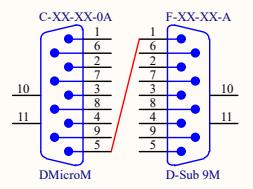
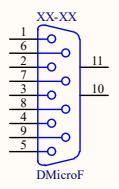
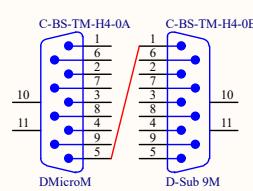
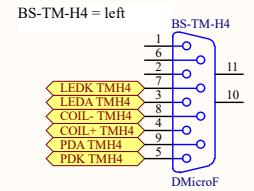
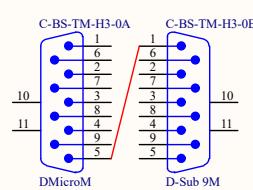
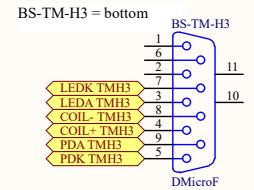
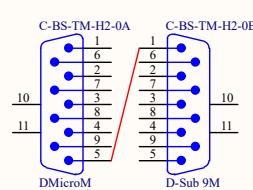
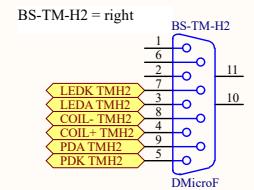
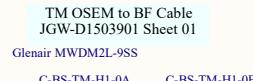
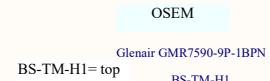


4 Feedthroughs

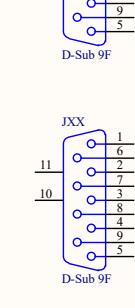
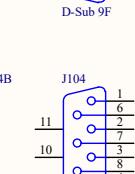
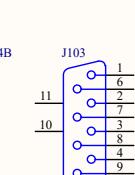
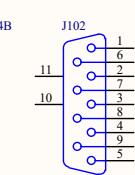
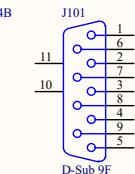
Incorporates flip to correct flexicircuit issue!!!



TM OSEM



Sat Amp #1
D1402809



no pin flip, M <--> M,
for use without feedthrough

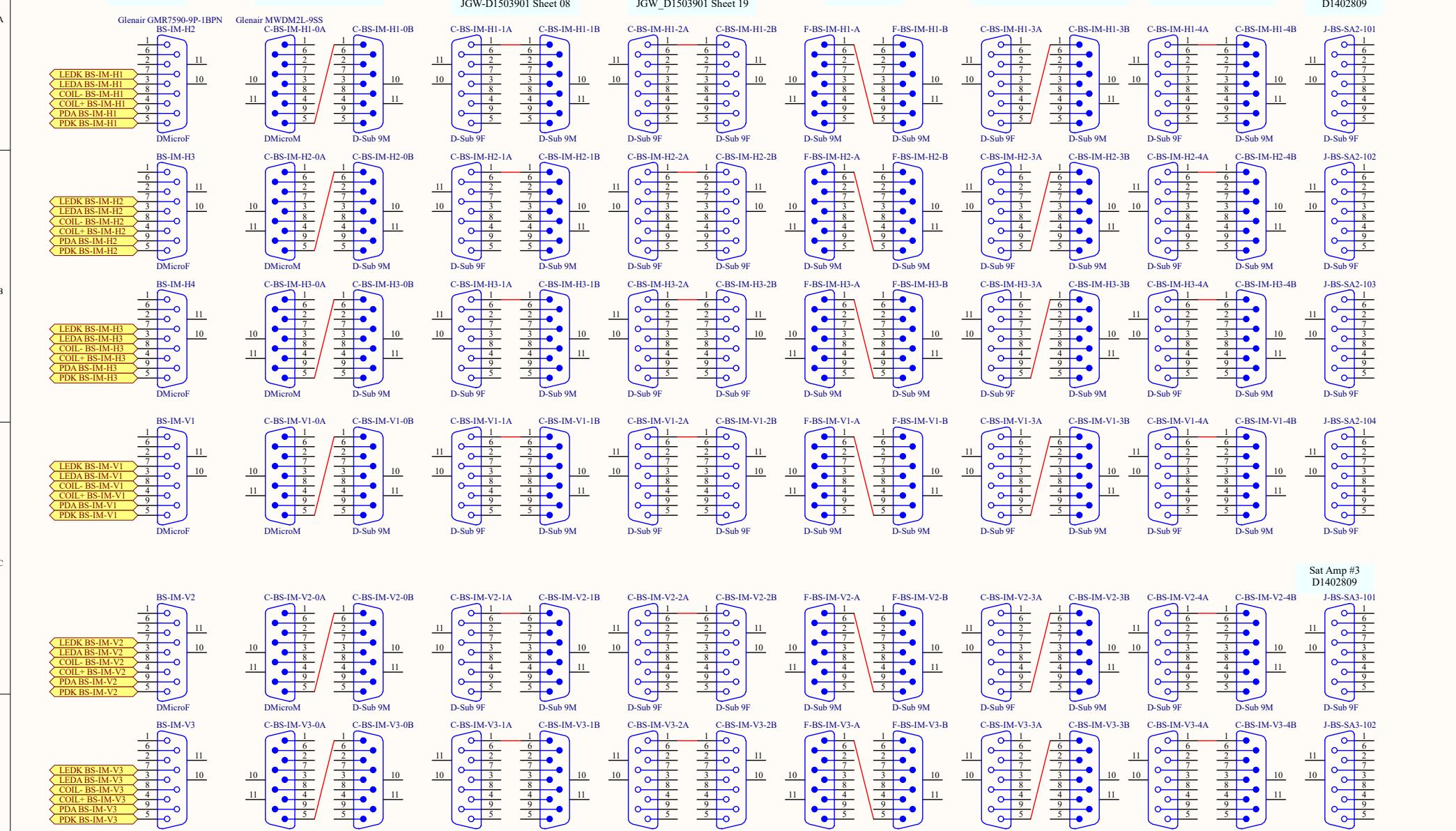
For testing the suspension outside the vacuum tank,
there should be a supply of plain M-M gender changers
to replace the combination of Feedthrough+Anti-Feedthrough adapter cable.

Title		
BS Suspension Cabling - Test Mass OSEMs		
Size	Number	Revision
A3	JGW-D1503600	v9
Date:	2016/04/12	Sheet 1 of 14
File:	\01 OSEM.SchDoc	Drawn By:

6 Feedthroughs

Incorporates flip to correct flexicircuit issue!!!

IM OSEMs

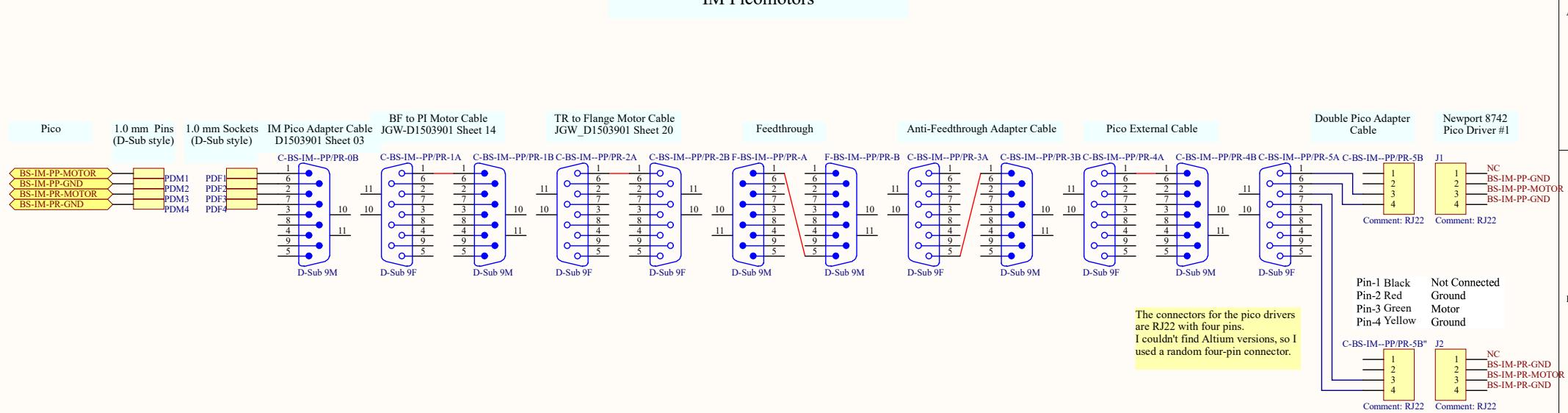


J-BS-SA3-103 and J-BS-SA3-104 not used

Title BS Suspension Cabling - Intermediate Mass OSEMs		
Size A3	Number JGW-D1503600	Revision -v9
Date: 2016/04/12	Sheet 2 of 14	
File: _02\02 IM OSEMs.SchDoc		Drawn By:

1 Feedthrough

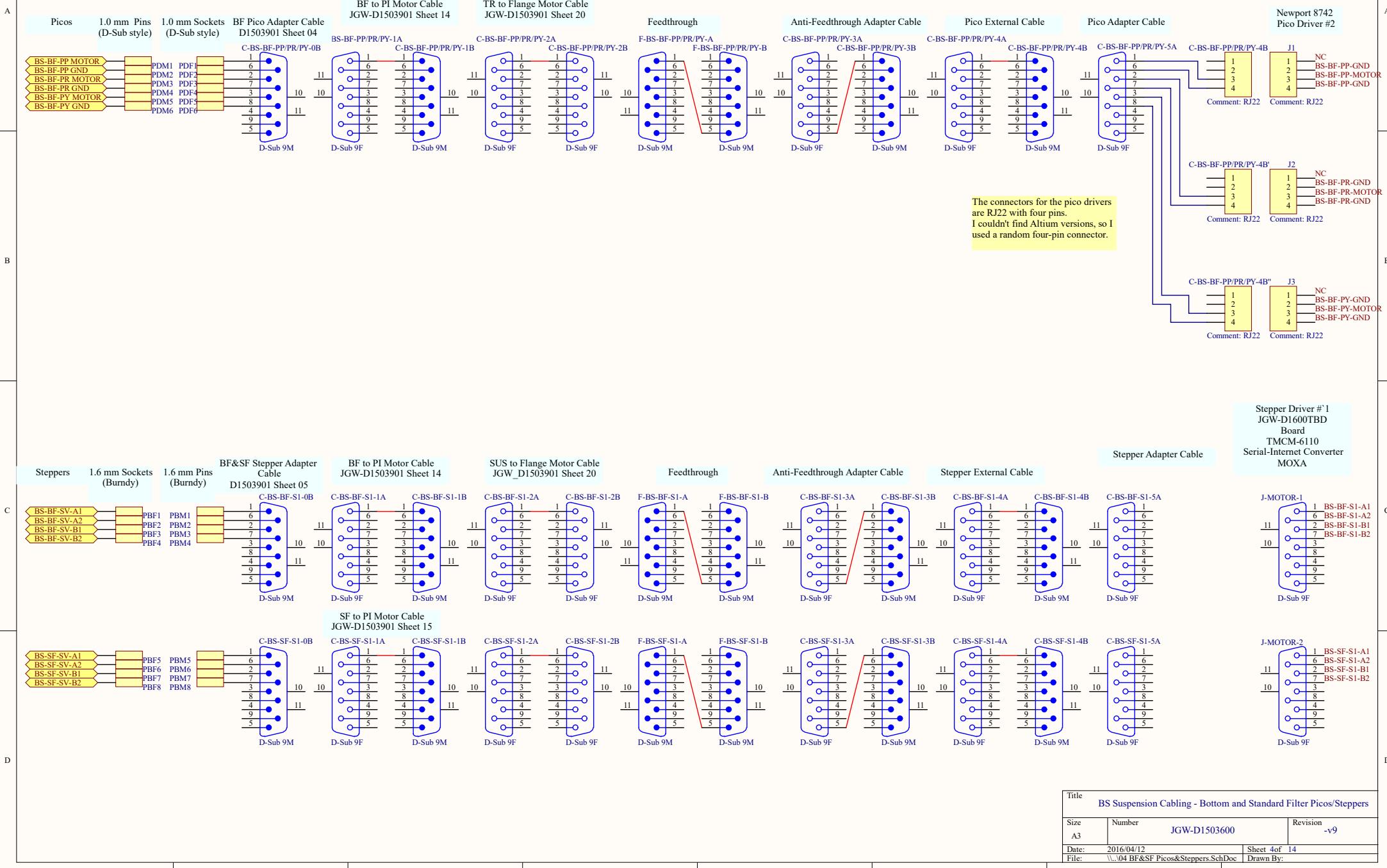
IM Picomotors



Title: BS Suspension Cabling - Intermediate Mass Picos		
Size	Number	Revision
A3	JGW-D1503600	-v9
Date:	2016/04/12	Sheet 3 of 14
File:	\..\03 IM Picos.SchDoc	Drawn By:

BF and SF Picomotors and Steppers

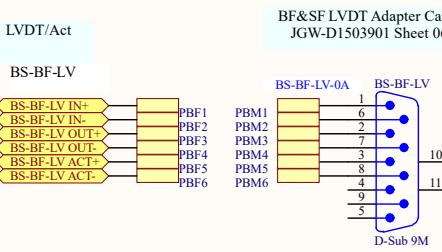
3 Feedthroughs



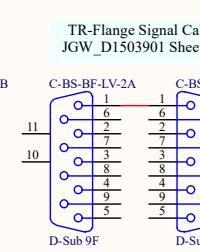
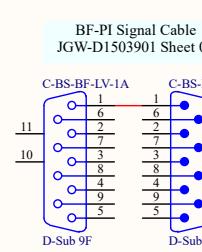
BF and SF LVDT/ACTs

2 Feedthroughs

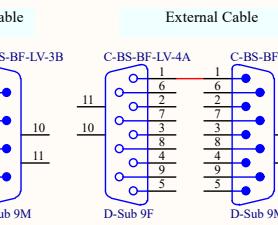
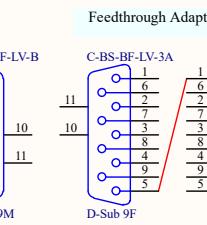
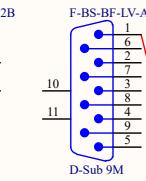
A



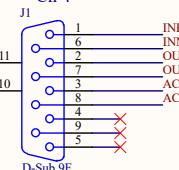
BF&SF LVDT Adapter Cable
JGW-D1503901 Sheet 06



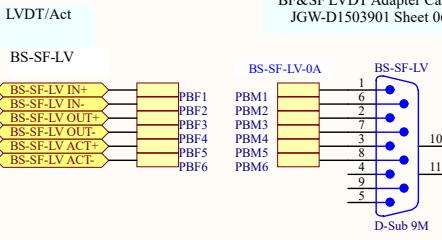
Feedthrough



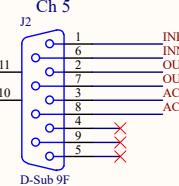
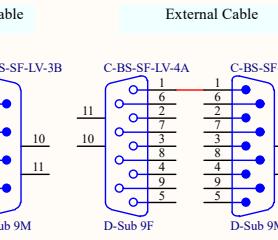
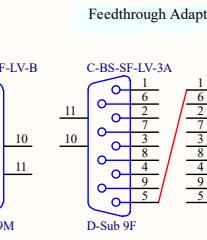
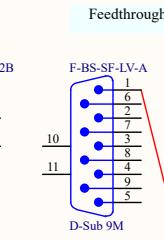
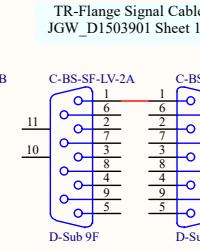
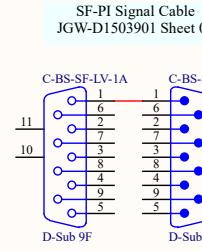
LVDT/ACT Distributor
JGW-D1402124,
Front Panel
JGW-D1402827
Board
JGW-D1402117 #2



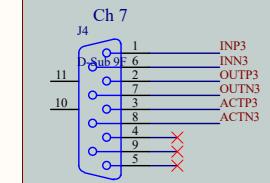
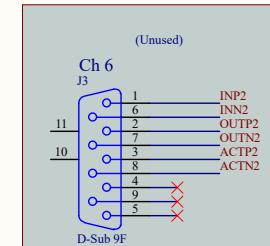
B



BF&SF LVDT Adapter Cable
JGW-D1503901 Sheet 06



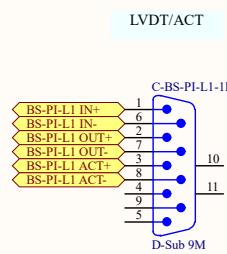
C



Title		
BS Suspension Cabling - Bottom and Standard Filter LVDTs		
Size	Number	Revision
A3	JGW-D1503600	-v9
Date:	2016/04/12	Sheet 5 of 14
File:	\..\05_BF&SF LVDTs.SchDoc	Drawn By:

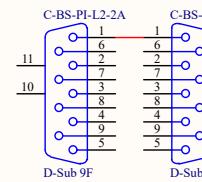
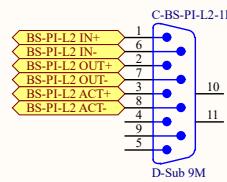
4 Feedthroughs

Preisolator LVDT/ACTs



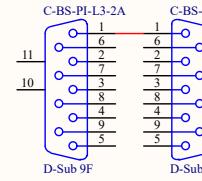
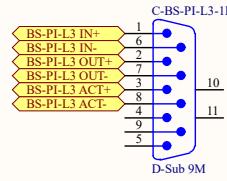
OPTIONAL
Signal Cable Extension
JGW_D1503901 Sheet 10

TR-Flange Signal Cable
JGW_D1503901 Sheet 19



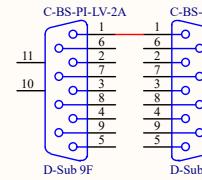
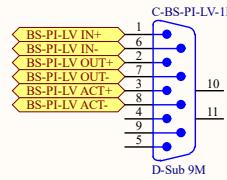
Feedthrough

Anti-Feedthrough Adapter Cable



Feedthrough

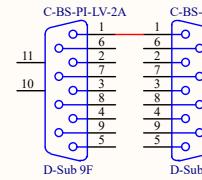
Anti-Feedthrough Adapter Cable



Feedthrough

Anti-Feedthrough Adapter Cable

Pin	Function
1	LVDT IN P
2	LVDT OUT P
3	COIL P
4	
5	
6	LVDT IN N
7	LVDT OUT N
8	COIL N
9	

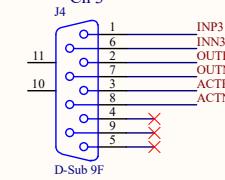
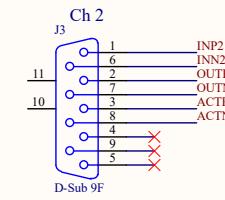
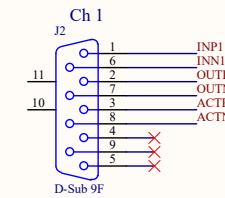
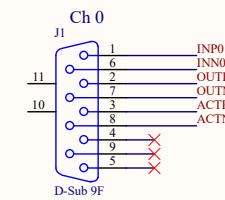


Feedthrough

Anti-Feedthrough Adapter Cable

Pin	Function
1	LVDT IN P
2	LVDT OUT P
3	COIL P
4	
5	
6	LVDT IN N
7	LVDT OUT N
8	COIL N
9	

LVDT/ACT Distributor
JGW-D1402124,
Front Panel
JGW-D1402827
Board
JGW-D1402117 #1



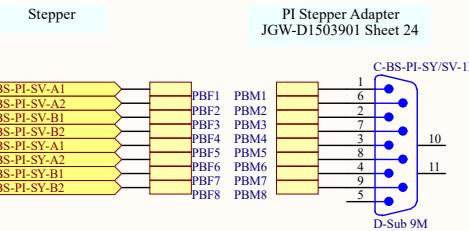
Title
BS Suspension Cabling - Preisolator LVDT/Actuators

Size A3 Number JGW-D1503600 Revision -v9

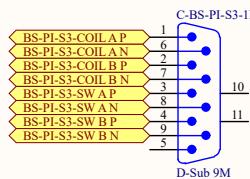
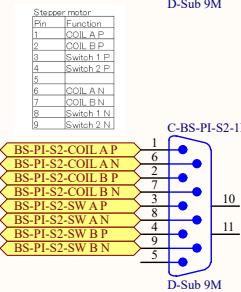
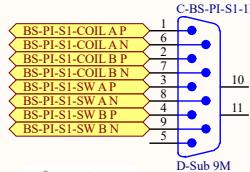
Date: 2016/04/12 Sheet 6of 14

File: \\\06 PI LVDTs.SchDoc Drawn By:

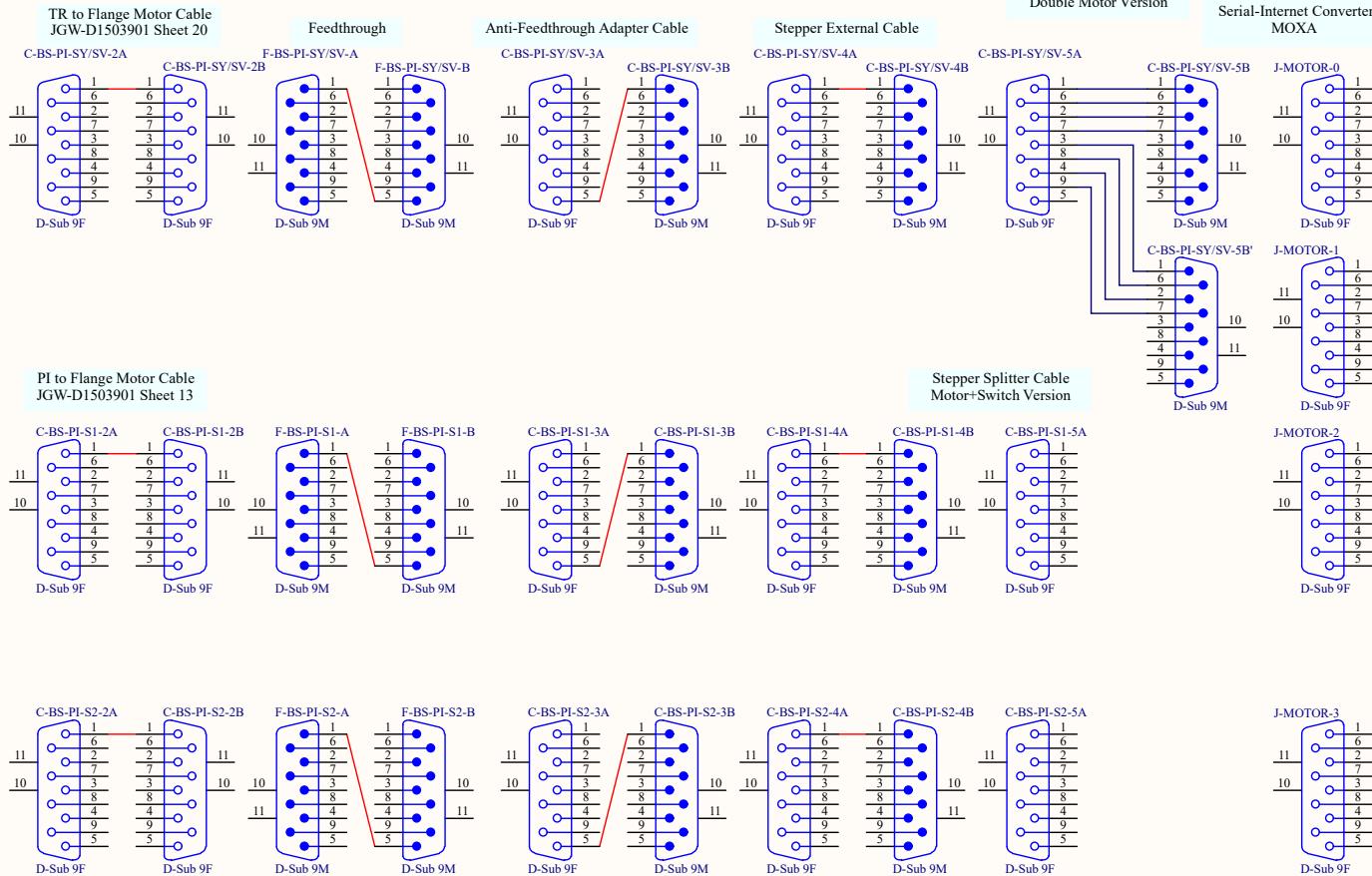
4 Feedthroughs



The horizontal steppers have limit switches and will be wired as indicated by the IP manufacturer.



Preislator Steppers



Title BS Suspension Cabling - Preislator Steppers

Size	Number	Revision
A3	JGW-D1503600	-v9
Date:	2016/04/12	Sheet 7 of 14
File:	\..\07 PI Steppers.SchDoc	Drawn By:

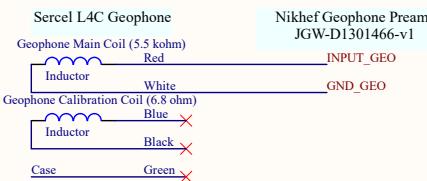
3 Feedthroughs

Preislator Geophones

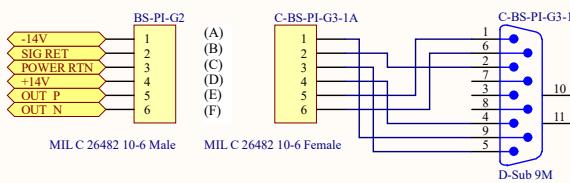
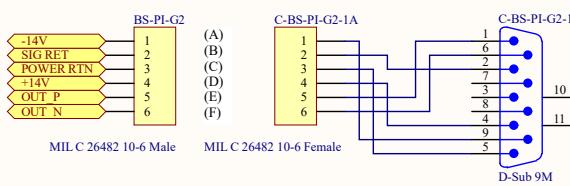
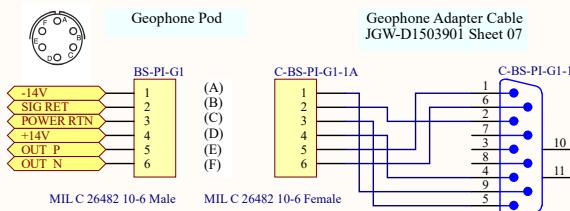
A

Geophone Pod Internal Cabling
(same for all three pods):

Pod #1: geophone L400002322, preamp 15
Pod #2: geophone L400002321, preamp 12
Pod #3: geophone L400002323, preamp 14

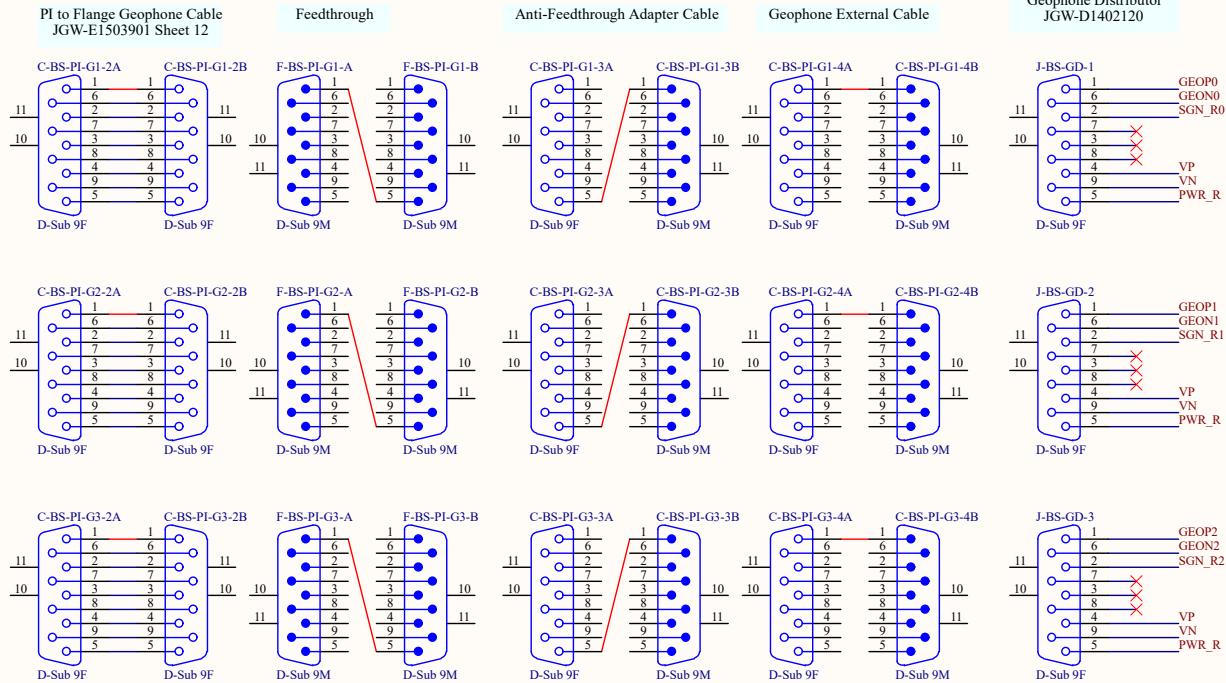


B



Note: The usual TR to Flange Signal Cable (D1503901 Sheet 19) cannot be used here because it doesn't have a conductor on Pin 3!!!

PI to Flange Geophone Cable
JGW-E1503901 Sheet 12



J-BS-GD-4 not used

Title BS Suspension Cabling - Preislator Geophones		
Size A3	Number JGW-D1503600	Revision -v9
Date: 2016/04/12	Sheet 8 of 14	
File: \08 PI Geophones.SchDoc	Drawn By:	

1

2

3

4

5

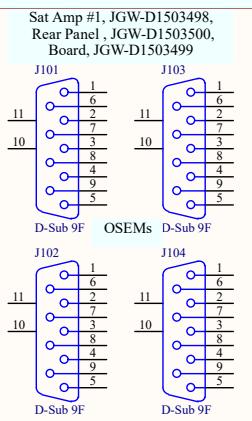
6

7

8

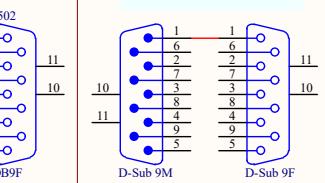
OSEM Sat Amps and Drivers

Sat Amp Inputs from OSEMs
(see Sheets 1&2)

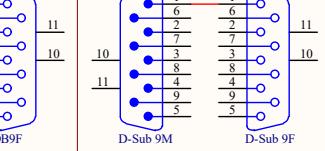


Sat Amp PD Outputs

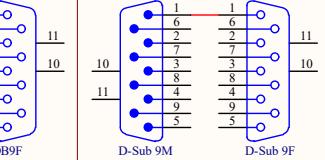
Sat Amp #1
D1503498,
Front Panel,
JGW-D1503500,
Board,
JGW-D1503499



Sat Amp #2
D1503498,
Front Panel,
JGW-D1503500,
Board,
JGW-D1503499

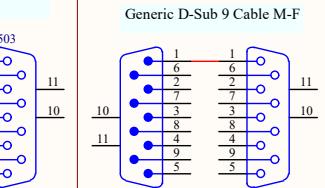


Sat Amp #3
D1503498,
Front Panel,
JGW-D1503500,
Board,
JGW-D1503499

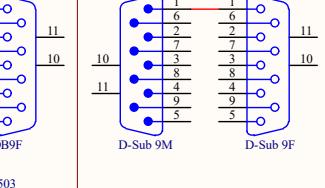


Sat Amp LED Current Monitor Outputs

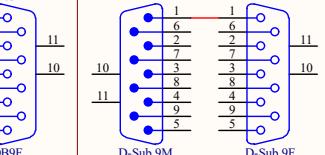
Sat Amp #1
D1503498,
Front Panel,
JGW-D1503500,
Board,
JGW-D1503499



Sat Amp #2
D1503498,
Front Panel,
JGW-D1503500,
Board,
JGW-D1503499



Sat Amp #3
D1503498,
Front Panel,
JGW-D1503500,
Board,
JGW-D1503499



Generic D-Sub 9 Cable M-F

AA Chassis #1
D1100621
AA In 13-16
J4
D-Sub 9M

AA In 17-20
J5
D-Sub 9M

AA In 22-24
J6
D-Sub 9M

AA In TBD
TBD1
D-Sub 9M

AA In TBD
TBD2
D-Sub 9M

AA In TBD
TBD3
D-Sub 9M

Generic D-Sub 15 Cable M-F

Sat Amp #1
JGW-D1503498,
Front,
JGW-D1503500,
Board,
JGW-D1503499

Sat Amp #2
JGW-D1503498,
Front,
JGW-D1503500,
Board,
JGW-D1503499

Sat Amp #3
JGW-D1503498,
Front,
JGW-D1503500,
Board,
JGW-D1503499

Sat Amp Coil Current Inputs

Low Power Coil Driver
#1
JGW-D1503506,
Front Panel,
JGW-D1503508,
Board,
JGW-D1503507

Low Power Coil Driver
#2
JGW-D1503506,
Front Panel,
JGW-D1503508,
Board,
JGW-D1503507

Low Power Coil Driver
#3
JGW-D1503506,
Front Panel,
JGW-D1503508,
Board,
JGW-D1503507

Coil Current Request Inputs

Generic D-Sub 15 Cable M-F

Low Power Coil Driver
#1
JGW-D1503506,
Rear Panel,
JGW-D1503509,
Board,
JGW-D1503507

Low Power Coil Driver
#2
JGW-D1503506,
Rear Panel,
JGW-D1503509,
Board,
JGW-D1503507

Low Power Coil Driver
#3
JGW-D1503506,
Rear Panel,
JGW-D1503509,
Board,
JGW-D1503507

AI Out 1-4 J1

AI Out 5-8
J2

AI Out 9-12
J3

AI Out 9-12
J3

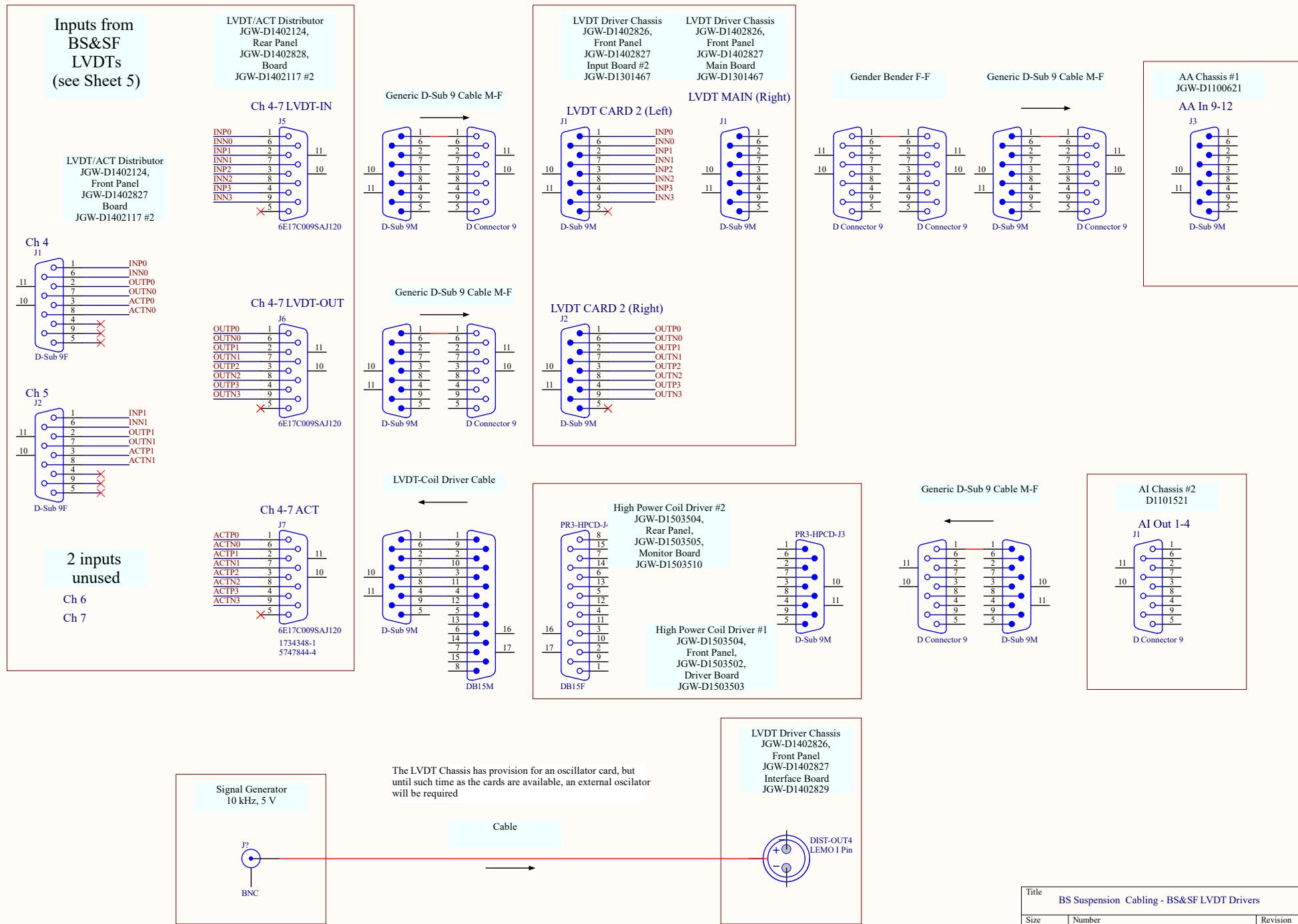
AI Chassis #1
D1101521

BS Suspension Cabling - OSEM Sat Amps & Drivers

Title: BS Suspension Cabling - OSEM Sat Amps & Drivers
Size: A3 Number: JGW-D1503600 Revision: v9

Date: 2016/04/12 Sheet: 9 of 14
File: \\\09 Sat Amps & Coil Drivers.SchDoc Drawn By:

BS&SF LVDT Drivers

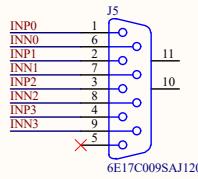


**Inputs from PI
LVDTs
(see Sheet 6)**

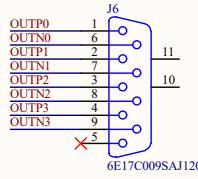
LVDT/ACT Distributor
JGW-D1402124,
Rear Panel
JGW-D1402828,
Board
JGW-D1402117 #1

LVDT/ACT Distributor
JGW-D1402124,
Front Panel
JGW-D1402827
Board
JGW-D1402117 #1

Ch 0-3 LVDT-IN



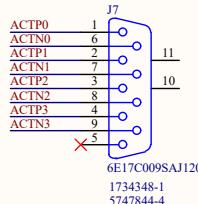
Ch 0-3 LVDT-OUT



Ch 2

J3
INP2
INN2
OUTP2
OUTN2
ACTP2
ACTN2
D-Sub 9F

Ch 0-3 ACT



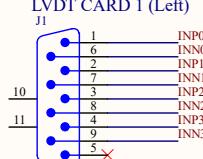
Ch 3

J4
INP3
INN3
OUTP3
OUTN3
ACTP3
ACTN3
D-Sub 9F

PI LVDT Drivers

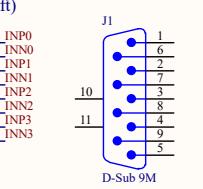
LVDT Driver Chassis
JGW-D1402826,
Front Panel
JGW-D1402827
Input Board #1
JGW-D1301467

LVDT CARD 1 (Left)

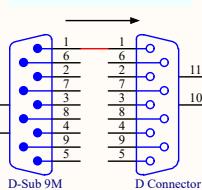


LVDT Driver Chassis
JGW-D1402826,
Front Panel
JGW-D1402827
Main Board
JGW-D1301467

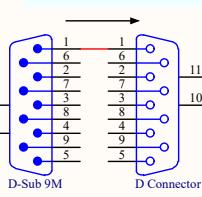
LVDT MAIN (Left)



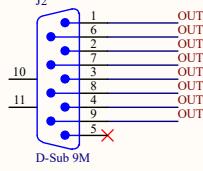
Generic D-Sub 9 Cable M-F



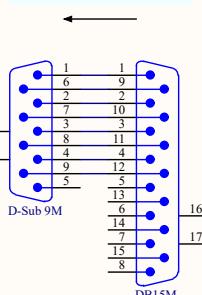
Generic D-Sub 9 Cable M-F



LVDT CARD 1 (Right)



LVDT-Coil Driver Cable



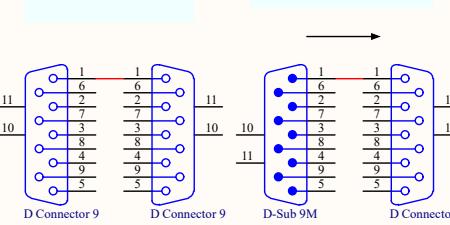
High Power Coil Driver #1

JGW-D1503504,
Rear Panel,
JGW-D1503505,
Monitor Board
JGW-D1503510

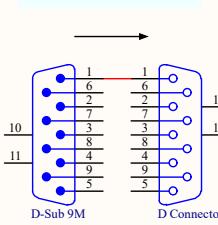
High Power Coil Driver #1

JGW-D1503504,
Front Panel,
JGW-D1503502,
Driver Board
JGW-D1503503

Gender Bender F-F

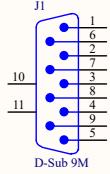


Generic D-Sub 9 Cable M-F

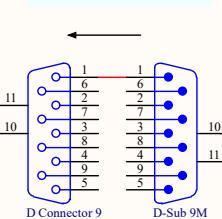
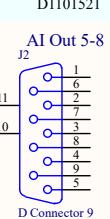


AA Chassis #1
JGW-D1100621

AA In 1-4



Generic D-Sub 9 Cable M-F

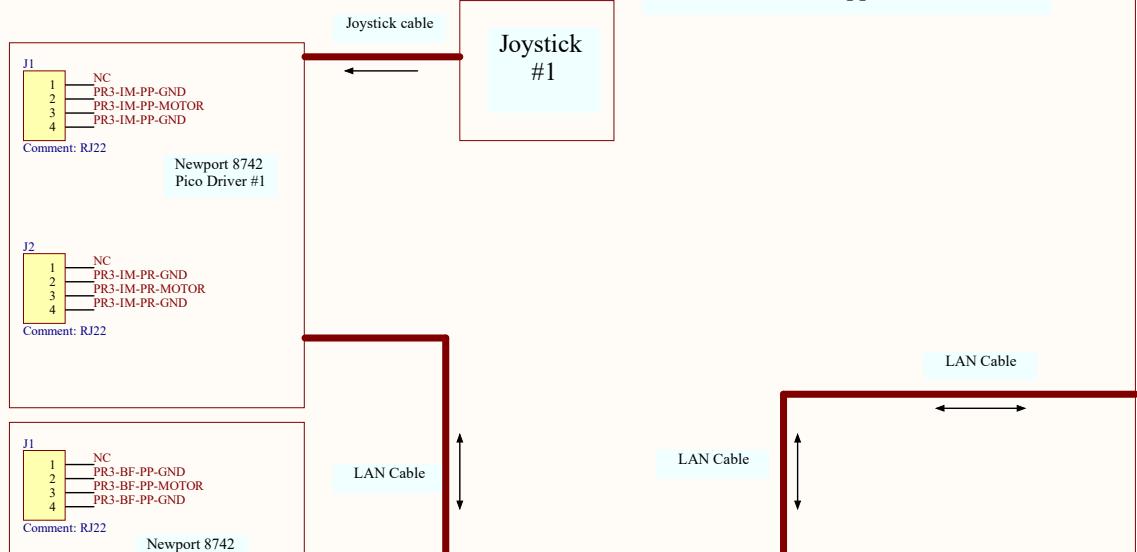
AI Chassis #2
DI101521

Title: BS Suspension Cabling - PI LVDT Drivers

Size	Number	Revision
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Date:	2016/04/12	Sheet of 14
File:	\AA\11 PI LVDT Drive.SchDoc	Drawn By:

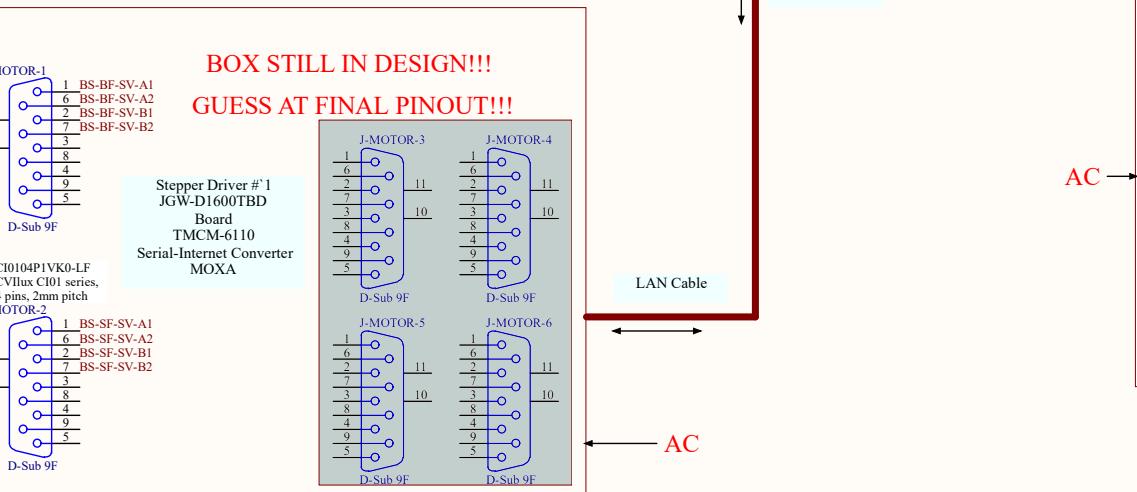
Pico and Stepper Drivers

**Outputs to IM Picos
(see Sheet 3)**



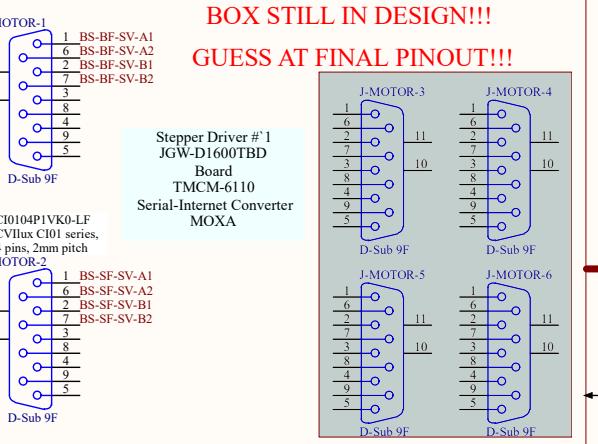
B

**Outputs to BF Picos
(see Sheet 4)**

AC

C

**Output to BF Stepper
(see Sheet 4)**

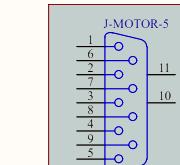
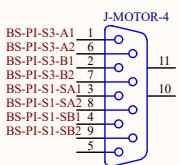
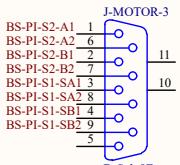
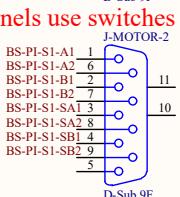
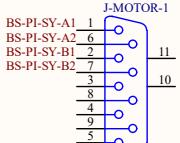
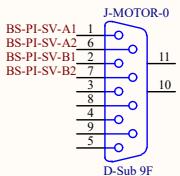


D

**Output to SF Stepper
(see Sheet 4)**

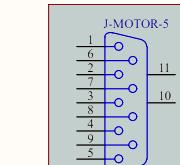
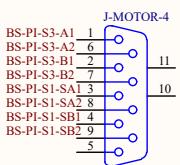
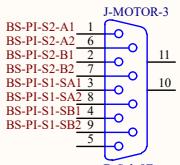
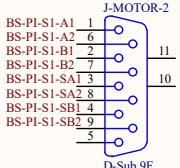
Stepper Driver #2
JGW-D1600TBD
Board: TMCM-6110
Serial-Internet Converter: MOXA

**BOX STILL IN DESIGN!!!
GUESS AT FINAL PINOUT!!!**



**Outputs to PI
Steppers
(see Sheet 7)**

NOTE: 3 channels use switches



Title: BS Suspension Cabling - Pico and Stepper Drivers		
Size: A3	Number: JGW-D1503600	Revision: v9
Date: 2016/04/12	Sheet of 14	Drawn By:
File: \\12 Pico&Stepper Drive.SchDoc		

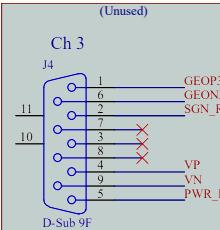
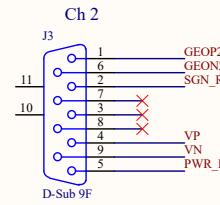
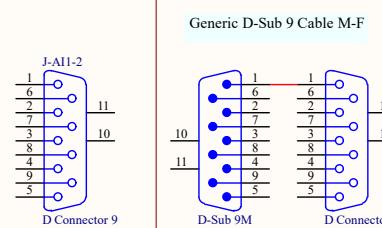
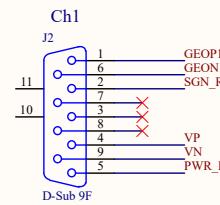
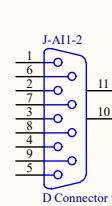
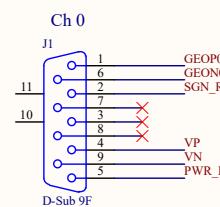
3 Feedthroughs

Geophone Readout

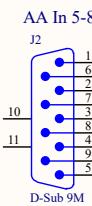
Inputs from PI
Geophones
(see Sheet 8)

Geophone Distributor
D1402120
Front Panel
D1402122
Board
D1402121

Geophone Distributor
D1402120
Rear Panel
D1402123
Board
D1402121

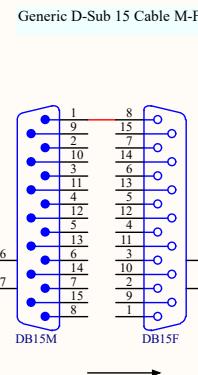
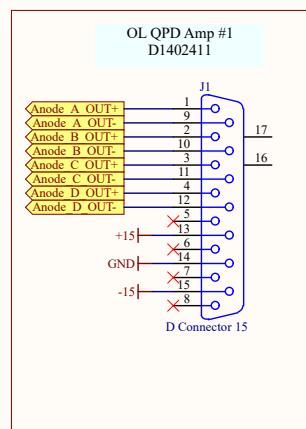


AA Chassis #1
JGW-D1100621



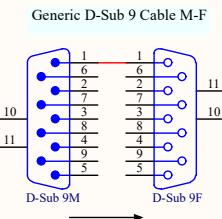
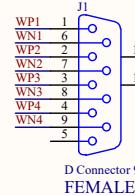
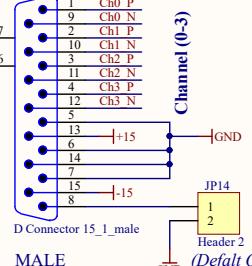
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BS Suspension Cabling - Geophone Readout		Revision
Size	Number	13
A3	JGW-D1503600	
Date:	2016/04/12	Sheet of 14
File:	\W\13 Geophone Readout.SchDoc	Drawn By:

OpLev Etc



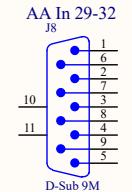
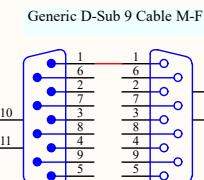
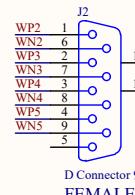
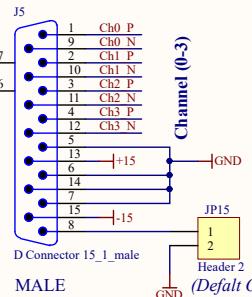
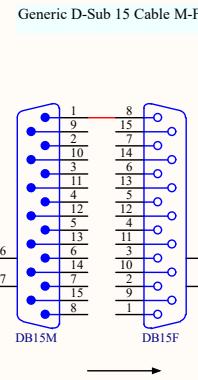
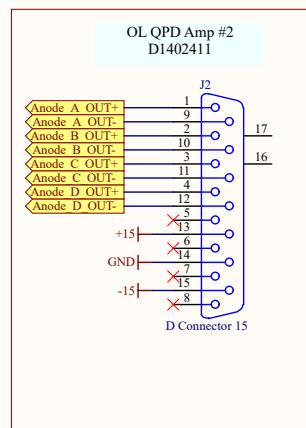
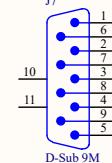
Whitening Chassis
D1302087
Front Panel
D1302088
Board
D1302081+D1402416

Whitening Chassis
D1302087
Rear Panel
D1302084
Board
D1302081+D1402416

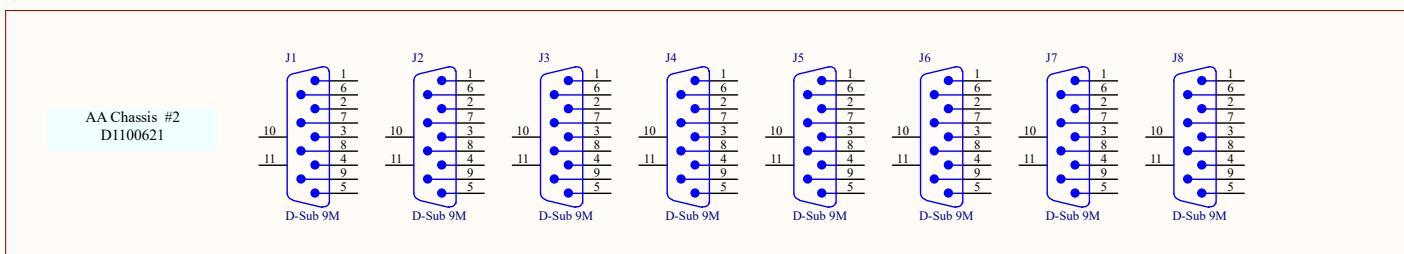


AA Chassis #1
D1100621

AA In 25-28



SECOND AA CHASSIS FOR TEST, SEISMOMETERS, ETC!!!



Title **BS Suspension Cabling - OpLev Etc**

Size **A3** Number **JGW-D1503600** Revision **v9**

Date **2016/04/12** Sheet of **14**

File **\\\14 OpLev Etc.SchDoc** Drawn By: