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aAMP-Ic

Low Cost Arcade Amplifier Design Specification

User Guide - Revision 1.00 03/22/04

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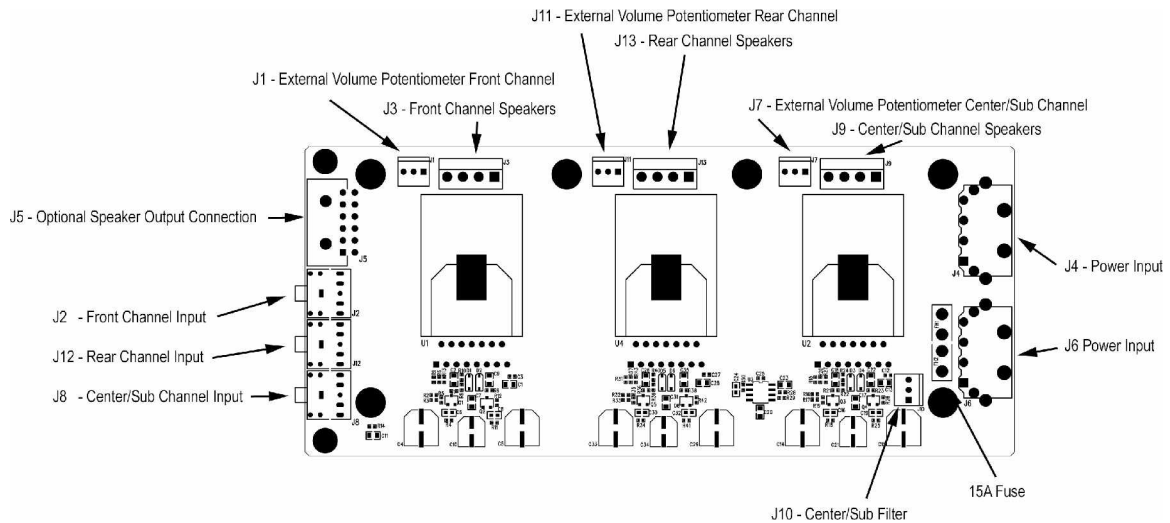
Overview

The aAMP-Ic is a six channel audio amplifier for Kiosk, Gaming, Arcade and other coin-op type applications. It is designed for maximum flexibility providing up to six channels of audio amplification powered by a 12vdc source.

Legal Statements

The aAMP-Ic board is copyright © 2003 by UltraCade Technologies, All Rights Reserved. The aAMP-Ic board and it's algorithms are Patent Pending. aAMP-Ic is a trademark of UltraCade Technologies. aAMP-Ic is exclusively distributed by Happ Controls.

Connections



- J2 – Front Channel Input – Mini Stereo
- J12 - Rear Channel Input – Mini Stereo
- J8 – Center/Sub Input – Mini Stereo
- J5 – Option Speaker Output Connector
 - Pin 1 – Center -
 - Pin 2 – Center +
 - Pin 3 – Sub -
 - Pin 4 – Sub +
 - Pin 5 - Rear Right –
 - Pin 6 - Rear Right +
 - Pin 7 - Rear Left –
 - Pin 8 - Rear Left +
 - Pin 9 - Front Right –
 - Pin 10 - Front Right +
 - Pin 11 - Front Left –
 - Pin 12 - Front Left +

- J1 – Front External Volume Control
- J11 – Rear External Volume Control
- J7 – Center / Sub External Volume Control
 - Pin 1 - +12v
 - Pin 2 – Wiper
 - Pin 3 – Ground
- J3 – Front Channel Speaker Output
- J13 – Rear Channel Speaker Output
 - Pin 1 - Right +
 - Pin 2 - Right –
 - Pin 3 - Left –
 - Pin 4 - Left +
- J9 – Center/Sub Channel Speaker Output
 - Pin 1 - Center +
 - Pin 2 – Center –
 - Pin 3 – Sub –
 - Pin 4 – Sub +
- J4 – Power Input
- J6 – Power Input
 - Pin 1 - +12v
 - Pin 2 – Ground
 - Pin 3 – Ground
 - Pin 4 – not used
- J10 Filter Configuration
 - 1-2 – No Filter
 - 2-3 – Filter Input

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Low Pass Filter x.1 Configuration

The board has a jumper, J10, to configure the low pass filter. Some sound cards have support for subwoofer, and have a built in low pass filter. The most common configuration like this is a 5.1 sound card, which puts out normal sound on 5 of the channels, and on one of the channels (to be connected to a subwoofer) it has a filter which has removed all of the mids and highs so only low frequencies are passed to the subwoofer. The aAMP-Ic board has a built in low pass filter circuit on it, whereby, the input from channel 6 can be filtered (filters out all but 20Hz to 80Hz). output to a subwoofer. This would be very handy for audio coming from a normal stereo signal, and give it support for a subwoofer without having to change the source system. You must have a jumper either on Pins 1 to 2 or 2 to 3, otherwise no output from this channel will reach the amplifier circuit.

Bridged Input Configuration

The aAMP-Ic allows for bridged input, giving you the ability to drive all channels with a single input source. The circuit automatically detects if a input cable is plugged into J12 or J8, and if there is not, it splits the signal from J2 to each of those channels. This allows you to have pseudo 2.1, 3.0, 4.1, 5.0, or 5.1 outputs from a 2.0 input.

Mounting

The PCB has four corner holes so that it can be mounted on any surface. It also has an optional PC Bracket so that it could be mounted in a PC slot.

Attenuation / Volume Control

The board is normally controlled by software volume levels, with the amplifier putting out 100% volume in hardware. You can attach an external 5k potentiometer to each channel for a hardware volume control. J1, J11, and J7 are connectors that allow for the attachment of the external volume control.



Revision History

- March 22, 2004, DRF, Original Version