

**S u b w o o f e r****YST-SW1500**

The YST-SW1500 uses Yamaha's Advanced YST as well as brand new technologies such as QD-Bass to deliver exceptionally crisp, clean, powerful bass all the way down to 16Hz. The YST-SW1500 has an extremely efficient, high-power amplifier built in, and uses an extra-long stroke, drivers that provide outstanding power with low distortion. The YST-SW1500 also introduces a Dual-Bias system with a 100mm (4") diameter voice coil for the ultimate in power and performance.



Ultra-Powerful Bass Gives Movies and Music  
a New Dimension of Excitement

# 1,000 Watts of Bass Power with Extreme Accuracy, Plus a Number of Advanced Control Functions.

- QD-Bass (Quatre Dispersion Bass) technology
- Advanced YST (Yamaha Active Servo Technology)
- Remote control unit
- Extremely efficient amplifier with 1,000 W power and highly efficient power supply technology
- 30cm (12") extra-long stroke driver with Dual-Bias System
- 16Hz ultra low frequency reproduction
- BASS (Bass Action Selection System)
- LFE (Low Frequency Effect) input
- HPF (High Pass Filter) output
- Low (1W) standby power consumption

## 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.

YST-SW1500  
Subwoofer

**QD-Bass**

**Advanced**  
**Y.S.T**

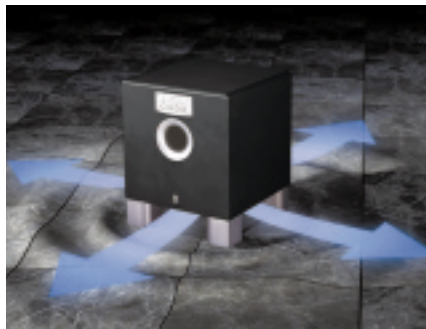


### QD-Bass Technology

## QD-Bass

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 high-cut adjustment and improved bandpass properties.



QD-Bass Technology

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.

### Advanced YST



Yamaha's patented Advanced Active Servo Technology (Advanced YST) generates incredible bass from small speaker enclosures. Advanced YST is the ideal method of combining amplifiers and speakers for maximum performance. This system's advanced negative impedance converters intelligently adjust the negative impedance generation as the speaker moves, creating a hard, rigid cone that prevents deep resonant waves from leaking out of the speaker cone. This means the full power of the waves is forced out through the air port, resulting in clear, powerful bass.

## Advanced YST Brings You Super Bass.

The effectiveness of Advanced YST (Yamaha Active Servo Technology) is based upon two principles: the Helmholtz Resonator and negative-impedance drive. Active Servo Processing speakers reproduce the bass frequencies through an "air woofer," which is a port or opening in the speaker cabinet. This port is used instead of, and performs the functions of, a conventional woofer. Low amplitude signals inside the cabinet can, due to the Helmholtz Resonance principle, be output from this port as high amplitude waves if the design is such that the size of the port and the volume of the cabinet are in a certain proportion. In addition, the wave amplitudes inside the cabinet must be precise and of sufficient power, in order to overcome the "load" presented by the air within the cabinet.

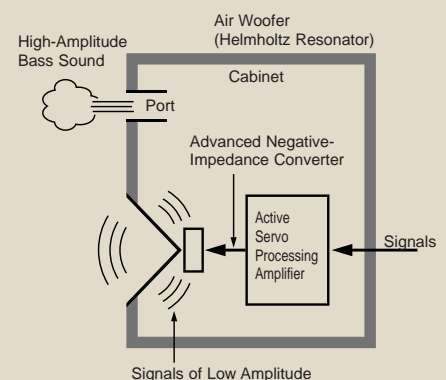
This is accomplished by employing an amplifier that is capable of supplying

special signals. If the electrical resistance of the voice coil could be reduced to zero, the movement of the speaker unit would become linear with respect to signal voltage. To achieve this, a special negative-impedance output drive amplifier is used, so the impedances cancel out and become zero.

By employing negative-impedance drive circuits, the amplifier is able to generate precise, low-amplitude low frequency waves with superior damping characteristics. These waves are then radiated from the cabinet opening as high amplitude signals. This amplifier/speaker combination is capable of reproducing an extremely wide range of frequencies with excellent sound quality and low distortion.

The Advanced YST takes this concept a step further by adopting Advanced Negative Impedance Converter (ANIC) circuits. These circuits allow the converter to dynamically

vary in order to select the optimum values for speaker impedance variation. With these new circuits, Advanced Yamaha Active Servo Technology provides more stable performance and higher sound pressure levels than the former system, resulting in more natural and energetic bass reproduction.



### 25mm (1") Real Wood Cabinet

The beautifully finished cabinet uses ultra-thick (25mm; 1") real wood for mini

### 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.

### High-Efficiency Power Amplifier and Power Supply

The YST-SW1500 delivers 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-SW1500, 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-SW1500 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 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



YST-SW1500 Extra-Long Stroke Driver



### High Power Amplifier

The YST-SW1500 amplifier is extremely efficient and features an entirely new type of power supply with superior load characteristics, minimal noise, higher efficiency and greater stability.



### Extra-Long Stroke Drivers

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

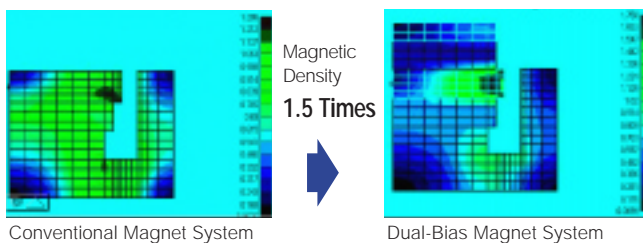
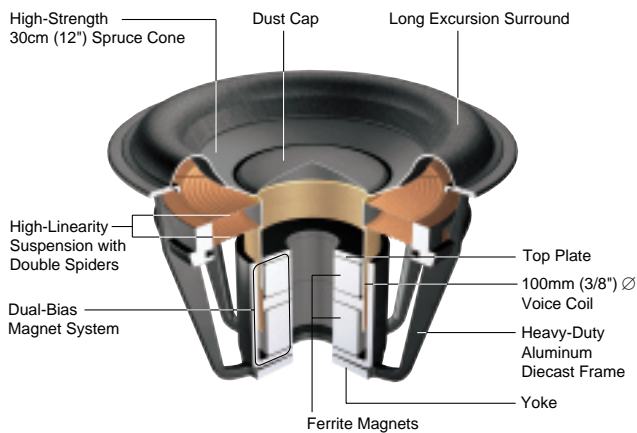


### QD-Bass Technology

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.

coils, they 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 second harmonic (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.

**Extra-Long Stroke Driver Construction**



**LFE Input and HPF Output**

The YST-SW1500 offers an LFE Input that causes the signal to bypass the low pass filter, providing more faithful reproduction without phase distortion. This is ideal for listening to movies. The HPF Output cuts the unnecessary low range signal component to the main speakers and ensures low inter-modulation distortion, making it preferable for music listening.

**BASS**

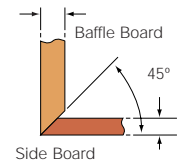
The BASS (Bass Action Selection System) function lets you switch between Movie and Music modes, providing the

optimum frequency response in each case.

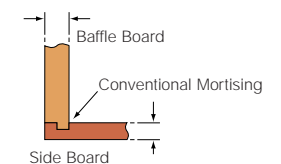
**Ultra-Thick Real Wood Cabinet**

Ultra-thick (25mm; 1") real wood cabinet for minimum resonance. The beautiful wood finish is a handsome addition to any room.

**Three-Way Mitered Construction**



**Conventional Mortised Construction**



**Three-Way Mitered Construction**

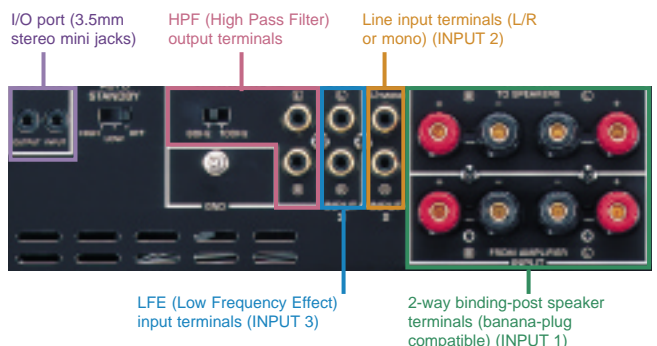
Yamaha speakers have employed 45° mitered-joint construction at the cabinet corners and baffle/body joints for many years. On the YST-SW1500, mitered construction is also used for the back panel, improving the tightness of the joints so that the entire cabinet behaves as a single rigid body. This reduces unwanted vibration and helps realize the three key elements of ideal home theater sound.

**Remote Control Unit**

This small, handy unit lets you control all the YST-SW1500 functions, including volume, high cut filter, BASS, phase and standby mode. It also allows you to memorize three groups of settings for quick recall.



**YST-SW1500 Versatile Connection**



## YST-SW1500 Notable Features

- Advanced YST (Yamaha Active Servo Technology)
- QD-Bass (Quatre Dispersion Bass) technology
- High 1,000 W output power
- Extremely efficient amplifier and highly efficient power supply
- 30cm (12") extra-long stroke driver with Dual-Bias System
- 16Hz ultra low frequency reproduction
- BASS (Bass Action Selection System)
- LFE (Low Frequency Effect) input for more faithful reproduction without phase distortion
- HPF (High Pass Filter, 80 Hz/100 Hz) output for music listening
- Remote control unit
- 2-way binding-post speaker terminals (banana-plug compatible)
- Magnetic shielding
- Auto Standby with sensitivity selector (HIGH, LOW and OFF)
- Phase control (normal or reverse)
- Two input connections: speaker level or line level
- Ultra-thick (25cm; 1") real wood cabinet with Yamaha Three-Way Mitered Construction for reduced additional resonance
- Low (1W) standby power consumption

## YST-SW1500 Main Specifications

Output Power	1,000 W (5 ohms)
Input Terminals	INPUT 1 (speaker terminals), INPUT 2 (pin jack), INPUT 2 (pin jack) and I/O PORT (3.5mm mini jack)
Input Sensitivity	INPUT 1 (SP) 1 V (50 Hz, 1 kW/5 ohms, L+R) INPUT 2 / INPUT 3 (PJ) 95 mV (50 Hz, 1 kW/5 ohms, L+R)
Input Impedance	INPUT 1 (SP) 2.2 k-ohms INPUT 2 / INPUT 3 (PJ) 12 k-ohms
Output Terminals	HPF (High Pass Filter) Out (pin jack) and I/O PORT (3.5mm mini jack)
Frequency Response	16-160 Hz
High Cut Filter	40-140 Hz (continuously variable)
Driver	30cm (12") extra-long stroke driver with Dual-Bias System
Standby Power Consumption	1 W
Dimensions (W x H x D)	420 x 511 x 448 mm 16-9/16" x 20-1/8" x 17-5/8"
Weight	29 kg; 63.9 lbs.

For details please contact:

- Dolby Digital and Double D are trademarks of Dolby Laboratories Corporation.
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