

WIRELIN SAFTEY SWITCH PANEL

ALS1A006

WIRELIN SELECTOR SWITCH

WIRELIN RESISTANCE TESTING

GALVOMETER FOR BLASTING CAP RESISTANCE TESTING

WIRELIN LOCK OUT KEY SWITCH



TABLE OF CONTENTS

- 1.0 INTRODUCTION
- 2.0 FEATURE DESCRIPTION
- 3.0 GENERAL SPECIFICATIONS
- 4.0 PARTS LIST
- 5.0 SCHEMATICS
- 6.0 WIRE LIST



1.0 INTRODUCTION

The purpose of this panel is to provide a safe method to prevent the accidental application of power to the wireline and a convenient method to switch between different wireline cables.

The panel provides four basic functions.

1. Safety Lockout

When the key switch is in the center (“SAFE”) position, power cannot be applied to the wireline. If the key is removed, the switch is locked into the safe position.

This prevents accidentally applying power to the wireline. When an explosive device is attached to the wireline, the key should always be in the safe position and in possession of one of the crew members working outside the unit.

2. Line Select

This feature allows the recording system to be easily connected to two different wirelines.

3. Cable Resistance / Diode Resistance Test

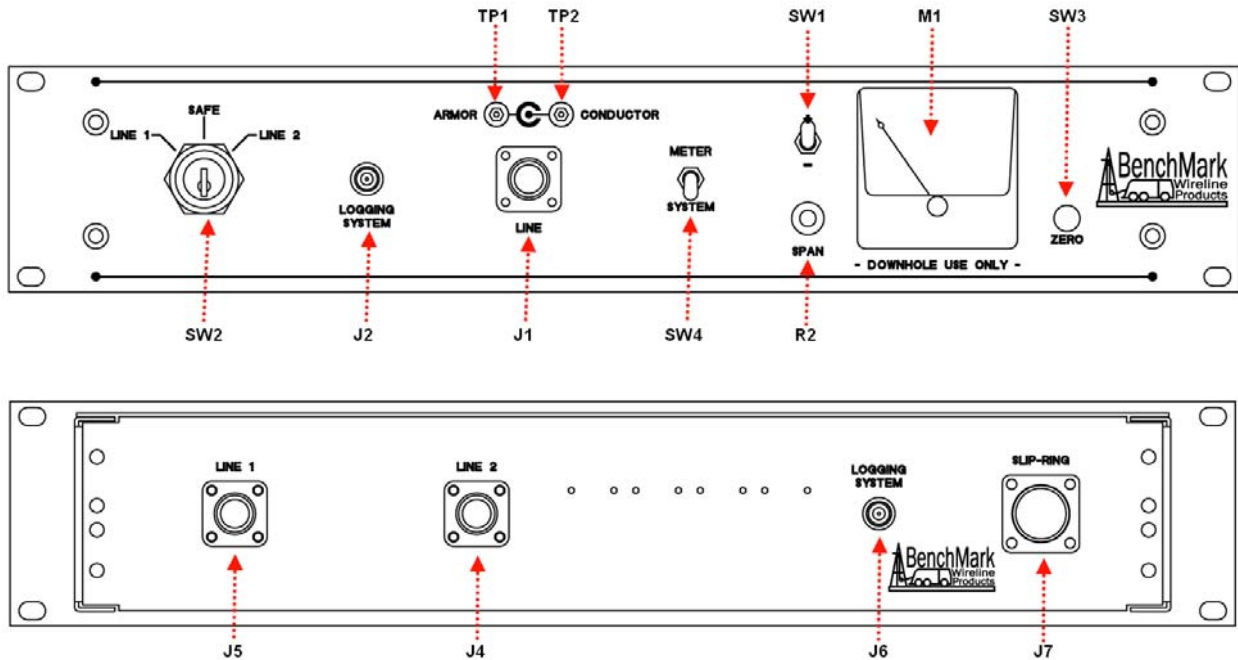
This feature provides a means to check the wireline for leakage or to check for the presence of diodes in a tool or sub connected to the wireline.

WARNING: This panel includes a current limiting test circuit to limit the current. DO NOT MODIFY OR CHANGE ANY PART OF THIS CIRCUIT

4. Cable Conductor Access

Jacks are provided on the front panel to provide easy access to the wireline. This makes it easy to test voltages or connect different equipment to the wireline.

2.0 FEATURE DESCRIPTION



SW2: This switch selects between wireline 1 and wireline 2. When the key is in the center position, both wirelines are grounded through two 10K ohm resistors connected in parallel (5k ohms). When in LINE 1 position, wireline 1 is connected through the switch to the LINE connector J1. When in LINE 2 position, wireline 2 is connected through the switch to LINE connector J1. The key can only be removed when the switch is in the safe position.

2.0 FEATURE DESCRIPTION continued

- J2:** This connector is connected to J6 on the rear panel. This provides a path for power and signal from the Logging System. When connected to J1 through a jumper cable and the key switch SW2 is in either LINE 1 or LINE 2 position, the Logging System will be connected to the wireline.
- SW4:** This switch connects the J1 (Line Connector) to the test circuit. When the key switch SW2 is in either LINE 1 or LINE 2 position, the meter will be connected to the wireline. When the key switch is in the SAFE position, J1 is isolated from the wireline.
- TP1 & TP2:** These test points provide a means to connect a test meter to the wireline or connect the wireline to another panel or service. When the key switch is in the SAFE position, these test points are isolated from the wireline.
- SW3:** This switch provides a connection to meter M1
- R2:** This potentiometer adjusts the meter span. Press and hold the ZERO button then adjust this knob until the meter reads 0. If the meter cannot be set to 0, the batteries inside the panel may need to be replaced.
- SW1:** This switch sets the meter polarity when connected to the wireline. In the + position, positive voltage will be applied to the wireline conductor through J3 and J1 and negative voltage will be applied to armor. In the – position, negative voltage will be applied to the wireline conductor through J3 and J1 and positive voltage will be applied to armor. This provides a means to test diodes. When the key switch is in the SAFE position, J1 is isolated from the wireline and no power is applied.
- M1:** This meter displays the result of the voltage test (see SW1). The meter displays the resultant reading on an ohmmeter scale. The diode symbol on the meter indicates where the needle should point when reading through a diode.
- SW3:** This push button switch connects the internal battery to the meter so the zero value can be set. Refer to R2.

2.0 FEATURE DESCRIPTION continued

J6: Logging System:

This connector is provided to connect to the cable going to the Logging System. It is also connected directly to the LOGGING SYSTEM jack on the front panel (J2).

J7: Slip Ring:

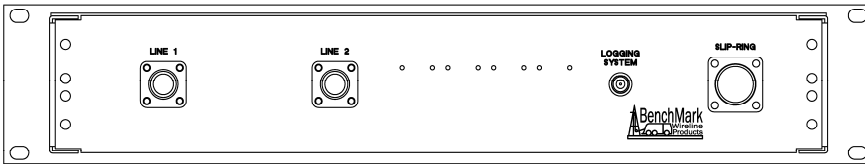
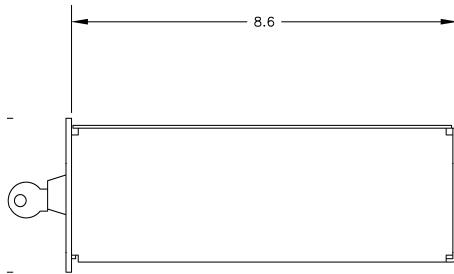
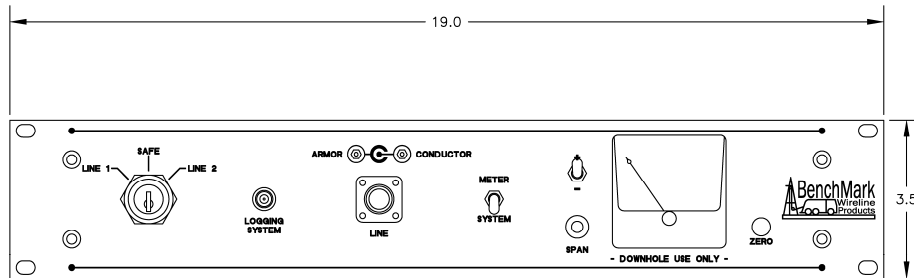
This connector is connected directly to the wireline. Line 1 is connected to Pins A (conductor) and D (armor). Line 2 is connected to Pins B (conductor) and E (armor).

J4: Line 1: Line 1 is connected to the Line 1 position on SW2.

J5: Line 2: Line 2 is connected to the Line 2 position on SW2

3.0 GENERAL SPECIFICATIONS

Height:	3.5 in	.089 m
Width	19.0 in	.482 m
Depth:	8.6 in	.292 m
Weight:	2 lbs	.907 kg

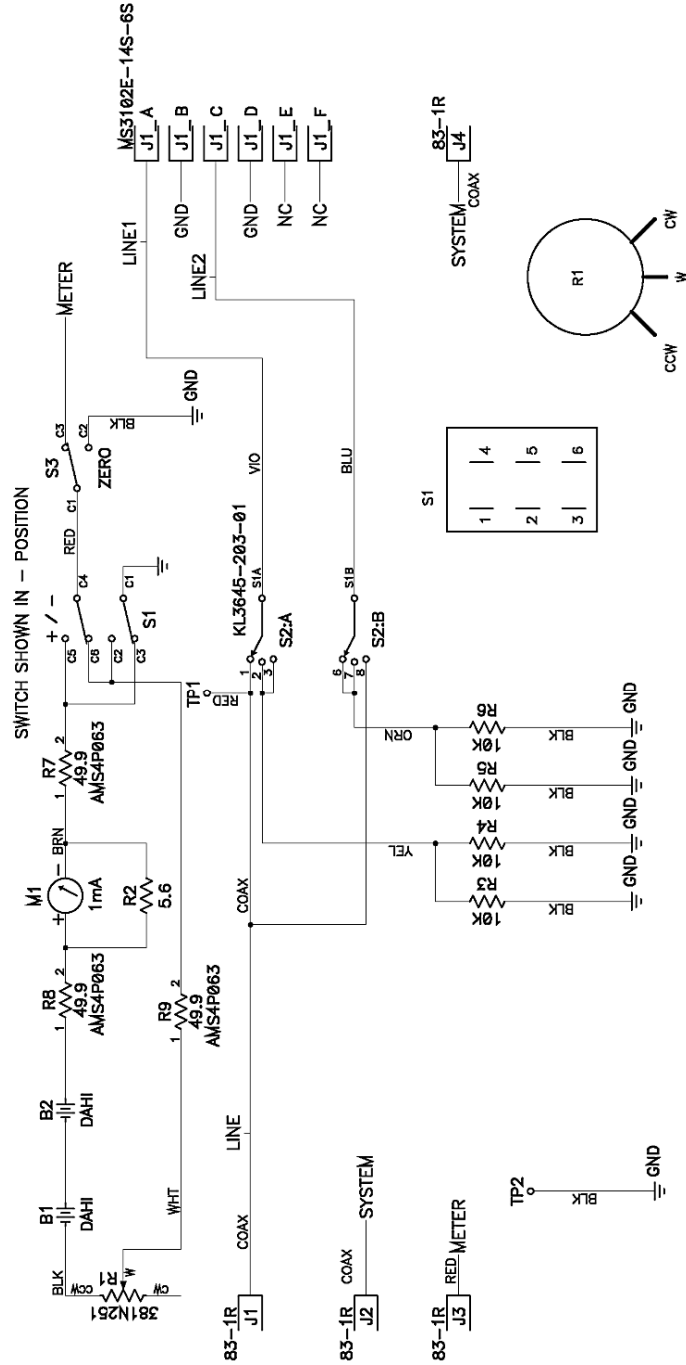


REAR VIEW

4.0 PARTS LIST

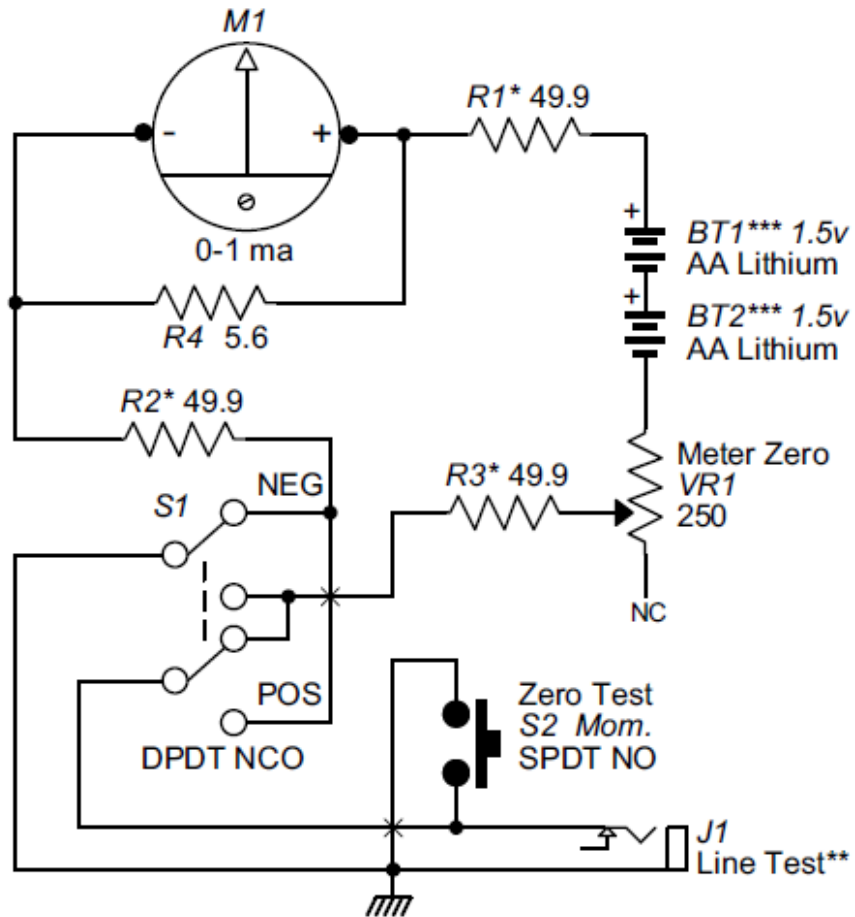
P/N	DESCRIPTION	QTY
AMS5P191	SWITCH SPDT MOM PUSHBUTTON NKK MB2011SS1W01-RO	1
ACMU1P79	CABLE COAX BELDEN 8259	0
ALS1M003	BRACKET TOP PANEL SAFETY SW	1
ALS1M021	PANEL FRONT SAFETY SWITCH 2 X SINGLE COND W/METER 2U	1
ALS1M024	PANEL REAR 3 BATT 4 CON SAFESW	1
ALS1M125	PANEL BTM 2AABATT 4 CON SAFESW	1
ALS1P003	METER 0 - 1 MA DC SIMPSON	1
ALS1P004	CONN AMP 83-1R PL259 UHF	4
ALS1P005	SWITCH KEYLOCK 3 POS COLE	1
ALS1P006	BATTERY SILVER CHLORIDE	2
ALS1P007	CHASSIS 3.50 X 19.0 X 8.50 AL	1
ALS1P008	COVER CHASSIS 19.0 X 8.50DP AL	1
ALS1P011	POT 250 OHM CLAROSTAT 381N250	1
ALS1P012	SWITCH DPDT TOGGLE PNL MNT	1
ALS1P013	JACK TIP RED STD TIP PLUG	1
ALS1P014	JACK TIP BLK STD TIP PLUG	1
ALS1P017	CLAMP LOOP RUBBER CUSHION 3/4"	4
ALS1P022	RESISTOR 10KOHM 5W WW	4
ALS1P025	SCREW 2-56 X 3/8 BINDER HD SST	8
ALS1P026	NUT 2-56 HEX MACHINE SST	8
ALS1P027	WASHER #2 FLAT SST	8
ALS1P028	WASHER #2 LOCK SST	8
ALS1P029	CONN AMP BNC FRONT MOUNT BULKHEAD RECEPTACLE 31-221-RFX	2
ALS1P039	CABLE ASSY BNC TO UHF 8 IN	1
ALS1P040	BATTERY LITHIUM AA 1.5 V	2
AM5KP102	CONN MS3106F-14S-6P	1
AMS1P054	WASHER #10 FLAT SS	6
AMS4P018	SWITCH SPDT PUSH MOM MPA-106F	1
AMS4P021	SWITCH CAP ALCO C-22 BLACK	1
AMS4P063	RESISTOR 49.9 OHM 1/8W 1%	2
AMS4P290	TERMINAL INSULATED SOLDR 6-32	2
AMS4P714	STRAP BATTERY 9V SNAP ON 6"LD KEYSTONE 2239	1
AMS4P896	RESISTOR 3.3OHM AXIAL	1
AMS4P903	SWITCH DPDT MOM NKK	1
AMS5P182	HOLDER BATT 2AA W 9V SNAP CON KEYSTONE 2474	1
AMS5P191	SWITCH SPDT MOM PUSHBUTTON	1
AMS5P192	SWITCH CAP SCREW ON BLACK NKK AT407A	1
AMS7P034	KNOB #KN500A-1/8 ALCOA	1
AMS7P041	DUST CAP MS25043-14DA RECEPT POWER IN	1
C276P027	SCREW 10-32 X 3/8 PHIL PAN SST	6
C276P035	WASHER #10 LOCK SS	6
C276P193	NUT 10-32 HEX MACHINE SST	6
C276P365	CONN MS3102E-14S-6S	1

5.0 SCHEMATICS



5.0 SCHEMATICS continued

API – 67 Approved Test Circuit



This circuit provides a current limit of 20ma.

DO NOT MODIFY OR CHANGE ANY PART OF THIS CIRCUIT

6.0 WIRE LIST

S1	KEY SWITCH
S2	MOMENTARY TOGGLE SWITCH
S3	+/- SWITCH
S4	ZERO SWITCH ON THE FRONT PANEL
M1	METER ON FRONT PANEL
TP1	RED PLUG ON FRONT PANEL
TP2	BLACK PLUG ON FRONT PANEL
B1	BATTERY 1
B2	BATTERY 2
R1	SPAN KNOB ON THE FRONT PANEL
R2	5.6 OHM RESISTOR ACROSS METER
R3	ON THE REAR PANEL
R4	ON THE REAR PANEL
R5	ON THE REAR PANEL
R6	ON THE REAR PANEL
R7	49.9 OHM RESISTOR IN HARNESS
R8	49.9 OHM RESISTOR IN HARNESS
R9	49.9 OHM RESISTOR IN HARNESS
J1	LINE 1 CONNECTOR ON THE REAR PANEL
J2	LINE 2 CONNECTOR ON THE REAR PANEL
J3	LOGGING SYSTEM CONNECTOR ON THE REAR PANEL
J4	SLIP RING CONNECTOR ON THE REAR PANEL
J5	LINE CONNECTOR FRONT PANEL
J6	LOGGING SYSTEM CONNECTOR FRONT PANEL

6.0 WIRE LIST continued

S1 - KEY SWITCH ON THE FRONT PANEL						
FROM				TO		SIGNAL NAME
S1 - C1	COAX, THIS END TIE SHIELDS TOGETHER	COAX CENTER WIRE	COAX	J4 - A	SLIP RING CONNECTOR ON THE REAR PANEL	LINE 1
S1 - C1	COAX, THIS END TIE SHIELDS TOGETHER	COAX CENTER WIRE	COAX	J1 - CENTER	LINE 1 CONNECTOR ON THE REAR PANEL	LINE 1
S1 - C2	COAX, THIS END TIE SHIELDS TOGETHER	COAX CENTER WIRE	COAX	J4 - C	SLIP RING CONNECTOR ON THE REAR PANEL	LINE 2
S1 - C2	COAX, THIS END TIE SHIELDS TOGETHER	COAX CENTER WIRE	COAX	J2 - CENTER	LINE 2 CONNECTOR ON THE REAR PANEL	LINE 2
S1 - 1	JUMPER	RED	20	S1 - 8	KEY LOCK SWITCH ON THE FRONT PANEL	LINE
S1 - 8		RED	20	TP1	TEST POINT ON THE FRONT PANEL	LINE
TP - 1	TEST POINT ON THE FRONT PANEL	COAX CENTER WIRE	COAX	S2 - 2	TOGGLE MOMENTARY SWITCH ON THE FRONT PANEL	LINE
S1 - 2	JUMPER	BLU	20	S1 - 3		LINE 1
S1 - 3		BLU	20	R3 - 1	RESISTOR ON THE REAR PANEL	LINE 1
R3 - 1		BLU	20	R4 - 1	RESISTOR ON THE REAR PANEL	LINE 1
S1 - 6	JUMPER	ORN	20	S1 - 7	KEY LOCK SWITCH ON THE FRONT PANEL	LINE 2
S1 - 7		ORN	20	R5 - 1	RESISTOR ON THE REAR PANEL	LINE 2
R5 - 1		ORN	20	R6 - 1	RESISTOR ON THE REAR PANEL	LINE 2

S2 - MOMENTARY TOGGLE SWITCH						
FROM				TO		SIGNAL NAME
S2 - 3 - NO		RED	20	S4 - NC	ZERO SWITCH ON THE FRONT PANEL	METER
S2 - 1 - NC		COAX CENTER WIRE	COAX	J5 - CENTER	LINE CONNECTOR FRONT PANEL	LINE

6.0 WIRE LIST continued

S3 - +/- SWITCH ON THE FRONT PANEL						
FROM				TO		SIGNAL NAME
S3 - A1	JUMPER	BRN	20	R9 - 2, S3 - B3	+/- SWITCH ON THE FRONT PANEL, 49.9 OHM RESISTOR IN HARNESS	METER -
S3 - A2		RED	20	S4 - C	ZERO SWITCH ON THE FRONT PANEL	METER
S3 - A3	JUMPER	WHT	20	S3 - B1, R7 - 2	+/- SWITCH ON THE FRONT PANEL, R7 IN HARNESS	
S3 - B2		BLK	20	GND BUS BAR	GND BUS BAR ON THE REAR PANEL	GND

S4 - ZERO SWITCH ON THE FRONT PANEL						
FROM				TO		SIGNAL NAME
S4 - NO		BLK	20	GND BUS BAR	GND BUS BAR ON THE REAR PANEL	GND

M1 - METER ON FRONT PANEL						
FROM				TO		SIGNAL NAME
M1 - (+)		RED LEAD	20	R8 - 2, R2 - 2	RESISTOR IN HARNESS & RESISTOR ACROSS METER	METER +

TP1 - RED PLUG ON FRONT PANEL						
FROM				TO		SIGNAL NAME

TP2 - BLACK PLUG ON FRONT PANEL						
FROM				TO		SIGNAL NAME
TP2		BLK	20	GND BUS BAR	GND BUS BAR ON THE REAR PANEL	GND

6.0 WIRE LIST continued

B1 - BATTERY 1 INSTALLED IN THE CHASSIS						
FROM				TO		SIGNAL NAME
B1 - (-)		BLK	20	R1-3CCW	SPAN KNOB ON THE FRONT PANEL	

B2 - BATTERY 2 INSTALLED IN THE CHASSIS						
FROM				TO		SIGNAL NAME
B2 - (+)		RED LEAD	20	R8 - 1	RESISTOR IN HARNESS	

R1 - SPAN KNOB ON THE FRONT PANEL						
FROM				TO		SIGNAL NAME
R1 - 2W		WHT	20	R7 - 1	RESISTOR IN HARNESS	

R3 - INSTALLED ON THE REAR PANEL						
FROM				TO		SIGNAL NAME
R3 - 2		BLK	20	GND BUS BAR	GND BUS BAR ON THE REAR PANEL	GND

R4 - INSTALLED ON THE REAR PANEL						
FROM				TO		SIGNAL NAME
R4 - 2		BLK	20	GND BUS BAR	GND BUS BAR ON THE REAR PANEL	GND

R5 - INSTALLED ON THE REAR PANEL						
FROM				TO		SIGNAL NAME
R5 - 2		BLK	20	GND BUS BAR	GND BUS BAR ON THE REAR PANEL	GND

R6 - INSTALLED ON THE REAR PANEL						
FROM				TO		SIGNAL NAME
R6 - 2		BLK	20	GND BUS BAR	GND BUS BAR ON THE REAR PANEL	GND

6.0 WIRE LIST continued

R9 - INSTALLED INSTALLED IN THE HARNESS						
R9 - 1		BLK	20	M1 - (-), R2 - 1	METER (-) AND 5.6 OHM RESISTOR ACROSS METER	METER (-)

J1 - LINE 1 CONNECTOR ON THE REAR PANEL						
FROM				TO		SIGNAL NAME
J1 - SHIELD	CONNECT THE SHIELD TO J1	COAX SHIELD		GND	GND LUG	GND

J2 - LINE 2 CONNECTOR ON THE REAR PANEL						
FROM				TO		SIGNAL NAME
J2 - SHIELD	CONNECT THE SHIELD TO J2	COAX SHIELD		GND		GND
J2 - GND LUG		BLK	20	GND BUS BAR	GND BUS BAR ON THE REAR PANEL	GND

J3 - SYSTEM CONNECTOR ON THE REAR PANEL						
FROM				TO		SIGNAL NAME
J3 - CENTER		COAX CENTER WIRE	COAX	J6 - CENTER	SYSTEM CONNECTOR ON THE FRONT PANEL	SYSTEM
J3 - SHIELD	SOLDER THE SHIELD TO THE GND LUG OF J3	COAX SHIELD	COAX	GND	GND	GND
J3 - GND LUG		BLK	20	GND BUS BAR	GND BUS BAR ON THE REAR PANEL	GND

J4 - SLIP RING CONNECTOR ON THE REAR PANEL						
FROM				TO		SIGNAL NAME
J4 - B		BLK	20	GND BUS BAR	GND BUS BAR ON THE REAR PANEL	GND
J4 - D		BLK	20	GND BUS BAR	GND BUS BAR ON THE REAR PANEL	GND

6.0 WIRE LIST continued

J5 - LINE CONNECTOR ON THE FRONT PANEL						
FROM				TO		SIGNAL NAME
J5 - SHIELD	CONNECT THE SHIELD TO J5	BLK	20	GND	GND LUG	GND
J5 - GND LUG		BLK	20	BUS BAR GND	GND BUS BAR ON THE REAR PANEL	GND

J6 - SYSTEM CONNECTOR ON THE FRONT PANEL						
FROM				TO		SIGNAL NAME
J6 - SHIELD	SOLDER THE SHIELD TO THE GND LUG OF J6	COAX SHIELD	COAX	GND	GND LUG	GND
J6 - GND LUG		BLK	20	GND BUS BAR	GND BUS BAR	GND