

DCN23BOX

Digital Crossover - Manual

Features

- Active Crossover Filtering
- Loudspeaker Equalizing
- Room Correction
- 24bit / 96kHz Processing
- 48 biquads total processing filters
- XOverWizard software (free)
- XOverWizard II software

Applications

- Active Amplification Systems
- High End Stereo setup
- Supreme Surround Sound Systems

Description

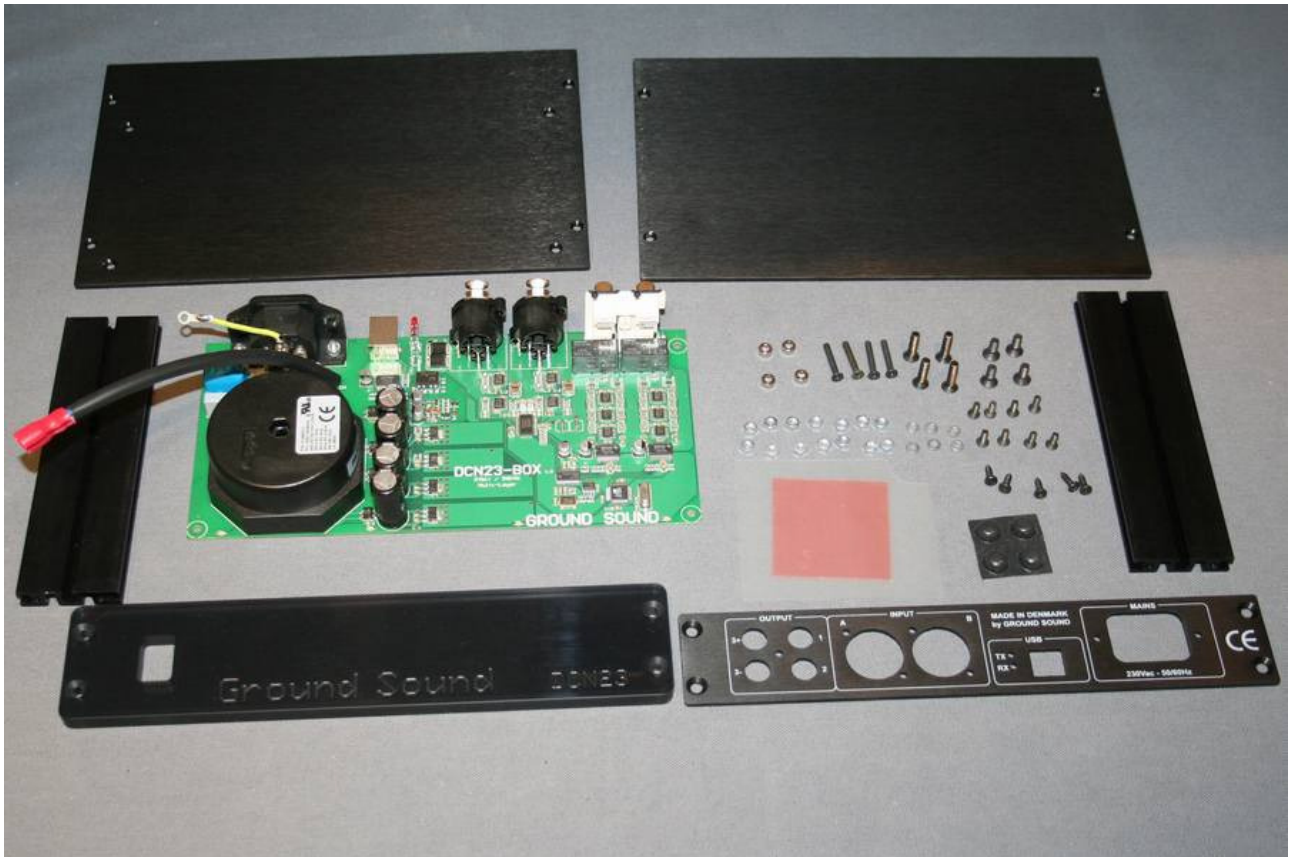
The DCN23BOX is a highly flexible and powerful tool to perform Active Crossover filtering, Loudspeaker Equalizing and Room Correction all in one unit. The DCN23BOX can be operated with either XOverWizard or the new XOverWizard II. The front panel is transparent light grey acryl and 4 power ON LED's gives the BOX a distinct visual look.

With a single unit DCN23BOX you can make a high-end active system for a set of passive satellites and a mono subwoofer. The more frequently used setup is two units for an actively divided 3-way stereo system and each unit processing one side of the system either the left or the right channel.

DCN23BOX:



Assembly of the box:

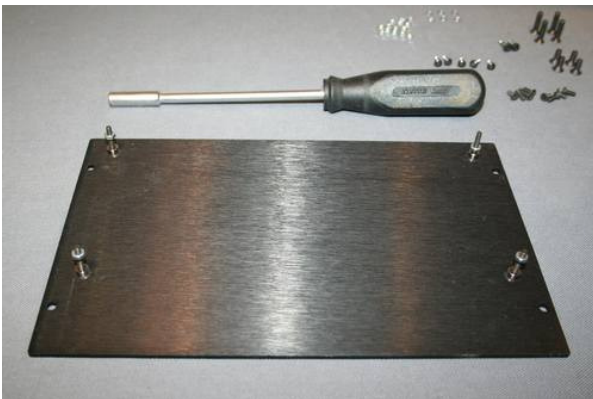


Supplied items in DCN23BOX kit:

- | | |
|---|---|
| 1 pc DCN23BOX PCB - tested | 4 pcs Screws M4 x 10mm black |
| 1 pc Acrylic front panel | 4 pcs Screws M4 x 16mm black |
| 1 pc Back Panel | 8 pcs Screws M3 x 8mm black |
| 1 pc Bottom Plate | 5 pcs Screws 2,9 x 9mm black |
| 1 pc Top Plate | 4 pcs 3mm Distances 3mm long |
| 2 pcs Sides | 14 pcs 3mm Nuts |
| 4 pcs rubber Feet | 6 pcs 3mm Spring Washers |
| 4 pcs Screws M3 x 20mm black | 1 pc isolation Mylar with double achieve tape |
| 2 pcs Screws M3 x 10mm black round head | 1 pc Power Switch |

Quick Assembly guide:

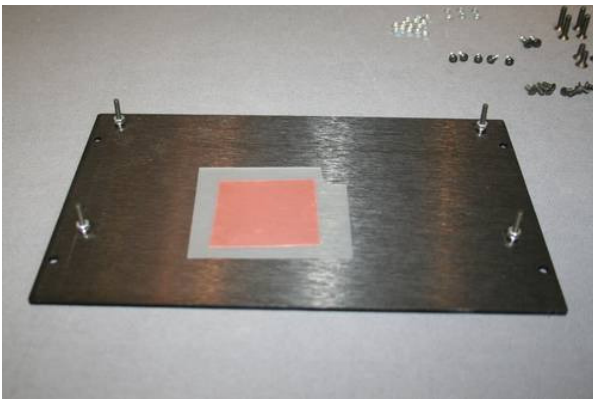
Simply look at the pictures and read the short text



BottomPlate+M3distance+M3x20mmScrew/nuts



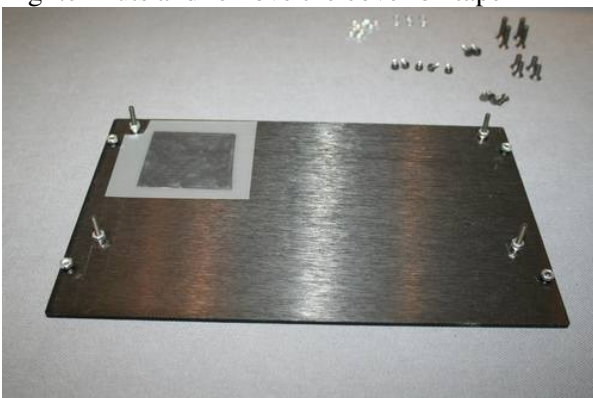
Back Panel M3x10/SpringWasher/M3Nuts



Tighten nuts and remove the cover on tape



Mount PCB/BackPanel on Bottom Plate



Mount Mylar and M3x8mm+nuts



SpringWasher /Nuts – don't tighten nuts



Assembly of Back Panel on PCB Screw 2,9x9



Prepare Sides



Glide Sides onto nuts on Bottom Plate



Fix the Sides to BackPanel with M4x10mm



Glide Nuts into Sides – two in each



Prepare Front Panel/Switch/M4x16mm



Mount Front Panel – don't use excessive force



Assemble cable and Power Switch



Push Power into FrontPanel, some force is needed



Tighten screws on the bottom



Tighten nuts on PCB



Nearly ready



Adjust distance of nuts and mount M3x8 screws



Mount Rubber Feet

This was all and you are ready to plug power cable:



The finished DCN23BOX – The Digital Crossover is now ready for programming a setup with XOverWizard or XOverWizard II.

Download of software:

You can download both the free XOverWizard and new XOverWizard II software here:

<http://www.groundsound.com/technical.php>

Installation of USB driver:

The USB-interface is actually an onboard USB to COM Port (RS-232) adaptor and the circuit is made by <http://www.ftdichip.com/>.

The driver for this device can be downloaded here <http://www.groundsound.com/CDM 2.04.16 WHQL Certified.zip> (Windows OS) or at the manufactures web page - also drivers for Mac. If you place the driver file on the desktop, it's easy to find and to point out to the installation wizard.

Connections:

The analogue inputs (A & B) are supplies with Neutrik female balanced XLR connectors. The XLR connectors are configured according to the standard (1: ground - 2: non inverted - 3: inverted).

The analogue outputs (1, 2, 3+ & 3-) are singled-ended RCA connectors (shield: ground - center: hot).

The PC-interface is a standard USB B connector. PC to DCN23BOX connection requires a normal USB cable with type A male to type B male. There are two red LED's just beside the USB connector on the Back Panel which indicates communication.

The Mains connector is a standard IEC 230Vac type with Mains ground connected to chassis.

Cleaning the front panel:

If the front panel needs to be cleaned use a soft cloth – if necessary use a small amount of lukewarm water and a drop of mild, non abrasive detergent – like dish wash detergent.

DO NOT USE ANY ketones, aromatics, esters, halogens, window cleaning sprays, alcohol, kitchen scouring compounds, solvents (acetone, benzene, gasoline, carbon tetrachloride, thinners) or ammonia based cleaning solutions on the Front Panel - it will be damaged !

Specifications:

Bit Resolution: 24bit	Sample Rate: 96kHz
Total Processing Power: 48 biquads	Audio Processor Precision: 76bit
Signal to Noise Ratio: >110dB	Frequency response: 5-48kHz (-3dB)
Max. input voltage: 4Vpp - 0dB	Max. output voltage: 12Vpp - 0dB
Latency input-output about 1ms	Optical isolated USB interface
230Vac mains supply - optionally 115Vac	Power Consumption: 10Watt
Overall dimensions (WxHxD): 232 x 50 x 155mm	Weight: app. 1,4kg

Note:

Please note that the DCN23BOX in normal configuration do not have unity gain.

The gain is approximately 9,5dB in the analogue section with 0dB gain in the digital domain (total sum of the software setup).

Options:

The DCN23BOX can be delivered with other OP-Amplifiers than the standard NE5532 – please see our web site for unity gain-stable dual OP-Amplifier possibilities.

The DCN23BOX can be delivered as optimized for specific power amplifier sensitivities – we need to know the brand and model number OR sensitivity for full power out.

Remarks and Revision history

Ground Sound reserves the rights to make alterations without prior notice.

Please notice that Ground Sound will not be held responsible for any property damage. It's assumed that the customer is aware of the danger of high voltage and takes the necessary precautions to avoid personal injury and fully understands the consequence of dealing with high voltage.

Revision A: 2010-02-05