XTZ 99 W12.18 ICE

High End subwoofer

User manual

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Congratulations to your purchase of the XTZ 99W12.18 ICE Subwoofer!

When combined with surround audio/video electronics, you will experience sound of motion pictures or music records much more deeply and naturally. Now when you watch your favourite movie or listen to your reference music CDs, you will hear and feel the sound surrounding you in the same way as originally intended by mastering engineers.

XTZ Home Theatre Speaker Systems are modular, so you can select only the components you need to enhance your current system or create a totally new one. The 99 W12.18 ICE subwoofer combines a 550-watt continuous power amplifier, heavy-duty 12" woofer.

99 W12.18 ICE is a product with many options, so read the manual carefully before using it.

Read the manual before using the product and use all possibilities carefully.

About XTZ

Philosophy

Our reference and starting point is to recreate a natural sound, taking into account that acoustics always is a matter of taste.

XTZ Goal

Our main goal is to provide the best value for money.

Our concept:

- Cut down the numbers of middlemen

- Put more money on product quality and less on advertising.

- Manufacture cost-effective in large volume

- Provide perfect technical solutions

Contact

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Technical presentation

Amplifier

The XTZ 99 W12.18 ICE is equipped with ICEpower® 125ASX2, a powerful 550 watt amplifier. For professional use (studio, PA etc), it is equipped with a balanced input. The terminal connectors are gold plated and very solid.

Class-D technology makes it possible to get more power, without having the heat from a normal amplifier.

The active amplifier also provides a variety of adjustment options, not possible to obtain using a passive filter. These include phase, frequency, high pass filtering, volume etc.

By using these settings, the main amplifier is relieved and only needs to drive the midrange and treble. This usually results in lower distortion and the risk of damages on it is lowered.

ICEpower® Class D amplifiers have the following advantages:

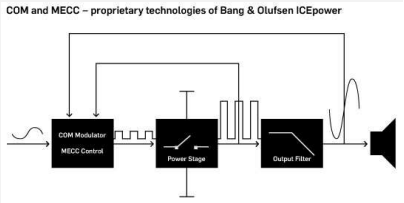
- Audio performance better than Class AB amplifiers
- Significantly higher energy efficiency of audio products
- Due to the possibility of designing smaller products, more channels can be integrated into a single solution or audio product
- More output power
- Low distortion

All of this taken together benefits our environment in numerous ways and makes Class D amplification a "green" technology .

The Danish Bang & Olufsen ICEpower has been one of the pioneers in developing new technologies to enhance Class D amplification and bring the audio quality to the level accepted by audiophiles. This allowed for subsequent introduction of Class D technologies into a wide range of audio applications.

ASX2 modules are the best High End Class-D on the market today.

XTZ is using the newest 125ASX2 amplifier from ICEpower® with there core technology, COM (the Controlled Oscillating Modulator) and MECC (Multivariable Enhanced Cascade Control)



The woofer/ driver

We have chosen a 12 inch woofer from (in this field famous) the Danish/American company Tymphany. The woofer is a Peerless XXLS 12 (Xpanded Extra Long Stroke). The construction has been on the market for many years. This updated version is one of the best 12" woofers on the market. With an extremely stiff and stable injection moulded metal basket to keep the critical components in perfect alignment. Large windows in the basket both above and below the spider reduce sound reflection, air flow noise and cavity resonance to a minimum.

The extremely stiff aluminium cone gives tremendous bass precision.

The cone and the low loss rubber surround show no sign of the familiar cone edge resonance and distortion associated with soft cones.

The cabinet

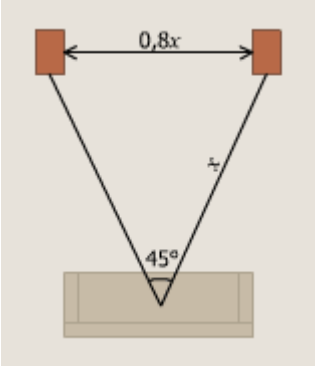
The cabinet is made of 21mm MDF with 4 stays which makes the box stable and without resonances.

Preparations

Unpacking the subwoofer	Carefully unpack the speaker, and pay attention so you don't break anything. If possible, save the packing box for future transportations. If there should be damage on the loudspeaker, please contact your retailer.	
Accessories	1 Power chord 2 bass plugs (found in the bass reflex gates) User manual Speaker cover	

Practice of sound / Installation and placement tips

	This chapter contains common information on loudspeaker placement and installation. This is general rules, so there are exceptions of some rules	
In which room do you achieve the best sound?	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 absorb mid range and high frequency sound, and this is preferable. Big empty area, on the contrary, reflects it and produces hard reflections that may lead to blurry dialogue. Apart from colouring 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 amplify 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 Some constructions are made to be placed closed to a 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	The placement of the subwoofer in the room dramatically affects the overall frequency response and sound level of the system. At low frequencies the effect of the room is strong. Even a slight change in the subwoofer's location can make a significant difference in the frequency balance. Patience and methodical experimentation is needed to find an optimal placement. The placement affects the phase difference between the main loudspeakers and the subwoofer. One basic rule is to place the subwoofer together with or near the front system (especially important if the front loudspeaker also propagate bass frequencies) as this will minimize the risk of phase eliminations in the room.	

Cables	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. Make sure that all connections are clean and not oxidized. All connections should be mechanically stable, both power, signal and loudspeaker cables. Signal cables should be separated from other cables.	
Front speakers	To get the best result the front speakers should be placed symmetrical in front of the listener. The distance between the front speakers should be around 80% of the distance to the listener. In other words, the recommended angle between the front speakers should be 45°.	
Why use 2 Subwoofer	There are more then one benefits of having 2 subwoofers instead of one. The sound pressure level will be higher. Less dips and standing waves in the room and a better frequency response in the room (and on sweet spot) The need of power is less, to reach the same SPL as with one subwoofer	
Finally	Please remember that good sound is a matter of taste, so you have to experiment to obtain your favourite one. We wish you best of luck!	

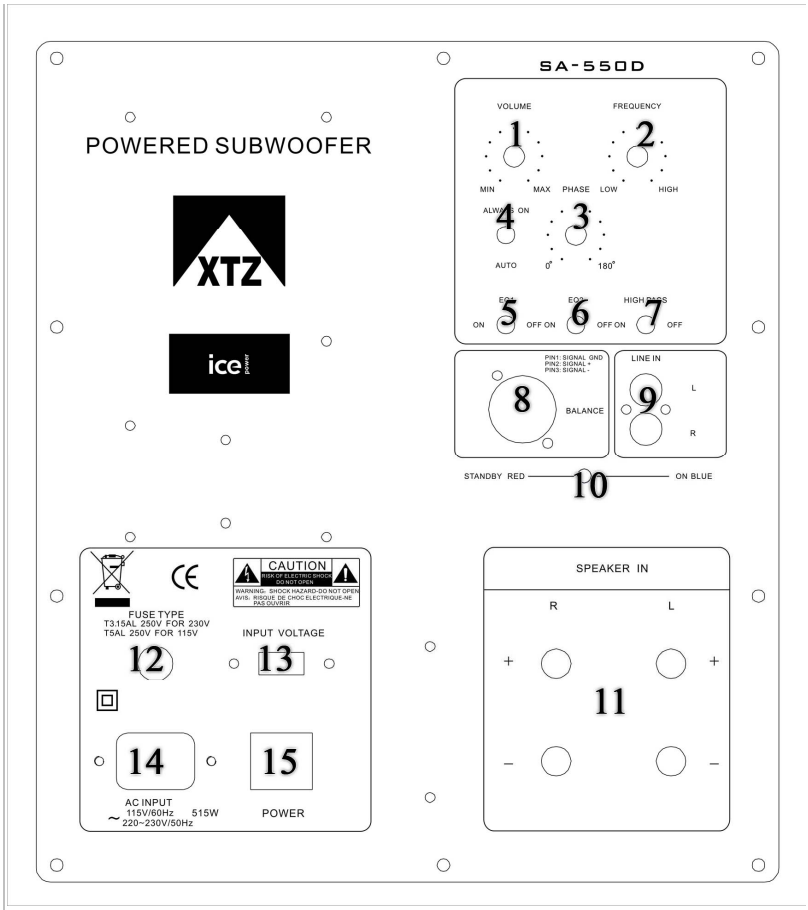
Mounting

Mounting	Generally: The placement of the subwoofer in the room affects the overall frequency response and sound level of the system dramatically, as at low frequencies the influence of the room is strong. Even a slight change in the subwoofer's location can make a significant difference in the frequency balance, and often patience and methodical experimentation is needed to find the optimum placement. This subwoofer is intended for XTZ products, but can of course be used with other speakers.	
Spikes	99 W12.18 ICE have feet of rubber to absorb vibrations. But it's possible to change this to spikes. The Rubber foot are adjustable to get the subwoofer in level with the floor. The foot are removable for those who want to mount spikes. (M6 screw)	
Connect with the correct phase	Always connect using the correct phase, from the +-pole on the amplifier to the +-pole on the loudspeaker and respectively for the minus (-) pole	If you by accident connect the other way, there is no risk of damage. However, the phase of the signal will be not correct, resulting in improper sound.
Overload	With high power load under long time there is risk of overloading the driver and/or the amplifier. **WARNING!**	All products, amplifiers, speakers, cross-overs can be damaged if playing loud music for a long time
The initial playing time	It takes about 50 to 100 hour of initial playing time, for the driver to sound optimally. During this time, the speaker may be used normally.	
Amplifiers with low level output to XTZ 99W12.18 ICE 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.	

Functional reference

Rear panel

1. Volume
2. Frequency
3. Phase
4. Auto On
5. EQ 1
6. EQ 2
7. High Pass/Subsonic
8. XLR/Balanced Input
9. RCA/Line In
10. Standby/On indicator
11. Speaker In/High Level
12. Fuse
13. Input voltage
14. Power connector
15. Main switch



1 Input Volume	Controls volume level of subwoofer	**Be gentle on the volume knob,** please remember that certain sound signals may contain a lot of energy.
2 Frequency	Frequency crossover Variable control ranging from 40Hz to 250Hz (-3dB) provides optimum setting of subwoofer crossover frequency to match crossover frequency of Home Theatre components.	The filter slope 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. 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 reproduce middle bas, mid-range and treble much better - leaving the deep bass tones alone to the subwoofer.
3 Phase	Variable control for 0-180 phase adjustment The technical difference between these two extremes (0 and 180 degrees) corresponds to	In a normal installation, this should be set to 0. The setting will have impact on the sonic characteristics, especially the co-operation with the front speakers.

	altering the poles of the cables (setting + to - and - to +)	The phase is determined by several things: -Placement of 99 W12.18 ICE -Placement referred to the rest of the system. -The crossover frequency. If the phase is not correct, a top or dip will be the result in the frequency response Please note that the difference between the lines is 18 degrees.
4 Auto on	Auto on or Always on	Auto on starts the sub, when signal comes from amplifier. Always on keeps the subwoofer on all the time.
5 EQ 1	Increases 7dB @ 25Hz	Excessive use of EQ can lead to damage of the subwoofer, when used at high volumes EQ 2 and High Pass filter should not be used at same time.
6 EQ 2	Increases 7dB @ 50Hz	Excessive use of EQ can lead to damage of the subwoofer, when used at high volumes
7 High Pass	Subsonic filter 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 may heavily amplify the deep bass tones, which may lead to uncontrolled bass. High Pass filter and EQ 2 should not be used at same time.
8 Balanced input	XLR Balanced input.	
9 Low level input	RCA inputs/Line in Line-level inputs to subwoofer. Use these RCA jacks to connect audio signals from line-level outputs on a receiver, preamplifiers, television sets or a surround sound decoder. If only a mono (single) subwoofer output is provided, connect it to either of input jack.	Only one input needs to be used. Use of both increases level with 3 dB
10 Standby indicator	Turns red in standby. Turns blue when the subwoofer is on.	
11 High level input	High-level input. If your amplifier does not have subwoofer output use this input from your normal speaker output.	
12 Fuse	Electrical fuse. Always replace with the same value!	5 A
13 Power switch	Select your local mains voltage	230V in EU 110V in USA
14 Power connector	Connector of main power	
15 Main switch	Main switch for main power.	There is an automatic switch on the subwoofer. When it senses a signal, it will switch on and consequently switch to standby (this is indicated by the LED, which turns blue when in operating mode). When no signal is present (after a certain time period) the amplifier switches to standby mode. Turn off the subwoofer if it is not in use for a long period.

Area of usage

Connection	Connect the speaker cable to the input of the subwoofer	
Room Tuning - Mechanical adjustment of the boundary frequency ROOM TUNING BY XTZ	By using the supplied bass plugs in the bass reflex gates, you can alter the lower boundary frequency on XTZ 99 W12.18 ICE This makes it possible to alter the sonic characteristics of the woofer. The picture below shows 4 basic settings. With 1 or 2 open reflex gates(bass-reflex) will increase the efficiency so it can handle more sound pressure than with 2 closed reflex gates(closed-box) **1st mode - no plugs in the reflex gates** No plugs in the gates will provide a "quick" bass suitable for big rooms. **2nd mode - 2 bass plugs in the reflex gates** This will provide a neutral, even and controled bass setting (Closed box) **3rd mode - 1 plug in the right reflex gate** One plug in the right gates will provide a "deep" bass suitable for smaller rooms. **4rd mode - 1 plug in the left reflex gate** One plug in the left gates will provide a a “neutral" bass character.	Since the sonic characteristics depends on the room a whole range of external factors, there exists no "standard" setting for a neutral representation. 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", "punchy" 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.

Technical specifications

Construction type	Active subwoofer, Bass reflex gate or may be set as closed box. Room-tuning.	
Dimensions	495 x 420 x 520 mm (HxWxD)	Feet and amplifier included
Weight	29 kg	
Power amplifier	500 W RMS i 4 ohm	
Power handling driver	350 W Short term - IEC 268-5 175 W Long term - IEC 268-5	
Impedance driver	4 ohm	
Driver	12" Peerless XXLS woofer, Aluminium cone, aluminium frame, High flow basket, 2,2kg magnet. Total weight 6,5 Kg	
Connections.	Speaker input - Gold plated banana plug / pole screw.	
Frequency response	20-250 Hz ±3dB	

Service & support

	Warning! This subwoofer is capable of delivering sound pressure levels in excess of 85 dB, which may cause permanent hearing damage.	
Guarantee	This product is supplied with a ONE year guarantee against manufacturing faults or defects that might alter the performance of the unit. Refer to your supplier for full sales and guarantee terms.	
Service	If you need service contact your local dealer. You are always welcome to contact us if you have problems with product by e-mail: **support@xtz.se** Webpage: **www.xtz.se**	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. Always enclose a copy of the receipt and a description of the defect.
Support	Please contact our “free-of-charge” support if you need installation advice, or if any problems occur during the installation. Contact us by e-mail **support@xtz.se** and include your phone number if you require help, and we will ring you back.	