

# 4 Feedthroughs

# TM OSEMs

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

A

A

## OSEM

## TM OSEM to BF Cable JGW-D1503901 Sheet 01

## OSEM BF-TR Signal Cable JGW\_E1503901 Sheet 17

## TR to Flange Signal Cable JGW-D1503901 Sheet 19

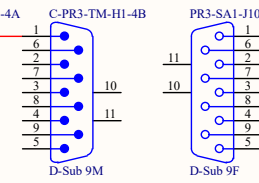
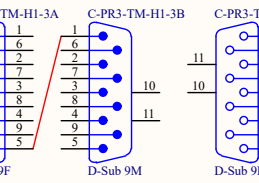
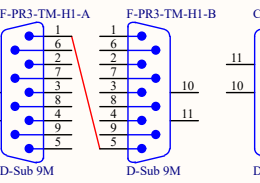
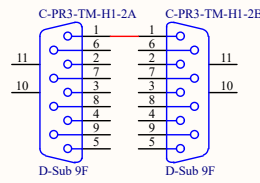
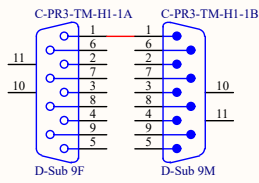
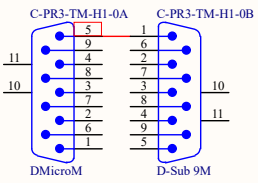
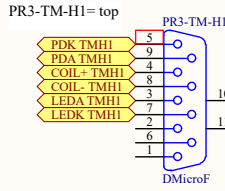
## Feedthrough

## Anti-Feedthrough Adapter Cable

## OSEM External Cable

Glenair GMR7590-9P-1BPN

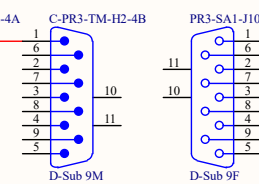
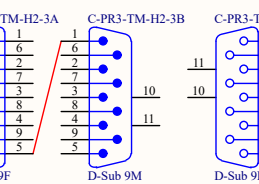
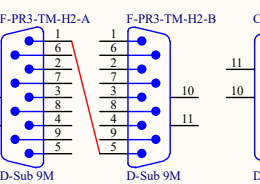
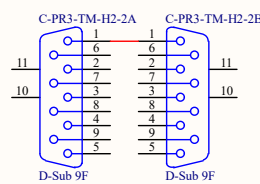
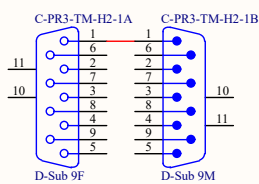
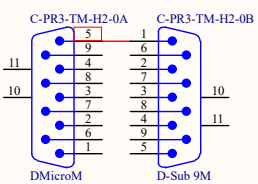
Glenair MWDML2L-9SS



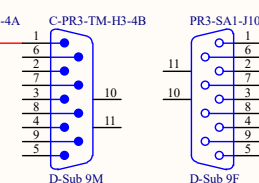
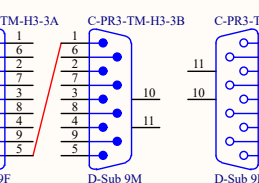
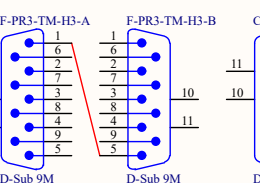
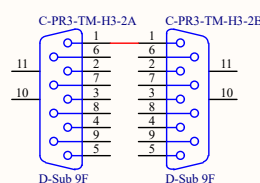
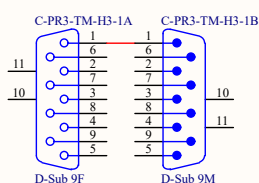
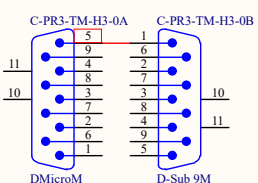
B

B

## PR3-TM-H2 = right



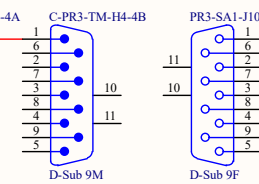
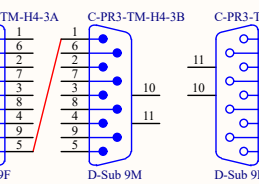
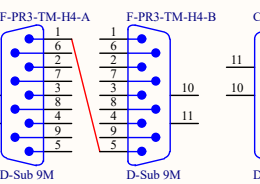
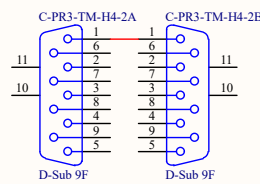
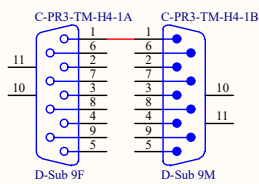
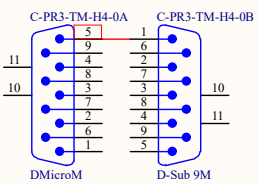
## PR3-TM-H3 = bottom



C

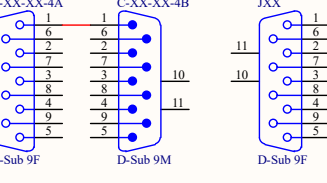
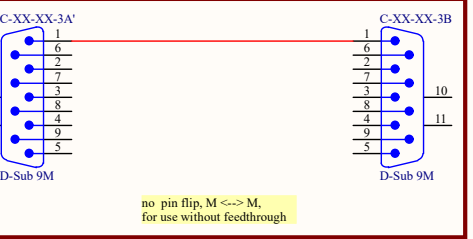
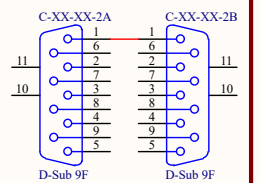
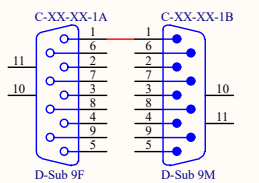
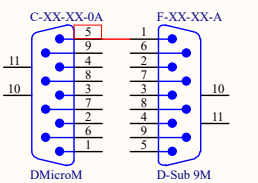
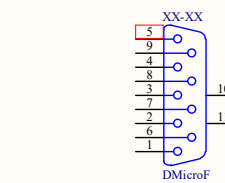
C

## PR3-TM-H4 = left



D

D



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 PR3 Suspension Cabling (iKAGRA) - Test Mass OSEMs		
Size A3	Number JGW-D1604795	Revision -v1
Date: 2016/02/12	Sheet 1 of 8	
File: \\..01 TM OSEMs.SchDoc	Drawn By:	

# 6 Feedthroughs

# IM OSEMs

Sat Amp #2, JGW-D1503498,  
Rear Panel 1, JGW-D1503500,  
Board, JGW-D1503499

## OSEM

IM OSEM to BF Cable  
JGW-D1503901 Sheet 02

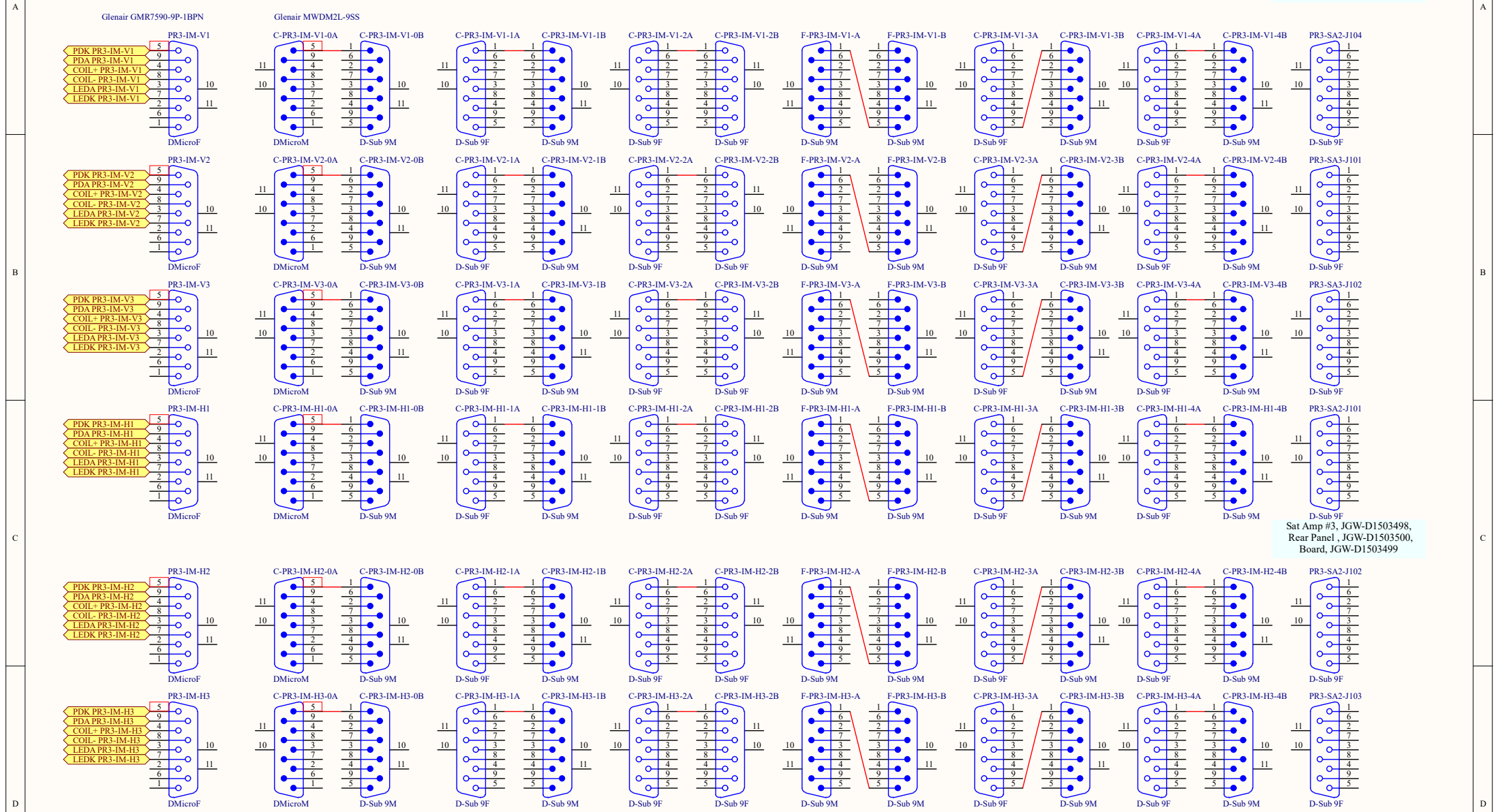
OSEM BF-TR Signal Cable  
JGW-D1503901 Sheet 17

TR to Flange Signal Cable  
JGW-D1503901 Sheet 19

## Feedthrough

## Anti-Feedthrough Adapter Cable

## OSEM External Cable



Sat Amp #3, JGW-D1503498,  
Rear Panel 1, JGW-D1503500,  
Board, JGW-D1503499

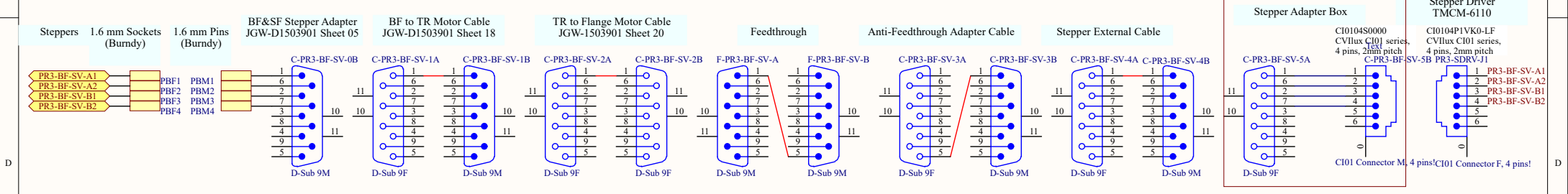
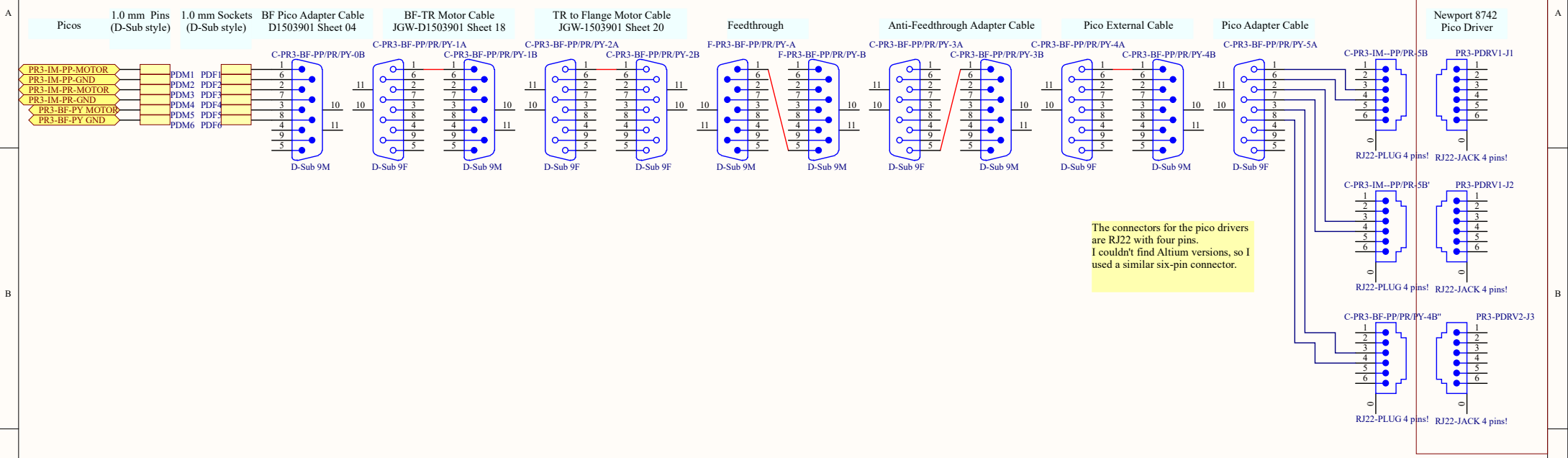
J-PR3-SA3-103 and J-PR3-SA3-104 not used

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Size A3	Number JGW-D1604795	Revision -v1
Date 2016/02/12	Sheet 2 of 8	Drawn By:
File: \\.\02 IM OSEMs.SchDoc		

# BF and SF Picomotors and Steppers

## 2 Feedthroughs

Cannot Black Z:\Work\Prototyping\Electronics\Type B  
 Prototyping Red GW-D1503382 Type  
 B Prototyping Green ig\Newport 8742 Pico  
 Driver Yellow



The connectors for the stepper motor drivers are CVIlux: CI01045000-A (plug, female), CI0104P1VK0-LF (jack, male) pairs with four pins. I couldn't find Altium versions, so I used a similar six-pin connector.

CI0104P1VK0-LF  
 Cannot open file Z:\Work\KAGRA\Electronics\Type B Prototype  
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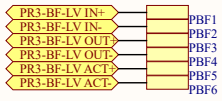
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Size	Number	JGW-D1604795		Revision	-v1
A3					
Date:	2016/02/12	Sheet 3 of 8			
File:	\\.\03 IM&BF Picos&Steppers.SchDoc	Drawn By:			

# BF LVDT/ACT

1 Feedthrough

## LVDT/Act

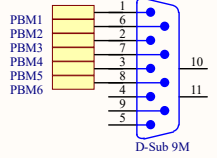
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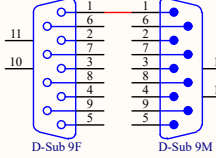
## BF&SF LVDT Adapter Cable

JGW-D1503901 Sheet 06

### EXA-BF-LV-0A



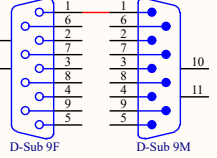
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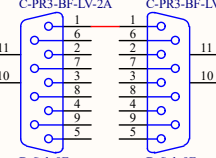
## OSEM BF-TR Signal Cable

JGW-D1503901 Sheet 17

### C-PR3-BF-LV-1A



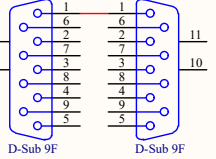
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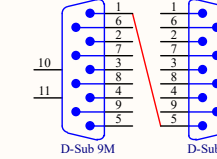
## TR to Flange Signal Cable

JGW-D1503901 Sheet 19

### C-PR3-BF-LV-2A

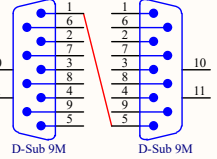


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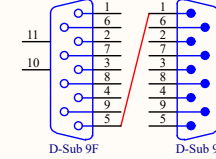


## Feedthrough

### F-PR3-BF-LV-A

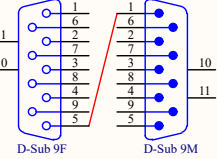


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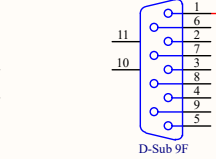


## Feedthrough Adapter Cable

### C-PR3-BF-LV-3A

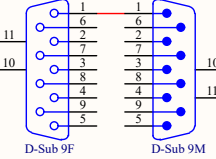


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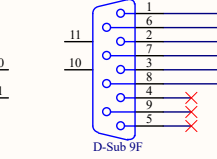


## External Cable

### C-PR3-BF-LV-4A



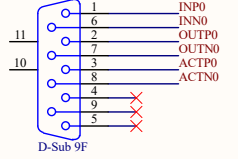
### C-PR3-BF-LV-4B



## LVDT/ACT Distributor

JGW-D1402124,  
Front Panel  
JGW-D1402827  
Board  
JGW-D1402117

### PR3-LA-J1



Title			PR3 Suspension Cabling (iKAGRA) - Bottom Filter LVDT		
Size	Number	Revision			
A3	JGW-D1604795	-v1			
Date:	2016/02/12	Sheet	4 of 8		
File:	\\.\04 BF LVDT.SchDoc	Drawn By:			

4 Feedthroughs

Traverser Steppers

Limit Switch

Stepper

D-Sub 9 Female

TR to Flange Motor Cable  
JGW-D1503901 Sheet 20

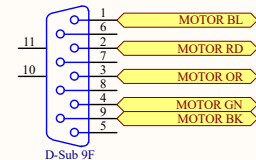
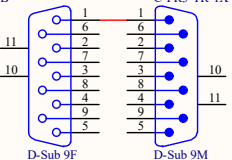
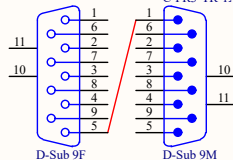
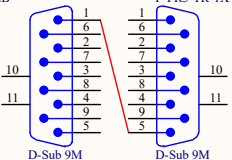
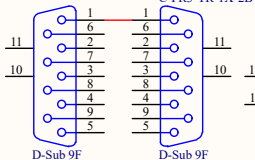
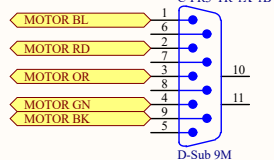
Feedthrough

Anti-Feedthrough Adapter Cable

Stepper External Cable

Stepper Driver  
CVD507-K

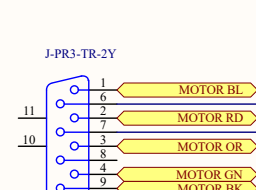
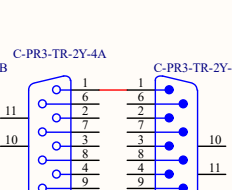
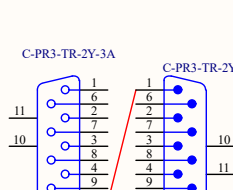
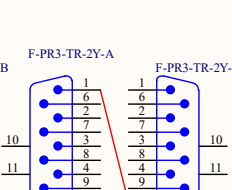
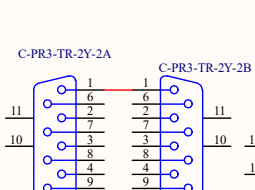
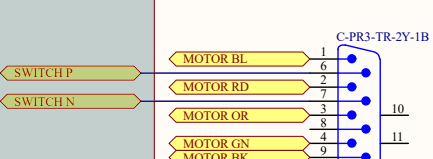
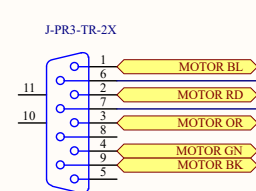
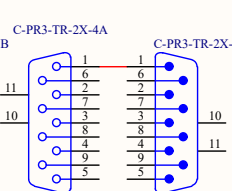
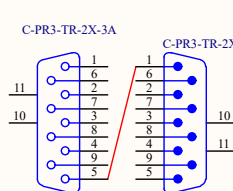
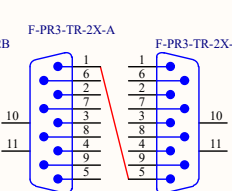
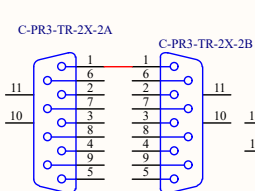
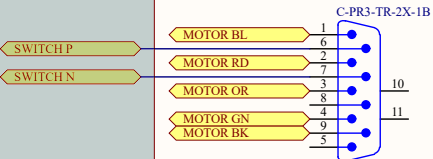
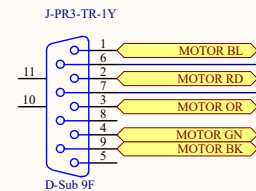
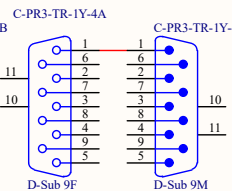
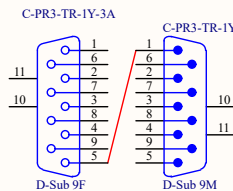
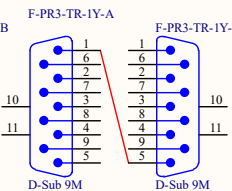
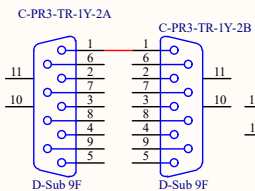
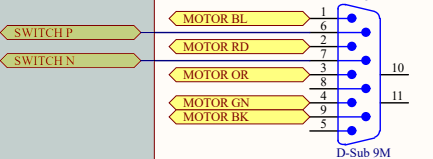
No switches on Motor 1



No switches on Motor 1

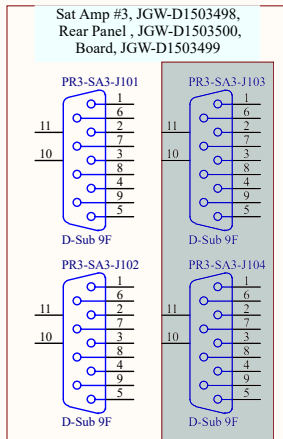
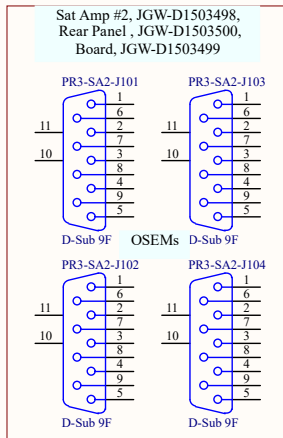
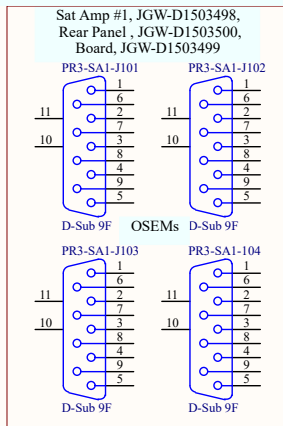
Not used in iKAGRA

Not used in iKAGRA

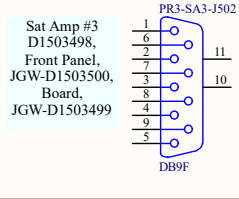
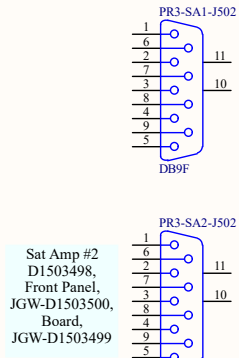


Title PR3 Suspension Cabling (iKAGRA) - Traverser Steppers		
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Date 2016/02/12	Sheet 5 of 8	Drawn By:
File: \\.\05 TR Steppers.SchDoc		

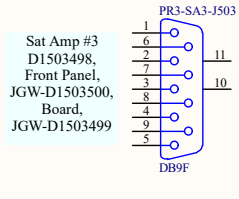
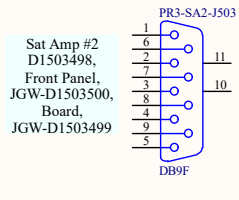
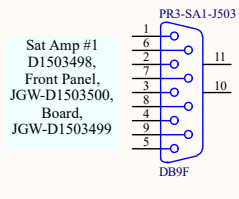
### Sat Amp Inputs from OSEMs (see Sheets 1&2)



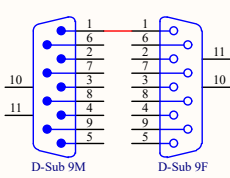
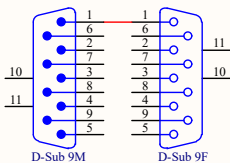
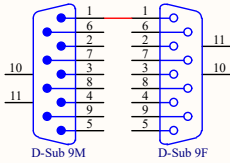
### Sat Amp PD Outputs



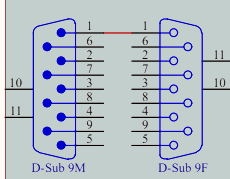
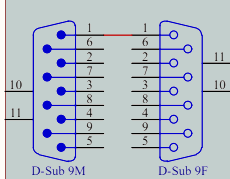
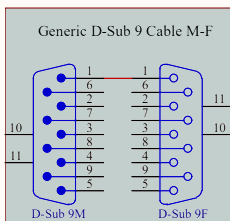
### Sat Amp LED Current Monitor Outputs



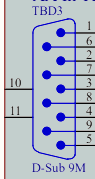
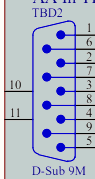
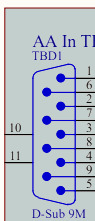
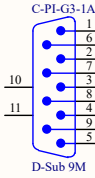
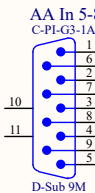
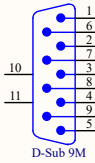
### Generic D-Sub 9 Cable M-F



### Coil Current Monitors - TBD



### AA Chassis D1100621



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

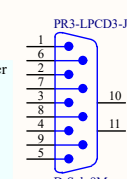
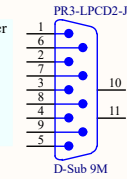
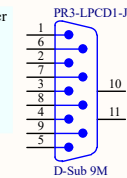
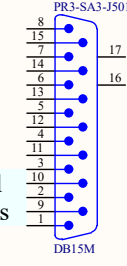
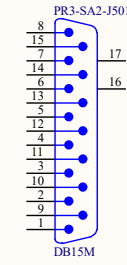
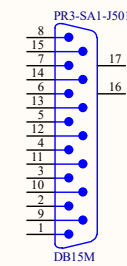
### Sat Amp Coil Current Inputs

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

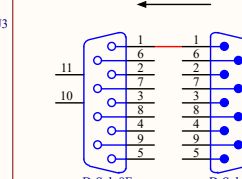
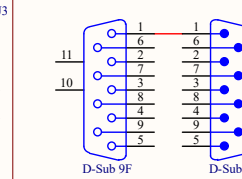
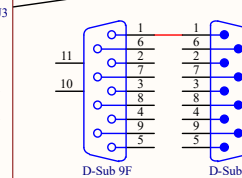
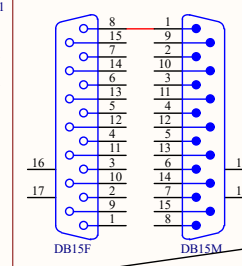
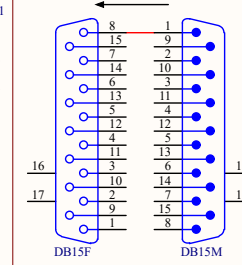
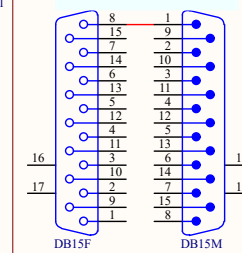
Low Power Coil Driver #2  
JGW-D1503506,  
Front Panel,  
JGW-D1503508,  
Board,  
JGW-D1503507

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

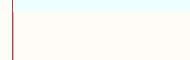
### Coil Current Request Inputs



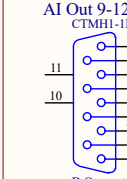
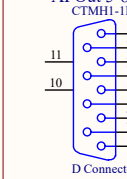
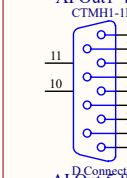
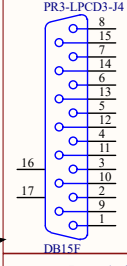
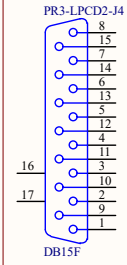
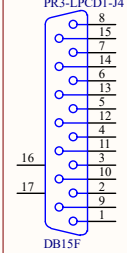
### Generic D-Sub 15 Cable M-F



### Generic D-Sub 9 Cable M-F



### PR3-LPCD1-J4



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 Chassis D1101521

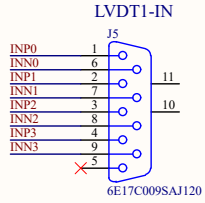
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Size	Number	JGW-D1604795		Revision	-v1
A3	Date:	2016/02/12	Sheet	6of	8
File:	\\..06 Sat Amps & Coil Drivers.SchDoc		Drawn By:		

# LVDT Drivers

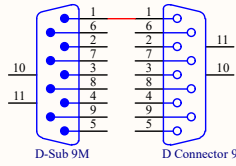
**Inputs from LVDTs**  
(see Sheet 4)

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

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



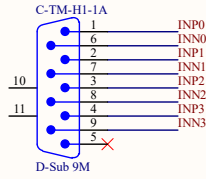
Generic D-Sub 9 Cable M-F



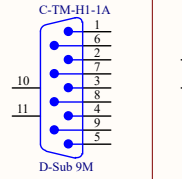
LVDT Driver  
JGW-D1402826,  
Front Panel  
JGW-D1402827  
Input Board  
JGW-D1301467

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

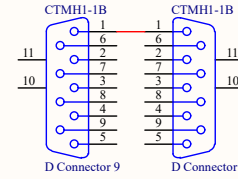
**LVDTIMI-INP**



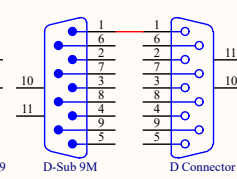
**LVDTM Out 1**



Gender Bender F-F

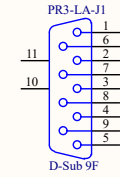
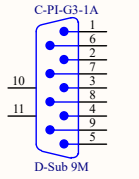


Generic D-Sub 9 Cable M-F

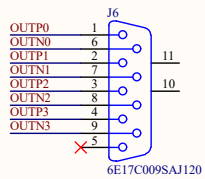


AA Chassis  
JGW-D1100621

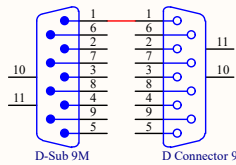
**AA In 13-16**



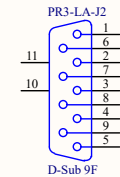
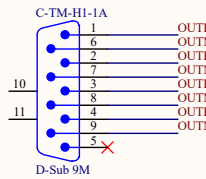
**LVDT1-OUT**



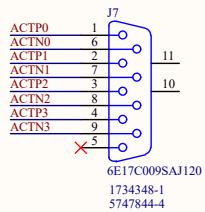
Generic D-Sub 9 Cable M-F



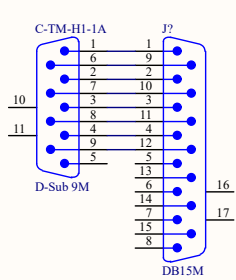
**LVDTIMI-OUTP**



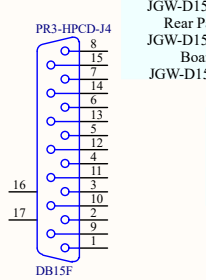
**ACT1**



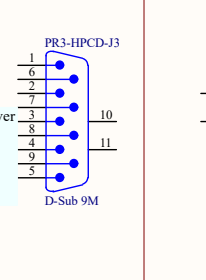
LVDT-Coil Driver Cable



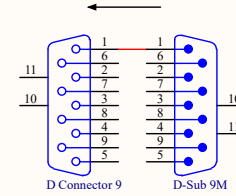
High Power Coil Driver  
JGW-D1503504,  
Rear Panel,  
JGW-D1503505,  
Board  
JGW-D1503503



High Power Coil Driver  
JGW-D1503504,  
Front Panel,  
JGW-D1503502,  
Board  
JGW-D1503503

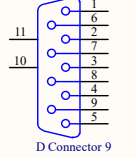


Generic D-Sub 9 Cable M-F



AI Chassis  
D1101521

**AI Out 13-16**



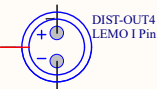
**2 inputs unused**

Signal Generator  
10 kHz, 5 V



Cable

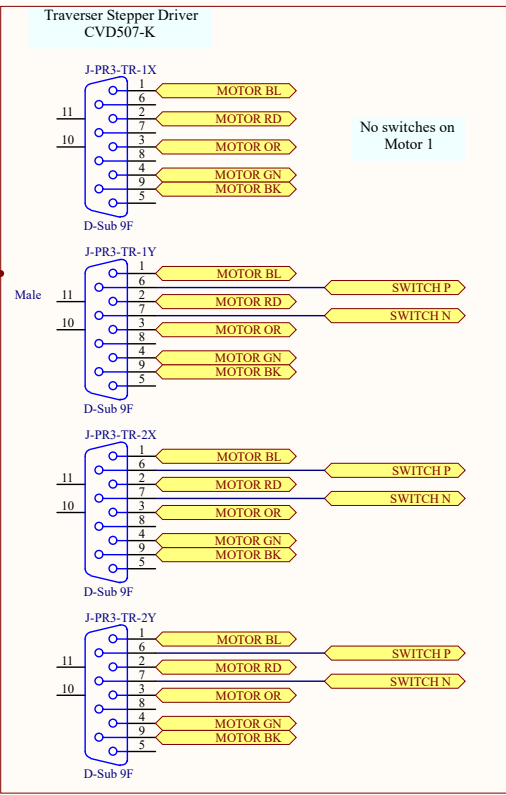
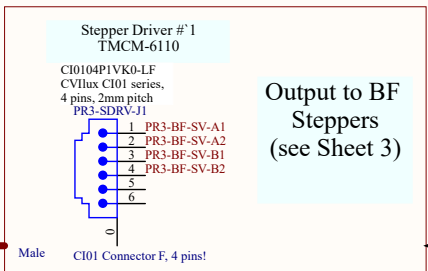
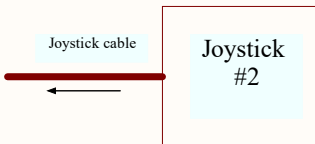
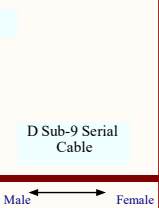
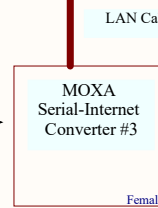
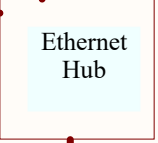
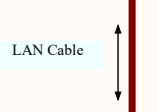
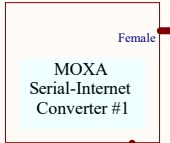
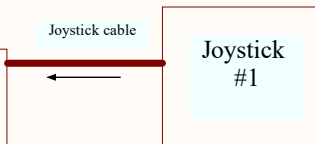
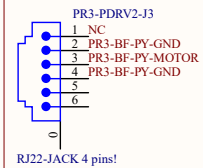
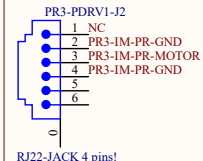
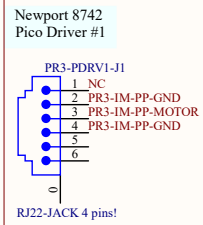
LVDT Main Module  
JGW-D1301467



Title PR3 Suspension Cabling (iKAGRA) - LVDT Drivers		
Size A3	Number JGW-D1604795	Revision -v1
Date: 2016/02/12	Sheet 7 of 8	
File: \\..07 LVDT Drive.SchDoc	Drawn By:	

# Pico, Stepper and Traverser Drivers

Outputs to IM&BF Picos (see Sheet 3)



Output to Traversers (see Sheet 5)

Title PR3 Suspension Cabling (iKAGRA) - Pico/Stepper/Traverser Drivers		
Size A3	Number JGW-D1604795	Revision -v1
Date: 2016/02/12	Sheet 8 of 8	Drawn By:
File: \\.\08 Pico&Stepper Drive.SchDoc		