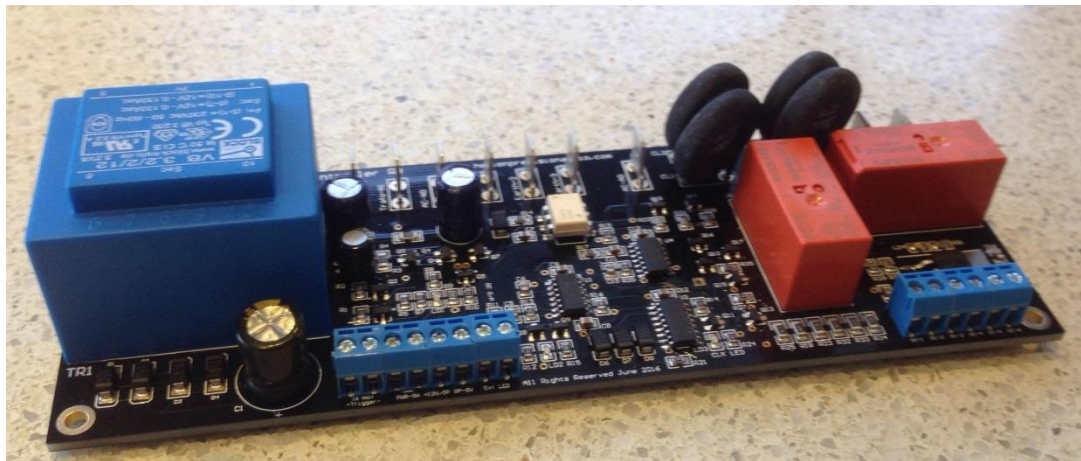


# **Holton Audio R4 AC Mains Controller Board Installation Manual**

**Version 1.02**

**For Technical Support please email  
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## DISCLAIMER

All reasonable care has been taken in the design of this device to ensure safety to you and your audio equipment. This product is designed for those with some experience in electronics. It requires working with potentially lethal voltages. Those unsure of the assembly process should seek help from an electronics technician or an experienced DIY electronics or electrical personnel who can check and verify your work.

In normal operating conditions, with commercial audio equipment and audio sources, providing all assembly instructions have been followed carefully, no damage should occur to the amplifier, source, or loudspeakers so connected to the audio system. Notwithstanding this, no responsibility whatsoever can be taken for any damage of any nature, as Holton Precision Audio is the designer, not the builder or user. The buyer is the sole arbiter regarding suitability of this product for their system.

Since both the assembly and the operation of the amplifier are beyond the control of Holton Precision Audio, neither its agents nor its employees take any responsibility whatsoever for any damage resulting from the use or abuse of this Module, or its resultant amplifier by any person or persons, to any product to which the amplifier is connected or otherwise attached.

# Introduction and installation notes

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The main function of the mains controller is to provide easy powering on and off of AC mains power without the need of a heavy duty mains switch, but allows you to use a low power low voltage rated switch of which there are many available or it can be enabled via the common 12v trigger voltage found on many commercial pre amps. For safety and isolation the 12 volt trigger is opto-isolated. In addition to this the R4 version of the Power One now has high powered AC Mains Current Limiter built in to the main circuit board, allowing much easier installation of what would normally be two separate modules.

One of the nicer features is the addition of a DC offset detection circuit which can monitor six amplifier outputs concurrently. These monitored inputs can also be used for thermal, over-current, over-voltage protection, with the use of external circuitry.

In the event of an amplifier fault the detection circuit will latch and power down the amplifiers AC Mains power supply instantaneously.

For the best protection of your loudspeakers it is highly recommended that you purchase the optional HPA-SS/Relay One solid state relays kit.

A connection diagram for the SSR kit is provided in this manual.

The HPA-Power one main board is self powered via a high quality encapsulated 3.2VA mains transformer and has power on and protection status LEDs which can be extended off board to the power amplifier front panel.

No adjustments or alignments are required with the Power controller R4; it's just a matter of installing the controller as per the installation notes and all will be well.

The Power Controller R4 has four LED status indicators. LD4 shows the presents of 12VDC rails supplying the main circuitry.

LD1 when lit indicates that the protection part of the circuit has been triggered and turned off the AC mains.

In the event of this happening the only way to reset the protection circuit is to remove the main AC supply powering the Power Controller R4 controller board, this will release the protection latching circuit and if the fault has been removed, will allow the controller board to return once again in normal operating mode.

LD3 when flashing indicates that the onboard clock circuit is functioning correctly.

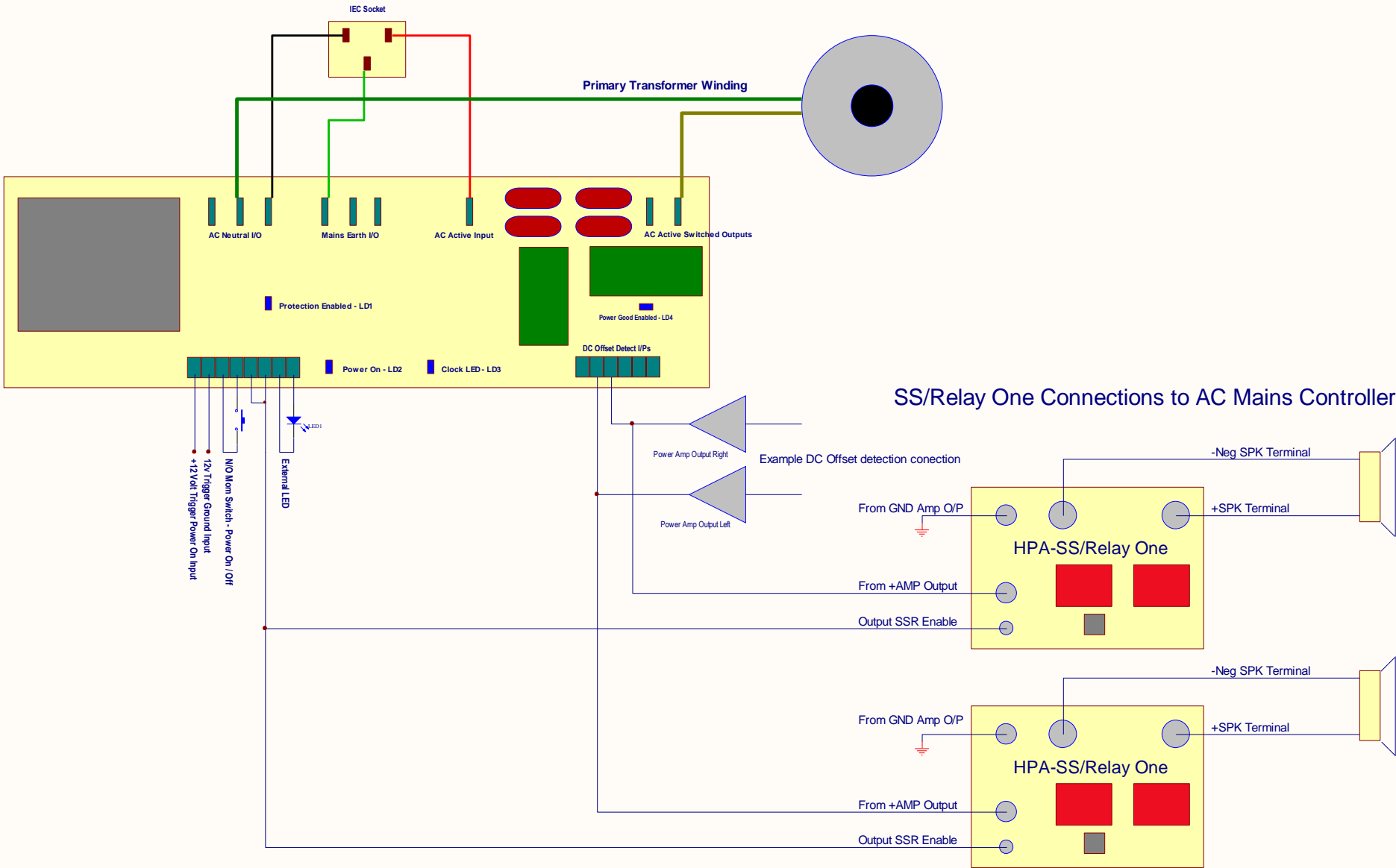
LD2 when flashing shows that the AC current limiter timing cycle is active and when the flashing stops and a steady light appears, this indicates that the timing cycle has been completed and the AC Mains Current Limiter has been bypassed.

The 12v trigger input is polarised, so it does require the correct input polarity to work and it is protected by a series input diode, so it will only work if correct polarity is used on the input.

The Power Controller R4 has enough connections to power two large power transformers as high as 2.5KVA each.

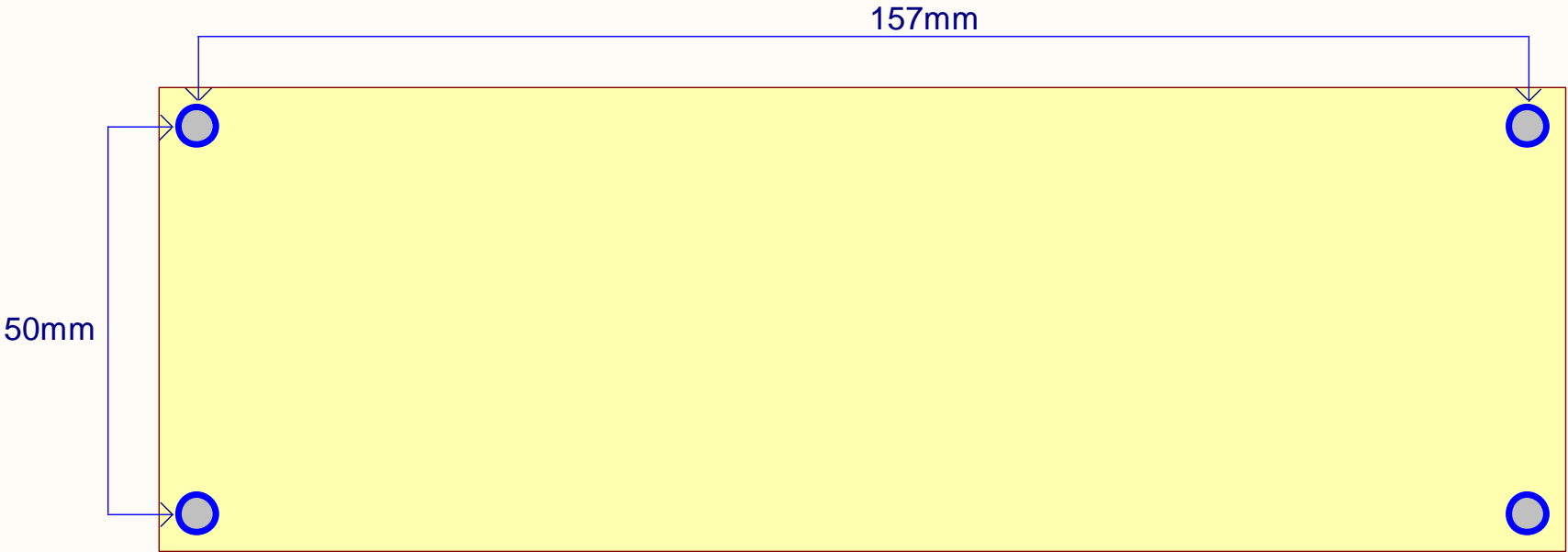
It is recommended that no more than 200,000uf total filter storage be connected to the power controller.

Holton Audio Power Controller R4 Connection Diagram



Title		
Size	Number	Revision
A2		
Date	24/09/2017	Sheet of
File: R:\Project\Projects_NXX\Power-One R4 Bld\Diagram\SS/Relay One R4 Bld\SS/Relay One R4 Bld.dwg		

# Holton Audio Power One R4 Controller Mounting Specifications



The mounting holes measure at 3.2mm.  
Recommend 10mm metal stand off with 3mm threaded holes.

Title		
Size	Number	Revision
B		
Date:	6/09/2016	Sheet of
File:	D:\Protel Projects\Power Controller R4 Mounting\Power Controller R4 Mounting.SchDoc	