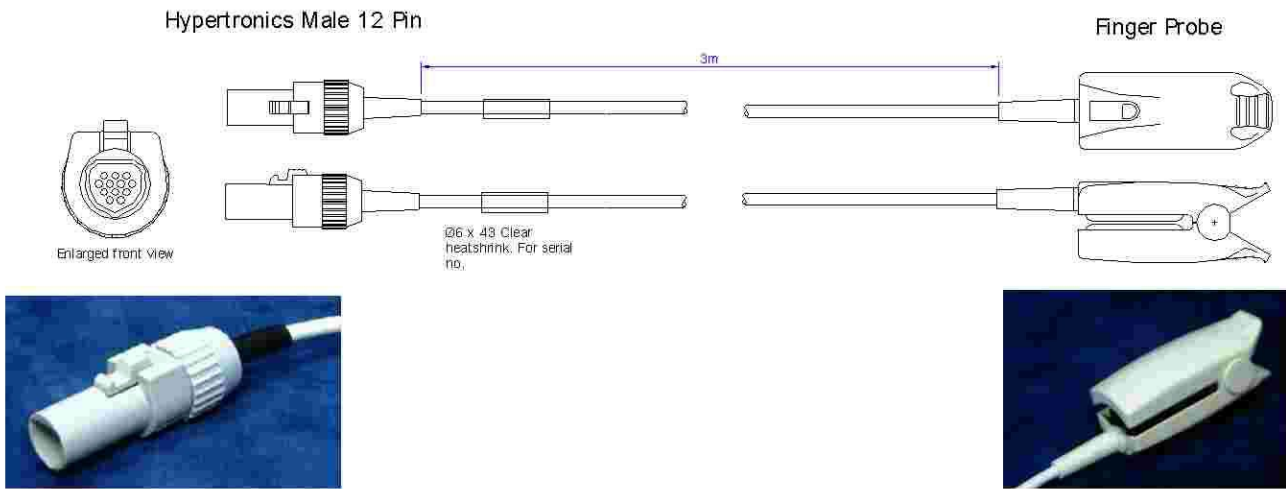# VIAMED

SpO₂ Finger Probe Assembly

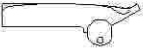## COMPANY OPERATING PROCEDURES

0018870 Spacelabs P887RA

VM3/COP/32.27

Date:	18-Dec-01	**Revision date: 17-May-04**	Issue: 3

Hypertronics Male 12 Pin

Finger Probe

Enlarged front view

Ø6 x 43 Clear heatshrink. For serial no.

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 12-pin Side			Finger Probe Side		
Qty	Description	Part No.	Qty	Description	Part No.
1	Hypertronics male 12-pin Kit	0010602	1	Top Shell (x25)	0010110
(1)	Pin Housing	kit	2	Pad Support (white) (x50)	0010160
(12)	Pins	kit	1	Top Pad (black)(x25)	0010132
(1)	Cable grip	kit	1	Bottom Pad (black)(x25)	0010133
(1)	Strain relief	kit	1	Bottom Shell (x25)	0010111
(1)	Collett	kit	1	Spring (x25)	0010140
(1)	Barrel	kit	2	Button (White) (x50)	0010180
1	R1 47.5 kΩ Resistor	0032110	1	Detector	0030901
1	Ø6 x 43mm heat shrink (clear)	0032331	1	LED/ I.R.	0030951
1	Ø6 x 10mm heat shrink	0032321	1	Strain Relief	0010150

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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 3.1 metre length of standard 6-core cable. (Details shown below).
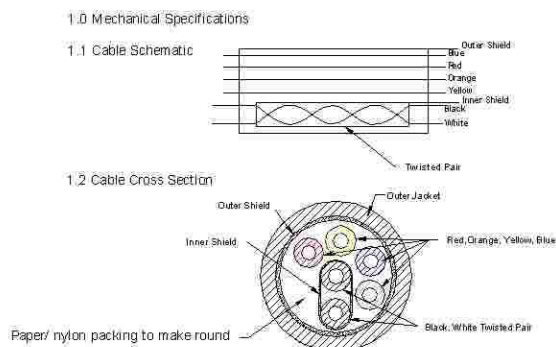
Hypertronics male 12-pin side:
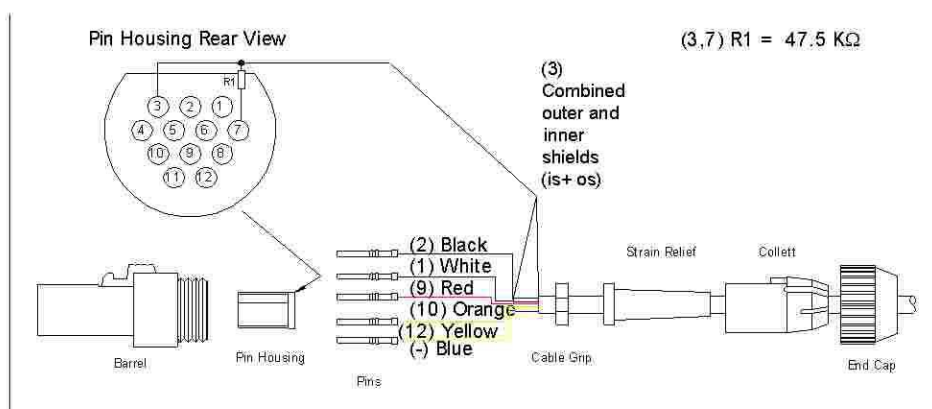
Fig 2.2

1. Feed ∅6 x 43mm (clear) heat shrink, end cap, collett, strain relief, ∅6 x 10mm (black) heat shrink and cable grip onto the cable.
2. Strip 20mm off outer jacket of wire- to reveal 4 coloured wires, outer shield, and nylon/paper wire packing.
3. Cut all packing and blue wire to the base.
4. Strip 20mm off inner jacket of wire- to reveal black and white wires and the inner shield.
5. Twist outer and inner shields together and trim to approximately 8mm long.
6. Strip jacket of every wire 2mm to reveal copper core.
7. Apply small amount of solder to ends of each wire and shields.
8. Trim one of the legs of the resistor to 4mm and the other to 15mm .
9. Solder the legs to the rear of two separate pins.
10. Solder all wires, except shields, to the rear of pins and push/pull firmly into correct locations as shown in fig 2.2.

VIAMED

SpO$_2$ Finger Probe Assembly

COMPANY OPERATING PROCEDURES

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Date:	18-Dec-01	**Revision date: 17-May-04**	Issue: 3

11. Solder shields to the leg of the resistor on the pin location 3 side.
12. Clamp cable grip approximately 2mm from outer jacket end.
13. Place ⌀6 x 10mm heat shrink over cable grip and beginning of wires and heat to shrink firmly around.
14. 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.

Finger Probe side:
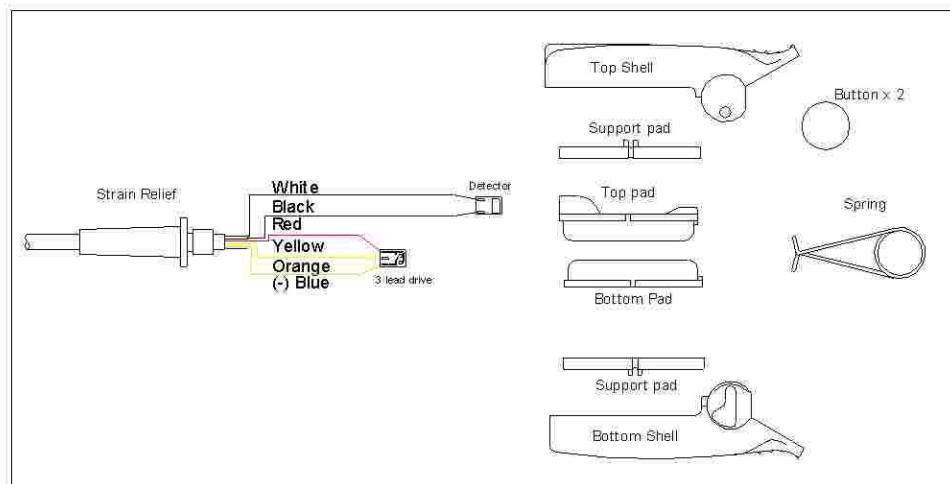
1. Apply loctite primer to the cable surface, and slide on the strain relief.
2. Apply a small amount of superglue on to the surface of the cable and push the strain relief over the glue to secure in place leaving approximately 80 mm of cable.
3. Strip outer jacket up to the strain relief and cut packing, outer shield, and blue wires.
4. Cut red and yellow wires to 15 mm, strip jackets off 2mm and apply a small amount of solder to the ends.
5. Strip 10 mm off inner jacket and cut off inner shield.
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 (apply a little super glue) into place and glue caps onto the sides.

TESTING

COMPANY OPERATING PROCEDURES
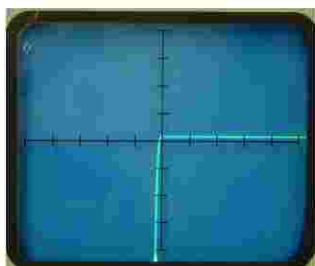
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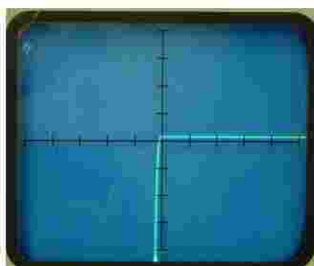
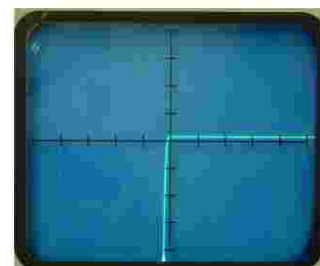| Date: | 18-Dec-01 | **Revision date: 17-May-04** | Issue: 3 |

1. Attach Hypertronics male 12-pin side to a test lead the test box connector marked 'C'.
2. Check display is showing correct characteristics as shown below. (At correct switch positions)
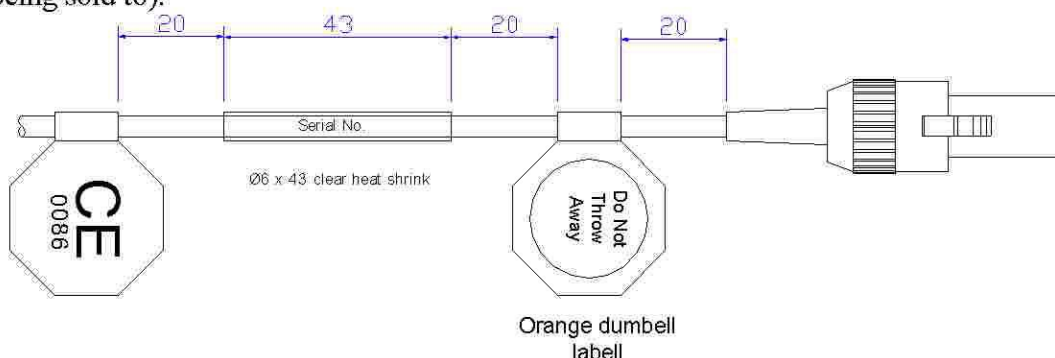
| Pos 2. LED | Pos 3. IR | Pos 4. Detector |

4. 'Play' with wire at connections to see if any change in the display (i.e. flickering etc).
5. 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.
6. Check the cable is of correct quality standard. (See VM/COP/30.11 for details).
7. Attach Hypertronics male 12-pin side to a Novametrix test lead and then to the Novametrix monitor and the probe on to the finger to check the SpO$_2$ level. (Ideal reading 95-100.)

Labelling

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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.
    *   1 x Serial no. Label
    *   1x Orange 'Do Not Throw Away' Label (correct one of two is dependant of country unit is being sold to).

Serial No.

Ø6 x 43 clear heat shrink

CE
0080

Do Not
Throw
Away

Orange dumbell
labell

Quality Assurance (QA)

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1. Attach Hypertronics male 12-pin side to a test lead the test box connector marked 'C'.
2. Check display is showing correct characteristics as shown below. (At correct switch positions)
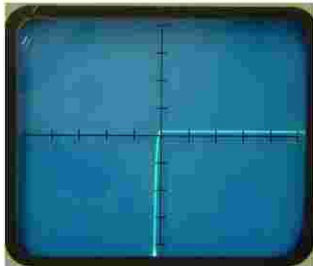
COMPANY OPERATING PROCEDURES
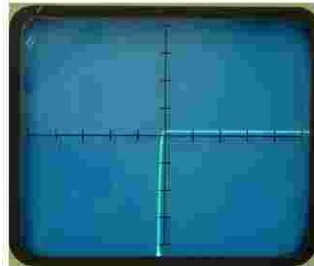
0018870   Spacelabs   P887RA

VM3/COP/32.27

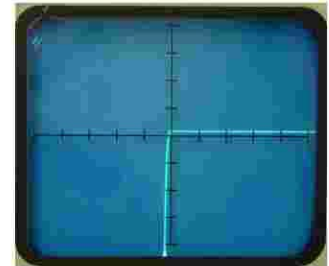| Date: | 18-Dec-01 | **Revision date: 17-May-04** | Issue: 3 |

| Pos 2. LED | Pos 3. IR | Pos 4. Detector |

4. 'Play' with wire at connections to see if any change in the display (i.e. flickering etc).
5. 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.
6. Check the cable is of correct quality standard. (See VM/COP/30.11 for details).
7. Attach Hypertronics male 12-pin side to a Novametrix test lead and then to the Novametrix monitor and the probe on to the finger to check the SpO₂ level. (Ideal reading 95-100.)
8. Fill and sign attached paperwork.

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.