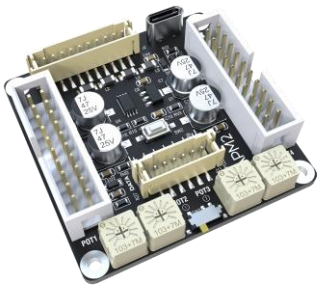
Audio Processing Module Series



ADAU1701
Digital Signal Processor
Kernel Board – APM2 (AA-AP23122)

Key Features:

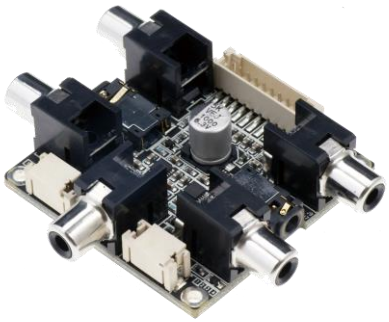
- Equipped with ADAU1701 Chip
- 28/56 bit Digital Signal Processor Engine
- 24bit ADC/DAC Resolution
- 48kHz Sample Rate
- On-board Potentiometer for audio system control
- 5V USB Type-C Power
- Supporting SigmaStudio Programing (USBi or ICP)
- Compact Size & Light Weight
- Supporting 2-in, 3-out Interface Extension Board
- PCB Size: 2 x 2 inches

Benefits:

- Easy for Integration
- Highly Cost-Effective

Applications:

- Digital Crossover
- Bass Enhancement
- Noise Suppression System
- EQ Adjustment
- Home Theater / Car Audio



Interface Extension Board – APM3
(AA-AA11428)

Distributors:

PARTS EXPRESS element14

AXIOMEDIA

boomaudio!

AUDIOPHONICS

Yokohama Bayside Net

All Audio Amplifier boards are complied with ROHS and they are pre-tested with our power supply solution to comply with FCC and CE. We could provide FCC, CE and RoHs certifications for customers' convenience. The test reports will be provided upon requests by e-mails only for customers who apply for bulky purchasement of MOV USD$10,000 or MOQ 500pcs.

Ready for:

FC CE

Contact Info

- Email:
info@sure-electronics.com

WONDOM™

Overview

ADAU1701Digital Signal Processor - APM2

WONDOM APM2 is a digital signal processor kernel board based on ADAU1701 chip, supporting functions as gain adjustment, high-low pass filter, bass enhancement and so on. There are built-in ADC and DAC, whose dynamic range reaches 98.5dB. THD of ADC is -83dB and that of DAC is -90dB. There are four on-board potentiometers on APM2 for the gain and cut-off frequency adjustment of treble and bass. You can control the audio to the actual listening environment, speaker configurations and your music preference.

APM2 supports write and download program in SigmaStudio through original USBi or WONDOM ICP programmer. Taking customers' operation and real-time control requirements into consideration, we have developed an APP or PC UI, with which you can get the remote control of audio system (You need to connect with ICP for remote control).

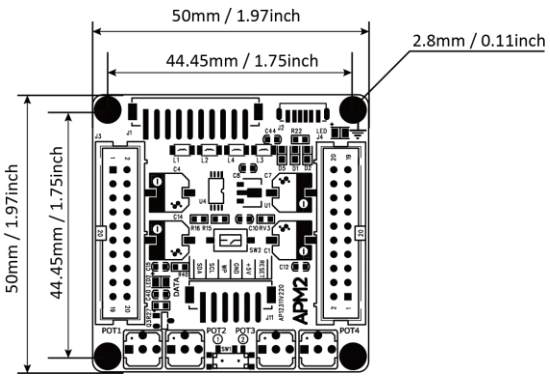
We have provided open-sourced demo programs of our DSP products. You can download them for reference before programming. As for the correspondence of hardware and software, please refer to <The correspondence of APM2 hardware and DSP program.pdf>.

Interface Extension Board – APM3

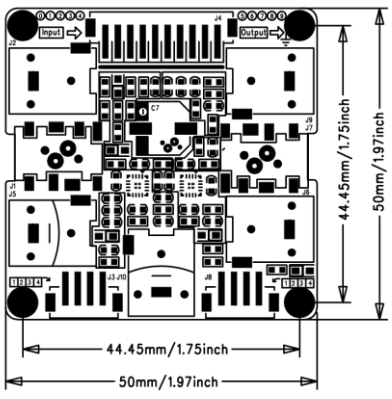
To help customers with easy system integration, we have designed an interface extension board APM3 for use with APM2, which is the same PCB size with APM2.

APM3 is a 2-in, 3-out extension board, offering various input and output interfaces as RAC ports, 3.5mm jack and PH connectors. You only need a 10-pin cable to connect APM2 and APM3, which comes with APM3.

Dimensions

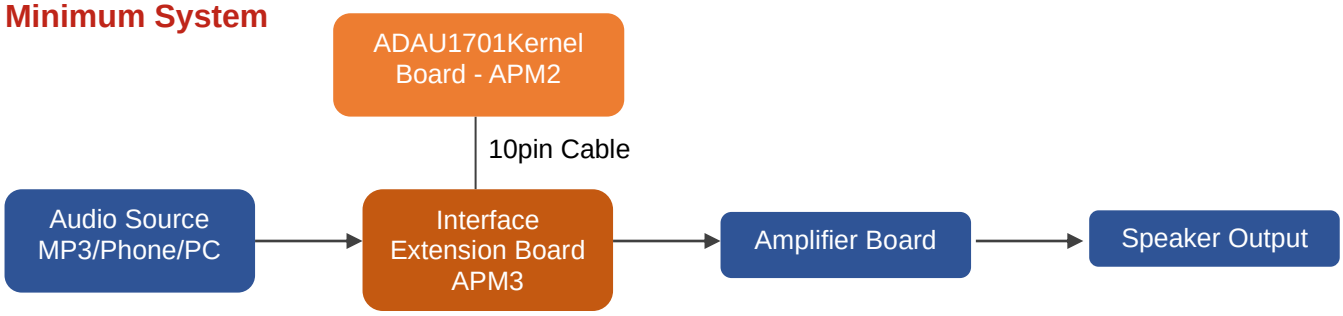


ADAU1701 Digital Signal Processor – APM2

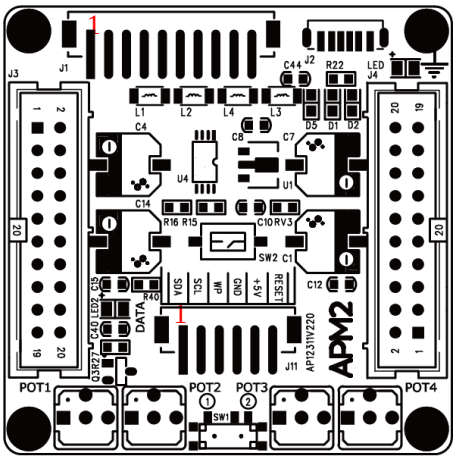


Interface Extension Board – APM3

Minimum System



APM2 Pin Definition



Power Supply Connector:

· J2

5V USB Type-C

Audio Extension Connector:

· J1 PH-10pos-2mm

For connection with APM3, the 10-pin cable comes with APM3.

Pin	Definition	Pin	Definition
1	AINL	6	OUTL1
2	SGND	7	OUTR2
3	AINR	8	OUTL2
4	+3.3V	9	GND
5	OUTR1	10	VIN

Programming Connector:

· J11 PH-6pos-2mm

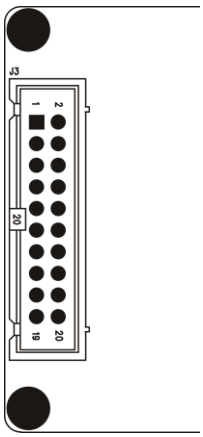
For connection with WONDOM ICP programmer for programing or remote control, the 6-pin cable comes with ICP.

Pin	Definition
1	SDA
2	SCL
3	WP
4	GND
5	+5V
6	RESET

Extension Port:

· J3

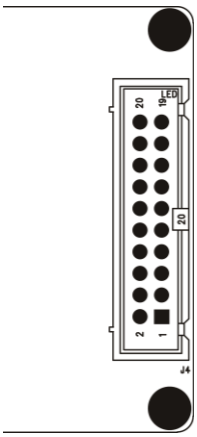
Pin	Definition	Pin	Definition
■ AD0	Analog Audio Input 0	GND	Ground
AD1	Analog Audio Input 1	GND	Ground
SCL	I2C Clock	WB	EEPROM Write Back
SDA	I2C Data	WP	EEPROM Write Protection
RST	Reset (Active Low)	DAC0	Digital-to-Analog Converter 0
MP2	Multiple-Purpose Input & Output Pin, on APM2, these are used for potentiometers. (Refer to ADAU1701 datasheet for detailed information)	DAC1	Digital-to-Analog Converter 1
MP3		DAC2	Digital-to-Analog Converter 2
MP8		DAC3	Digital-to-Analog Converter 3
MP9		GND	Ground
DPW	Digital Power Output	+3.3V	Power Supply (Output)

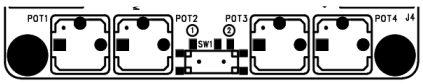


Extension Port:

· J4

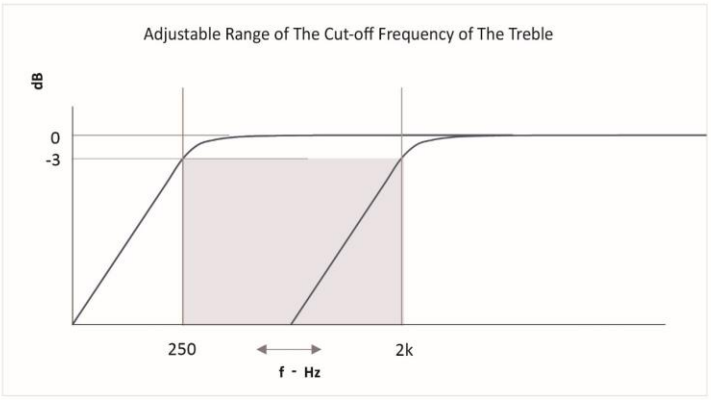
Pin	Definition	Pin	Definition
VIN	Other Power In	GND	Ground
MP4	Multiple-Purpose Input & Output Pin (Refer to ADAU1701 datasheet for detailed information)	GND	Ground
MP5		GND	Ground
MP1		GND	Ground
MP0		GND	Ground
MP7		GND	Ground
MP6		GND	Ground
MP10		GND	Ground
MP11		GND	Ground
MCLK	Master Clock Input	GND	Ground



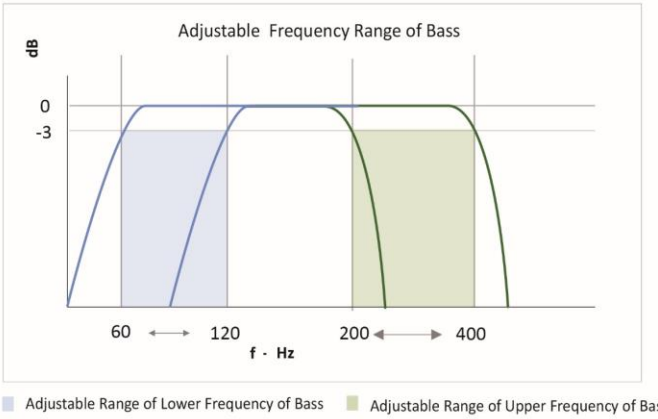


POT1: Bass Gain
POT2: Cut-off Frequency of Bass
POT3: Cut-off Frequency of Treble
POT4: Overall Gain

The adjustment range of the reset frequency:

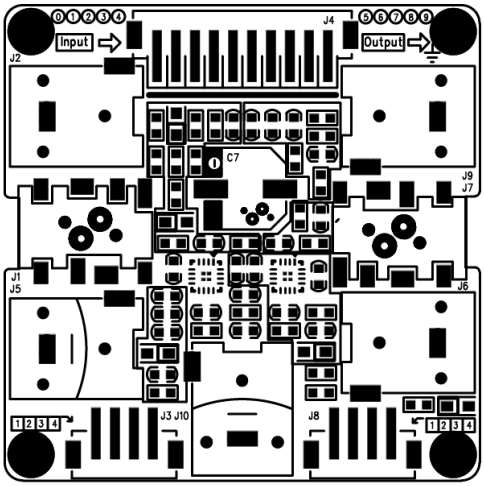


The adjustable cut-off frequency of treble: 250Hz-2kHz



The adjustable lower cut-off frequency of bass: 60Hz-120Hz
The adjustable upper cut-off frequency of bass: 200Hz-400Hz

APM3 Pin Definition



Audio Input Connector:
- J1 3.5mm AUX IN
- J2, J5 RCA Jack
- J3 PH-4pos-2mm Line Input

Pin	Definition
1	INL
2	GND
3	GND
4	INR

Note: The three input methods cannot be used at the same time.

Audio Output Connector:
- J7 3.5mm Headphone Output
- J6, J9 RCA Output
- J10 RCA for Subwoofer Output
- J8 PH-4pos-2mm Line Output

Pin	Definition
1	INL
2	GND
3	GND
4	INR

APM2 Connection Connector:
- J4

Pin	Definition	Pin	Definition	Pin	Definition	Pin	Definition	Pin	Definition
1	AINL	3	AINR	5	OUTR1	7	OUTR2	9	GND
2	AGND	4	+3.3V	6	OUTL1	8	OUTL2	10	VIN

Open-sourced Demo Program

Product	Funciton	Files	Download
APM2	Demonstration of signal flow	APM2_SigmaStudio.dsppproj	Download
JAB3 - Mono	Demonstration of signal flow	JAB3_SigmaStudio_MONO.dsppproj	Download
JAB3 - Stereo	Demonstration of signal flow	JAB3_SigmaStudio_STEREO.dsppproj	Download
Note: The demo program is only for demonstration of signal flow. These are not original settings program.			

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