

AGDE-G10 Overview

The AGDE-G10 is the first in Altonics' newest line of quality, high performance multi effects processors. Although many users of the AGDE-G10 will be looking for a solution for high end multi-effectors or guitar & bass related sound processing, the wide range of effects provided by the AGDE-G10 is suitable for various applications including mixers, karaoke amplifiers and other sound enhancement products.

Instilled with Altonics' 15 years of know-how in digital sound processing, the AGDE-G10 provides the best audio quality and performance possible for whichever application you choose. With the Altonics name behind it, you know you can trust the quality of this audio signal processor.

The AGDE-G10 is an all in one effects solution. It supports filters that can be used for such as EQ, spatial effects such as echo and reverb, the whole range of modulation effects including chorus, flanger, phaser, auto-wah, volume-wah, pedal-wah, tremolo, auto pan and more. It also encompasses dynamics processing with a noise gate, compressor, and limiter. Fuzz, overdrive, and distortion are all provided in their full crunchiness while still maintaining crisp clear digital sound. Add a built-in chromatic tuner and real time 32 bit digital processing, and you won't need to look any further for all your sound enhancement needs.

In the following pages you will find our reference design implementing AGDE-G10's functions to the fullest. Just pick the functions you want and match them with your custom control and display.

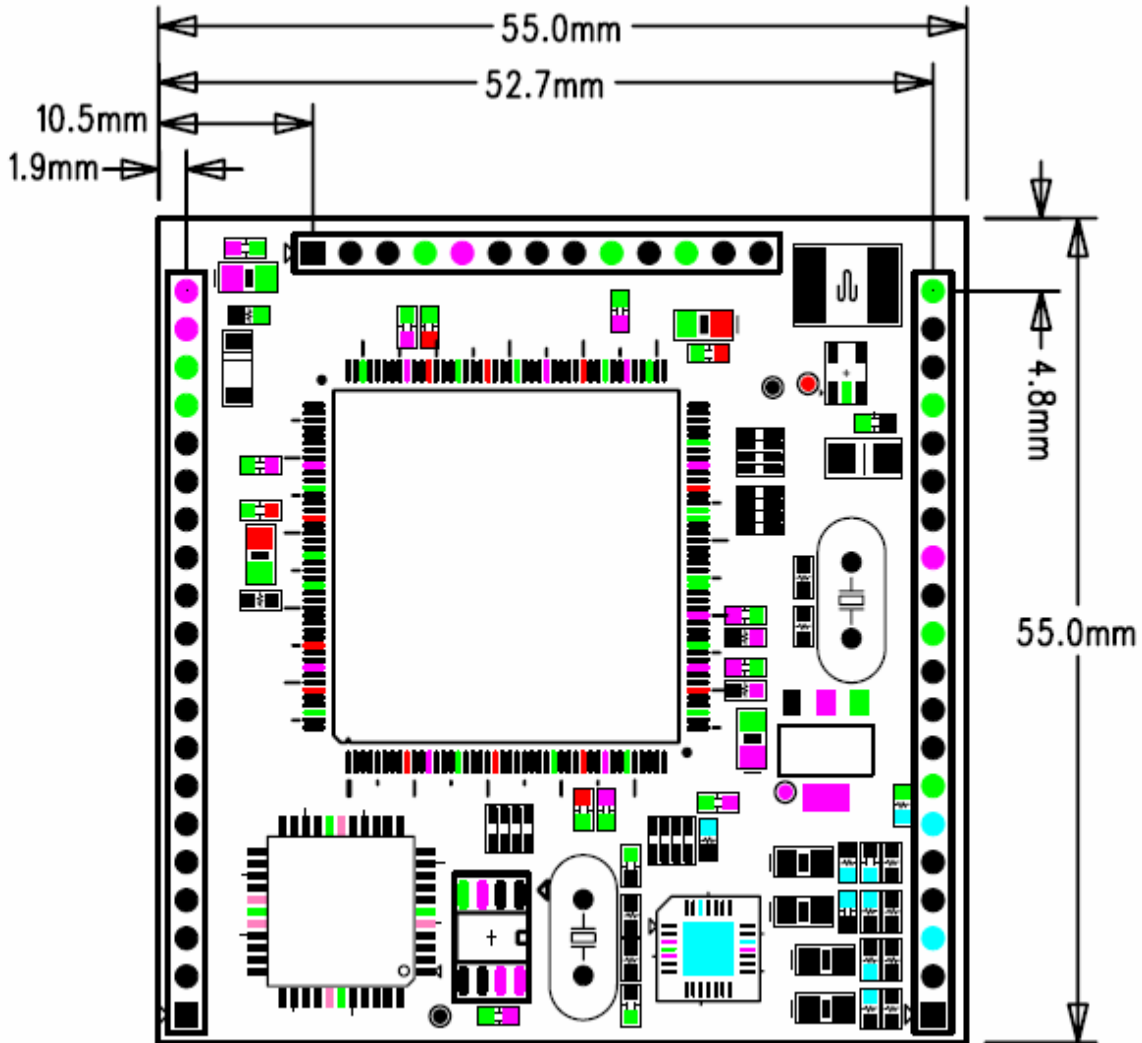
AGDE-G10 Features

- Premium effects solution for guitar/bass amplifiers, multi-effectors, mixers and more.
- Accurate simulation of the hottest effectors, amplifiers and signature sounds from top musicians.
- 32-bit full digital processing, 24-bit AD/DA conversion, and sampling rates of up to 96 kHz.
- Functions extendable using external UART interface.
- RoHS (PB-free)

AGDE-G10 Specification

- Analog Audio Input/Output : 2-in 2-out (Mono or Stereo)
- Audio Input/Output Impedance : 100k Ω / 470 Ω ?
- Maximum Input/Output Level : 0dBu = 2.8 Vpp?
- Nominal Level : 0dBu
- DSP arithmetic: 28 x 30-bit
- AD/DA converter : 24-bit / up to 96kHz
- S/N Ratio : >100dB?
- THD +N 0.015% @ 1kHz 0dB?
- Frequency Response : 20Hz - 20kHz +/- 0.5 dB?
- Power Consumption : 300 mA

AGDE-G10 Module Dimension



AGDE-G10 Module Pin Connection

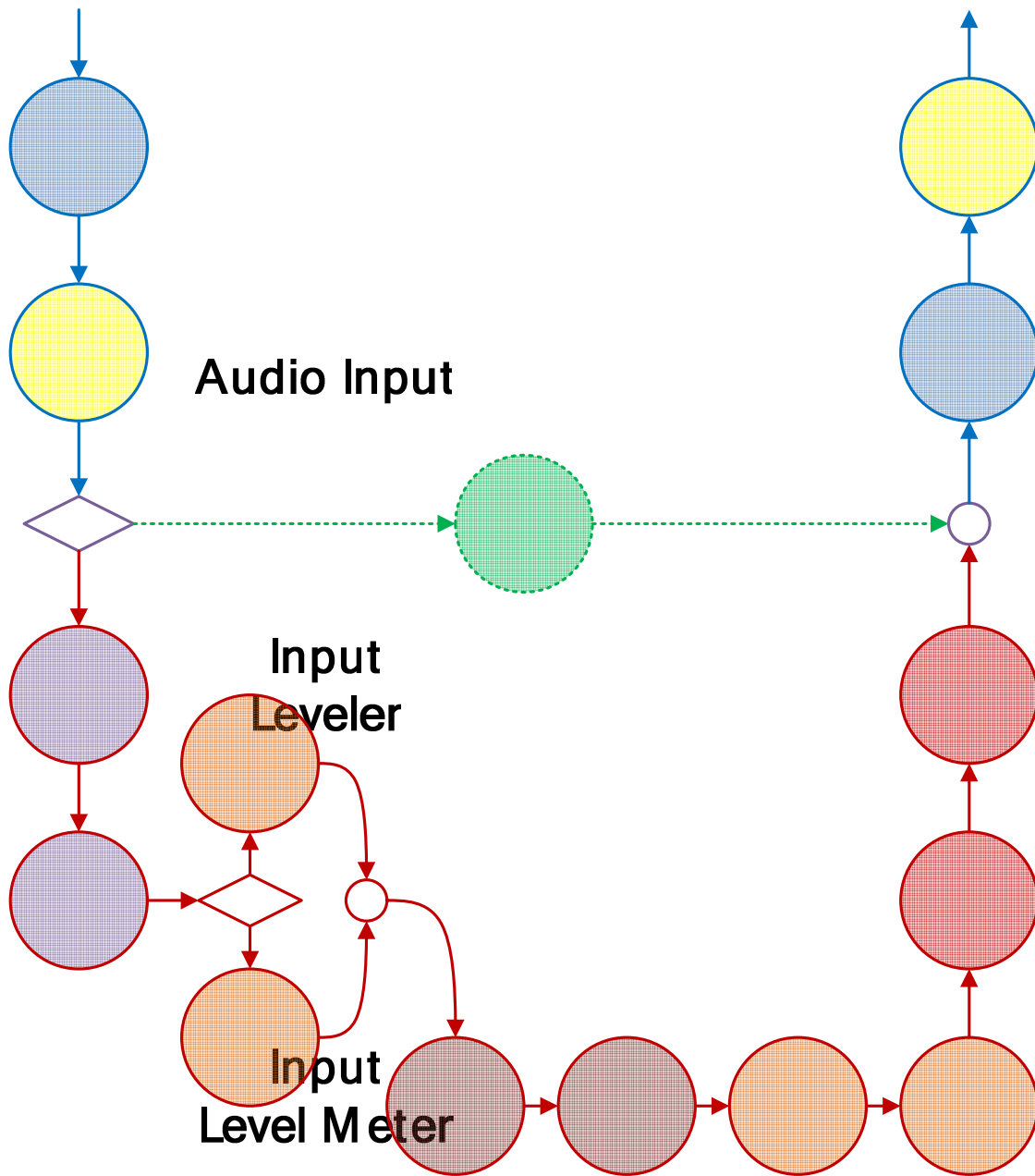
J1

1	ADC0	Analog input for potentiometer / General-purpose I/O
2	ADC1	Analog input for potentiometer / General-purpose I/O
3	ADC2	Analog input for potentiometer / General-purpose I/O
4	ADC3	Analog input for potentiometer / General-purpose I/O
5	ADC4	Analog input for potentiometer / General-purpose I/O
6	ADC5	Analog input for potentiometer / General-purpose I/O
7	ADC6	Analog input for potentiometer / General-purpose I/O
8	ADC7	Analog input for potentiometer / General-purpose I/O
9	GPIO0	General-purpose I/O
10	GPIO1	General-purpose I/O
11	GPIO2	General-purpose I/O
12	GPIO3	General-purpose I/O
13	GPIO4	General-purpose I/O
14	GPIO5	General-purpose I/O
15	GPIO6	General-purpose I/O
16	GPIO7	General-purpose I/O
17	DGND	Digital ground
18	DGND	Digital ground
19	DC+3.3V OUT	Voltage supply for external controllers
20	DC+3.3V OUT	Voltage supply for external controllers

J2

1	LOUT	Analog audio signal left output
2	ROUT	Analog audio signal right output
3	AGND	Analog ground
4	LIN	Analog audio signal left input
5	RIN	Analog audio signal right input
6	AGND	Analog ground
7	DGND	Digital ground
8	RxD	UART Rx
9	TxD	UART Tx
10	DGND	Digital ground
11	DC+5V IN	DC power in +5V
12	DC+5V IN	DC power in +5V

AGDE-G10 Effect Block Diagram



Selector

Chromat
Tuner

* Above audio flow chart can be customized.

AGDE-G10 Drive & Sound Models

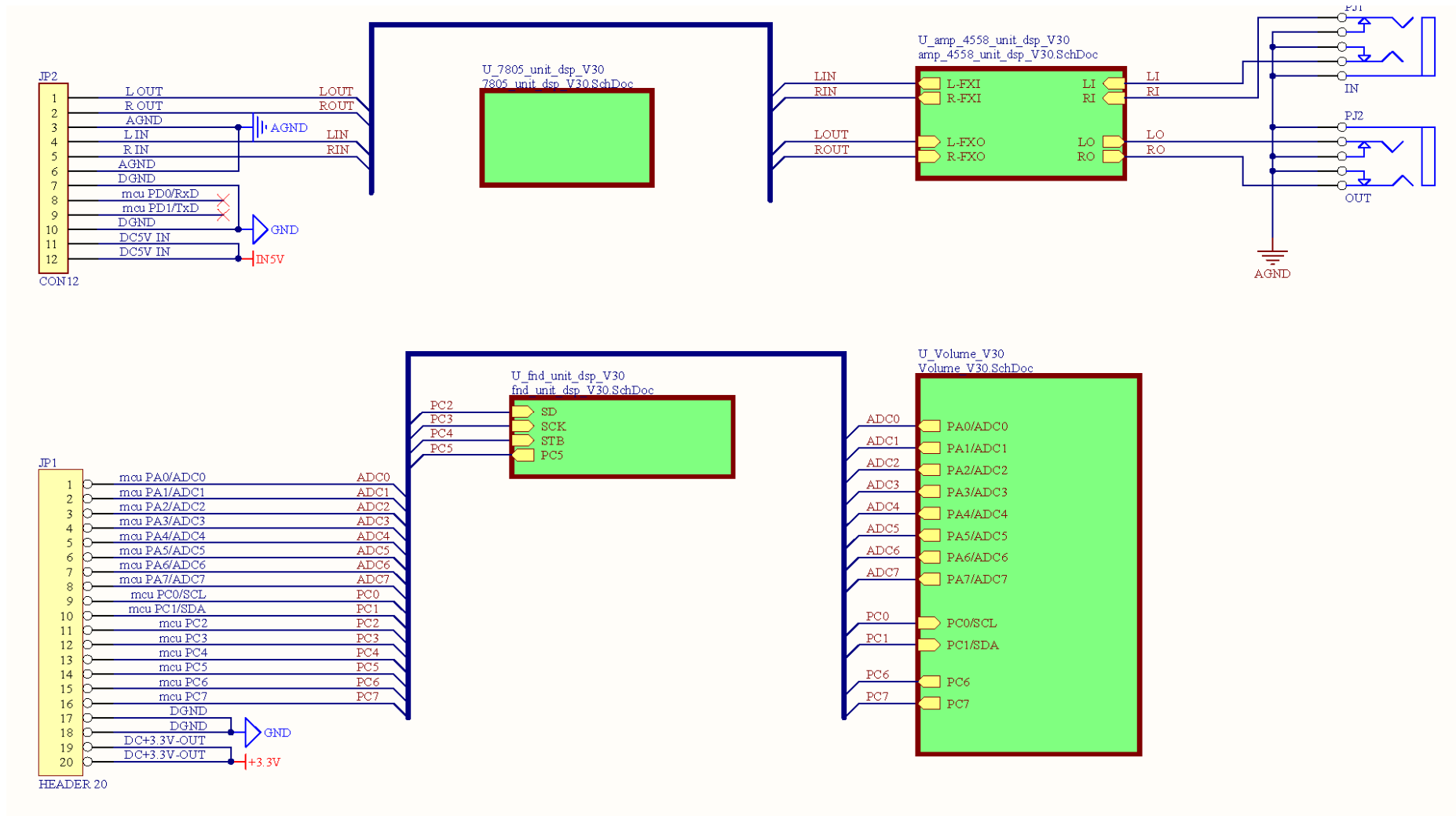
1	JC Clean	Based on Roland JC-120 Jazz Chorus Amp
2	TSC	Modeled from Ibanez TS808
3	DIST	Modeled from Boss DS-1
4	METAL	Modeled from Boss MT-2
5	FF	Modeled from Dallas-Arbiter Fuzz Face
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* Above list is prone to updates without prior notice in an ongoing effort to provide more sounds for users.

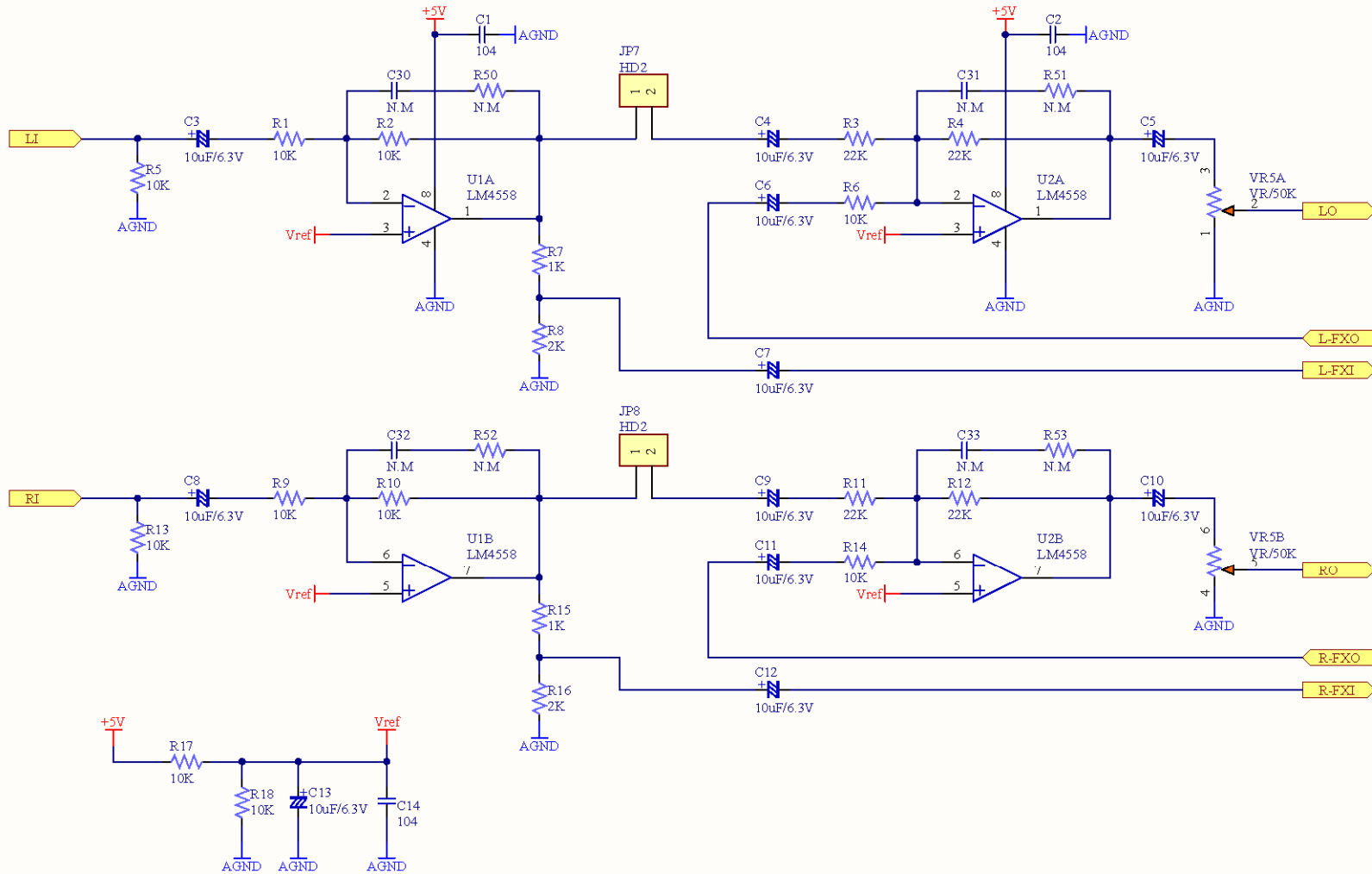
AGDE-G10 UART Control Registers

*to be added.

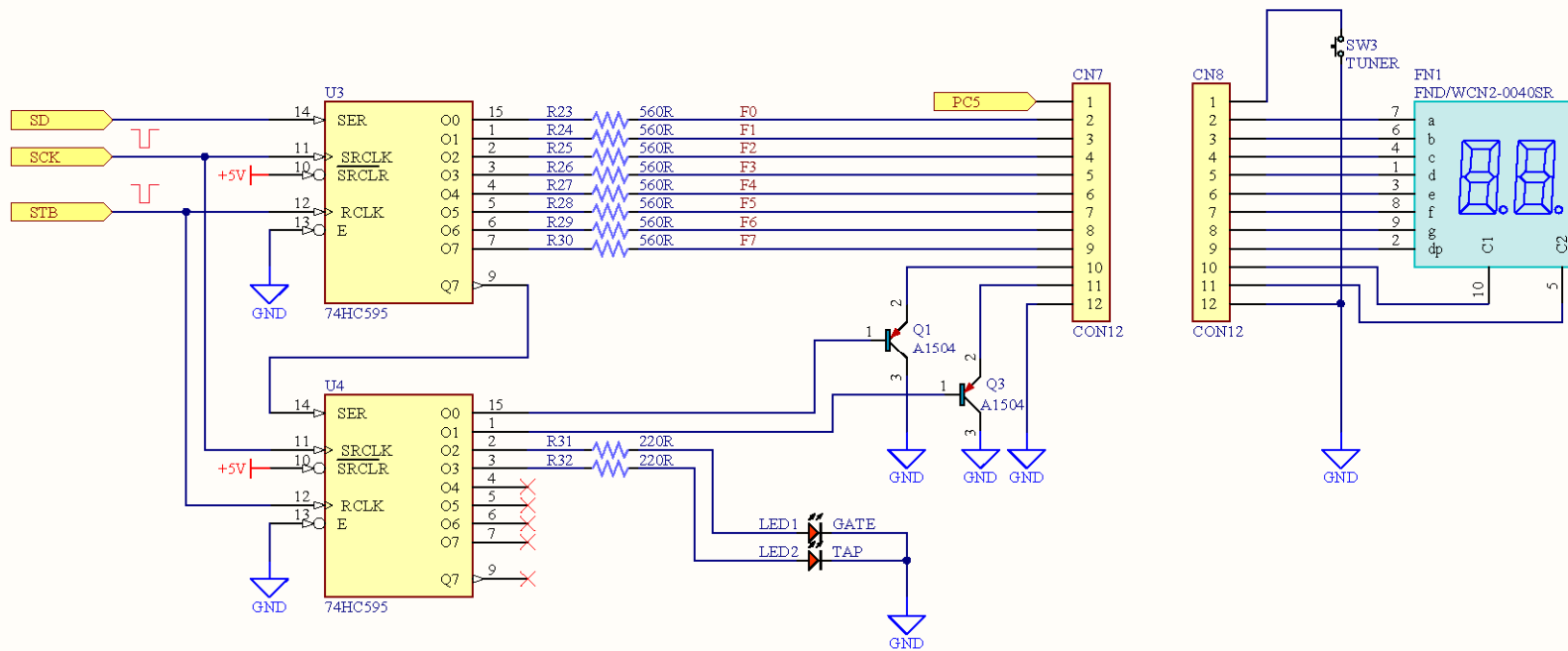
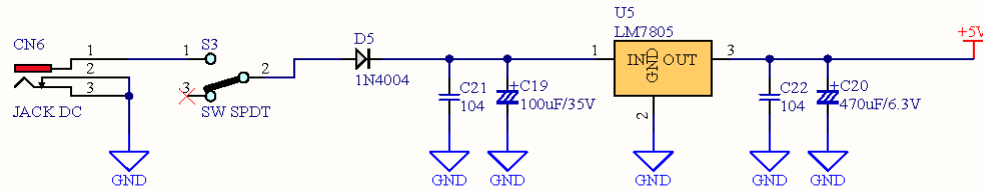
AGDE-G10 Application #1 : Guitar/Bass Amp Head



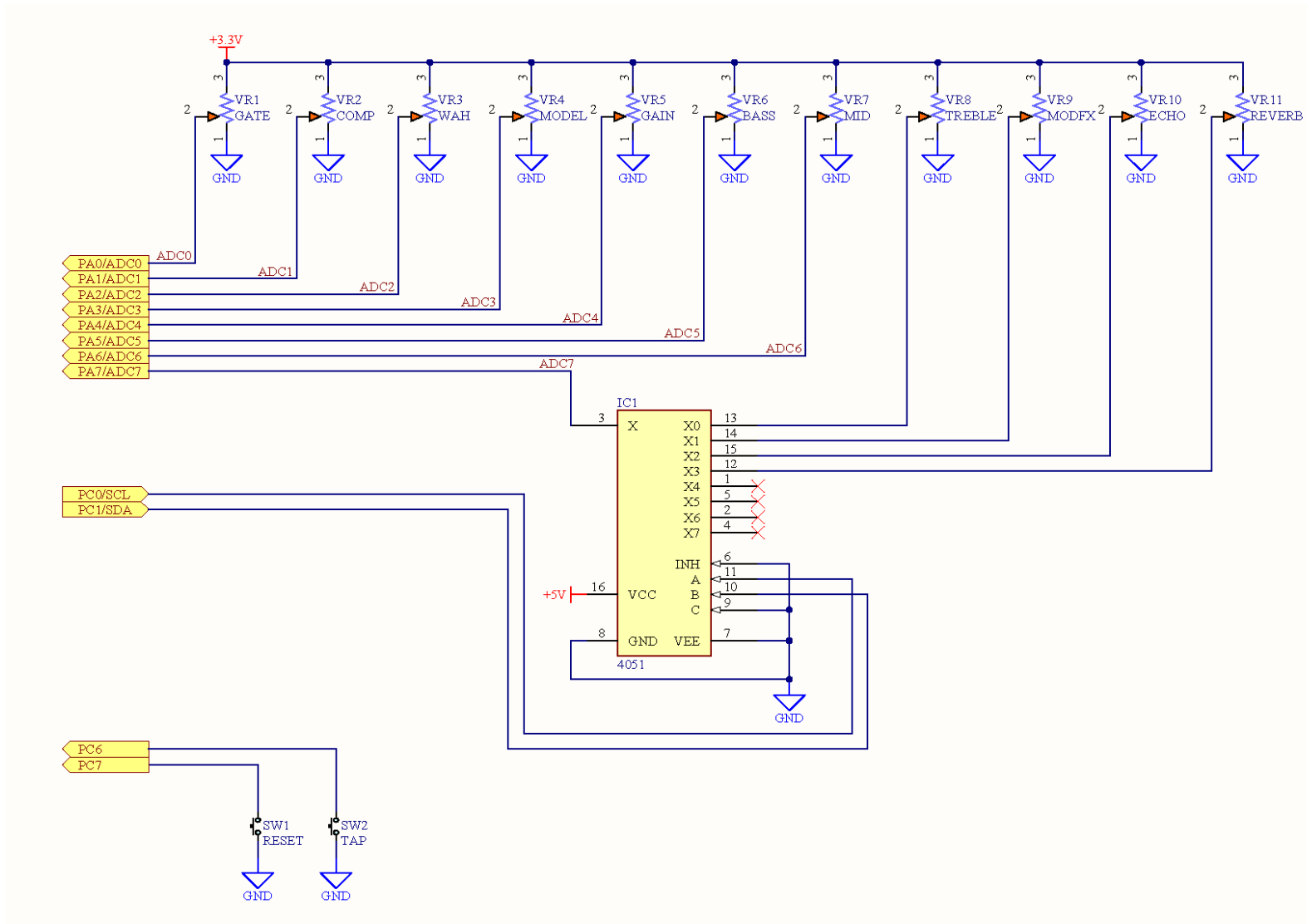
AGDE-G10 Premium Digital Audio Processing Module



DC 9V 1A



AGDE-G10 Premium Digital Audio Processing Module



AGDE-G10 Ordering Information & Contact Point

Visit us at our website for more products and more information!

Website: <http://www.altonics.com>

E-mail: kalicrys@altonics.com

Address:

Suite 409, Woori Venture Town II
82-29, Mullae-3-ga, Yeongdeungpo-gu
Seoul, Republic of Korea (150-700)

TEL: +82-2-2601-1466

FAX: +82-2-2601-1468

AGDE-G10 Datasheet Revision History

v 0.8	16 Sep 2009	Preliminary draft.