



XTZ 99 W12S

Active subwoofer

User's manual



Congratulations on your purchase of a XTZ Home Theatre Powered Subwoofer System!

When combined with surround audio/video electronics, you'll experience motion picture sound as it was originally meant to be. Now when you watch your favorite movie, you'll hear and feel the soundtrack surround you in the same way as created by the film's original sound engineers.

XTZ Home Theatre Speaker Systems are modular, so you can select only the components you need to enhance a current system or create a totally new one. The Powered Subwoofer Systems combines a 300-watt continuous power amplifier and a heavy-duty 12" woofer in a compact single system designed to perfectly enhance your Home Theatre System. It features phase switch, a power on indicator, both line-level and speaker inputs and a variable crossover control.

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About XTZ

Philosophy	Our reference and starting point is to recreate a natural sound, but also in respect to the fact that acoustics always is a matter of taste.	
XTZ goals	<p>Our main goal is provide the best value for the money.</p> <p>Our concept t:</p> <ul style="list-style-type: none">- There should be only one middlemen between manufacturer and customer- Cost effective production- Find the perfect technical compromise	
Contact	<p>Website: www.xtz.se Email: info@xtz.se</p> <p>General agent: FYNDBÖRSEN AB www.fyndborsen.se</p>	

Technical presentation

Cabinet design	<p>The cabinet is very lavishly fitted out and made of 25 mm MDF. It is equipped with a specially modelled bass reflex gateway to avoid blowing noise and to decrease the air resistance in the gateway.</p> <p>We have chosen 25 mm MDF to have a low own resonance. The cabinet is built with bars to make it even more stable.</p>	
The woofer driver	<p>The XTZ W12S is equipped with a powerful and well-sounding 12" woofer. The cone has an aluminium frame for maximal stiffness and has at the same time a low weight, which contributes to the high efficiency. Also the powerful magnet contributes to this.</p> <p>To gain a high power patience, we have chosen a larger diameter on the coil. The driver is equipped with rubber suspension for high strength, flexibility and to gain a longer peak-to-peak excursion.</p> <p>The diaphragm is one of the type "non pressed paper" which gives a very stiff yet light driver. The basket is founded in aluminium. This combination of a powerful magnet, light driver and stable suspension makes up for both enough power and high precision in the sound.</p>	
The amplifier / crossover	<p>We have equipped the XTZ W12S with a very powerful amplifier on 400 W and a big cooling flange for effective cooling. For professional (studio, PA etc) use, it is equipped with a balanced input. The terminal connectors are gold-plated and very solid.</p> <p>To achieve a high power and a long durability, the amplifier is built with a large ring-coil transformer, large electrolyte capacitors, and has MosFet transistors in the power amplifier.</p> <p>The active amplifier also provides a variety of possible adjustment possibilities, unable to obtain using a passive filter. This includes phase, frequency, high pass filtering, volume etc. By using these settings, the main amplifier is relieved and thus only takes care of the midrange and treble. Thus it works better and the risk of damages on it is lowered.</p>	

Preparation

Unpacking the subwoofer	Carefully unpack the speaker, and pay attention so you don't brake anything. If possible, save the carton box for future transportations. If there should be a damage on the loudspeaker, please contact your retailer.	
Accessories	4 bass plugs (found in the bass reflex gates) User's manual	

Practice of sound / Installation and placement tips

In which room do you achieve the best sound?	This chapter contains common information on loudspeaker placement and installation.	
	No matter how good the equipment is, in the wrong listening environment it will inevitably sound bad. There are some basic rules concerning a proper loudspeaker installation:	
Reflections	Carpets, curtains and soft furniture absorbs mid range and high frequency sound, and this is preferable. Big empty area, on the contrary, reflects it and produces a hard sound that may lead to a blurry dialogue. Apart from coloring the sound, also the perspective of the sound will deteriorate. Reflections in the room can roughly be compared to the reflections that yield ghost pictures on a TV screen.	
Amplification of bass frequencies	A loudspeaker that is placed near a wall, ceiling or floor will be amplified in the lower frequencies in a sometimes not desirable way (since it may lead to an indistinct sound recreation). This amplification becomes even more obvious if the loudspeaker is placed near a corner. Thus, for a sound as clear as possible, the loudspeaker should be placed at least 30 cm (about 12 inch) away from the wall.	
Furniture	Be aware that furniture may vibrate and thus create bad sound at loud bass.	
Room dimension	Quadratic rooms or rooms where the length is exactly twice as long as the width should be avoided, since they may create unwanted resonance.	
Placement of the subwoofer	<p>Since it is so hard to judge the direction of bass frequencies, the placement of the woofer is not that critical as for instance the placement of front loudspeakers. However, different placements <i>will</i> influence the sound. One basic rule is to place the subwoofer together with or near the front system (especially important if the front loudspeaker also recreates bass frequencies) as this will minimize the risk of phase eliminations in the room.</p> <p>Note: NEVER place the subwoofer near the wall, as this easily leads to unwanted reflections and thus a dirty sound.</p> <p>Never put the subwoofer inside a cabinet, the amplifier need to be cooled by circulating air.</p>	

Cables	<p>Try to keep them as short as possible. By its electrical parameters, a long conductor will have a bigger influence on the sound than a short one. It may also work as an antenna and thus receive various signals, that may become a constant noise in an active subwoofer.</p> <p>Make sure that all connections are clean and not oxidated. All connections should be mechanically stable, both power, signal and loudspeaker cables. Signal cables should be separated from other cables.</p>	
Finally:	<p>Please remember that good sound is a matter of taste, so you have to experiment to obtain it. We wish you the best luck!</p>	

Mounting

Mounting alternatives	<p>The XTZ 99 W12S is best placed standing on the floor.</p> <p>However it is fully possible to lay it down without affecting the sound.</p> <p>Driver and bass reflex gates should not be faced towards floor or wall, they need to "breathe" freely.</p>	<p>The loudspeaker should stand as stable as possible, at loud sound levels both the speaker and the surroundings may vibrate so heavy that it may move the speaker.</p>
Overload	<p>At high load during extensive time periods, there is always the risk of overloading the driver and amplifier.</p>	
The initial playing time	<p>It takes about 50 to 100 hour of initial playing time, for the driver to sound optimal. During this time, the speaker may be normally used.</p>	

Connections

Connect using the correct phase	Always connect using the correct phase, from the +-pole on the amplifier to the +-pole on the loudspeaker and corresponding for minus (-).	If you by accident connect the other way, there is no risk of damage. However, the sound will not be correct, especially in the lower frequencies.
Alternatives for connection	There are some different ways to connect a HiFi- or Multichannel amplifier / receiver.	Please note! Be sure to not connect the power cord until all signal connections are made.
Amplifiers with low level output to XTZ W12S Line In	Connect either a stereo or mono RCA lead to your output device (surround decoder, TV, stereo receiver, etc) depending on whether a stereo or mono output is provided. If stereo, connect both RCA plugs into the subwoofer's RCA jacks. If mono, connect the RCA plug into either of the input jacks. Then connect the power cord to your power outlet.	
Amplifiers without low level output	A regular 2-conductor-cable is coupled from the (front) speaker output on the amplifier to HIGH LEVEL IN (SPEAKER IN) on the XTZ 99 W12. From this very same terminal, a regular cable is coupled to the front speaker.	

Control Descriptions

	<p>By using the controls and the supplied bass plug, you can alter the sonic characteristics in a wide variety. This is a great aid in obtaining the optimal sound.</p>	<p>Sound is always a matter of time, so please take your time to find the sound to fit your personal taste.</p> <p>For further instructions on the controls and connections mentioned here, see the chapter Functional reference.</p>
VOLUME	<p>Controls volume level of subwoofer.</p>	<p>Be gentle on the volume knob, please remember that certain sound signals may contain a lot of energy.</p>
FREQUENCY	<p>Using this variable control, you can adjust the boundary frequency for the low pass filter from 50Hz to 150Hz. The steep is 18 dB/octave. You can hereby change the character of the woofer, depending on what you prefer (more or less deep) and matched to your other speakers.</p> <p>On modern amplifiers you commonly have the possibility to set the size of the loudspeakers (small / big etc). If you have small front speakers, you should set the size to small. Thus, they will recreate middle bass, mid-range and treble much better - leaving the deep bass tones alone to the subwoofer.</p>	
PHASE	<p>Variable control for 0-180 phase adjustment.</p> <p>The technical difference between these two extremes (0 and 180 degrees) corresponds to altering the poles of the cables (setting + to - and - to +)</p>	<p>In a normal installation, this should be set to 0. But it will have impact on the sonic characteristics, especially the co-operation with the front speakers.</p> <p>Please note that the difference between the lines is 18 degrees</p>

Room Tuning - Mechanical adjustment of the boundary frequency



By using the supplied bass plugs in the bass reflex gates, you can alter the lower boundary frequency on XTZ 99 W12S.

This makes it possible to alter the sonic characteristics of the woofer.

Since there are 4 bass reflex gates, you can have many different settings. The picture below shows 3 basic settings.

By altering the volume, phase and frequency you can do further adjustments on the sound.

1st mode - no bass plugs in the reflex gates

No plugs in the gates will provide a "quick" bass character especially suitable for larger rooms where the lower frequencies often are amplified by the room itself.

2nd mode - no plugs in the 2 large reflex gates, 2 plugs in the small reflex gates

This will provide a neutral, even and deep bass setting.

3rd mode - plugs in all the reflex gates

All plugs in the gates will provide a "deep" bass suitable for smaller rooms. The woofer now works like a closed gate.

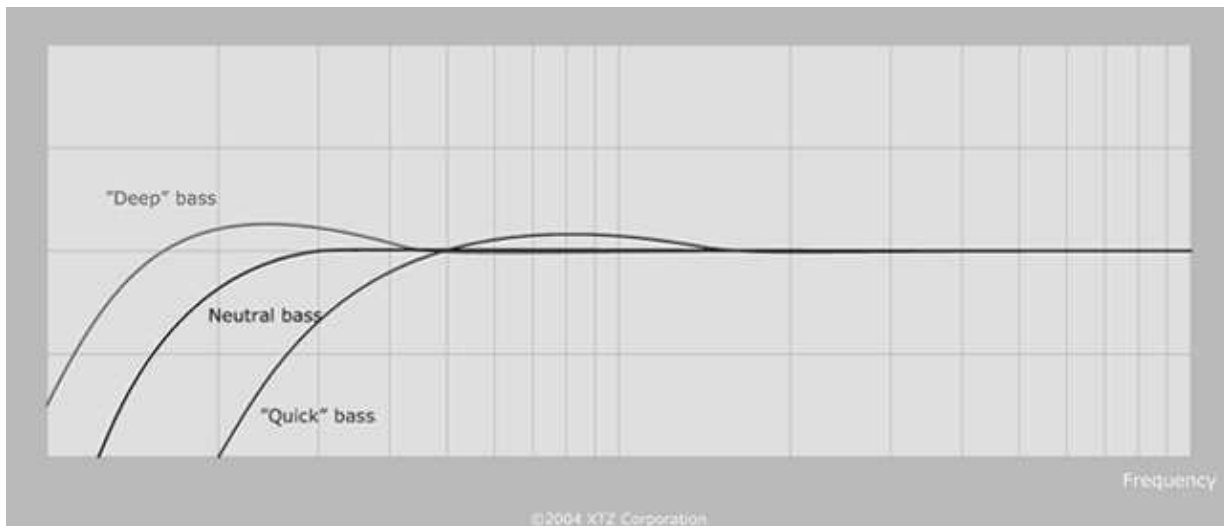
Tip (if you purchased 2 active subwoofers)

To simplify the installation process, use only 1 subwoofer when testing out your ideal settings. When you are satisfied, set the second subwoofer in the equal setting. Finish by altering the volume.

Room tuning will also have influence on the efficiency you will have to adjust the volume, frequency and High Pass in the room tuning modes.

"Quick" bass explained:

By this we mean a bass with less deep bass information. This might also be called "hard", "attack", "tight", "punchig" etc.



This picture shows not actual measured curves. It is only intended to be used as an illustration on the different acoustic characteristics in the lower frequencies.

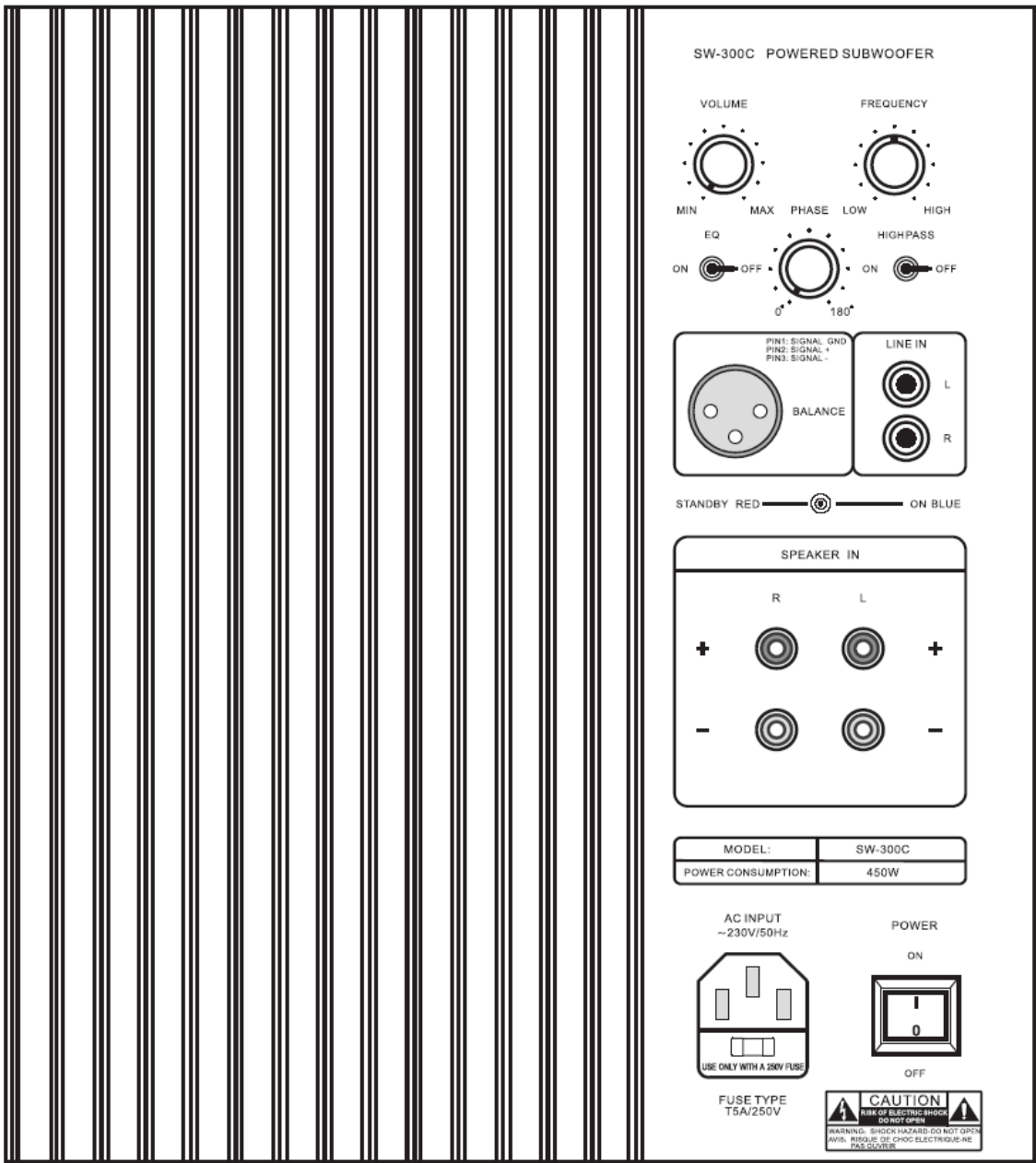
Sound settings

Basic setting for a neutral bass representation	<p>Since the sonic characteristics depends on a whole range of external factors, there exists no "standard" setting for a neutral representation.</p> <p>The external factors that have impact on the sound include the room, the placement of the speaker, output levels etc.</p> <p>To aid in the installation, you may use this basic setting which is for an average room of about 20m²:</p> <ul style="list-style-type: none">● Phase set at 0● The frequency set at mid position● EQ off● High Pass off● No bass plugs in the large gates but plugs present in both small gates	
	<p>All these possibilities provides you with a wide variety of combinations, allowing you to obtain the perfect sound.</p>	

Functional reference

This chapter describes all settings and connections.

XTZ 99 W12S
rear panel



Power switch (ON, OFF)	<p>Power switch. Press down "I" to power on and the indicator will be lighted. Press "o" to power off. Make sure it is set OFF when connecting / disconnecting cables.</p> <p>There is an automatic switch on the subwoofer. When it has signal in, it will switch on and consequently switch to standby (this is indicated by the LED, which turns blue when standby is present) when no signal is present (after a certain time period). Therefore, you can have it ON constantly.</p>	<p>To obtain the optimal sound, you should let the subwoofer be in ON mode. The amplifier will then immediately have the right working temperature from the beginning.</p> <p>Turn off the subwoofer if it is not in use for a long period.</p>
VOLUME	Controls volume level of subwoofer. Be gentle on the volume knob , please remember that certain sound signals may contain a lot of energy.	
FREQUENCY	Variable control from 50Hz to 135Hz provides(-3dB) optimum setting of subwoofer crossover frequency to match crossover frequency of Home Theatre components.	
EQ	When EQ switch is ON, it will increase about 7dB at 50Hz. When switch is OFF, it will not increase.	It is NOT RECOMMENDED to use this switch in normal cases. The risk of damage is increased. However, if the sensibility is low it may be used.
PHASE	0-180 phase adjustment	
HIGH PASS	Switch ON and the high pass is available. Switch OFF and the high pass is unavailable.	The high pass crossover removes the deepest part of the bass spectra. This is helpful in many rooms, since they heavily amplifies the deep bass tones, which may lead to uncontrolled bass.
BALANCE	Balanced input	
LINE IN	<p>Line-level inputs to subwoofer. Use these RCA jacks to connect audio signals from line-level outputs on a receiver, preamplifier, television set or surround sound decoder. If only a mono (single) subwoofer output is provided, connect it to either of input jack.</p>	<p>Remark: By connecting both line in inputs to the same signal, you increase the level by 3 dB.</p> <p>Certain types of simpler low level audio cables may create a noise in the subwoofer. We recommend double shielded low level cables to be used.</p>
SPEAKER IN	Stereo high-level inputs to subwoofer. Use these terminals when line-level connections are not available from receiver, preamplifier or surround sound decoder.	
AC INPUT	Connect to regular 230 V / 50 Hz.	

Technical specifications

Construction type	Active subwoofer, Bass reflex gate or may be set as closed box.	
Dimensions	350 x 400 x 500 mm (WxDxH) Foot +15 mm Amplifier +45 mm	
Weight	30,5 kg	
Terminal connection	Goldplated biwiring / banana plug / pole screw	
Power	300 W RMS 400 W Short term	
Anslutningar och inställningsmöjligheter	<ul style="list-style-type: none">● Stereo low level input, balanced input and high level (speaker) input.● Phase selector 0 to 180 degrees.● Boundary frequency control.● Volume control.● Heavy duty screw terminal connectors● High pass switch● Room tuning● Adjustable frequency	

Service & support

"Do-It-Yourself"-service	<p>We apply "do-it-yourself" service on all XTZ products.</p> <p>If you by yourself are able to find out what part of the loudspeaker is defective, you are fully allowed to unmount that part (which would normally be a driver, a filter or the amplifier) and send it back to us for exchange.</p> <p>However, if you are not certain about how to do it, please contact us before taking the loudspeaker apart. We can also help you finding the fault.</p> <p>You can of course always choose to return the whole loudspeaker, therefore you should save the original package.</p>	<p>To aid service, XTZ are constructed and produced using common technology, so that basically most people are able to "unscrew" the loudspeaker using common tools.</p>
If something is broken	<p>If you cause additional defects by yourself when unmounting the defective part, the warranty still applies if it is obvious that the part had a manufacturing defect. In other cases however, the warranty does not apply if you cause other defects on the loudspeaker.</p>	
Where to send the product for a warranty repair	<p>For service we refer to the general agent:</p> <p>FYNDBÖRSEN AB Gamla Nissastigen 17 314 41 Torup</p> <p>Web site: www.fyndborsen.se E-mail: info@fyndborsen.se Telephone: +46(0)345-20049</p>	<p>ALWAYS pack the product / part very carefully. Unfortunately damages during transportation are very common. If the package is weak, the transporting company does not compensate damages.</p> <p>Always enclose a copy of the receipt and a description of the defect.</p>
Support	<p>Please contact our free of charge support if you need installation advice, or if any problem occur during the installation.</p> <p>Contact us by e-mail support@xtz.se and include your phone number if you wish verbal help, and we will call you back. You can call our general agent FYNDBÖRSEN AB on +46(0)345-200 49.</p>	