

SonicMaster2

Bass Frequency AutoEQ Chip Set & module. For analog amplifiers, active speakers and active Subwoofers with easy to use PC GUI

Anadigm's SonicMaster2™ is an electronic EQ solution containing two EQ bands and a Linkwitz Transform Shelving (LT) Filter.

For quickly upgrading existing subwoofers, analog amplifiers and active speaker designs with an enhanced feature set that allows for state-of-the-art EQ adjustment with minimal cost and negligible product development effort. Anadigm's audio dpASP (dynamically programmable Analog Signal Processor) makes it simple to add AutoEQ, or just open-loop equalization. It comes out of the box with useable pre-sets: no engineering time or money is wasted on a steep learning curve. SonicMaster2 with a Graphical User Interface (GUI) for PC operation and can be operated as a stand alone embedded solution, therefore there is no need to teach yourself how to use DSP, or hire a DSP programmer: this system works in the analog domain.

SonicMaster2™ Features

- 100% analog signal path for Pure Analog Sound Quality.
- Manual or AutoEQ operation
- Push button control or...
- PC GUI interface to instantaneously adjust for EQ frequency and cut.
- Options for factory pre-set and end user adjustments for the range of two EQ bands and LT Filter.
- Option for custom installer to match bass frequency response to the room or to run "AutoEQ"
- Preconfigured analog circuitry allow user control of EQ filter, cut, width(Q) and centre frequency.
- All functions can be dynamically configured under simple software control, listen to the results real time.
- Programmable standby power mode.
- Optional active differential input connections
- Single channel offer 2 x second order EQ stages, and a second order LT Filter
- Full Featured starter kit for evaluation including board, embedded software and PC GUI.

- Centre frequency selectivity down to 1/12 octave steps.
- Band stop widths (Q) selectivity down to 1/12 octave
- EQ band sensitivity "Cut", form 0dB to 30dB in 1.5dB steps

Product codes

Evaluation Kit	AN237K05-EVAL2
Sample Chipset	AN237K05-SETSP (contains 1 x AN237E04-QFNSP and 1 x AN237C05-SSOSP)
Volume Chipset	AN237K05-SETTY (contains 1 x AN237E04-QFNTY and 1 x AN237C05-SSOTU)

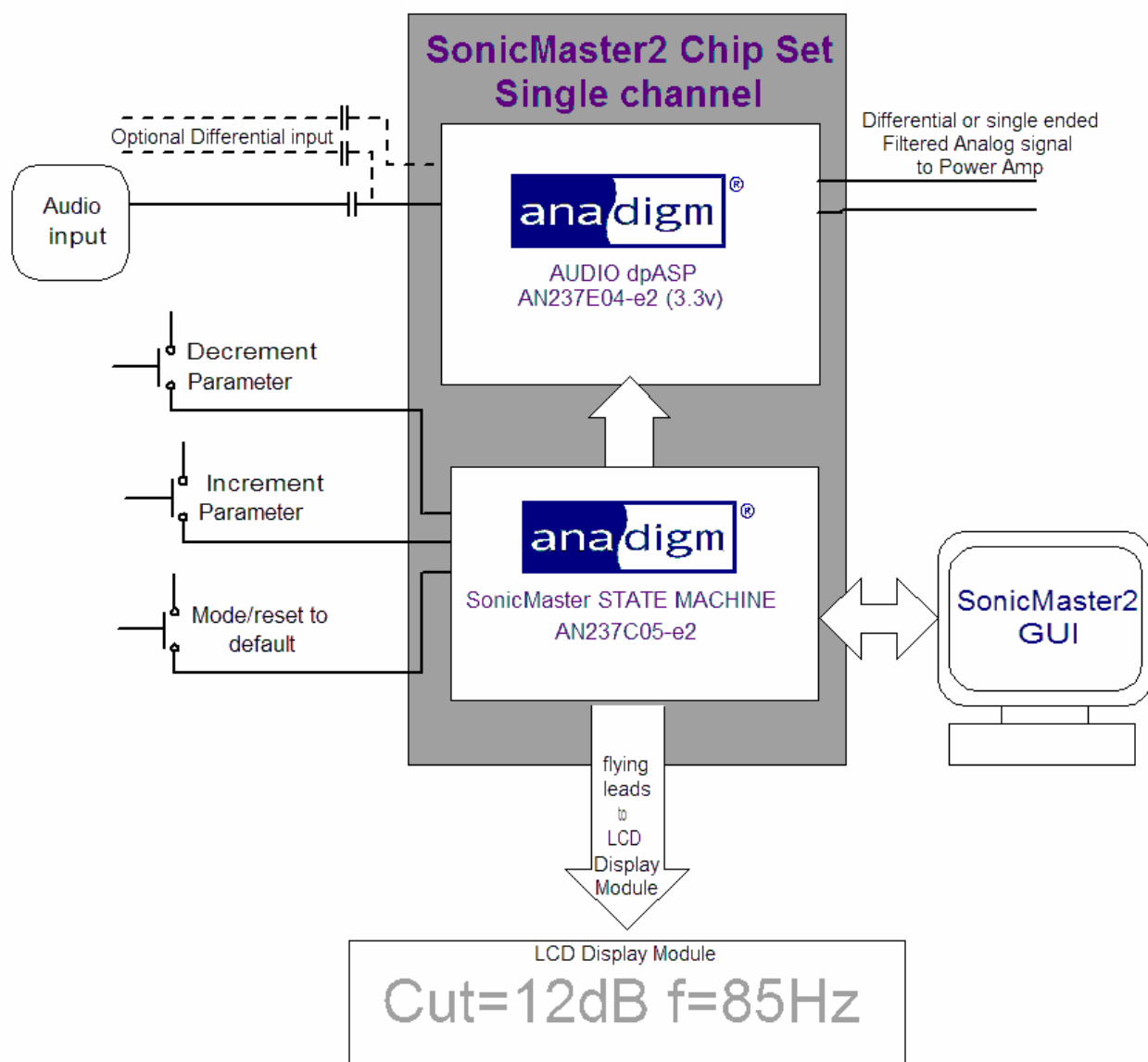
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Email: support@anadigm.com
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Subwoofer Module – SonicMaster2™ is a 3.3 volt, 2-chip solution using Anadigm’s dynamically programmable Analog Signal Processor (dpASP) with an Audio State Machine, enabling audio designers to develop signal processing functions that can be dynamically configured under the control of simple graphical software or manually using buttons or rotary encoders.

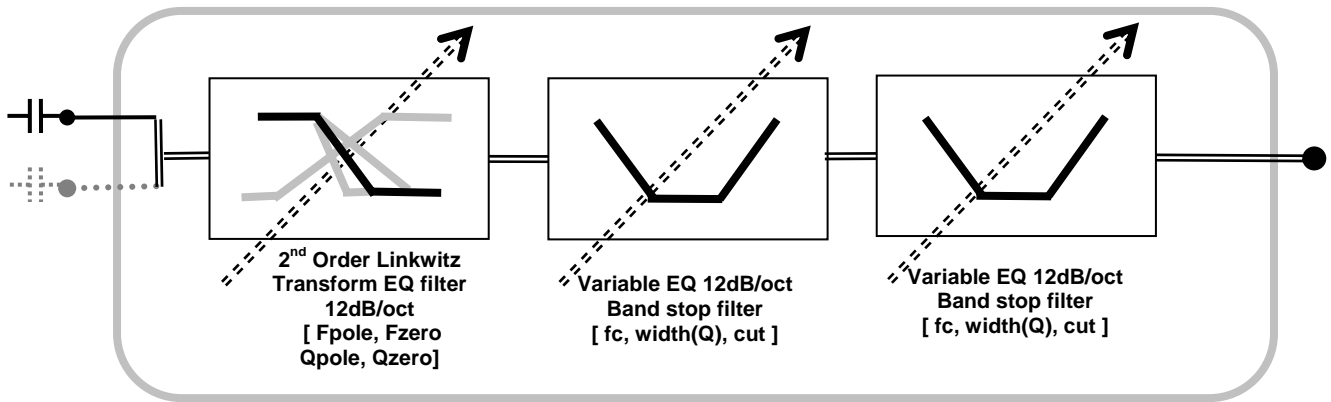
By allowing standardization around a two band EQ circuit, the EQ functionality can be used to serve multiple end products; SonicMaster2™ BassEQ Module simplifies and improves product development, allowing greatly reduced development cost and faster time to market, whilst maintaining maximum installer flexibility. Contact Anadigm to join the AutoEQ program for support. There are no fees for the complete reference design, support software or technical support.

Firmware customized versions of this chipset can be developed for specific circuit requirements, if your exact requirements are not met contact Anadigm.

SonicMaster2 Solution uses two chips

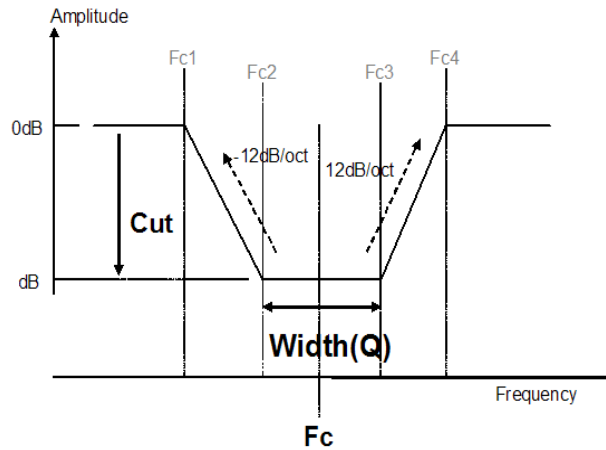


dpASP Sub Module - Analog signal path *Single channel circuit*



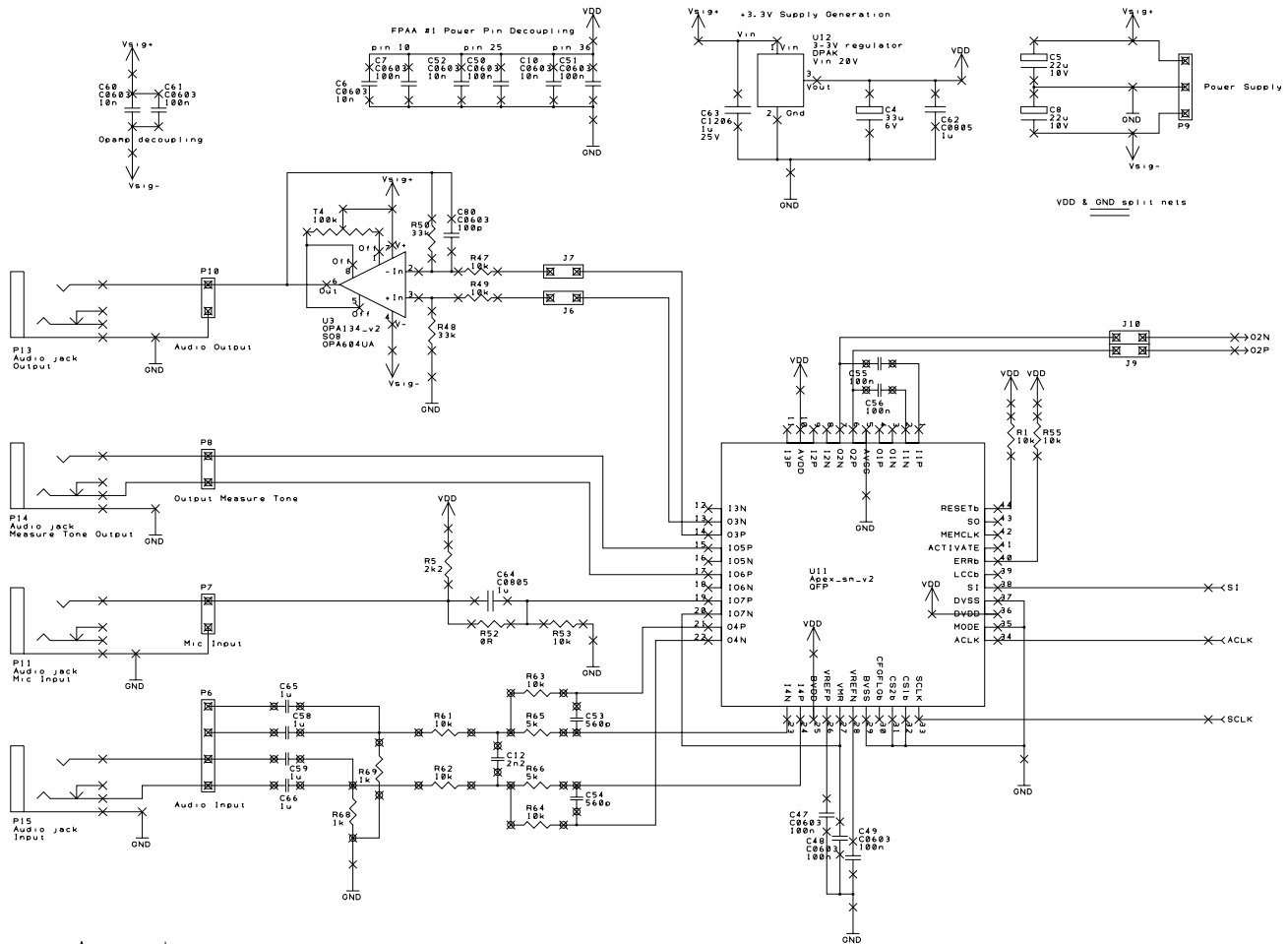
- Single-end with or differential input and outputs.
- Selectable 2nd order EQ Blocks (Band Stop Filter)
 - Center Frequency (25 to 250Hz)
 - Q – Width (1/12 to 1 octave)
 - Cut (Attenuation) – (0 to 30dB)

DEFINITIONS



SonicMaster2: Programmable Feature Set. (absolute values are firmware and can be changed)
Control via the PC GUI or via SonicMaster2 state machine menu, buttons and LCD

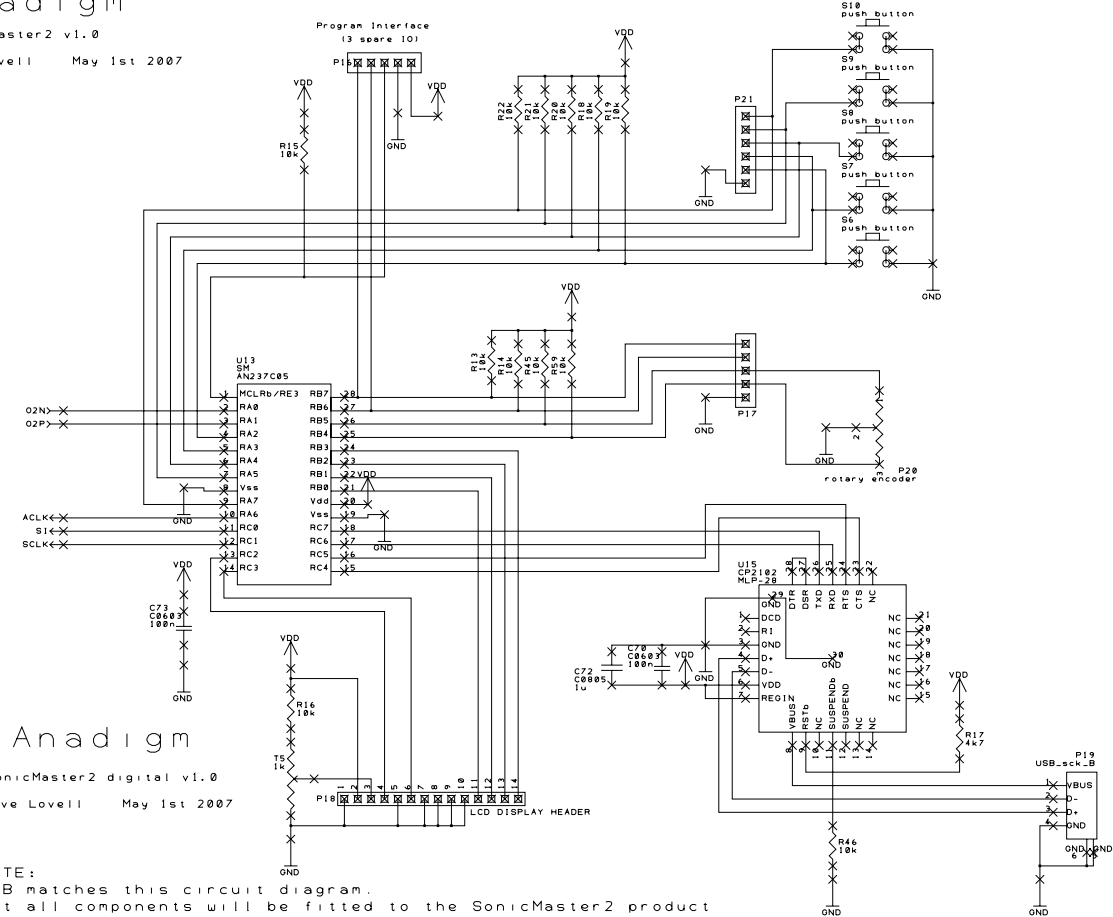
Mode Select	Function	Increment/decrement
Hold for 5 seconds	Resets to factory default	-
	From power up Displays software revision for 3 seconds then goes to "home"	
"home"	Center Frequency	20Hz to 400Hz - 1/12 Octave steps
Tap once	Cut (attenuation)	0dB to -30dB, in 1.5dBsteps
Tap again	Width (Q)	1/12, 1/6, 1/4, 1/3, 1/2, 1 octave at the set "cut"
Tap again	Start AutoEQ	
When using the Board, buttons and LCD the menu will return to "home" after 3 seconds		



Anadigm

SonicMaster2 v1.0

Dave Lovell May 1st 2007



Anadigm

SonicMaster2 digital v1.0

Dave Lovell May 1st 2007

NOTE:
PCB matches this circuit diagram.
Not all components will be fitted to the SonicMaster2 product