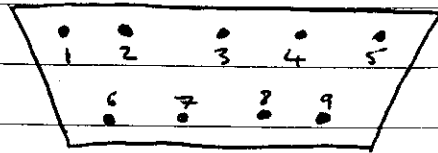


CONVERTING P862 RA TO P889 RA (CRITICARE)

- 1/ DE-SOLDER FROM CONNECTOR
- 2/ TAKE METAL COVER OFF & UNDO SHIELD.
- 3/ CUT SHIELD DOWN TO SAME LENGTH AS REST OF WIRES.
- 4/ PUT NEW CONNECTOR + CABLE GRIP ON.



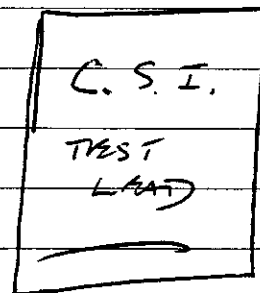
- | | |
|-----------------|-----------|
| 1/ RED | 6/ YELLOW |
| 2/ ORANGE. | 7/ N/C |
| 3/ N/C | 8/ N/C |
| 4/ BOTH SHIELDS | 9/ BLK. |
| 5/ WHITE | |

FASTEN CABLE GRIP ON



CLIP CONNECTOR
TOGETHER.

CLEAN CABLE & ADD STICKER (889 RA)



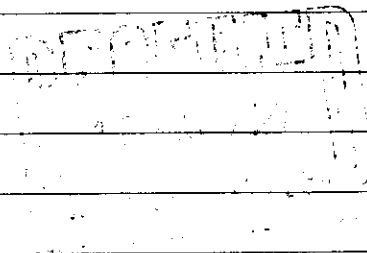
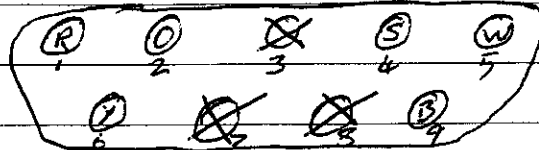
CONVERSION OF P862RA TO P889RA (CRITICARE).

REMOVE OLD TRIM SHIELD DOWN TO SAME TIGHT AS OTHER WIRES.

Put new connector and cable grip on.

insert as follows.

- 1 = Red
- 2 = Orange
- 3 = N/C
- 4 = Both Shields
- 5 = White
- 6 = Yellow
- 7 = N/C
- 8 = N/C
- 9 = Black



Strain relief 7.5-8cm down
 Strip wire + leave shield at about 1cm. in
 end.
 Blue 2.5cm. tin end. red orange and yellow
 same as p377. Tin ends.

LED

 1 yellow
 2 RED
 3 ORANGE

put sensors on white left. Black right

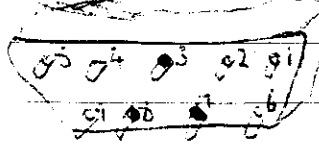
 white - black.

solder 20K to blue + shield. heatshrink.

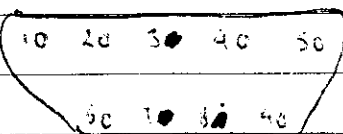
958ES Criticare

12/5/00

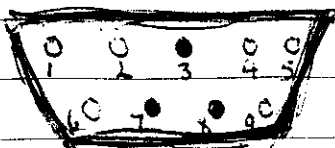
Heatshrink, rubber shield, cable grip. Strip wires.
 Cut blue off. shields together.
 Cut rest to approx 1cm. Tin ends.
 Insert ~~wire~~ into male connector.

male
 or view


female
 rear view

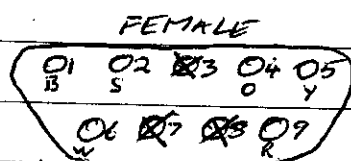
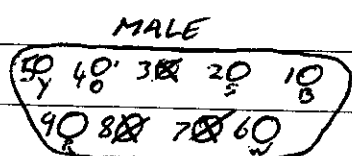


1 Black 6 white
 2 shields 1 n/c
 3 n/c 6 n/c
 4 orange 1 red
 5 yellow



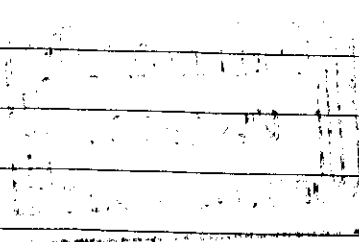
CRITICARE P968ES EXTENSION

- STEP 1- CUT 8' OF CABLE, PUT SLEEVE THEN CABLE GRIP ON CABLE.
- STEP 2- STRIP OUTER & INNER CABLE TO SAME ~~LEN~~ LENGTH
- STEP 3- REMOVE BLUE WIRE, & PUT BOTH SHIELDS TOGETHER
- STEP 4- CUT ALL WIRES DOWN TO 1 1/2 CM THEN STRIP & TIN ENDS. CLAMP CABLE GRIP AS FAR TO END AS POSSIBLE.
- STEP 5- SOLDER WIRES INTO PINS AS FOLLOWS. -



- | | |
|-------------|-----------|
| 1 = BLACK | 6 = WHITE |
| 2 = SHIELDS | 7 = N/C |
| 3 = N/C | 8 = N/C |
| 4 = ORANGE | 9 = RED. |
| 5 = YELLOW | |

REMEMBER DO NOT FORGET CLEAR HEAT SHRINK FOR SERIAL No.



P 969E8 (CRITICARE) EXT.

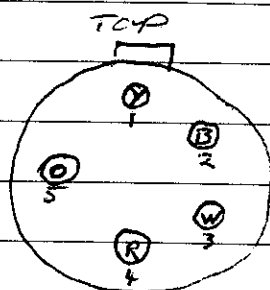
MALE END. (6 PIN LETO)

STEP 1- CUT 8' OF CABLE, PLACE CLEAR HEAT SHRINK OVER CABLE & STRAIN RELIEF

STEP 2- STRIP OUTER & INNER CABLES BACK TO AFX 1" REMOVED

STEP 3- PUT BOTH SHIELDS TOGETHER THEN PUT CABLE GRIP OVER TOP OF SHIELD (MAKE SURE SHIELD HAS FULL CONTACT WITH GRIP)

STEP 4- STRIP AND TIAW ENDS OF WIRES THEN SOLDER INTO PIN AS FOLLOWS -



1 = YELLOW
2 = BLACK
3 = WHITE
4 = RED
5 = ORANGE

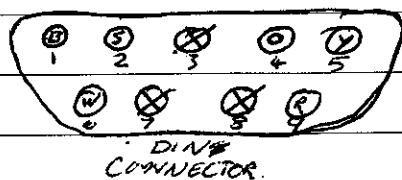
P 969E8 (CRITICARE) EXT

FEMALE END

STEP 1 - ~~STRIP OUTER~~ PLACE STRAIN RELIEF & CABLE GRIP
ON CABLE.

STEP 2 - STRIP OUTER & INNER CABLES APX 1" THEN
STRIP & TIN ALL WIRES INC SHIELDS.

STEP 3 - SOLDERAS FOLLOWS -



1 = BLACK	7 = N/C
2 = SHIELDS	8 = N/C
3 = N/C	9 = RED.
4 = ORANGE	
5 = YELLOW	
6 = WHITE	

26/4/00.

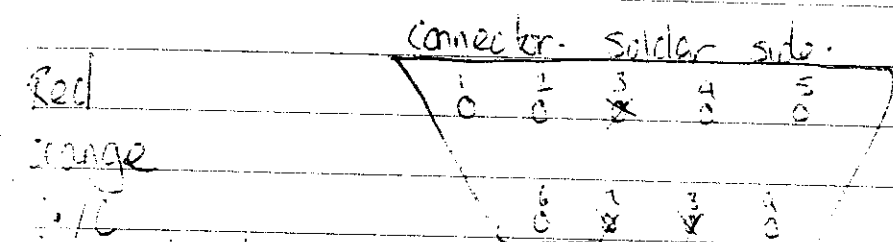
Converting P8622a to P8892a (criticare)

1/ de solder from connector.

2/ take metal cover off and undo shield.

3/ cut shield down to same length as

4/ Put new connector + cable grip on.



with shields.

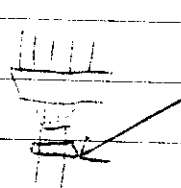
white

yellow

blue

red

Black.

Fasten cable grip on  clip connector together.

clean cable and sticker up. (8892a)

CRITICARE. SOCKET .S.

Connector 2 wiring

Pin 1
Pin 2
Pin 3
Pin 4
Pin 5
Pin 6
Pin 7
Pin 8
Pin 9

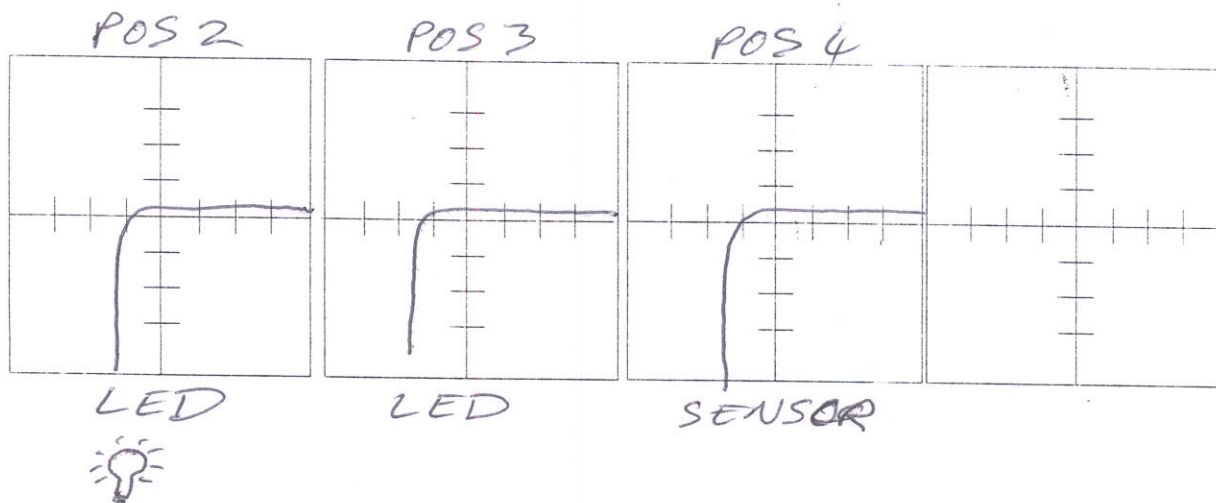
TEST ON CRITICARE
504 MONITOR.

RDC } UP TILL
IDC } MONITOR
PICKS UP
SIGNAL.

ADJUST.
REDAC 92% = 1240
90% = 1631
80% = 2023.

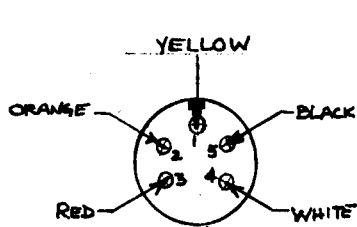
Test Instructions

Test using Test fixture & curve tracer

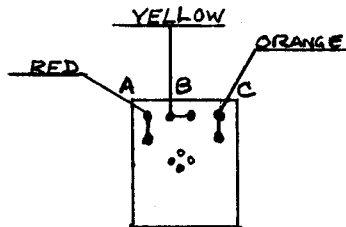


Drawn BY	
Date	
Checked By	
Date	
Revised By	
Revision Date	
Revision number	

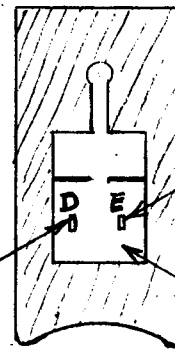
WIRING DIAGRAM



LEMO CONNECTOR
REAR VIEW



LED BOARD
*VIEWED FROM
BOTTOM OF INSERT
AFTER REMOVAL.

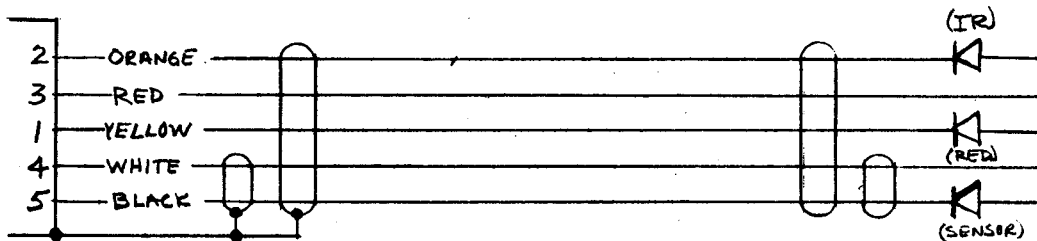


WHITE
BLACK

SENSOR BOARD

BOTTOM CLIP

SCHEMATIC



PARTS LIST

10' X2D055B0 CABLE
X3C1B305 CONNECTOR, 5 PIN, LEMO
X3C1B030 STRAIN RELIEF

SPECIAL INSTRUCTIONS

1. SUPER GLUE WIRES IN FINGER CLIP BEFORE ASSEMBLING
2. WHEN REPLACING CABLE USE THE FOLLOWING WIRING DIAGRAM.

RED - PIN 3 TO A
ORANGE - 2 TO C
YELLOW - 1 TO B
WHITE - 4 TO D
BLACK - 5 TO E
SHIELDS - CASE TO N/C



EPIC MEDICAL EQUIPMENT SERVICES, INC.

Dallas, Texas

SCALE: N/A

APPROVED BY:

Worley

DRAWN BY WORLEY

DATE: 11/17/95

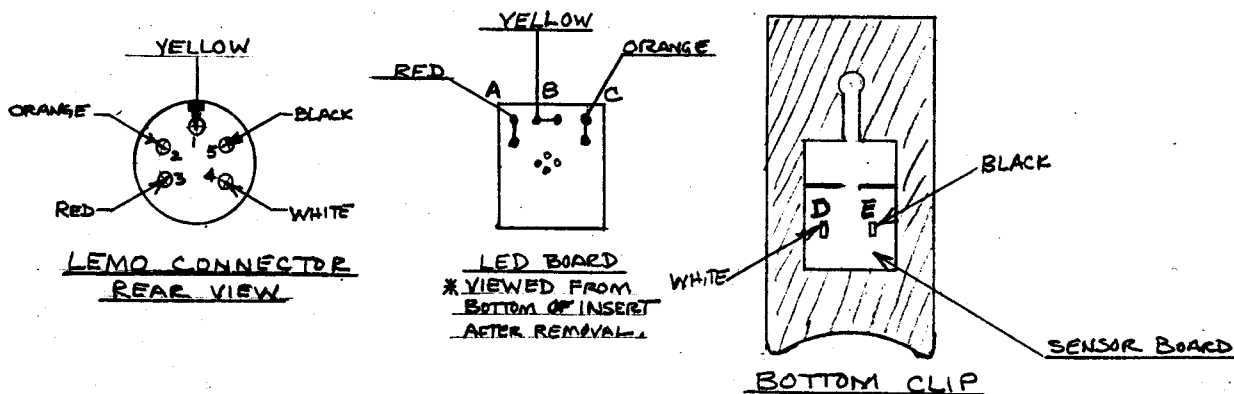
REVISED 2/8/96

CRITICARE SpO₂ CABLE - 511-10L

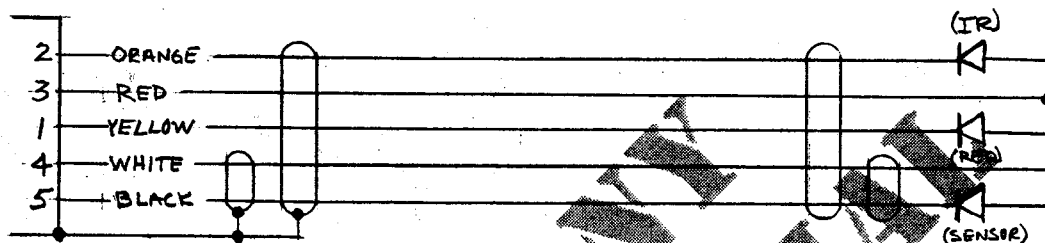
REPAIR STANDARDS

DRAWING NUMBER
C-CARE 01

WIRING DIAGRAM



SCHEMATIC



PARTS LIST

10' X2D055B0 CABLE
X3C1B305 CONNECTOR 5 PIN LEMO
X3C1B030 STRAIN RELIEF

SPECIAL INSTRUCTIONS

1. SEE BLUE WIRES IN FINGER CLIP BEFORE ASSEMBLING
WHEN REPLACING CABLE USE THE FOLLOWING
WIRING DIAGRAM:

RED	-	PIN 2 TO C
ORANGE	-	3 TO A
YELLOW	-	1 TO B
WHITE	-	5 TO E
BLACK	-	4 TO D
SHIELDS	-	CASE TO NC



EPIC MEDICAL EQUIPMENT SERVICES, INC.
Dallas, Texas

SCALE: N/A

DATE: 11/17/95

APPROVED BY:

DRAWN BY WORLEY

REVISED

CRITICARE SpO₂ CABLE - 511-10L

REPAIR STANDARDS

DRAWING NUMBER
C-CARE01

INTERNATIONAL OXIMETRY SENSORS & CABLES, INC.

DALLAS, TEXAS

QUALITY CONTROL PROCEDURE

REPAIRED SaO2 CABLES

Original Copy - Engineering
Copy #1 - Quality assurance
Copy #2 - Quality Control
Date Initiated 11/29/95 by GW

Rev: _____ Date _____ by _____

Page 1 of 3

MFR: CRITICARE

MODEL: 511-10L & 934-10L

I. PHYSICAL

A. CONNECTOR

1. Inspect for bent or broken pins.
2. Inspect strain relief.
3. Inspect for proper connector assembly and secure mechanical union.

B. CABLE

1. Inspect for cuts and/or abrasions.
2. Inspect for cleanliness.

C. CLIP

1. Inspect for traces of glue or epoxy.
2. Check for proper assembly of clips, pads, springs and cable retainer.
3. Check that "Company identification" label has been attached.

II. ELECTRICAL

A. LED's

NOTE: Set COMPONENT TESTER to: * - Lo
* - A

1. Connect cable to "J" connector on the test fixture.

QUALITY CONTROL PROCEDURE

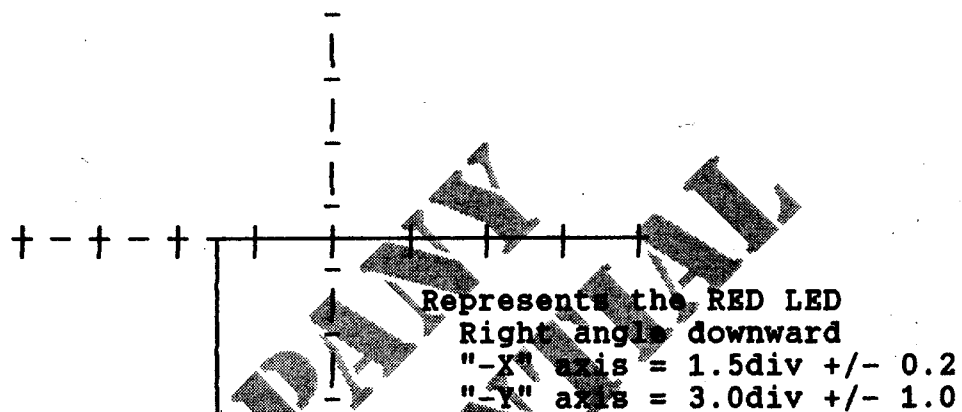
REPAIRED CRITICARE 511-10L & 934-10L SaO2 CABLES

Page 2 of 3

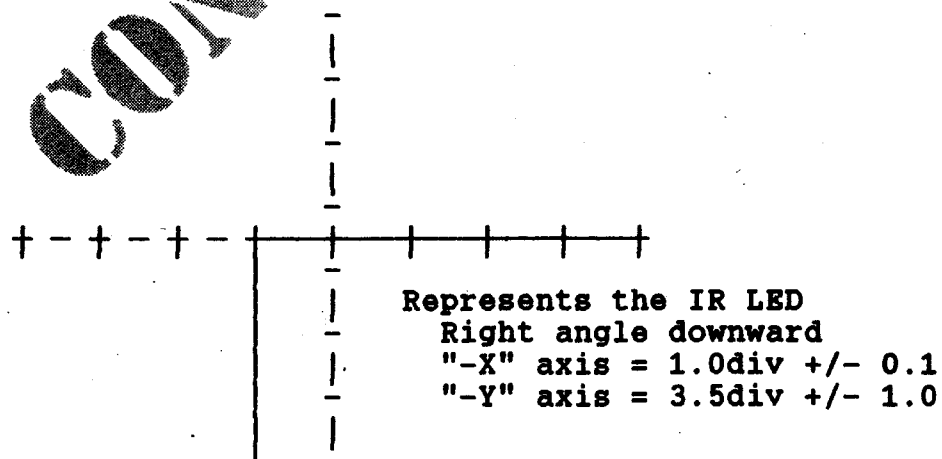
II. ELECTRICAL (cont.)

A. LED's (cont.)

2. Place "BLUE (S1)" switch in position "2". The COMPONENT TESTER should indicate the following pattern.



3. Place "BLUE (S1)" switch in position "3". The COMPONENT TESTER should indicate the following pattern.



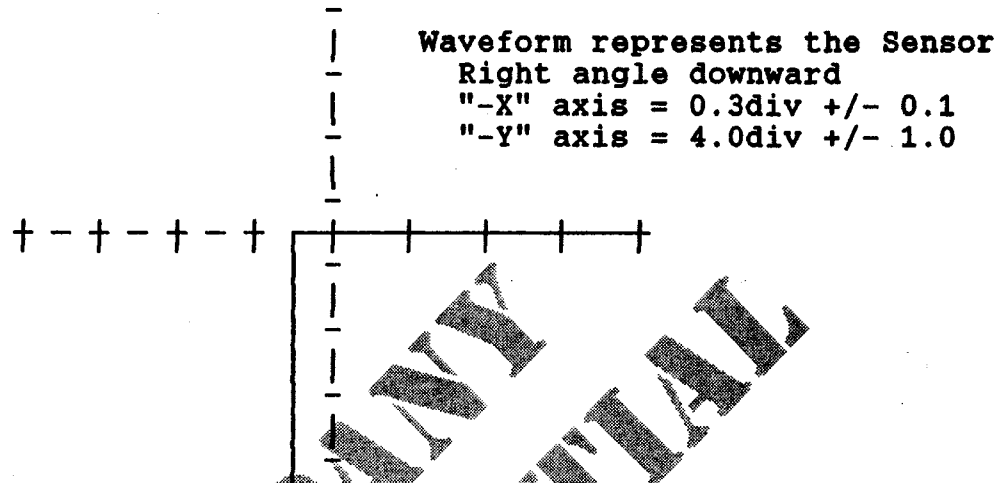
QUALITY CONTROL PROCEDURE

REPAIRED CRITICARE 511-10L & 934-10L SaO2 CABLES

Page 3 of 3

B. SENSOR

1. Place "BLUE (S1)" switch in position "4". The COMPONENT TESTER should indicate the following pattern.



III. PERFORMANCE (record readings on WORKSHEET)

A. CABLE CONNECTOR

1. Connect the cable to the "CRITICARE" Oximeter Monitor.

B. SENSOR CLIP

1. Attach the sensor clip to the "RED" Nonin Saturation Test Unit.
2. Pulse the unit about once per second.
3. The Oximeter should read "96"% SaO2 (+/- 2).
4. Attach the Sensor Clip to the "BLACK" Nonin Saturation Test Unit.
5. Pulse the unit about once per second.
6. The Oximeter should read "82"% SaO2 (+/- 2).

IV. GENERAL

- A. Make sure all entries are recorded on worksheet.
- B. Indicate "Acceptance" or "Failure".
NOTE: If unit fails, return to repair technician.
- C. If accepted, record the date QC was performed.
- D. Send the unit, with the worksheet, to shipping for return to the customer.

Pulse Oximeter Finger Probe Repair Procedure

Model: P862RA

1.1 P862RA Parts List

Item No.	Description	Quantity	Manufacture	Part Number
	Complete Clip Assembly	1	MCI	MC-P100A
1	Top Shell	1	MCI	MC-P101
2	Bottom Shell	1	MCI	MC-P102
3	Wire Spring	1	MCI	MC-P103
4	Buttons	2	MCI	MC-P104
5	Soft Finger Pad (LED)	1	MCI	MC-P105
6	Hard Finger Pad (Detector)	1	MCI	MC-P106
7	Top Pad Support Frame	1	MCI	MC-P107
8	Bottom Pad Support Frame	1	MCI	MC-P108
9	LED assembly	1	MCI	MC-P862-LED
10	Detector	1	MCI	MC-P862-DET
	Cable Assembly Kit		MCI	MC-P862-CAB
11	Cable	1	MCI	MC-P862-111
12	Connector Strain Relief	1	MCI	MC-P862-112
13	Back Nut	1	MCI	MC-P862-113
14	Plastic Collet	1	MCI	MC-P862-114
15	Split mid-piece	1	MCI	MC-P862-115
16	5 - pin insert (male)	1	MCI	MC-P862-116
17	Shell	7	MCI	MC-P862-117
18	Probe Strain Relief	1	MCI	MC-P862-118
19	Silicone (RTV)			
20	Glue			

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Not to be used without Written Authorization

1.2 P862RA Repair Procedure

1.2.1 Probe Disassembly:

1. Inspect cable, shell, pads and connector for damage or cracks. Note any damage and list part that need to be replaced.
2. Cut and discard cable (item 11) at the probe strain relief (item 18) to remove from the finger probe clip assembly.
3. Remove top pad support frame (item 7) with soft finger pad (item 5) from top shell. Remove soft finger pad from support frame. Remove bottom pad support frame (item 8) with hard finger pad (item 6) from bottom shell (item 2). Remove hard finger pad from support frame.
4. Separate shells (items 1 & 2) and remove spring (item 3) and buttons (item 4) to disassemble finger probe.

1.2.2 Probe Testing:

5. Remove LED assembly (item 9) from top pad. Inspect for physical damage. Test the individual RED and IR LEDs. The test specifications for the LEDs are listed in Table 1 below.
If item 9 is within test specifications then reuse LED assembly. Replace assembly if Red or IR LED failed to meet test specifications.
6. Remove Detector (item 10) from bottom pad. Inspect detector for physical damage and test the Detector. The test specifications for the LEDs are listed in Table 1 below.
If item 10 is within test specifications then reuse detector. Replace item 10 if detector failed to meet test specifications.

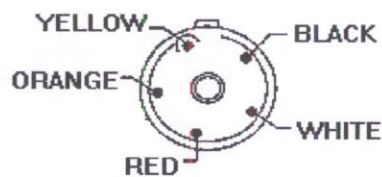
Table 1 LED and Detector Test Specifications

	Test		Typ.	Max.	Range	Units	Test Conditions
Red LED	Forward Voltage	V_F	1.8	2.4	± 0.6	volts	$I_F = 20 \text{ mA}$
IR LED	Forward Voltage	V_F				volts	
Detector	Forward Voltage	V_F				volts	

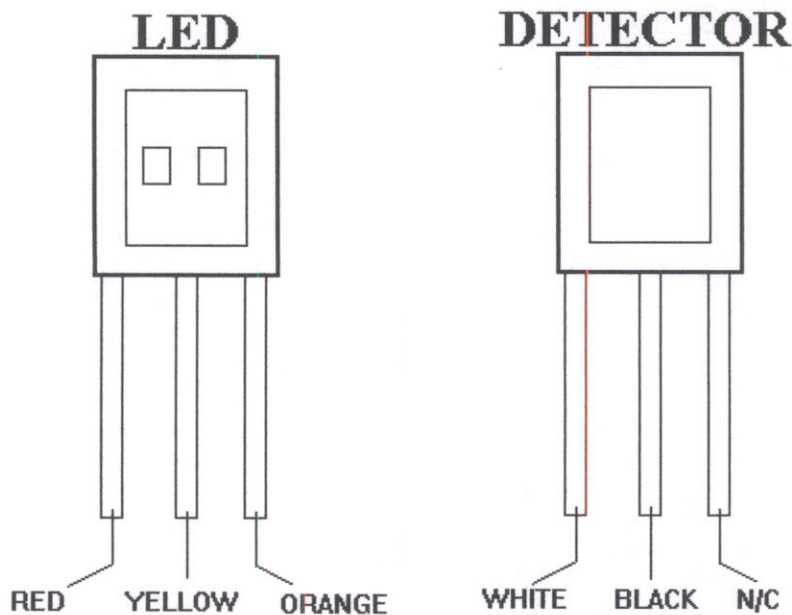
Confidential and Proprietary Information
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1.2.3 Probe Reassembly:

7. Replace cable. Attach back nut (item 13), plastic collet (item 14) and connector strain relief (item 12) onto cable. Attach wires (solder) onto 5-pin insert (item 16) according to connector diagram. Solder main shield to collet (item 14). Slide items 14, 15, and 16 into shell (item 17). Attach back nut (item 13) to shell and attach connector strain relief (item 12) onto back nut.

P862RA**CONNECTOR REAR-VIEW****Shield to Collect Lemo Connector**

8. Attach probe strain relief (item 18) to cable (item 11). Strip wires back. Connect wires (solder) to LED and Detector. Connect the red, yellow and orange wires to the Led terminals. Connect the black and white wires to the Detector terminals. Test continuity.



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P862RA Finger Probe Repair continued

9. Inspect finger pads (item 5 & 6) for damage or cracks. Replace finger pads if damaged or cracked. Slide the LED into the top pad and silicone (item 19) into place. Slide the Detector into the bottom pad and silicone (item 19) into place. Let silicone dry.
10. Inspect top and bottom shell, button, and spring for damage or cracks. Replace items if necessary. Attach spring and buttons to top and bottom shell.
11. Inspect support frames and replace if damaged. Attach the top pad to the top support frame with glue (item 20). Attach the bottom pad to the bottom support frame with glue. Snap and glue top and bottom pads into top and bottom shell respectively.
12. Test probe for SpO₂ measurement.
13. Send probe to Quality Control for testing

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