

SERIES SPEAKERS

General Loudspeaker Features

- Ideal for medium to large-scale installations.
- Uniform phase response throughout the entire series.
- A wide selection of dispersion characteristics for long-range, short range, and long/short range use.
- Standard U-bracket and array-frame hardware available for maximum installation convenience and efficiency.
- Switchable single-amp and bi-amp drive modes.
- Certified measurement and prediction EASE data, including polar plots, CAD files, and DXF data.

Cabinet Construction

- High strength premium 11-ply / 5/8 inch-thick Finland Birch enclosures on most models.
- Full dado joint construction combined with high quality adhesives minimizes cabinet vibrations.
- Most models have a 30° trapezoidal cabinet shape.
- IF2112/AS, IF2115/AS, IF2108, and IF2208 models feature a multi-angle design that allows them to be utilized as mains and floor monitors.

Grille and Brand Logo

- Heavy 14-gauge powder coated steel grilles.
- "Wrap-around" grille design minimizes cabinet edge refraction.
- 63% transparency for better clarity of sound.
- Aesthetically designed highly transparent foam for improved acoustic sound.
- Yamaha logo will be easy to rotate or remove.

Rigging

- Speaker enclosures are pre-fitted with M10 threaded inserts and are supplied with 4 forged eyebolts in a kit. Multiple rigging points allow for flexible rigging horizontally and vertically with Yamaha and 3rd party hardware.
- Optional "U" brackets are available in black and white.
- Rigging frame options available for horizontal and vertical arraying in black and white.

Connectors and Mode Select Switch

- Speakers include a barrier-strip and NL4 Neutrik® with parallel connections.
- Multi-angle cabinet models, IF2112/AS, IF2115/AS, IF2108, and IF2208, have two NL4 connectors with a barrier-strip for floor monitor applications.

- The selector switch is located on the back panel and allows for selection of bi-amp or (passive) single-amp drive mode on all 12" and 15" 2-way models.

- The selector switch on the IF3115 3-way models allows for selection of tri-amp or bi-amp modes.
- On the dual driver subwoofer models, IS1215 and IS1218, the selector switch allows for parallel or discrete modes.

Horns

- Horns are manufactured from fiber-reinforced plastic to minimize unwanted resonance.
- The entire line of speakers incorporates rotatable horns, when space consideration dictates the speaker's orientation.
- 12" and 15" 2-way models are available with the following horn coverage patterns: 60° x 40°, 90° x 50°, 90° x 90°, and asymmetric 60°~100° H X 60°V.
- IF3115 3-way models and the IH2000 2-way Mid/High frequency loudspeakers will incorporate 60° x 40° and 90° x 50° horns.
- 8" and 5" designs feature 90° x 60° horns.

Networks

- Networks are made with high-quality components.
 - Heavy-gauge wire inductors
 - Large film capacitors
 - 16-gauge internal wiring
- Advanced circuit board designs deliver unmatched sonic quality and reliability.

Drivers

- High frequency drivers feature one-piece titanium diaphragms formed to precision tolerances for high performance, endurance and superior sonic quality.
- Total Weather Proofing (TWP) coating on all 12", 15" and 18" woofers for improved durability and dampening.
- All 12" and 15" full range models utilize 4" voice coils in the woofers and 3" voice coils in the matching high frequency drivers.

Handles and Pole Mount Sockets

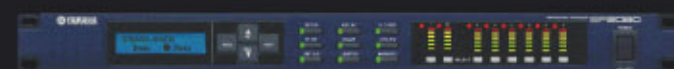
- Multi-angled models, IF2112/AS, IF2115/AS, IF2108, and IF2208, are equipped with side handles and pole-mount sockets for portability.

Finish

- All speakers are available in durable textured black and white paint. All speakers are "ready to paint" for custom colors.

* 3-way models utilize NL8 Neutrik connectors

INSTALLATION SERIES



The new Yamaha SP2060 Speaker Processor

With decades of experience and innovation in digital signal processing Yamaha now introduces the SP2060 to compliment the Installation Series Loudspeakers. Designed specifically for the Yamaha Installation Series it is also ideal for use with other types of loudspeakers. All the parameters you need to optimize your Installation Series Loudspeaker and subwoofer performance are available with the unsurpassed audio quality, flexibility, ease of use and reliability that are typical for Yamaha signal processors.

Targeted Specifications

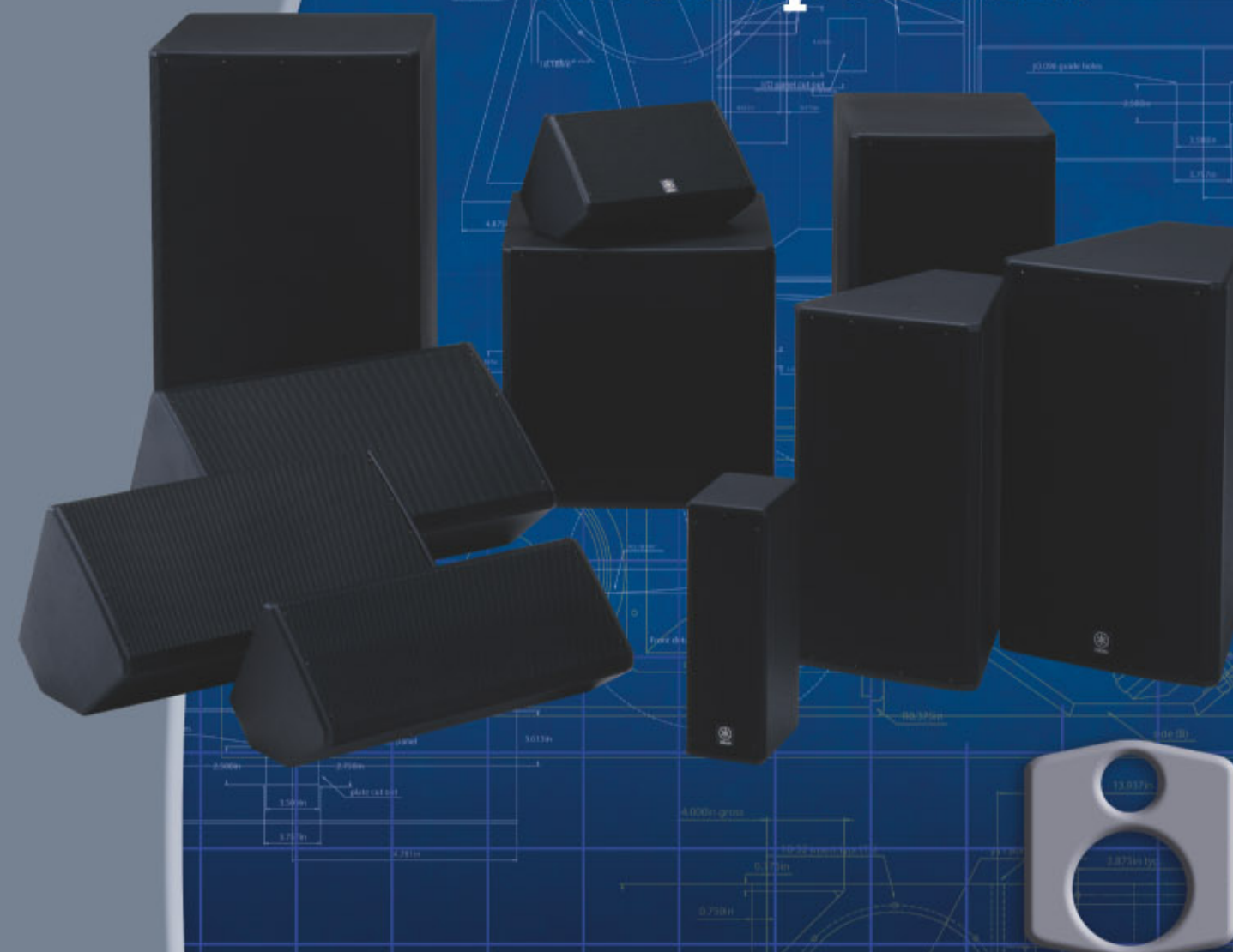
Internal Fs	48kHz, 96kHz	
External FS	44.1kHz -10% - 96kHz +6%	Via AES/EBU
Max. Input Level	+24dBu	
Input Gain	+6dB - -40dB 0.1dBstep	
Input Impedance	Greater than 10k Ω	
Max. Output Level	+24dBu	
Output Gain	+15dB ~ -40dB 0.1dB step	
Output Impedance	Less than 50 Ω	
Load Impedance	600 Ω	
Frequency Response	+1, -3 dB	20Hz-20kHz @ +4dBa @ into 600 Ω
THD	Less than 0.05%	20Hz-20kHz @ +14dBa @ into 600 Ω
Dynamic Range	Greater than 110dB	
Cross-talk	Less than 80dB	
Inputs	Analog L & R AES/EBU Digital	XLR x2 XLR
Outputs	Analog A-F	XLR x6
Communications	Ethernet	
Processing	Input Selector Input Gain Input Delay Input PEO Input Compressor Input APF (All Pass Filter) Crossover Output PEO Output Limiter Output Delay Output Polarity Output Routing Output Level	Digital/Analog, Stereo/Mono +6 ~ -40dB 0.1dBstep ~300msec, Stereo Link, Bypass 8band, Stereo Link, Bypass Threshold, Ratio, Attack, Decay, Release, Knee, Bypass Type A, B, Bypass 2x2,3,4, Fc, Slope, Filter type, Level 5band, Bypass Threshold, Bypass ~50msec, Bypass Normal/Invert 6x6 +15 ~ -40dB 0.1dB step



Yamaha Corporation of America
P.O. Box 6600, Buena Park, CA 90622-6600
For additional information, please call (714)522-9000
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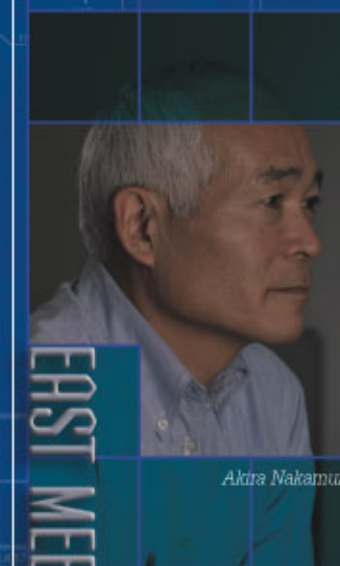
Yamaha Installation Series Loudspeakers



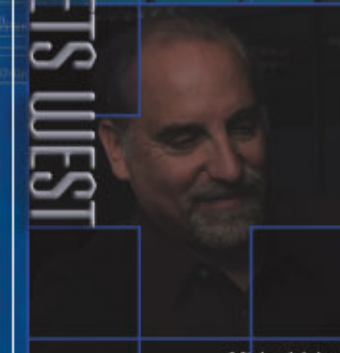
PRELIMINARY BROCHURE

INSTALLATION
SERIES

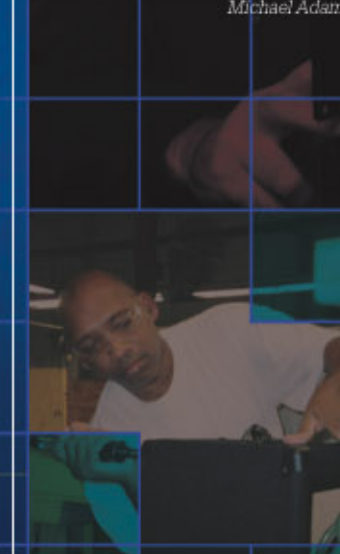
YAMAHA INSTALLATION



Akira Nakamura



Michael Adams



Yamaha Technician
assembling a speaker at the
Thomaston factory

The Installation Series speaker line was conceived and produced through a unique and powerful collaboration of two companies and two engineers. Audio Composite Engineering, also known as ACE, and their gifted Acoustic Engineer Michael Adams were retained by Yamaha to realize the installation series concept of Yamaha's legendary speaker engineer Akira Nakamura. For over 4 decades Mr. Nakamura had developed a wide variety of musical instruments, as well as hi-fi and commercial speakers, the most famous speaker being the legendary NS-10M studio monitor.

With over 3 decades of experience as a speaker designer and front of house & monitor mixing engineer, for the likes of Jimmy Buffett, Jackson Browne, Warren Zevon, Emmylou Harris and others, Michael Adams has developed speakers for major manufacturers and installs.

By combining into a single team, a synergy was created to deliver the most natural and accurate sounding loudspeaker line.

"Designing the Best When the East Meets the West"

Yamaha's Commitment

Built in the USA at Yamaha's Thomaston Georgia Factory, Yamaha applies the same precision and build quality as found in our fine pianos, which are also manufactured at the same facility.

We reinforce our consistent and outstanding build quality with a 5-year manufacturer's warranty. Our factory capacity and commitment to on time delivery means you won't be left hanging when your project is ready to go.

Yamaha's Installation Series

The Installation Series provides a wide range of models with seamlessly integrated hardware to meet the expectations of contractors and end-users for audio quality, ease of installation and system design.

The exceptional uniform phase response is key to the accurate sonic performance of the Installation Series.

Common phase response design throughout the line minimizes the reduction of sound level and unwanted coloration in the "overlapped" area when combining/arraying speakers.

The phase differential among all models is designed to be less than 90° at 2kHz.

This achieves a minimal variation in phase response in the off axis performance, and the over all effect on frequency response is held to a minimum, ensuring a consistent family sound of speakers.



System Type	3-Way Full-Range Loudspeaker		2-Way Mid-High Frequency Speaker		Low Frequency Speaker		2-Way Full-Range Loudspeaker		2-Way Full-Range Loudspeaker		2-Way Full-Range Loudspeaker		2-Way Full-Range Loudspeaker		2-Way Full-Range Loudspeaker		2-Way Full-Range Loudspeaker		2-Way Full-Range Loudspeaker		Subwoofer		Subwoofer		Subwoofer	
Model	IF3115(W)		IH2000(W)		IL1115(W)		IF2115(W)		IF2115/AS(W)		IF2112(W)		IF2112/AS(W)		IF2208(W)		IF2108(W)		IF2205(W)		IS1218(W)		IS1118(W)		IS1215(W)	
Specifications/Drive Mode	Bi-Amp Mode (MF/HF Passive)	Tri-Amp Mode	Passive Mode	Bi-Amp Mode		Passive	Bi-Amp	Passive	Bi-Amp	Passive	Bi-Amp	Passive	Bi-Amp	Passive	Bi-Amp	Passive	Bi-Amp	Passive	Bi-Amp	Passive	Bi-Amp	Parallel	Discrete	Parallel	Discrete	
Frequency Response(±3dB)*	TBD	TBD	TBD TBD	TBD	TBD	55 Hz-20k Hz (Bi-amp mode)		60 Hz-20k Hz (Bi-amp mode)		65 Hz-20k Hz (Bi-amp mode)		70 Hz-20k Hz (Bi-amp mode)		75 Hz-18k Hz		75 Hz-18k Hz		85 Hz-18k Hz		85 Hz-18k Hz		40 Hz-2.3k Hz		40 Hz-2.5k Hz		50 Hz-2k Hz
Frequency Range(-10dB)*	TBD	TBD	TBD TBD	TBD	TBD	45 Hz-20k Hz (Bi-amp mode)		45 Hz-20k Hz (Bi-amp mode)		50 Hz-20k Hz (Bi-amp mode)		50 Hz-20k Hz (Bi-amp mode)		55 Hz-19k Hz		55 Hz-19k Hz		65 Hz-19k Hz		65 Hz-19k Hz		33 Hz-3k Hz		33 Hz-3k Hz		40 Hz-2.5k Hz
Nominal Coverage(H x V, -6dB)	IF3115/64(W): 60° x 40°		IH2000/64(W): 60° x 40°		n/a		IF2115/64(W): 60° x 40°		IF2112/64(W): 60° x 40°		IF2112/64(W): 60° x 40°		IF2112/64(W): 60° x 40°		IF2108/64(W): 60° x 40°		IF2108/64(W): 60° x 40°		IF2205/64(W): 60° x 40°		IS1218/64(W): 60° x 40°		IS1118/64(W): 60° x 40°		IS1215/64(W): 60° x 40°	
Horns can be rotated	IF3115/95(W): 90° x 50°		IH2000/95(W): 90° x 50°		n/a		IF2115/95(W): 90° x 50°		IF2112/95(W): 90° x 50°		IF2112/95(W): 90° x 50°		IF2112/95(W): 90° x 50°		IF2108/95(W): 90° x 50°		IF2108/95(W): 90° x 50°		IF2205/95(W): 90° x 50°		IS1218/95(W): 90° x 50°		IS1118/95(W): 90° x 50°		IS1215/95(W): 90° x 50°	
Power Rating	LF : TBD MF/HF : TBD	LF : TBD MF : TBD HF : TBD	TBD	MF : TBD HF : TBD	TBD	600 W(EIA) LF : 700 W(AES) HF : 80 W(AES)		600 W(EIA) LF : 700 W(AES) HF : 80 W(AES)		600 W(EIA) LF : 700 W(AES) HF : 80 W(AES)		600 W(EIA) LF : 700 W(AES) HF : 80 W(AES)		200 W(EIA)		100 W(EIA)		100 W(EIA)		100 W(EIA)		1400 W(AES) 2x 700 W(AES)		700 W(AES)		1400 W(AES) 2x 700 W(AES)
Nominal Impedance	LF : 8 ohms MF/HF : 8 ohms	LF : 8 ohms MF : 8 ohms HF : 8 ohms	8 ohms	MF : 8 ohms HF : 8 ohms	8 ohms	8 ohms LF : 8 ohms HF : 8 ohms		8 ohms LF : 8 ohms HF : 8 ohms		8 ohms LF : 8 ohms HF : 8 ohms		8 ohms LF : 8 ohms HF : 8 ohms		8 ohms		8 ohms		8 ohms		8 ohms		4 ohms 2x 8 ohms		8 ohms		4 ohms 2x 8 ohms
Sensitivity(1W@1m)	LF : TBD MF/HF : TBD	LF : TBD MF : TBD HF : TBD	TBD	MF : TBD HF : TBD	TBD	97dB SPL LF : 98dB SPL HF : 110dB SPL		97dB SPL LF : 98dB SPL HF : 108dB SPL		96dB SPL LF : 96dB SPL HF : 110dB SPL		96dB SPL LF : 96dB SPL HF : 108dB SPL		95dB SPL		95dB SPL		95dB SPL		95dB SPL		99dB SPL 102dB SPL		96dB SPL		97dB SPL 100dB SPL
Calculated Peak SPL	LF : TBD MF/HF : TBD	LF : TBD MF : TBD HF : TBD	TBD	MF : TBD HF : TBD	TBD	131dB SPL LF : 132dB SPL HF : 135dB SPL		131dB SPL LF : 132dB SPL HF : 133dB SPL		130dB SPL LF : 130dB SPL HF : 133dB SPL		130dB SPL LF : 130dB SPL HF : 133dB SPL		129dB SPL		129dB SPL		129dB SPL		129dB SPL		136dB SPL 136dB SPL		136dB SPL		134dB SPL 134dB SPL
Calculated Continuous SPL	LF : TBD MF/HF : TBD	LF : TBD MF : TBD HF : TBD	TBD	MF : TBD HF : TBD	TBD	125dB SPL LF : 126dB SPL HF : 129dB SPL		125dB SPL LF : 126dB SPL HF : 127dB SPL		124dB SPL LF : 124dB SPL HF : 129dB SPL		124dB SPL LF : 124dB SPL HF : 127dB SPL		118dB SPL		115dB SPL		115dB SPL		115dB SPL		130dB SPL 130dB SPL		124dB SPL		128dB SPL 128dB SPL
Components																										
LF	15" Woofer, 4" Voice Coil		n/a		15" Woofer, 4" Voice Coil		15" Woofer, 4" Voice Coil		15" Woofer, 4" Voice Coil		12" Woofer, 4" Voice Coil		12" Woofer, 4" Voice Coil		2x 8" Woofer, 2" Voice Coil		8" Woofer, 2" Voice Coil		2x 5" Woofer, 1" Voice Coil		2x 18" Woofer, 4" Voice Coil		18" Woofer, 4" Voice Coil		2x 15" Woofer, 4" Voice Coil	
HF	Rotatable Constant Directivity Horn, 8" Woofer, 2" Voice Coil		Rotatable Constant Directivity Horn, 8" Woofer, 2" Voice Coil		n/a		Rotatable Constant Directivity Horn, 1.4" exit, 3" Diaphragm Compression Driver		Rotatable Constant Directivity Horn, 1.4" exit, 3" Voice Coil Compression Driver		Rotatable Constant Directivity Horn, 1.4" exit, 3" Voice Coil Compression Driver		Rotatable Constant Directivity Horn, 1.4" exit, 3" Voice Coil Compression Driver		Rotatable Constant Directivity Horn, 1.1" exit, 1.7" Voice Coil Compression Driver		Rotatable Constant Directivity Horn, 1.1" exit, 1.7" Voice Coil Compression Driver		Rotatable Constant Directivity Horn, 1.1" exit, 1" Voice Coil Compression Driver		n/a		n/a		n/a	
Enclosure																										
Dimensions (H x W x D)	TBD		TBD		TBD		30.3 x 17.6 x 21.0 in (770 x 448 x 534 mm)		30.3 x 17.6 x 14.7 in (770 x 448 x 374 mm)		27.4 x 14.9 x 17.9 in (695 x 378 x 454 mm)		27.4 x 14.9 x 13.1 in (695 x 378 x 333 mm)		26.5 x 11.1 x 9.8 in (673 x 283 x 250 mm)		17.6 x 11.1 x 9.8 in (448 x 283 x 250 mm)		5.8 x 18.0 x 8.7 in (146 x 457 x 220 mm)		39.6 x 24.0 x 27.9 in (1,006 x 610 x 709 mm)		23.3 x 24.0 x 27.9 in (591 x 610 x 709 mm)		34.8 x 17.6 x 24.0 in (883 x 448 x 610 mm)	
Weight	TBD		TBD		TBD		78 lbs (36 kg)		78 lbs (36 kg)		61 lbs (28kg)		61 lbs (28kg)		37 lbs (17 kg)		26 lbs (12 kg)		17 lbs (8 kg)		145 lbs (66 kg)		84 lbs (38 kg)		118 lbs (54 kg)	
Shape	30° Trapezoidal		30° Trapezoidal		TBD		30° Trapezoidal		Multi-Angle Wedge		30° Trapezoidal		Multi-Angle Wedge		Multi-angle wedge		Multi-angle wedge		Rectangular		Rectangular		Rectangular		Rectangular	
Material	TBD		TBD		30° Trapezoidal		5/8inch (16mm), 11-ply Finland Birch		5/8inch (16mm), 11-ply Finland Birch		5/8inch (16mm), 11-ply Finland Birch		5/8inch (16mm), 11-ply Finland Birch		5/8inch (16mm), 11-ply Finland Birch		5/8inch (16mm), 11-ply Finland Birch		1/2inch (12mm), 9-ply Finland Birch		3/4inch(19mm), 13-ply Finland Birch(Baffle and Divider Wall)		3/4inch(19mm), 13-ply Finland Birch(Baffle)		3/4inch(19mm), 13-ply Finland Birch(Baffle and Divider Wall)	
Finish	Textured Black (Textured White)		Textured Black (Textured White)		Textured Black (Textured White)		Textured Black (Textured White)		Textured Black (Textured White)		Textured Black (Textured White)		Textured Black (Textured White)		Textured Black (Textured White)		Textured Black (Textured White)		Textured Black (Textured White)		Textured Black (Textured White)		Textured Black (Textured White)		Textured Black (Textured White)	
Grill	14 gauge powder coated perforated steel backed with acoustically transparent reticulated foam		14 gauge powder coated perforated steel backed with acoustically transparent reticulated foam		14 gauge powder coated perforated steel backed with acoustically transparent reticulated foam		14 gauge powder coated perforated steel grilles, backed with acoustically transparent reticulated foam		14 gauge powder coated perforated steel grilles, backed with acoustically transparent reticulated foam		14 gauge powder coated perforated steel grilles, backed with acoustically transparent reticulated foam		14 gauge powder coated perforated steel grilles, backed with acoustically transparent reticulated foam		14 gauge powder coated perforated steel backed with acoustically transparent reticulated foam		14 gauge powder coated perforated steel backed with acoustically transparent reticulated foam		14 gauge powder coated perforated steel backed with acoustically transparent reticulated foam		14 gauge powder coated perforated steel backed with acoustically transparent reticulated foam		14 gauge powder coated perforated steel backed with acoustically transparent reticulated foam		14 gauge powder coated perforated steel backed with acoustically transparent reticulated foam	
Connectors	2x Neutric NL4 and barrier strip, wired in parallel		2x Neutric NL4 and barrier strip, wired in parallel		2x Neutric NL4 and barrier strip, wired in parallel		1x Neutric NL4 and barrier strip, wired in parallel		2x Neutric NL4 and barrier strip, wired in parallel		2x Neutric NL4 and barrier strip, wired in parallel		2x Neutric NL4 and barrier strip, wired in parallel		2x Neutric NL4 and barrier strip, wired in parallel		2x Neutric NL4 and barrier strip, wired in parallel		Barrier strip		1x Neutric NL4 and barrier strip, wired in parallel		1x Neutric NL4 and barrier strip, wired in parallel		1x Neutric NL4 and barrier strip, wired in parallel	
Suspension Points	15x M10		15x M10		13x M10		15x M10		16x M10		15x M10		16x M10		11x M10		11x M10		6x M8		12x M10		12x M10		12x M10	
Pole Mounts									One		One		One		One		One									
Handle									Two		Two		Two		One		One									
Optional Accessory																										
U-bracket			UB2000(W)		UB2000(W)		UB2115(W)		UB2115(W)		UB2112(W)		UB2112(W)		UB2208(W)		UB2108(W)		UB2205(W)							
Array Frame **	HAF2-3115(W), HAF3-3115(W), HAF3-S18(W), VAF2-3115(W)		HAF2-3115(W), HAF3-3115(W), HAF3-S18(W), VAF2-3115(W)		HAF2-3115(W), HAF3-3115(W), VAF2-3115(W)		HAF2-2115(W), HAF3-2115(W), VAF2-2115(W)		HAF2-2115(W), HAF3-2115(W), VAF2-2115(W)		HAF2-2112(W), HAF3-2112(W), VAF2-2112(W)		HAF2-2112(W), HAF3-2112(W), VAF2-2112(W)		HAF2-2108(W), HAF3-2108(W), VAF2-2108(W)		HAF2-2108(W), HAF3-2108(W), VAF2-2108(W)		HAF2-2205(W), HAF3-2205(W), VAF2-2205(W)		HAF2-2205(W), HAF3-2205(W), VAF2-2205(W)		HAF3-S18(W)		HAF3-S18(W)	

* With recommended YAMAHA DSP configuration. ** HAFX Horizontal Array Frame where X=Number of arrayed Loudspeakers. *** VAFX Vertical Array Frame where X=Number of arrayed Loudspeakers. **** HAF3-S18(W) Horizontal Array Frame for arraying 2, 15" 3-way loudspeakers or 2 Mid-High loudspeakers with 1 single or 1 dual 18" subwoofer. (W) denotes white version.