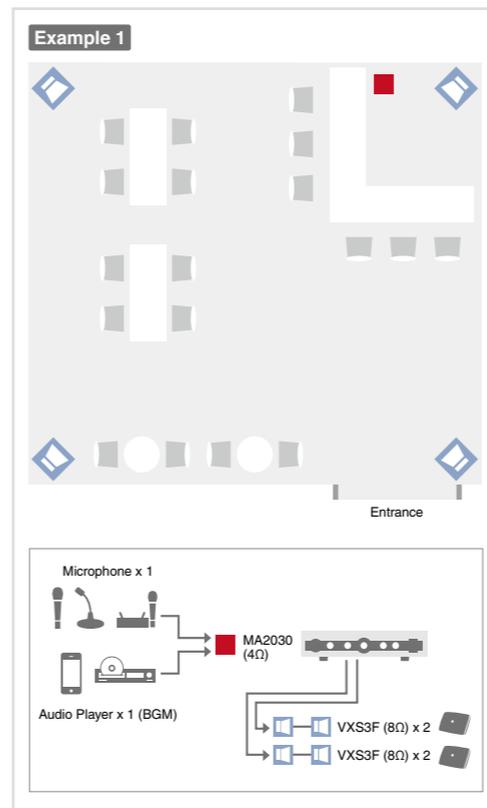


FEATURES

	MA2030	PA2030	MA2120	PA2120
Easy setup and a user-friendly interface	●	●	●	●
Highly-efficient Class-D amplifier	●	●	●	●
Certified with ENERGY STAR			●	●
Certified with Yamaha Eco Products	●	●	●	●
Switchable for Lo-Z and Hi-Z speaker systems	●	●	●	●
Output Power: Lo-Z	30W x 2 @3Ω / 4Ω		120W x 2 @4Ω 100W x 2 @3Ω / 8Ω	
Output Power: Hi-Z	60W x 1 @70V / 100V		120W x 2 @70V / 100V 200W x 1 @70V / 100V	
Flexible inputs	2 mic inputs, 3 stereo inputs	1 stereo/2 mono line inputs	6 mic/line inputs & 2 stereo inputs	1 stereo/2 mono line inputs
Useful DSP functions for BGM application	●		●	
Useful DSP functions for MIC application	●	Priority Ducker, Leveler Feedback suppressor, HPF Compressor, Reverb/Echo	●	
Built-in stereo source EQ	●		●	
Built-in output EQ			●	●
Built-in speaker EQ for Yamaha VXS/VXC Series speakers	●	●	●	●
Selectable HPF/LPF filters			●	●
Number of source & volume-controllable zone	1	1	2	2
Remote volume control from optional Yamaha DCP control panels	●		●	●
Compatible DCP	DCP1V4S	-	DCP1V4S, DCP4S, DCP4V4S	

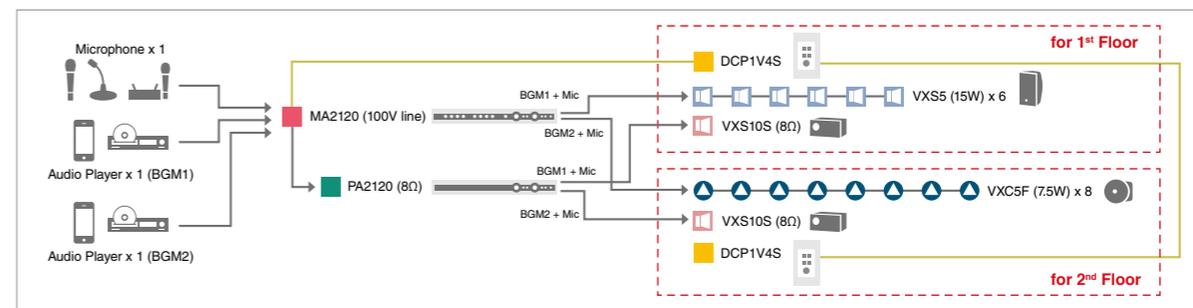
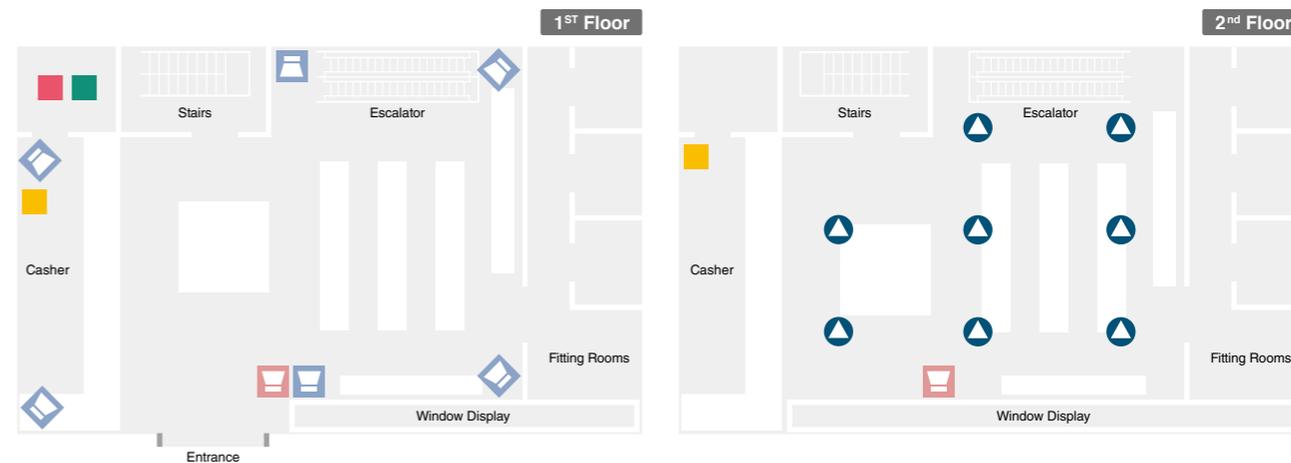


APPLICATION GUIDE 1: CAFE, BAR, RESTAURANT



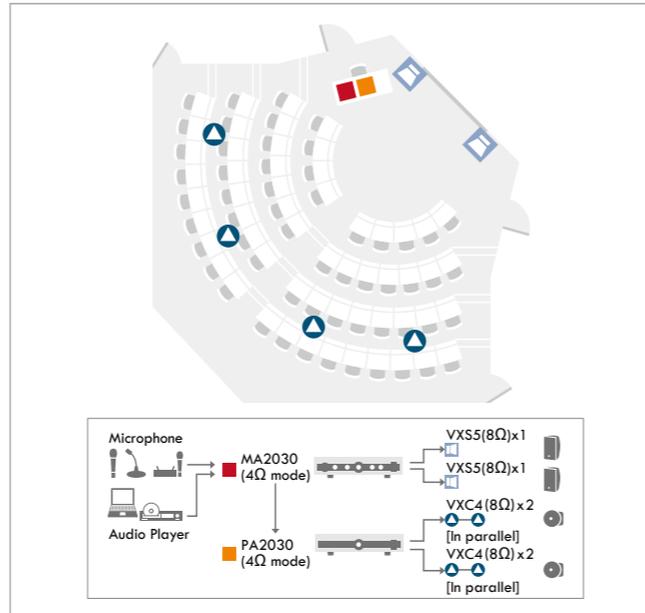
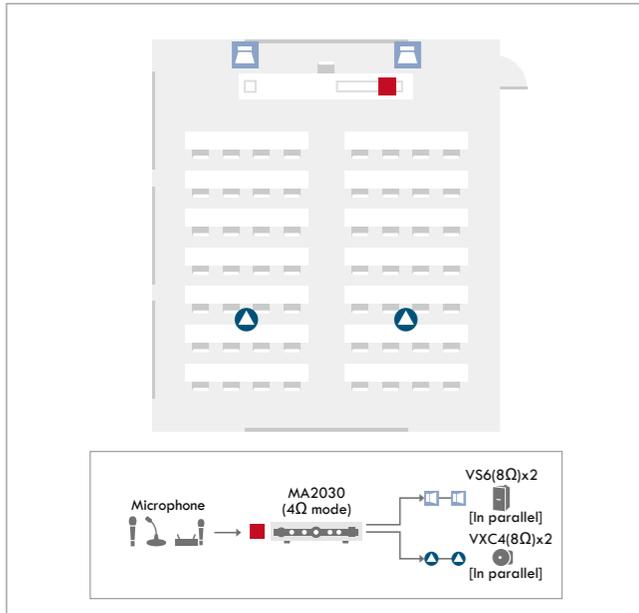


APPLICATION GUIDE 2: APPAREL STORE WITH TWO FLOORS





APPLICATION GUIDE 3: CLASSROOM, AUDITORIUM



POWER AMPLIFIER MA2030



Front



Rear

POWER AMPLIFIER PA2030



Front



Rear

POWER AMPLIFIER MA2120



Front



Rear

POWER AMPLIFIER PA2120



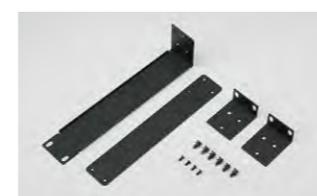
Front



Rear

OPTIONS

Rack-mount Accessory
RKH1 (for MA2030 and PA2030)



Digital Control Panel
DCP series



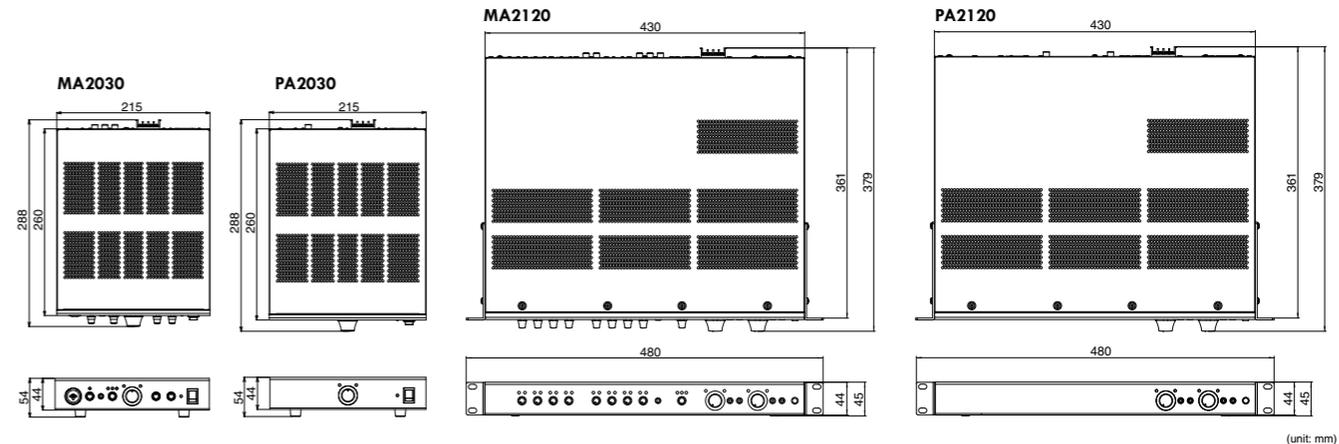
US standardized size models

EU standardized size models

GENERAL SPECIFICATIONS

Model	MA2030	PA2030	MA2120	PA2120	
Amplifier type (output circuitry)	Class D				
Output Power (1 kHz, THD+N=1%)	Lo-Z	30W x 2 @3Ω/4Ω	120W x 2 @4Ω, 100W x 2 @3Ω/8Ω		
	Hi-Z	60W x 1 @70V/100V	200W x 1 or 120W x 2 @70V/100V		
THD+N	Lo-Z	≤0.1% Stereo in to Speaker out, 1kHz@15W, 3Ω/4Ω	≤0.2% Line in to Speaker out, Half power @1kHz, 3Ω/4Ω/8Ω		
	Hi-Z	≤0.2% Stereo in (Line in) to Speaker out, 1kHz @30W, 70V/100V	≤0.2% Line in to Speaker out, Half Power @1kHz, 70V/100V, 120W/200W		
Mic input	MIC IN 1: XLR combo jack (balanced)	-	-	-	
	MIC IN 2: 3.5mm Euroblock 3-pin (balanced)	-	-	-	
Mic/Line input	-	-	Input 1-6: 3.5mm Euroblock 6-pin x 3 (balanced)	-	
Connectors	Line input	ST IN 1: Stereo mini phone (3.5mm, unbalanced)	LINE IN: Stereo RCA pin (unbalanced) or 3.5mm Euroblock 3-pin (balanced) x 2	Input 7-8: Stereo RCA pin (unbalanced) x 2	Input A-B: Mono RCA pin x 2 (unbalanced) or 3.5mm Euro block 6-pin (balanced) x 1
		ST IN 2 / ST IN 3: Stereo RCA pin (unbalanced)	-	Input 8: 3.5mm Stereo mini phone (unbalanced) x 1	-
	-	-	Input 5-6: RCA pin (MONO SUM, unbalanced) x 4	-	
Speaker output	Barrier strip x 2		Barrier strip x 2		
Output	LINE OUT/THRU OUT	LINE OUT: Stereo RCA pin (unbalanced)	LINE OUT: Mono RCA pin x2 (unbalanced)	THRU OUT: Mono RCA pin x2 (unbalanced)	
	Remote control	DCP	RJ-45, DCP1V4S	-	RJ-45, DCP1V4S / DCP4S / DCP4V4S
Remote control	Remote connector	-	-	3.5mm Euro block 3-pin x 1	
Power consumption (1.8 max power, AC100V, pink noise at all channels)	30W @3Ω		60W @4Ω		
AC Power Requirement	100V, 120V, 230V - 240V, 50Hz / 60Hz				
Cooling	Conventional cooling, bottom to up airflow				
Operating temperature	0°C to +40°C				
Installation condition	Rack mount ear	Optional RKH1 rack-mount accessory	Included		
	Condition	Leave more than 1U of spaces above and below the unit (*please refer to the owners manual for details)			
Dimension (W x H x D)	215 x 54 x 288mm (8.5" x 2.1" x 11.4") (incl. knobs and rubber feet)		480 x 45 x 379mm (18.9" x 1.8" x 14.9") (incl. knobs, rubber feet and rack-mounting ears)		
Net weight	1.8kg (4.0lbs)		4.9kg (10.8lbs)	4.8kg (10.6lbs)	

DIMENSIONS



SPEAKERS FOR COMMERCIAL INSTALLATIONS

*Not available in some regions



VXS Series



VXS Series F



VXS Series S



NS-AW Series*



VXC Series



VXC Series F



VS Series



NS-IC Series*