



Model 990Enh-Ticha & 995FET-Ticha Opamp Module Mechanics

Sonic Imagery Labs manufactures pin length variants of these standard product to OEMs and commercial pro audio design groups as well as the DIY vintage and retro-clone gear upgrade market.

It is highly recommended that the user not solder the pins of the Sonic Imagery Labs Modules directly to the mating printed circuit board. Overheating the Model 990Enh-Ticha and 995FET-Ticha pins can create a cold solder joint at the other end, internal to the module. Permanent soldering of the pin also prevents easy removal of the module. Lastly, soldering prevents one from servicing components which may lie underneath the module.

Referring to the following mechanical diagrams, the user has additional height options if it is required to mount the Model 990Enh-Ticha and 995FET-Ticha over tall components. If the user is upgrading or replacing vintage or retro-clone gear take note of the pin length required for your particular application.

Refer to the following pages of this application note for mechanicals of the Sonic Imagery Labs Model 990Enh-Ticha and 995FET-Ticha opamp modules and its variant purchase options available.

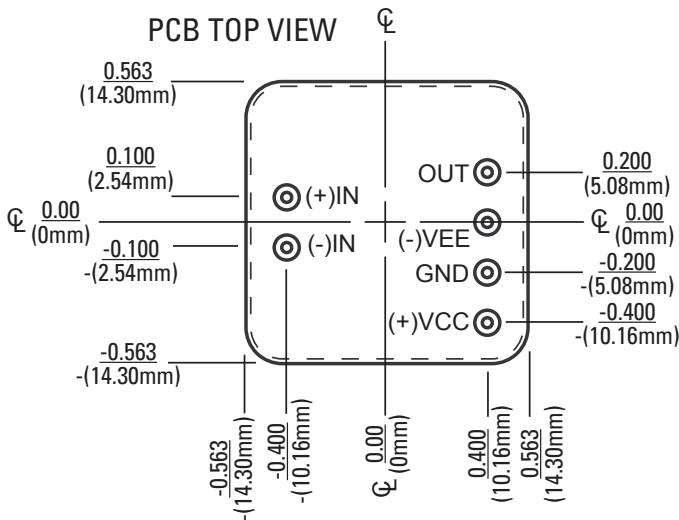


FIGURE 1. (Above) Pin placement and module size of the Sonic Imagery Labs Model 990Enh-Ticha and 995FET-Ticha opamp module.

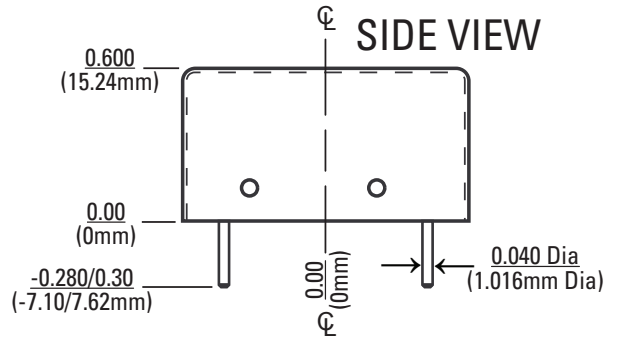


FIGURE 2. (Above) Standard pin length of the Sonic Imagery Labs Model 990Enh-Ticha and 995FET-Ticha opamp module.

For new applications and in keeping with the advent of surface mount components, shorter pins are preferred for new designs. This helps to reduce parasitics, reduces "pickup noise" as well as keep feedback loop traces short.

If the user is upgrading or replacing vintage or retro-clone gear take note of the pin length required for your particular application. Older gear typically used modules with 0.480 to 0.510 inch long 0.040 pins. Sonic Imagery Labs offers this variant at no additional charge. See **FIGURE 3** below for mechanical details.

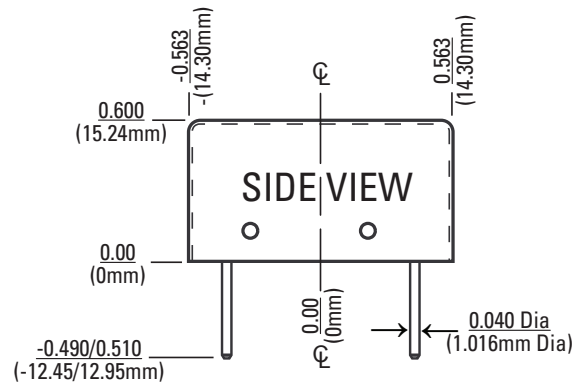
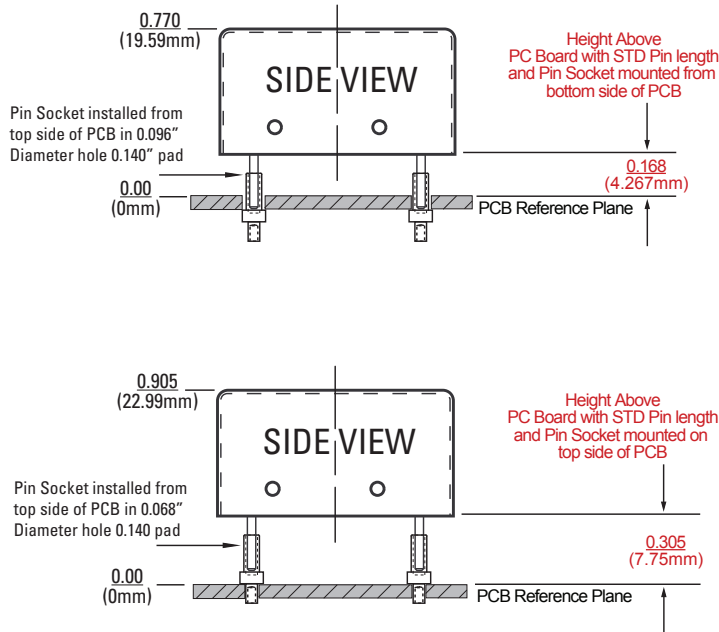


FIGURE 3. (Above) Mechanical specifications of the Vintage or retro-clone pin length variant of the Sonic Imagery Labs Model 990Enh-Ticha and 995FET-Ticha opamp module. Sonic Imagery Labs offers this variant at no additional charge. Contact Sonic Imagery Labs directly before ordering.

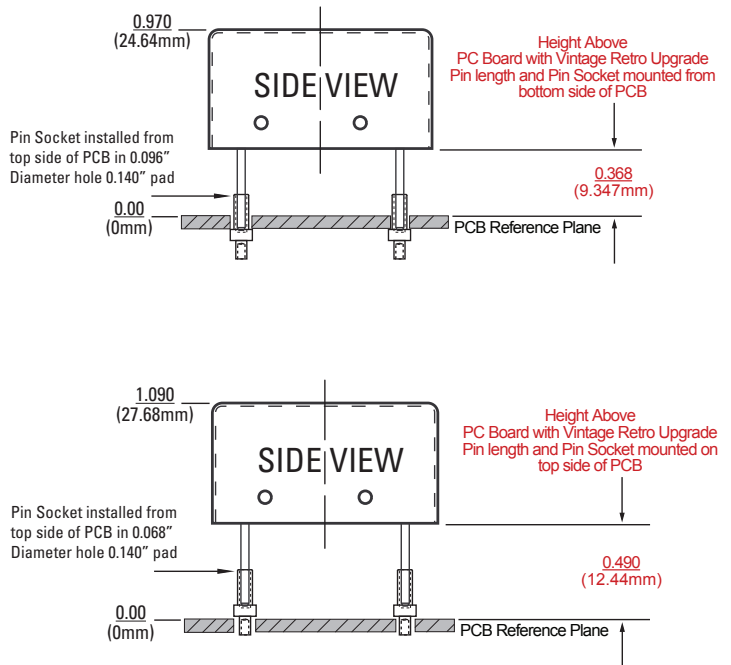


Model 990Enh-Ticha & 995FET-Ticha Opamp Module Mechanicals

Referring to the following mechanical diagrams, the user has additional height options if it is required to mount the Model 990Enh-Ticha and 995FET-Ticha over tall components. The use of pin sockets is the preferred mounting method. These sockets are commonly available through electronic component distributors. Many types of sockets for 0.040" diameter pins are available from several manufacturers. Sonic Imagery Labs uses and stocks the sockets from Mill-Max. The mechanical specifications shown here is using Mill-Max pin socket **Part Number 0344-2-19-15-34-27-10-0**.



DETAIL A. (Above) Standard pin length height specifications and mounting options for Sonic Imagery Labs Model 990Enh-Ticha and 995FET-Ticha opamp module.



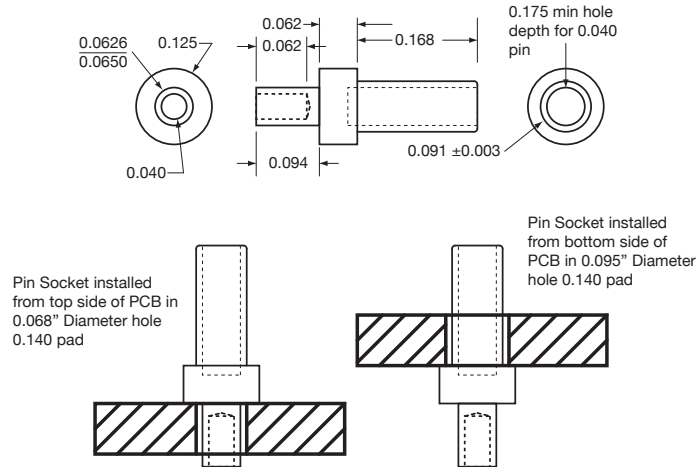
DETAIL B. (Above) Vintage or retro gear upgrade pin length variant height specifications and mounting options for Sonic Imagery Labs Model 990Enh-Ticha and 995FET-Ticha opamp module.



High Performance Audio Electronics

Model 990Enh-Ticha & 995FET-Ticha Opamp Module Mechanicals

Pin Socket Mechanical:



Mill-Max
190 Pine Hollow Road,
PO Box 300
Oyster Bay NY 11771

Part Number 0344-2-19-15-34-27-10-0

Concord Electronics Corp **Part Number 09-9035-2-03**
33-00 47th Ave
Level 1A
Long Island City, NY 11101

Wearnes Cambion Ltd
Peverial House
Mill Bridge, Castleton
Hope Valley S33 8WR
United Kingdom

Part Number 450-3756-02-03

THE CONTENTS OF THIS DOCUMENT ARE PROVIDED IN CONNECTION WITH Sonic Imagery Labs PRODUCTS. Sonic Imagery Labs MAKES NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF THE CONTENTS OF THIS PUBLICATION AND RESERVES THE RIGHT TO MAKE CHANGES TO SPECIFICATIONS AND PRODUCT DESCRIPTIONS AT ANY TIME WITHOUT NOTICE. NO LICENSE, WHETHER EXPRESS, IMPLIED, ARISING BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT.

TESTING AND OTHER QUALITY CONTROLS ARE USED TO THE EXTENT Sonic Imagery Labs DEEMS NECESSARY TO SUPPORT Sonic Imagery Labs PRODUCT WARRANTY. TESTING OF ALL PUBLISHED PARAMETERS AND SPECIFICATIONS OF EACH PRODUCT IS PERFORMED BEFORE SHIPMENT. Sonic Imagery Labs ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR BUYER PRODUCT DESIGN. BUYERS ARE RESPONSIBLE FOR THEIR PRODUCTS AND APPLICATIONS USING Sonic Imagery Labs PRODUCTS. PRIOR TO USING OR DISTRIBUTING ANY PRODUCTS THAT INCLUDE Sonic Imagery Labs COMPONENTS, BUYERS SHOULD PROVIDE ADEQUATE DESIGN, TESTING AND OPERATING SAFEGUARDS.

EXCEPT AS PROVIDED IN Sonic Imagery Labs TERMS AND CONDITIONS OF SALE FOR SUCH PRODUCTS, Sonic Imagery Labs ASSUMES NO LIABILITY WHATSOEVER, AND Sonic Imagery Labs DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY RELATING TO THE SALE AND/OR USE OF Sonic Imagery Labs PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

LIFE SUPPORT AND CRITICAL COMPONENTS POLICY

Sonic Imagery Labs PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR CRITICAL SYSTEMS WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL OF THE CHIEF EXECUTIVE OFFICER AND GENERAL COUNSEL OF Sonic Imagery Labs. As used herein:

Life support devices or systems are devices which (a) are intended for surgical implant into the body, or (b) support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in a significant injury to the user. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system or to affect its safety or effectiveness.