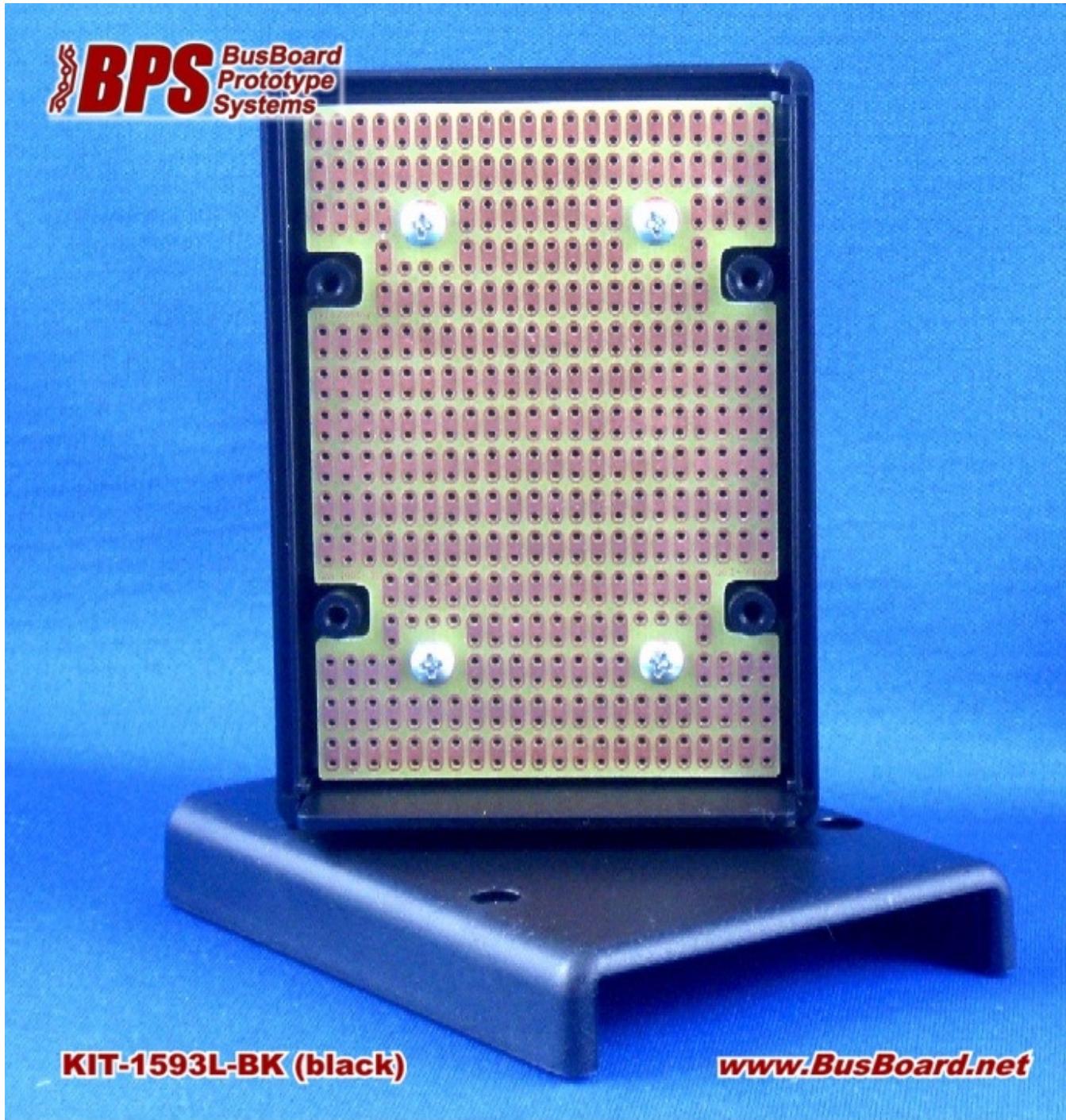


# ProtoBox-1593L Kit (PCB+Box)



A Hammond 1593L handheld plastic enclosure packaged with a matching BPS ProtoBoard 2-hole per strip PCB.



**KIT-1593L-BK (black)**

[www.BusBoard.net](http://www.BusBoard.net)

**BusBoard Prototype Systems - Built for designers**

[www.BusBoard.com](http://www.BusBoard.com) sales@busboard.com

BPS-MAR-(KIT-1593L)-001 Rev 4.00

A prototyping board designed for the Hammond 1593L handheld enclosure.

## Features

**ProtoBoard** saves time! The PCB is designed specifically for the Hammond 1593L box. No cutting is required. The mounting holes are present in the right spots.

The convenient 2-hole ProtoBoard pattern provides an easy way to connect parts while maximizing usable board area.

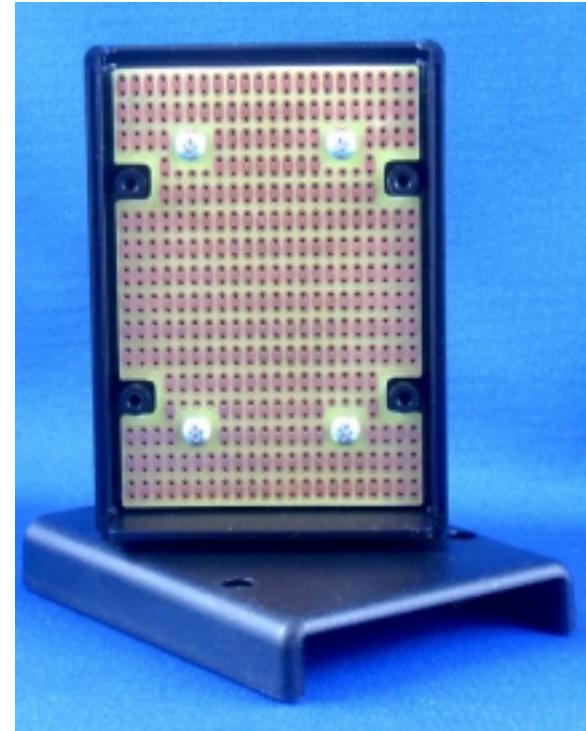
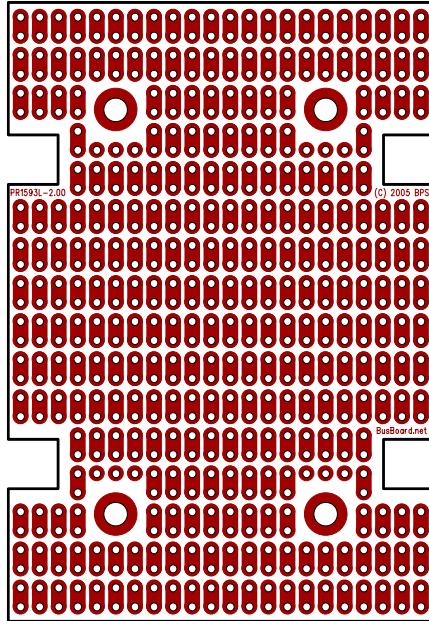
**Lead free** etched copper PCB with an anti-tarnish coating for easy soldering.

## PCB Specifications

- High-quality FR4 glass epoxy board.
- Four 0.125" (1/8") mounting holes.
- Four 4-40 PCB mounting screws provided.
- Single sided, 1oz/ft<sup>2</sup> copper PCB
- 0.042" holes drilled on 0.1" centers
- PCB Size 3.3 x 2.3 in. (83 x 58mm)

Order Part# PR1593L (for PCB only)

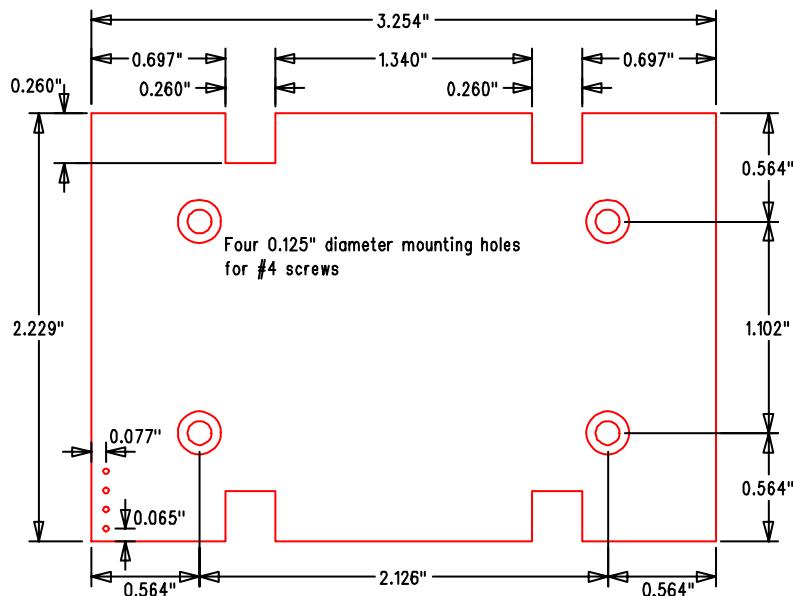
## Board Layout (actual size)



PR1593L Prototyping Board shown with the Hammond 1593LBK box (box not included).

To purchase the PCB + Box together,  
order BPS part# KIT-1593L-BK

## PCB Mechanical Dimensions



1. PCB is symmetrical in the X and Y directions.
2. All solder pads are located on a 0.100" grid.
3. The mounting holes are NOT located on the 0.100" grid.

PCB Design Copyright 2005 BusBoard Prototype Systems Ltd.

## Hammond 1593L Hand Held Case Features

Note: The box is **NOT** included with BPS part# PR1593L.

The box is included with part# KIT-1593L-BK.

Hand-held electronic instrument enclosure.

Built-in PCB standoffs.

2 removable end panels. 2 different styles included, flat and rounded.

Recessed top for membrane overlay or keypad.

Lap joint construction provides protection against dust accumulation and splashing water.

Black, gray, or blue general purpose ABS plastic.

Secured with self tapping screws (included).

Box Size 2.6 x 2.6 x 1.1 in. (66 x 66 x 28 mm)

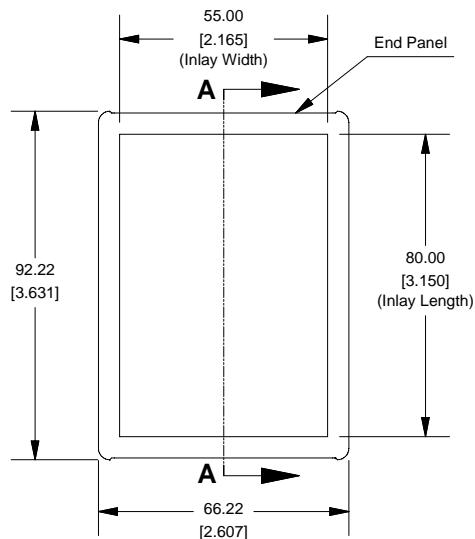
To order the box by itself order Hammond part# 1593LBK (black), 1593LGY (gray) or 1593LTBU (translucent blue)

See <http://www.hammondmf.com/dwg8.htm>  
<http://www.hammondmf.com/dwg8TBU.htm>

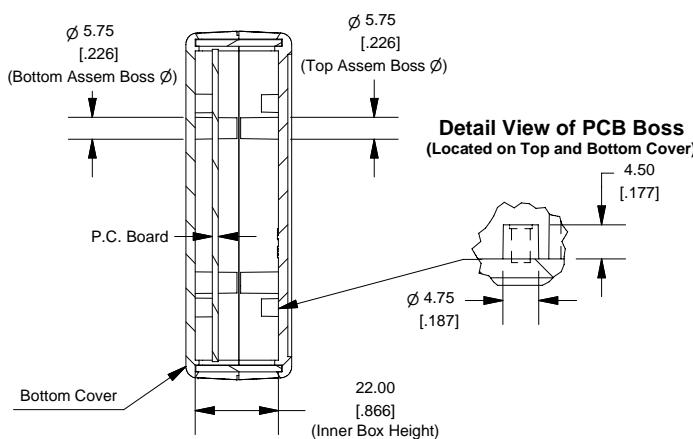


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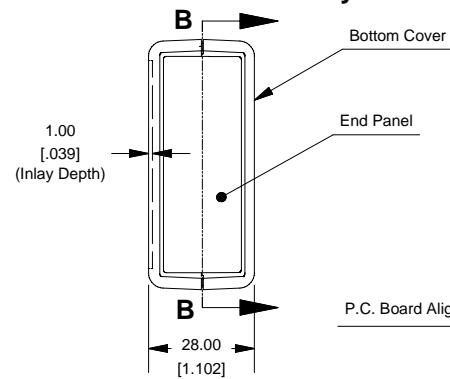
### Top View of Assembly



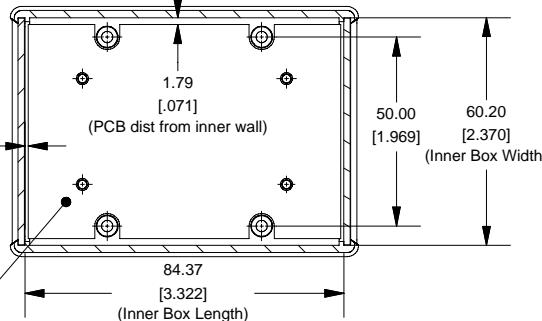
### SECTION A-A (Side View Inside Assembly)



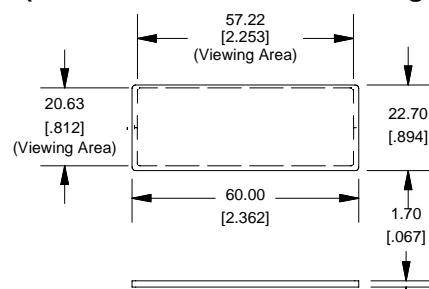
### End View of Assembly



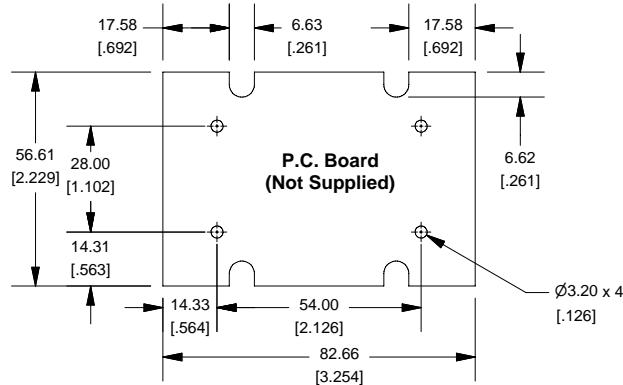
### SECTION B-B (Inside of Bottom Cover)



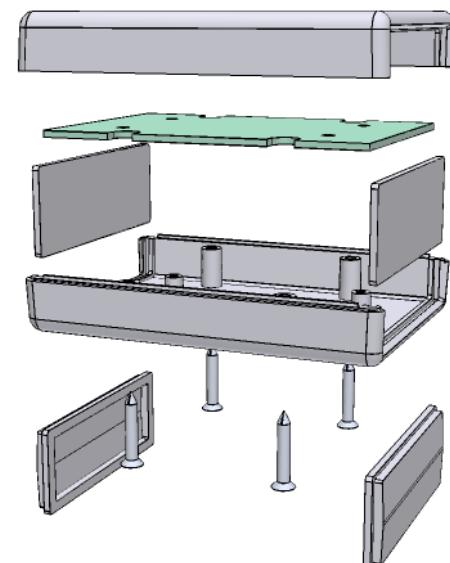
### Front/Rear Panel (Dashed Line Indicates Viewing Area)



### Maximum P.C. Board Size



## Hand Held Instrument (1593L)



Enclosures can be Factory Modified ( Milling, Drilling, Printing etc.)  
Solid models of this enclosure available in STEP or IGES.  
Contact Factory [mjm@hammondmfg.com](mailto:mjm@hammondmfg.com)

| NOTE   |  |
|--|--|
| Enclosure molded from GP ABS (UL94-HB) plastic.  |  |
| Purchased assembly includes top and bottom cover, front and rear plastic panels (2 types - flat and contoured) and 4 cover screws. |  |

### PART NUMBERS

#### 1593L Enclosure

Black Enclosure 1593LBK

Grey Enclosure 1593LGY

#### ACCESSORIES

|   |  |
|---|--|
| Cover Screws (Pkg 100)<br>[#4 x 3/4" self-tapping oval head (19.1mm)] | 1593QS100 (Silver)<br>1593QS100BK (Black)  |
| P.C. Board Screws<br>[#4 x 1/4" self-tapping (6.4mm)]                 | 1593ATS50 (Pkg 50)<br>1593ATS100 (Pkg 100) |
| Belt or Pocket Clip   | 1599CLIP (Black)<br>1599CLIPGY (Grey)      |
| Infrared Panels (Pkg 10)  | 1593DIR10                                  |



**HAMMOND**  
MANUFACTURING™



**1593L**

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