

### COMPANY OPERATING PROCEDURES

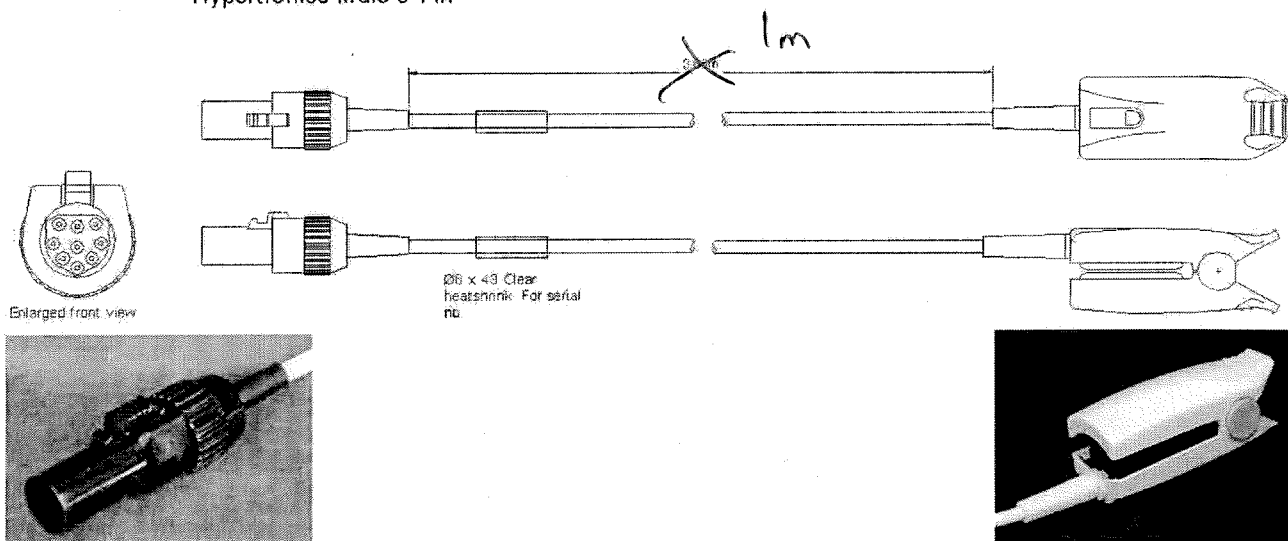
0018670 Ohmeda P867RA  
 0018820 VM3/COP/32.14 P882RA

Date: 19-Jun-02

Revision date: 17-May-04

Issue: 3

Hypertronics Male 9 Pin



**Equipment required:** Soldering iron (0060120), solder (0050012), Wire stripper (0060030), Flush Cutter (0060010), Snipe nose pliers (0060021), 'helping hand' (0060145), Heat gun (0060100).

**Parts list:** Kit and parts required. (Continued over page)

Hypertronics male 9-pin Kit			Finger Probe Side		
Qty		Part No.	Qty	Description	Part No.
1	Hypertronics male 9-pin Kit	0010604	1	Top Shell (x25)	0010110
(1)	Pin Housing	kit	1	Pad Support (green) (x50)	0010162
(12)	Pins	kit	1	Top Pad (black)(x25)	0030132
(1)	Cable grip	kit	1	Bottom Pad (black)(x25)	0030133
(1)	Strain relief	kit	1	Bottom Shell (x25)	0010111
(1)	Collet	kit	1	Spring (x25)	0010140
(1)	Barrel	kit	1	Button (Green) (x50)	0010182
1	43 kΩ Resistor	0032185	1	Detector	0030901
1	Ø 6 x 43mm Clear heat shrink	0032331	1	LED/ I.R.	0030951
1	Ø 6 x 10mm heat shrink	0032321	1		0010150

Comments  
 0031244

82-5K52

Diode x1

143014

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### ASSEMBLY OPERATIONS

1. Pre Heat soldering iron temperature to 240°C.
2. Collect all required parts and equipment listed above.
3. Cut a ~~3.75~~ metre length of Ohmeda cable type F (part no. 0030515).  
*1 metre*

Hypertronics male 9 pin side:

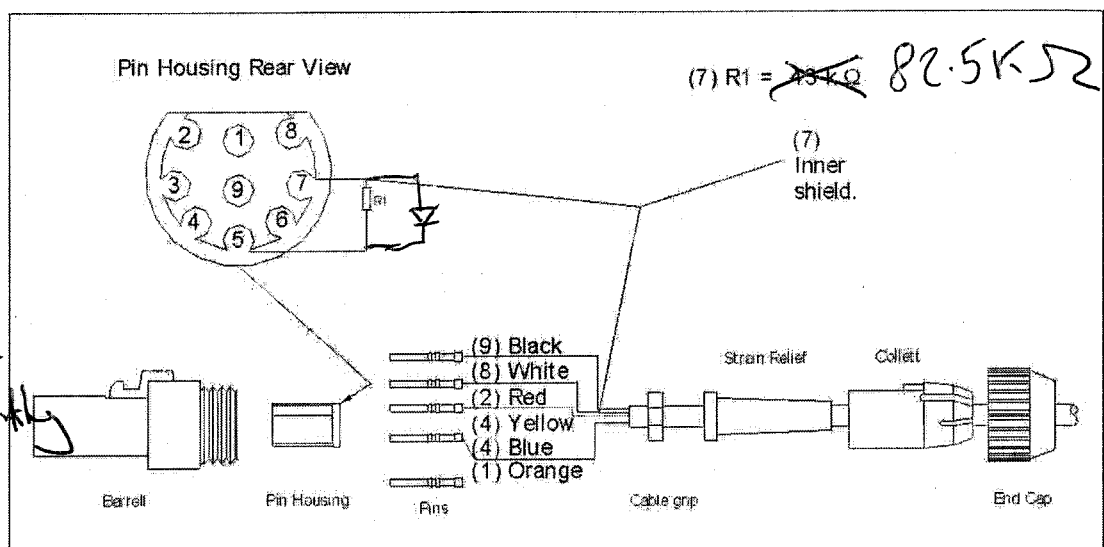


Fig 2.2

1. Feed Ø6 x 43mm (clear) heat shrink, end cap, collett, strain relief, Ø6 x 10mm (black) heat shrink and cable grip onto the cable.
2. Strip 20mm off outer jacket of wire.
3. Cut all packing to the base.
4. Reveal black and white wires, which are covered by the inner shield.
5. Trim inner shield to approximately 20mm long.
6. Strip jacket of every wire 2mm to reveal copper core.
7. Apply small amount of solder to ends of each wire and shield.
8. Trim one of the legs of the resistor to 4mm and the other to 15mm.
9. Cover the resistor in Ø1.6mm heat shrink and solder each leg into the rear of 2 separate pins and push pins firmly into correct locations as shown in fig 2.2.
10. Solder the shield to pin 7, covering it with Ø1.6mm heat shrink, and the remaining wires to the rear of 4 separate pins and push/pull firmly into correct locations shown in fig 2.2.
11. Clamp cable grip approximately 2mm from outer jacket end.
12. Place Ø6 x 10mm heat shrink over cable grip and beginning of wires and heat to shrink firmly around.
13. Push the strain relief up to the cable grip, collett over the strain relief up to the pin housing, and into the barrel and finally screw end cap onto the barrel.

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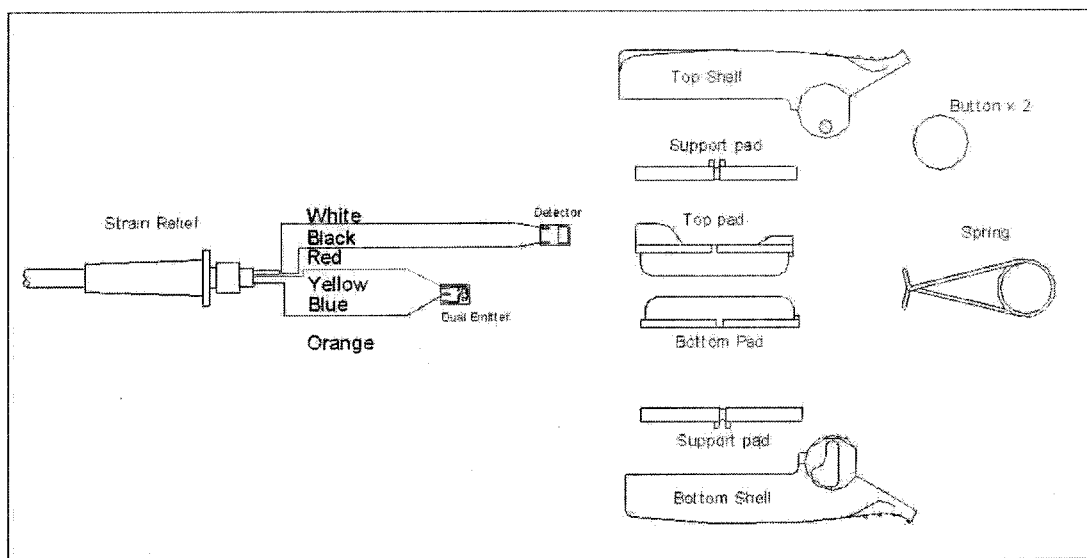
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#### Finger Probe side:



1. Apply loctite primer to the cable surface, and slide on the strain relief.
2. Apply a small amount of superglue on to the surface of the cable and push the strain relief over the glue to secure in place leaving approximately 80 mm of cable.
3. Strip outer jacket up to the strain relief and cut packing off.
4. Cut red, orange, blue and yellow wires to 15 mm, strip jackets off 2mm and apply a small amount of solder to the ends.
5. Cut off the shield to reveal the black and white wires.
6. Strip jackets 2mm and apply small amount of solder.
7. Solder wires to the detector, LED/I.R as shown in fig 2.3
8. Place the assembly on the drying rack, and apply a small amount of clear silicon to the front of the detector and LED/I.R and mount into the pads (Led/IR in the top pad and Detector in the bottom pad) allowing the sensors to be seen and central, and scrape excess silicon. Then place the drying rack in the drying cabinet and leave to dry overnight.
9. Superglue loose cable to the pads and fill the rears with white silicon.
10. Glue pads onto the pad supports (prime first).
11. Place spring around pads and into place.
12. Clip upper and lower shells (use a little super glue) into place and glue buttons onto the sides.

#### TESTING

1. Attach Hypertronics male 9-pin side to the test box connector marked 'B'.
2. Check display is showing correct characteristics as shown below. (At correct switch positions)

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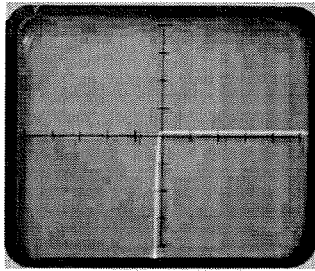
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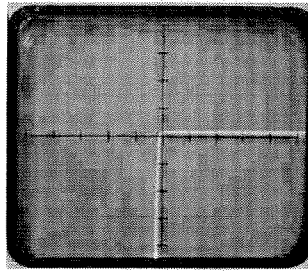
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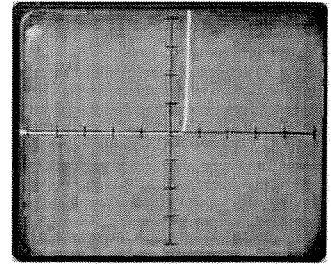
Issue: 3



Pos 2. LED



Pos 3. IR

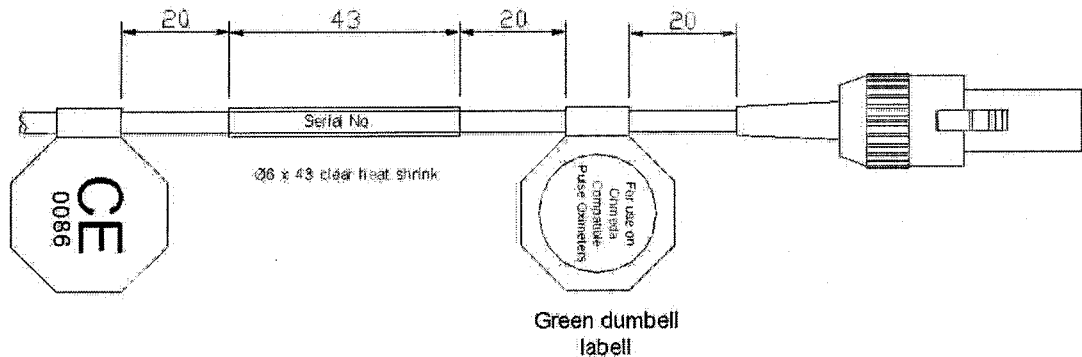


Pos 4. Detector

3. 'Play' with wire at connections to see if any change in the display (i.e. flickering etc).
4. If there is any movement of signal, the cable must be taken apart and all connections checked and re-soldered. Then tested again until results are satisfactory.
5. Check the cable is of correct quality standard. (See VM/COP/30.11 for details).
6. Attach Hypertronics male 9-pin side to an Ohmeda monitor and the probe on to the finger to check SpO<sub>2</sub> level. (Ideal reading 95-100.)

#### Labelling

1. Labels: to be attached facing upwards as looking at the top of the probe.
  - 1 x CE Label
  - ~~1 x Viamed shell label on probe lower shell.~~ NOT DONE
  - 1 x Serial no. Label
  - 1 x Green Ohmeda Label



#### Quality Assurance (QA)

1. Attach Hypertronics male 9-pin side to the test box connector marked 'B'.
2. Check display is showing correct characteristics as shown below. (At correct switch positions)

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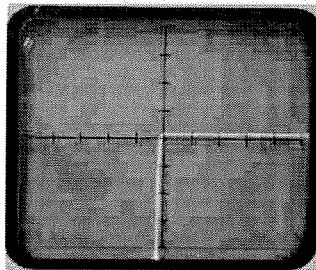
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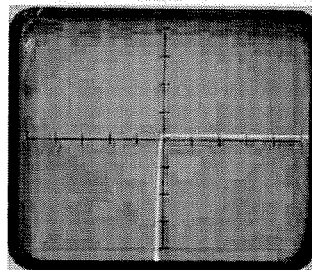
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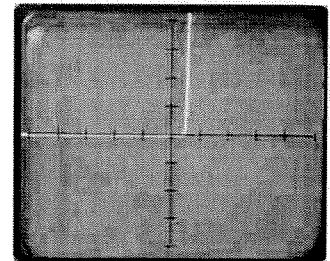
Issue: 3



Pos 2. LED



Pos 3. IR



Pos 4. Detector

3. 'Play' with wire at connections to see if any change in the display (i.e. flickering etc).
4. If there is any movement of signal, the cable must be taken apart and all connections checked and re-soldered. Then tested again until results are satisfactory.
5. Check the cable is of correct quality standard. (See VM/COP/30.11 for details).
6. Attach Hypertronics 9-pin side to an Ohmeda monitor and the probe on to the finger to check SpO<sub>2</sub> level. (Ideal reading 95-100.)
7. Fill and sign attached paperwork.
8. Test 10 % of batch on DL3000 simulator.
9. Log all results on compatibility sheet.

#### Packaging

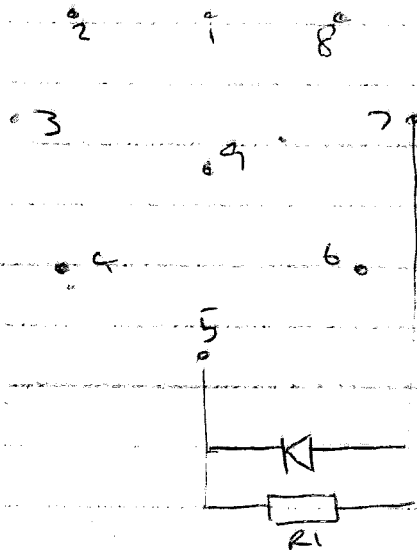
1. Visually check all labels are attached properly
2. Using a twist tie (bunny clip) wrap the cable and place in a small blue Viamed plastic box, ensuring the cable is inserted in a neat and tidy presentable manor.
3. Place a serial number sticker (supplied with the batch) on the front face of the box.
4. Place a packed and tested sticker (also containing initials of the individual who is packing) on the right hand side top left corner of the box. Do not close box.

#### Final QA

1. Final inspection. Visually ensure cable sit neatly within the box and is in a presentable state.
2. Boxes are ready to stock in stores.

P882RA

TUFFSAT



DIODE IS NEEDED FOR  
PROBE TO WORK ON  
TUFFSAT.

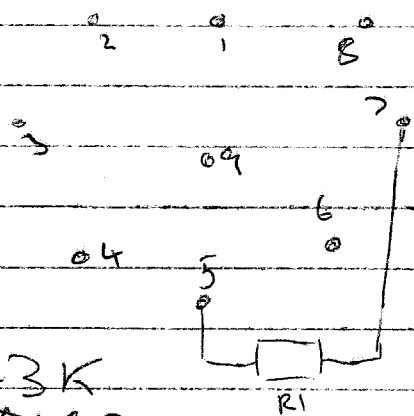
DIODE IS IN4148 or IN914 (VIAWED PN: 1430141)  
 $R1 = 82K\Omega$  (0032138)  
CABLE LENGTH = 1m

CONNECTOR VIAWED PN: 0031244

867 / 882

OMMEDA

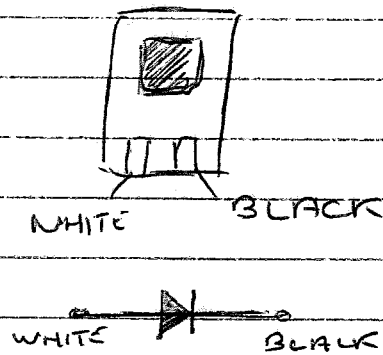
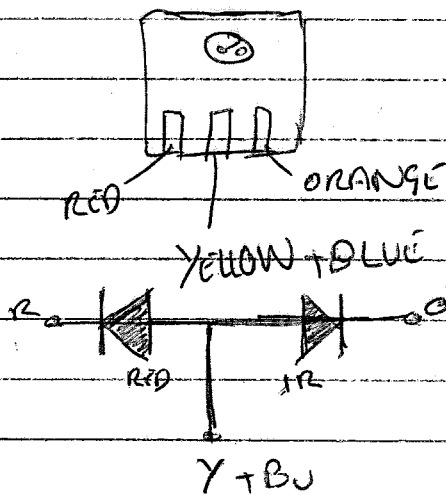
# CONNECTOR 9 PIN HYPERTRONICS REAR VIEW



- 1, ORANGE 7, R1 + MAIN PINNER SIGNAL
- 2, RED 8, WHITE
- 3, NO PIN 9, BLACK
- 4, YELLOW + BLUE
- 5, R1
- 6, NO PIN

43K  
R1 = ~~56K~~ R in VIAMED PROBE

## VIAMED COMPONENTS FRONT VIEW



NB. ORIGINAL COMPONENTS DEGRADE QUICKLY AND ARE NOT RECOMMENDED FOR REUSE.

NBB. R1 can vary on original probe. This resistor must be matched to the emitter.

CABLE LENGTH = 3.65m