



## 130 Family of Seismic Recorders

### Cable Drawings

Refraction Technology™



## **Refraction Technology, Inc.**

**1600 Tenth Street, Suite A  
Plano, Texas 75074  
USA**

**Voice: 214-440-1265**

**Fax: 972-578-0045**

**EMAIL: [info@reftek.com](mailto:info@reftek.com)**

**FTP: <ftp.reftek.com>**

**WWW: <http://reftek.com>**

Copyright 2006 Refraction Technology, Inc.

All rights reserved.

Printed in USA

## REF TEK

### Update Notification

You can receive E-mail notification of updates by subscribing to one of the REF TEK 130 notification lists.

To subscribe:

- 1 Send an E-mail to [listserv@reftek.com](mailto:listserv@reftek.com) with one of the following in the body of the message: "subscribe <listname> <your name> where <list name> is one of the entries in the following table and <your name> is replaced by your name.
- 2 For the REF TEK 130 Data Acquisition System (130) product use `rt_130`.

DAS	<listname>	example
130	rt_130	subscribe rt_130 tom smith
130_ANSS	rt_130_anss	subscribe rt_130_anss john doe
130_SM	rt_130_sm	subscribe rt_130_sm mike smith

- 3 Your E-mail address is automatically extracted from the header of the E-Mail you send.
- 4 To obtain updates from our FTP site:

For REF TEK software, firmware, and documents:

[1] Login to our FTP site at: <ftp.reftek.com>\pub

[2] User name: **Anonymous**

[3] Password: **Your E-mail Address**

### Revision History:

Rev	Date	Reason for change	Affected Pages
0.1	7/05/03	Initial release	All
B	8/4/03	Created separate book	All
C	9/2/03	Added 130-8874 series sensor cables	Section 1-2
	9/9/03	Added ANSS Internal cables drawings	Section 1-3
	10/21/05	Added GPS extender cable option	Section 1-1
D	2/9/06	Added 130-8206 Ruggedized Palm cable Figure 1-25	Page 1-29



## List of Figures

### 130-01 Internal Cables

#### 130-01 Internal Cables

Figure 1 - 1	130-8005 - Internal Disk Interconnect	1-2
Figure 1 - 2	130-8006 - Status	1-3

#### 130 Family External Cables

Figure 1 - 3	130-8004 - Ethernet/Modem	1-6
Figure 1 - 4	130-8004A - Ethernet/Modem	1-7
Figure 1 - 5	130-8004B - Ethernet Modem with trigger	1-8
Figure 1 - 6	130-8004C - Ethernet/Modem with Trigger	1-9
Figure 1 - 7	130-8004D Ethernet/PC	1-10
Figure 1 - 8	130-8014 - Ethernet PC/DTE	1-11
Figure 1 - 9	130-8015 - External GPS Interconnect	1-12
Figure 1 - 10	130-8018 - PC command and control	1-13
Figure 1 - 11	130-8019 - Ethernet Hub Straight	1-14
Figure 1 - 12	130-8023 - Ethernet Crossover	1-15
Figure 1 - 13	130-8024 - Ethernet/Modem Black Box	1-16
Figure 1 - 14	130-8025 - PDA to DAS, Command and Control	1-17
Figure 1 - 15	130-8026 - NET to Freewave Radio	1-18
Figure 1 - 16	130-8039 - Ext Power supply assy	1-19
Figure 1 - 17	130-8039A 130-SM Power	1-20
Figure 1 - 18	130-8075 - Power Input Cable	1-21
Figure 1 - 19	130-8103 - CLIE' Command and Control	1-22
Figure 1 - 20	RT547 CLEA' board	1-23
Figure 1 - 21	130-8108 - External Power Cable	1-25
Figure 1 - 22	130-8111 S-13 Splitter Box	1-26
Figure 1 - 23	130-8137 130-SM Modem	1-27
Figure 1 - 24	130-8154 130-Modem cable	1-28
Figure 1 - 25	130-8260 Ruggedized Palm cable	1-29

#### Seismometer Cables

Figure 1 - 26	130-8830 - CMG-5T Seismometer Cable	1-30
Figure 1 - 27	130-8841 - 131A to DAS channel accelerometer	1-31
Figure 1 - 28	130-8850 KS-2000 Sensor cable	1-32
Figure 1 - 29	130-8871 - STS-2 Seismometer	1-33
Figure 1 - 30	130-8871 - STS-2 Seismometer wire list	1-34
Figure 1 - 31	130-8874 - Sensor CMG/PUBB to 130	1-35
Figure 1 - 32	130-8874A - Sensor CMG-40 to 130 with +12	1-36
Figure 1 - 33	130-8874A - CMG-40 to 130 (Sheet 2 of 3)	1-37
Figure 1 - 34	130-8874A - CMG-40 to 130 (Sheet 3 of 3)	1-38
Figure 1 - 35	130-8874B - PUBB to 130 for CMG-3T	1-39
Figure 1 - 36	130-8885 - S-13J Sensor to 130	1-40
Figure 1 - 37	130-8892 - DAS to L-4C-3D Seismometer	1-41
Figure 1 - 38	130-8895 - FBA11 to 130-DAS	1-42



# Section 1

## 130-01 Internal Cables

---

### 1.1 130-01 Internal Cables

Refer to the table below for the internal cable assemblies for the 130 DAS family

Cable	Description	Connection
130-8005	Internal Disk Interconnect cable	CPU to Well Board
130-8006	Internal Status cable	CPU to Well Board

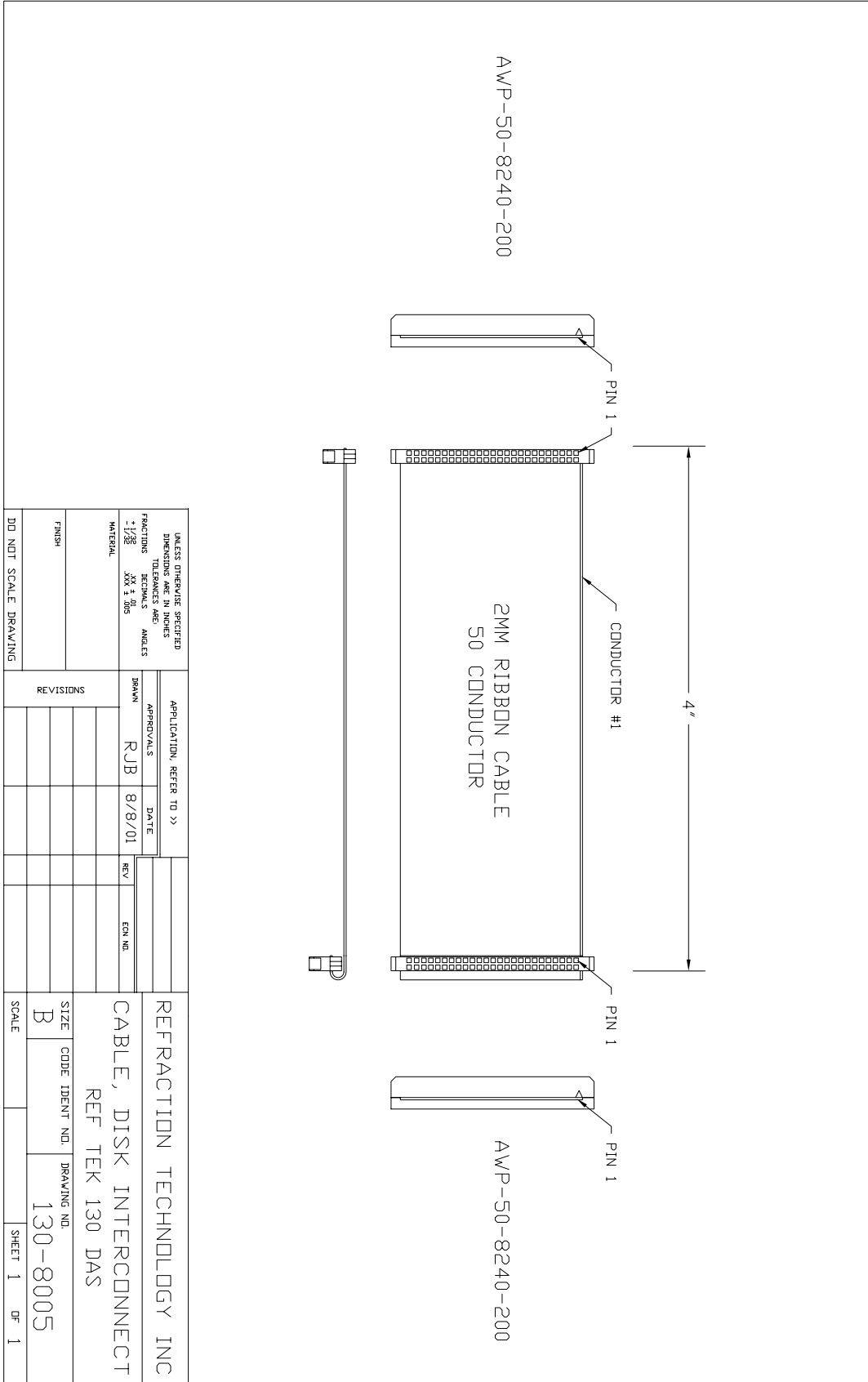


Figure 1 - 1 130-8005 - Internal Disk Interconnect





## 1.2 130 Family External Cables

**REF TEK** does not normally supply the channel input connector cable assemblies; but the PT07A1419S mating half of the standard connector can be supplied together with the cable pinout data. The user can then fabricate a cable to meet local requirements.

Refer to the table below for optional DAS typical connector assembly details and cable diagrams of the more frequently used cables.

Cable	Description	Connection
130-8004	130 (Y-Cable) to Serial (DCE) and Ethernet RJ45 cable <b>25-pin - Serial (DCE)</b>	Ethernet connects to hub or network connection. Serial connects to (DCE) equipment.
130-8004A	130 (Y-Cable) to Serial (DCE) and Ethernet RJ45 cable <b>9-pin - Serial (DCE)</b>	Ethernet connects to hub or network connection. Serial connects to (DCE) equipment.
130-8004B	130 (Y-Cable) to Serial (DCE) and Ethernet RJ45 cable <b>25-pin - Serial (DCE) with trigger</b>	Ethernet connects to hub or network connection. Serial connects to (DCE) equipment (w/ trigger).
130-8004C	130 (Y-Cable) to Serial (DCE) and Ethernet RJ45 cable <b>9-pin - Serial (DCE) with trigger</b>	Ethernet connects to hub or network connection. Serial connects to (DCE) equipment (w/ trigger).
130-8004D	Ethernet/PC	
130-8014	130 (Y-Cable) to Serial (DTE) and Ethernet RJ45 cable	Ethernet connects to hub or network connection. Serial connects to DTE equipment
130-8015	GPS to DAS cable	Connects to DAS-GPS
130-8018	DAS Command and Control Port to PC cable	Connects to PC serial port
130-8019	Ethernet cable	Connects to hub or network
130-8023	Ethernet Crossover	Connect directly to PC or laptop ethernet port
130-8024	130 (Y-Cable) to Serial (DCE) and Ethernet RJ45 cable - Ethernet and Black Box Modem	Ethernet connects to hub or network connection. Serial connects to (DCE) equipment
130-8025	PDA cable	130 to PDA
130-8026	DAS Net to Freewave (DB-9)	Connects to Freewave
130-8039	12V Power cable for DAS	12V Supply
130-8039A	12V Power cable for 130-SM	12V Supply
130-8075	12V Power cable for DAS and 130-ED	12V supply
130-8080	Extender to extender cable	130-GPS
130-8103	PDA CLIE™ cable	130 to CLIE PDA
130-8137	130-SM modem cable	Phone line
130-8154	130-Modem cable	130 to 130-Modem cable
130-8206	Ruggedized PDA cable	130 to Ruggedized Palm
130-8811	Splitter box to S-13 Sensor	130 to 3 S-13 Sensors

**130 Family External Cables**

<b>Cable</b>	<b>Optional Sensor Cables</b>	<b>Connection</b>
130-8830	CMG-5T Seismometer cable	130 DAS channel connector
130-8841	131A Sensor cable	130 DAS channel connector
130-8850	KS-2000 Sensor cable	130 DAS channel connector
130-8871	STS-2 Seismometer cable	130 DAS channel connector
130-8874	CMG/PUBB Sensor cable	130 DAS channel connector
130-8874A	CMG-40 w/ +12V and -12V Output	130 DAS channel connector
130-8874B	CMG/PUBB Sensor cable for CMG-3T	130 DAS channel connector
130-8885	S13J Sensor cable	130 DAS channel connector
130-8892	L-4C-3D Seismometer cable	130 DAS channel connector
130-8895	FBA11 Accelerometer cable	130 DAS channel connector

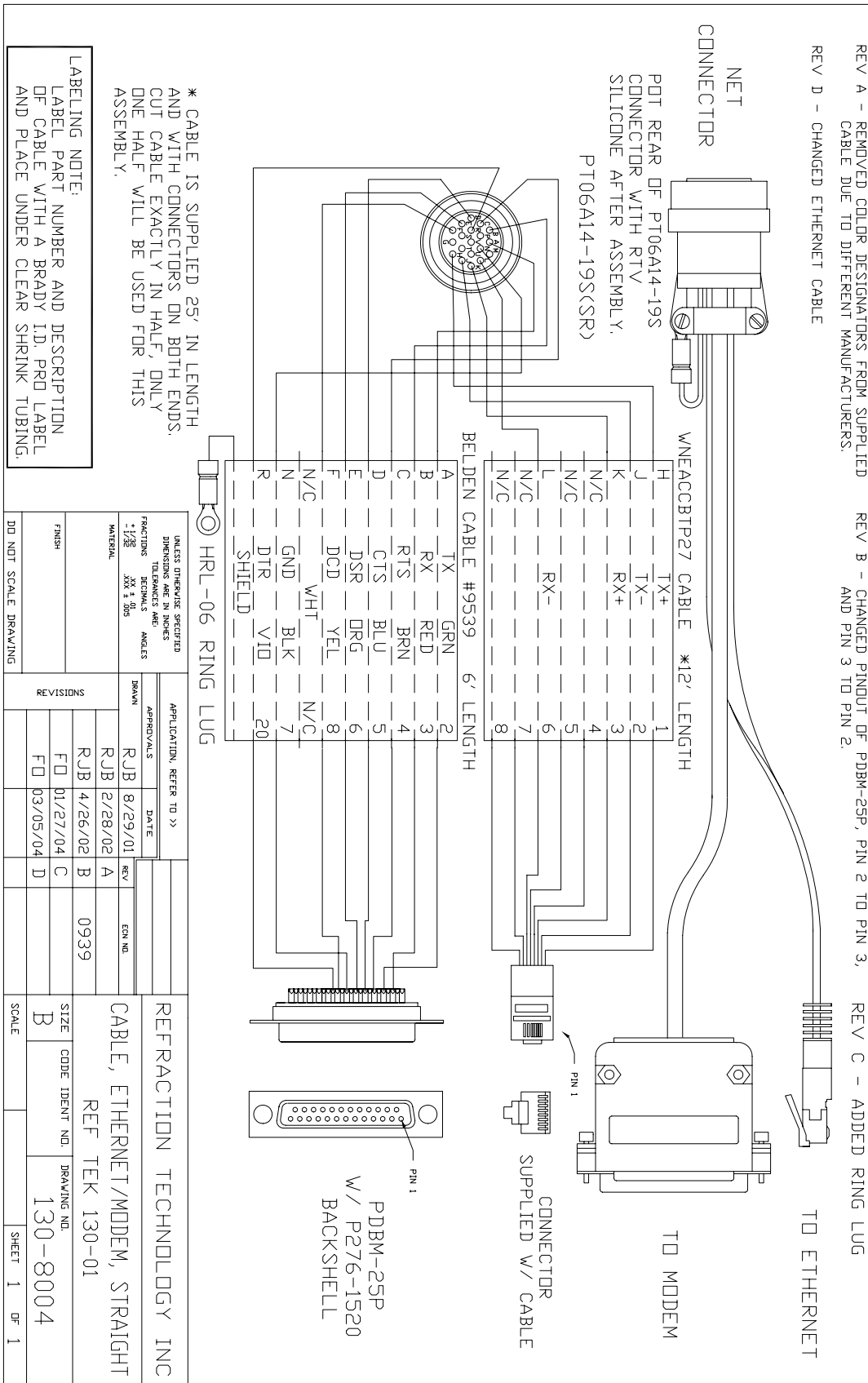


Figure 1 - 3 130-8004 - Ethernet/Modem

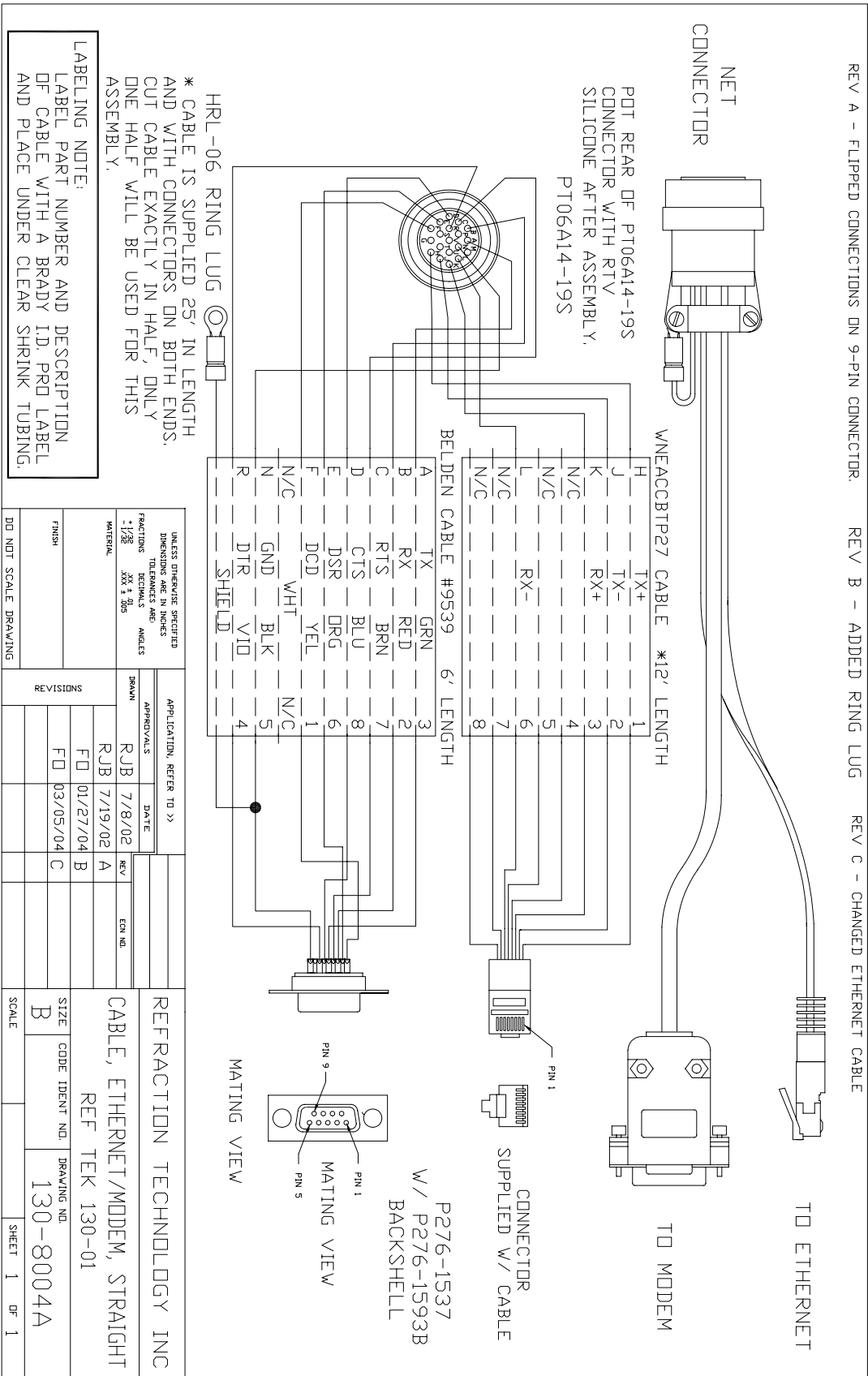


Figure 1 - 4 130-8004A - Ethernet/Modem

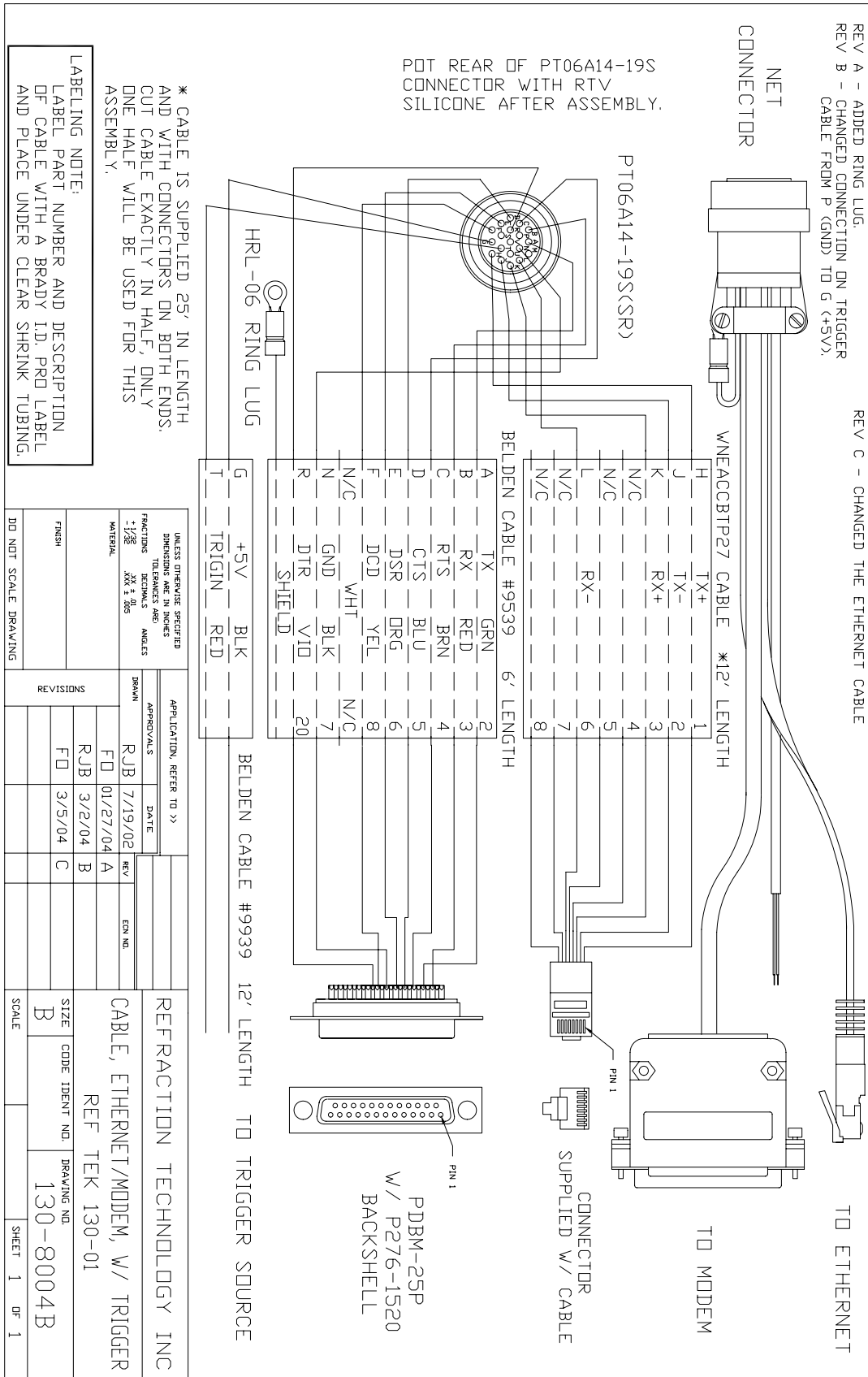


Figure 1 - 5 130-8004B - Ethernet Modem with trigger



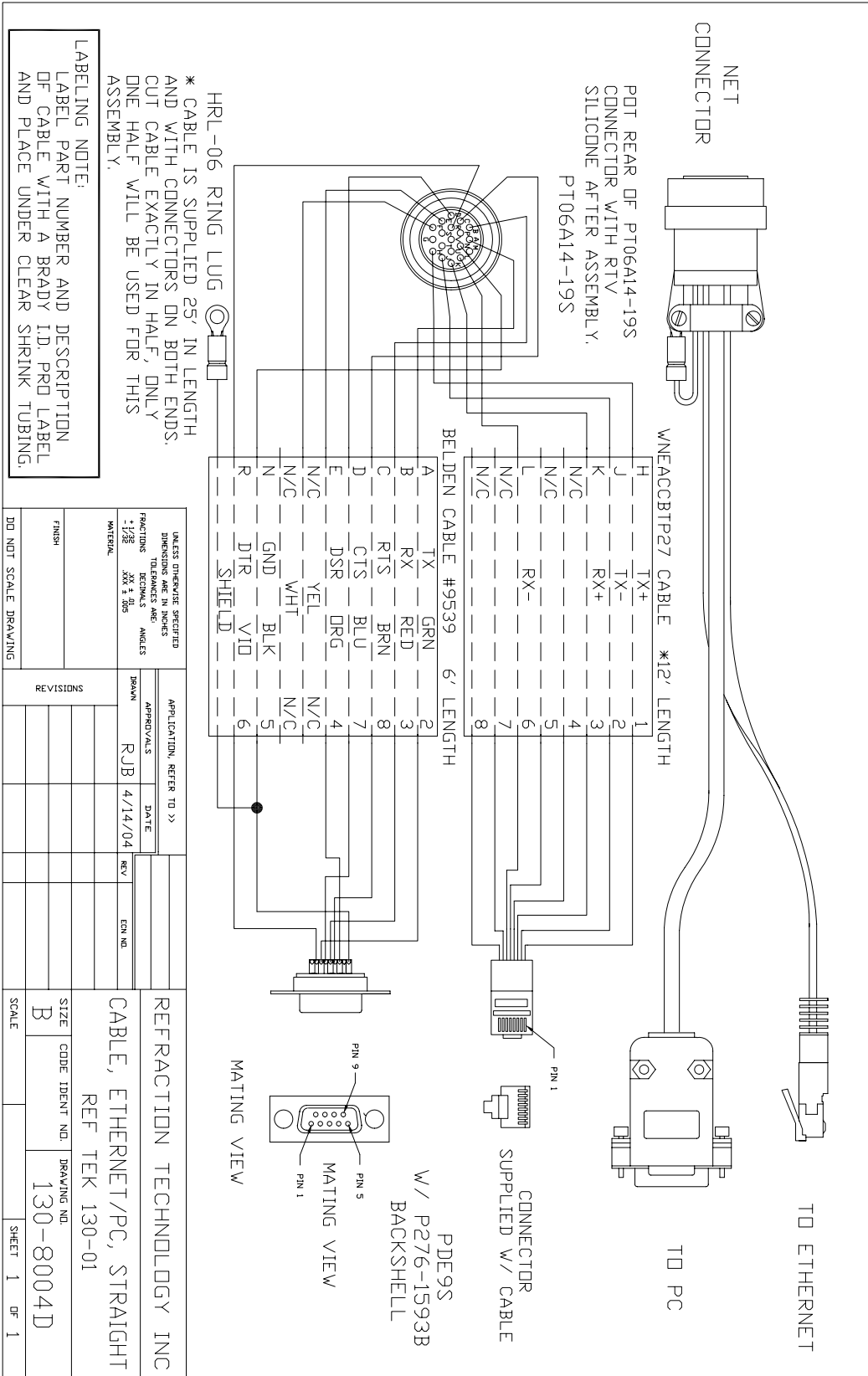


Figure 1 - 7 130-8004D Ethernet/PC



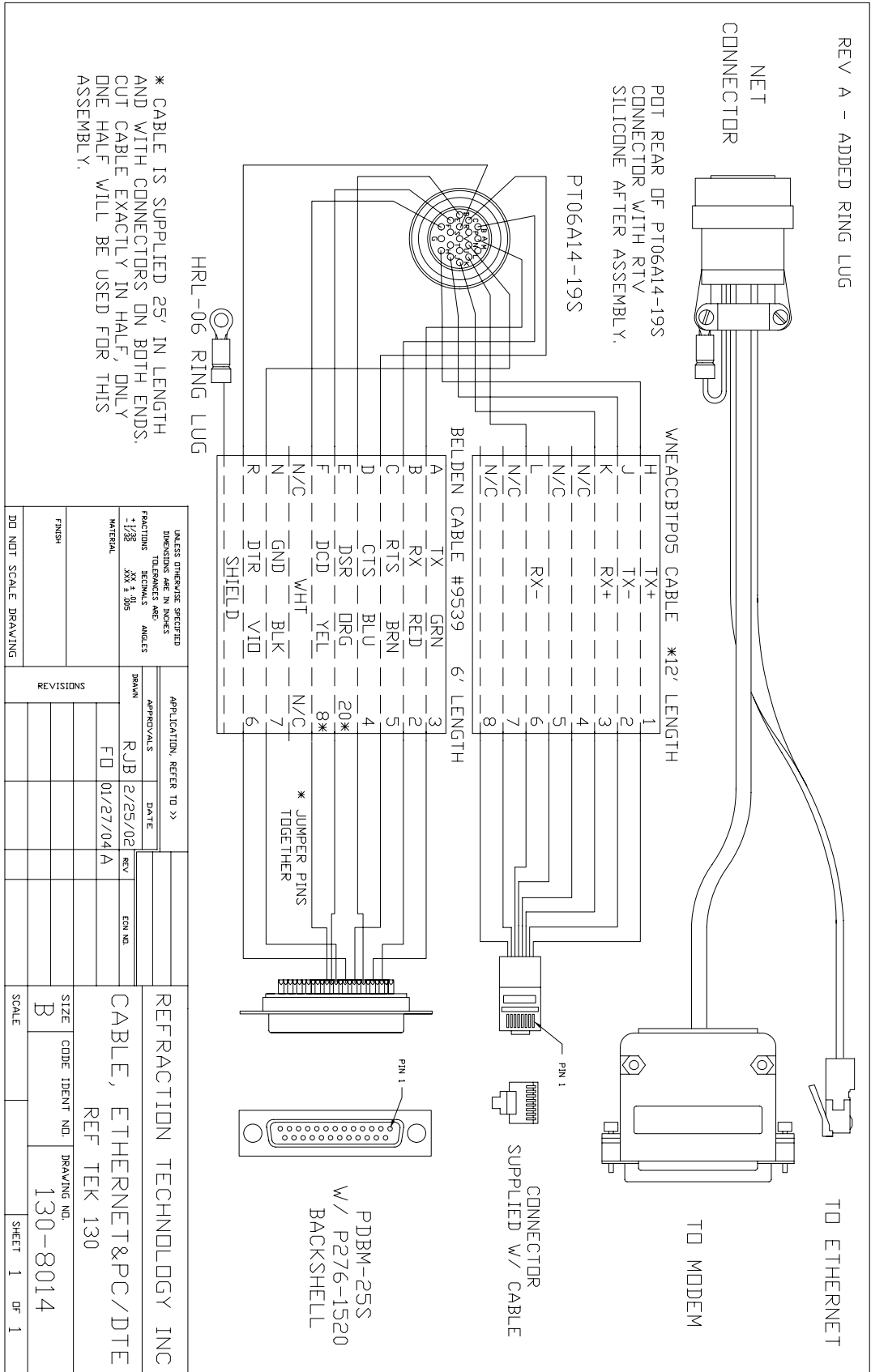


Figure 1 - 8 130-8014 - Ethernet PC/DTE

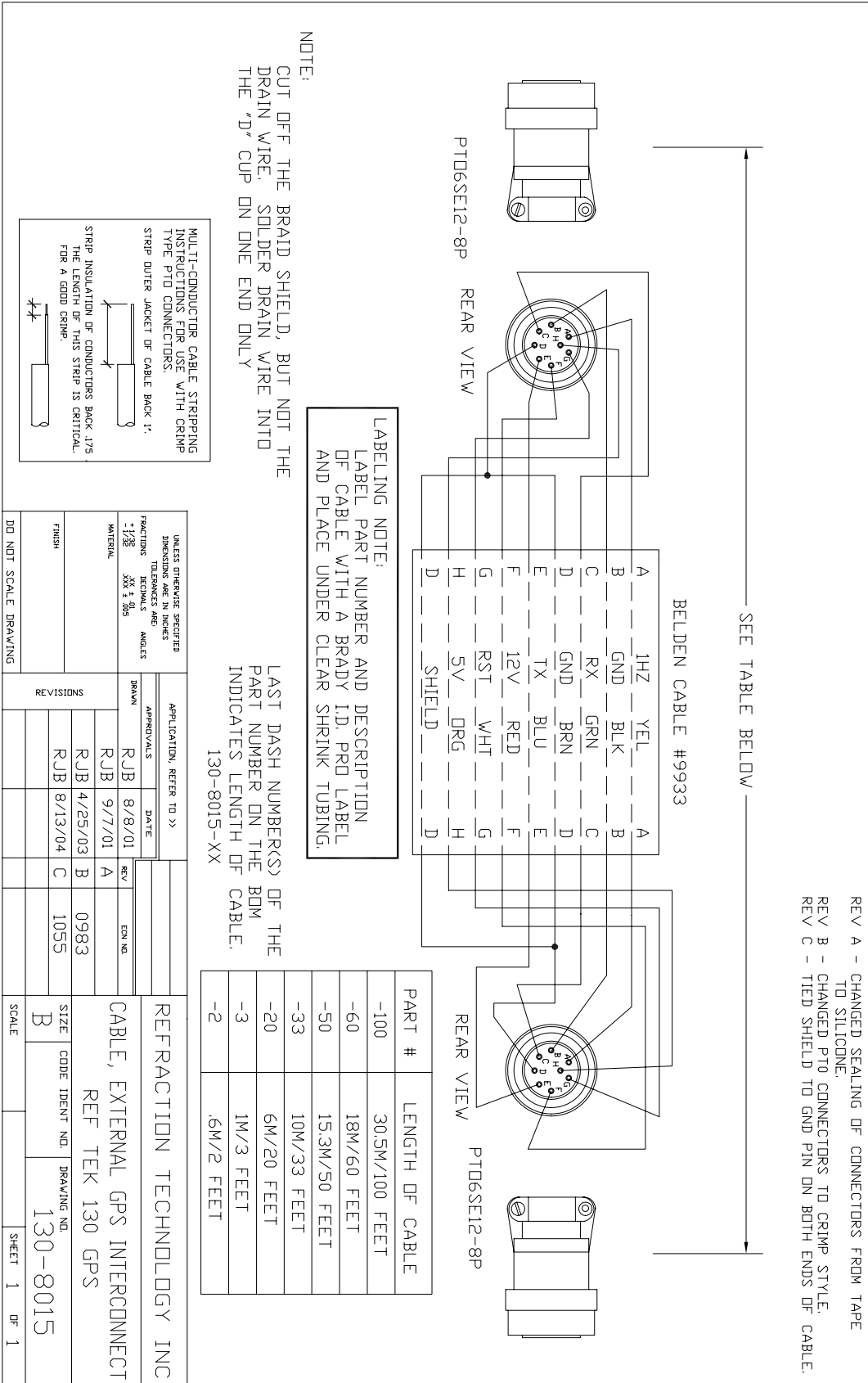


Figure 1 - 9 130-8015 - External GPS Interconnect



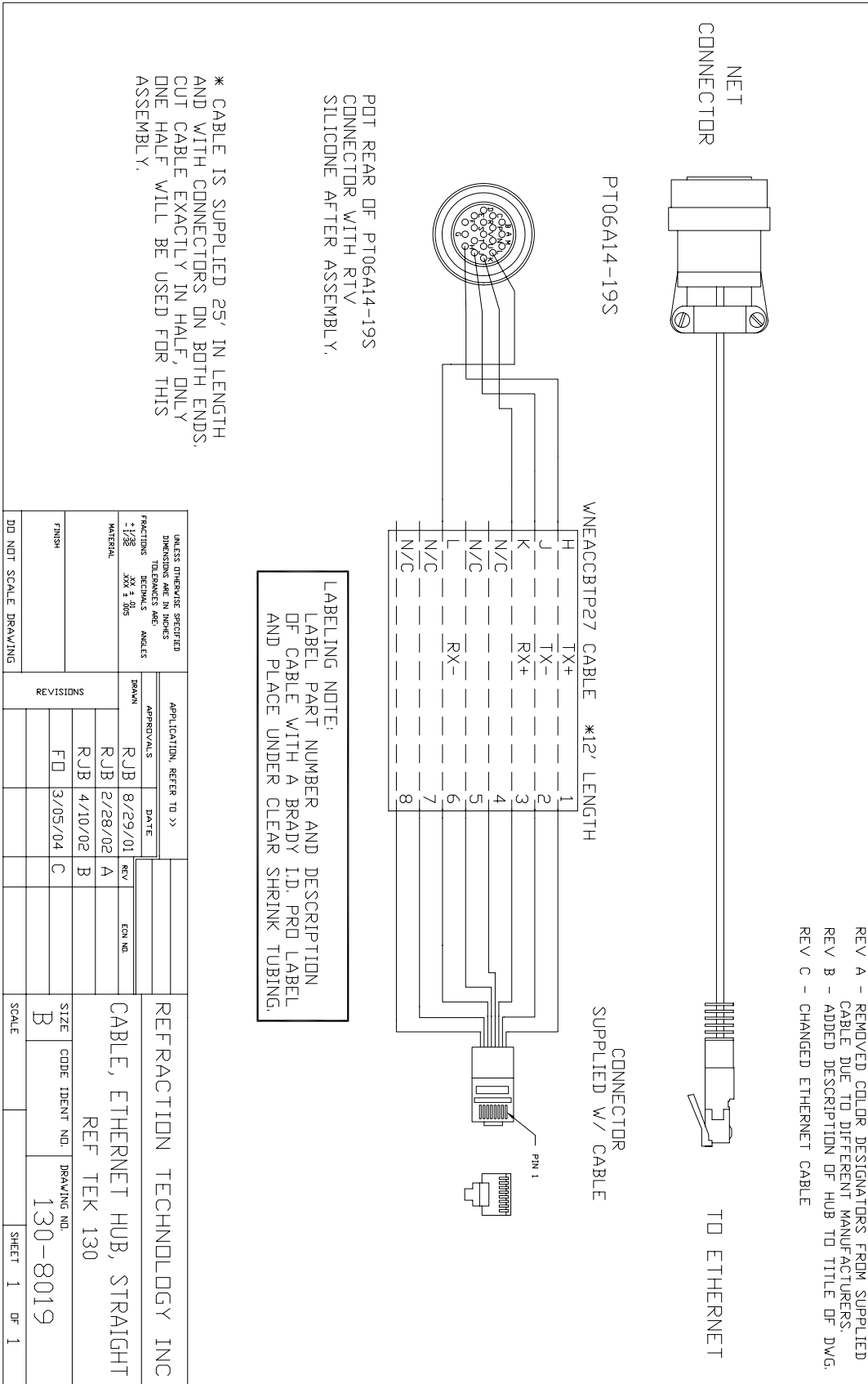


Figure 1 - 11 130-8019 - Ethernet Hub Straight

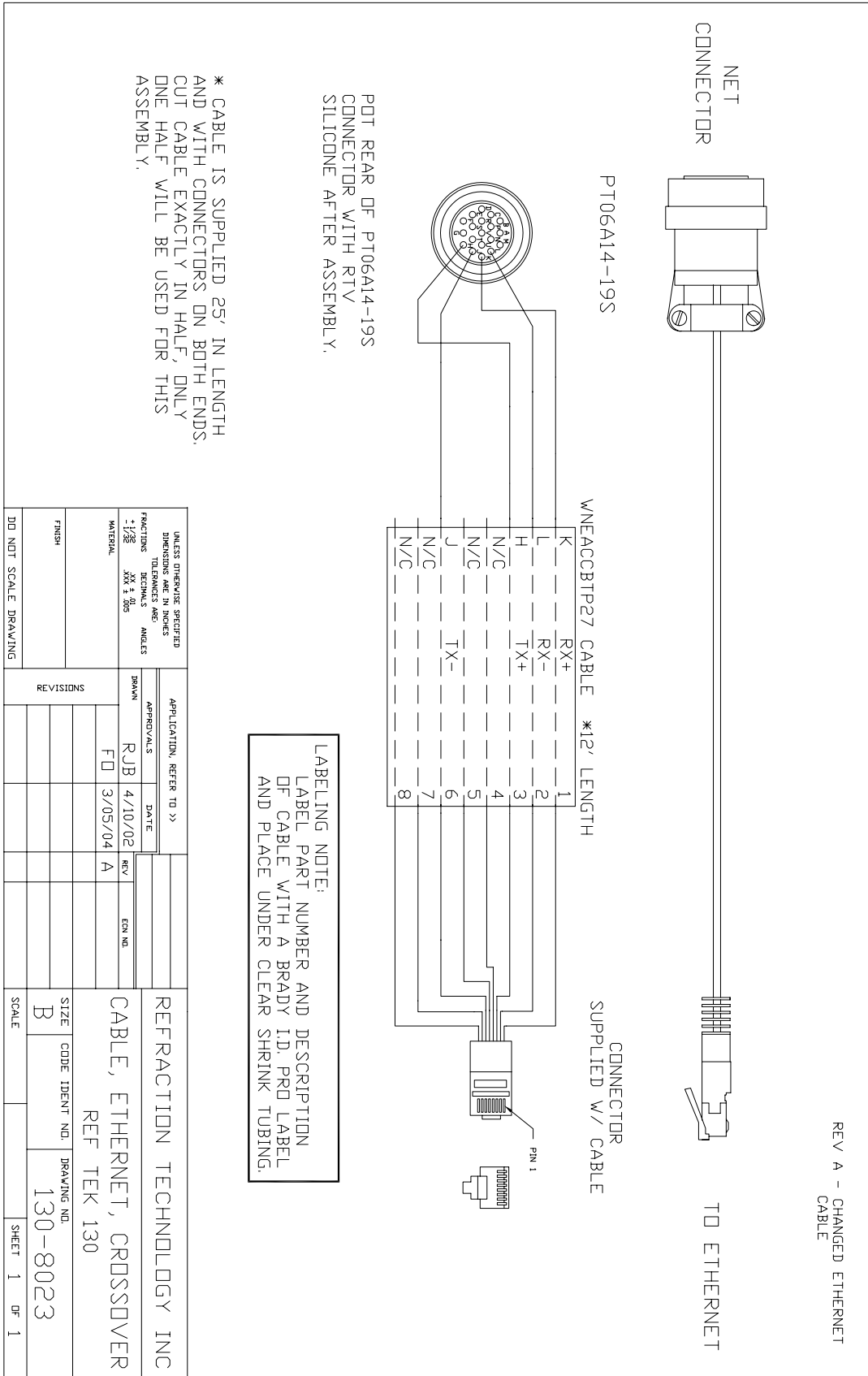


Figure 1 - 12 130-8023 - Ethernet Crossover



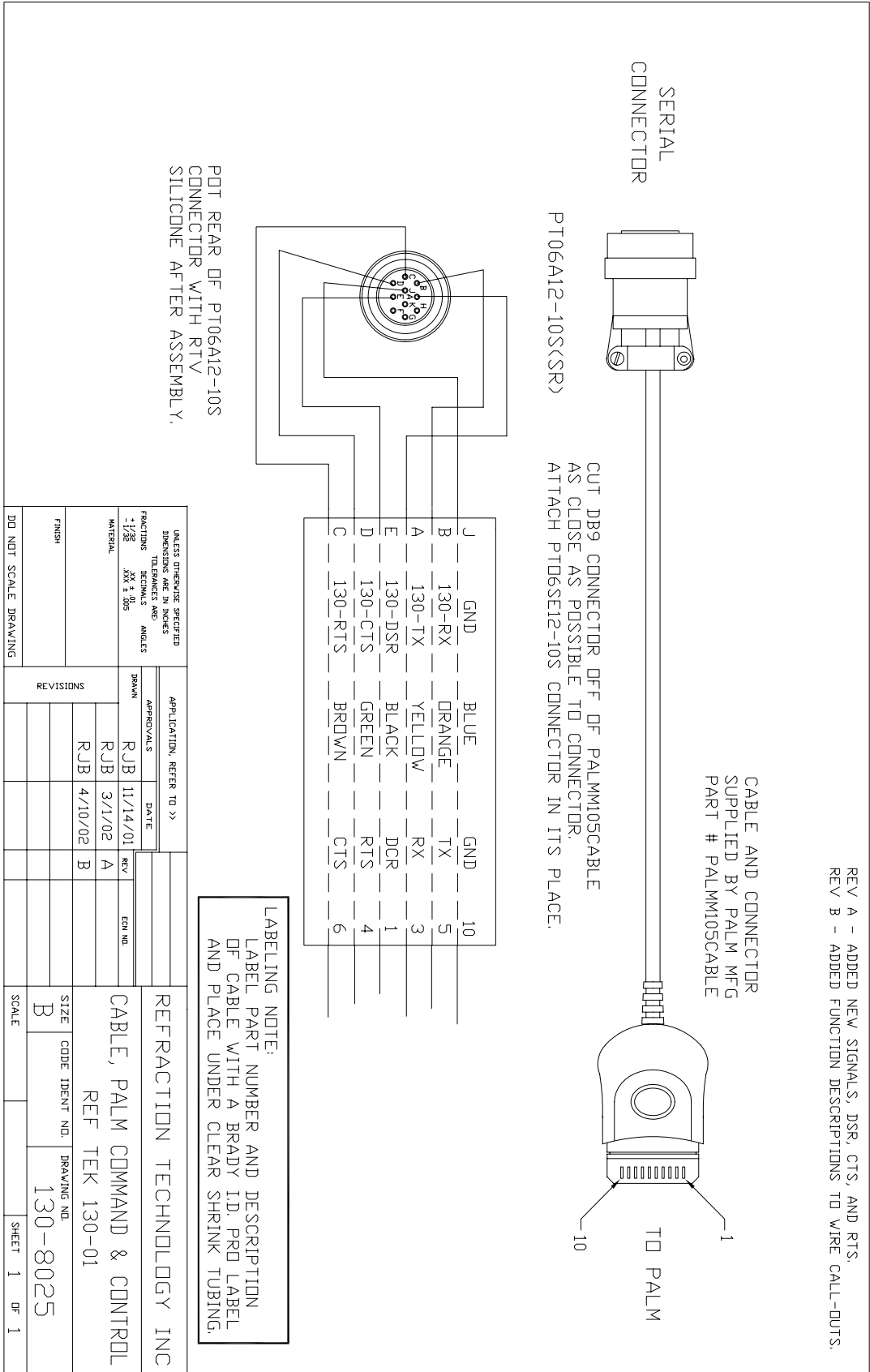


Figure 1 - 14 130-8025 - PDA to DAS, Command and Control

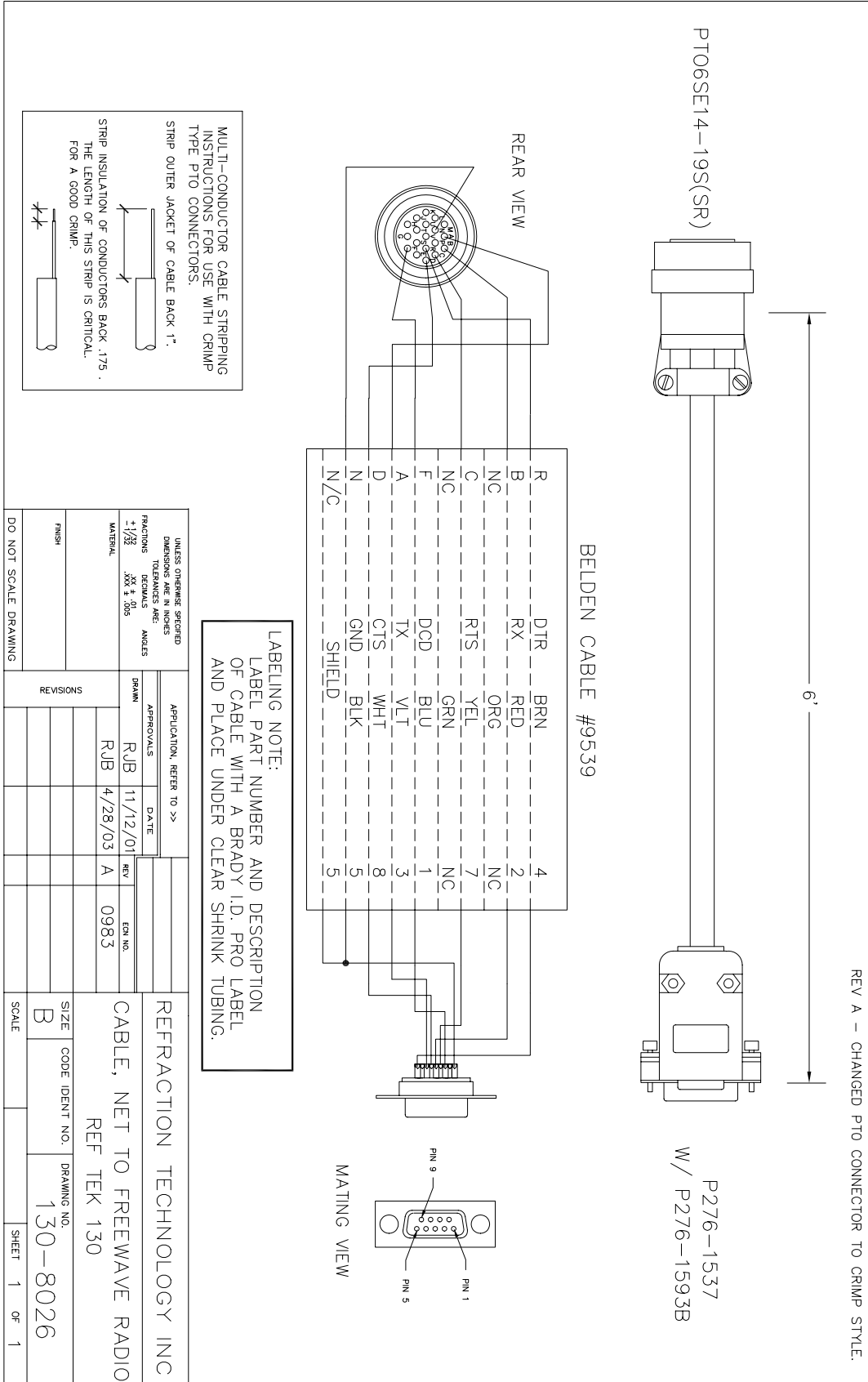


Figure 1 - 15 130-8026 - NET to Freewave Radio



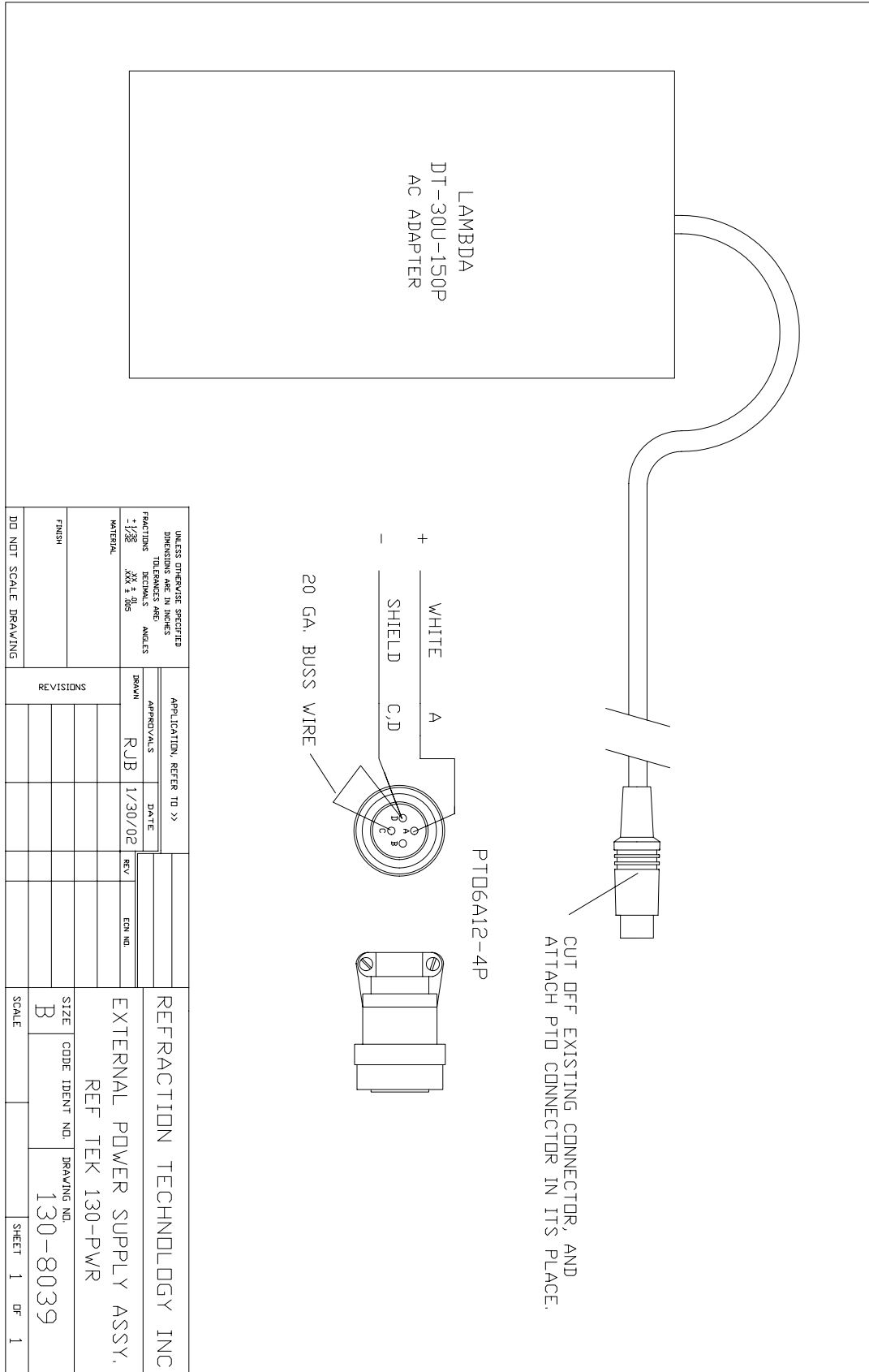


Figure 1 - 16 130-8039 - Ext Power supply assy

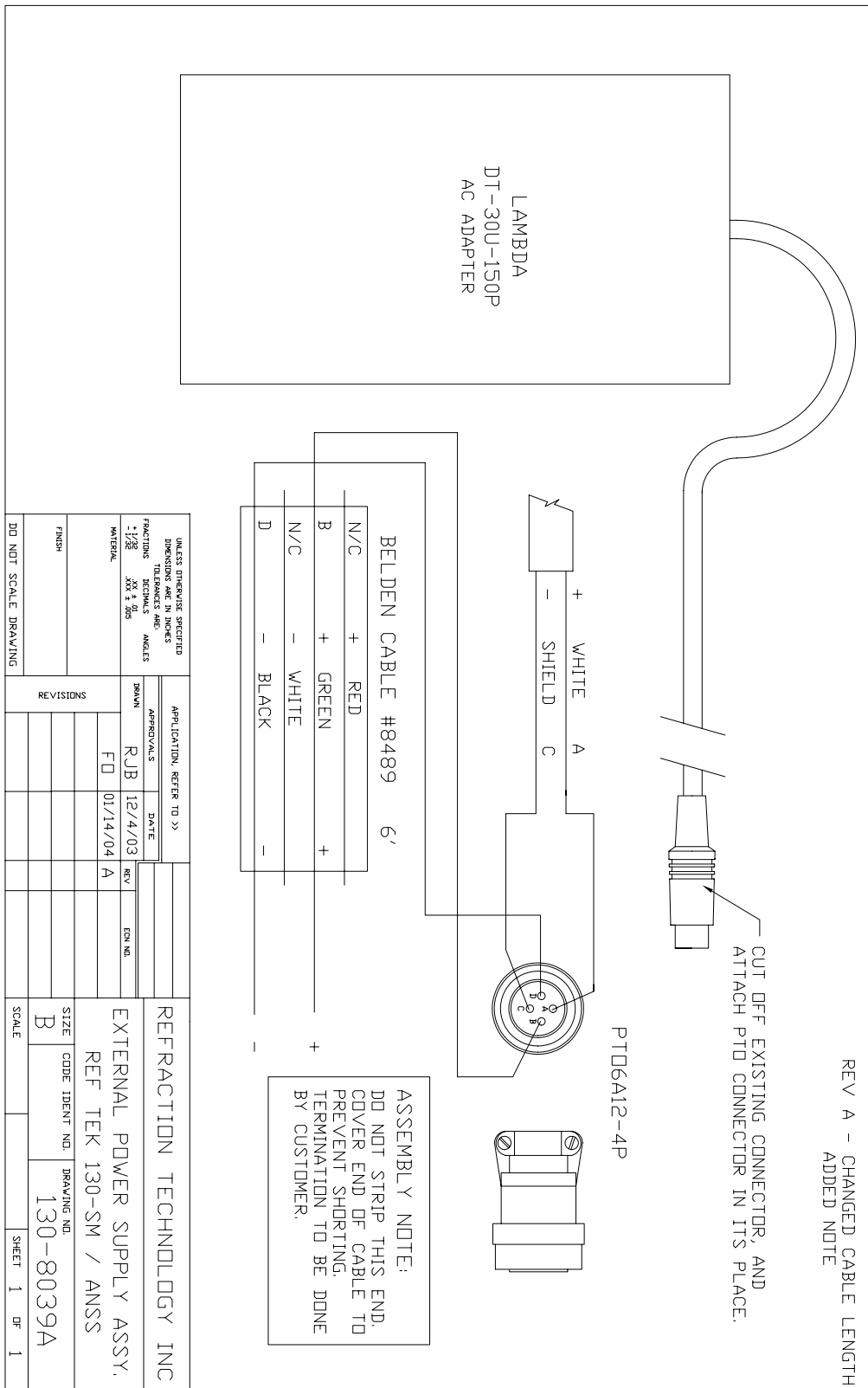


Figure 1 - 17 130-8039A 130-SM Power

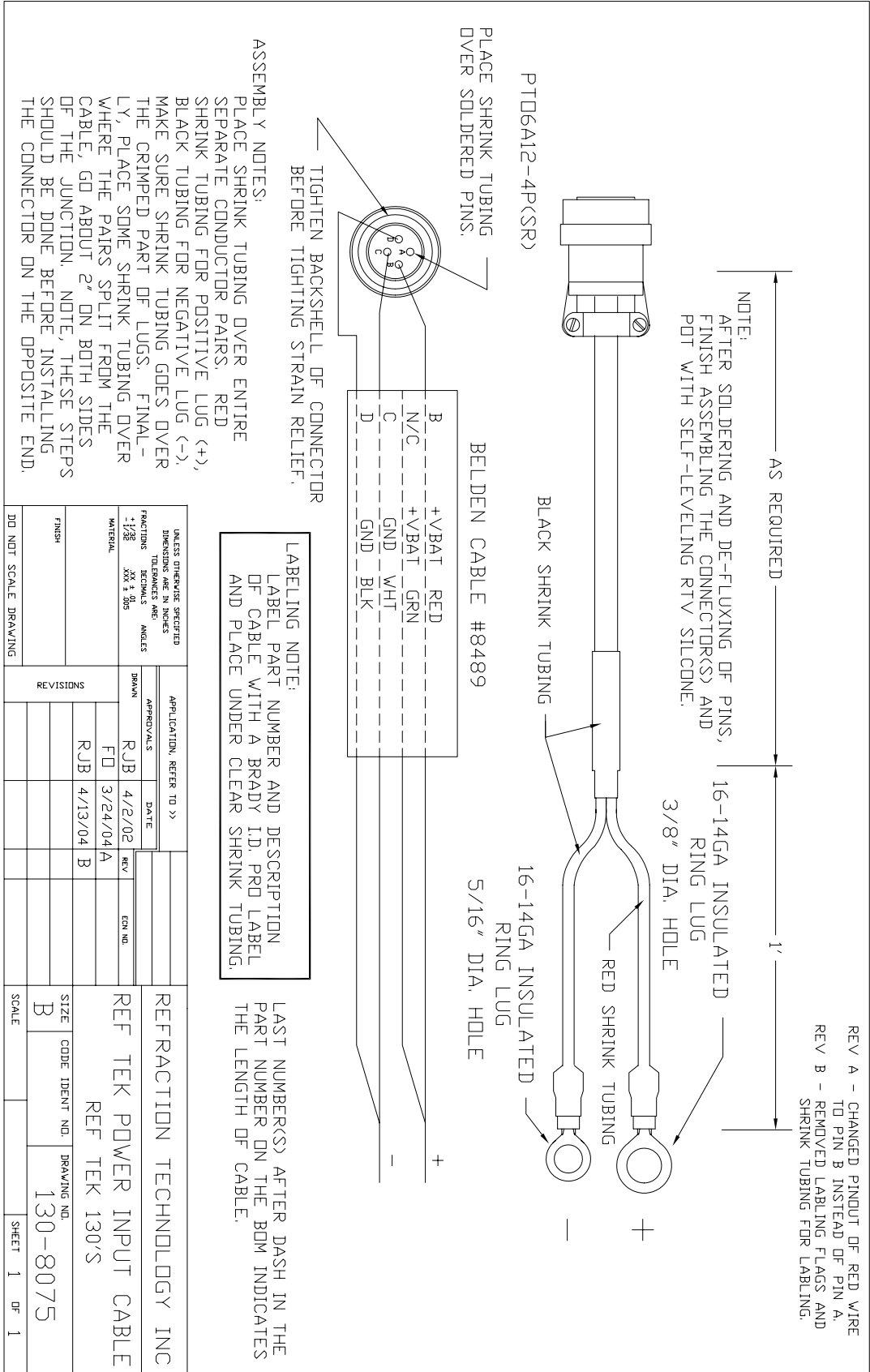


Figure 1 - 18 130-8075 - Power Input Cable

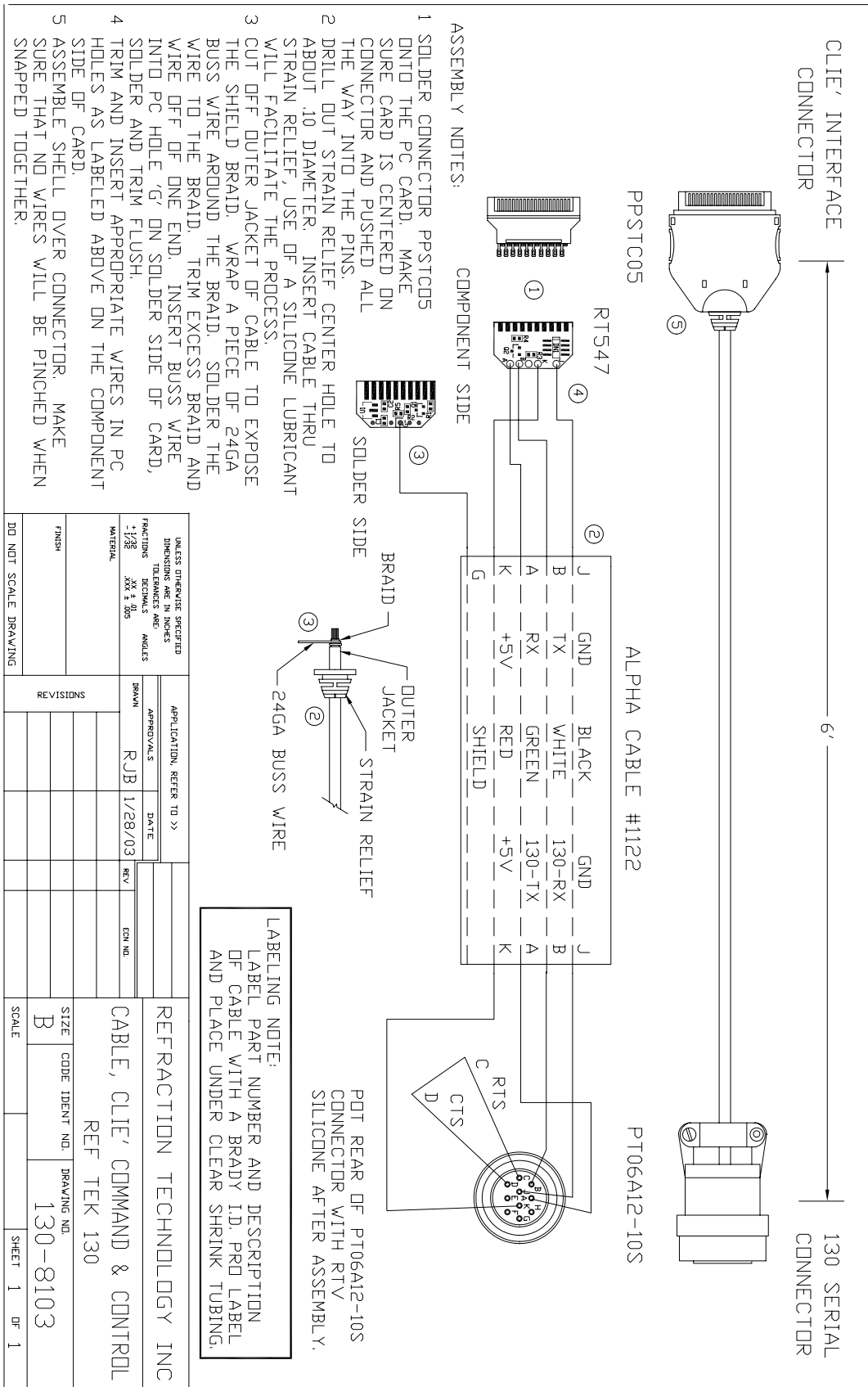


Figure 1 - 19 130-8103 - CLIE' Command and Control

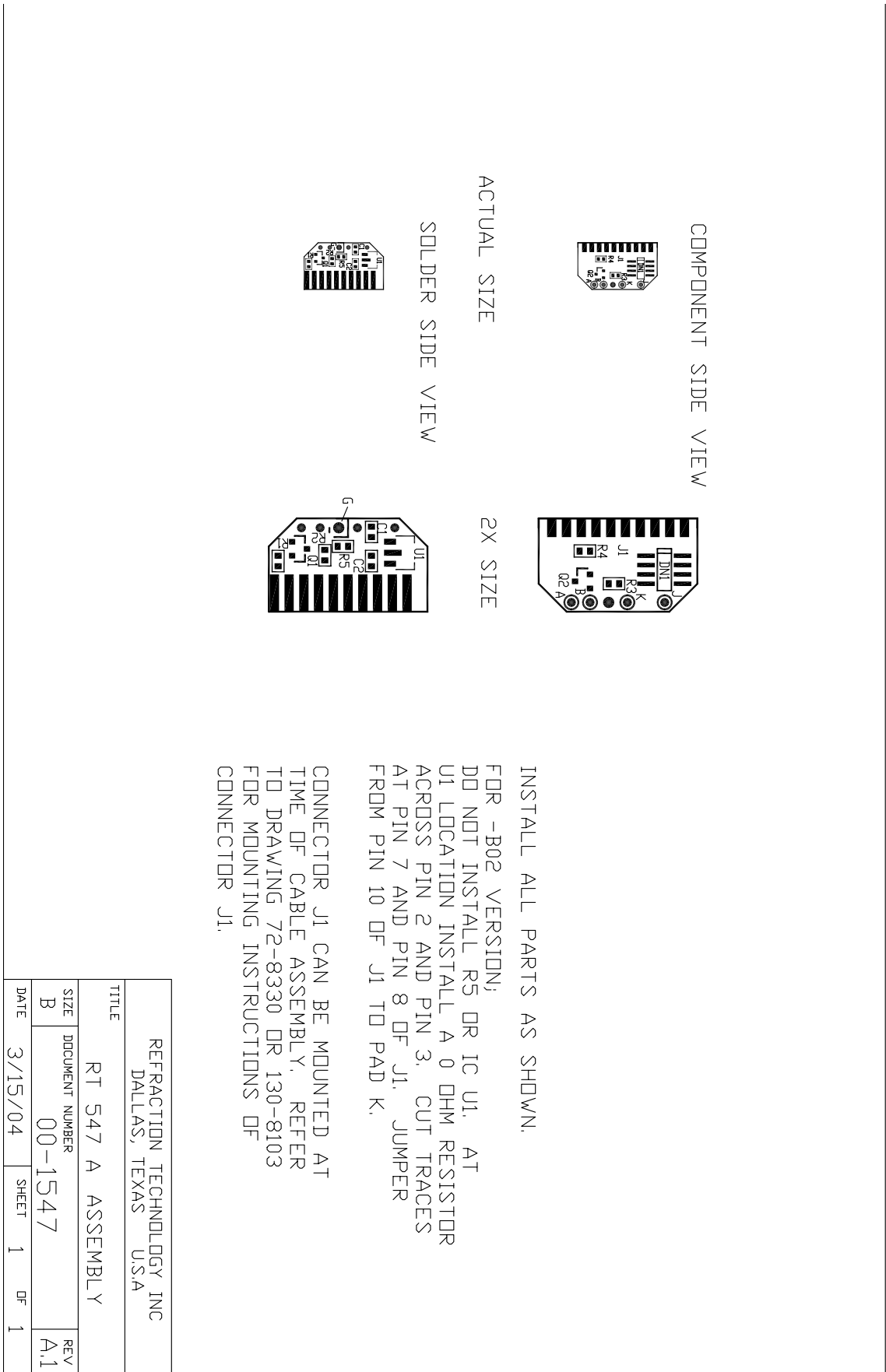
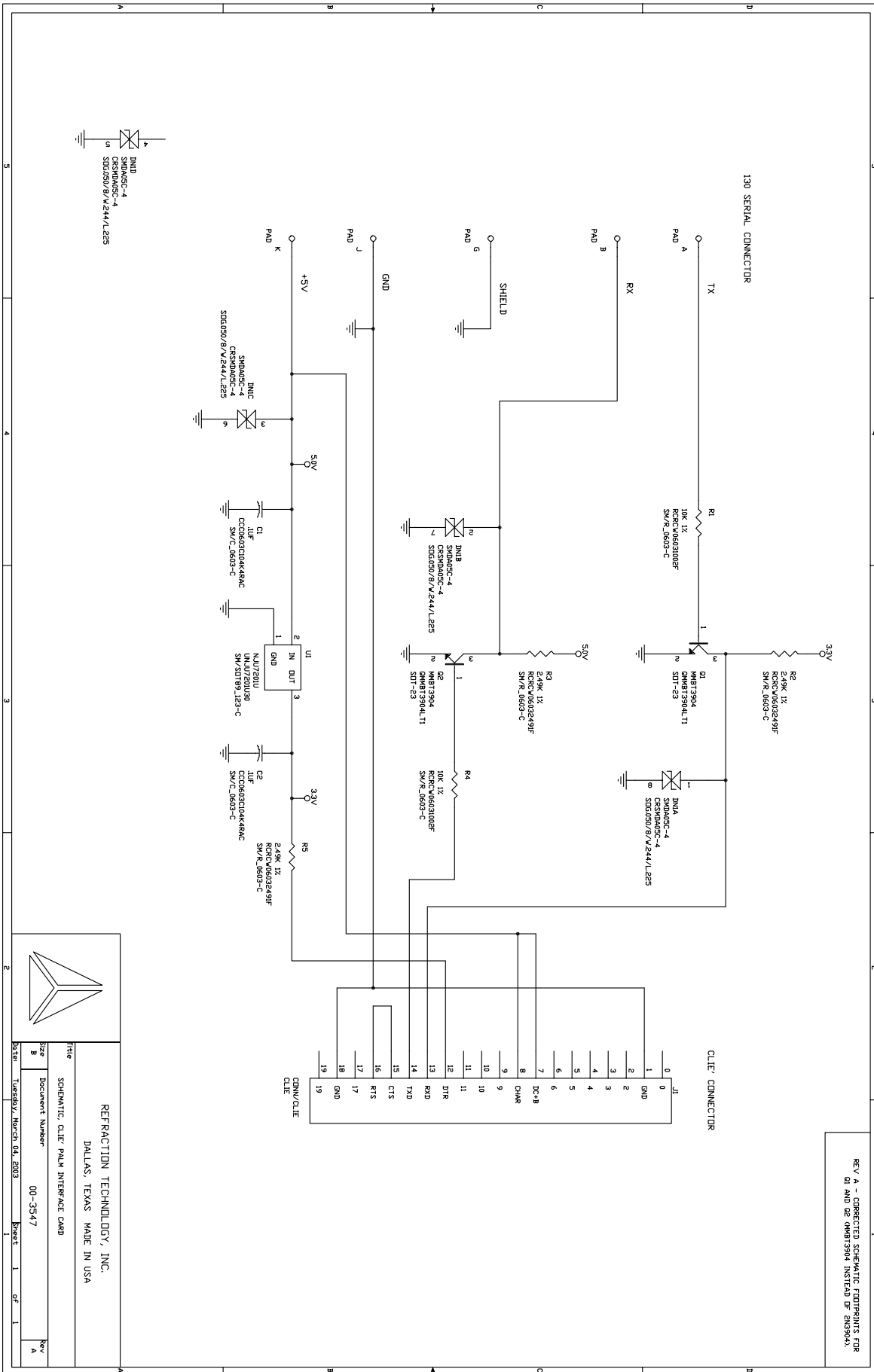


Figure 1 - 20 RT547 CLEA' board



**REFRACTION TECHNOLOGY, INC.**  
DALLAS, TEXAS MADE IN USA

SCHEMATIC CLEF PALM INTERFACE CARD

Document Number: 00-3547

Revision: A

Sheet 1 of 1

Date: Thursday, March 04, 2003

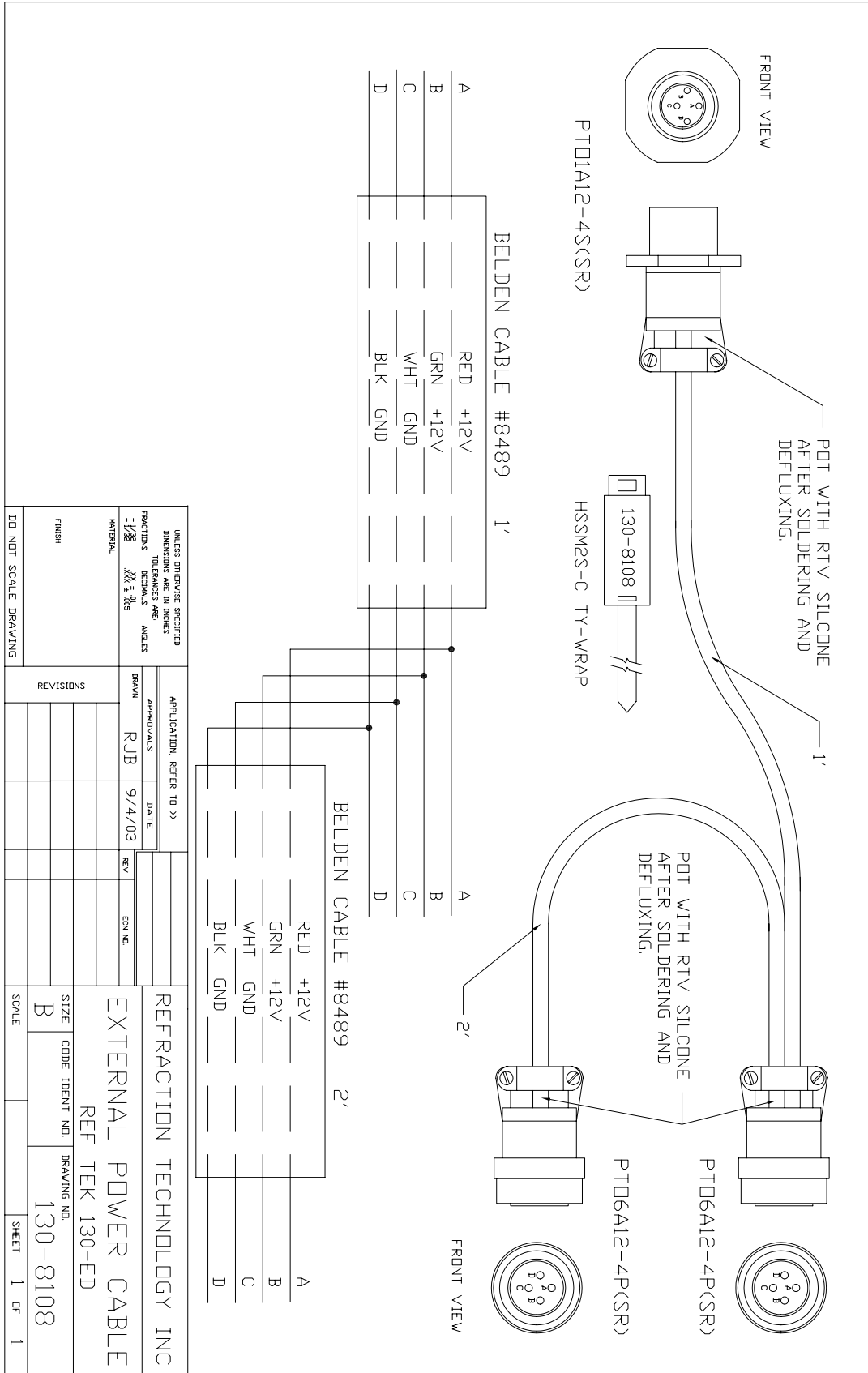


Figure 1 - 21 130-8108 - External Power Cable

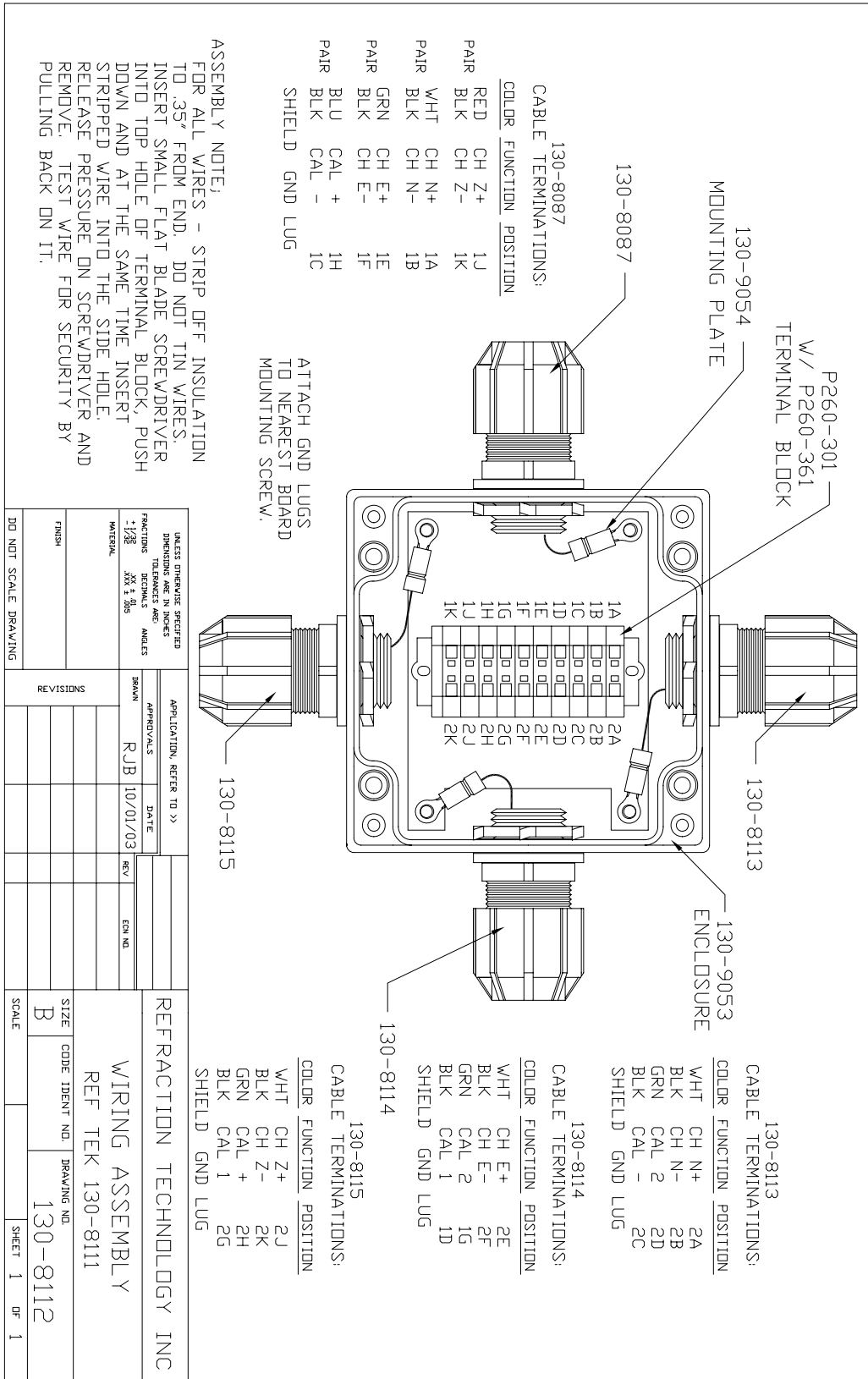


Figure 1 - 22 130-8111 S-13 Splitter Box



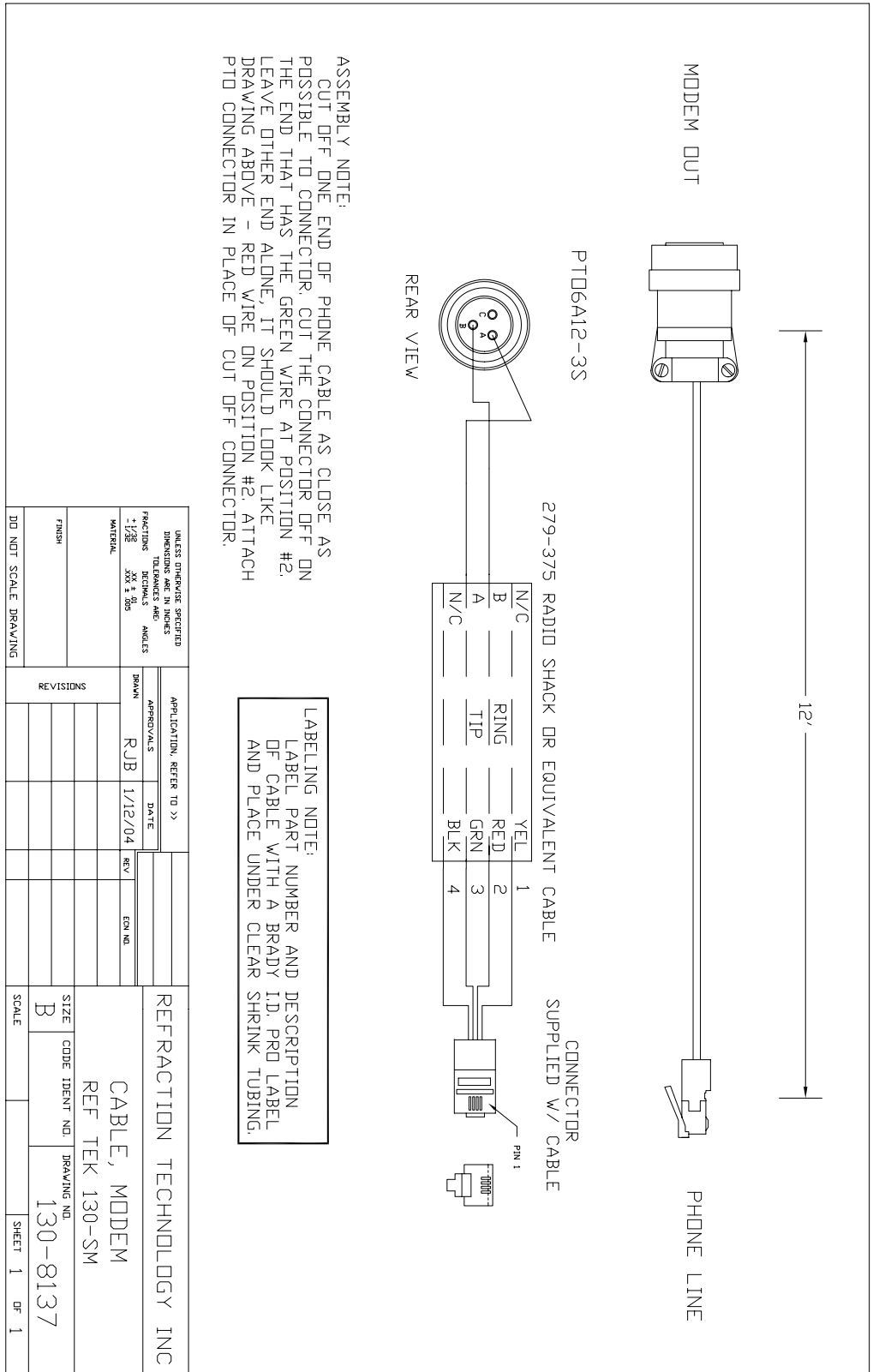


Figure 1 - 23 130-8137 130-SM Modem

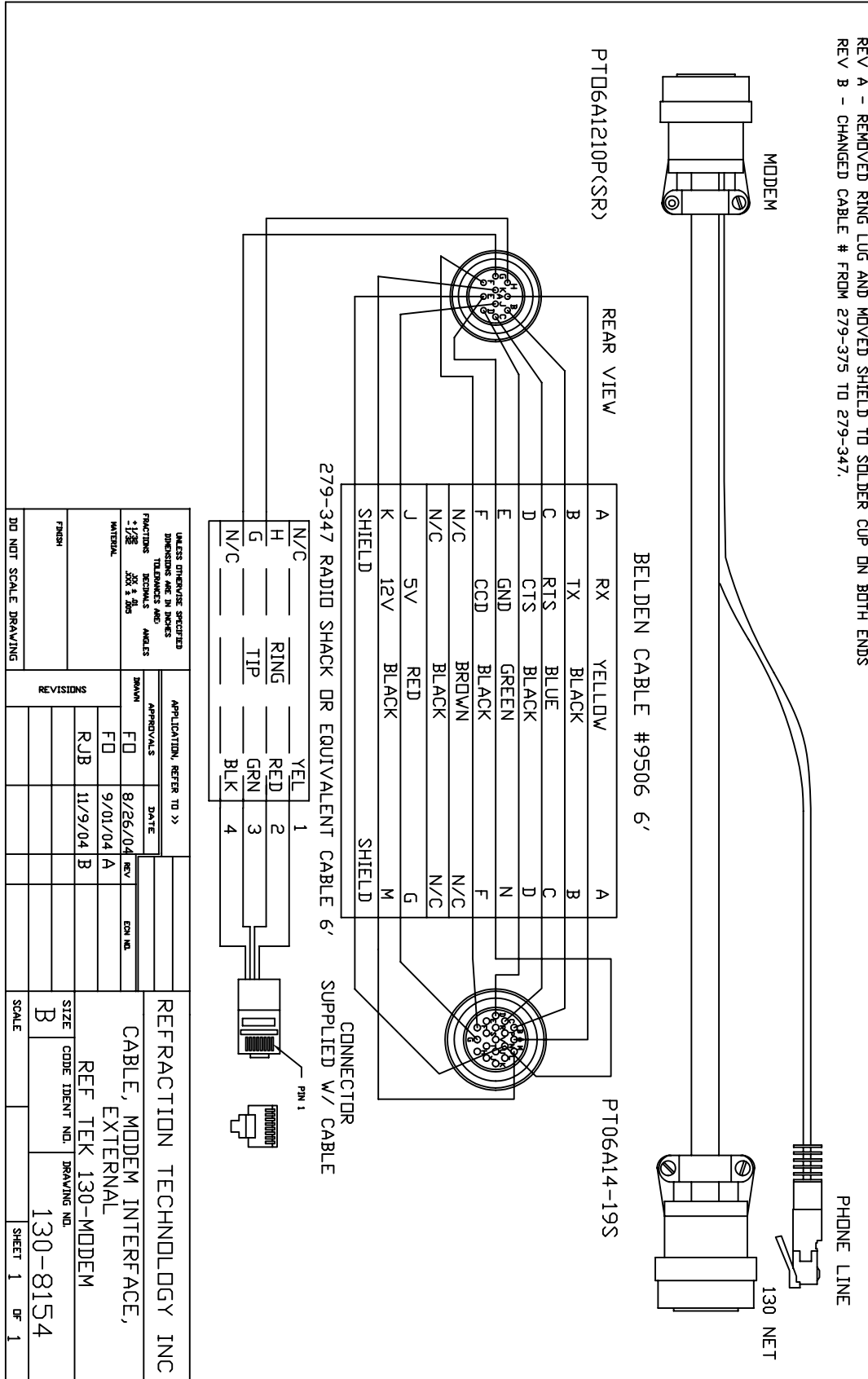


Figure 1 - 24 130-8154 130-Modem cable

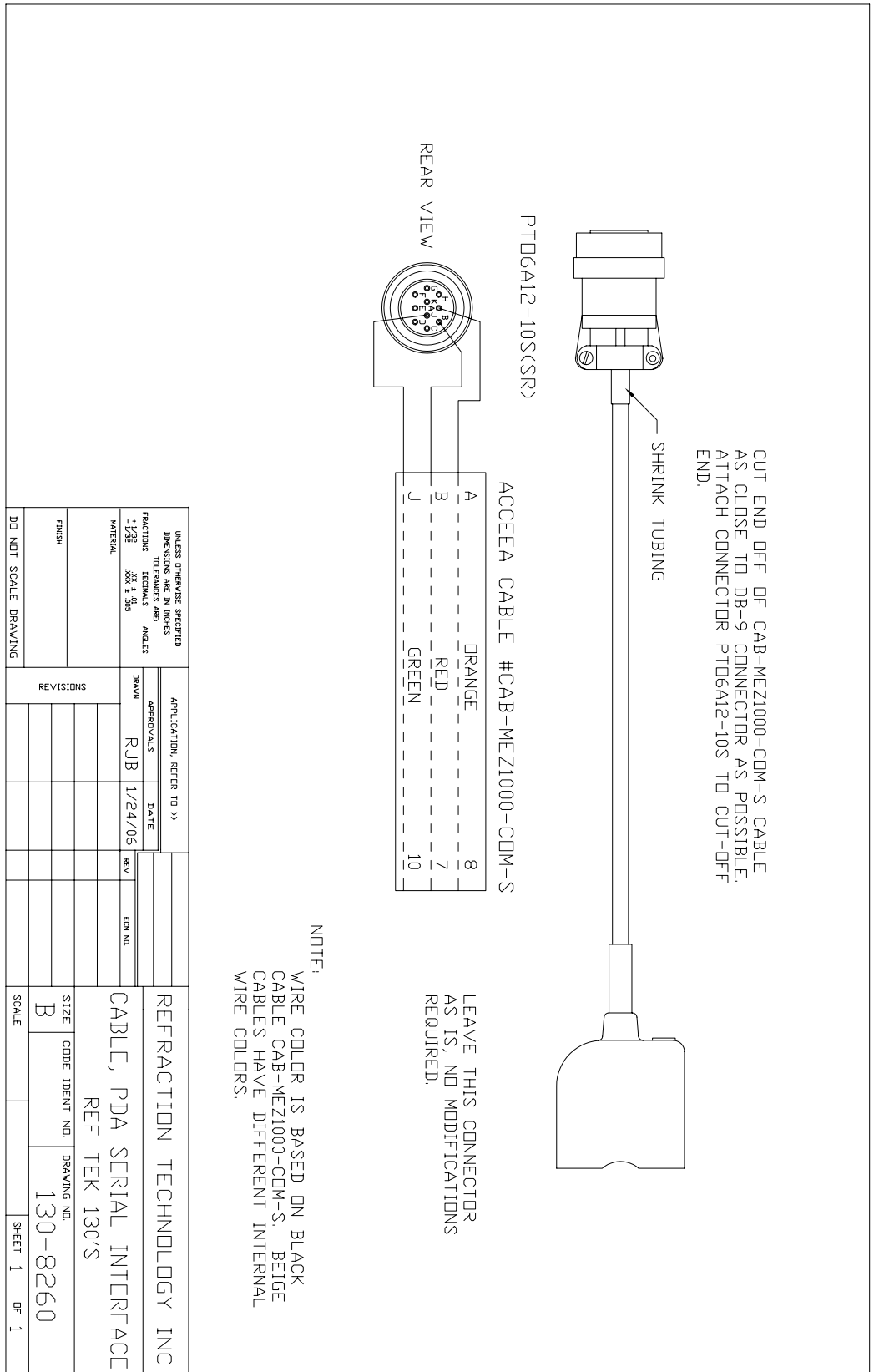


Figure 1 - 25 130-8260 Ruggedized Palm cable

# 1.3 Seismometer Cables

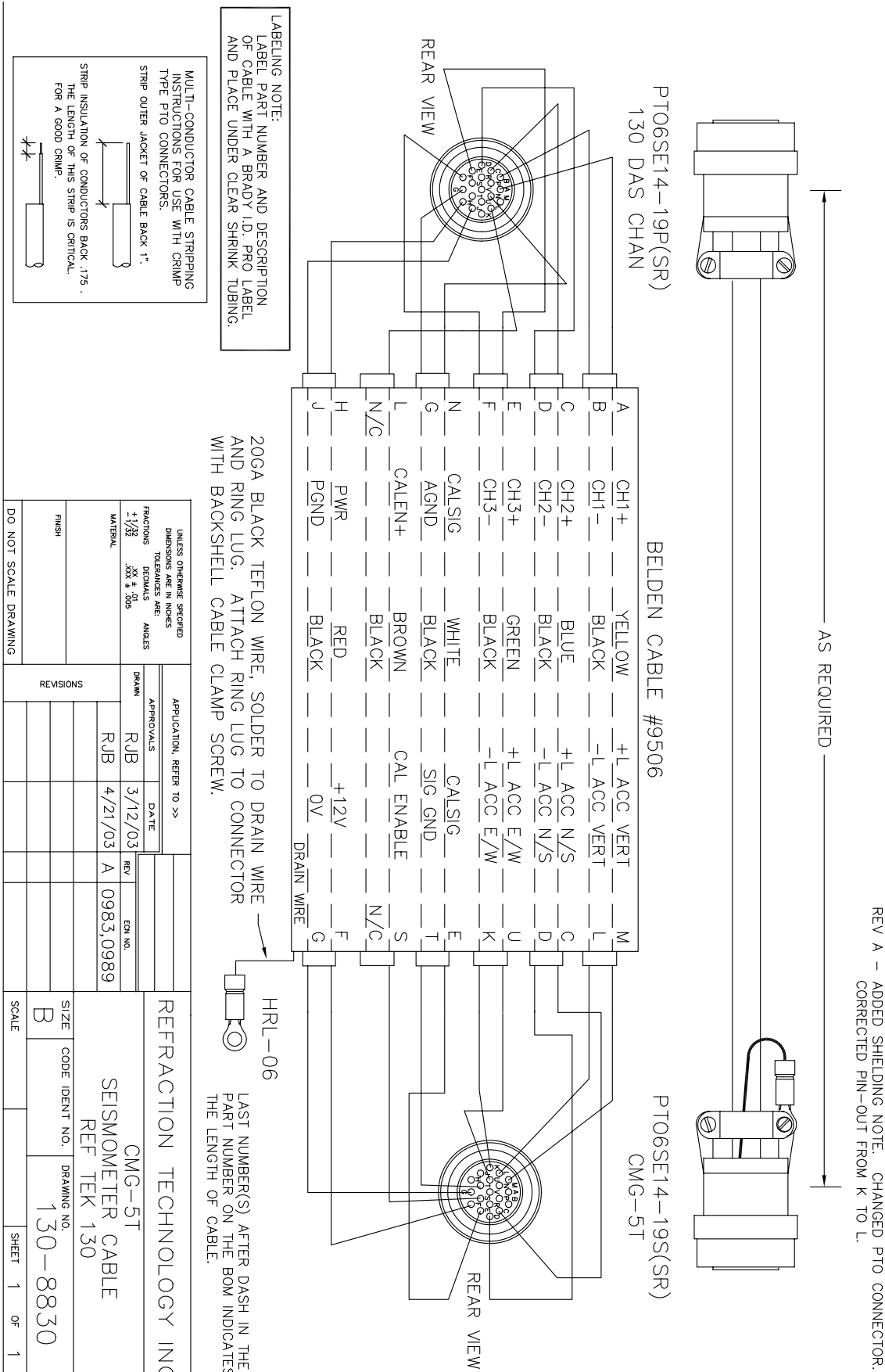


Figure 1 - 26 130-8830 - CMG-5T Seismometer Cable



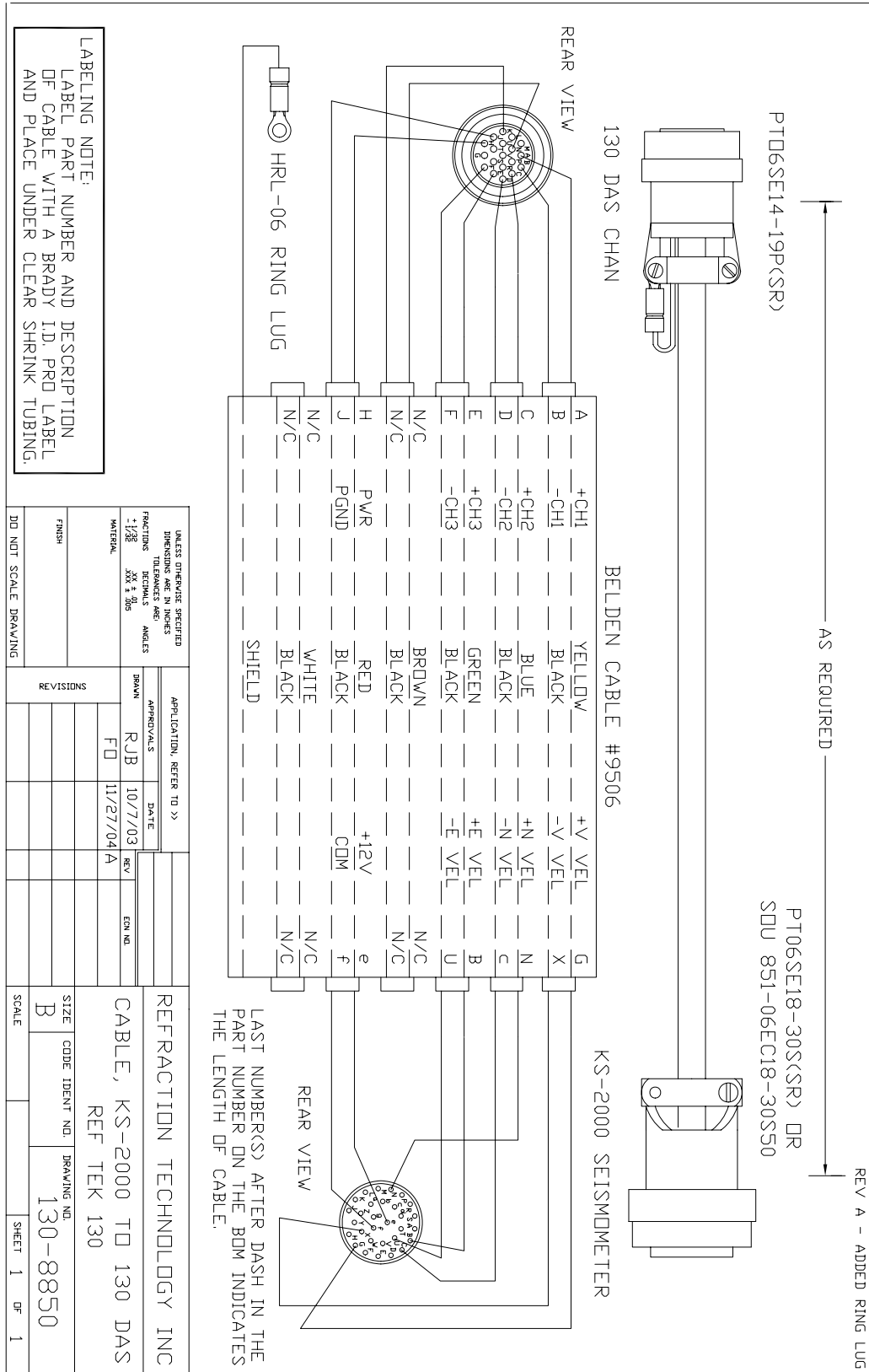


Figure 1 - 28 130-8850 KS-2000 Sensor cable

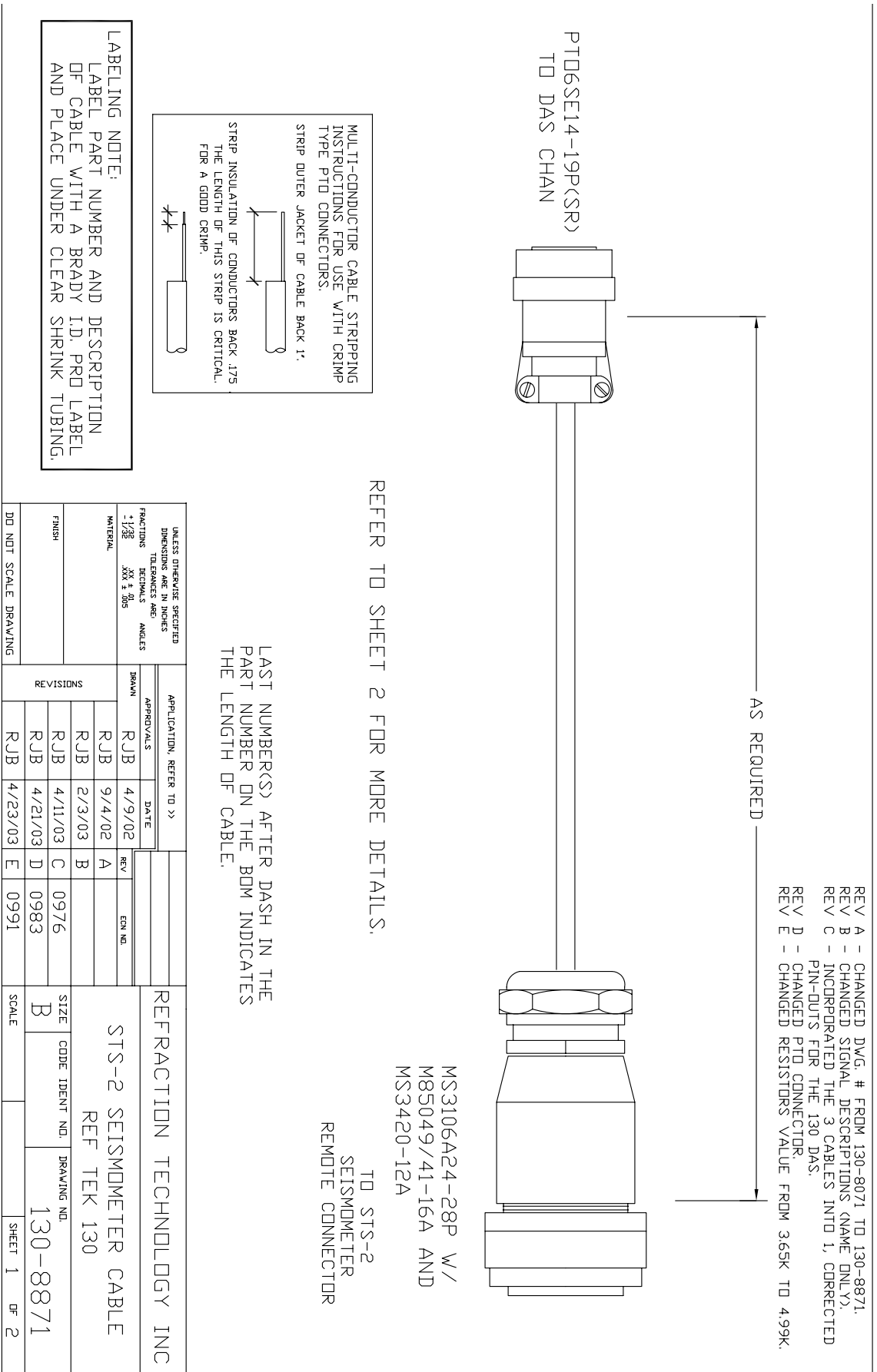
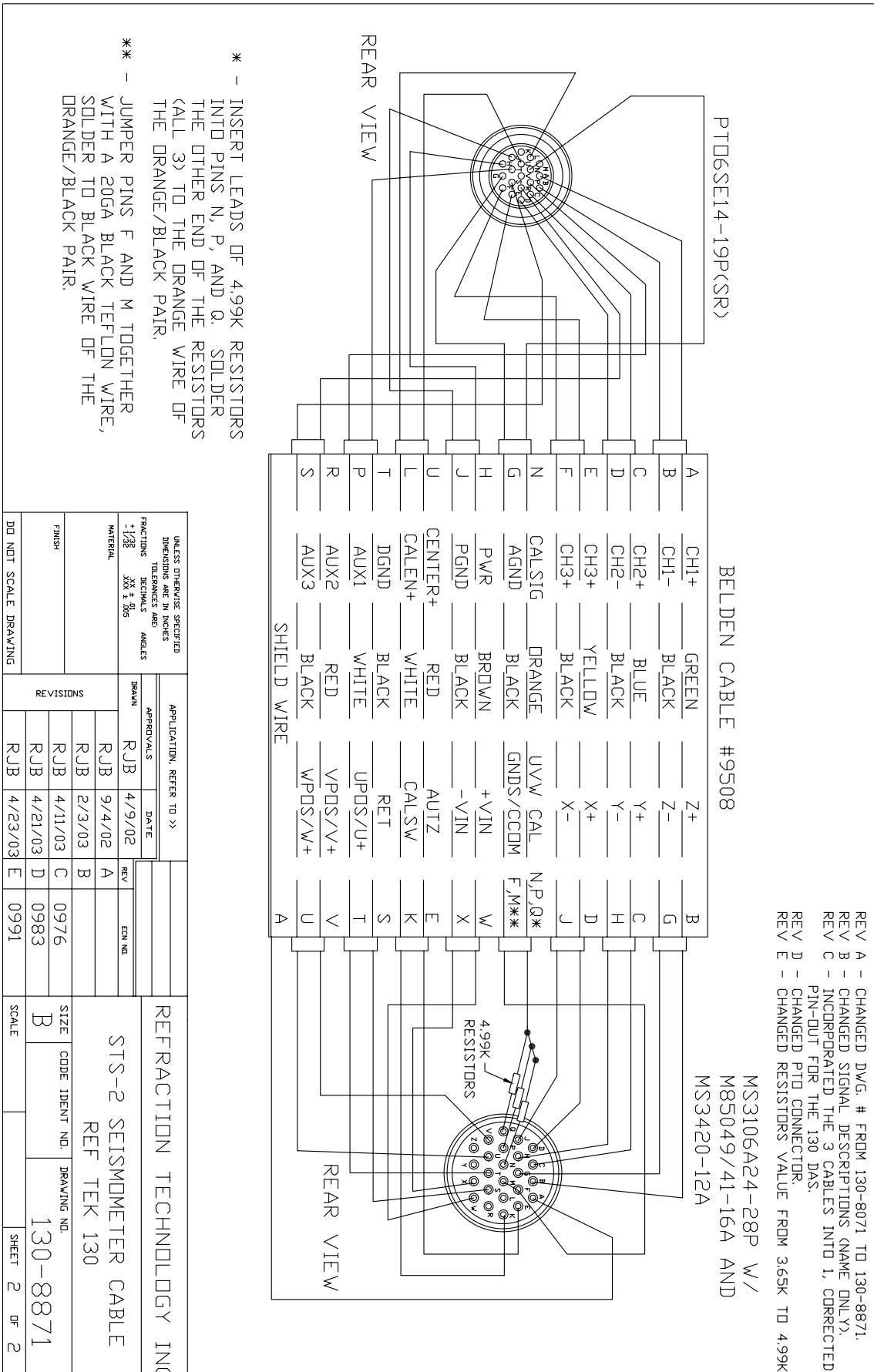


Figure 1 - 29 130-8871 - STS-2 Seismometer



REV A - CHANGED DWG. # FROM 130-8871 TO 130-8871.  
 REV B - CHANGED SIGNAL DESCRIPTIONS (NAME ONLY).  
 REV C - INCORPORATED THE 3 CABLES INTO 1, CORRECTED  
 PIN-OUT FOR THE 130 DAS.  
 REV D - CHANGED PTD CONNECTOR.  
 REV E - CHANGED RESISTORS VALUE FROM 365K TO 4.99K.

\* - INSERT LEADS OF 4.99K RESISTORS INTO PINS N, P, AND Q. SOLDER THE OTHER END OF THE RESISTORS (CALL 3) TO THE ORANGE WIRE OF THE ORANGE/BLACK PAIR.

\*\* - JUMPER PINS F AND M TOGETHER WITH A 20GA BLACK TEFLON WIRE, SOLDER TO BLACK WIRE OF THE ORANGE/BLACK PAIR.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS DECIMALS ANGLES		APPLICATION, REFER TO >>		REV		ECON NO		REFRACTION TECHNOLOGY INC	
MATERIAL	FINISH	APPROVALS	DATE	REV	ECON NO	SIZE	CODE IDENT NO.	DRAWING NO.	SHEET
1/28 XXX ± .005		RJB	4/9/02	A		B		130-8871	2
		RJB	9/4/02	B					
		RJB	2/3/03	C					
		RJB	4/11/03	D					
		RJB	4/21/03	E					
		RJB	4/23/03		0991				

Figure 1 - 30 130-8871 - STS-2 Seismometer wire list



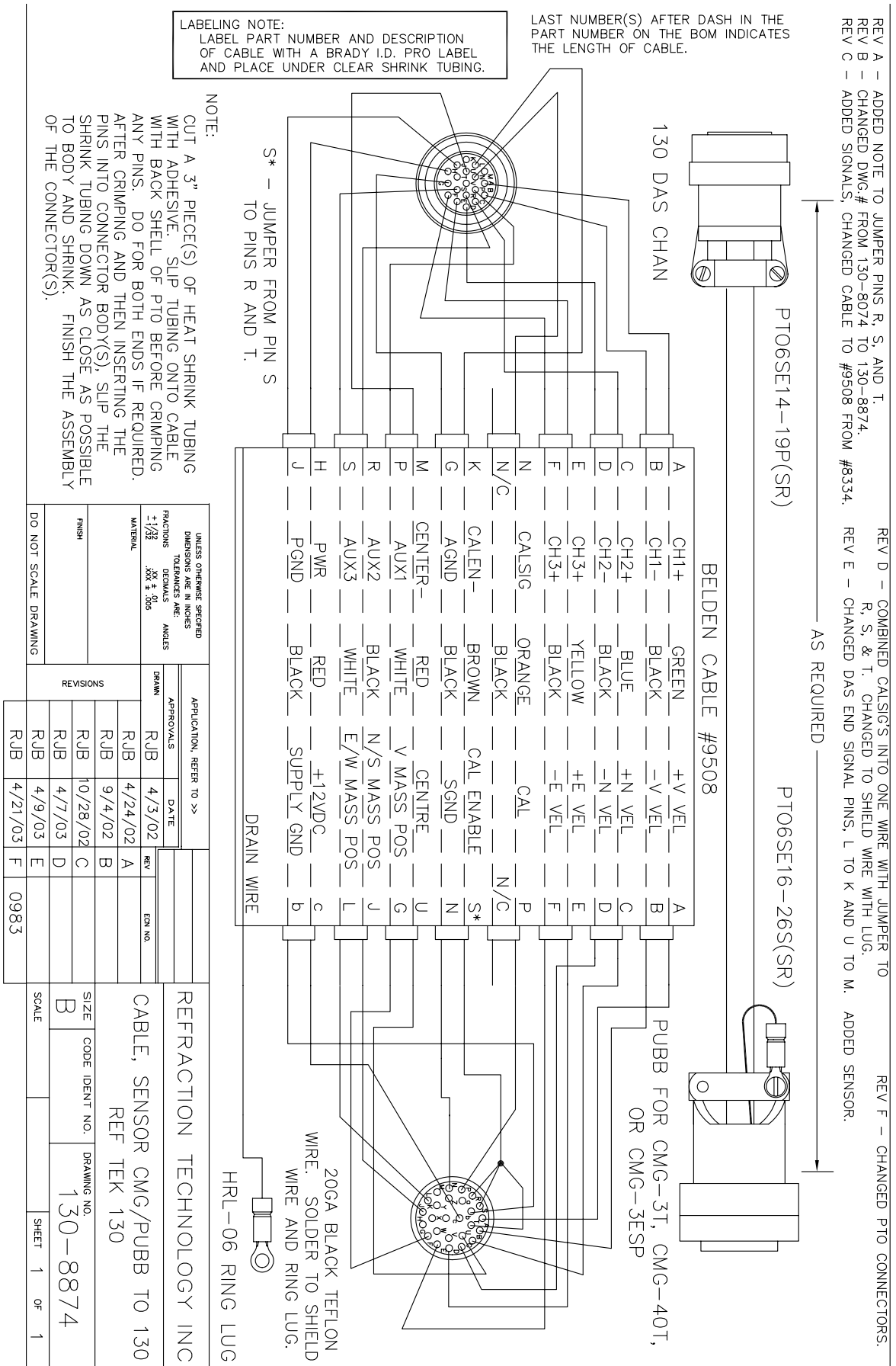


Figure 1 - 31 130-8874 - Sensor CMG/PUBB to 130

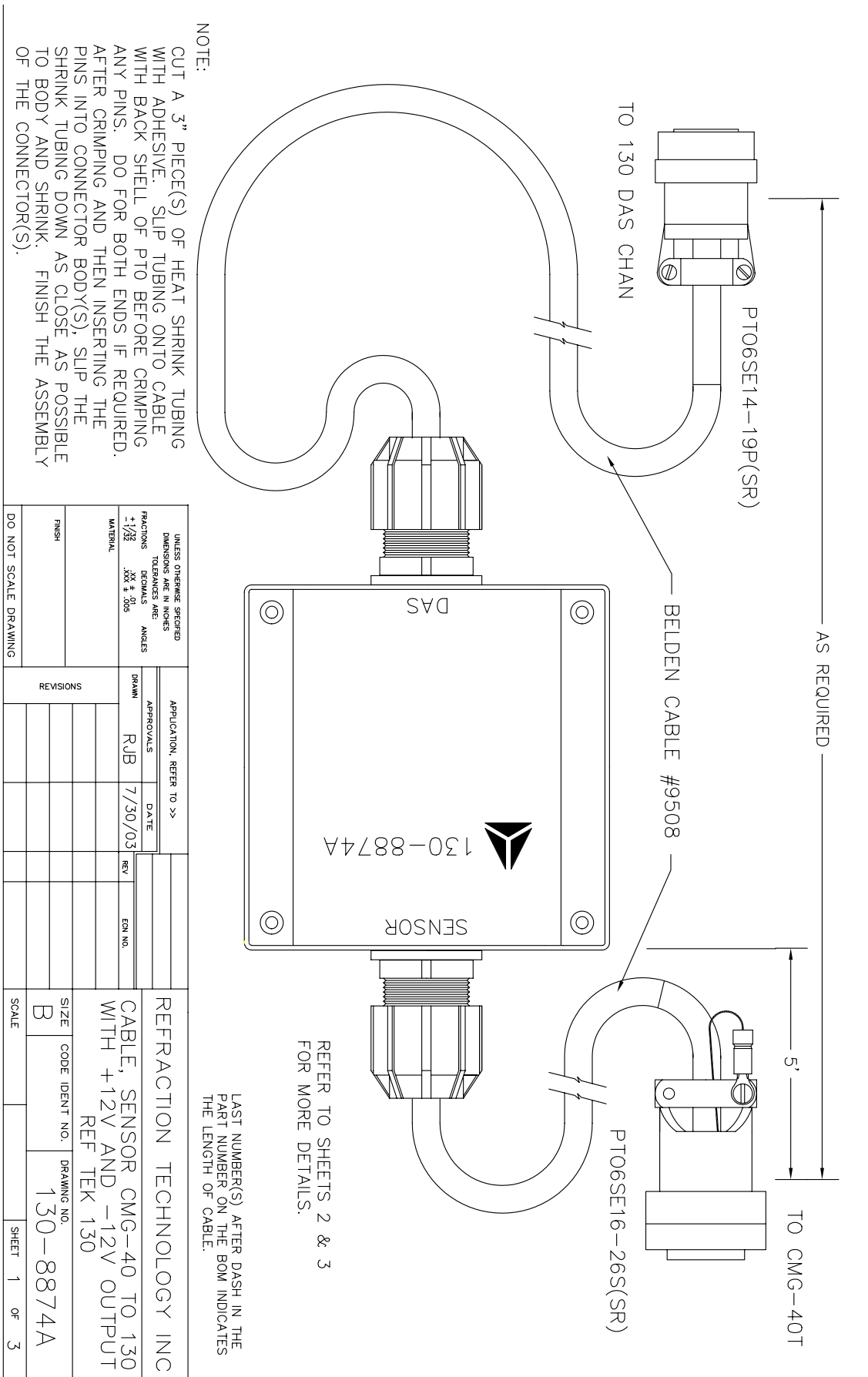


Figure 1 - 32 130-8874A - Sensor CMG-40 to 130 with +12

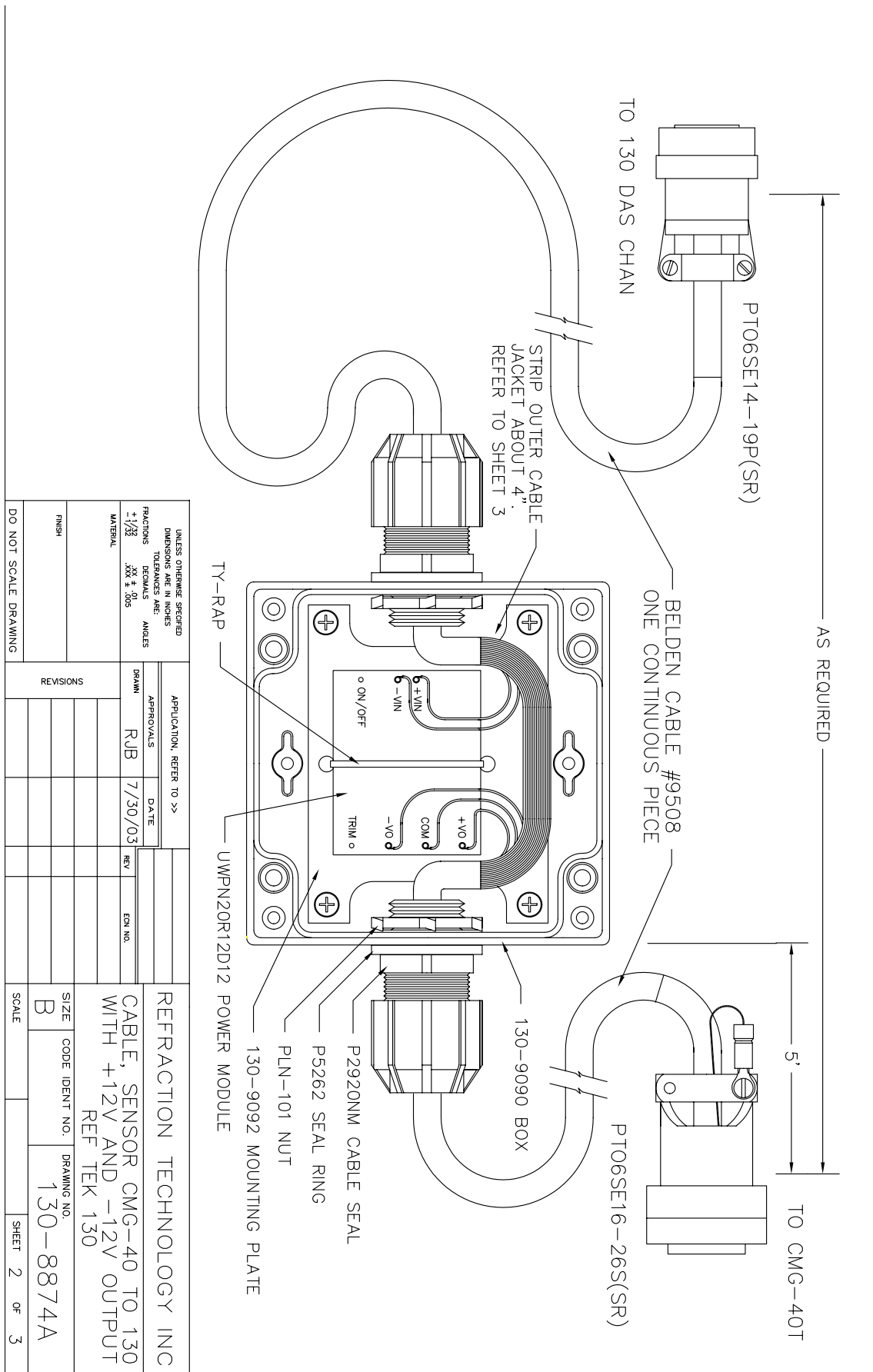
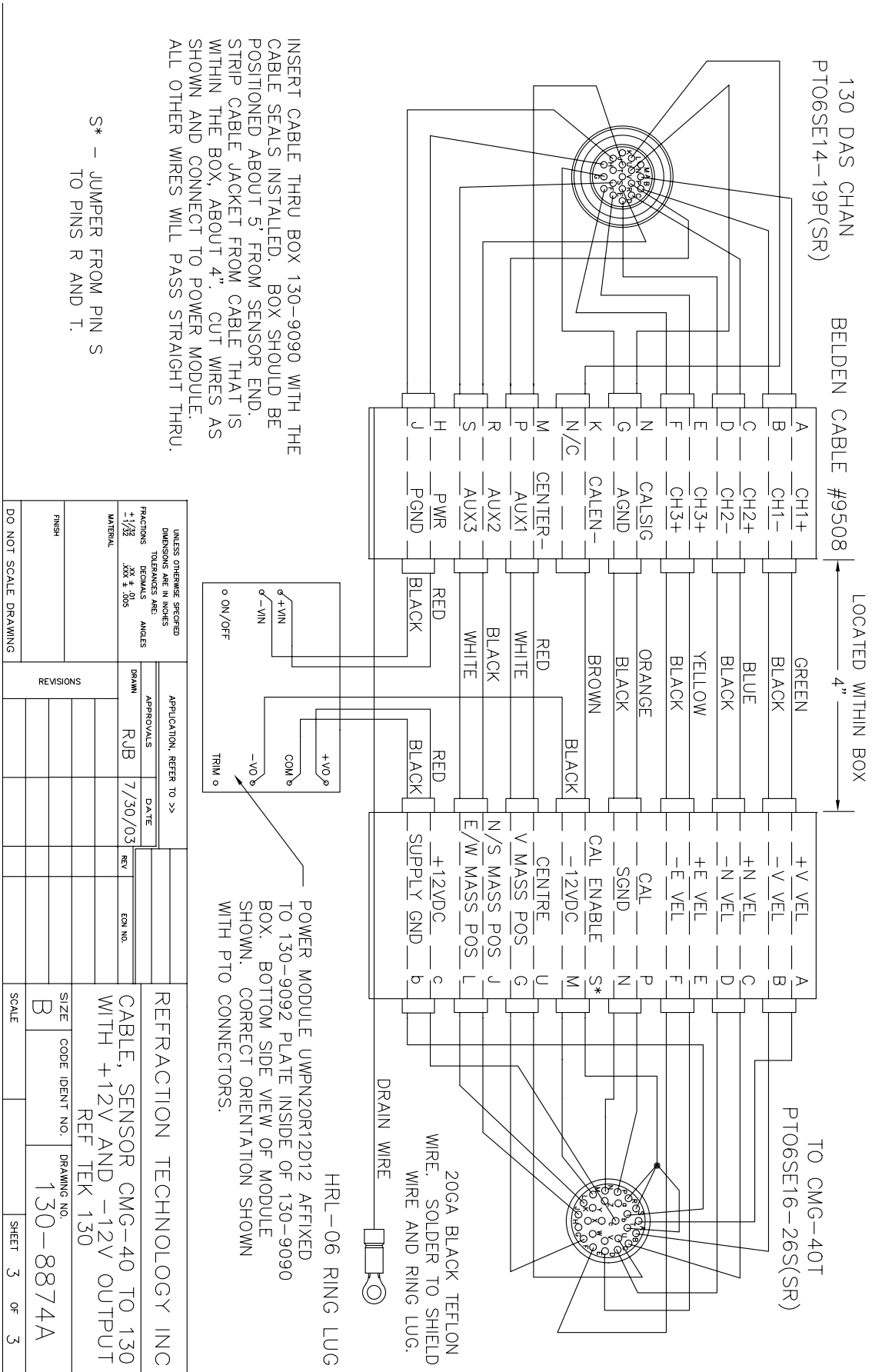


Figure 1 - 33 130-8874A - CMG-40 to 130 (Sheet 2 of 3)



S\* - JUMPER FROM PIN S TO PINS R AND T.

INSERT CABLE THRU BOX 130-9090 WITH THE CABLE SEALS INSTALLED. BOX SHOULD BE POSITIONED ABOUT 5" FROM SENSOR END. STRIP CABLE JACKET FROM CABLE THAT IS WITHIN THE BOX, ABOUT 4". CUT WIRES AS SHOWN AND CONNECT TO POWER MODULE. ALL OTHER WIRES WILL PASS STRAIGHT THRU.

Figure 1 - 34 130-8874A - CMG-40 to 130 (Sheet 3 of 3)

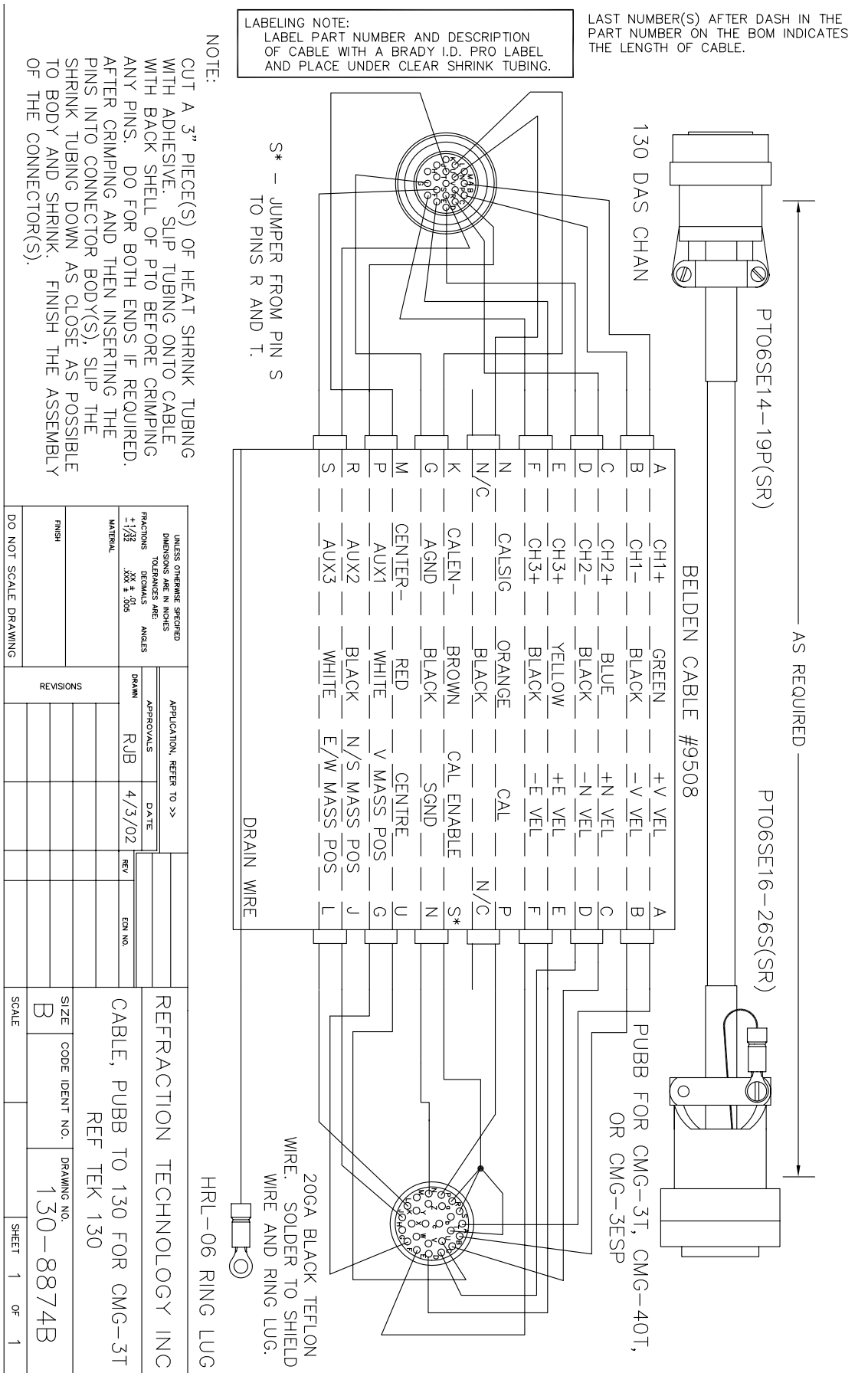


Figure 1 - 35 130-8874B - PUBB to 130 for CMG-3T

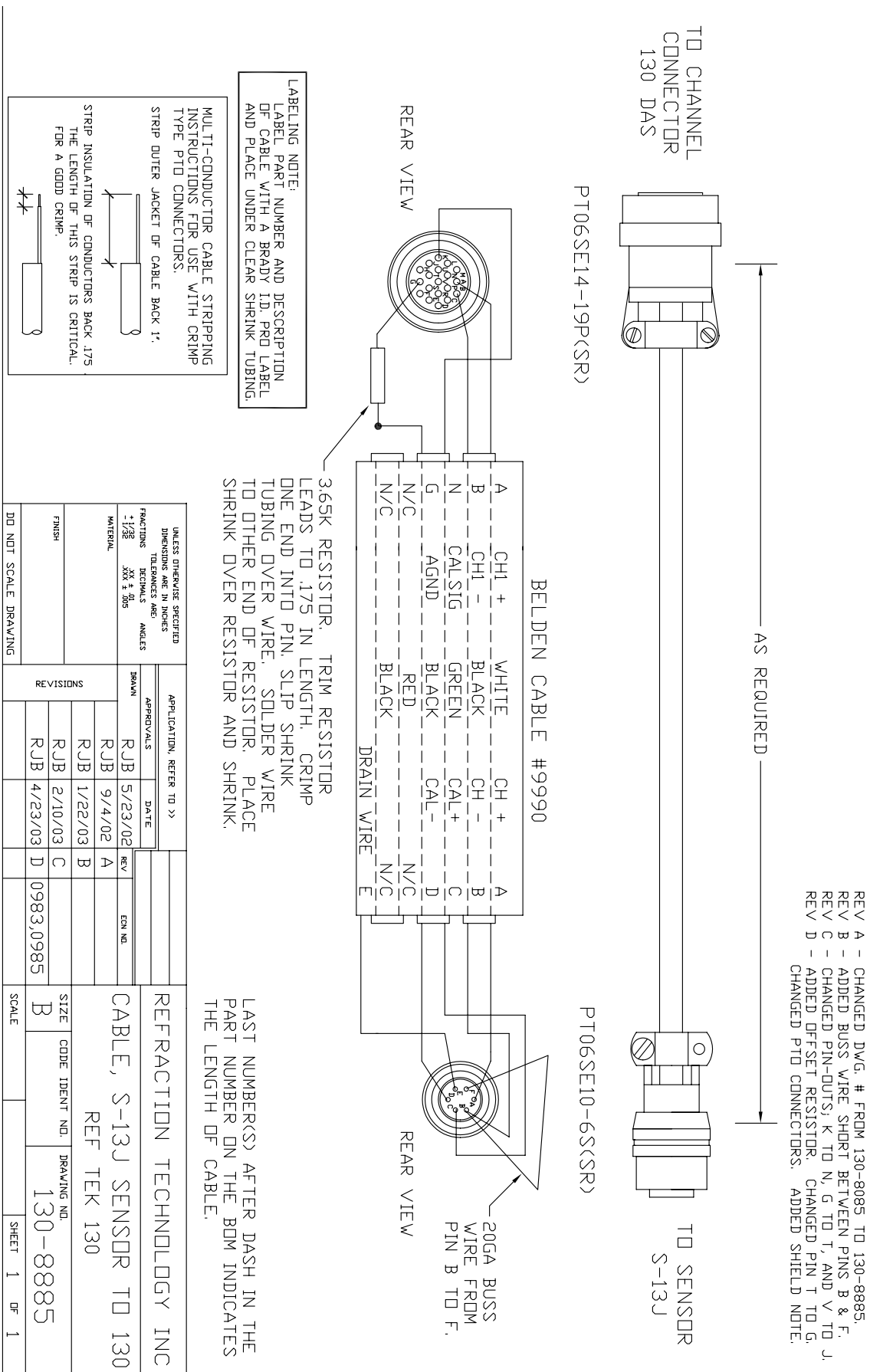


Figure 1 - 36 130-8885 - S-13J Sensor to 130

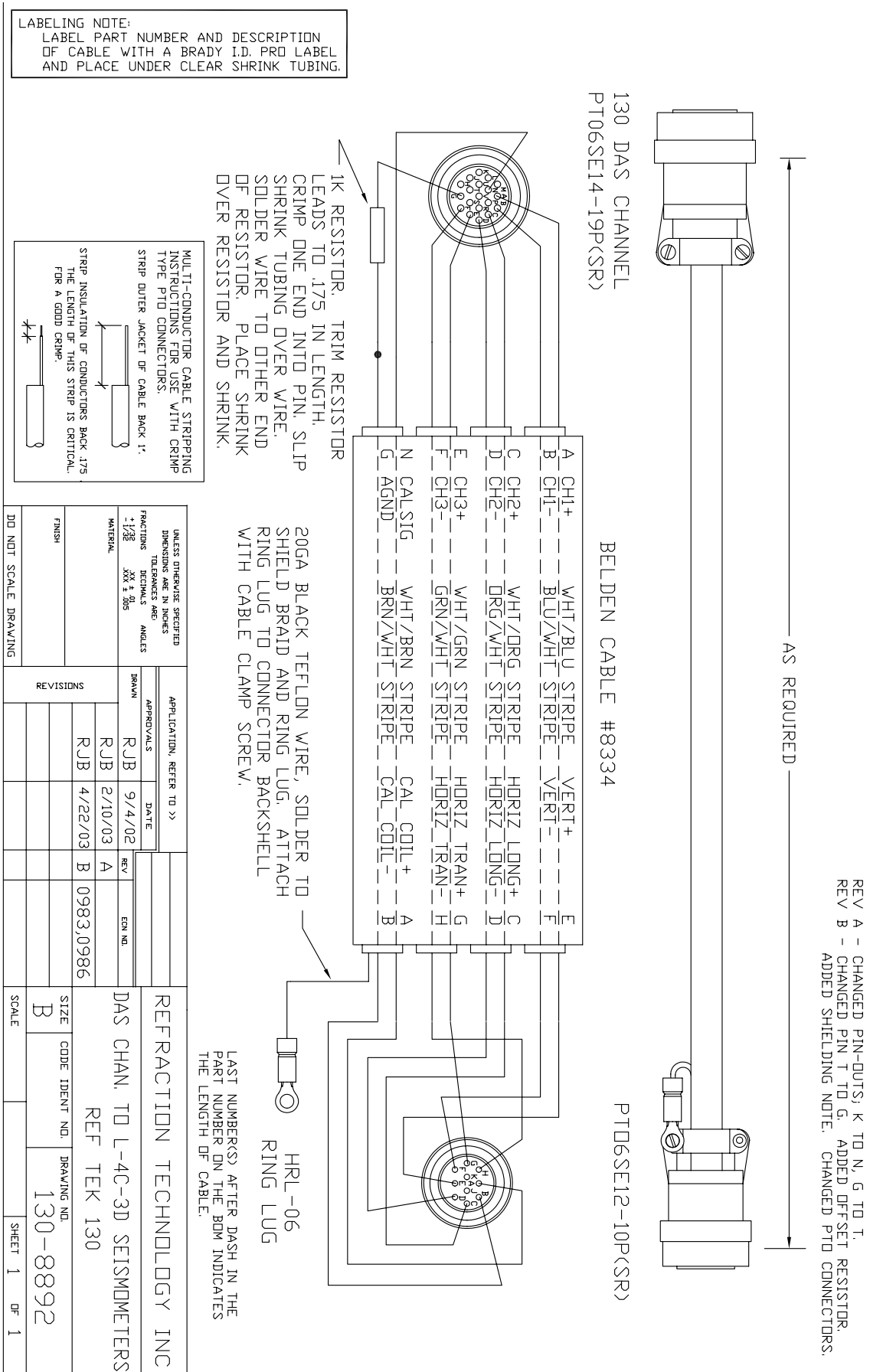


Figure 1 - 37 130-8892 - DAS to L-4C-3D Seismometer

