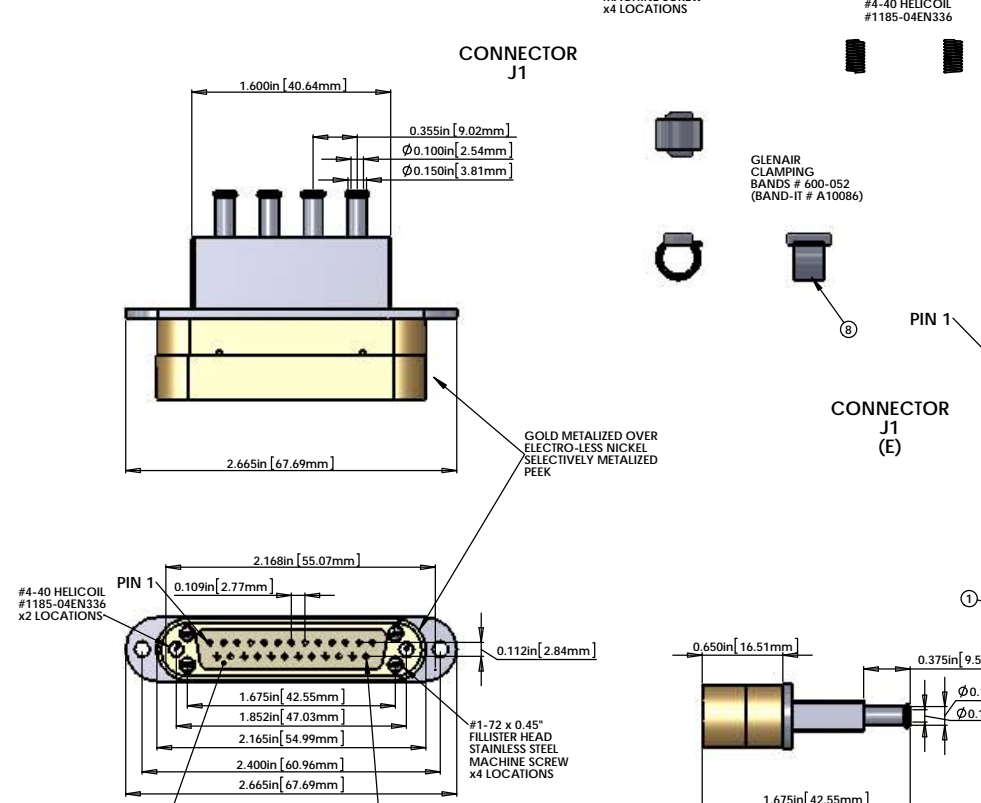


REV.	DATE	DCN #	DRAWING TREE #

- NOTES CONTINUED:**
- SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER AND REVISION ON NOTED SURFACES FOLLOWED ON THE NEXT LINE BY A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 000 FOR THE FIRST PART AND INCREASE CONSECUTIVELY. USE 07 HIGH CHARACTERS. EXAMPLE: A DXXXXXX.YY.SN.001 VIBRATORY TOOL MAY BE USED.
 - APPROXIMATE WEIGHT - XXXX LB.
 - MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH. USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED. REFER TO LIGO-E0900384.
 - ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E9000384.
 - ALL HELICOIL HOLES TO BE PREPARED ACCORDING TO EMMART HELICOIL PRODUCT CATALOG, HC1000 REV 4.
 - ALL HELICOIL INSERTS TO BE INSTALLED BY LIGO PERSONNEL AFTER DELIVERY OF FINISHED PARTS. USE NITRONIC 60 THREADED INSERTS.
 - ALL MATERIAL IS TO BE VIRGIN MATERIAL (i.e. NO WELD REPAIRS, FUSING OR RECYCLED MATERIAL). NO REPAIRS SHALL BE MADE UNLESS APPROVED IN ADVANCE. AND IN WRITING, BY LIGO LABORATORY. REFER TO LIGO-E900384.
 - SURFACE FINISH TO BE AS-PROCESSED FROM MILL/SUPPLIER, FREE FROM SCRATCHES OR GOUGES.
 - PART WILL BE PORCELAIN COATED PER LIGO SPECIFICATION E1000083 AFTER FABRICATION. THE INDICATED HOLES WILL BE MARKED PRIOR TO PORCELAIN COATING TO APPROXIMATELY 2.5-3X HOLE DIAMETER CENTERED ON BOTH SIDES OF THE HOLE.
 - DIMENSIONS APPLY BEFORE PORCELAIN COATING UNLESS SPECIFIED.
 - BEND RADIUS UNLESS OTHERWISE NOTED. THE BEND RADIUS SHOULD BE THE MINIMUM REQUIRED TO FORM WITHOUT CRACKING OR REQUIRING ADDITIONAL WORK WHEN FORMING. IN PARTICULAR # SHEET METAL IS TO BE PORCELAIN COATED. THE BEND RADIUS SHALL BE A MINIMUM OF .17" OUTSIDE RADIUS OF BEND UNLESS OTHERWISE NOTED.
- NOTES 13 and 14 DO NOT APPLY TO THIS PART**

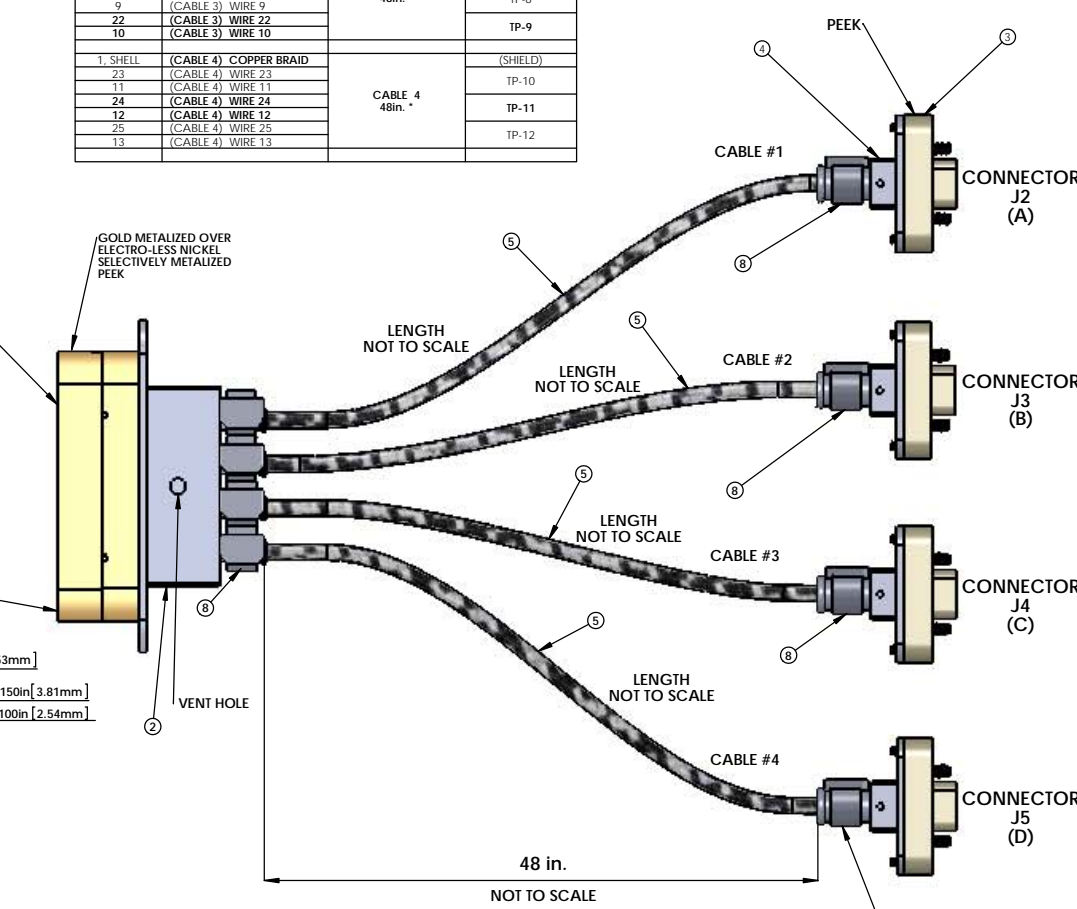


V25N-48 CABLE ASSEMBLY CIRCUIT SUMMARY

V-DB25 M/S1-48-4_u9D F/S

FROM			
PIN	WIRE NAME	LENGTH	TWISTED PAIR
CONNECTOR J1 - 25 PIN MALE SUBMINI_D CONNECTOR (METALIZED PEEK)			
1, SHELL	(CABLE 1) COPPER BRAID	CABLE 1 48in. *	(SHIELD)
14	(CABLE 1) WIRE 14		TP-1
2	(CABLE 1) WIRE 2		TP-2
15	(CABLE 1) WIRE 15		TP-3
16	(CABLE 1) WIRE 16	CABLE 2 48in. *	(SHIELD)
4	(CABLE 1) WIRE 4		TP-4
1, SHELL	(CABLE 2) COPPER BRAID		TP-5
17	(CABLE 2) WIRE 17		TP-6
5	(CABLE 2) WIRE 5	CABLE 3 48in. *	(SHIELD)
18	(CABLE 2) WIRE 18		TP-7
6	(CABLE 2) WIRE 6		TP-8
19	(CABLE 2) WIRE 19		TP-9
7	(CABLE 2) WIRE 7	CABLE 4 48in. *	(SHIELD)
1, SHELL	(CABLE 3) COPPER BRAID		TP-10
20	(CABLE 3) WIRE 20		TP-11
8	(CABLE 3) WIRE 8		TP-12
21	(CABLE 3) WIRE 21	CABLE 4 48in. *	(SHIELD)
9	(CABLE 3) WIRE 9		TP-1
22	(CABLE 3) WIRE 22		TP-2
10	(CABLE 3) WIRE 10		TP-3
1, SHELL	(CABLE 4) COPPER BRAID	CABLE 4 48in. *	(SHIELD)
23	(CABLE 4) WIRE 23		TP-4
11	(CABLE 4) WIRE 11		TP-5
24	(CABLE 4) WIRE 24		TP-6
12	(CABLE 4) WIRE 12	CABLE 4 48in. *	(SHIELD)
25	(CABLE 4) WIRE 25		TP-7
13	(CABLE 4) WIRE 13		TP-8
13	(CABLE 4) WIRE 13		TP-9

TEST LIST		TEST LIST		TEST LIST		TEST LIST	
FROM	TO	FROM	TO	FROM	TO	FROM	TO
J1	J2	J1	J3	J1	J4	J1	J5
PIN	PIN	PIN	PIN	PIN	PIN	PIN	PIN
J1-1, SHELL	J2-5, SHELL	J1-1, SHELL	J3-5, SHELL	J1-1, SHELL	J4-5, SHELL	J1-1, SHELL	J5-5, SHELL
J1-14	J2-1	J1-17	J3-1	J1-20	J4-1	J1-23	J5-1
J1-2	J2-6	J1-5	J3-6	J1-8	J4-6	J1-11	J5-6
J1-15	J2-2	J1-18	J3-2	J1-21	J4-2	J1-24	J5-2
J1-3	J2-7	J1-6	J3-7	J1-22	J4-7	J1-25	J5-7
J1-16	J2-4	J1-19	J3-4	J1-25	J4-4	J1-28	J5-4
J1-4	J2-9	J1-7	J3-9	J1-10	J4-9	J1-13	J5-9



V25N-48 CABLE ASSEMBLY CIRCUIT SUMMARY

TO

CONNECTOR J2 - 9 PIN FEMALE MICRO_D CONNECTOR (PEEK)		
PIN	WIRE NAME	SIGNAL
SHELL	(CABLE 1) COPPER BRAID	SHIELD
1	(CABLE 1) WIRE 14	PHOTO DIODE CATHODE - (UL PD K)
6	(CABLE 1) WIRE 2	PHOTO DIODE ANODE + (UL PD A)
2	(CABLE 1) WIRE 15	LED ANODE + (UL LED A)
7	(CABLE 1) WIRE 3	LED CATHODE - (UL LED K)
4	(CABLE 1) WIRE 16	LED ANODE + (UL LED A)
9	(CABLE 1) WIRE 4	LL FN
3, 5, 8	NOT CONNECTED	NOT CONNECTED

V25N-48 CABLE ASSEMBLY CIRCUIT SUMMARY

TO

CONNECTOR J3 - 9 PIN FEMALE MICRO_D CONNECTOR (PEEK)		
PIN	WIRE NAME	SIGNAL
SHELL	(CABLE 2) COPPER BRAID	SHIELD
1	(CABLE 2) WIRE 17	PHOTO DIODE CATHODE - (LL PD K)
6	(CABLE 2) WIRE 5	PHOTO DIODE ANODE - (LL PD A)
2	(CABLE 2) WIRE 18	LED ANODE + (LL LED A)
7	(CABLE 2) WIRE 6	LED CATHODE - (LL LED K)
4	(CABLE 2) WIRE 19	LL FN
9	(CABLE 2) WIRE 7	LL ST
3, 5, 8	NOT CONNECTED	NOT CONNECTED

V25N-48 CABLE ASSEMBLY CIRCUIT SUMMARY

TO

CONNECTOR J4 - 9 PIN FEMALE MICRO_D CONNECTOR (PEEK)		
PIN	WIRE NAME	SIGNAL
SHELL	(CABLE 3) COPPER BRAID	SHIELD
1	(CABLE 3) WIRE 20	PHOTO DIODE CATHODE - (UR PD K)
6	(CABLE 3) WIRE 8	PHOTO DIODE ANODE + (UR PD A)
2	(CABLE 3) WIRE 21	LED ANODE + (UR LED A)
7	(CABLE 3) WIRE 9	LED CATHODE - (UR LED K)
4	(CABLE 3) WIRE 22	UR FN
9	(CABLE 3) WIRE 10	UR ST
3, 5, 8	NOT CONNECTED	NOT CONNECTED

V25N-48 CABLE ASSEMBLY CIRCUIT SUMMARY

TO

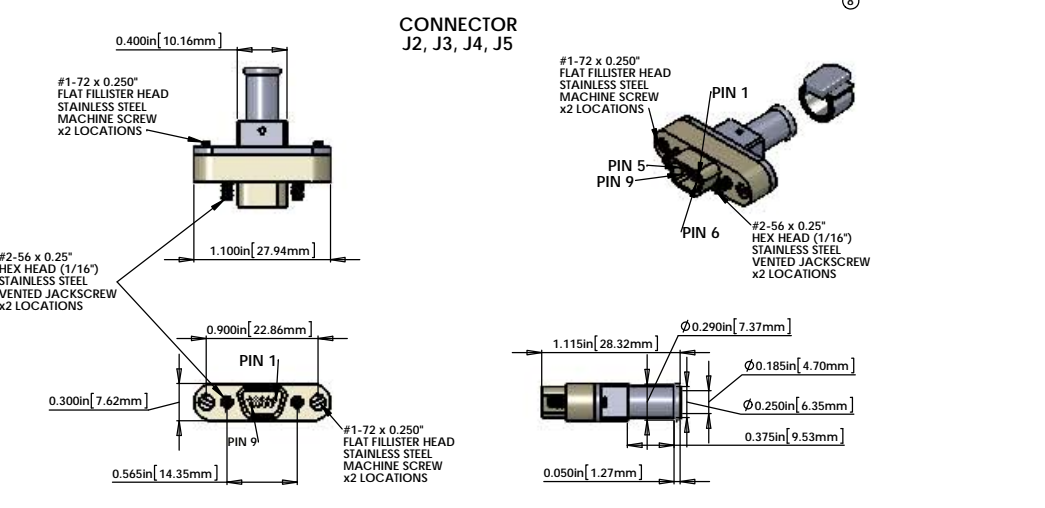
CONNECTOR J5 - 9 PIN FEMALE MICRO_D CONNECTOR (PEEK)		
PIN	WIRE NAME	SIGNAL
SHELL	(CABLE 4) COPPER BRAID	SHIELD
1	(CABLE 4) WIRE 23	PHOTO DIODE CATHODE - (LR PD K)
6	(CABLE 4) WIRE 11	PHOTO DIODE ANODE + (LR PD A)
2	(CABLE 4) WIRE 24	LED ANODE + (LR LED A)
7	(CABLE 4) WIRE 12	LED CATHODE - (LR LED K)
4	(CABLE 4) WIRE 25	LR FN
9	(CABLE 4) WIRE 13	LR ST
3, 5, 8	NOT CONNECTED	NOT CONNECTED

BILL OF MATERIALS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	LENGTH
1	TICOR #FS0125-3 (OR EQUIVALENT)	DB25 MALE CONNECTOR (J1) FOR UHV (GOLD METALIZED PEEK)	1	
2	TICOR #IS0094 (OR EQUIVALENT)	DB25 CONNECTOR BACKSHELL FOR UHV (STAINLESS)	1	
3	TICOR #IS0094 (OR EQUIVALENT)	u9D SOCKET (FEMALE) CONNECTOR (J2,J3,J4,J5) FOR UHV (PEEK)	4	
4	TICOR #IS0094 (OR EQUIVALENT)	u9D CONNECTOR BACKSHELL FOR UHV (STAINLESS)	4	
5	CABLE INCLUDING COONER WIRE # CZ1105	6 COND. (3 TWISTED PAIR) CABLE (AND COPPER BRAID (SHIELD) AND PEEK OVERBRAID)	4	48in. *
6	CONTINENTAL PART #24x3x40BC	COPPER BRAID - CONTINENTAL CORDAGE PART #24x3x40BC	4	48in. *
7	PART #6759	PEEK BRAID - PART #6759 MANUFACTURED WITH ZEUS 0.016" BLACK PEEK DRAWN MONOFILAMENT	4	48in. *
8	GLENAIR # 600-052 or BAND-IT # A10086	GLENAIR # 600-052 STANDARD BRAID CLAMP or BAND-IT PART # A10086 (0.240" WIDE) ("BAG OF 100" # A10089)	8	
9	HELICOIL #1185-04EN336	#4-40 Nitronic 60 HELICOIL 0.336" LENGTH	2	

* NOTE: THE OVERALL LENGTH IS MEASURED FROM BAND CLAMP ("CABLE SIDE" EDGE) (25 PIN) TO BAND CLAMP ("CABLE SIDE" EDGE) (9 PIN) OF THE CABLE. USE WHATEVER LENGTH IS NECESSARY FOR THE INTERNAL WIRING OF THE CONNECTORS AND STRIP LENGTH TO ACHIEVE THE CORRECT OVERALL LENGTH.

- ELECTRICAL NOTES: (UNLESS OTHERWISE SPECIFIED)**
- MATERIAL:**
 - J1 CONNECTOR SHELL - GOLD OVER ELECTRO-LESS NICKEL SELECTIVELY METALIZED PEEK VICTREX 450GL30.
 - J2, J3, J4, J5 CONNECTOR SHELL - PEEK VICTREX 450GL30.
 - BACKSHELL - STAINLESS STEEL WITH 4 PORTS AND VENT HOLE.
 - CONTACTS - BERYLLIUM COPPER ALLOY C17300 0.00050 MIN. GOLD OVER NICKEL.
 - HARDWARE - STAINLESS STEEL, PASSIVATED.
 - PEEK BRAID - PEEK VICTREX GRADE TDS-450CA30 CARBON LOADED.
 - CABLE 6 COND. 28 AWG. (65 STRD 46 AWG) WITH PFA INSULATION COONER # CZ1105. 3 TWISTED PAIRS. (4 TO 5 TWISTS PER INCH). OVERALL 40AWG COPPER BRAID 90% COVERAGE. OVERALL PEEK BRAID MIN. 50% COVERAGE. OVERALL CABLE O.D. WILL BE APPROX. 0.240 IN.
 - CONNECTORS WILL BE SUPPLIED WITH HARDWARE. LENGTH OF SCREWS SHOULD BE THE PROPER LENGTH FOR MATING.



HAM AUX CABLE SEISMIC TABLE TO HAM AUX OSEMS

V-DB25 M/S1-48-4_u9D F/S

STANDARD USE FOR THIS CABLE

SUBSYSTEM	AIR/VAC	STANDARD USE
ISC	IN-VAC	HAM AUX OSEMS

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

- INTERPRET DRAWING PER ASME Y14.5-1994.
- REMOVE ALL SHARP EDGES. 0.05-0.15 FOR MACHINED PARTS. ROUND ALL EDGES APPROXIMATELY R.02 FOR SHEET METAL PARTS.
- DO NOT SCALE FROM DRAWING.
- ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.

DIMENSIONS ARE IN TOLERANCES: .XX ± .XXX ± ANGULAR ±

MATERIAL FINISH NEXT ASSY

SCALE: 2:1 PROJECTION: SHEET 1 OF 1

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

1. INTERPRET DRAWING PER ASME Y14.5-1994.

2. REMOVE ALL SHARP EDGES. 0.05-0.15 FOR MACHINED PARTS. ROUND ALL EDGES APPROXIMATELY R.02 FOR SHEET METAL PARTS.

3. DO NOT SCALE FROM DRAWING.

4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.

DIMENSIONS ARE IN TOLERANCES: .XX ± .XXX ± ANGULAR ±

MATERIAL FINISH NEXT ASSY

SCALE: 2:1 PROJECTION: SHEET 1 OF 1

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY

PART NAME: CUSTOM CABLE SPECIFICATION V25N-48

DESIGNER: J. HEFFNER DATE: 08/04/2012

DRAWN: E. BROWN DATE: 08/04/2012

CHECKER: DATE: 08/04/2012

APPROVAL: DATE: 08/04/2012

SCALE: 2:1 PROJECTION: SHEET 1 OF 1

D1000239 v5