



Woofers Widget Analog Signal Conditioner for Active Subwoofers

Woofers Widget is an advanced signal processing solution that uses new ways to improve the performance of bass subsystems. At the core of the chipset are three Field Programmable Analog Arrays (FPAAs) and Anadigm's own PIC micro controller. FPAAs are essentially arrays of operational amplifiers that can be changed and modified in real time with a microcomputer to achieve flexible analog solutions.

Imagine a complex and completely configurable analog solution that can be reconfigured, adjusted or changed on the fly. FPAAs allow us to do things that are not possible with traditional solutions. They achieve electrical transfer functions with an accuracy that is unmatched by passive components and their adaptable and flexible nature allows the hardware to be used in innovative ways, including measurement, equalization and intelligent integration with personal computers via a USB interface.



Woofers Widget™ Features

- Adjustable Subsonic Filter
- Room measurement tool
- Adjustable Low-Pass Filter
- Gain Stage (-60db +6db)
- Linkwitz Shelving filter
- Programmable limiting functions
- Parametric Equalization tool

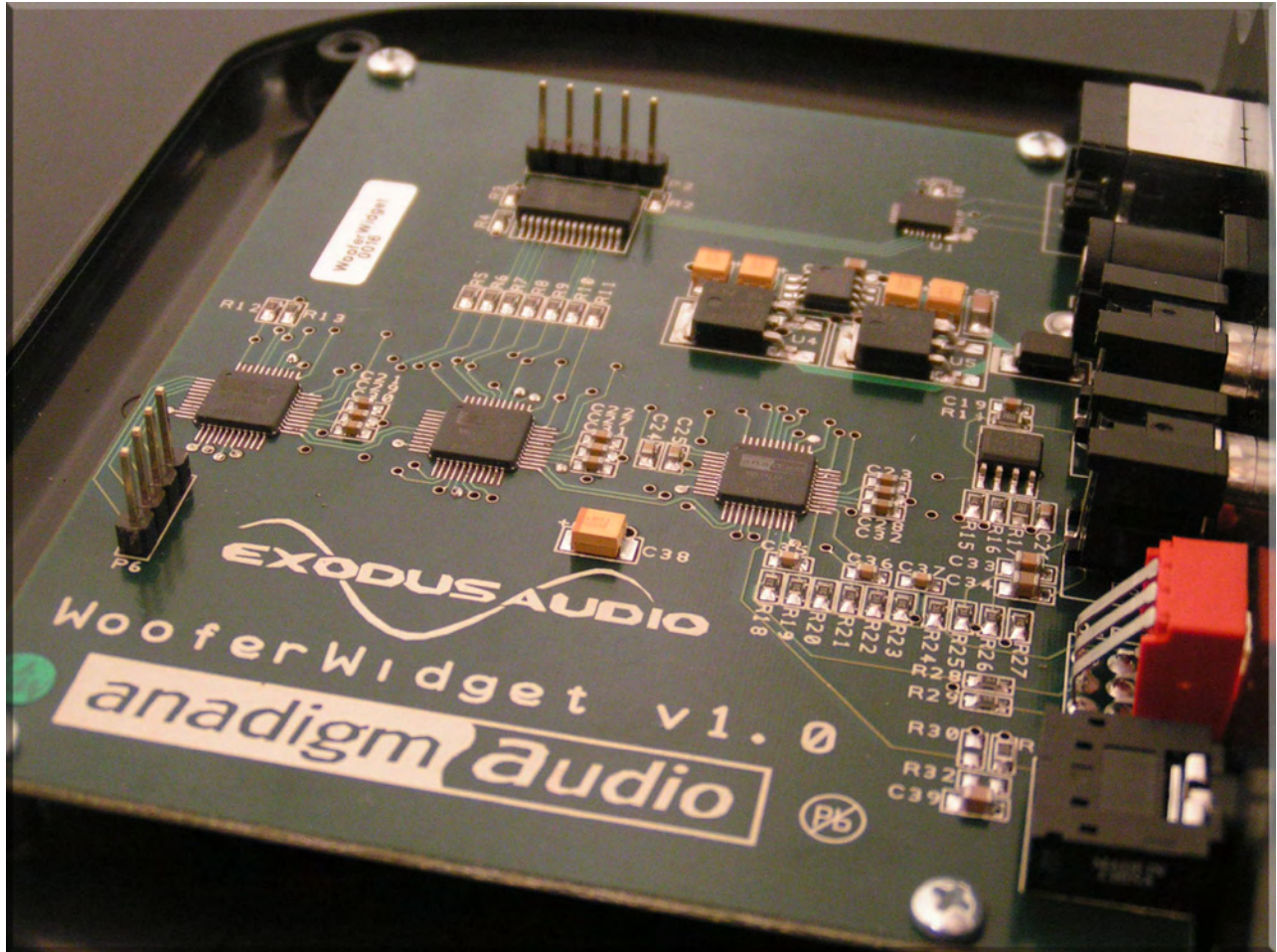
The Woofers Widget is a sample of what can be achieved with the SonicMaster3 chipset. Unlike other solutions, the functionality is determined by software rather than a fixed hardware configuration. If you have a design that needs different filter functions, the programming can easily be changed to adapt to the new design goal. Have the need for a user interface other than the computer? No problem, adding a LCD or graphical user interface with menu driven buttons are all possibilities with minimal development cost.

The Woofers Widget is currently programmed to interface with a standard PC via the USB interface. A small computer driven graphical user interface allows the user to easily adjust a number of subwoofer signal processing tools. The standard variable low-pass filter, gain, variable subsonic filter and other functions are there along with a fully adjustable four band parametric equalizer. What makes the Woofers Widget unique is our measurement system driven by the SonicMaster3 chipset. A swept sine wave is used to get an accurate room measurement with the included microphone, allowing the user to adjust the parametric equalization tool with the real acoustic room measurement. In the span of a few minutes you can measure and equalize the room. In addition, the adjustments made with all the filter functions show the real acoustic measurement of the system, not just the electrical transfer function. These filters can be changed while the system is playing music. After fully equalizing the system, the program is uploaded to the on-board micro controller and the computer can be disconnected from the system. The Woofers Widget maintains the filter functions, even during power-up/down cycles.

Other tools included are a fully programmable Linkwitz shelving filter, allowing the easy bandwidth extension of a closed box transducer. Available but not exposed in the user interface is the



ability to configure a complex limiting filter, based upon frequency and power input. Such tools can be utilized by OEMs to provide intelligent design for a number of either subwoofer or monitor loudspeakers. In addition, the SonicMaster3 used as the signal processing solution for a plate amp can offer the manufacture real solutions in terms of inventory control. No longer do you need multiple products for different signal processing chores. The programmability of the SonicMaster3 chipset allows it to be used across a number of product platforms, reducing inventory and allowing flexible changes to be made to product design in minutes, rather than days.



Evaluation kits are available directly from Anadigm. Included is the microphone, software & USB driver, USB cable, AC wall adaptor and RCA – RCA extension cables. Integration into a test system only requires inserting the WoofersWidget between a source, and the subwoofer amplifier. A 10db cut is available via jumper positions in cases of high output sources. Also available via jumper connections is options for grounding scheme to deal with possible system ground loops.

Product code

Evaluation Kit AN237K08-EVAL5



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