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Tool Code: BUL
Document: MN-BUL-B
Bullnose Ultrawire Terminator

BULLNOSE ULTRAWIRE™ TERMINATOR

For all diameter terminators

Operational & Maintenance Manual

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0 ABOUT THIS MANUAL

0.1 MANUAL HISTORY

Date	Issue	Description	Auth	Chk	App
27/05/02	A	Initial release.	SA	RLH	PEJR
28/04/03	B	Drawing CD-80296 up issued as per ECR1189.	SA	DMO	PEJR

0.2 UPDATES TO BE USED WITH THIS MANUAL

Date^a	Update	Description
None		

^a Note: this chapter shall be updated to include information on manual updates to be used with this manual, irrespective of current manual issue.

0.3 TECHNICAL HELP

For further technical help contact Sondex as follows:

Address: Ford Lane, Bramshill, Hook, Hampshire, RG27 0RH, UK
Telephone: +44(0)118 932 6755
Fax: +44(0)118 932 6704
Email: support@sondex.co.uk

0.4 FEEDBACK

Please help us to improve future issues of this manual by sending comments or corrections to Sondex as above.

In your feedback please make reference to:

- The manual title, version and section
- Misprints, errors or unclear explanations
- General comments and suggestions.

Thank you.

Photographs and sketches are for illustration purposes only. Depending on the tool model that you have, certain features or dimensions may differ from those shown.

1 OPERATION & MAINTENANCE

1.1 DESCRIPTION

The Ultrawire Bullnose Terminator (BUL) is required to reduce telemetry pulse overshoot.



Warning! Ultrawire toolstrings **must** always have an Ultrawire BUL or bottom flowmeter tool fitted to ensure correct data downhole.

Note: Short toolstrings may appear to operate without a terminator fitted, however once downhole the data may not be useful due to excessive noise on the line.

1.2 SAFETY



Warning! **HOT WORK!** Sondex equipment may, under certain circumstances or failure modes, become a potential source of ignition. Using it must therefore be considered "HOT WORK" and appropriate precautionary procedures should be followed when testing at surface in areas where there is a risk of gas leaks or other potentially explosive atmospheres.

There are no other specific safety precautions associated with this tool.

1.3 MAINTENANCE

1.3.1 ELECTRICAL CHECKS

- 1 The capacitance can be checked with a capacitance meter between line and chassis. Alternatively check between line and chassis using a multimeter (set to a high resistance). The meter should show the capacitor charging via the resistor and will indicate FSD fully charged. Check other direction; the result should be the same.



Warning! Do not use a mega to check the PCB.

- 2 Check the conformal coating is not damaged.
- 3 It is recommended to replace the whole BUL assembly if faulty. Disassembly is not recommended, but if it is disassembled it is vital that the PCB is resealed correctly.



Warning! If the board is removed ensure the conformal coating is replaced. Otherwise the PCB could become damaged.

1.3.2 CLEANING

Wash with warm soapy water if contaminated. Rinse and dry thoroughly.



Warning! Solvents may damage the conformal coating.

1.4 STORAGE

The BUL should be stored with thread protectors (Part no 10148) fitted.

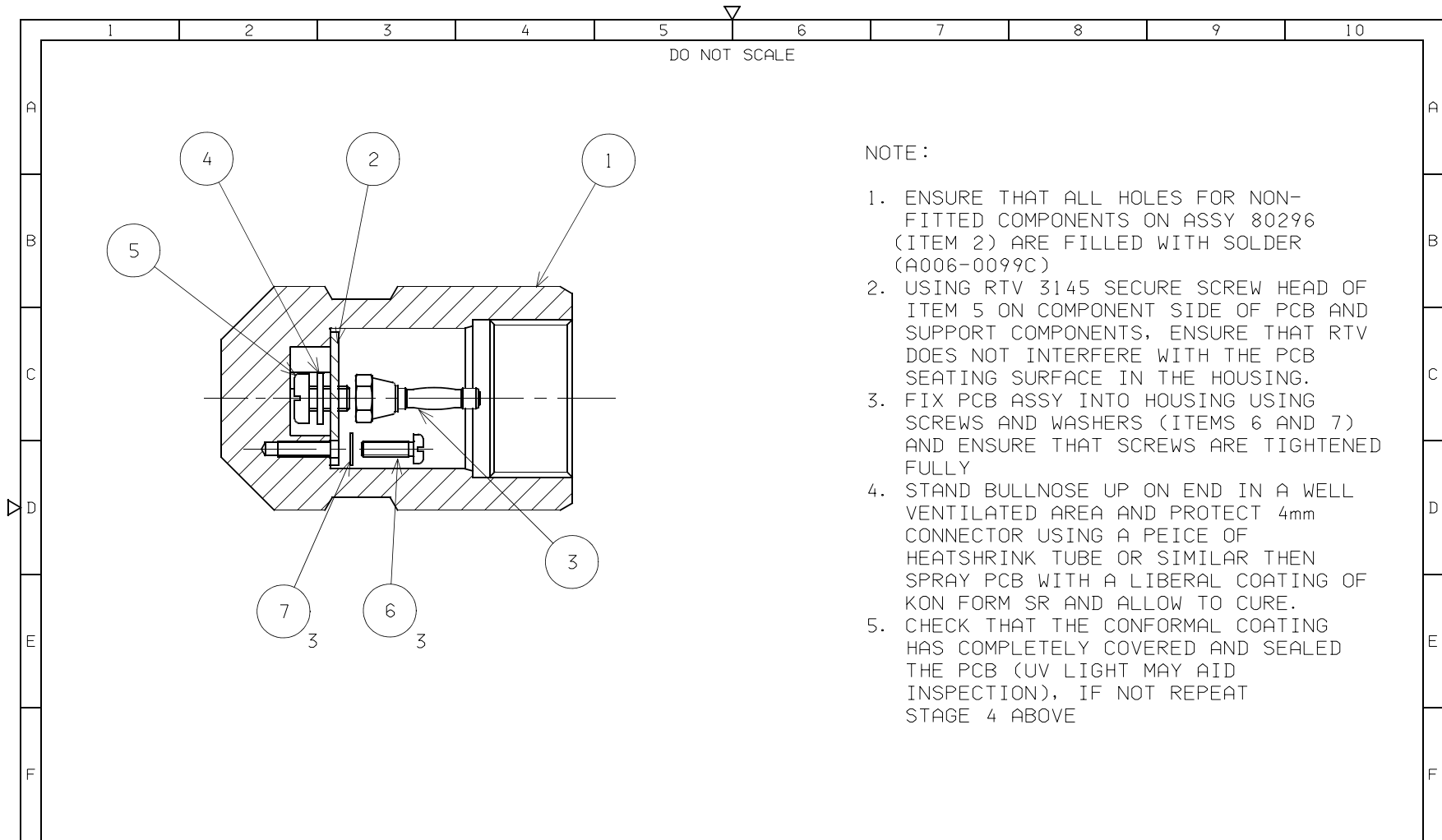
APPENDIX A DRAWINGS & PARTS LISTS

A.1 MECHANICAL DRAWINGS

Description	Drawing	Parts List
BUL006 1 ¹¹ / ₁₆ " General Assembly	16301-A	16301-A
BUL008 1 ³ / ₈ " General Assembly	16302-PT1	16302-PT1

A.2 ELECTRICAL DRAWINGS

Description	Type	Drawing
Electronic Assembly	Circuit Diagram	CD-80296-B



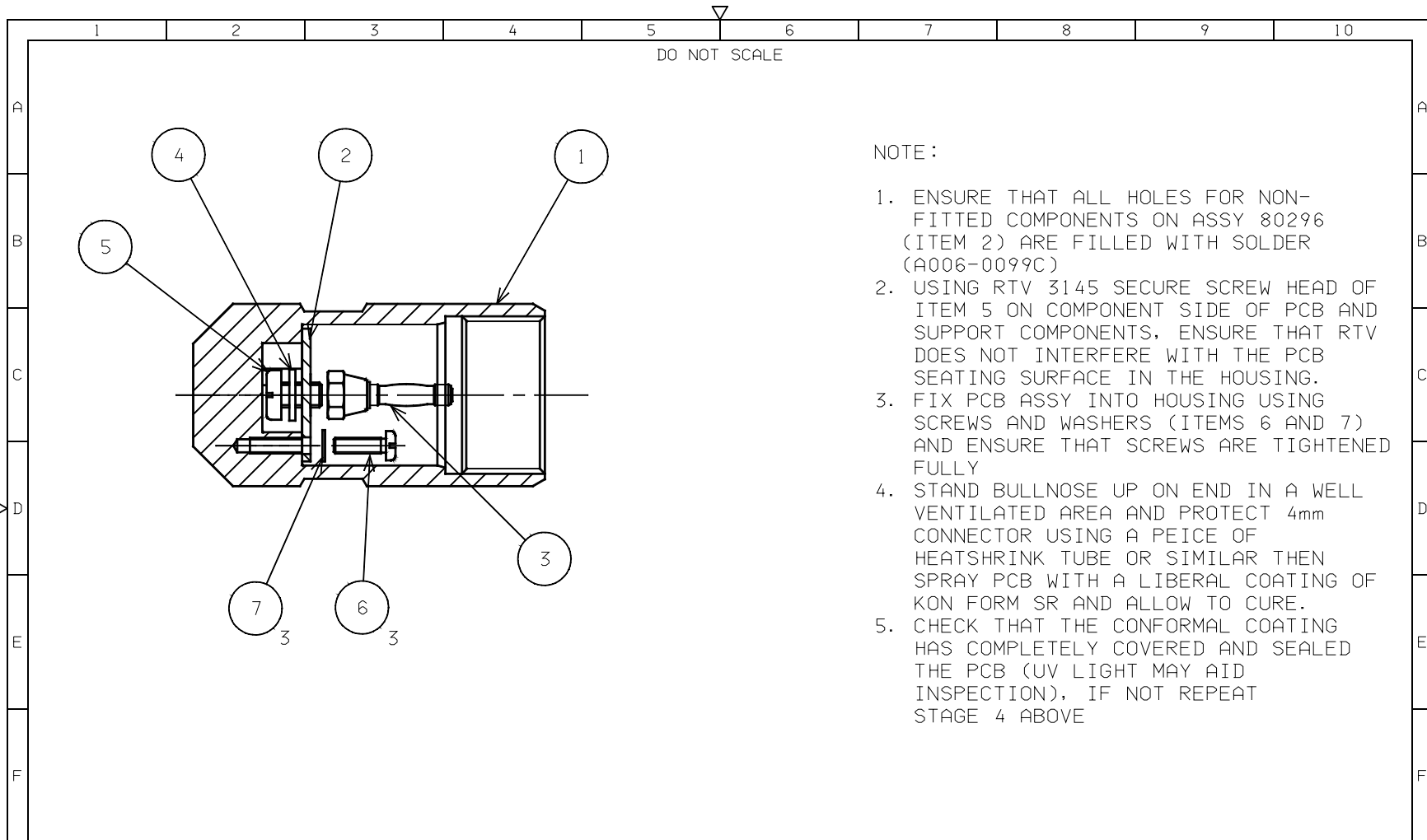
DRAWN GPW	CHECKED NGH	APPROVED PR	ISS A	DESCRIPTION INITIAL RELEASE	APPD PR	DATE 06/02/02	Sondex Tel. 0118 932 6755 THIS DRAWING IS THE PROPERTY OF Sondex AND SHALL NOT BE COPIED OR USED WITHOUT PRIOR PERMISSION	MACHINE FINISH 63/	USED ON BUL006	TITLE ASSY, 1 11/16 ULTRAWIRE TERMINATOR BULLNOSE
DATE 23/01/02	DATE 25/01/02	DATE 06/02/02						GEN TOL 0.X ±0.020" 0.XX ±0.010" 0.XXX ±0.005" ANGLE ±0.5°	SHEET 1/1	DRAWING No. 16301
DIM IN INCHES		MATL : SEE DETAIL DRAWINGS		THIRD ANGLE PROJECTION						
SCALE 1 : 1	A 4									

PARTS LISTING					
Part:	Issue:	Parent Tool Code:	Drawn:	Checked:	Approved:
16301	A	BUL006	GPW	NGH	PR
			Date:	Date:	Date:
			1/23/2002	1/25/2002	2/6/2002
Description:					
Assy 1 11/16 Ultrawire Terminator Bullnose					

CHANGE HISTORY				RELATED DOCUMENTS			
Iss	Date	Remarks	Chkd	Appr	# Documents	Issue	Notes
A	4/30/2002	INITIAL RELEASE	NGH	PR			

PARTS LIST							
Item	Part No.	Issue	Description	Component Value	Qty	Units	Remarks
001	16310	PT1	Housing Connector 1 11/16		1.00	ea	
002	80296	B	Assy; Ultrawire Telemetry; Terminator Board		1.00	ea	
003	01028	C	Assy, Banana Pin (4mm)		1.00	ea	
004	93068	-	Washer Star 10-32		1.00	ea	
005	93234	-	Screw Pan Hd Slotted 10-32UNFx1/4 Lg SS		1.00	ea	
006	93050	-	Screw Pan Hd Slotted M3x10mm Lg SS		3.00	ea	
007	93002	-	Washer, Star, M3, SS		3.00	ea	
008							
009							
010	T006-03145	-	Sealant Silicone RTV3145 clear silastic High Strength			(AR)	
011	T007-0CTSR		Conformal Coating, Silicone, UV marker, -64C to +199C	CTSR-12	1.00	ea	
012	A006-0099C	-	Solder Wire 99C, 99%Sn 0.9%Cu max.	Sldr Wire 99C		(AR)	

(AR = As Required)



NOTE :

1. ENSURE THAT ALL HOLES FOR NON-FITTED COMPONENTS ON ASSY 80296 (ITEM 2) ARE FILLED WITH SOLDER (A006-0099C)
2. USING RTV 3145 SECURE SCREW HEAD OF ITEM 5 ON COMPONENT SIDE OF PCB AND SUPPORT COMPONENTS, ENSURE THAT RTV DOES NOT INTERFERE WITH THE PCB SEATING SURFACE IN THE HOUSING.
3. FIX PCB ASSY INTO HOUSING USING SCREWS AND WASHERS (ITEMS 6 AND 7) AND ENSURE THAT SCREWS ARE TIGHTENED FULLY
4. STAND BULLNOSE UP ON END IN A WELL VENTILATED AREA AND PROTECT 4mm CONNECTOR USING A PEICE OF HEATSHRINK TUBE OR SIMILAR THEN SPRAY PCB WITH A LIBERAL COATING OF KON FORM SR AND ALLOW TO CURE.
5. CHECK THAT THE CONFORMAL COATING HAS COMPLETELY COVERED AND SEALED THE PCB (UV LIGHT MAY AID INSPECTION), IF NOT REPEAT STAGE 4 ABOVE

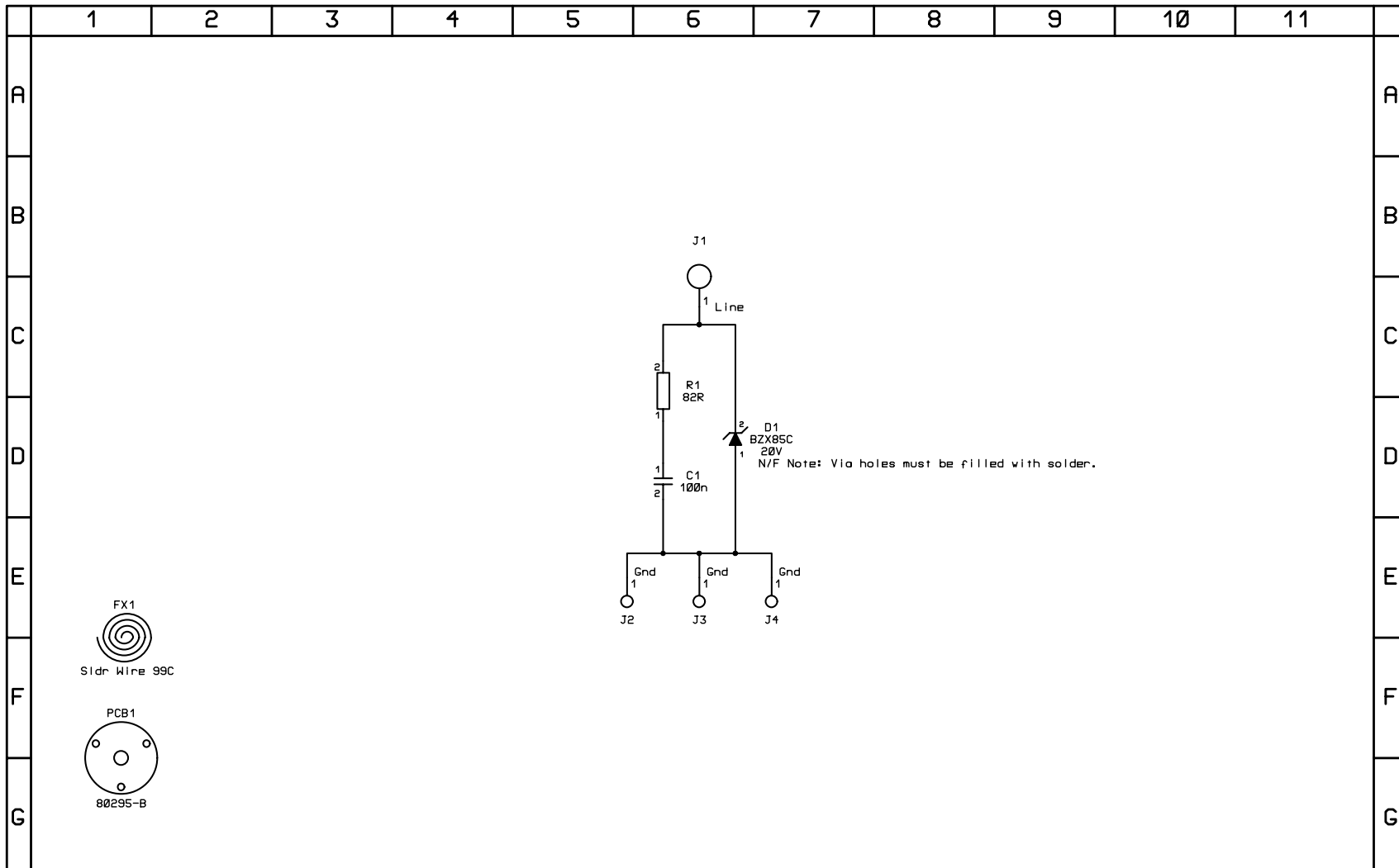
DRAWN GPW	CHECKED NGH	APPROVED PR	ISS .PTI	DESCRIPTION INITIAL RELEASE	APPD PR	DATE 30/04/02	<p>Tel. 0118 932 6755</p> <p>THIS DRAWING IS THE PROPERTY OF Sondex AND SHALL NOT BE COPIED OR USED WITHOUT PRIOR PERMISSION</p>	MACHINE FINISH 63/	USED ON BUL008	TITLE ASSY ϕ 1 3/8 ULTRAWIRE TERMINATOR BULLNOSE
DATE 07/02/02	DATE 30/04/02	DATE 30/04/02				GEN TOL 0. X \pm 0.020" 0. XX \pm 0.010" 0. XXX \pm 0.005" ANGLE \pm 0.5		SHEET 1/1	DRAWING No. 16302	ISSUE .PTI
DIM IN INCHES SCALE 1 : 1	MATL : SEE DETAIL DRAWINGS					THIRD ANGLE PROJECTION				

PARTS LISTING					
Part:	Issue:	Parent Tool Code:	Drawn:	Checked:	Approved:
16302	PT1	BUL008	GPW	NGH	PR
			Date:	Date:	Date:
			2/7/2002	4/30/2002	4/30/2002
Description:					
Assy 1 3/8 Ultrawire Terminator Bullnose					

CHANGE HISTORY				RELATED DOCUMENTS			
Iss	Date	Remarks	Chkd	Appr	# Documents	Issue	Notes
PT1	4/30/2002	INITIAL RELEASE	NGH	PR			

PARTS LIST							
Item	Part No.	Issue	Description	Component Value	Qty	Units	Remarks
001	16311	PT1	Housing Connector 1 3/8		1.00	ea	
002	80296	B	Assy; Ultrawire Telemetry; Terminator Board		1.00	ea	
003	01028	C	Assy, Banana Pin (4mm)		1.00	ea	
004	93068	-	Washer Star 10-32		1.00	ea	
005	93234	-	Screw Pan Hd Slotted 10-32UNFx1/4 Lg SS		1.00	ea	
006	93050	-	Screw Pan Hd Slotted M3x10mm Lg SS		3.00	ea	
007	93002	-	Washer, Star, M3, SS		3.00	ea	
008							
009							
010	T006-03145	-	Sealant Silicone RTV3145 clear silastic High Strength			(AR)	
011	T007-0CTSR		Conformal Coating, Silicone, UV marker, -64C to +199C	CTSR-12	1.00	ea	
012	A006-0099C	-	Solder Wire 99C, 99%Sn 0.9%Cu max.	Sldr Wire 99C		(AR)	

(AR = As Required)



ISS.	REV.	ECR NUMBER, REMARKS	CHKD	APPR	DATE	SONDEX LTD	TITLE	DRAWING NUMBER	ISSUE	REVISION
	B	ECR1189	DJ	PEJR	29/5/02	FORD LANE, BRAMSHILL, HOOK, HAMPSHIRE, RG27 0RH, ENGLAND TEL: +44 (0) 118 932 6755 FAX: +44 (0) 118 932 6704	Ultrawire Telemetry Terminator Board Circuit Diagram	CD-80296	B	
								DRAWN PEJR	CHECKED DJ	APPROVED PR
								DATE 14/01/02	DATE 29/5/02	DATE 29/5/02
						This document contains proprietary information. Copyright 2001 © Sondex Ltd.			SHEET	1 OF 1