

SE800

High Power Class-D Amplifier

Features

- Designed for high power applications
- Plate type heatsink mosfet mounting

Specifications

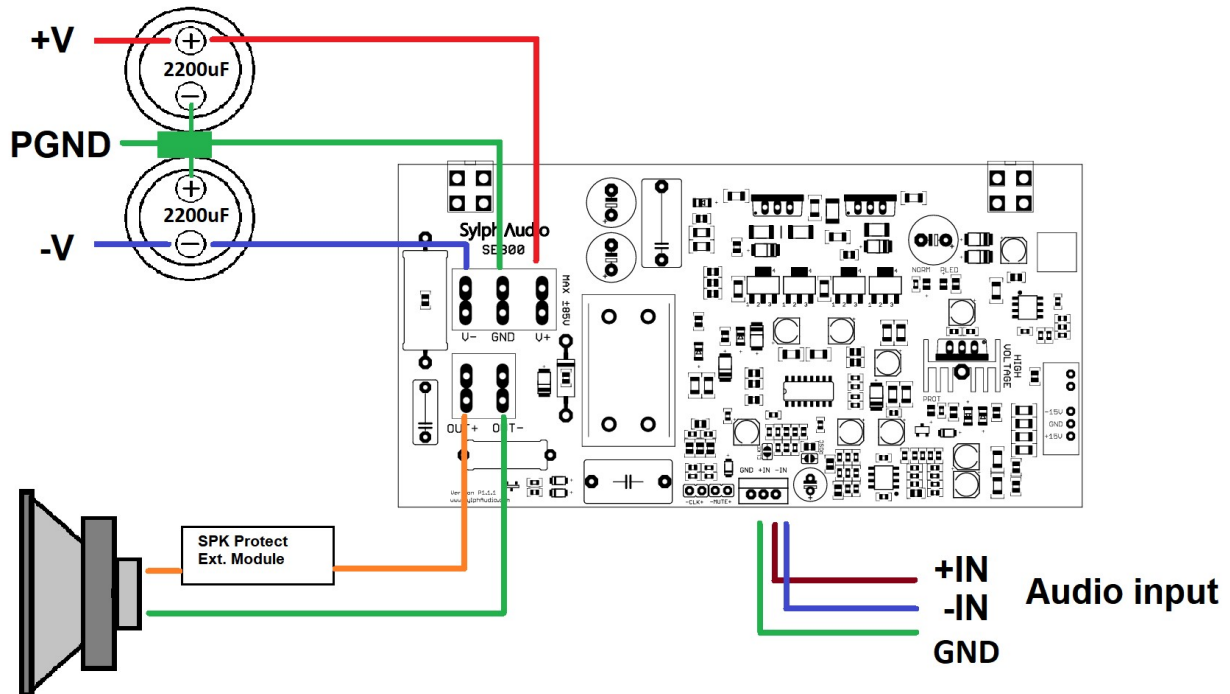
Topology	Half Bridge	
Minimum Load Impedance	2Ω to 8Ω	Max ±60V for 2Ω load
Self-Osc Frequency	360kHz to 390 kHz	Measured with no input signal
Input Impedance	10KΩ	
Input Sensitivity	2.6V RMS	700W output - 4Ω load
Voltage Gain	26.1 dB	PFFB Enabled
Allowable Power Supply Voltages	± 25V to ± 85V DC	
Recommended Power Supply Voltage	± 70V to ± 80V DC	For 4Ω to 8Ω load
Overvoltage shutdown	± 88V to ±91V DC	In case of bus pumping phenomena
PCB Dimensions	140mm x 70mm	L x W
Output Power (± 80V DC Supply)	400W @8Ω 800W @4Ω	>= 1% THD
Total Idle power consumption	~ 5W at ± 80V DC	

Disclaimer

This product uses potentially lethal voltages. Incorrect wiring may result in death due to electrocution or serious injury from exploding capacitors. The end-user accepts all the risks and takes full responsibility for proper installation and use of this device. The product manufacturer will in no way be held responsible for an accident resulting in injury or death caused by the device and the information provided in this document.

All information stated is provided 'as-is' and without warranty of any kind.

Connection Diagram



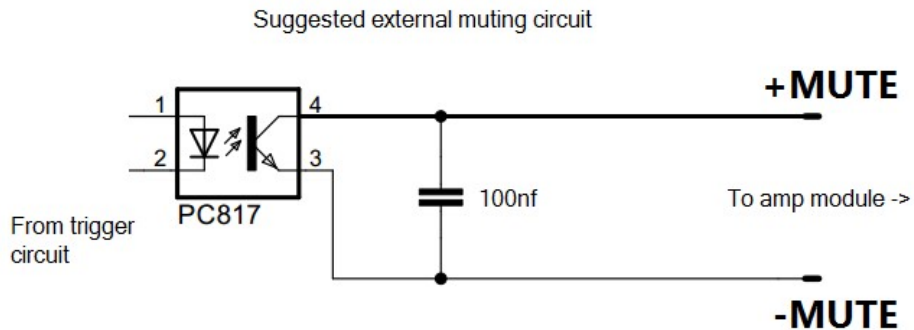
- SE800 is a single ended output design. To avoid bus pumping phenomena, a minimum of 2200uF per rail is required.
- Use 100V rated capacitors for $\pm 70V$ to $\pm 85V$ rails, use 80V rated caps for $\pm 55V$ to $\pm 63V$ rails.
- 2Ω load is possible by using a lower voltage power supply: $\pm 60V$ Rails
- Power supply can be shared by multiple modules using parallel connection.
- For SE signal input, put a solder blob on the SE/BAL jumper on the bottom PCB. Then use GND and +IN to connect the RCA wire. (shorting -IN to GND achieves the same effect)
- If two modules are used simultaneously in a single chassis. Put a solder blob (short) on solder pad beside the ROSC resistor to decrease the frequency of one module by 30 kHz.

WARNING

Please read the following guidelines to avoid frying the amplifier module.

- Do not connect/disconnect any terminals, probes when there's still power to the main supply. Wait for the supply to fully discharge before removing the faston tab connector for the rail supply, otherwise there will be a chance of damaging the main chip class-D IC.
- The module should be fully isolated from the heatsink, the resistance should be higher than 200 Megaohm (ideally infinite resistance). Insufficient isolation might result to erratic behavior. After the mosfets are verified to be isolated, you may connect the heatsink to the ground.
- If you are using signal / function generator to test the module, do not attempt to feed the amp with frequencies > 20khz on open load conditions (there should be a speaker or resistive load connected on the output). On open load conditions, large LC resonance will occur and might damage the amplifier module due to large circulating currents.
- On first power up, bulb or current limiter is highly recommended for protecting the module from possible damage if there are mistakes in assembly. Reverse DC polarity will surely kill the IRS Chip, but the output mosfets will be saved if a current limiter is used.
- The module should be used strictly for music reproduction only. Prolonged full power, pure sine wave output is not recommended.

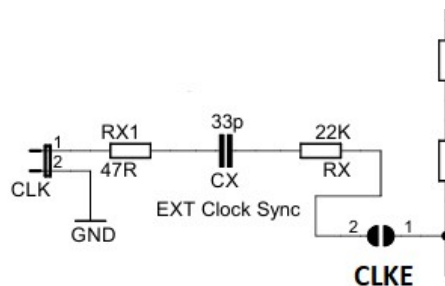
(Optional) Shutdown pin external trigger (-MUTE+)



- (-) MUTE is electrically connected to power supply ground.
- Use external open collector circuit or optocoupler for muting this module.

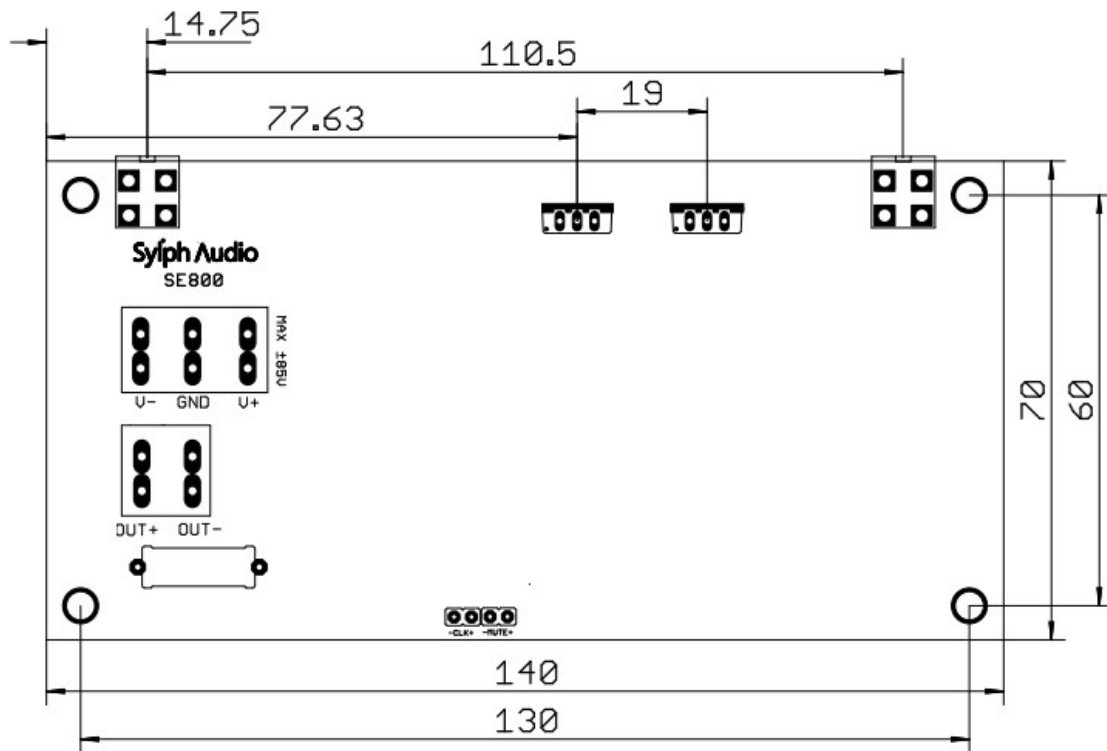
(Optional) External clock synchronization (-CLK+)

- Refer to AN-1118 for more details
- CLKE jumper pad on board should be shorted out by solder.
- External clock is required from a generator board.



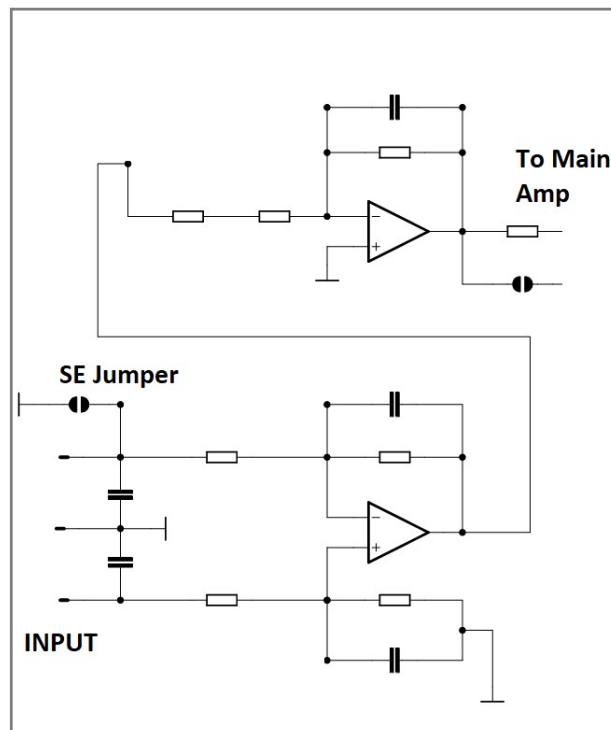
**Short CLKE to connect
the external clock**

Dimensions

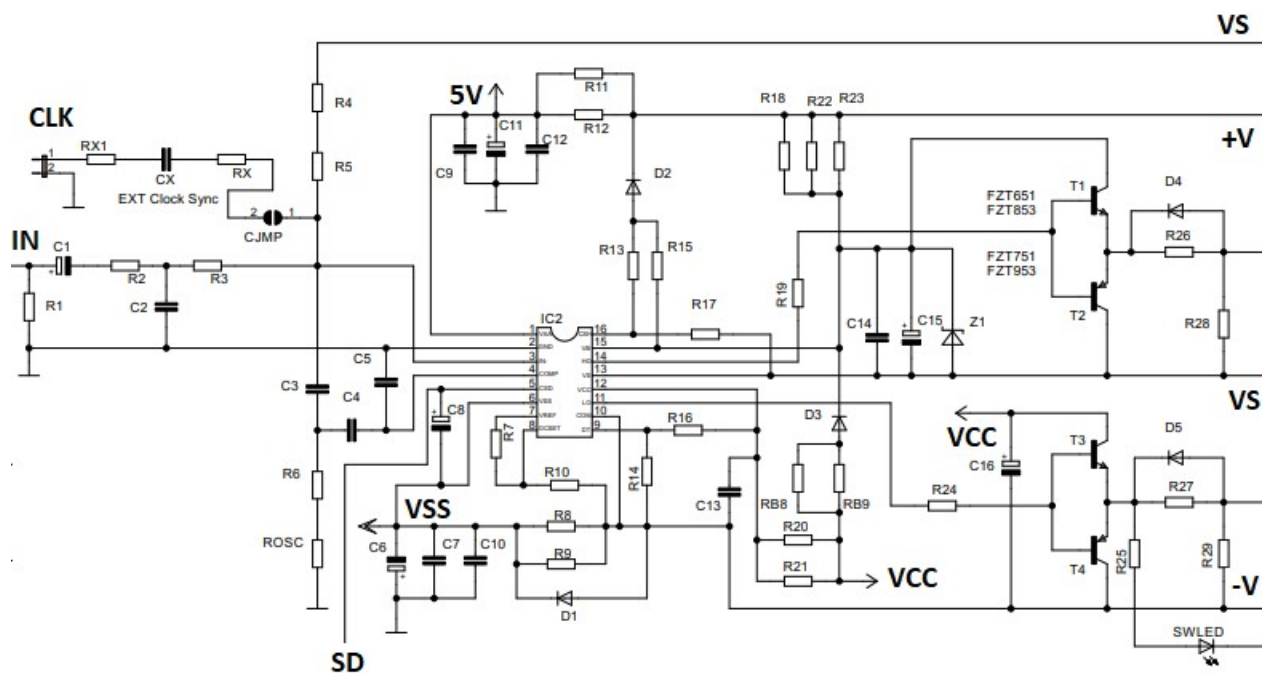


Partial Schematics

Buffer/control stage



Class-D Circuit



Output Stage

