




# DS18 DSP8.8BT 8-Channel In and 8-Channel Out Digital Sound Processor User Manual

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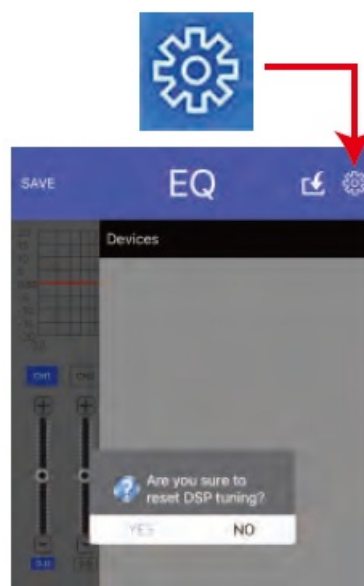


**DS18 DSP8.8BT 8-Channel In and 8-Channel Out Digital Sound Processor**



## SETTINGS PAGE OFF ANY SCREEN

On the Settings page you can see what sources) you are using and pick between them. You can also see all the Bluetooth devices that you may have paired up to DSP8.8BT app. And choose between Those also.



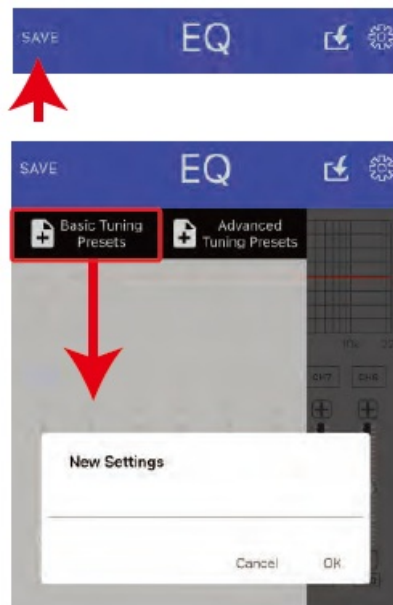
Down at the bottom are 2 settings:

- Refresh Device list This will be useful when you set up this up with your installer/tuner and you. You can choose installer/tuner and you. You can choose yourself or your installer can pick himself.
- Reset DSP Tuning This is useful if you don't like your DSP Settings and want to do a clean setup all over again.

## BASIC/ ADVANCED SETTINGS

### SAVE SETTINGS/ NAME:

This is SUPER important. ALWAYS save settings!! Once you select SAVE on ANY page it will bring you to the "New Settings" text box as shown to the left. You have a choice of Basic Tuning Presets and Advanced Tuning Presets. The difference is that the BASIC setting... ANYONE can access it. ADVANCED ONLY you (or whomever you give your password to) can access. It is best to first save in BASIC and then once refined in your tuning SAVE in ADVANCED.

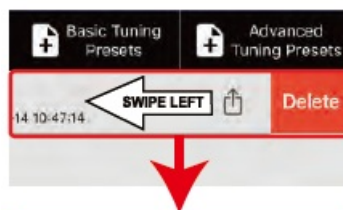


YOUR you've settings name, for example, BOB6 it will save it to the APP. As shown Once entered to the left. You can save 10 settings. You may want one set to show that it is ALL 6dB per octave crossovers... So BOB6 is easy to remember and then do the same setting but uses 12dB per octave crossover slopes. Call that one BOB12, that way you can hear the difference in slopes, Or different EQ settings.

To sync to DSP8.8BT, go back to the SAVE button on the top of each page blue bar. Click on SAVE and look at your saved settings Pick the one you want to be The setting The EQ / GAIN

PHASE/ DELAY setting. Let's say it is the 66666 saved file that is shown highlighted to the left. Since it is highlighted it is THE selection.tings Pick the one you want to be The setting The EQ / GAIN

PHASE/ DELAY setting. Let's say it is the 66666 saved file that is shown highlighted to the left. Since it is highlighted it is THE selection.



**SPECIAL NOTE:** If you dislike a memory and want it removed simply Select the memory and swipe to the LEFT and it is now deleted.

NOTA ESPECIAL: si no le gusta un almacenamiento y desea eliminarlo, simplemente seleccione el almacenamiento y deslícese hacia la IZQUIERDA y ahora se eliminará.

To sync data from DSP8.8BT to DSP8.8BT APP, click on the top bar with the white outlined box and arrow pointing down. It takes one minute to sync data from DSP8.8BT With this many settings, you can now pick and

choose what your vehicle= sounds like. Be it a car, truck, UTV, motorcycle, or boat. With 8 channels of input and output the DSP8.8BT there are 1,000's of possibilities **EQUALIZER SETTINGS**

## **EQUALIZER SCREEN**

This is where ALL the “magic” happens.

There are 31 bands of Parametric Equalizer adjustments. This means that YOU can select whatever frequency you need to fix, or bands of frequencies and easily solve the peaks or dips in your system setup. QUICKLY! You can LOCK the EQ on this page also. This makes it so you don't accidentally change an EQ setting while adjusting something else.



## **FREQUENCY**

Each of the 31 Bands can be changed to ANY frequency you need it to be. Click inside the BLUE boxes at the bottom of each frequency, Q, or boost desired. Since there are 31 bands of adjustment SCROLL Left to Right.

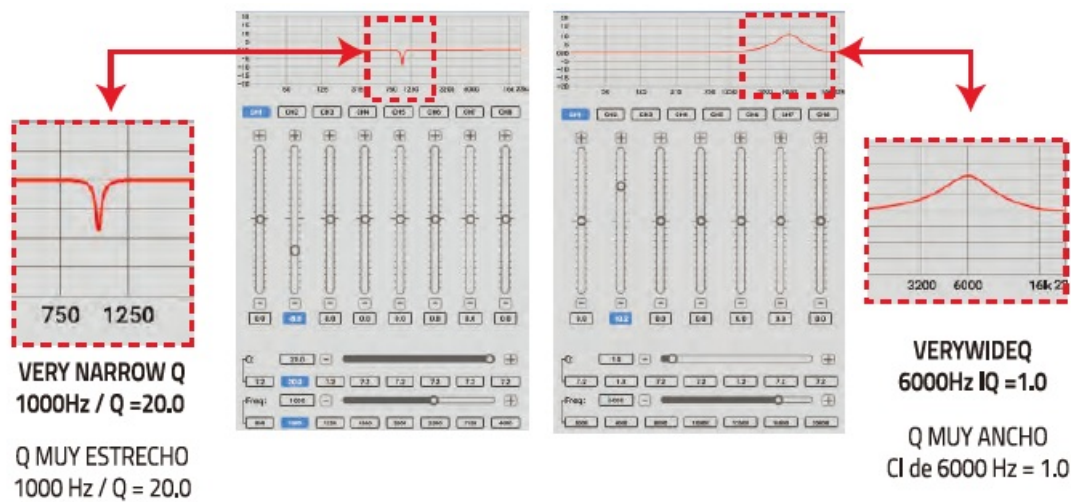
### **Q ADJUST:**

Q (or width) of the frequency is adjusted. Q's of 1 is very wide, Q of 18 is very narrow as shown below on the APP itself. To change Q simply slide the light blue “Q” bar. Or TAP+/-

**SPECIAL NOTE:** An RTA is an ABSOLUTE necessity to adjust ANY audio system that has an equalizer, especially 1/3 octave.

### **AN EXAMPLE OF FREQUENCY AND Q**

The example to the left shows you what happens at a frequency when Q is adjusted differently at different frequencies. Look at the 1000Hz EQ setting which has a Q of 20 at the same time 6000Hz has a Q of 1. You can use fewer EQ adjustments to effect far greater frequencies making EQ adjustment much quicker. (You MUST have an RTA to properly adjust ANY Equalizer!)



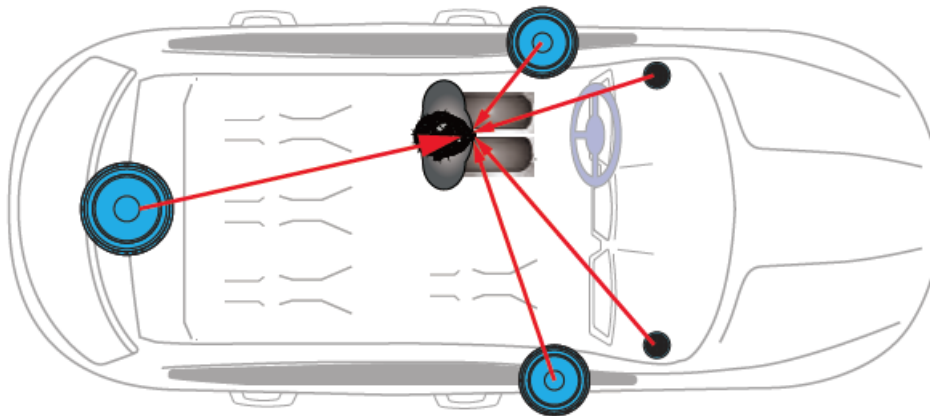
## TIME ALIGNMENT

Once we have levels, phase and gains pretty much set.

It's time to do Time Alignment. Think of all this preset up as prepping a car to be painted. If you've ever painted a car, it's ALL about the prep work. Paint (in our case

Time Alignment) is the finishing touches. And up till now it was ALL just getting ready for this part!

It is important that we do this methodically. Some experts say to Time Align BEFORE EQ the system. Some say do it after. It is up to YOU. Both ways work. And we have found that as much EQ you do in this process BEFORE and AFTER it really doesn't matter.



Let's assume that you've done some EQ, GAIN and checked to make sure all speakers are "In Phase" PLUS.. you've got the system sounding good. Clean, smooth, tight with really good mid-bass punch. Then it is the PERFECT time to do time alignment.

Below is a conceptual picture of what we (you?) are trying to do. Get speakers that are at different physical dimensions away from your ears to be time coherent.

Meaning move them electronically so they SEEM to be at the same time /distance dimension.

Thereby creating the illusion of stereo imaging and sound stage Where the sound does not appear to be coming for the left or right, but in front of you. And out on the hood of the vehicle Plus the woofer sounding like it is under the dash on front of you.. even though the woofer is actually in the trunk of the vehicle.

## FINAL SETTINGS

At this point, you are pretty much done, we recommend that you live with the initial setup (EQ / Time Delay /Gains) for a week and THEN make adjustments.

Also do not spend too much time "tweaking" the system. Once you have gains set CORRECTLY and have

checked "Phase" acoustically (with a Phase Meter which is built into the Audio Tools APP) Spend LESS than 45 minutes EQ your system. Then take a break as your ears and brain will be charcoal!! Rest your ears overnight and listen again in the morning. 45 Minutes is plenty of time to get a system initially "dialed in" You need to "live" with it for a bit BEFORE randomly changing settings.

### ONCE MORE TIME! SAVE/SYNC

Now click on the top bar with the white outlined box and arrow pointing down let's make sure that this LAST "tune" is SAVED and SYNCED to the DSP8.8BT. Double check that all the EQ settings/Time Alignment/Gains, etc. Are as you set them and nothing has changed.

When you tap it, upload the DSP data setting from the device back to APP. It takes around one minute to upload data to prevent data package dropout.

This is used for data from device to APP. When you select the saved file, the data is from APP to device.

They have reversed the data sync direction.

For example, your DSP tuning is done for a while, but you want another installer to re-tune it, he might need to know what the current DSP data setup is. So that he can start from there. Or, if you like some other vehicles DSP tuning (using DSP8.8BT APP) and you want to get their data, you can connect to his vehicle with the DSP8.8BT APP with its amplifier, and upload it into your DSP8.8BT APP, and then load it into one of your 5 memories.

## SPECIFICATIONS

### POWER SUPPLY

Working Voltage.....9- 16 VDC  
Remote Input Voltage.....5V  
Remote Output Voltage.....12.8V (0.5A)  
Fuse Size.....2 2 Amp

### AUDIO

THD +N.....<1%  
Frequency Response.....20Hz-20KHz (+/-0.5dB)  
Signal to Noise Ratio @A Weighted.....100dB  
Input Sensitivity.....0.2 9V  
Input Impedance.....20k  
Maximum Pre-Out Level (RMS).....8V  
Pre-Out Impedance.....2000

### AUDIO ADJUSTMENT

Crossover Frequency.....Variable HPF/LPF 20Hz to 20KHz  
Crossover Slope/ Pendiente de crossover ..... Selectable / Seleccionable  
6/12/18/24/36/48 dB/Oct  
Equalization.....31 Bands Parametric  
Q Factor..... Selectable/ Seleccionable 0.05 to 20  
EQ Presets..... Yes/ Si: POP/Dance/Rock/Classic/Vocal/Bass  
User Presets.....Yes: Basic/ Advanced/ Si: Básico / Avanzado

### SIGNAL PROCESSING

DSP Speed.....147 MIPS  
DSP Precision..... 32-Bit  
DSP Accumulators..... 72-Bit

### DIGITAL TO ANALOG CONVERSION (DAC)

Precision.....24-Bit  
Dynamic Range.....24-Bit  
THD+N.....-98dB

## INPUT | OUTPUT

High/Low-Level Input.....Up to 8 channel

Low-Level Output ..... Up to 8 Channel

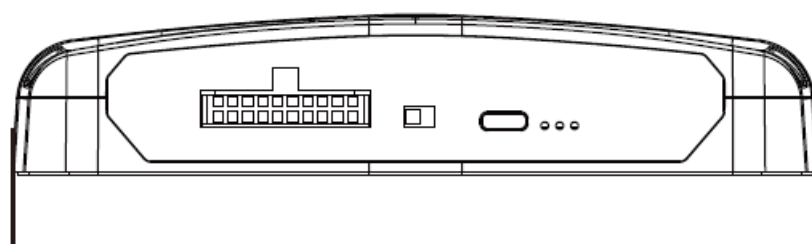
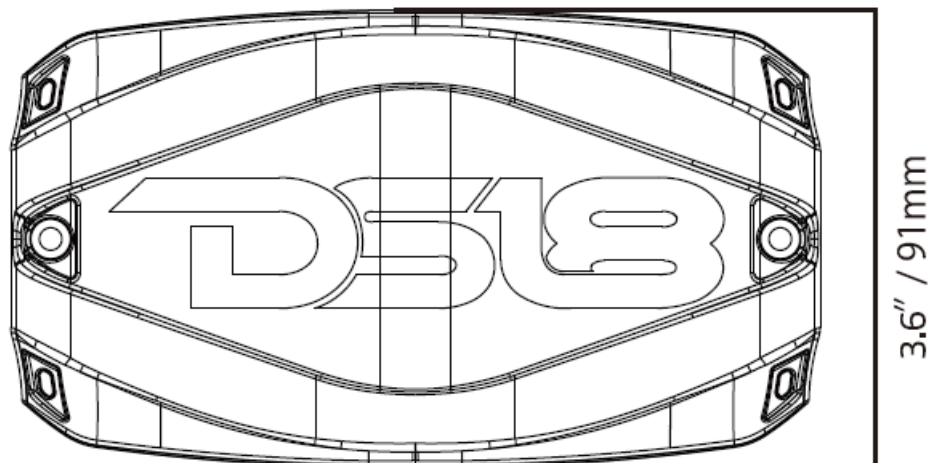
Type..... RCA (Female)

## DIMENSION

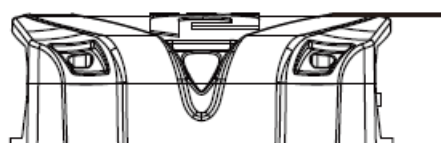
Length x Depth x Height / Largo x Profundo x Alto..... 6.37" x 3.6" x 1.24"

162 mm x 91.5 mm x 31.7 mm

## DIMENSIONS



6.37" / 162mm



1.24" / 31.7 mm

## WARRANTY

Please visit our website [DS18.com](http://DS18.com) for more information on our warranty policy.

We reserve the right to change products and specifications at any time without notice.

Images may or may not include optional equipment.

## FCC COMPLIANCE STATEMENT

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does

cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.


Changes or modifications not expressly approved by the party responsible for compliance could void the users authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. This transmitter must not be CO-located or operating in conjunction with any other antenna or transmitter.

## Documents / Resources

	<p><a href="#">DS18 DSP8.8BT 8-Channel In and 8-Channel Out Digital Sound Processor</a> [pdf] User Manual</p> <p>DSP88BT, 2AYOQ-DSP88BT, 2AYOQDSP88BT, DSP8.8BT 8-Channel In and 8-Channel Out Digital Sound Processor, DSP8.8BT, 8-Channel In and 8-Channel Out Digital Sound Processor</p>
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