Revision date: 22-August-23

VM3COP55.04 V1000 Production Procedure

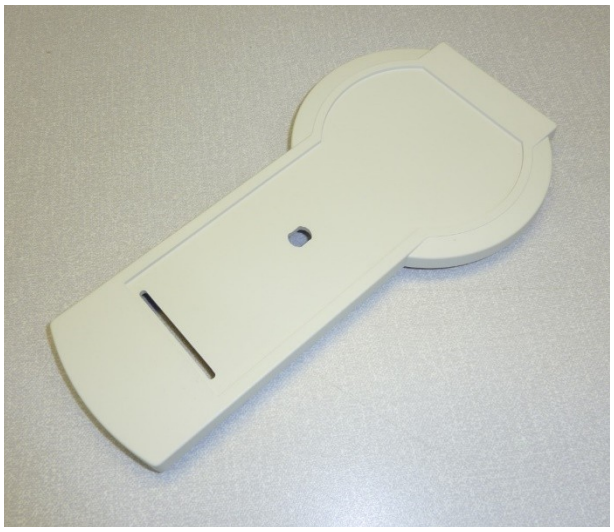
Parts list

Part number	Description	Quantity
1430284	V1000 Case with cut outs	1
1430286	V1000 Case seal kit	1
1430287	V1000 Battery compartment	1
1430288	V1000 Battery contacts 4 x AA	1
1430295	V1000 Keypad membrane	1
1430296	V1000 Label set	1
1430297	V1000 Intensity control potentiometer	1
1430299	V1000 Transducer Gasket	1
1430300	V1000 PCB Assembly	1
1430301	V1000 Transducer Mount	1
1430303	V1000 Transducer mounting screw	4
1430304	V1000 Transducer mounting washer	4
1430305	V1000 Transducer mounting nut/spacer	8
1430306	V1000 Transducer screw	4
1430307	V1000 Transducer washer	4
1430308	V1000 Transducer nut	4
1430309	V1000 Transducer interface cushion.	1
1430310	Connector – crimp socket	4
1430311	Connector – 3-pole (transducer)	1
1430312	Connector – 2-pole (power)	1
1430320	V1000 Transducer v2	1
1430325	Label – Warranty void if broken	1
1430326	Tamper Evident Seal	1
1430330	V1000 Plastic Carry Case	1
1490001	Instructions for Use - V1000	1
9950054	Batteries 1.5v AAx4	1

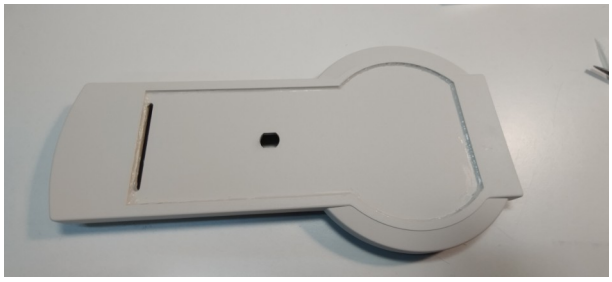
Tool list	
Soldering iron	
Anti-static mat and wrist strap	
Wire cutters	
Pliers	
Screw drivers	
Spanners	
Crimp tool	

Upper case preparation

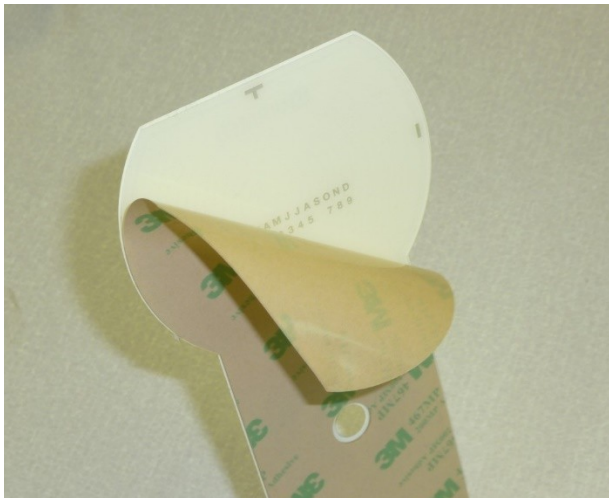
1. Clean any residue from the surface of the case.



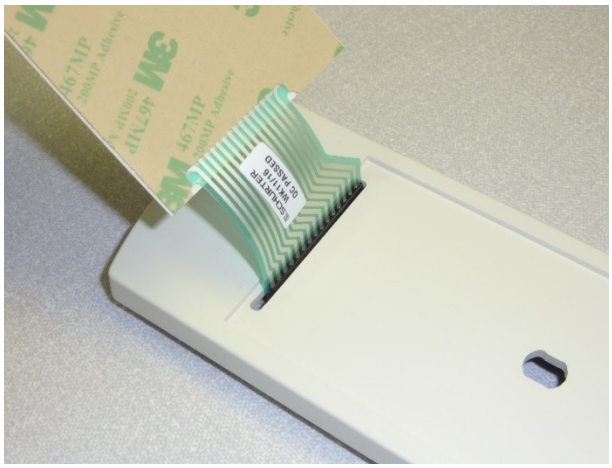
2. Run a bead of silicone around the recess where the keypad fits



3. Remove the protective backing from the keypad to expose the adhesive backing.



4. Feed the keypad connector through the slotted hole near the bottom of the case.

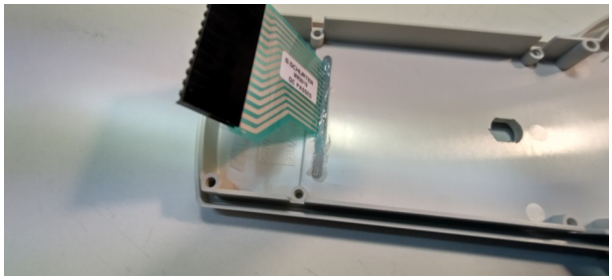


5. Centrally locate the keypad membrane into the recess on the front of the case. Ensure that the bottom edge of the keypad is as close to the bottom edge of the recess as possible.

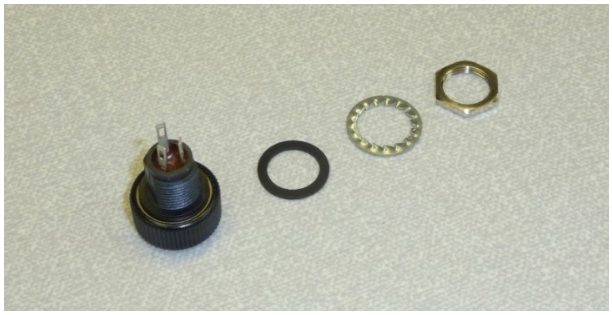
6. When aligned correctly, press the keypad into place.

   Clean off the excess silicone.

7. Add silicone around the keypad ribbon to seal the slot.

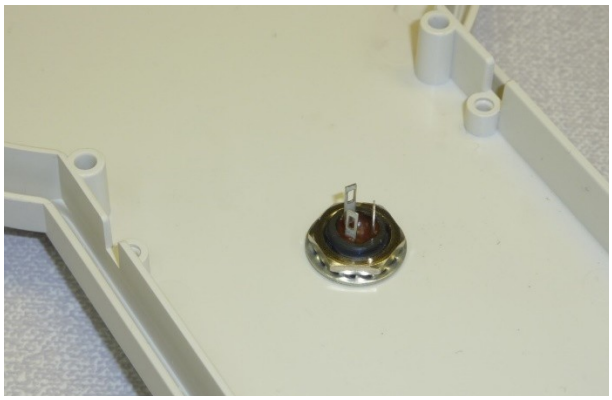


8. Place the rubber seal over the thread of the control pot.

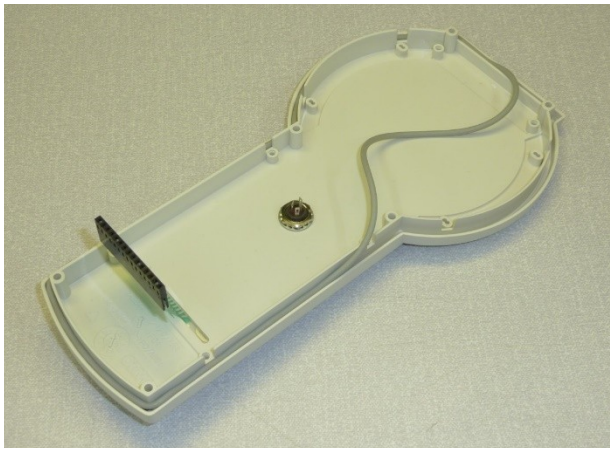


9. Push the control pot through the central hole in the front of the case. Ensure the control pot is correctly orientated (Large tab to the top side of the case).

10. Using the washer and nut, affix the control pot to the case.

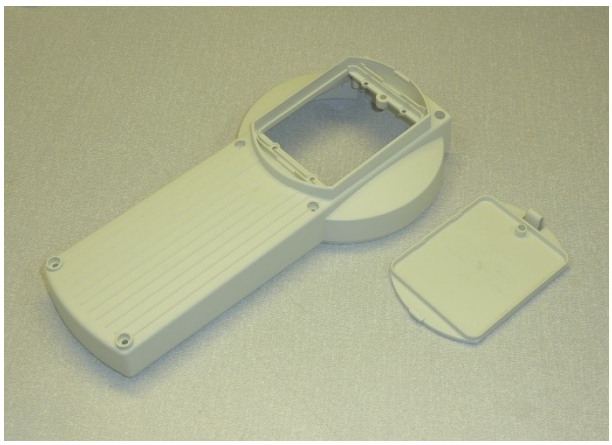


11. Place the case seal into the channel around the perimeter of the case and push into place.



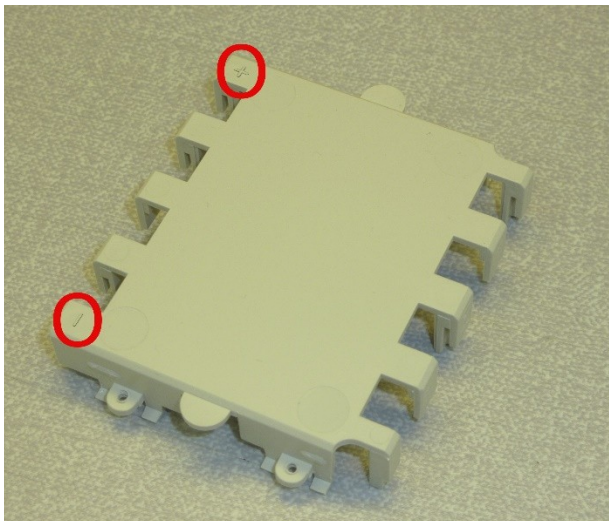
Lower case preparation

1. Remove the battery door from the lower case.

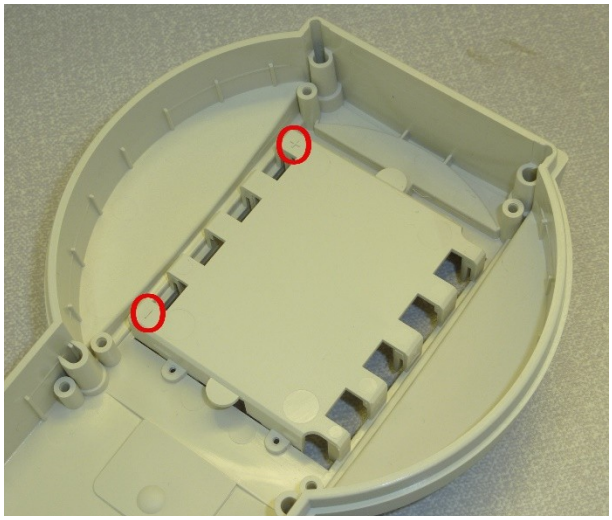


2. The battery compartment is fitted from the inside of the case.

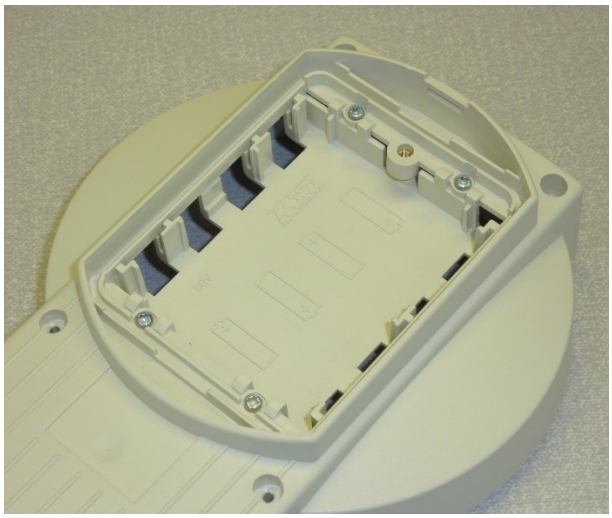
   The polarity marks, in raised plastic on the battery compartment, should be on the left hand side of the inside of the case.



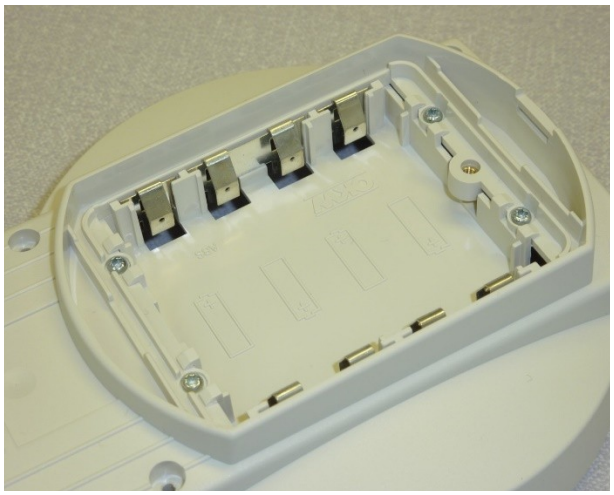
3. Using the retaining hooks, located at each end of the battery compartment, insert the compartment into the lower case.



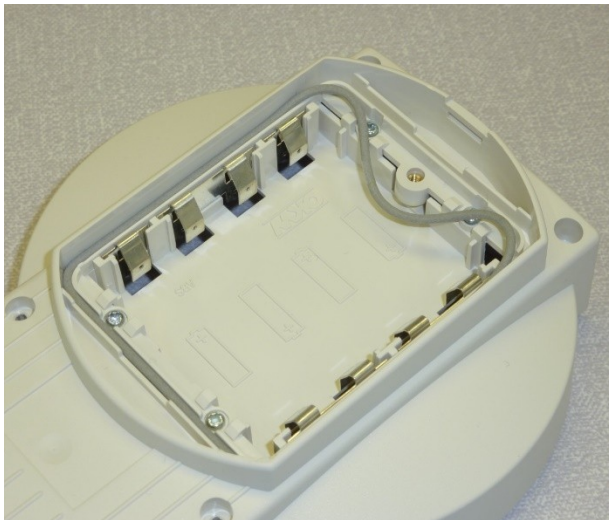
4. Using the four retaining screws, affix the battery compartment in place.



5. Insert the battery contacts from the back of the case.

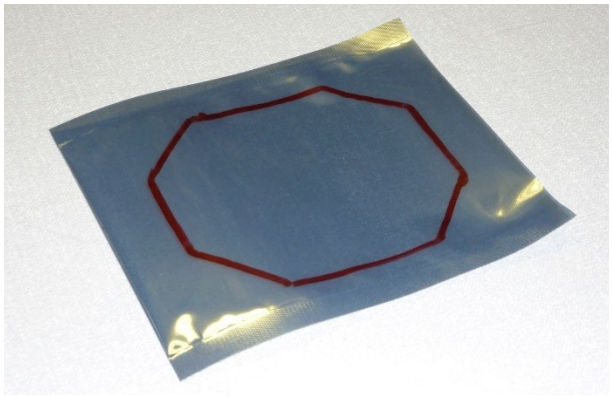


6. Place the battery compartment seal into the channel around the perimeter of the battery compartment and push into place.

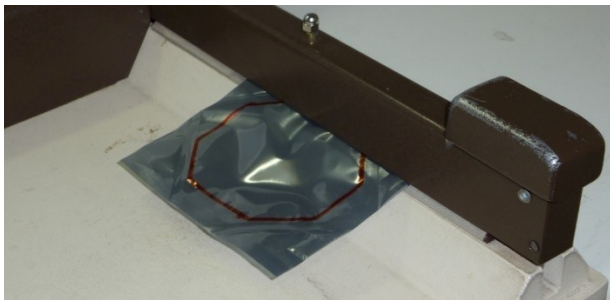


Transducer interface cushion preparation (Part Number: 1430309)

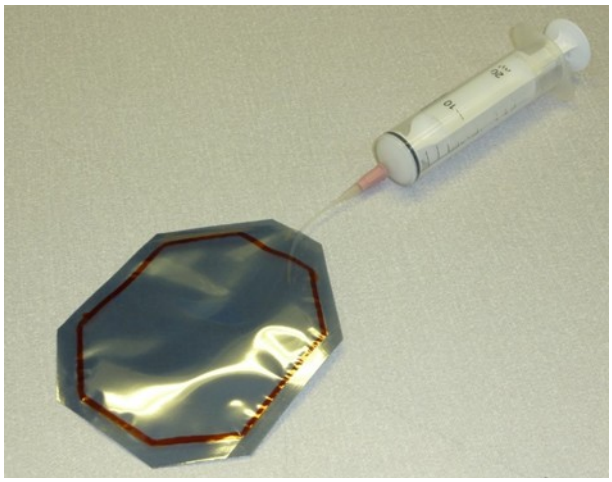
1. Using a template, mark out and cut an interface cushion.



2. Seal the edges of the transducer cushion, leaving a small gap for filling.



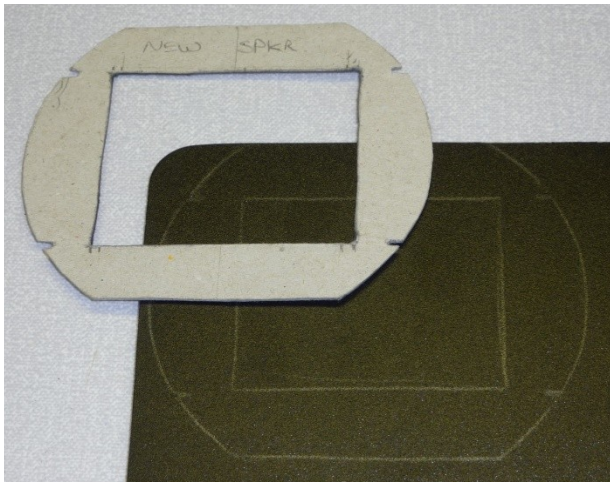
3. Fill the transducer cushion with water, leaving as little air in the cushion as possible, and seal.



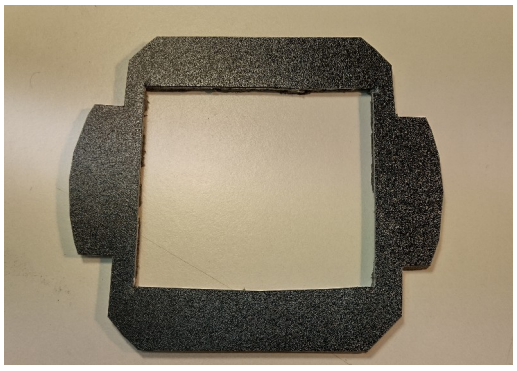
4. Trim the excess material from the outline.

Transducer surround preparation

1. Using the template, mark out and cut a transducer surround from hard-backed foam.

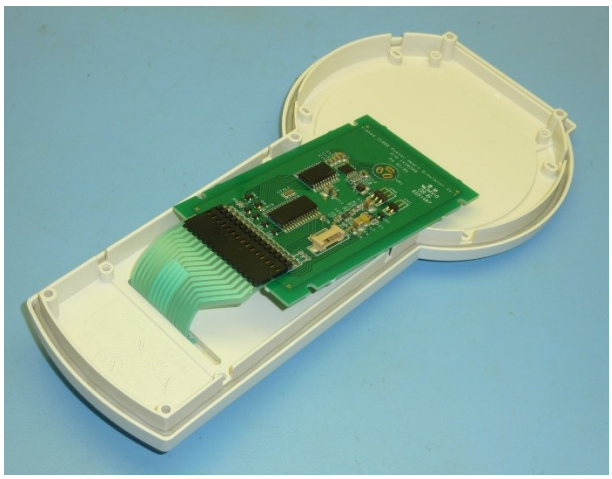


We now have a laser cut part. V1000 Transducer Interface Gasket 1430299

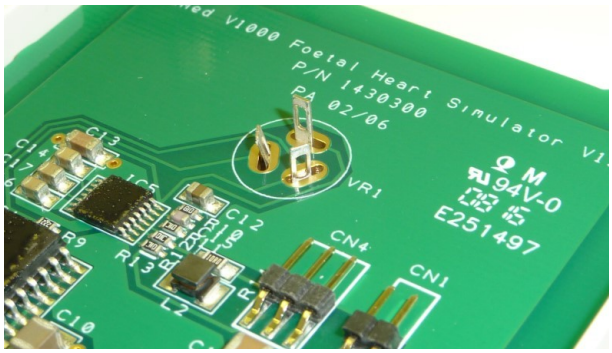


Assembly

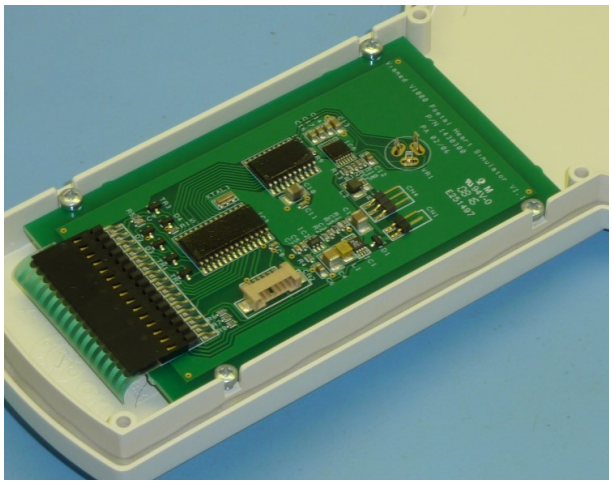
1. Connect the keypad connector to the PCB.



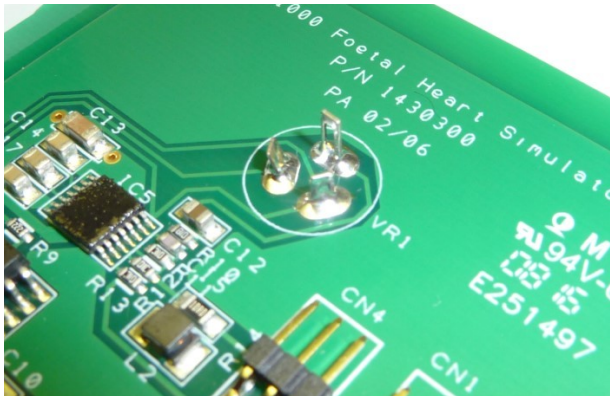
2. Locate the PCB over the control pot, allowing the control pot tabs to pass through the three holes at the top of the PCB.



3. Using the PCB retaining screws, affix the PCB into place.

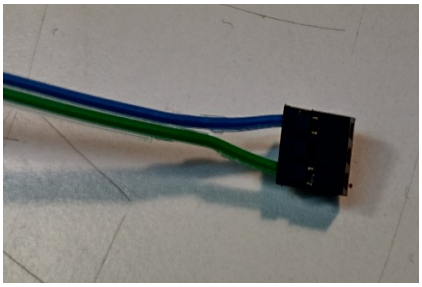


4. Solder the three control pot tabs to the contacts on the PCB.

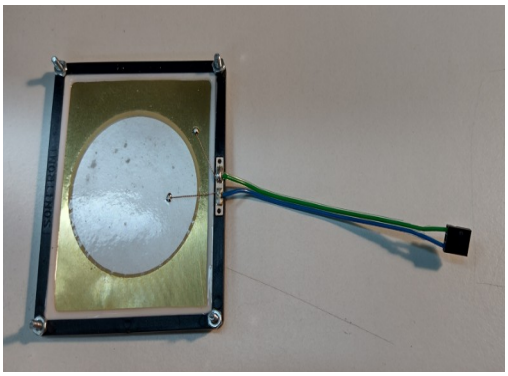


5. Cut a length of ribbon cable to 75mm. Strip 2mm of plastic from each wire, and tin the wire.

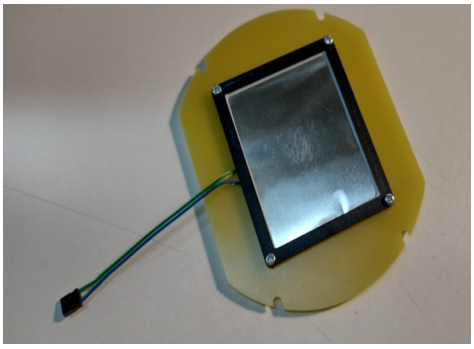
6. Strip 2mm of plastic from each wire. Affix a 3 pin M22 connector.



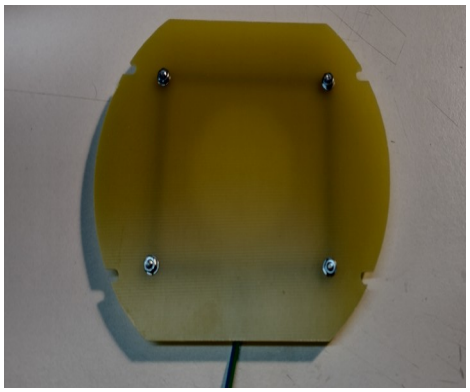
7. Solder the cable to the transducer.



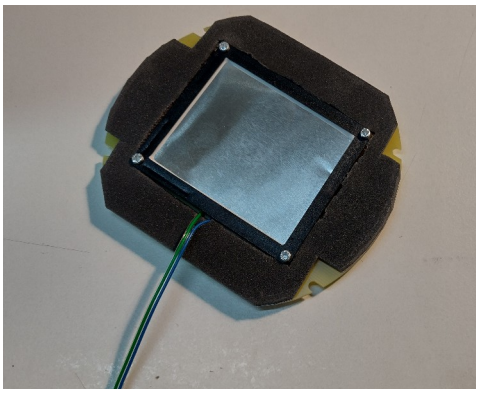
8. Mount the transducer to the transducer mounting board. Space the transducer away from the board using a nut.



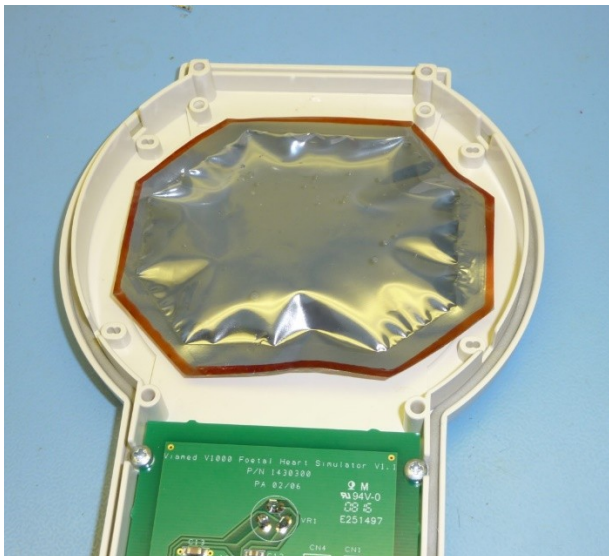
9. Affix into place using a bolt, washer and nut



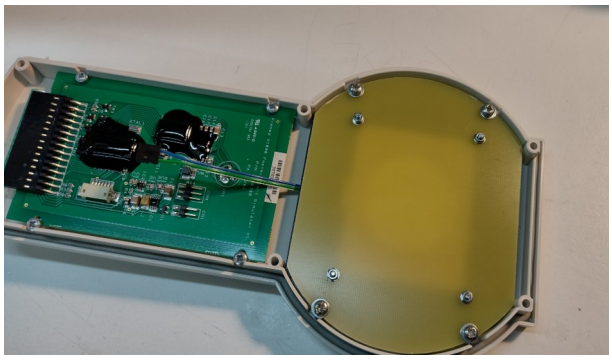
10. Place the transducer surround on the transducer mounting board.



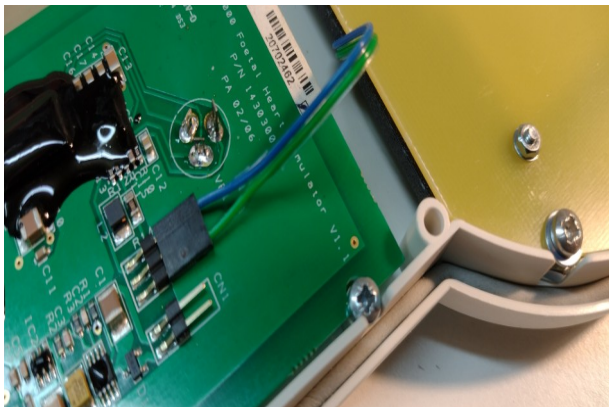
11. Using double sided tape, affix the transducer interface cushion to the inside surface of the upper case.



12. Place the transducer assembly over the interface cushion, with spacing nut on the underside of the mounting board, and fix into place using the mounting screws.

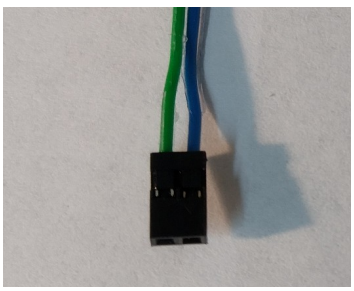


13. Connect the transducer assembly to the PCB using the 3 pin connector.

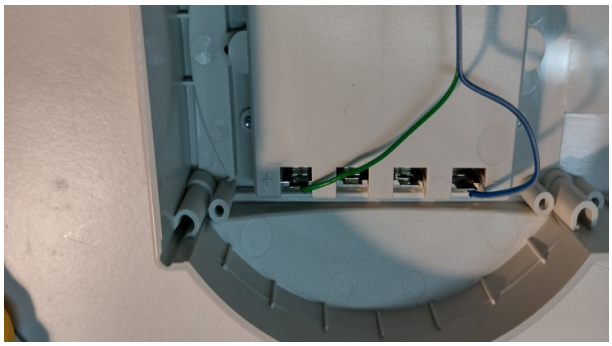


14. Cut a length of ribbon cable to 150mm. Affix a 2 pin M22 connector.

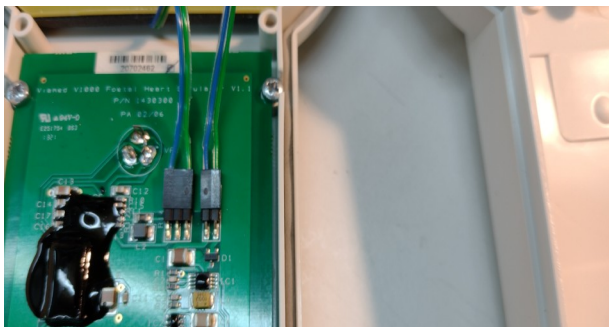
    Match the cable colour to the transducer cable colour.



15. Solder the ribbon cable to the battery contacts.

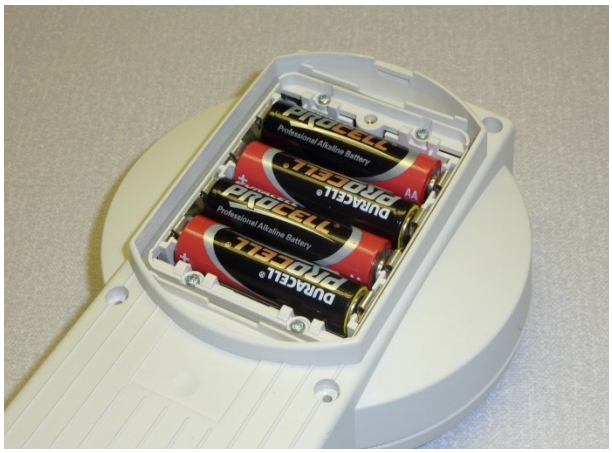


16. Connect the 2 pin M22 connector to the 2 pin connector on the PCB.



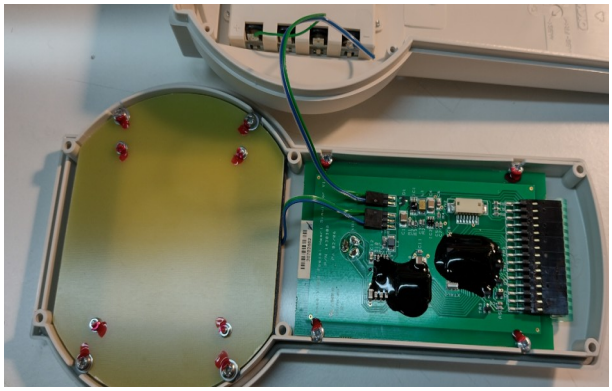
17. At this point, test the unit. Insert 4 x AA batteries and fix the case halves together.

18. Test the unit functions are as expected. Refer to VM3COP55.05 V1000 QA procedure for the method.



19. When the unit is working as expected, remove the batteries.

20. Use a Tamper Evident Seal on the exposed nuts and screw heads.



21. Affix a serial number label to the back of the transducer assembly.

22. Affix a serial number label to the inside of the battery compartment door.

23. Affix a trimmed serial number label to the inside of the battery compartment.

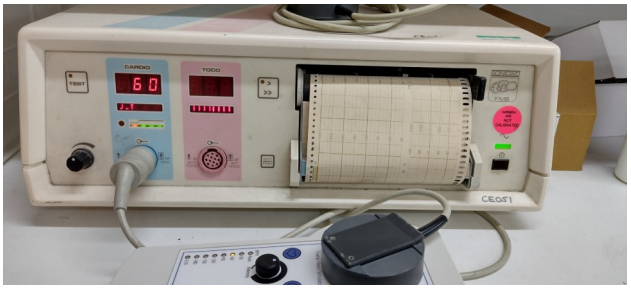
24. Insert 4 x AA batteries and test the unit. If the unit is working, then it may be submitted for QA and calibration check.

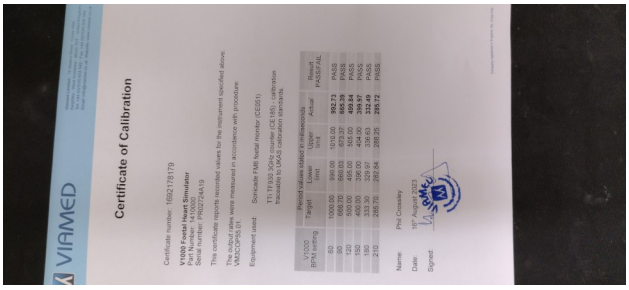
25. Once the unit has passed QA you can fully assemble the unit, using the case screws.

26. Add a CE label and instructions label to the rear.

27. Affix a ‘Warranty Protection’ label to the top of the unit, between the case halves and record it’s unique number.

28. Insert 4 x AA batteries and test the unit still works.

QA	
Use the Sonicaid CE051 to confirm the V1000 is working and has a good output. Check all the LEDs work. With the V1000 set at half intensity the Sonicaid should find a good pulse from 60 to 210 bpm (30 is too low for the Sonicaid to function). With the Sonicaid set at half volume you should hear the pulse clearly from it’s speaker. Use the auto on the V1000 to run through the range while you watch the Sonicaid. Go to Intrastats\Stock\QA Stock\ to record the results and the Warranty Protection number.	
Calibration Check	

Follow Foetal heart simulator BPM accuracy test **VM3COP55.01** to produce a Calibration Certificate. Save a PDF of the certificate at Intrastats\ Stock\Calibration Certificates\ Print a certificate on Viamed headed paper, sign and Viamed stamp it.	
Packaging	
Take the V1000 and Calibration Certificate. Add 4xAA batteries 9950054 and Instructions For Use 1490001	
Add a case 1430330	

Instructions and a folded Calibration Certificate fit under the foam in the lid. V1000 and batteries fit in the other half as shown. The V1000 is ready for adding to stock.