

Construction Notes

Jay_Diddy_B ESR ADAPTER

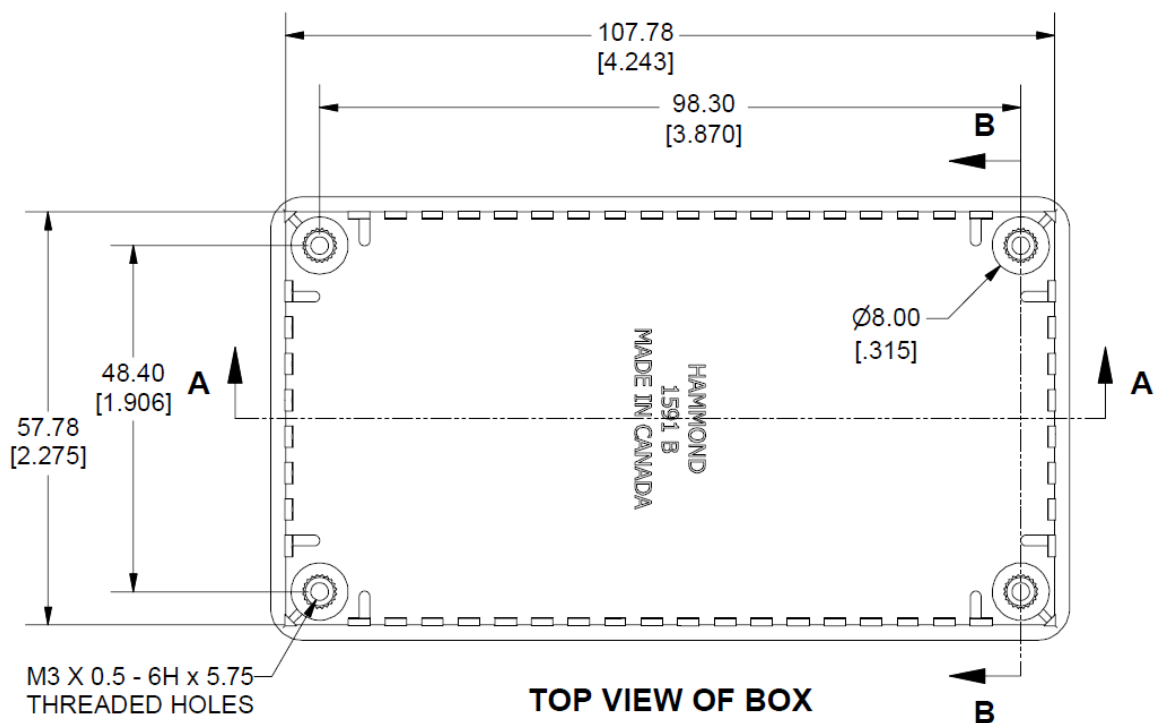
Introduction

These are additional notes for people wanting to construct the ESR Adapter that I posted on the EEVBlog forum.

Gerber Files

I have attached two sets of Gerber files. They are designed to replace the lid on two different project boxes.

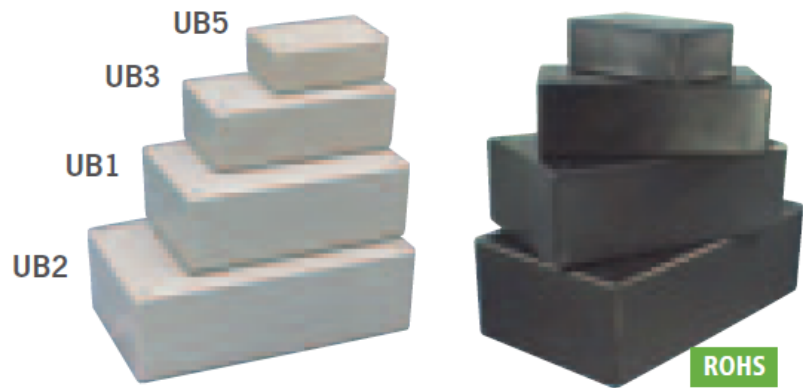
ESR_ADAPTER_HAMMOND_BBK.ZIP is for the Hammond 1591BBK box. This is the box that is shown on the EEVBlog forum. This board will **not** fit the itead 5x10cm service.



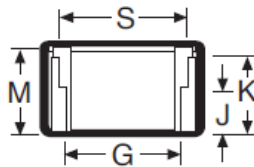
ESR_ADAPTER_JIFFY_UB5.ZIP is for the Jiffy BU5 box. This is the box that was used by Dave Jones for the uCurrent Adapter. This board will fit the itead 5x10 cm service.

Jiffy Boxes

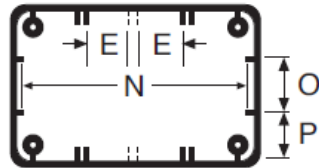
Manufactured from sturdy ABS plastic with moulded PCB mounts. PCBs can be installed vertically, or horizontally.



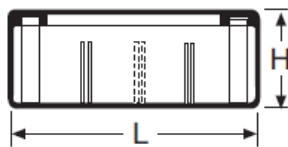
Section through End



Top View UB1, UB2



Section through Side

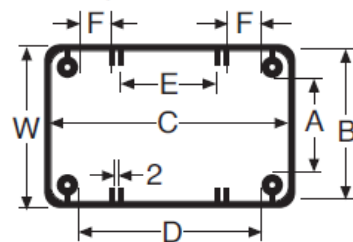


Please note: All dimensions are approximate measurements only.

Top View UB3



Top View UB5



	UB1	UB2	UB3	UB5
L	157	197	129.5	82.4
W	95	112.3	67.2	53.5
H	53.1	62.5	42.5	30.4
A	73	88.1	43.3	33.6
B	90.6	106.3	63.8	50.4
C	152.5	191	125.5	79.1
D	134	172.5	107	62.5
E	24	37.9	21.4	19
F	34.3	39.6	24	18
G	84	98	57.5	45.6
S	87	101.5	58.3	46.4
J	13	13	13	13
K	47	56	33.5	23
M	48	57.5	38.5	26.5
N	149	187		
O	24.4	33.4		
P	32	25.5		

Gerber File Names

The Gerber file names follow the itead naming convention:

- Top layer: pcbname.GTL
- Bottom layer: pcbname.GBL
- Solder Stop Mask top: pcbname.GTS
- Solder Stop Mask Bottom pcbname.GBS
- Silk Top: pcbname.GTO
- Silk Bottom pcbname.GBO
- NC Drill: pcbname.TXT
- Outline layer: pcbname.GKO

I have not included the .GKO I have a .DRD which contains the outline and drilling information.

Components

Most of the components are standard components. These are some of the parts that I use on the prototype:

Digikey Part No.	Reference Designation	Reason
568-1458-1-ND IC MUX/DEMUX TRIPLE 2X1 16SOIC	U2	
LTC6241CS8#PBF-ND IC OPAMP GP 18MHZ RRO 8SO	U1	Low Vos, High SR, High GBW
399-6747-1-ND CAP CER 0.1UF 500V 10% X7R 1210	C5	High Voltage – 500V
399-7097-1-ND CAP CER 10000PF 500V X7R 1210	C6	High Voltage – 500V
541-100DCT-ND RES 100 OHM .75W 1% 1210 SMD	R7, R18	Pulse-Withstanding
EG1903-ND SWITCH SLIDE SPDT 30V.2A PC MNT	SW1	Mechanical – Fits the board
575-4K-ND JACK NON-INSULATED .218"	J1 – J6	Mechanical – Fits the board

Item	Quantity	Reference	Part
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1	1	C1	1n	1206
2	2	C3,C4	0.1U	1206
3	1	C5	0.1u 500V	1210
4	1	C6	0.01u 500V	1210
5	3	C7,C8,C9	1u	1206
6	2	D2,D1	ES1J	SMA-DIODE
7	2	D3,D4	1N4148W	SOD123
8	2	E1,E2	No Part Required	
9	6	J1,J2,J3,J4,J5,J6		JACK\PCB\KEYSTONE\575_4
10	1	R1	1K	1206
11	3	R2,R4,R5	475	1206
12	1	R3	6.8K	1206
13	1	R6	1.6K	1206
14	2	R7,R18	100 Pulse Withstanding	2010
15	2	R17,R8	470 or 475	1206
16	2	R9,R10	33.2K	1206
17	2	R11,R12	1.8M	1206
18	2	R13,R14	3.3k	1206
19	2	R15,R16	10	1206
20	2	R20,R19	220k	1206
21	1	R21	0	1206
22	1	SW1	EG1218	SWITCH/SLIDE/SPST/EG1218
23	1	U1	LT1498CS8	LT_SOG.050/8/WG.244/L.200
24	1	U2	CD74HC4053	LT_SOG.050/16/WG.244/L.400
25	1	U3	uA78L05AIPK	LT_SOT89_123