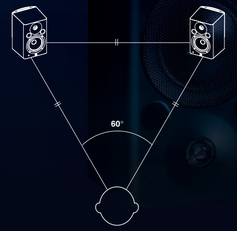


APPLICATIONS

Stereo Setting



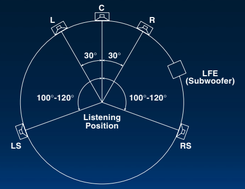
For both stereo and surround mixing your position in relation to the main front speakers — the "sweet spot" as it's often called — should be one apex of an equilateral triangle. In other words your distance from either speaker should be the same as the distance between the two speakers. The speakers should also be "toed in" to the corresponding 60° angle so that the drivers are aimed directly at the listening position. The height of the speakers should be such that the tweeters are roughly aligned with your ears (this is because high frequencies are the most directional).



Adding a Subwoofer

Even if you don't plan to set up a surround system, adding a subwoofer can be a real advantage for stereo mixing. If you can't hear the extreme low end there's not much you can do to make it sound great. The extended bass response provided by a good subwoofer can indeed help you to improve the overall quality of your mixes. The location of your subwoofer is not as critical as the main speakers, because frequencies below around 200 Hz — the region your subwoofer will be working in — aren't directional. To say it another way, the ear can't locate the source of such low frequencies, so in theory the subwoofer can be placed anywhere in the room. In reality it's a good idea to place the subwoofer on the floor somewhere between the main front speakers at the same distance from the listening position as the main speakers, but it doesn't have to be dead center.

Surround Set up



According to the ITU (International Telecommunications Union) specifications for 5.1 surround setup, the main front speakers are positioned in the 60° equilateral triangle relationship to the listening position described earlier, and the rear speakers should be located at the same distance from the listening position, but at an angle of between 100° and 120°, as shown in the diagram above. The center speaker should be placed precisely midway between the main front speakers, at the same distance from the listening position as the other speakers (which means that ideally it will be a bit behind the main left and right speakers).

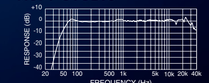
SPECIFICATIONS

MODEL			MSP7 STUDIO	MSP5 STUDIO	SW10 STUDIO
GENERAL	Type		Biamp 2-way Powered Speaker	Biamp 2-way Powered speaker	Powered subwoofer
	Crossover Frequency		2.5 kHz LF: 30 dB/oct, HF: 30 dB/oct	2.5 kHz LF: 24 dB/oct, HF: 24 dB/oct	—
	Overall Frequency Response		45 Hz - 40 kHz (-10 dB)	50 Hz - 40 kHz (-10 dB)	25 Hz - 150 Hz (-10 dB)
	Maximum Output Level		106 dB, 1 m on Axis	101 dB, 1 m on Axis	111 dB, 1 m on Axis
	Demensions (W x H x D)		218 x 330 x 235 mm	179 x 279 x 208 mm	328 x 459 x 476 mm
	Weight		12.2 kg	7.9 kg	26.5 kg
	Magnetic Shielding		Yes	Yes	Yes (None covered type)
SPEAKER SECTION	Components	LF	6.5" cone	5" cone	10" cone
		HF	1.0" Titanium dome	1.0" Titanium dome	—
	Enclosure	Type	Bass-Reflex	Bass-Reflex	Bass-Reflex
		Material	PP	PP	MDF
AMPLIFIER SECTION	Output Power *	LF	80 W THD = 0.05 %, RL = 4 Ω	40 W THD = 0.02 %, RL = 4 Ω	180 W f = 100 Hz, THD = 1 %, RL = 8 Ω
		HF	50 W THD = 0.05 %, RL = 6 Ω	27 W THD = 0.02 %, RL = 6 Ω	—
	S/N, IHF-A filter		≧99 dB, LEVEL = Max	≧94 dB, LEVEL = Max	≧100 dB, LEVEL = Max
	Input Sensitivity	XLR-3-31	+4 dBu, LEVEL = Center -6 dBu, LEVEL = Max	+4 dBu, LEVEL = Center -6 dBu, LEVEL = Max	+4 dBu, LEVEL = Center -6 dBu, LEVEL = Max
		PHONE	—	-10 dBu, LEVEL = Center -20 dBu, LEVEL = Max	—
	Input Connectors, Impedance		XLR-3-31 (balanced), 10 kΩ	XLR-3-31 (balanced), 10 kΩ PHONE (unbalanced), 10 kΩ	XLR-3-31 x 3 (balanced), 10 kΩ
	Output Connectors		—	—	XLR-3-32 x 3 (balanced), Parallel connection with Input
	Controls	LEVEL control	31 Positions Detent type VR (Min = -∞ Attenuation)	31 Positions Detent type VR (Min = -∞ Attenuation)	Center Click VR (Min = -∞ Attenuation)
		LOW CUT switch	FLAT/80 Hz (12 dB/oct)/ 100 Hz (12 dB/oct)	—	—
		HIGH TRIM	+1.5/0/-1.5 dB at 15 kHz	+1.5/0/-1.5 dB at 15 kHz	—
		LOW TRIM	+1.5/0/-1.5/-3 dB at 45 Hz	+1.5/0/-1.5/-3 dB at 60 Hz	—
		POWER switch	on/off	on/off	on/off
		PHASE switch	—	—	Normal/Reverse
		LPF control	—	—	40-120 Hz, 80 Hz at Center Click
	Indicators	LED	Green: Power On Red: Clipping	Green: Power On Red: Clipping	Green: Power On Red: Clipping
	Power Consumption		100 W	60 W	160 W

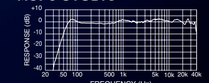
* These specifications apply to rated power supplies of 100, 120, 230 and 240 V.
* Specifications and appearance subject to change without notice.

Frequency Response

MSP7 STUDIO



MSP5 STUDIO

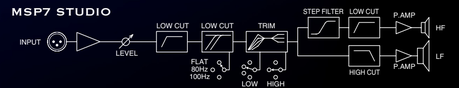


SW10 STUDIO



Block Diagram

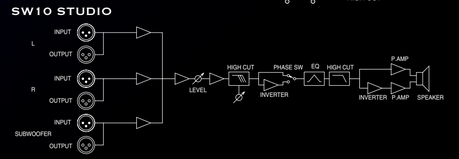
MSP7 STUDIO



MSP5 STUDIO



SW10 STUDIO



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POWERED MONITOR SPEAKER

MSP7 STUDIO
MSP5 STUDIO

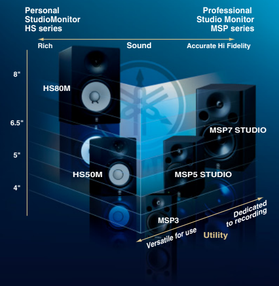
POWERED SUBWOOFER

SW10 STUDIO



Refined Monitoring Precision

Yamaha's "STUDIO" series monitors have been designed with serious monitoring in mind. Emphasis is on reference-quality reproduction precision that lets you hear sonic details, rather than flattering sound. They carry on in the tradition of the venerable NS10M STUDIO monitor speaker, which was the definitive near-field speaker monitor in an overwhelming majority of professional studios throughout the world for many years from the 80s onward. But technology has evolved dramatically right throughout the audio chain, and speakers must follow suit. The new top-of-the-line MSP7 STUDIO Powered Monitor Speaker is capable of delivering consistent quality and performance that you can rely on in modern production environments that handle any combination of digital and analog sources as well as stereo and surround formats.



MSP7 STUDIO
Powered Monitor Speaker

Powered for Uncompromised Quality

The trend towards choosing powered speakers for production monitoring is based on some very sound logic. By integrating and matching the power amplifiers and speakers, the relationship between them can be kept under perfect control for superior performance in the widest possible range of systems. Naturally the power amplifiers themselves are of the finest quality and, unlike component power amplifiers that must be designed for acceptable matching with the widest possible range of speakers, are designed and manufactured specifically to drive the system's woofer and tweeter in their specific enclosure. No matter where the MSP7 STUDIO monitors are used, and with what sources or other audio gear, you know that you're always receiving the benefits of a perfectly matched power amplifier and speaker system. You'll hear the difference. You'll also benefit from the convenience of not having to deal with external amplifiers and cabling.

Advanced Bi-amp Design

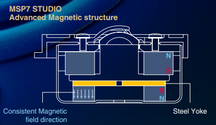
There are a number of advantages to multi-amp speaker setups, but the added cost and extra equipment required can make them impractical in many situations. With the MSP7 STUDIO everything you need is built-in — all you have to do is supply the line-level input. The 6.5 inch cone woofer is driven by an 80-watt power amplifier, while the 1 inch dome tweeter has its own 50-watt power amplifier. In the MSP7 STUDIO this particular power and driver combination results in the perfect balance between the low-mid and high frequency ranges. The frequency ranges are divided via a carefully designed electronic crossover before the power amplifier inputs, featuring steep 30-dB/octave roll-off curves in both the low- and high-pass filters. The steep roll-off minimizes inter-modulation between the frequency bands at the crossover point, achieving significantly smoother, cleaner crossover performance in the critical midrange. And the fact that the crossover is a line-level electronic design completely eliminates the loss, distortion, and sometimes severe inter-modulation that are almost unavoidable in conventional passive crossover networks driven by a single power amplifier.

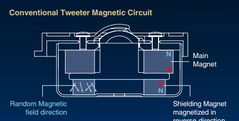
Details that Define Superior Performance

The MSP7 STUDIO woofer and tweeter units feature some important design innovations that contribute directly to improved sound quality. The 6.5 inch woofer, for example, features a specially treated polypropylene cone with low-damping rubber surrounds for exceptionally smooth response. Low-reflection high-rigidity die-cast magnesium baskets both maximize mechanical precision while minimizing unwanted coloration of the speaker's output. The 1 inch tweeters feature titanium domes that offer the perfect combination of light weight and rigidity for precise reproduction right up to 40 kHz. The tweeters have a powerful magnetic circuit that results in extremely fast response for crisp, natural transients, and are integrated with a waveguide that achieves uniform high frequency dispersion of 120 degrees. But precision manufacturing makes a huge contribution to performance as well as basic materials and design. The slightest eccentricity in the alignment of the tweeter domes and waveguides, for example, can seriously affect performance. So can the alignment of the coils and magnetic circuits. These are details that require a considerable investment of energy and resources to do properly, and they are exactly the details that make the MSP7 STUDIO the superior studio monitor that it is.

Magnetic Shielding That Won't Distort Your Sound

In today's production environment, which often includes computer and video displays as well as a range of magnetic media, magnetic shielding is essential. Conventional magnetic shielding schemes have the unfortunate side effect of distorting the magnetic flux of the speaker's critical magnetic circuit. The end result is distorted sound. This obstacle was effectively overcome in the MSP7 STUDIO with a new "advanced magnetic structure" that achieves effective shielding while maintaining the integrity of the speaker's magnetic circuit for significantly lower distortion as well as an improved definition.



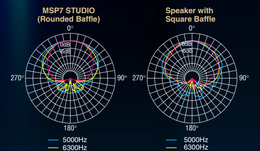




One-piece Molded Enclosure with Rounded Baffle

Wood can be good, but synthetic materials have advanced to the point where they offer some overwhelming advantages. In addition to the fact that enclosures materials can be created with ideal density and resonance characteristics, they can be molded to almost any shape with precise tolerances. Where wood cabinets have glued joints that interrupt the continuity of the enclosure, the thick-walled MSP7 STUDIO cabinet is molded in one piece, resulting in smooth acoustic transfer throughout the entire enclosure for superior reproduction precision. One-piece molding also makes it possible to produce the large-radius rounded baffle corners that help to maintain a natural wavefront and minimize diffraction for a smoother, more uniform polar response, as shown in the accompanying plots. Internal tweeter mounting also boosts high-frequency performance by eliminating spurious resonance from the tweeter frame.

Polar Pattern



Internal vs. External Tweeter Mounting



Connectors and Controls

The MSP7 STUDIO features a balanced XLR-type connector for input. This provides direct compatibility with professional gear and allows the use of balanced lines for maximum audio quality even where long cable runs are required. Rear-panel controls include a continuous input sensitivity control, and trim switches that enable you to adjust the bass and treble in four and three positions, respectively (+1.5 dB/0 dB/-1.5 dB/-3 dB at 50 Hz and +1.5 dB/0 dB/-1.5 dB at 10 kHz), so that the system's response to be quickly matched to the room. There's also a low cut (FLAT, 80 Hz, 100 Hz) switch that is useful when the MSP7 STUDIO is used with the SW10 STUDIO subwoofer. The AC power cord is removable for easy transportation and setup.

Rear Panel



Refined Looks for Refined Sound

The MSP7 STUDIO features a refined appearance that is a perfect match for its outstanding monitor performance. It is in fact "functional beauty" that results from an uncompromising approach to reproduction quality. The elegant rounded baffle has been primarily designed for superior dispersion characteristics, and is visually balanced by a high-efficiency rounded heat sink on the rear panel. The integral wave-guide horn also contributes to outstanding sound while adding to the speaker's visual appeal. Some speakers are designed to look good. The MSP7 STUDIO has been designed throughout for superior sound, and looks great as a result.



MSP5 STUDIO
Powered Monitor Speaker

Like the larger MSP7 STUDIO, the MSP5 STUDIO is a two-way bi-amplified bass-reflex system that delivers outstanding monitoring precision for digital or analog production in stereo or surround formats. The more compact dimensions of the MSP5 STUDIO make it an ideal choice for smaller project studios and DAW based production systems. The MSP5 STUDIO features a 5 inch cone woofer driven by a 40-watt amplifier and a 1 inch dome tweeter driven by a 27-watt amplifier. Other than woofer size, enclosure size, and amplifier power, the MSP5 STUDIO takes advantage of the same advanced materials and design technology that are behind the extraordinary performance of the MSP7 STUDIO. The woofer and titanium-dome tweeter feature advanced magnetic structures that achieve exceptionally low distortion, and the tweeter works with a unique waveguide horn that achieves broad, uniform high frequency dispersion over 120 degrees for optimum balance regardless of listening position. Advanced driver and enclosure design — including the low-diffraction rounded baffle — also ensure smooth, uniform dispersion across the system's full reproduction range. Flat frequency response out to 40 kHz makes the MSP5 STUDIO great for mastering, where high sample and bit rates are the norm.

Magnetically Shielded Enclosures

Along with their compact size and excellent performance, full magnetic shielding allows the MSP5 STUDIO speakers to be positioned near all types of audio, video, and computer equipment without sound degradation or negative effects on surrounding equipment.



Rear Panel



Professional Connectivity

The MSP5 STUDIO has a balanced XLR-type input for direct compatibility with professional equipment. Balanced lines are ideal if the speakers are to be placed at the end of long cable runs which, if unbalanced, might be susceptible to hum and induced noise. The MSP5 STUDIO also offers an unbalanced 1/4" phone jack connector.

Trim Switches for Easy Room Matching

The MSP5 STUDIO is equipped with four position low and three position high trim switches that allow the system's response to be optimized for a wide range of acoustic environments.





SW10 STUDIO
Powered Subwoofer

The SW10 STUDIO subwoofer has been designed specifically for optimum matching with the MSP series powered monitor speakers. Combined with MSP7 STUDIO or MSP5 STUDIO speakers in a stereo of surround system it can provide a seamlessly extended low end for accurate ultra wide range monitoring. A comprehensive selection of inputs and outputs as well as a phase switch and continuous high-cut and level controls make it easy to achieve optimum performance in any room and system.

Whether you're simply mixing basic stereo programs or authoring DVD audio in full surround, MSP STUDIO series speakers plus an SW10 STUDIO will give you the ultimate monitoring experience.

Rear Panel

