

# WS 420 SQ EQUALIZER MANUAL

**WS 420 4 Band Parametric Equalizer with 3 Zone Operation  
& Talk Back Microphone**

**WETSOUNDS.COM**



**Congratulations!** Thank You for purchasing the Wet Sounds WS 420-SQ. Wet Sounds professional marine audio products represent the ultimate in high performance marine audio. Wet Sounds products are specifically engineered to withstand the rigorous marine environment.

The WS 420-SQ Equalizer is a state of the art equalizer designed to provide amazing control and flexibility of your marine audio system. The WS 420-SQ gives you independent control of your tower speakers as well as independent control of your in boat speakers and subwoofer(s). The Wet Sounds talk back microphone allows the boat driver to communicate with the rider or other boats in the area. By pushing the button on the microphone, the system will automatically mute the music playing from the tower speakers and allow you to use your tower speakers as a PA system. Once the button is released, the tower speakers will begin to play again at the level they were at. Additionally, the WS 420-SQ includes Wet Sounds exclusive Boat Link™. Boat Link gives you the ability to link up with other WS 420-SQ equipped boats for the ultimate party cove experience.

*Please take a moment to read the instruction manual before starting your installation. If you have any questions or concerns, please contact your certified Wet Sounds dealer or Wet Sounds at 877-Wet-Spkr. (1-877-938-7757)*

#### **WS 420-SQ Specifications**

Bass Equalizer Frequency	100Hz
Mid Bass Equalizer Frequency	300 Hz
Mid Equalizer Frequency	2 KHz
Hi Equalizer Frequency	15 KHz
Parametric Equalizer Range	+ 12dB
S/N Ratio	80 dB REF 1V Input
Frequency Response	10 Hz-40KHz, -3dB
Maximum Output Voltage	5V RMS
T.H.D.	0.05%
Input Impedance	20K Ohms
Stereo Separation	80 dB/1 KHz
Operational Voltage	11-15V DC, Negative Ground

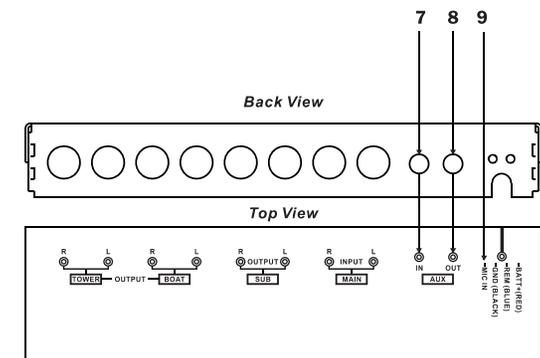
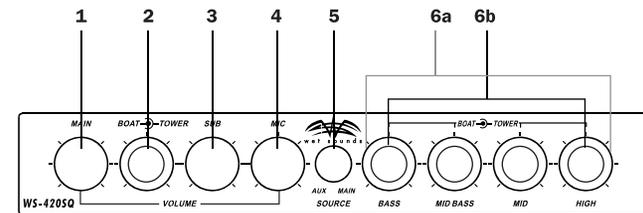
## FEATURES

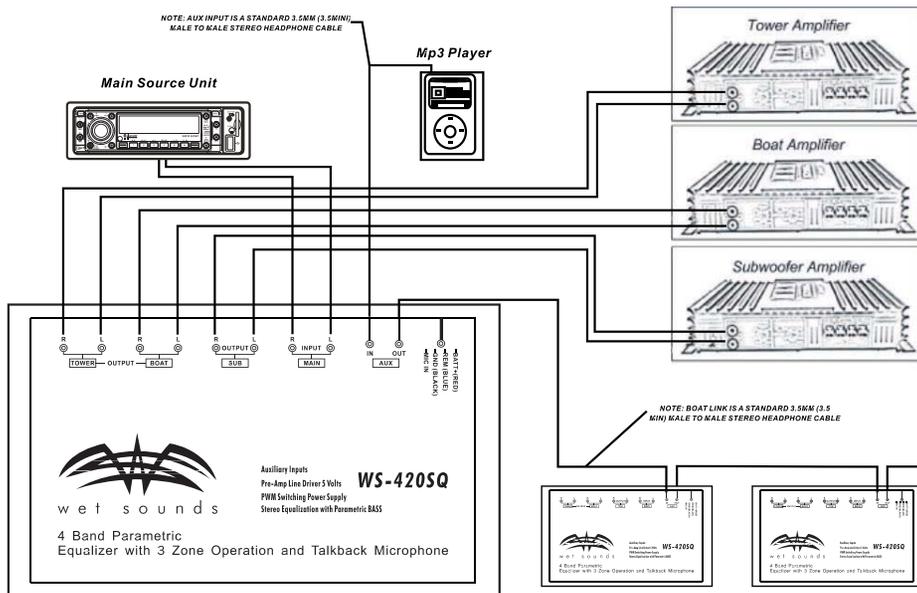
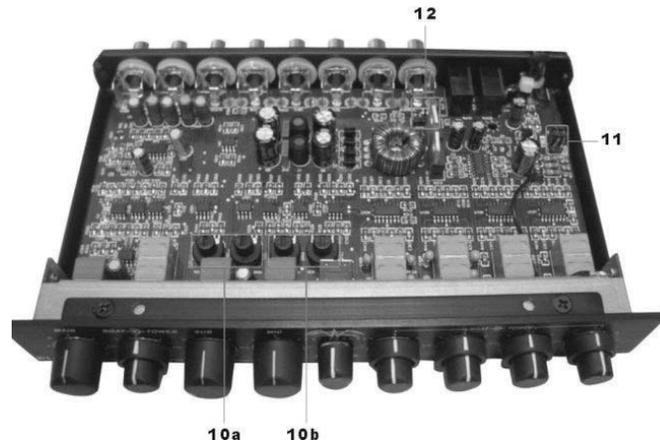
The WS 420-SQ is 3 Zone equalizer/controller with 2 separate equalizers in one half din chassis using our exclusive design which allows you to independently control the volume of tower speakers, in boat speakers and subwoofers all independently and have EQ adjustments of both in boat and tower speakers independently. The WS-420-SQ is the world's only true marine audio zone controller/equalizer. The WS-420SQ gives you ultimate control over your system. The WS-420-SQ allows you to have any combination you wish. In boat speakers and subwoofer playing with no tower speakers, tower speakers and subwoofer playing with no in boats, all speakers playing, max volume from the tower and subwoofer with half volume from the in boats and many other configurations. The WS420-SQ includes a talk back microphone for rider communication. The level of the talk back microphone is independent from your music level allowing you to adjust the volume for the PA function. The microphone feature only plays through the tower speakers. When the microphone is keyed up, the music is muted for announcements. After the key is released, the music will resume at previous level. The WS-420-SQ has a large knob master volume control giving you quick control for the overall system. You are able to set the other zones to whichever volume level you desire and have one knob for quick overall volume adjustment. There are two separate 4 band equalizers. The outer ring makes adjustments for the tower speakers and inner knob makes adjustments for the in boat speakers.

- 1.. **Main Volume.** This is the Master Volume that controls the overall volume of all zones.
2. **In Boat and Tower Zone Volume.** Adjusts the volume of the tower speakers (outside ring) and the volume of the in boat speakers (inside knob) You can set these levels to whichever volume you prefer and use the master volume for overall control.
3. **Subwoofer Volume.** Independent Subwoofer volume control.
4. **Microphone.** Independent Talk Back Microphone volume control.
5. **Aux/Main Switch.** Auxiliary input or main input selection switch.
6. **Equalizer Adjustments.** These 4 controls adjust the four separate frequencies (bass, mid bass, mid, high) Offering 12 dB of cut/boost. The outside ring adjusts the frequencies for the tower speakers (6a) while the inside ring adjusts the frequencies for the in boat speakers (6b).

## FEATURES CONT.

7. **Auxiliary Input.** 3.5 mm aux input jack for MP3 player or additional source.
8. **Boat Link™** 3.5 mm aux output jack. For linking with other WS 420 equipped boats.
9. **Microphone Input.** Microphone input for Wet Sounds talk back microphone.
- 10: **Input Gain.**
  - 10(a) Main Input Sensitivity Gain adjustment.
  - 10(b) Auxiliary Input Sensitivity Gain adjustment. NOTE: If you are not an experienced audio installer, it is recommend to leave these adjustments in the pre set factory position.
- 11: **Illumination.** WS-420-SQ illumination comes pre set in blue illumination If you would like to change to red. Remove jumper and position to red.
- 12: **Ground Isolation.** Occasionally alternator whine may appear in your system if you source unit and amplifiers may have different grounds. You may use the isolation jumper to eliminate the noise. Please make sure unit is off when adjusting the jumper.





## SETTING UP A SYSTEM USING THE WS 420

1. Unplug all the RCA's from your amps. Turn all the amp gains down.
2. Turn the radio up to find the maximum volume. Set the system with the head unit volume at 85% of max. This is the loudest the radio should ever go. Radios will create distortion the higher the volume is turned up. Which will create distortion on the output signal before reaching the amps. So find a safe easy to remember volume. If the head unit is 35. Max should be 30. If the head unit is 40. Maximum should be 30 to 35 and so on.
3. Once you have found the maximum volume set point. Turn the radio back down. Use a test CD that you are familiar with for tuning. Something that has highs and lows and vocals.
4. Make sure the settings on the radio are flat. You should not tune a system with the treble or bass up.
5. Make sure all the eq adjustments are flat. Right in the middle. Plug in all the rcas from the eq to the amps.
6. Plug in just the RCA's for the in boat speakers amp. Set the high pass crossover at around 80HZ to 100HZ.
7. Turn the radio up to the max safe level found in step 2. Turn the eq up to about  $\frac{3}{4}$  of max volume.
- 8) Slowly turn the gain up until you hear the speakers distort. Slowly back off the gain from that point a small amount until you hear the speakers play as loud as they can with no distortion.
9. Unplug the RCA's from that amp and plug the RCA's into the amp running the tower speakers. Set the high pass crossover on the amp for the towerspeakers at 80HZ to 100HZ.
10. Slowly turn the gain up until you hear the speakers distort. Slowly back off the gain from that point a small amount until you hear the speakers play as loud as they can with no distortion.

## SETTING UP A SYSTEM USING THE WS 420

11. Unplug the RCA's from that amp and plug the RCA's into the amp running the subwoofer. Set the low pass crossover on the amp for the subwoofer at 80HZ. On the WS 420. Turn the bass level to max. The ring is a frequency adjustment. All the way down to the left is 30 HZ. You will want to put this around 60 to 80HZ. So about ¼ of the way up.
12. Slowly turn the gain up until you hear the speakers distort. Slowly back off the gain from that point a small amount until you hear the speakers play as loud as they can with no distortion.
13. Turn the radio back down and plug in all RCA's and do a final check with everything playing. You should now have the gains set at "unity" Meaning they are all at the same level and you are matched across the board.
14. Note that you can adjust the high pass and low pass filters to tailor the sound to each boat. As you can set the high pass higher to get more volume but at the expense of losing some low end mid bass. You can then fine tune the sound on the eq as well. Using the knobs and rings. Most systems will not need much in terms of boost.

## LIMITED WARRANTY

### What This Warranty Covers

This is a "Limited" warranty. This warranty covers any defects in materials and workmanship and this warranty only applies to the original purchaser and is not transferable. This warranty is also only valid if the original purchase was made from an authorized Wet Sounds™ dealer.

### How Long Coverage Last

This warranty runs for 2 years from the date of the purchase. It is recommended to REGISTER your warranty online within 45 days of your purchase at [www.wetsounds.com](http://www.wetsounds.com) - click on "warranty registration"

### What Is Not Covered

This warranty does not cover fading or discoloration caused by exposure to sunlight or chemicals such as ammonia, household bleach, or any cleaning material that contains abrasive substances. Wet Sounds, Inc. does not cover the cost for removal and reinstallation. Additionally, shipping TO Wet Sounds, Inc. is covered by the purchaser. This warranty is void and inapplicable if Wet Sounds™ deems that the product was abused or misused; including but not limited to damage caused by accident, mishandling, improper installation, removing the inline fuse on the power connection, negligence, normal wear and tear, excessive water or heat damage, freight damage or speakers that have been disassembled by anyone other than Wet Sounds™ technical staff. Wet Sounds™ shall not be responsible for any incidental or consequential damages, except to the extent provided (or prohibited) by applicable law. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

### What Wet Sounds, Inc. Will Do

Wet Sounds, Inc will repair any part of your product that proves to be defective in materials or workmanship. In the event repair is not possible, Wet Sounds, Inc will replace the product in question. If it is deemed necessary Wet Sounds, Inc. will either replace the entire product with a refurbished unit or it will be replaced with a model that is similar in price if that model is no longer available. Labor cost and materials needed to complete this service will be at no charge to the purchaser. Additionally, the cost of shipping TO the consumer is also covered under this warranty.

## LIMITED WARRANTY

### **How To Get Service**

Contact Wet Sounds, Inc. either by phone at 877-938-7757 or by email at [warranty@wetsounds.com](mailto:warranty@wetsounds.com). A service representative will assist you in the necessary actions to concur that the problem that you are experiencing is covered under warranty and what to do if it needs to be shipped to Wet Sounds, Inc.

### **Internet Warning**

Wet Sounds, Inc. products sold on any non authorized web site or internet auction site are void of any and all manufacturer's warranty. Please contact Wet Sounds™ at 877-938-7757 or visit our web site at [www.wet-sounds.com](http://www.wet-sounds.com) to search for an authorized site and/or an authorized retailer near you.



**Wet Sounds Inc..**

[www.wetsounds.com](http://www.wetsounds.com)

877-938-7757

9330 West Airport Blvd. Suite 170

Houston, TX 77031 - USA