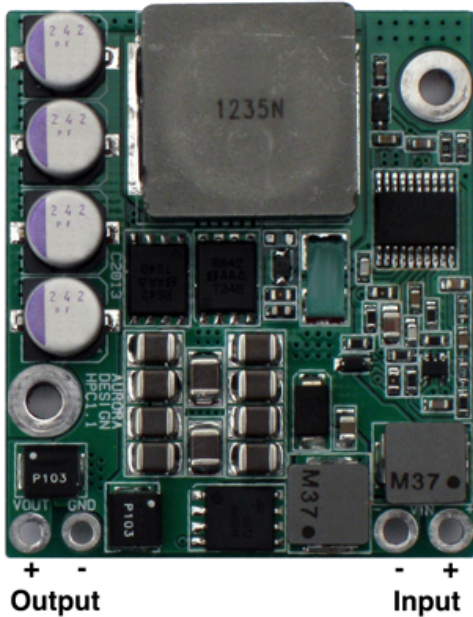


# Aurora Design HPC-1 High Power Voltage Converter



The HPC-1 high power voltage converter is used in conjunction with an FMR-2 AM/FM receiver in 6/12V positive ground or 6V negative ground installations. By providing nominal output power of 60W-92W, the FMR-2 can fully drive two 4 ohm speakers, or four speakers at reduced power. A single board is used for all installations meaning less inventory is required.

Fully filtered on all connections, and through the use of proprietary EMI reduction circuitry, the HPC-1 requires no large power robbing external filters yet still provides an extremely clean output.

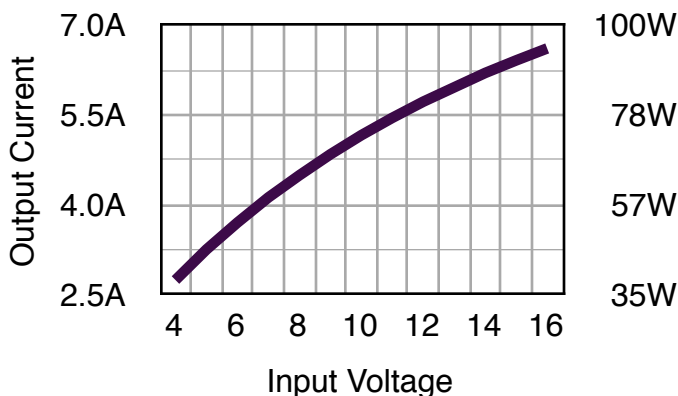
There are four connection pads and two mounting holes on the HPC-1 module. Since the module can dissipate ~8W of heat under full load, it needs to be mounted to the chassis in the radio. The module should be mounted as far as practical from the FMR-2, tuning mechanism, BT-1 and antenna wire/connector. The leads from the module should also be routed

away from the afore mentioned devices.

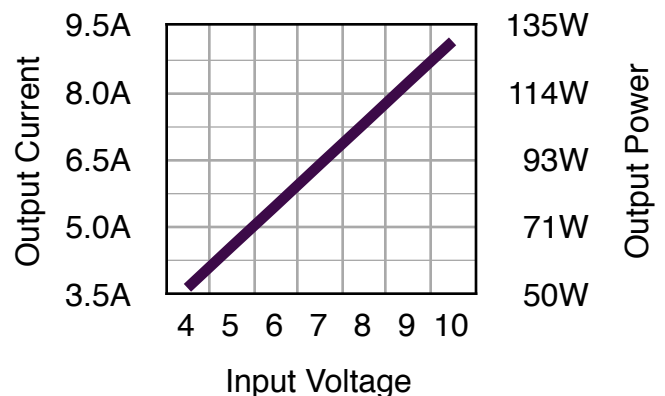
The two input pads, VIN + and - accept up to 14 gauge wire while the two output pads, VOUT and GND accept up to 16 gauge wire. The GND pad should connect to the radio chassis using a short, heavy wire. The VOUT pad connects to the Battery and Switched battery pads on the FMR-2. The VIN - pad (for negative ground installations) or VIN + pad (for positive ground installations) is connected to the radio chassis with a short, heavy wire. The remaining VIN pad will become the battery input and is connected to the original power switch on the radio. The HPC-1 should be fused at 10A maximum for positive ground installations and 15A maximum for negative ground installations.

Clip the connection leads to ensure they will not short out to the radio chassis when the unit is mounted. Apply thermal grease to the aluminum slug on the back of the HPC-1 and secure it to the radio chassis using the supplied hardware. Tighten the #4-40 screws to 5 in-lbs (0.5N-m). Do not over-tighten the #4-40 screws as damage to the components on the pcb could result.

Positive Ground Configuration (typ @ 25°C)



Negative Ground Configuration (typ @ 25°C)



# Specifications:

## Input Characteristics:

<b>Voltage Range:</b>	4.0-16.0Vdc*, reverse battery protected
<b>Input Current:</b>	10A maximum for positive ground installations 15A maximum for negative ground installations
<b>Minimum Voltage:</b>	4.9V startup (negative ground) 4.5V startup (positive ground) 4.0V dropout

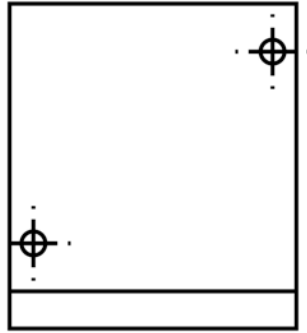
## Output Characteristics:

<b>Open Circuit Voltage:</b>	14.2V +/-3%
<b>Output Current (max):</b>	3.7A @ -6.0V, 4.2A @ -7.2V 5.7A @ -12.0V, 6.3A @ -14.4V 5.5A @ +6.0V, 6.5A @ +7.2V

## General:

<b>Dimensions:</b>	1.50" X 1.75" X 0.50" (38mm X 45mm X 13mm)
<b>Operating Temperature:</b>	-40°C to +65°C ambient (-40°F to +150°F)
<b>Storage Temperature:</b>	-40°C to +125°C ambient (-40°F to +257°F)
<b>Maximum Heat: Spreader Temperature</b>	90°C !! (Must not be exceeded!)
<b>Humidity:</b>	10 - 90% non condensing

\* If input voltage goes above 14.2V when wired for negative ground, output voltage will follow input voltage. The HPC-1 is not intended to drive loads other than electronics like the FMR-2.  
All specifications subject to change.



This template can be used to find a good location to mount the heat spreader on the HPC-1. Print this page out at 100% and then verify with a ruler that the width of the template is exactly 1.50" (38.1mm). After finding an appropriate mounting location, use a center punch to mark the two holes and then punch or drill 0.125" (3.0mm) holes. Tighten the supplied #4-40 screws to 5 in-lbs (0.5N-m). Do not over-tighten the #4-40 screws as damage to the components on the pcb could result.