

FEATURES

Hardware

- . Bridged Tied Load (BTL) - 2x20W @8Ω
- . Single Ended (SE) - 4x10W @4Ω
- . Hybrid (SE/BTL) - 2.1ch (2x10W+1x20W)
- . Closed loop power stage architecture
- . Output power independent of supply voltage variations
- . All digital I2S input amplifier
- . Supports 32kHz to 192kHz sampling rate with automatic detection
- . Thermal & short-circuit protection
- . Easily stack with MiniDSP series

Configuration switches

- . Gain selection (-3/+3/+9/+12 dB)
- . I2S channel selection
- . Mute, Power down, reset control
- . BTL (2ch)/SE (4ch)/2.1ch configuration
- . Spare PWM output for external Sub out

Power

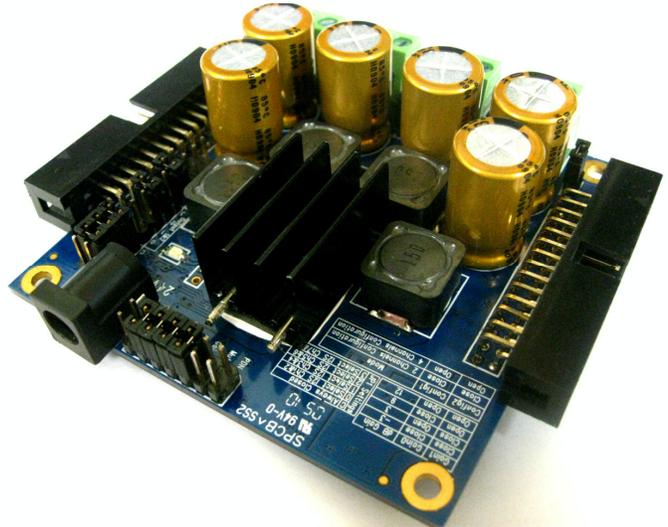
- . Wide power supply voltage range from 12 to 24Vdc - Max power @ 24Vdc

Applications

- . Active loudspeakers
- . Processed multi-channel amplifiers
- . Car audio amplifier
- . Battery powered amplifier
- . 5.1 home theater system
- . Custom Pro Audio project

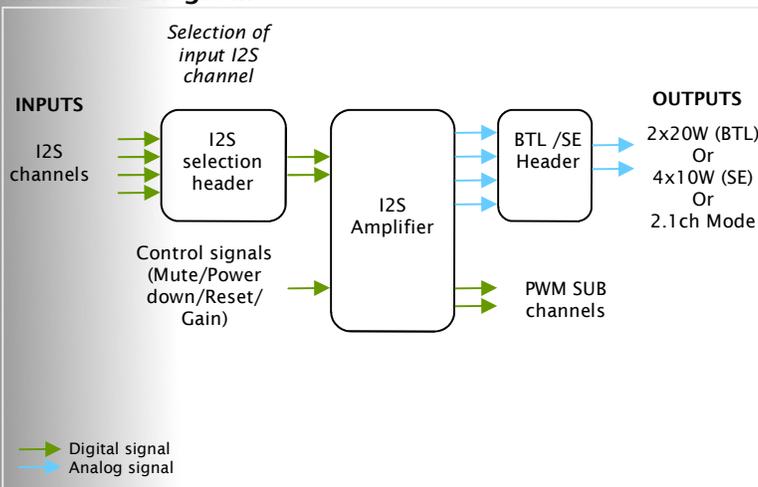
miniAMP is a digital amplifier module designed for low power, high efficiency, stereo or multi-channel applications. Configured in Bridge Tied Load (BTL, differential drive) for stereo mode (2x20W), it can also be configured to single ended (SE) mode for 4 channels (4x10W).

This credit size amplifier module will stand out from the Class D crowd with its closed loop power stage architecture. Among the many advantages of such architecture, a higher Power Supply Rejection Ratio (PSRR) of up to 60dB, lessens the impact of power supply noise on audio quality. The higher damping factor of closed loop power stage also provides better control of speaker cone movement, especially at low frequency. All together, superior audio performance that one would not expect from such tiny amplifier.

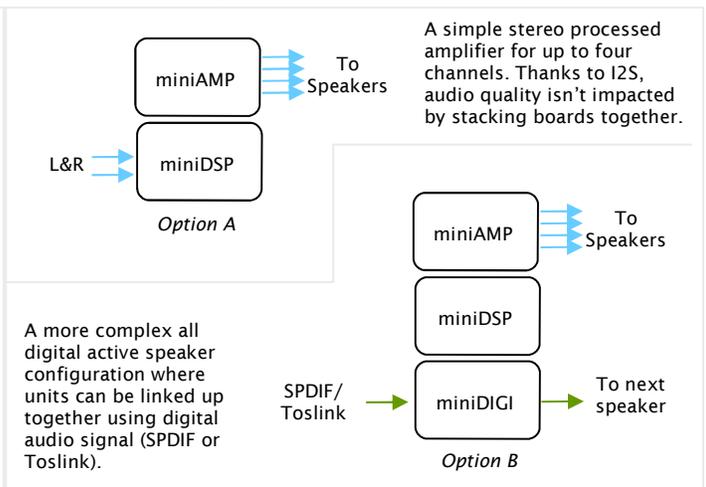


Finally, designed with flexibility in mind, this module can easily be configured to meet your customization needs with a simple jumper configuration. Combined with miniDIGI and miniDSP, building DSP powered all digital multi-channel amplifiers couldn't be easier!

miniAMP Diagram



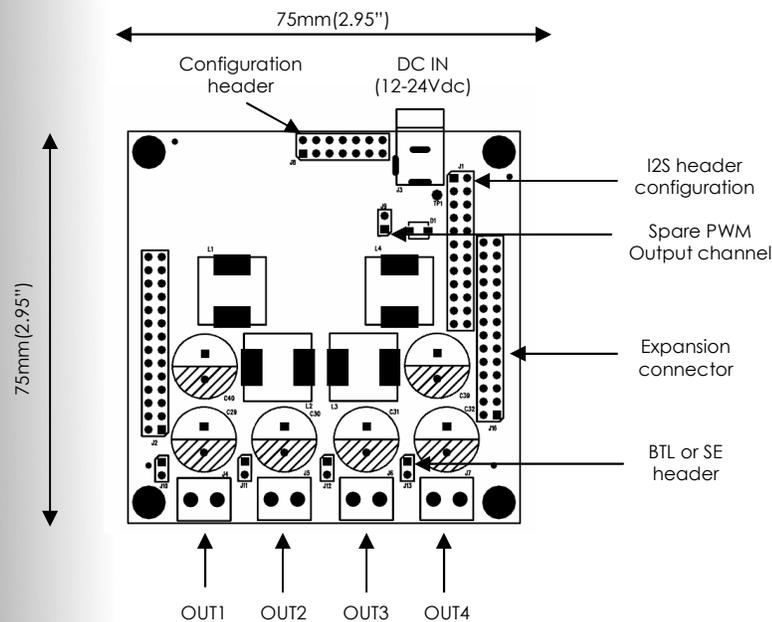
miniAMP Configurations



TECHNICAL SPECIFICATIONS

Item	Description
Power rating, Bridge Tied Load (BTL) setup	2 x 20W @ 8ohms, Continuous power
Power rating, Single Ended (SE) setup	4 x 10W @ 4ohms, Continuous power
Digital Audio inputs	I2S digital audio input (LRCK/MCLK/SCLK/SDIN) I2S Slave only device, automatically locks on incoming I2S signal
Supported sample rate	Supports 32kHz to 192kHz sample rate with automatic detection
Switching rate	384kHz @ 32/48/96/192kHz - 352.8kHz @ 44.1/88.2/176.4kHz
Data resolution	24 bits
THD + N (half power)	0.05% (BTL) / 0.08% (SE)
Efficiency	90% @ 20W for Vcc=18V
Power Supply Rejection Ration (PSRR)	60dB (typical)
LED indication	Blue LED on when power present & Locking on incoming clock
Protection	Thermal & Short-circuit protection
Power supply	12~24Vdc, 45W minimum - 2.5mm diameter connector
Dimensions (H x W x D)	75mm x 75mm (3"x3")

MECHANICAL SPECIFICATIONS & PIN OUT CONFIGURATION



Read miniAMP user manual for more details on jumper configuration.

Configuration Header

Position	Description
1	Power Down
2	Mute
3 & 4	Gain 0 & 1
5 & 6	Config 0 & 1
7	Reset

I2S Channel configuration

Position	Description
1 - 4	Always closed
5	I2S_ch1&2 for 2ch mode
6	I2S_ch3&4 for 2ch mode
7	I2S_ch5&6 for 2ch mode
8	I2S_ch7&8 for 2ch mode
9	I2S_ch1 & 2 for 4ch/2.1 mode
10	I2S_ch1 & 2 for 4ch/2.1 mode
11	I2S_ch1 & 2 for 4ch/2.1 mode
12	I2S_ch1 & 2 for 4ch/2.1 mode

ORDERING

SKU	Description
800-300	miniAMP - 2x20W@8Ω / 4x10W @4Ω