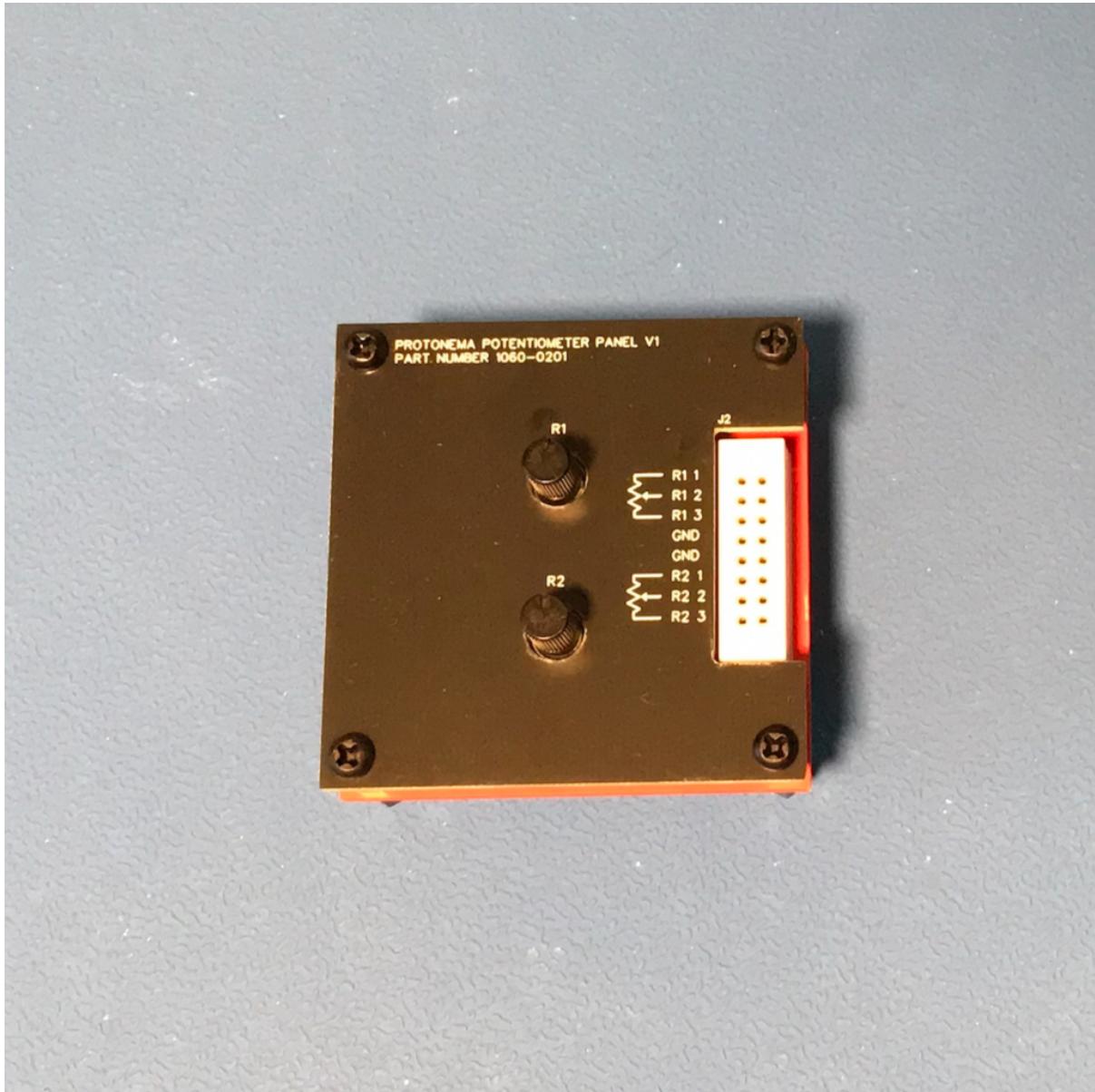


1

# ASSEMBLY INSTRUCTIONS

2

3 1060A Dual Potentiometer Stamp



5 Document control number: 1060-8010

6 Document date: 2022-12-30

7 Document revision: 1.0.0-draft.1

8 ABSTRACT: This document provides instructions on how to assemble and test a 1060A dual potentiometer stamp.  
9 A complete bill of materials is included as an annex.

10 Suggestions and corrections should be directed to <http://www.github.com/dslik/protonema/issues>

11 Serial number: Assembly date: Assembled by:

12 USAGE

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21 Source location: <https://github.com/dslik/protonema/tree/main/stamps/1060A>

22 As per CERN-OHL-S v2 section 4, the following notice shall be displayed on product packaging and in the product  
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51 Revision history

Table 1: Document Revisions

Version	Date	Change	Approver
1.0.0-draft.1	2022-12-30	Initial draft	D. Slik

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181			

182

## **Part I**

183

# **1060A assembly instructions**

## 184 **Section 1**

# 185 **Overview**

186 This document describes the materials, processes, outcomes and verifications required to successfully assemble  
187 and test a 1060A dual potentiometer stamp, a sub-component of the Protonema electronics prototyping and learning  
188 system.

189 A first-time reader should carefully review section 2 - prerequisites, and section 3 - preparation before beginning  
190 the assembly process.

191 This document serves both as instructions and as a record of the assembly of the product. When you finish each  
192 step in this document, sign your name (or apply your stamp) in the "Signature/Stamp" box on the right to provide a  
193 record of completion.

194 When things go wrong, this document provides guidance for common issues that have been encountered in the  
195 past. When this document does not provide guidance, please contact your quality management representative,  
196 who will help you fill out an exception report. These reports help improve process quality and product quality, and  
197 these reports are incorporated into future revisions of this document.

198 Always remember: If you are unable to successfully complete these instructions, that means the processes sup-  
199 porting you (including this document) have failed you. Our processes are built for your success, and by improving  
200 our processes, we help everyone succeed.

201 **Section 2**

202 **Prerequisites**

203 **2.1 Required safety training**

- 204 The following safety training units must be completed before assembling this product.
- 205 By signing (or applying your stamp) on the right, you indicate that you have completed the following training:

Table 2: Safety training

Item #	Description	Signature/Stamp
2.1.1	0102-0100 - Safety reporting policies and procedures training  Key topics: Understanding policies and procedures around how to identify, contain and report a safety-related issue in the workplace, including damaged or malfunctioning equipment, leaks, spills, and other occupational hazards.	 Stamp or sign here
2.1.2	0102-0101 - Material safety data sheets training  Key topics: Understanding how to read material safety data sheets (MSDS) for materials you will be handling during product assembly, how they can affect your health and the health of the environment, how to safely handle and dispose of them, and what to do if there is a spill or accidental exposure.	 Stamp or sign here
2.1.3	0102-0102 - Solder handling and disposal policies and procedures training  Key topics: Understanding policies and procedures related to handling solder and solder paste, stencil cleaning, and solder disposal.	 Stamp or sign here
2.1.4	0102-0105 - Electro-static discharge controls policies and procedures training  Key topics: Understanding policies and procedures related to protecting equipment and components from electro-static discharge, including clothing, protective equipment, material handling and labelling.	 Stamp or sign here

## 206 2.2 Required skills training

- 207 The following skills training units must be completed before assembling this product.
- 208 By signing (or applying your stamp) on the right, you indicate that you have completed the following training:

Table 3: Skills training

Item #	Description	Signature/Stamp
2.2.1	0103-0202 - ANSI/ESD S20.20 Electro-static discharge controls  Key topics: Understanding of ESD safety, the ESD control program, equipment and personnel grounding, EPAs, packaging and marking.	Stamp or sign here
2.2.2	0103-0203 - General components handling  Key topics: Understanding of safe component handling, including reeled components, components in JEDEC trays, and loose components. Includes avoiding contamination, moisture control, and component inventory management.	Stamp or sign here
2.2.3	0103-0414 - 5040-XTS reflow station  Key topics: Safe and effective use of the 5040-XTS reflow station, including use of the pre-heater, the hot air system, and the soldering iron. Covers inspection and verification, cleaning, preferred settings and best practice techniques.	Stamp or sign here
2.2.4	0103-0301 - IPC-A-610G - Acceptability of electronic assemblies  Key topics: Covers visual acceptability requirements for electronic assemblies, including handling considerations, hardware installation, component placement, soldering, terminal connections, wiring, marking and cleanliness.	Stamp or sign here
2.2.5	0103-0302 - IPC-J-STD-001F - Soldered electrical connections  Key topics: Covers soldering materials, general soldering and assembly requirements, wire and terminal connections, through-hole mounting, surface mounting of components, cleaning process requirements, PCB requirements, coatings and product assurance.	Stamp or sign here

## 209 Section 3

# 210 Preparation

### 211 3.1 Workspace

- 212 Before starting assembly, check out an assembly desk for a minimum of one hour. Units are assembled in batches  
 213 of four, with each batch taking 20 minutes.

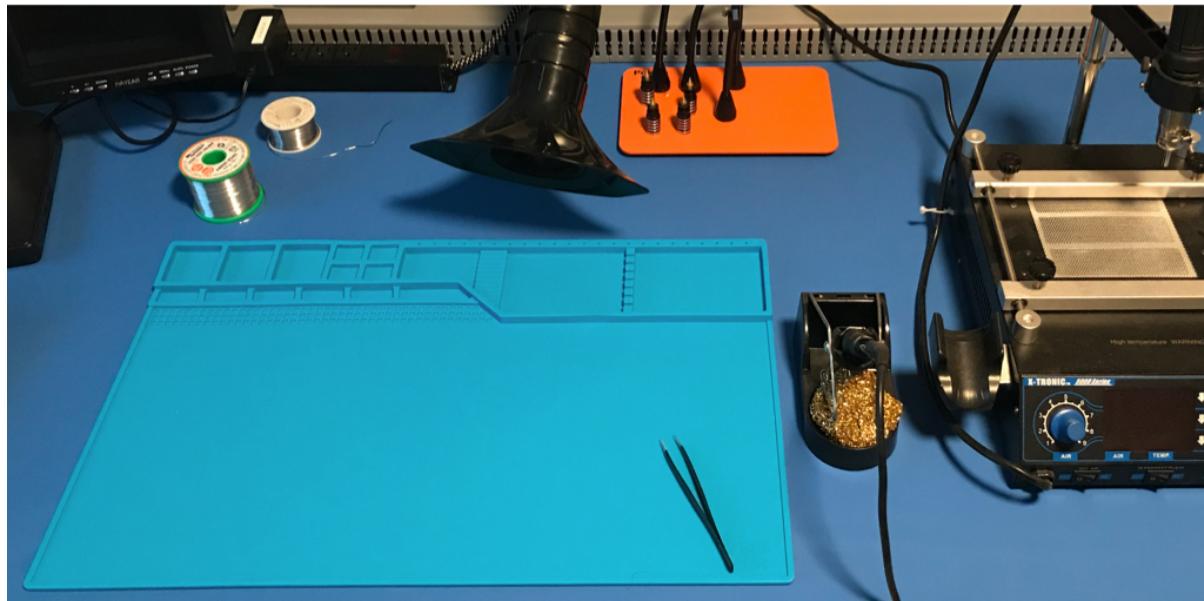


Fig. 1: Assembly Desk

Table 4: Prepare workspace

Step	Description	Signature/Stamp
3.1.1	Verify that the workspace has a clean assembly mat and anti-static mat, and that the cleaning record has been signed since last use.	Stamp or sign here
3.1.2	Verify that the HEPA fume extractor turns on, and you can feel air suction from the nozzle.	Stamp or sign here

continues on next page

Table 4 – continued from previous page

Step	Description	Signature/Stamp
3.1.3	Verify that the 5040-XTS rework station soldering iron tip is not worn down. If it is worn down, obtain a new 900M-T-I tip from the stores department.	Stamp or sign here
3.1.4	Verify that the heating surface of the MHP30 hot plate is clean.	Stamp or sign here

## 214 3.2 Project consumables

215 Obtain each of the below consumable items from the stores department:

Table 5: Assembly consumables

Item #	Description	Signature/Stamp
3.2.1	 <p>Fig. 2: 1 pair ESD gloves If you prefer to use your own pair of ESD gloves, make sure they are tested before use.</p>	Stamp or sign here
3.2.2	 <p>Fig. 3: 1 spool MG Chemicals 4900 Lead Free No-Clean Wire Solder Sn96.2Ag2.8Cu0.4 (96.2/2.8/0.4) 20 AWG</p>	Stamp or sign here

### 216 3.3 Project tools

- 217 Obtain a tools container labelled “1XXX Assembly Tools” from the 1XXX section of the stores supply shelf. At your assembly desk, use [Table 6](#) to verify that all the required tools are present.
- 218 If any required tools are missing, return all tools and the tools container to the stores department, and obtain another tools container.



Fig. 4: Tools Container

- 221 Remove each of the following tools from the tools container, and place them on the anti-static mat of the assembly desk:

Table 6: Assembly tools

Item #	Description	Signature/Stamp
3.3.1		Stamp or sign here

Fig. 5: Hozan F-23 components tray

continues on next page

Table 6 – continued from previous page

Item #	Description	Signature/Stamp
3.3.2	 Fig. 6: ESD tweezers	 Stamp or sign here
3.3.3	 Fig. 7: 3mm Phillips adjustable torque screwdriver	 Stamp or sign here
3.3.4	 Fig. 8: Fine-tipped Sharpie marker	 Stamp or sign here

continues on next page

Table 6 – continued from previous page

Item #	Description	Signature/Stamp
3.3.5	 Fig. 9: Scissors	Stamp or sign here

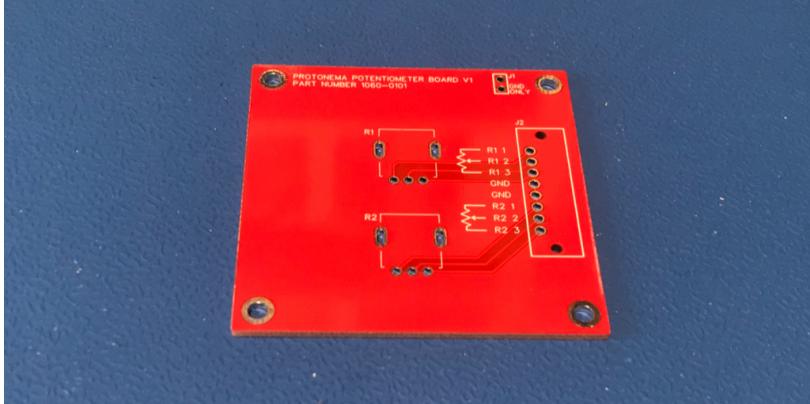
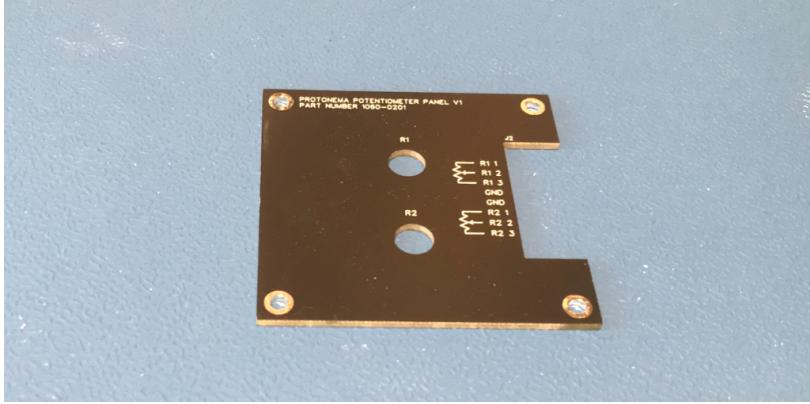
## 223 3.4 Parts preparation

### 224 3.4.1 PCBs and PCBAs

225 NOTICE: All PCBs and PCBAs must be handled with gloves to prevent marking with skin oils.

226 NOTICE: PCBs are removed from manufacturer packaging only when needed.

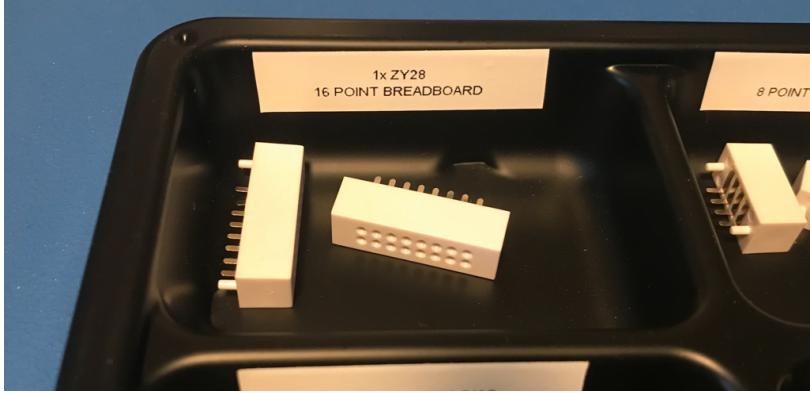
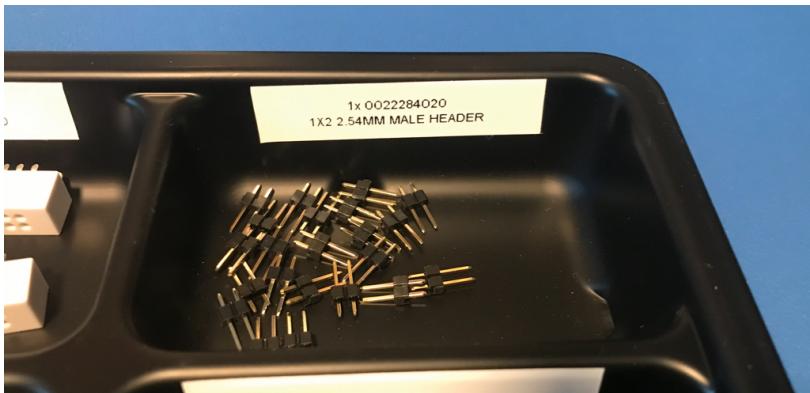
Table 7: PCBs and PCBAs

Item #	Description	Signature/Stamp
3.4.1.1	No marking required    Fig. 10: 1x 1060-0101 v1.0 - <i>DualPotentiometerStamp</i> PCB	Stamp or sign here
3.4.1.2	No marking required    Fig. 11: 1x 1060-0201 v1.0 - <i>DualPotentiometerStamp</i> front panel PCB	Stamp or sign here

### 227 3.4.2 Loose components

- 228 All loose components are stored on the shelf labelled "1XXX Components". Take the components tray and obtain  
 229 the following quantities of the following parts:

Table 8: Loose components

Item #	Description	Signature/Stamp
3.4.3.1	No marking required    Fig. 12: 1x ZY28 - 16 Point solderless breadboard	Stamp or sign here
3.4.3.2	No marking required    Fig. 13: 1x 0022284020 - 1x2 2.54mm Male Header	Stamp or sign here
3.4.3.3	No marking required    Fig. 14: 1x RV09AF-40-20K-B10K - 10K Potentiometer	Stamp or sign here

continues on next page

Table 8 – continued from previous page

Item #	Description	Signature/Stamp
3.4.3.4	No marking required   Fig. 15: 4x 5mm M3 Nylon Screws	Stamp or sign here
3.4.3.5	No marking required   Fig. 16: 4x M3 11mm+6 Black Nylon Standoffs	Stamp or sign here
3.4.3.6	No marking required   Fig. 17: 4x M3 9mm+6 Black Nylon Standoffs	Stamp or sign here

continues on next page

Table 8 – continued from previous page

Item #	Description	Signature/Stamp
3.4.3.7	No marking required  <p>Fig. 18: 4x M3 Black Nylon Nuts</p>	Stamp or sign here

### 3.4.3 Packaging materials

231 All packaging materials are stored on the shelf labelled "1XXX Components". Take the packaging box and obtain  
 232 the following quantities of the following materials:

Table 9: Packaging materials

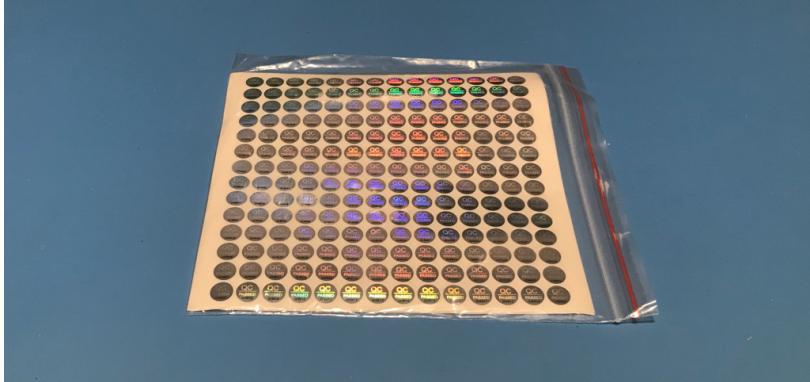
Item #	Description	Signature/Stamp
3.4.4.1	No marking required  	Stamp or sign here
3.4.4.2	No marking required  	Stamp or sign here
3.4.4.3	No marking required  	Stamp or sign here

Fig. 19: 1x QC Sticker

continues on next page

Table 9 – continued from previous page

Item #	Description	Signature/Stamp
3.4.4.4	<p>No marking required</p> 	<div style="text-align: center;">Stamp or sign here</div>
3.4.4.5	<p>No marking required</p> 	<div style="text-align: center;">Stamp or sign here</div>
3.4.4.6	<p>No marking required</p> 	<div style="text-align: center;">Stamp or sign here</div>

## 233 Section 4

# 234 Assembly

### 235 4.1 1060A assembly

236 This assembly step takes 5 minutes.

Table 10: 1060A assembly steps

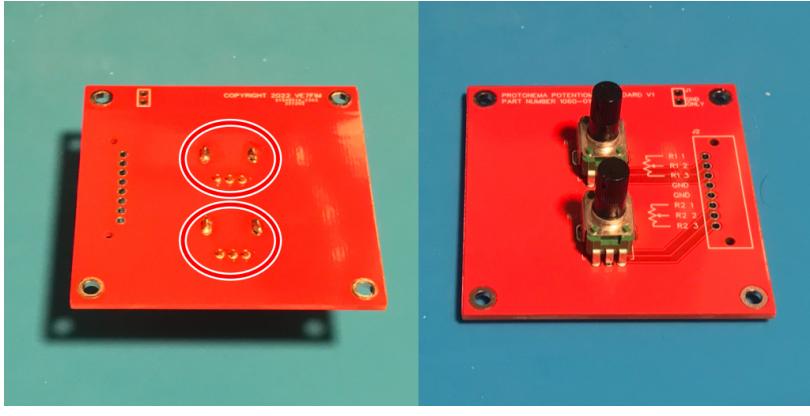
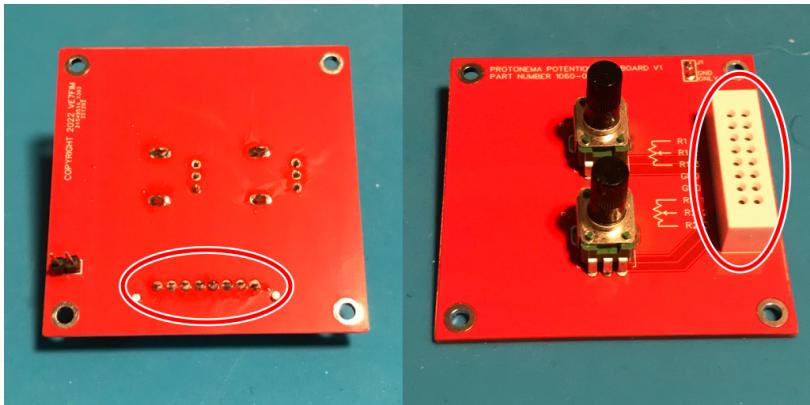
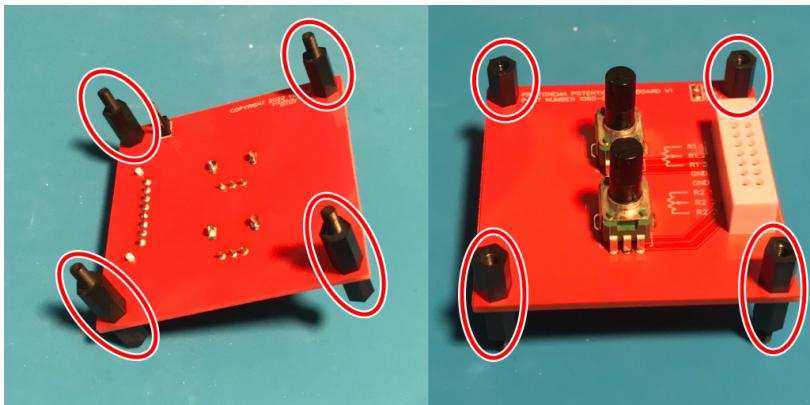
Step #	Description	Signature/Stamp
4.1.1	<p>Solder R1 and R2 onto the 1060-0101 PCB.</p> 	<div style="text-align: center; border: 1px solid gray; border-radius: 50%; width: 100px; height: 100px; margin: auto;"> <span>Stamp or sign here</span> </div>
4.1.2	<p>Insert the 2 pin header into J1 from the rear of the board, flip the board, and solder one pin of the header on, flip the board again and make sure it is 90 degrees to the board, then solder the remaining pin.</p> 	<div style="text-align: center; border: 1px solid gray; border-radius: 50%; width: 100px; height: 100px; margin: auto;"> <span>Stamp or sign here</span> </div>

Fig. 25: 1060-0101 PCB with R1 and R2 soldered on.

continues on next page

Table 10 – continued from previous page

Step #	Description	Signature/Stamp
4.1.3	Insert the breadboard module, then solder.	Stamp or sign here
		
	Fig. 27: 1060-0101 PCB with the breadboard module soldered on.	
4.1.4	For each of the four corner holes, attach a 9mm nylon standoff to an 11mm nylon standoff, with the 9mm standoff on the top of the board and the 11mm standoff on the bottom of the board.	Stamp or sign here
		
	Fig. 28: 1060-0101 PCB with the four pairs of nylon standoffs attached.	
4.1.5	Place the 1060-0201 front panel PCB on top of the four 9mm nylon standoffs. For each of the four corner holes, attach a nylon screw to the standoff.	Stamp or sign here
		
	Fig. 29: 1060-0201 PCB with the four pairs of nylon standoffs attached.	

## 237 Section 5

### 238 Test

#### 239 5.1 Visual inspection

240 This test process takes 2 minutes.

Table 11: 1060A visual inspection

Step #	Description	Signature/Stamp
5.1.1	Verify that there are no loose parts.	Stamp or sign here
5.1.2	Verify that there are no visible fingerprints.	Stamp or sign here

## 241 5.2 QC final check

242 This test process takes 2 minutes.

Table 12: 1060A QC final check

Step #	Description	Signature/Stamp
5.2.1	<p>Connect the 1060A to a baseboard and to a pre-programmed 1031A and 1037A, as shown below. Connect power and verify that as you turn the potentiometer, it varies from 0% to 100%.</p> <p>If test does not pass, write down the unexpected behaviour in the "Signature/Stamp" column on the right.</p>  <p>FPO</p>	Stamp or sign here

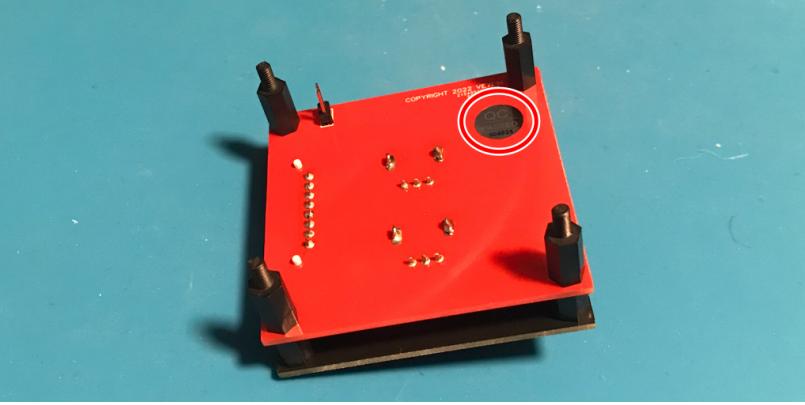
Fig. 30: Powered 1060A being tested by a 1031A.

### 243 5.3 QC PASS

244 Only perform these steps if all QC checks have passed.

245 This test process takes 1 minutes.

Table 13: 1060A QC approval

Step #	Description	Signature/Stamp
5.3.1	<p>Using the tweezers, affix QC Passed sticker in location shown below, then write down the serial number from the QC sticker below the "Signature/Stamp" in the column to the right.</p>  <p>Fig. 31: 1060A with QC Passed sticker</p>	 <p>Stamp or sign here</p>
5.3.2	Take two photographs, one of the front of the 1060A, and one of the back of the 1060A.	 <p>Stamp or sign here</p>

## 246 5.4 QC FAIL

- 247 Only perform these steps if any QC check have failed.  
 248 This test process takes 2 minutes.

Table 14: 1060A QC fail

Step #	Description	Signature/Stamp
5.4.1	Place the 1060A module in the anti-static bag.  	Stamp or sign here
5.4.2	Take an A4 plastic bag, and place the 1060A, along with this document, in the "QC Fail" bin  	Stamp or sign here

Fig. 32: 1060A in anti-static bag.

Stamp or sign here

Stamp or sign here

## 249 Section 6

# 250 Packaging

### 251 6.1 1060A packing

252 This packaging process takes 3 minutes.

Table 15: 1060A packaging

Step #	Description	Signature/Stamp
6.1.1	Place the 1060A module in the anti-static bag. 	Stamp or sign here
6.1.2	Place four nylon nuts in a small anti-static bag, and add the bottom of the bag to the bag the 1060A module is in. 	Stamp or sign here

Fig. 34: 1060A in anti-static bag.

continues on next page

Table 15 – continued from previous page

Step #	Description	Signature/Stamp
6.1.3	Seal the anti-static bag with a 1060A sticker.  	
	<b>FPO</b>	
6.1.4	Using the Sharpie pen, Write down the serial number of the 1060A on the sticker, at the end of the line listing the 1060A.  	
	<b>FPO</b>	
6.1.5	Place 1060A bag in the box on top of the bottom foam padding.  	
	<b>FPO</b>	
6.1.6	Take a photograph of the 1060A in the box.	

continues on next page

Table 15 – continued from previous page

Step #	Description	Signature/Stamp
6.1.7	<p>Using the ESD tape, secure the lid of the box.</p>  <p style="text-align: center;"><b>FPO</b></p>	 <p>Stamp or sign here</p>
6.1.8	<p>Affix a 1060A sticker to the lid of the box.</p>  <p style="text-align: center;"><b>FPO</b></p>	 <p>Stamp or sign here</p>
6.1.9	<p>Using the Sharpie pen, Write down the serial number of the 1060A on the sticker, at the end of the line listing the 1060A.</p>  <p style="text-align: center;"><b>FPO</b></p>	 <p>Stamp or sign here</p>
6.1.10	<p>Take a photograph of the sealed 1060A box.</p>	 <p>Stamp or sign here</p>

## **253 Section 7**

# **254 Clean-up**

### **255 7.1 Consumables**

**256** This packaging process takes 5 minutes.

Table 16: Consumables cleanup

Step #	Description	Signature/Stamp
7.1.1	If the ESD gloves have contacted solder paste, or are soiled, they shall be disposed of in the standard waste bin.	Stamp or sign here
7.1.2	If there is unused solder wire on the spool, it shall be returned to stores.	Stamp or sign here
7.1.3	Loose component packaging shall be disposed of in the standard waste bin.	Stamp or sign here

### **257 7.2 Tools**

**258** This cleanup process takes 5 minutes.

Table 17: Tools cleanup

Step #	Description	Signature/Stamp
7.2.1	All tools shall be returned to the assembly tools container, and returned to the stores supply shelf.  If any tools are damaged or worn, return the container to stores, and let the manager know which tool is damaged or worn.	Stamp or sign here

continues on next page

Table 17 – continued from previous page

Step #	Description	Signature/Stamp
7.2.2	Remove this document from the springback binder.	Stamp or sign here
7.2.3	Print a new copy of this document, and insert it into the springback binder that this document was originally in.	Stamp or sign here
7.2.4	Return the springback binder with the newly printed document to the 1060A section of the store supply shelf.	Stamp or sign here

### 259 7.3 Workspace

260 This packaging process takes 5 minutes.

Table 18: Workspace cleanup

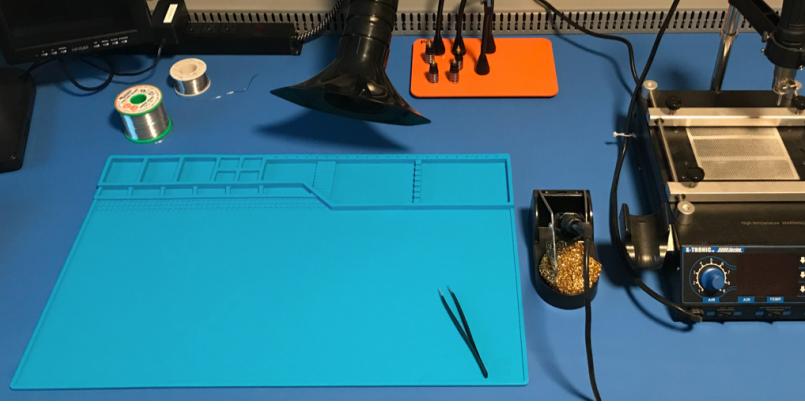
Step #	Description	Signature/Stamp
7.3.1	Make sure that the workspace is clean and as it was when you started the assembly.  	Stamp or sign here

Fig. 42: Clean assembly workstation

## 261 Section 8

# 262 Record keeping

### 263 8.1 1060A record keeping

- 264 This packaging process takes 5 minutes.

Table 19: 1060A record keeping

Step #	Description	Signature/Stamp
8.1.1	<p>Write the serial number, the date, and your first and last name in large print on the bottom of the front cover of this document.</p> <div style="text-align: center; border: 1px solid black; padding: 10px; margin-top: 10px;"> <b>FPO</b> </div>	 Stamp or sign here
8.1.2	Create a new folder under the 1060A folder, named with the serial number.	 Stamp or sign here
8.1.3	Copy all photos taken during the assembly process into the newly created folder in step #2.	 Stamp or sign here
8.1.4	Remove this document from the binding clamps, scan the document, and save the scanned PDF into the newly created folder in step #2, with the name "1060A-SNAAAAAA.pdf", where AAAAAA is replaced with the serial number.	 Stamp or sign here

continues on next page

Table 19 – continued from previous page

Step #	Description	Signature/Stamp
8.1.5	Three-hole punch the document, then file it at the end of the current month's assembly records binder.	Stamp or sign here
8.1.6	Add an entry to the assembly records binder, "<Date> - 1060A - SN# AAAAAAA - <Your Name>", where <Date> is replaced with today's date in ISO-8601 YYYY-MM-DD, where AAAAAAA is replaced with the serial number of the 1060A, and where <Your Name> is replaced with your first and last name.	Stamp or sign here

265 **Section 9**

266 **Process improvement**

267 **9.1 Feedback**

268 Please submit an issue to the [Protonema Issue Repository](http://www.github.com/dslik/protonema/issues) (<http://www.github.com/dslik/protonema/issues>) if you  
269 encounter any of the below situations:

- 270 • Error in this document
- 271 • Unclear directions
- 272 • Suggested process improvements
- 273 • Results of QC failure investigations
- 274 • Tool change suggestions

275 Qualtiy processes and documentation is a team effort. This document would not exist without the participation and  
276 contributions of the entire assebly team.

277 Thank you for reading this assembly instructions document.

278 End of document.

279

## Part II

280

# 1060A Annexes

## 281 Section 10

### 282 Printed Circuit Boards

#### 283 10.1 1060-0101 PCB

Table 20: 1060-0101 PCB

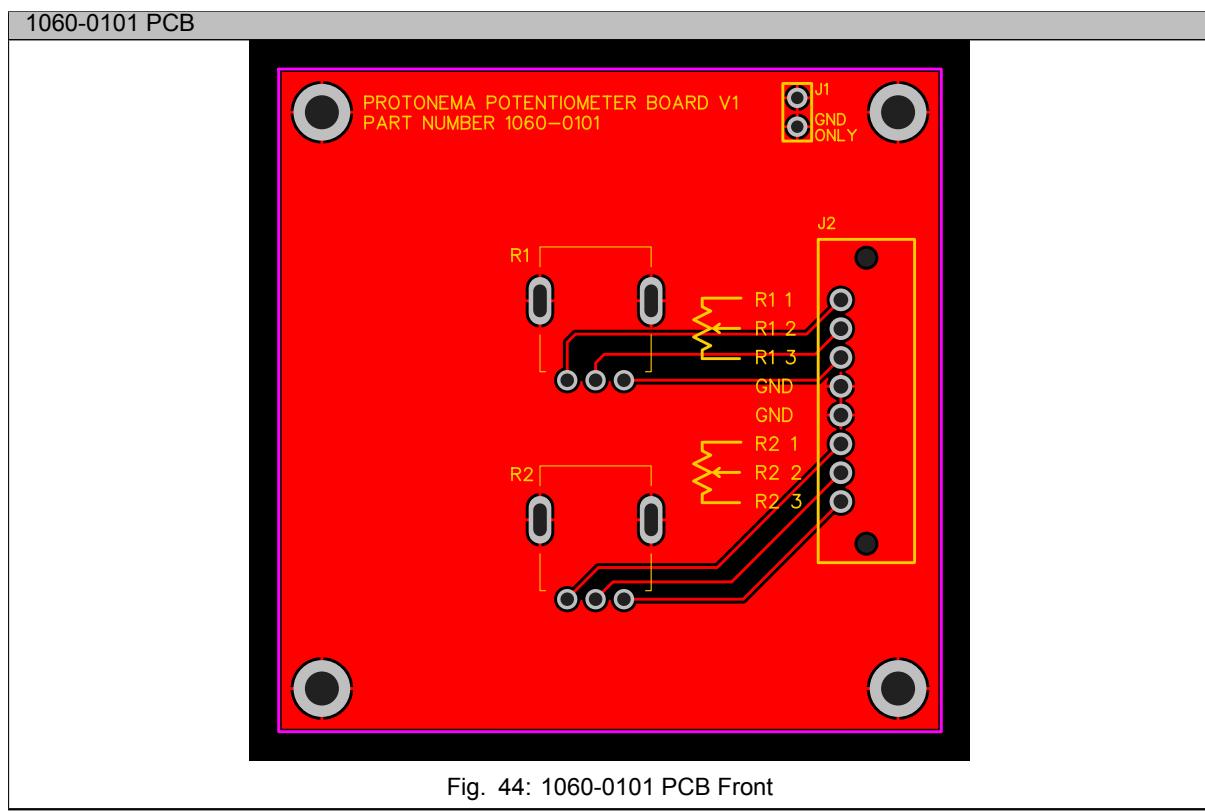
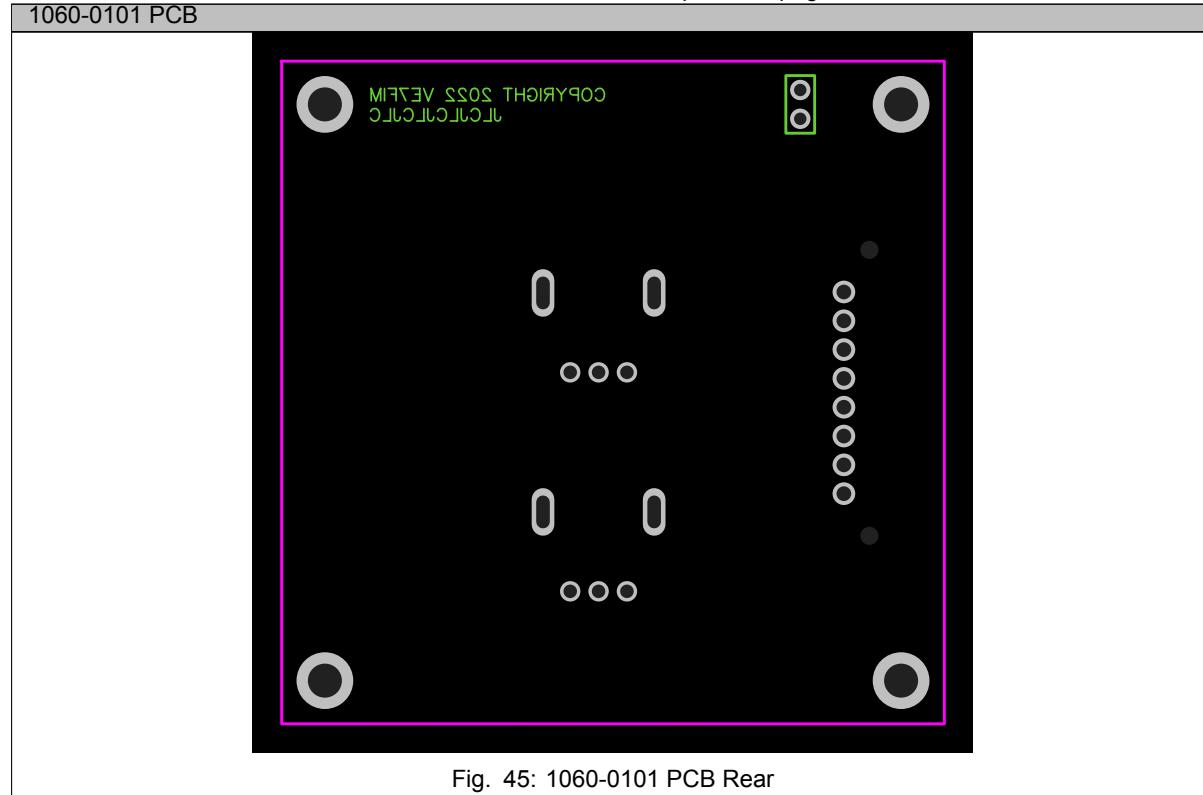


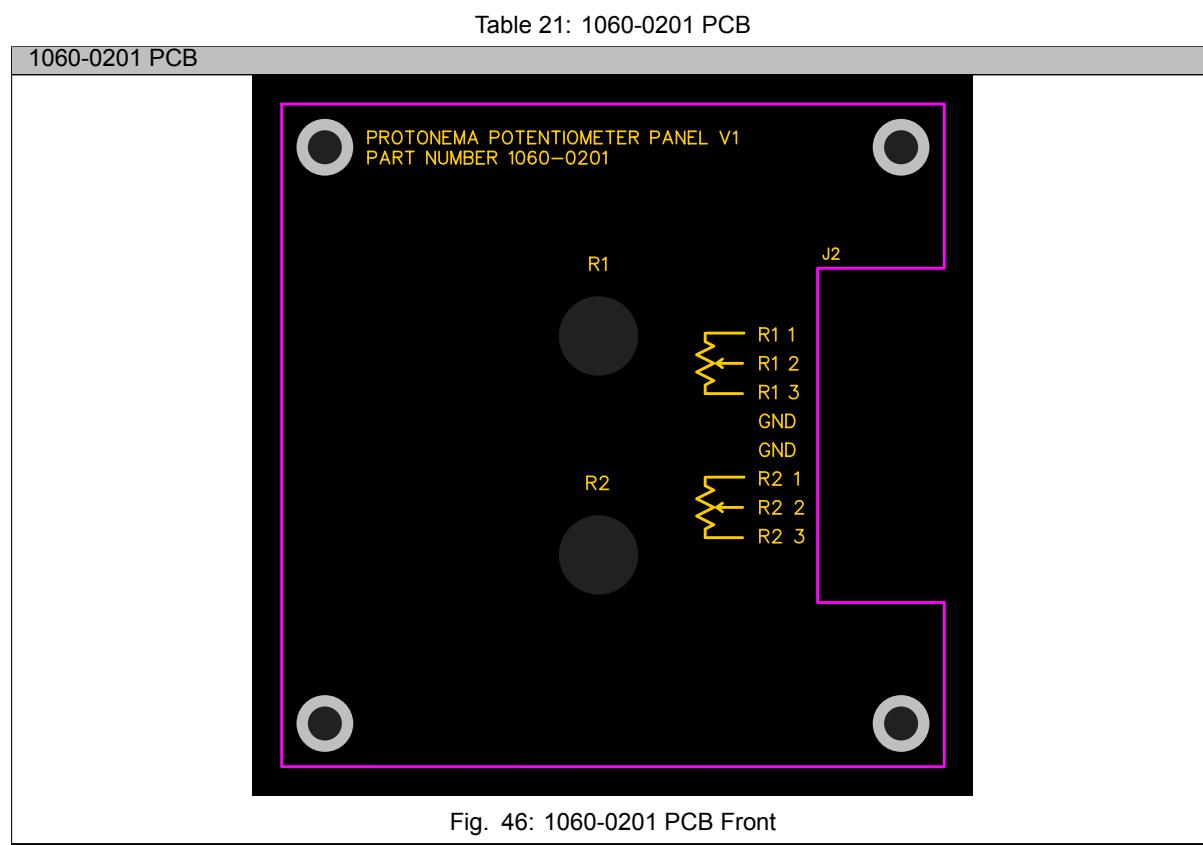
Fig. 44: 1060-0101 PCB Front

continues on next page

Table 20 – continued from previous page

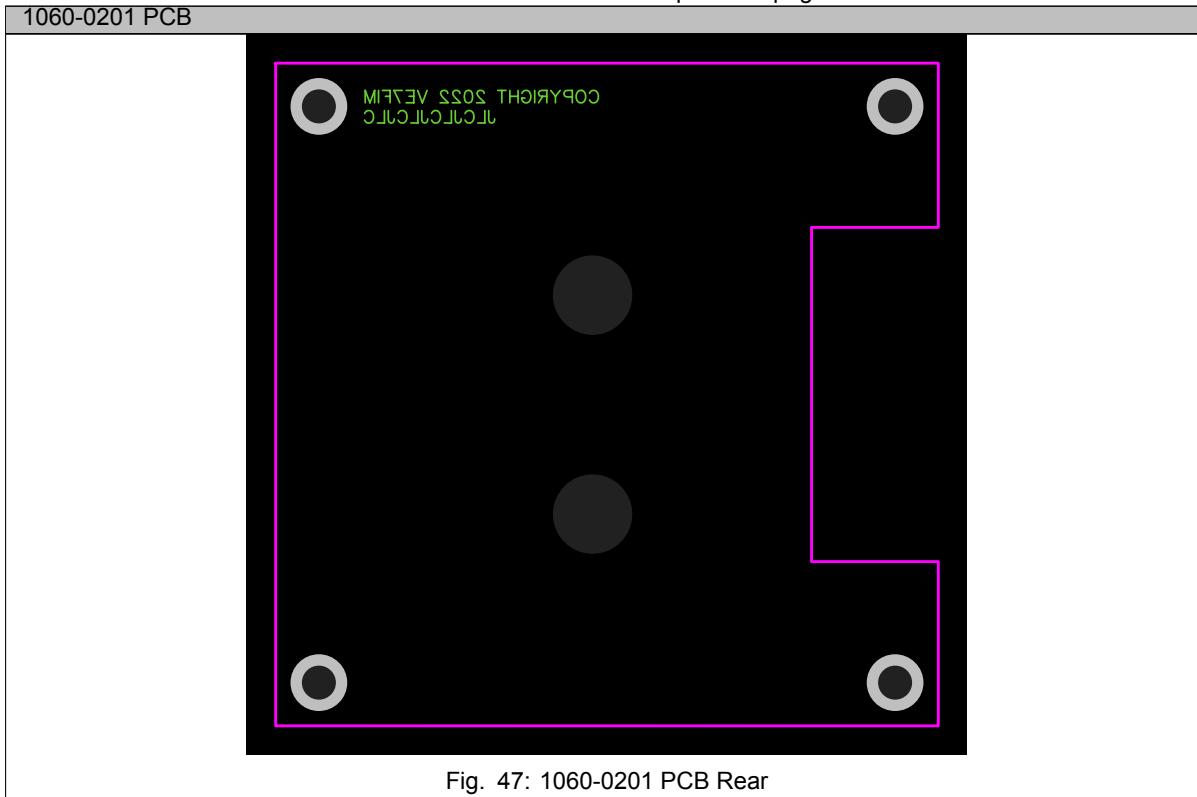


## 10.2 1060-0201 PCB



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Table 21 – continued from previous page



285

## Section 11

286

### Bill of materials

287

#### 11.1 1060A Dual Potentiometer Stamp

288

The parts required to assemble a 1060A are listed in Table 22.

Table 22: 1060A parts

Reference Designation	Qty	Description	Manufacturer	Manufacturer Part Number	Supplier	Cost
1060-0101	1	Stamp PCB	JLCPCB	Y393-2154951A	JLCPCB	\$1.09 CAD
1060-0201	1	Stamp Front Panel PCB	JLCPCB	Y394-2154951A	JLCPCB	\$1.36 CAD
J1	1	Connector Header Through Hole 2 position 0.100" (2.54mm)	Molex	0022284020	Digikey	\$0.17 CAD
J2	1	16 Point solderless breadboard	Cixi Zhongyi Electronics Factory	ZY28	Zhongyi	\$1.27 CAD
R1, R2	8	10K Linear Potentiometer 6mm Shaft Diameter, 11mm Shaft Length	Taiwan Alpha Electronics Co	RV09AF-40-20K-B10K	Tayda	\$1.82 CAD
MP1 - MP4	4	Screw - M3 5mm Black Nylon Phillips Socket Button Head	Order By Description			\$0.25 CAD
MP5 - MP8	4	Standoff - M3 11mm+6 Black Nylon	Order By Description			\$0.30 CAD
MP9 - MP12	4	Standoff - M3 9mm+6 Black Nylon	Order By Description			\$0.30 CAD
MP13 - MP16	4	Nut - M3 Black Nylon	Order By Description			\$0.35 CAD
SK1	1	QC Sticker	Order by Description			\$0.0094 CAD
Total						\$6.92 CAD

## 289 11.2 1060A Packaging

290 The parts required to package a 1060A are listed in Table 23.

Table 23: 1060A packing parts

Reference Designation	Qty	Description	Manufacturer	Manufacturer Part Number	Supplier	Cost
N/A	1	Static Shielding Bag 4" X 4" Ziplock	SCS	30044	Digikey	\$0.22 CAD
N/A	1	Static Shielding Bag 1.5" X 2.8" Ziplock	Order by Description			\$0.06 CAD
N/A	1	CORREC-PAK SHIPPER 4 X 4 X 2" ID	Conductive Containers, Inc.	3631	Digikey	\$7.99 CAD
1060-7001	2	1060A ESD Sticker	Jukebox Print			\$4.00 CAD
Total						\$12.27 CAD

<sup>291</sup> **Section 12**

<sup>292</sup> **Reduction of Hazardous Materials**

<sup>293</sup> Compliance declarations, in BOM order.

## 294 12.1 MG Chemicals 4900

Table 24: MG Chemicals 4900 RoHS Compliance

Declaration for MG Chemicals 4900 -  
<https://www.mgchemicals.com/downloads/msds/01%20English%20Can-USA%20SDS/sds-4900-4917.pdf>



**ISO 9001:2015 Quality Management System**  
 SAI Global File #004008  
 Burlington, Ontario, Canada

**SAC305 NO CLEAN SOLDER WIRE** **4900-4917**

**California Proposition 65** (Chemicals known to cause cancer or reproductive toxicity, USA)

This product does not contain any of the listed substances.

### Europe

**RoHS** (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, PBDE's, DEHP, BBP, DBP, or DIBP and complies with European RoHS regulations.

**WEEE** (Waste Electrical and Electronic Equipment Directive)

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.

### Section 16: Other Information

**SDS Prepared by** MG Chemical's Regulatory Department

**Date of Review** 06 March 2020

**Supersedes** 09 July 2019

**Reason for Changes:** Update to the emergency phone number information.

### Reference

1) ACGIH 2017 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2017).

2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

*Section continued on the next page*

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Date of Revision: 06 March 2020 / Ver. 3.01

## 295 12.2 JLC lead-free PCB

Table 25: JLC PCB RoHS Compliance

Declaration for JLCPBCB lead-free PCBs - <https://s3.amazonaws.com/helpscout.net/docs/assets/59f1de7804286313cffbb22c/images/5d4d09562c7d3a036965d6a3/ROHS-Certificate-of-Compliance.jpg>

ROHS-Certificate-of-Compliance.jpg 566x800 pixels

2022-08-16, 23:45



<https://s3.amazonaws.com/helpscout.net/docs/assets/59f1de7804286313cffbb22c/images/5d4d09562c7d3a036965d6a3/ROHS-Certificate-of-Compliance.jpg>

Page 1 of 1

296 **12.3 Molex 0022284020**

Table 26: Molex 0022284020 RoHS Compliance

Declaration for Molex 0022284020 - [https://www.molex.com/datasheets/rohspdf/0022284020\\_rohs.pdf](https://www.molex.com/datasheets/rohspdf/0022284020_rohs.pdf)**RoHS Certificate of Compliance**

06/29/2022

Molex is committed to managing the use of chemical substances in accordance with governmental regulations, industry standards, and customer-specific requirements in order to protect the environment. For each part listed, this document provides:

- EU RoHS Compliance Status.** EU RoHS status is declared per Directive 2011/65/EU and its subsequent amendments, including the Directive EU 2015/863 which additionally prohibited four phthalates. Homogeneous materials of parts that are compliant to this legislation have less than 0.1% by weight each of lead, mercury, hexavalent chromium, PBB, PBDE, DBP, BBP, DIBP, DEHP, and 0.01% by weight of cadmium. In situations where an exemption applies, the preceding limits, corresponding to the exempted substance(s), may be higher.

Molex's sole liability for incorrectly certifying a product shall be either replacement of the Molex product or, alternatively and in the sole discretion of Molex, return of the purchase price paid for the relevant Molex product.

For additional information regarding Molex's environmental initiatives and further explanation of this information, please visit [www.molex.com](http://www.molex.com)

Haim Eliyahu  
Director, Global Product Stewardship

**Table A**

Molex Part Number	Part Description	RoHS Compliance Status
0022284020	KK 254 Breakaway Header, Vertical, 2 Circuits, Tin (Sn) Plating, Mating Pin Length 6.09mm	Compliant

## 12.4 Cixi ZY28

297

Table 27: Cixi ZY28 Compliance

Declaration for Cixi ZY28 -  
<http://27696974.s21i.faiusr.com/2/ABUIABACGAAghLXJiwYogKav1QYwoAY46wg.jpg>

**Certificate of Compliance**

**Certificate Number:** BSTDG190612860702CC

<b>Applicant</b>	: CIXI ZHONGYI ELECTRONICS FACTORY Yuxiang Road, Xiaolin Town 315321 Cixi City Zhejiang Province China
<b>Manufacturer</b>	: CIXI ZHONGYI ELECTRONICS FACTORY Yuxiang Road, Xiaolin Town 315321 Cixi City Zhejiang Province China
<b>Product Name</b>	: BREAD BOARD
<b>Test Standard</b>	: IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-6:2015, IEC 62321-7-1:2015, IEC 62321-7-2:2017, IEC 62321-8:2017
<b>As shown in the Test Report No.</b>	: BSTDG190612860702CR

The EUT described above has been tested by us and found in compliance with the council RoHS 2 Directive 2011/65/EU Annex II (EU) 2015/863 as last amended by Directive (EU) 2017/2102. This certificate is only valid in conjunction with the test report.

**RoHS**

Tony Qian  
Approved Signatory  
Jun.10, 2019

**Dongguan BST Testing Co., Ltd**  
Add: A1201-1204 Xinsanqi of Dongbao Road, Dongcheng District, Dongguan, Guangdong, China  
Certificate Search: <http://www bst-lab com>, Tel: 400-8829628, 800-9990305, E-mail: christina@bst-lab.com

298 **12.5 Alpha RV09AF**

Table 28: Alpha RV09AF RoHS Compliance

Declaration for Alpha RV09AF - Received via e-mail	
	FPO

299 **12.6 M3 5mm Nylon Screw**

Table 29: M3 5mm Nylon Screw RoHS Compliance



300 **12.7 M3 11mm Nylon Standoff**

Table 30: M3 11mm Nylon Standoff RoHS Compliance



301 **12.8 M3 9mm Nylon Standoff**

Table 31: M3 9mm Nylon Standoff RoHS Compliance

Declaration for M3 9mm Nylon Standoff - N/A	
	FPO

302 **12.9 M3 Nylon Bolt**

Table 32: M3 Nylon Bolt RoHS Compliance

