



The Dramatically Different  
**Subwoofers**  
YST-SW800/YST-SW320

Advanced YST and QD-Bass Subwoofers.  
High Power and Superb Bass Clarity.

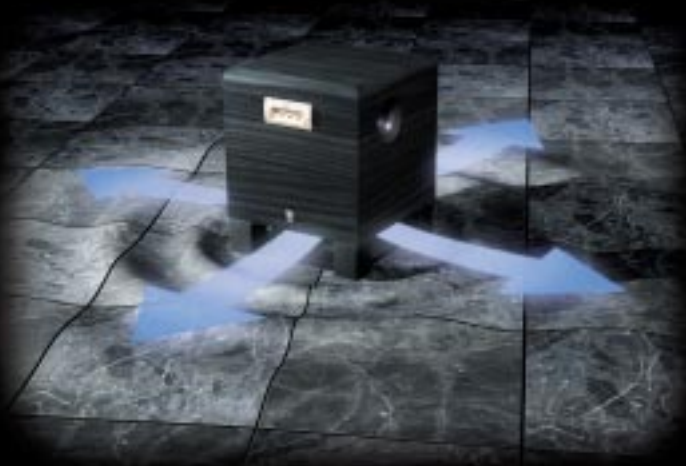
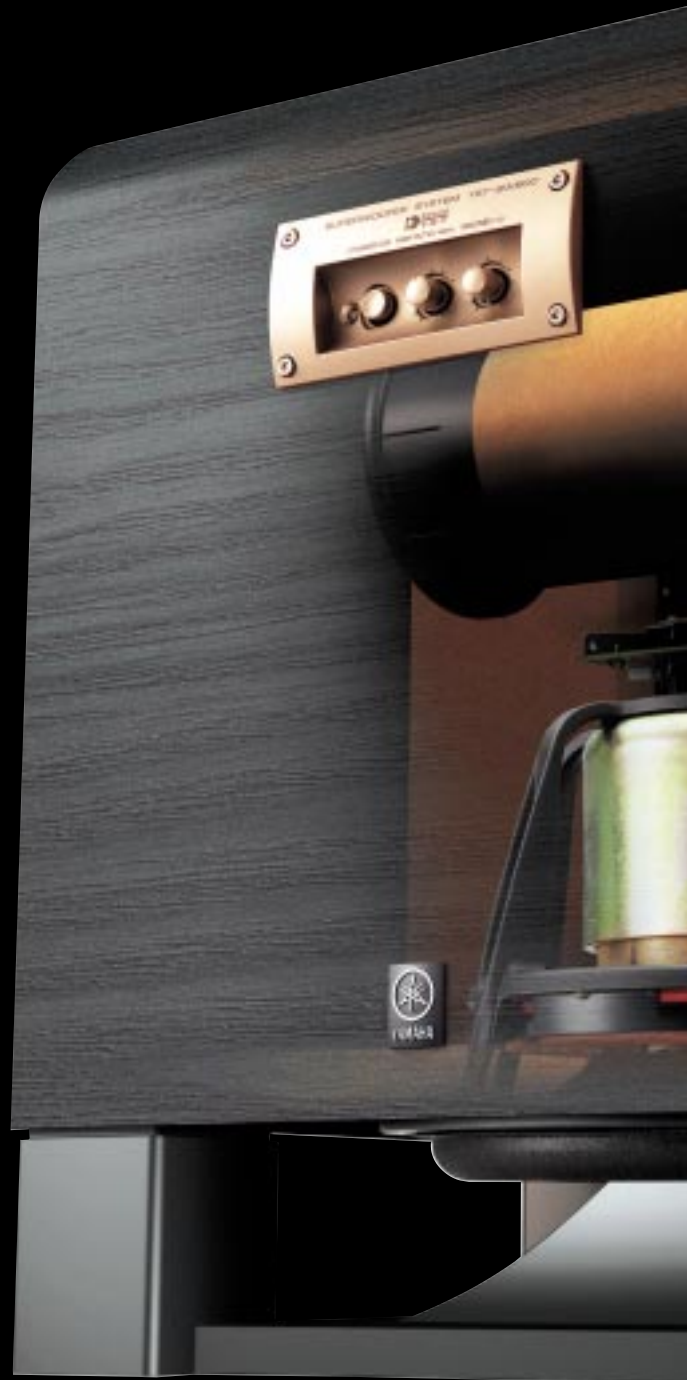


# The Latest Advance in the Audio Reproduction Excellence

Yamaha has a tradition of excellence in creating fine sound that goes back more than a century to when we made our first reed organs. Today, we combine extensive expertise in both sound production (musical instruments) and reproduction (audio and acoustics), making us uniquely capable of creating innovative products to enrich people's lives.

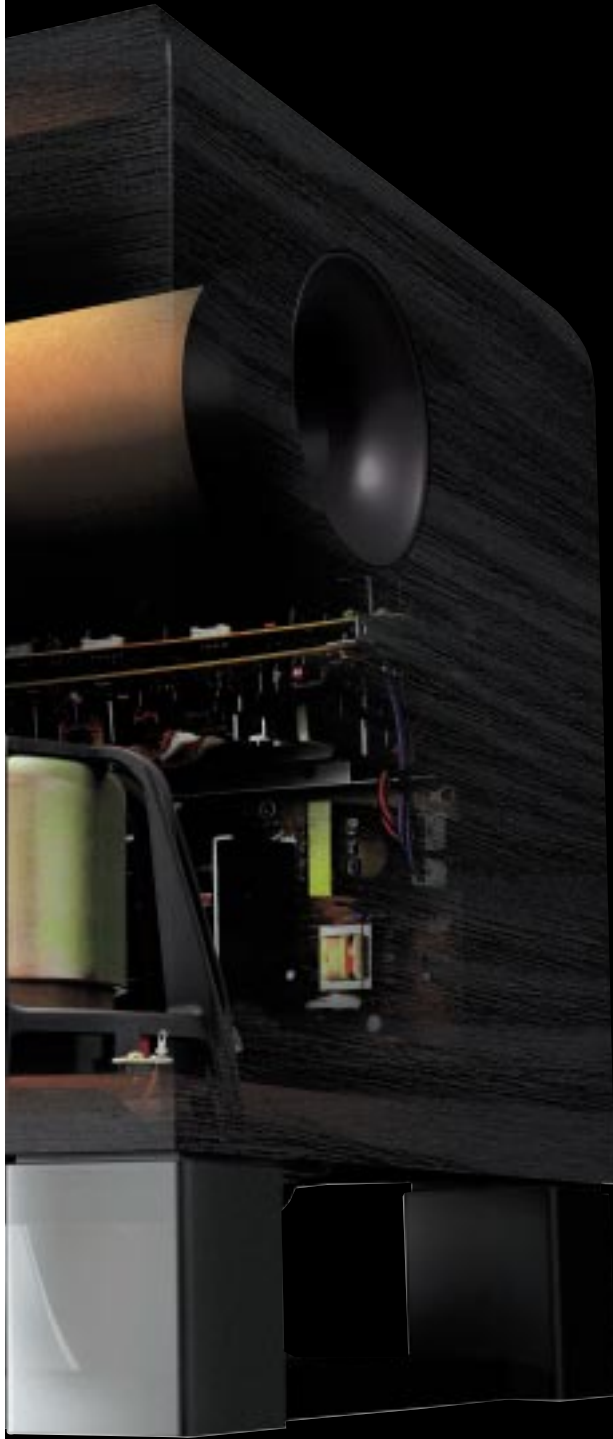
As the world's leading musical instrument manufacturer, we use our acoustic craftsmanship to develop a wide range of superior products. Our wide-ranging capabilities, including woodworking and metallurgical expertise, are put to good use in the creation of audio speakers.

Having established our preeminence in the audio field with legendary products like the NS-1000M monitor speakers, we are now further expanding home entertainment possibilities with an exciting new range of products, of which the YST-SW800 and YST-SW320 Subwoofers are outstanding examples.



# The Dramatically D

# Yamaha Tradition of excellence.



## Subwoofers for the Digital Era

Now that audio and video have largely moved to digital formats, the demands on speaker systems are greater than ever. The latest home theater systems, in particular, not only use high-performance DVD players, but also exploit the merits of advanced sound processing formats like Dolby Digital and DTS Digital Surround. Full audio enjoyment of these digital sources requires deep, clear bass response. This is especially true with 5.1 (6.1)-channel sound, because the sixth channel is dedicated to the bass frequencies. That means you not only need a subwoofer, but a subwoofer capable of handling extremely low frequencies and high power levels, as well as accurately reproducing the high quality digital sound. Your best choice? The YST-SW800 and YST-SW320 Subwoofers.



**YST-SW800**



**YST-SW320**

# fferent Subwoofers

# Innovative Design and Technology

## Impressive Subwoofer Performance.

### 25mm (1") MDF Cabinet

The beautifully finished cabinet uses ultra-thick (25mm; 1") medium density fiberboard for minimum resonance.

### Advanced YST

A unique system in which the speaker and amplifier work together to cancel out impedance so the speaker unit has a perfectly linear motion.

The YST-SW800 and YST-SW320 use Yamaha's Advanced YST, as well as brand new technologies such as QD-Bass to deliver exceptionally crisp, clean, powerful bass. They have extremely efficient, high-power amplifiers built in, and use extra-long stroke, drivers that provide outstanding power with low distortion. The YST-SW800 also introduces new power supply technology and a driver featuring a Dual-Bias system with a 100mm (4") diameter voice coil for the ultimate in power and performance. But whichever Yamaha subwoofer you choose, you'll get dynamic bass that will bring out the full potential of your digital music and movie sources.



### Extra-Long Stroke Drivers

Extra-long stroke, pure spruce multi-range drivers provide outstanding power with low distortion.

### High Power Amplifier

The YST-SW800 amplifier is extremely efficient and features an entirely new type of power supply with superior load characteristics, minimal noise, higher efficiency and greater stability.

### QD-Bass Technology

QD-Bass (Quatre Dispersion Bass) technology uses down-firing drivers with square, pyramid-shaped reflective plates to radiate the sound efficiently in four horizontal directions.



QD-Bass Technology

## QD-Bass

### QD-Bass Technology

QD-Bass (Quatre Dispersion Bass) technology uses down-firing drivers with square, pyramid-shaped reflective plates to radiate the sound efficiently in four horizontal directions. The reflective plates (not used in competitors' down-firing subwoofers) negate any effects caused by the floor surface and reduce resonance between sound waves reflected from the floor and the unit. Also, most other systems use circular cones, but by radiating in four directions to avoid the legs of the cabinet, QD-Bass reduces turbulence caused by reflection from the legs. Changing the height of the square pyramid varies the acoustic load, permitting relatively simple

# Results in Truly

high-cut adjustment and improved bandpass properties.

The QD-Bass system provides extraordinary power and smooth frequency response from an extremely compact unit. It also allows greater freedom of placement, since the sound radiates with equal effectiveness in all directions.

## High-Efficiency Power Amplifier and Power Supply

The YST-SW800 and YST-SW320 deliver high power outputs at deep bass levels, with excellent stability and low power consumption, even with their compact cabinets. This is made possible by highly efficient power amplifier technology and, in the YST-SW800, a new power supply.

The power amplifier achieves superior conversion efficiency by supplying maximum power (minimizing power loss) from the power transistors according to the output level. It delivers stable power output with high efficiency while minimizing power consumption and heat production. It does not require an output filter coil, resulting in extremely low noise and distortion. High speed transient response is also excellent.

The YST-SW800 also uses a new power supply that features superior load characteristics, minimal noise, higher efficiency and greater stability. Switching power supplies, commonly used in audio and other consumer products, are small and efficient, but suffer from noise problems, requiring additional components to solve. This power supply, however, holds the voltage and current levels to zero while



Efficient Power Amplifier and Power Supply

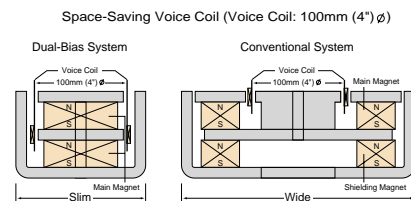


YST-SW800 Rear Panel

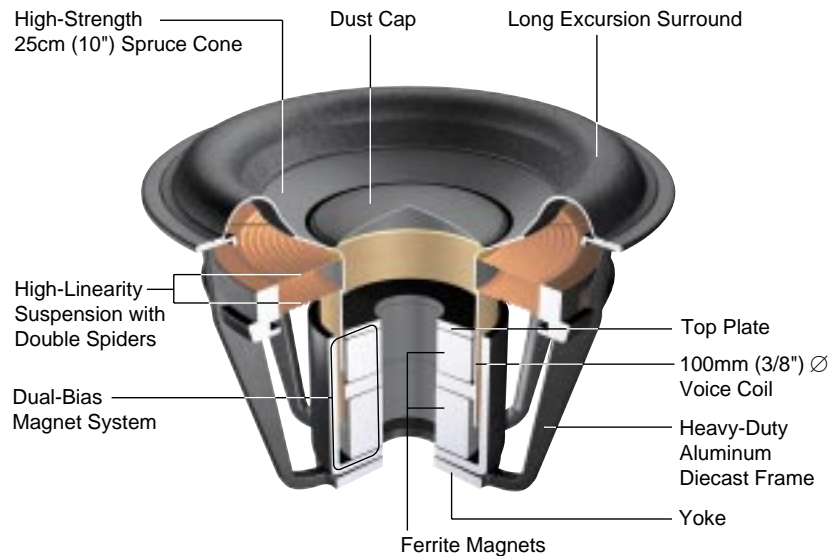
the device turns on and off. This reduces noise to 1/30 of conventional switching power supplies. Power loss during switching is also reduced, enabling an incredibly high power conversion efficiency. Other advantages of this power supply include superb stability against power load fluctuations, large capacity, low impedance and silent operation.

## Extra-Long Stroke, Pure Spruce Dual-Bias Drivers

These new drivers provide outstanding power with low distortion and are superior to conventional drivers for a number of reasons. Due to the use of a vertically aligned, dual magnetic circuit structure with 100mm (4") diameter voice coils, they



## Extra-Long Stroke Driver Construction



are able to handle extremely high input power in a compact unit, with low radial distortion. Additionally, the vertically symmetrical gap magnetic flux density distribution reduces secondary (asymmetrical) distortion.

Double spider construction also aids in handling high bass inputs without cone deformation. And the strong diecast frame firmly anchors the entire body including the magnetic circuit, guaranteeing a structure that will not fail under powerful forces.



## Advanced YST

Advanced Yamaha Active Servo Technology (Advanced YST) is a unique system in which the speaker and amplifier work together to cancel out impedance so the speaker unit has a perfectly linear motion. Advanced YST helps to ensure the highest levels of sound pressure and overall performance.



YST-SW800 Extra-Long Stroke

# Five Ways to Enjoy the Power and of Yamaha Bass.



## YST-SW800

Digital Pro Series Subwoofer



This subwoofer is the best that Yamaha has to offer. New design, new technology, and a new dimension of power bass performance. Featuring QD-Bass technology and Advanced YST, it also introduces a new Dual-Bias driver and a new power supply. Experience bass down to 18Hz with up to 1,000W of power: awesome!



## YST-SW320

Digital Pro Series Subwoofer



Another powerful demonstration of the advantages of QD-Bass technology. The YST-SW320 disperses 250W of pure bass power in four directions from its down-firing drivers. The 25cm (10") driver has an extra-long stroke design for greater stability and durability. Advanced YST adds to the outstanding performance.

Subwoofers	YST-SW800	YST-SW320	YST-SW160	YST-SW90	YST-SW45
Advanced Yamaha Active Servo Technology	Yes (Advanced YST)	Yes (Advanced YST)	Yes (Advanced YST)	Yes (Advanced YST)	Yes (Advanced YST)
QD-Bass (Quatre Dispersion Bass) Technology	Yes	Yes			
High-Efficiency Power Amplifier	Yes	Yes			
High-Efficiency Power Supply	Yes				
Drivers	25cm (10") multi-range, extra-long stroke design with dual-bias system	25cm (10") multi-range, extra-long stroke design	Dual 20cm (8") multi-range	20cm (8") multi-range	20cm (8") multi-range
Magnetic Shielding	Yes	Yes	Yes	Yes	Yes
High Cut Filter (Continuously Variable Control)	40-140 Hz	40-140 Hz	40-140 Hz	50-150 Hz	50-150 Hz
Phase Control (Normal or Reverse)	Yes	Yes	Yes	Yes	
Auto Standby	Yes	Yes	Yes	Yes	Yes
BASS (Bass Action Selector System)	Yes	Yes	Yes		
Two Input Connections (Speaker or Line Level)	Yes	Yes	Yes	Yes	Yes
2-Way Binding-Post Speaker Terminals	Yes	Yes	Yes	Yes	Yes
Output Power	1,000 W	250 W	150 W	100 W	70 W
Frequency Response	18-160 Hz (-10 dB)	20-160 Hz (-10 dB)	20-160 Hz (-10 dB)	23-170 Hz (-10 dB)	30-200 Hz (-10 dB)
Dimensions (W x H x D)	390 x 482 x 420 mm	340 x 432 x 370 mm	235 x 602 x 463 mm	235 x 485 x 409 mm	235 x 365 x 318 mm
	15-3/8" x 19" x 16-9/16"	13-3/8" x 17" x 14-9/16"	9-1/4" x 23-11/16" x 18-1/4"	9-1/4" x 19-1/8" x 16-1/8"	9-1/4" x 14-3/8" x 12-1/2"
Weight	24 kg; 52.9 lbs.	17 kg; 37.5 lbs.	20 kg; 44.9 lbs.	14 kg; 30.9 lbs.	9 kg; 19.8 lbs.

# recision



## YST-SW160

Digital Home Theater Subwoofer



With dual 20cm (8") drivers, Advanced YST and a 150W high power amplifier, this subwoofer is capable of delivering a powerful punch. There's a BASS (Bass Action Selection System) mode for automatic adjustment of frequency response, Phase Control, Auto Standby and a High Cut Filter.



## YST-SW90

Digital Home Theater Subwoofer



An all-discrete 100W high power amplifier and the highly efficient Advanced YST system give this subwoofer exceptional performance capabilities. A Continuously Variable High Cut Filter ensures best matching with room conditions and other speakers. Plus Auto Standby and more in a slim design.



## YST-SW45

Digital Home Theater Subwoofer



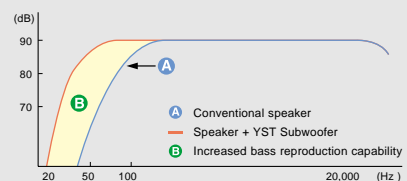
Using the Advanced YST system to deliver deep bass with 70 watts of power from a compact body, the YST-SW45 provides tremendous value. It also offers useful features like Continuously Variable High Cut Filter, Auto Standby and Two-Way Input. A great choice for anyone considering a dual subwoofer system.



Advanced Yamaha Active Servo Technology (Advanced YST) combines the excellent imaging and point source characteristics of small speakers with the superb bass response of large ones. The key to its success is a Helmholtz resonator—a small port in the speaker cabinet. The cabinet volume and port size are scaled to an exact ratio, which causes small amplitude input signals to be magnified without distortion. And because zero speaker impedance results in the best reproduction of

deep bass tones, the Advanced YST system includes a negative output impedance amplifier. By precisely matching it to the Helmholtz system, the combined amp-speaker impedance become zero. This enables the compact cabinet to reproduce bass frequencies with close to perfectly flat response. You're assured of getting the highest levels of sound pressure and overall performance.

To fully optimize bass performance in a high-end system, two subwoofers are recommended.





YAMAHA CORPORATION  
P.O. Box 1, Hamamatsu, Japan

**d-cinema**  
Yamaha takes cinema digital.

"d-cinema" is the slogan of Yamaha AV products and technology, reflecting our focus on digital technology and our leadership in creating and refining digital home theater.

For details please contact:

Visit us at our website: <http://www.yamaha.co.jp/>

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