

4 Feedthroughs

TM OSEMs

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

OSEM

TM OSEM to BF Cable JGW-D1503901 Sheet 01

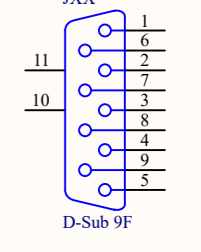
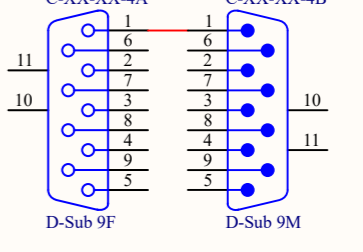
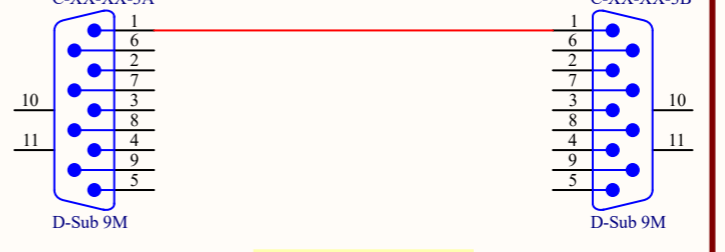
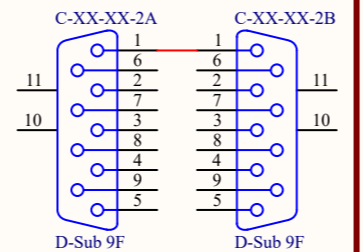
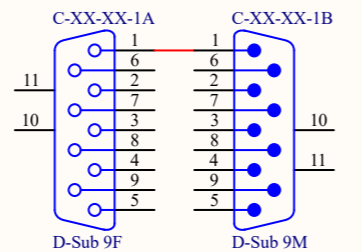
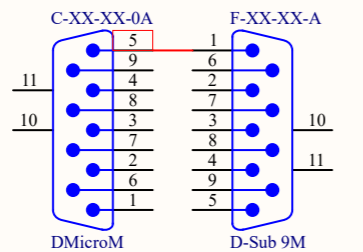
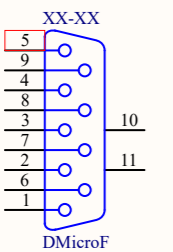
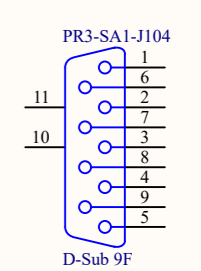
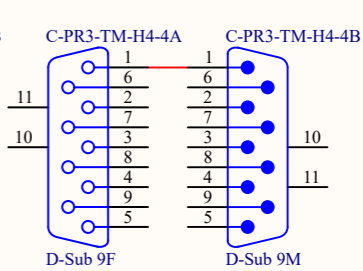
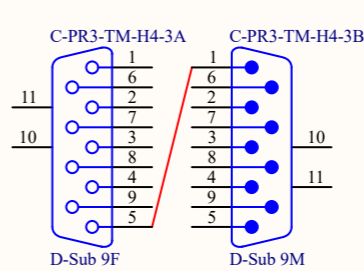
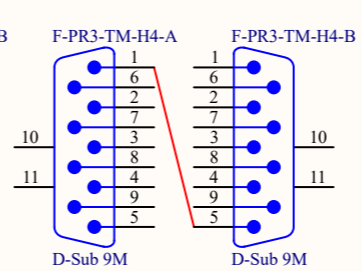
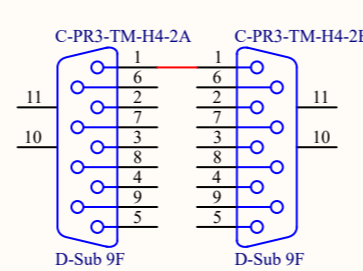
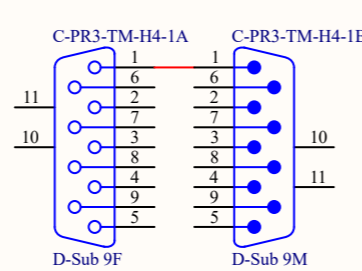
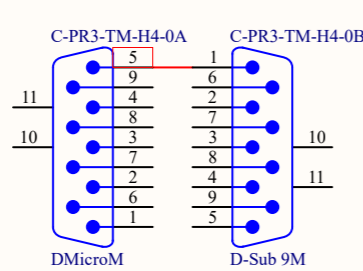
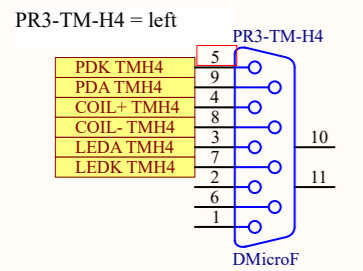
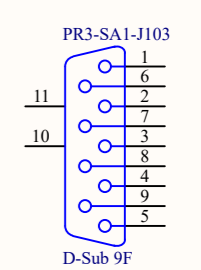
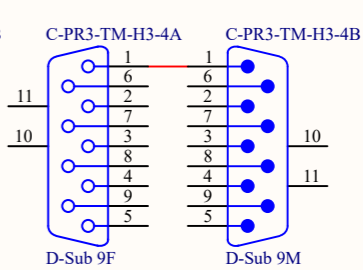
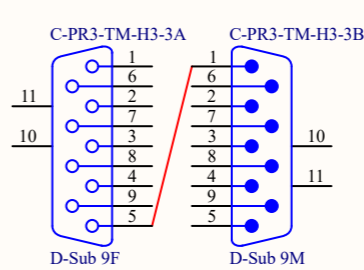
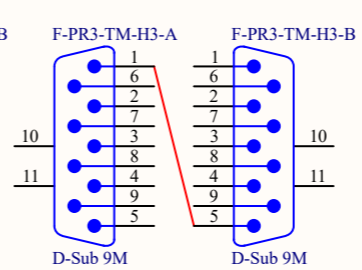
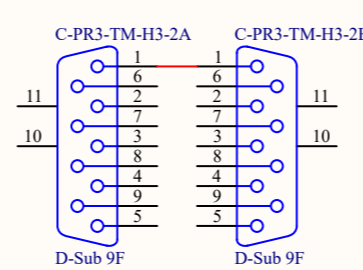
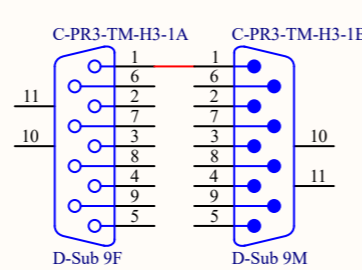
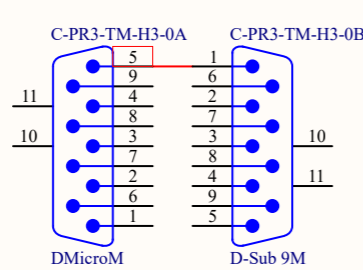
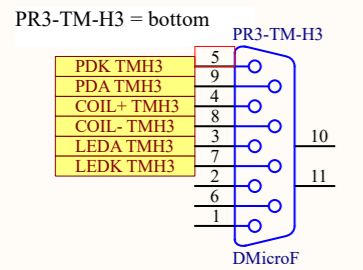
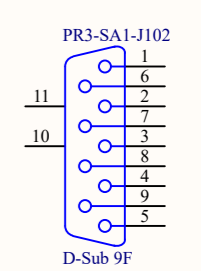
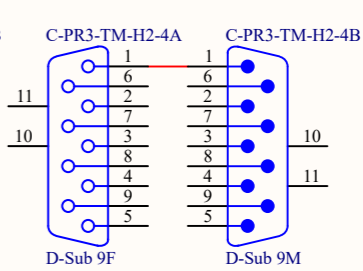
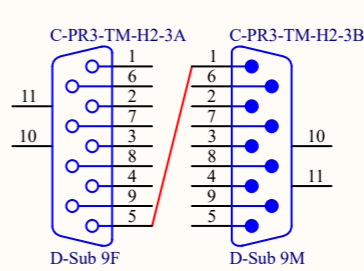
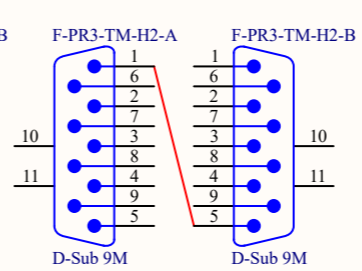
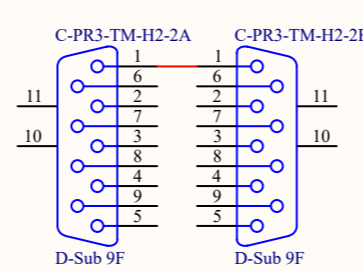
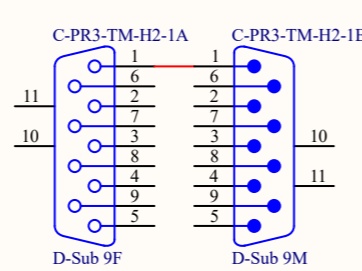
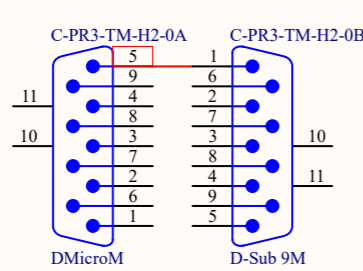
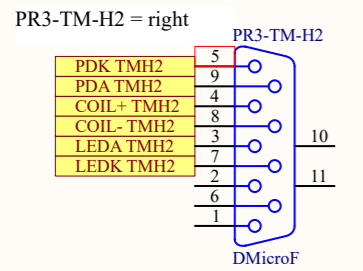
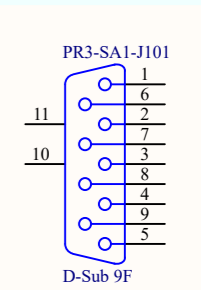
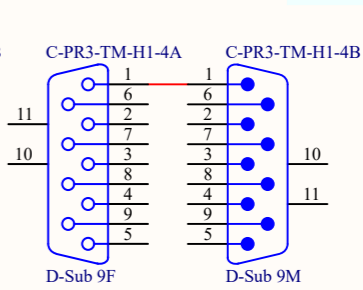
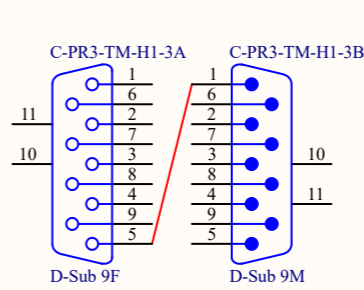
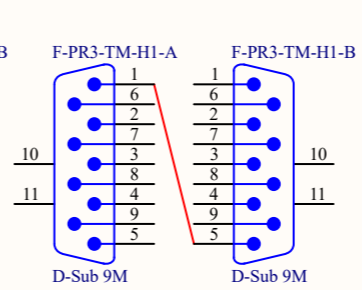
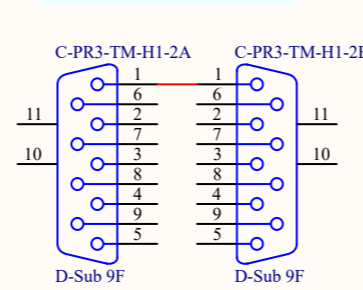
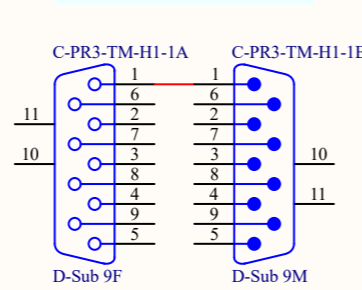
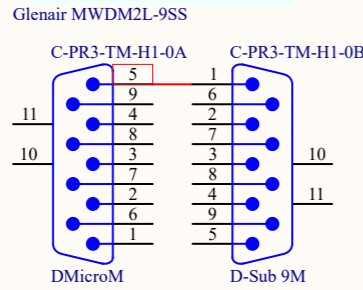
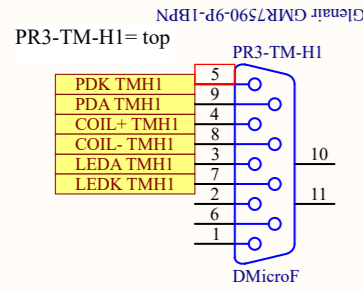
OSEM BF-TR Signal Cable JGW_E1503901 Sheet 17

TR to Flange Signal Cable JGW-D1503901 Sheet 19

Feedthrough

Anti-Feedthrough Adapter Cable

OSEM External Cable



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 PR3 Suspension Cabling - Test Mass OSEMs		
Size A3	Number JGW-D1503615	Revision -v2
Date: 5/25/2022	Sheet bf 10	Drawn By:
File: C:\Users\... \TM OSEMs.SchDoc		

6 Feedthroughs

IM OSEMs

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

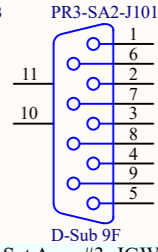
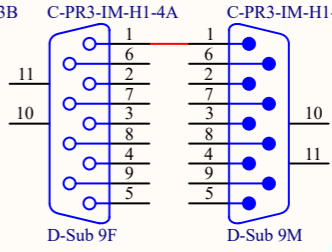
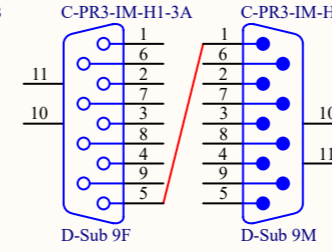
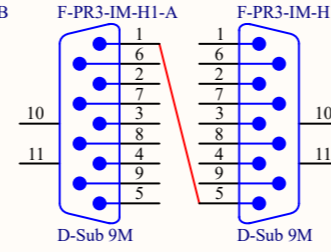
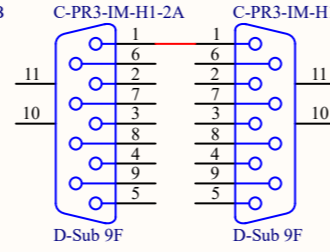
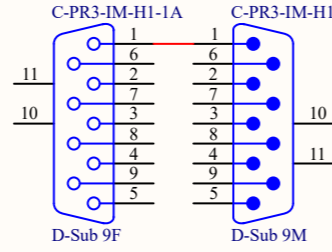
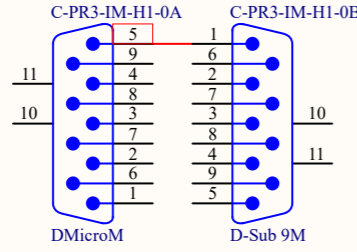
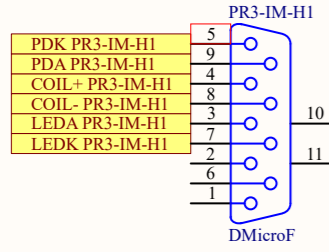
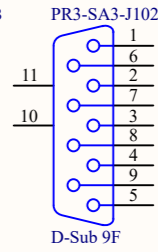
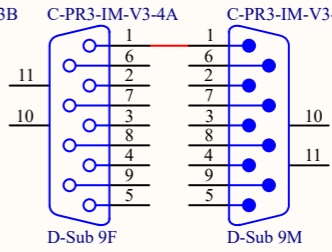
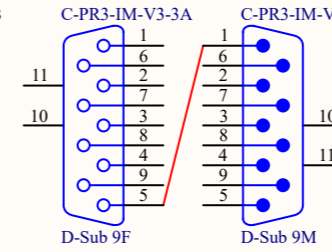
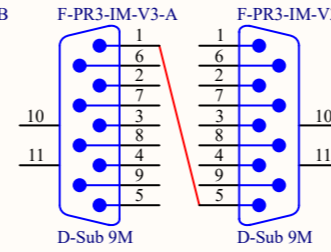
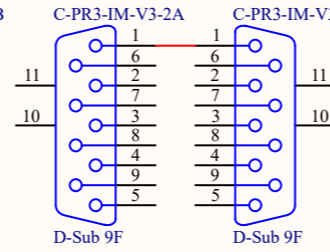
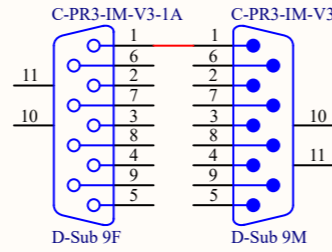
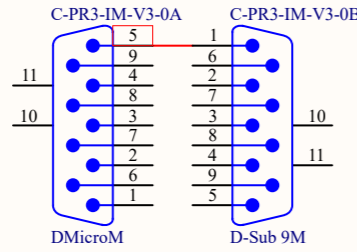
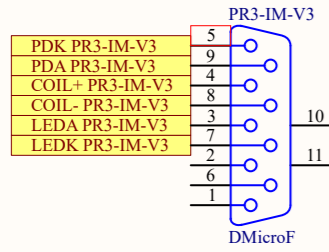
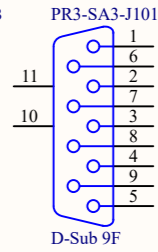
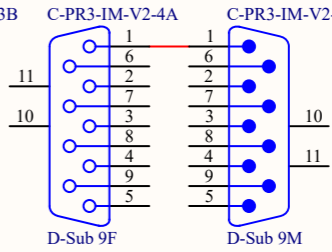
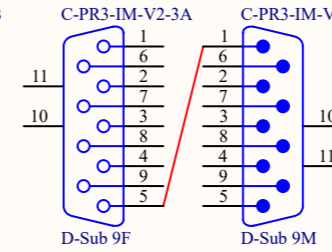
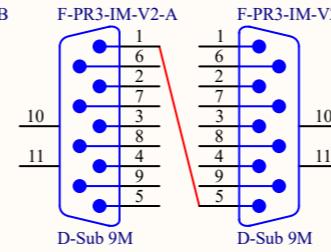
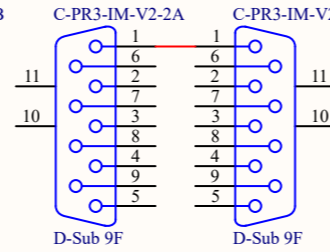
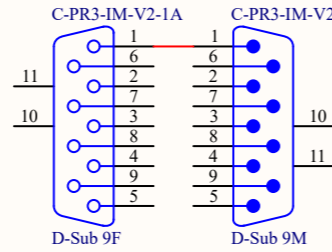
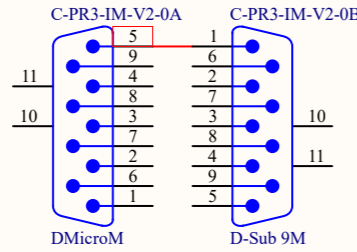
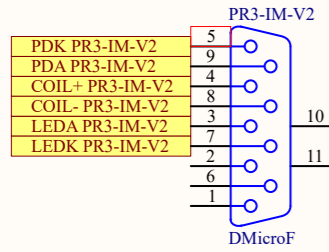
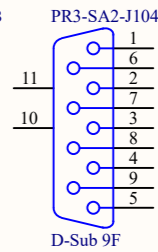
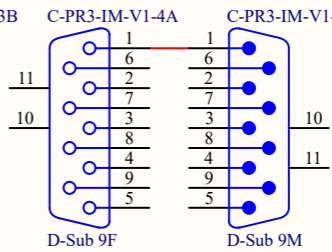
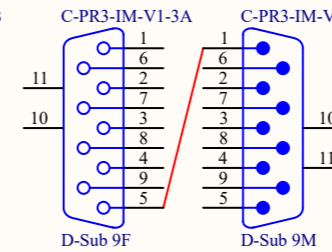
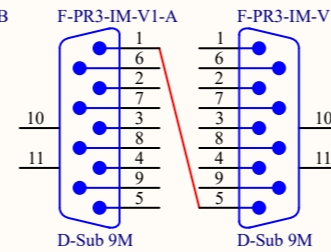
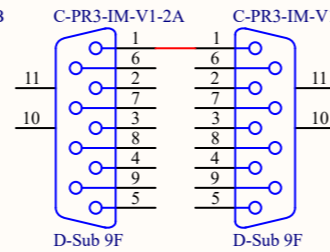
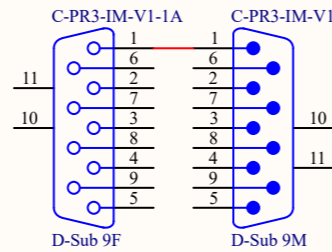
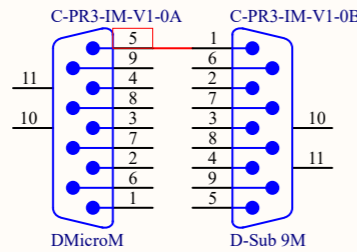
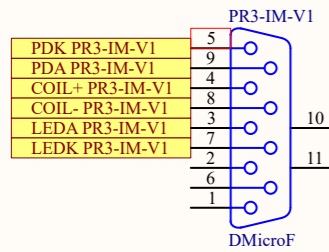
Anti-Feedthrough Adapter Cable

OSEM External Cable

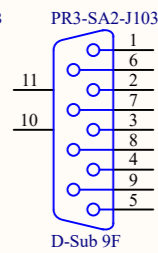
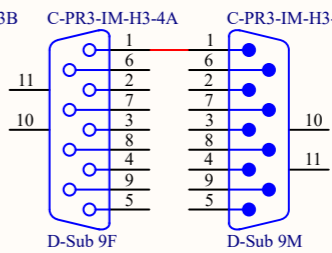
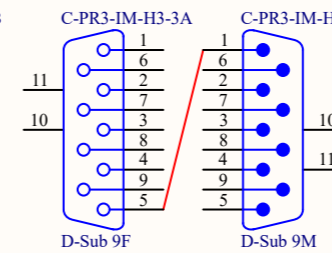
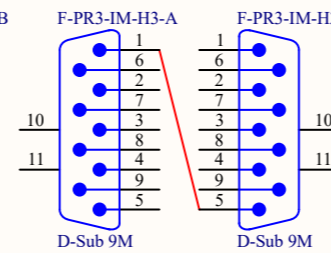
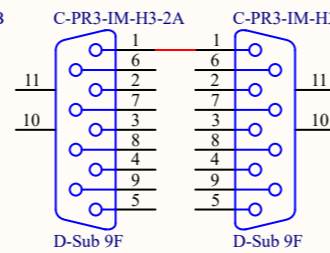
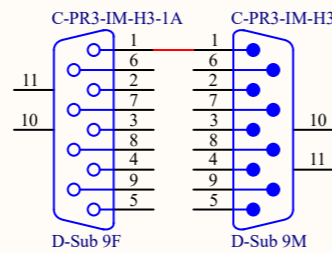
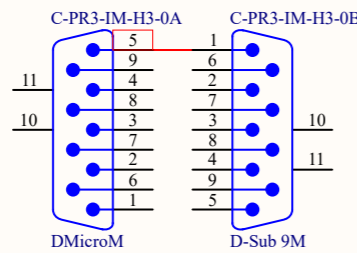
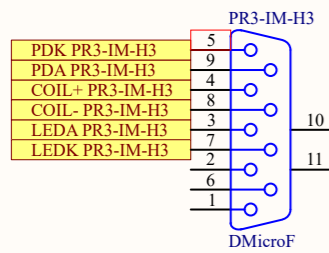
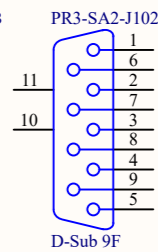
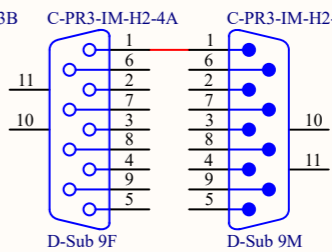
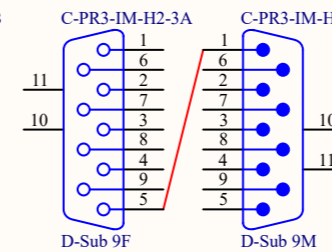
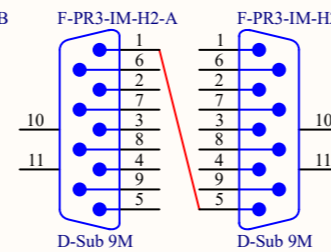
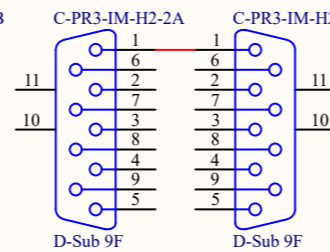
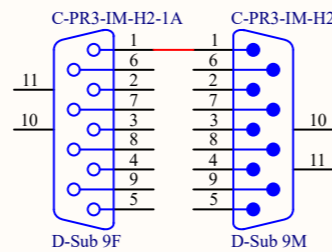
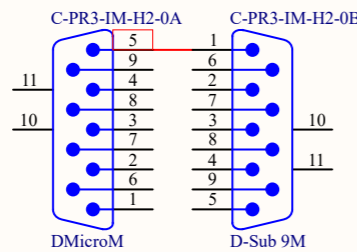
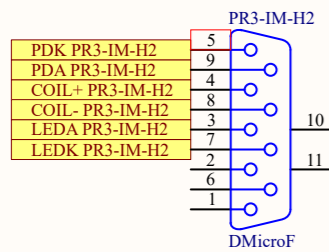
Sat Amp #2, JGW-D1503498,
Rear Panel, JGW-D1503500,
Board, JGW-D1503499

Glenair GM7950-9P-1BPN

Glenair MWDM2L-9SS



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

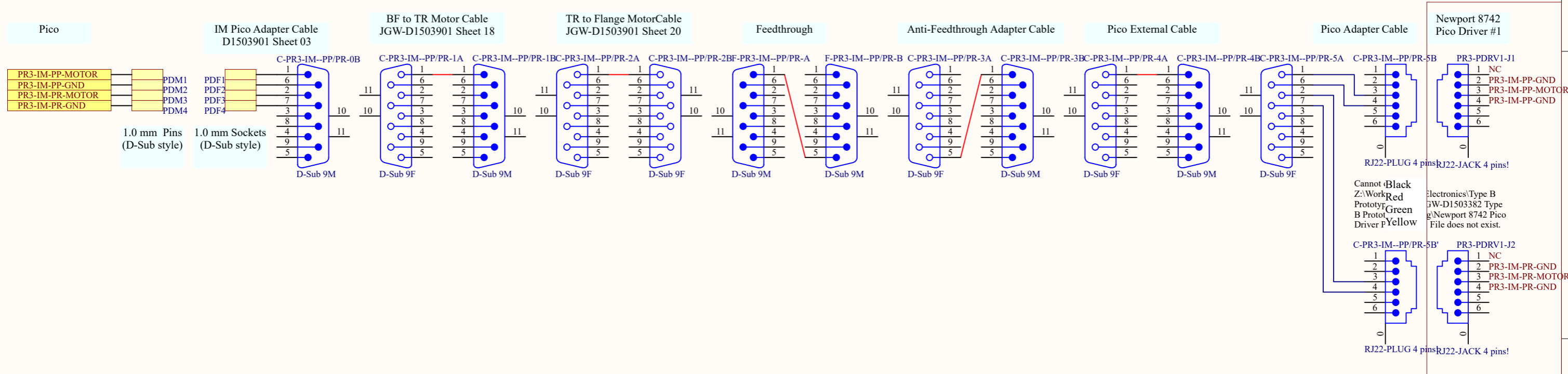


J-PR3-SA3-103 and J-PR3-SA3-104 not used

Title		
PR3 Suspension Cabling - Intermediate Mass OSEMs		
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1 Feedthrough

IM Picomotors



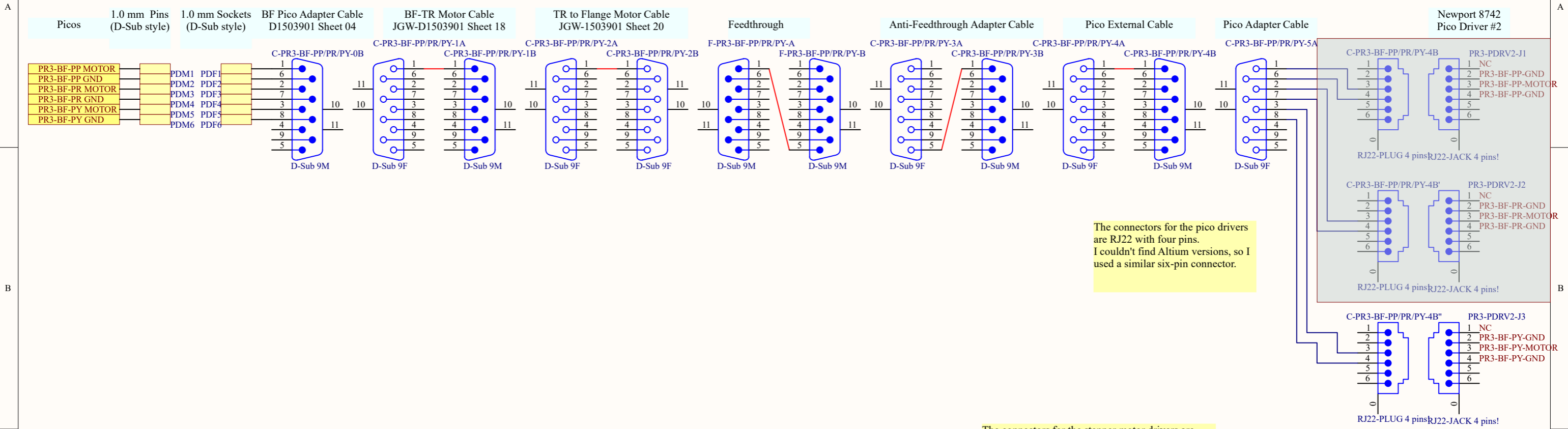
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Title PR3 Suspension Cabling - Intermediate Mass Picos		
Size A3	Number JGW-D1503615	Revision -v2
Date: 5/25/2022	Sheet of 3 of 10	Drawn By:
File: C:\Users\...\IM Picos.SchDoc		

BF and SF Picomotors and Steppers

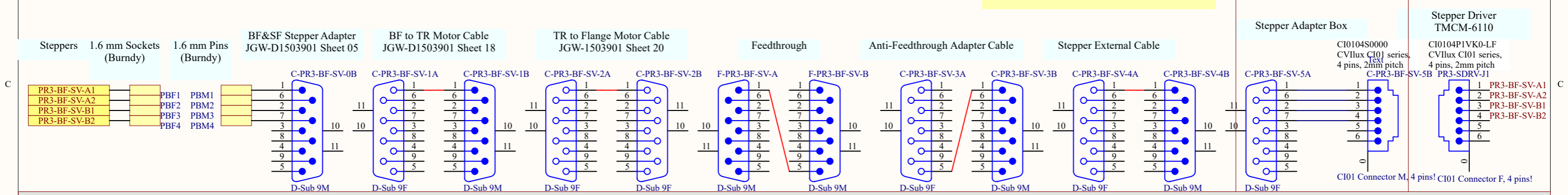
3 Feedthroughs (2 for Type Bp Short, iKAGRA)

Cannot (Black
Z:\Work\Red
Prototype
B Protot
Driver p
Electronics\Type B
JW-D1503382 Type
g\Newport 8742 Pico
File does not exist.

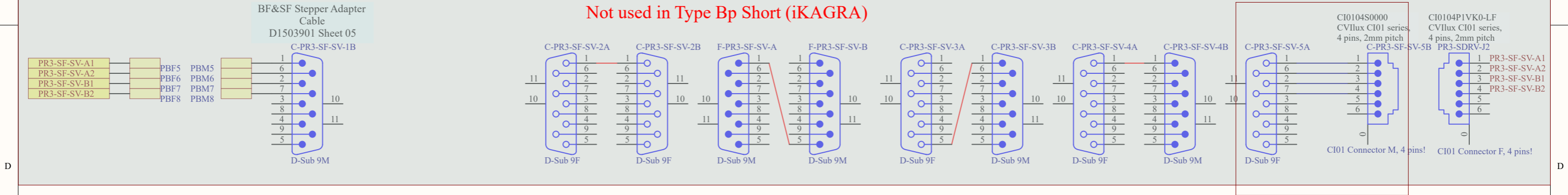


The connectors for the stepper motor drivers are CVIlux: CI01045000-A (plug, female), CI0104P1VK0-LF (jack, male) pairs with four pins. I couldn't find Altium versions, so I used a similar six-pin connector.

CI0104P1VK0-LF
Cannot open file Z:\Work\KAGRA\Electronics\Type B Prototype
Cables\JGW-D1503382 Type B Prototype Cabling\TMCM-6110 pinout.png.
File does not exist.



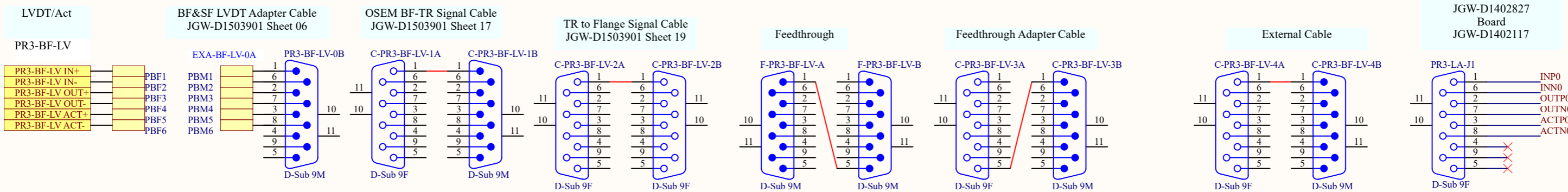
Not used in Type Bp Short (iKAGRA)



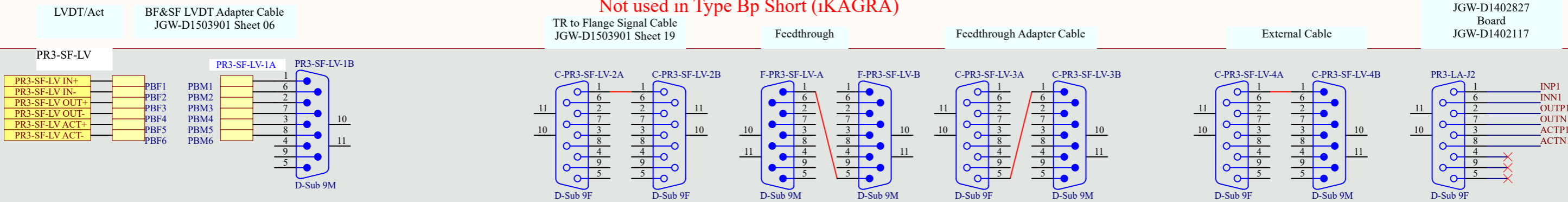
Title			PR3 Suspension Cabling - Bottom and Standard Filter Picos/Steppers		
Size	Number	Revision			
A3	JGW-D1503615	-v2			
Date:	5/25/2022	Sheet	4f	10	
File:	C:\Users\...BF&SF Picos&Steppers.SchDoc\Drawn By:				

BF and SF LVDT/ACTs

2 Feedthroughs (1 in Type Bp Short, iKAGRA)



Not used in Type Bp Short (iKAGRA)



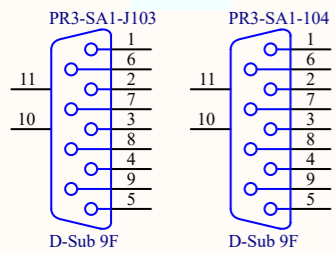
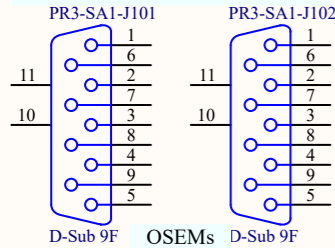
J-PR3-LA-6 and J-PR3-LA-7 not used

Title		
PR3 Suspension Cabling - Bottom and Standard Filter LVDTs		
Size	Number	Revision
A3	JGW-D1503615	-v2
Date:	5/25/2022	Sheet 5 of 10
File:	C:\Users\...BF&SF LVDTs.SchDoc	Drawn By:

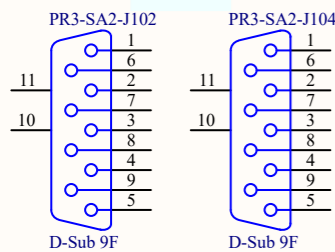
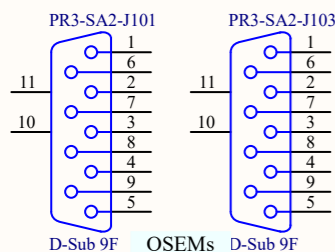
OSEM Sat Amps and Drivers

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

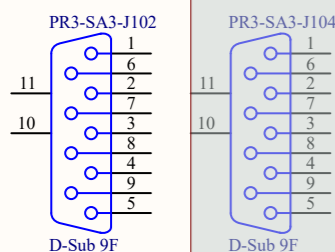
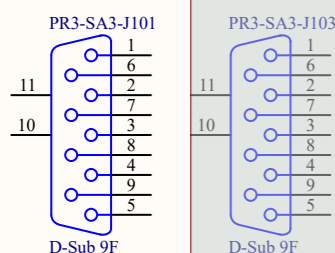
Sat Amp #1, JGW-D1503498,
Rear Panel, JGW-D1503500,
Board, JGW-D1503499



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

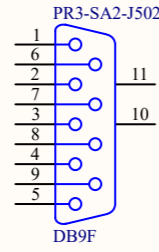
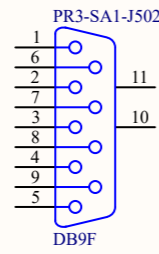


Sat Amp #3, JGW-D1503498,
Rear Panel, JGW-D1503500,
Board, JGW-D1503499

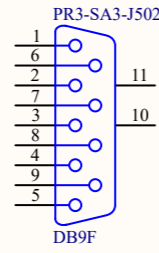


Sat Amp PD Outputs

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

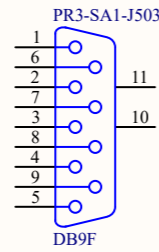


Sat Amp #3,
D1503498,
Front Panel,
JGW-D1503500,
Board,
JGW-D1503499

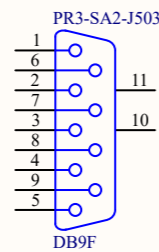


Sat Amp LED Current Monitor Outputs

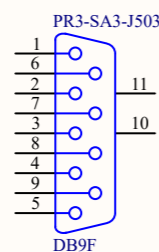
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D1503498,
Front Panel,
JGW-D1503500,
Board,
JGW-D1503499



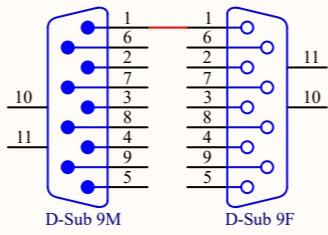
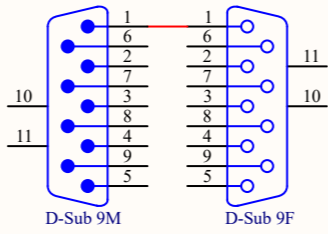
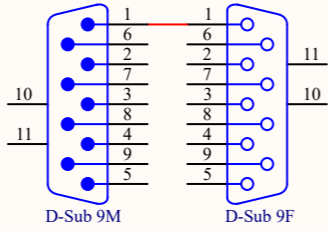
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D1503498,
Front Panel,
JGW-D1503500,
Board,
JGW-D1503499



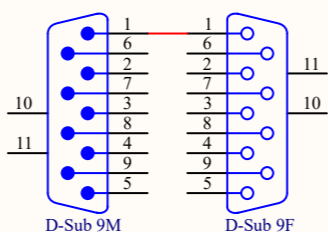
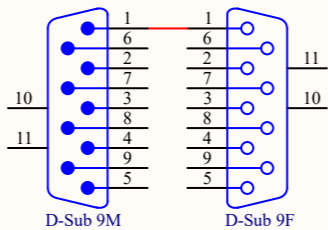
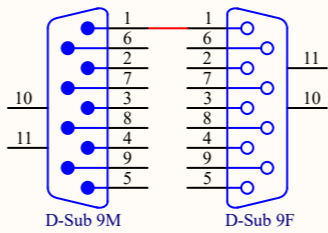
Sat Amp #3,
D1503498,
Front Panel,
JGW-D1503500,
Board,
JGW-D1503499



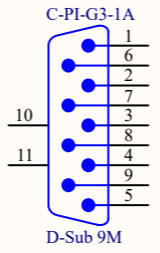
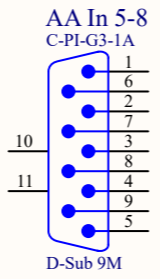
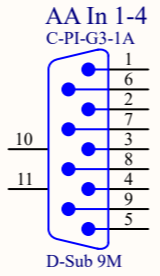
Generic D-Sub 9 Cable M-F



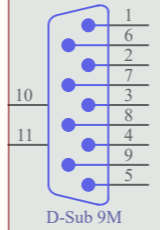
Generic D-Sub 9 Cable M-F



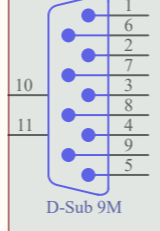
AA Chassis D1100621



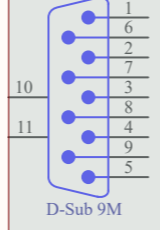
AA In TBD TBD1



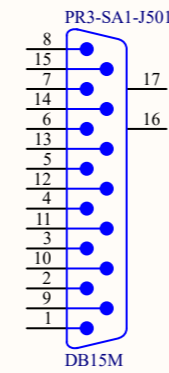
AA In TBD TBD2



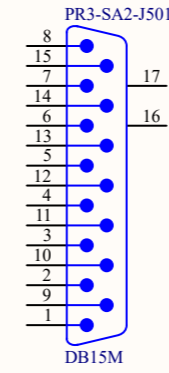
AA In TBD TBD3



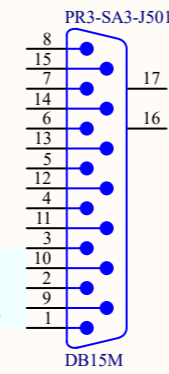
Sat Amp #1
JGW-D1503498,
Front,
JGW-D1503500,
Board,
JGW-D1503499



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

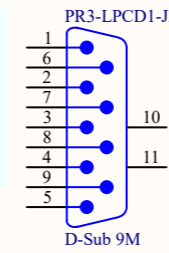


Sat Amp #3
JGW-D1503498,
Front,
JGW-D1503500,
Board,
JGW-D1503499

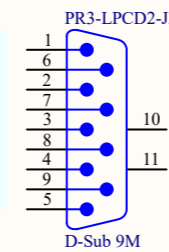


Sat Amp Coil Current Inputs

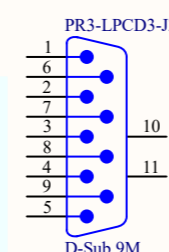
Low Power Coil Driver
#1
JGW-D1503506,
Front Panel,
JGW-D1503508,
Board,
JGW-D1503507



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

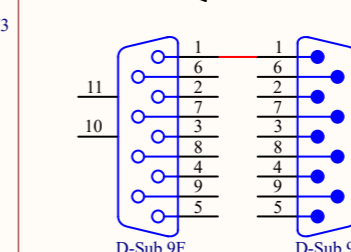
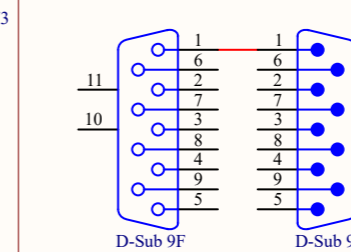
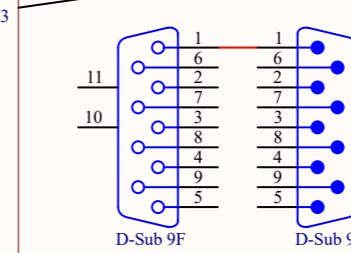
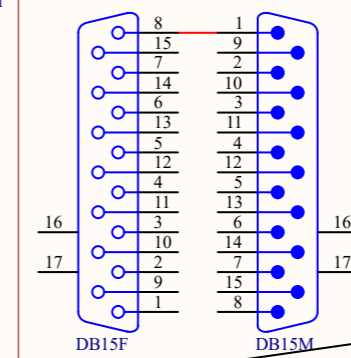
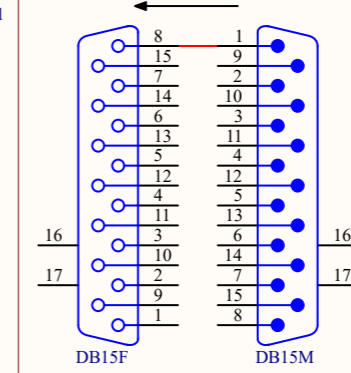
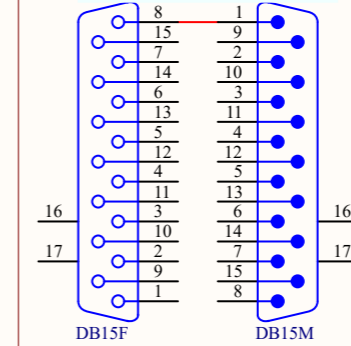


Low Power Coil Driver
#3
JGW-D1503506,
Front Panel,
JGW-D1503508,
Board,
JGW-D1503507

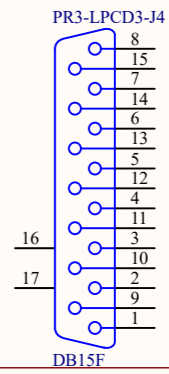
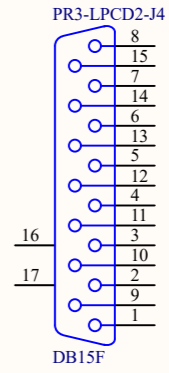
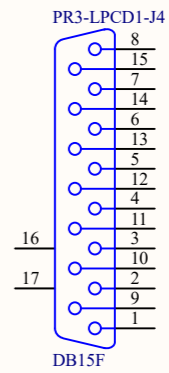


Coil Current Request Inputs

Generic D-Sub 15 Cable M-F



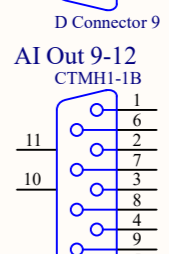
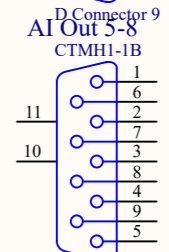
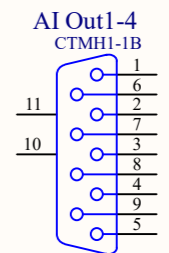
Generic D-Sub 9 Cable M-F



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

Title PR3 Suspension Cabling - OSEM Sat Amps & Drivers

Size A3 Number JGW-D1503615 Revision -v2

Date: 5/25/2022 Sheet 6 of 10

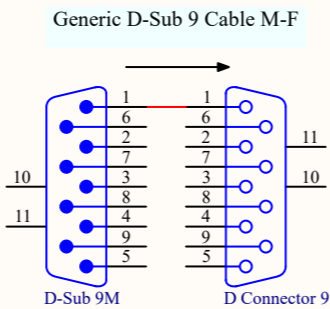
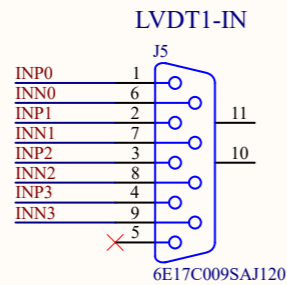
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LVDT Drivers

Inputs from LVDTs
(see Sheet 5)

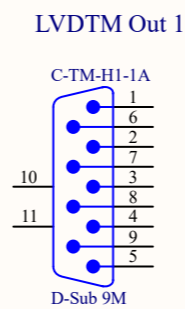
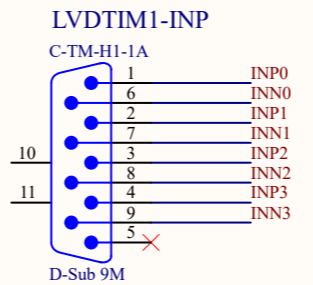
LVDT/ACT Distributor
JGW-D1402124,
Front Panel
JGW-D1402827
Board
JGW-D1402117

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

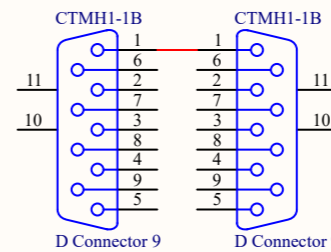


LVDT Driver
JGW-D1402826,
Front Panel
JGW-D1402827
Input Board
JGW-D1301467

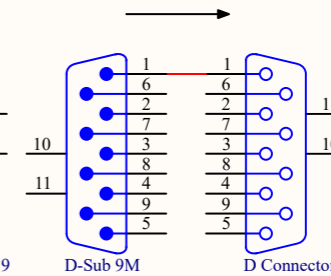
LVDT Driver
JGW-D1402826,
Front Panel
JGW-D1402827
Main Board
JGW-D1301467



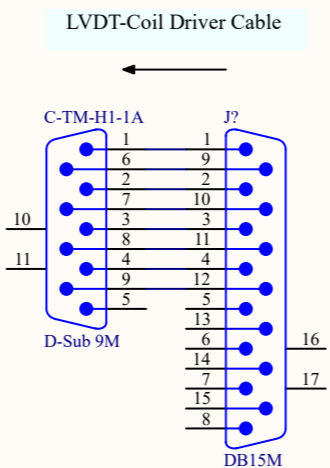
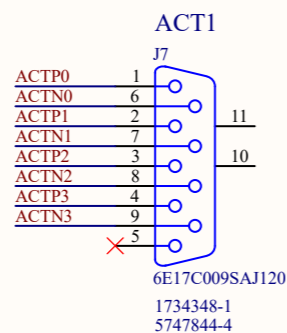
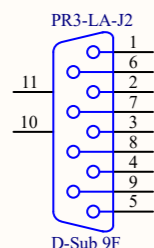
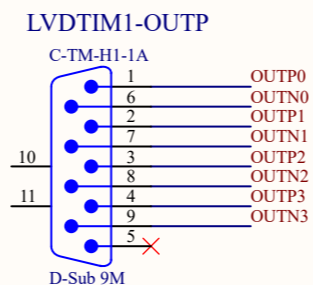
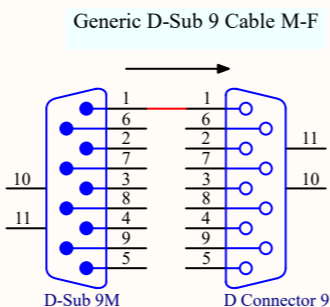
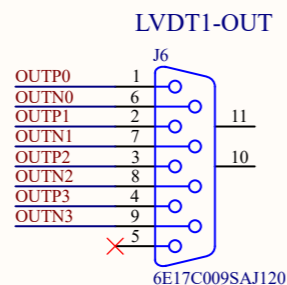
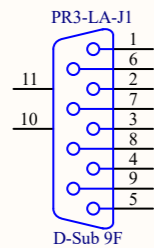
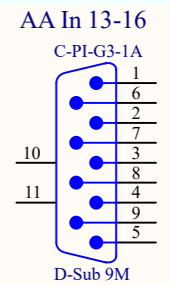
Gender Bender F-F



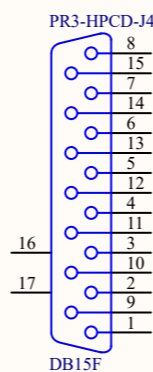
Generic D-Sub 9 Cable M-F



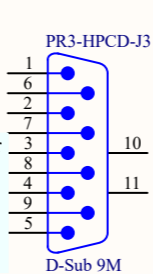
AA Chassis
JGW-D1100621



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

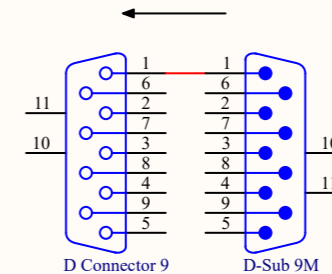


High Power Coil Driver
JGW-D1503504,
Front Panel,
JGW-D1503502,
Board
JGW-D1503503

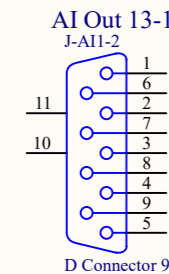


2 inputs
unused

Generic D-Sub 9 Cable M-F



AI Chassis
D1101521

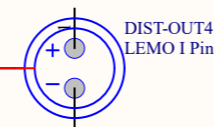


Signal Generator
10 kHz, 5 V



Cable

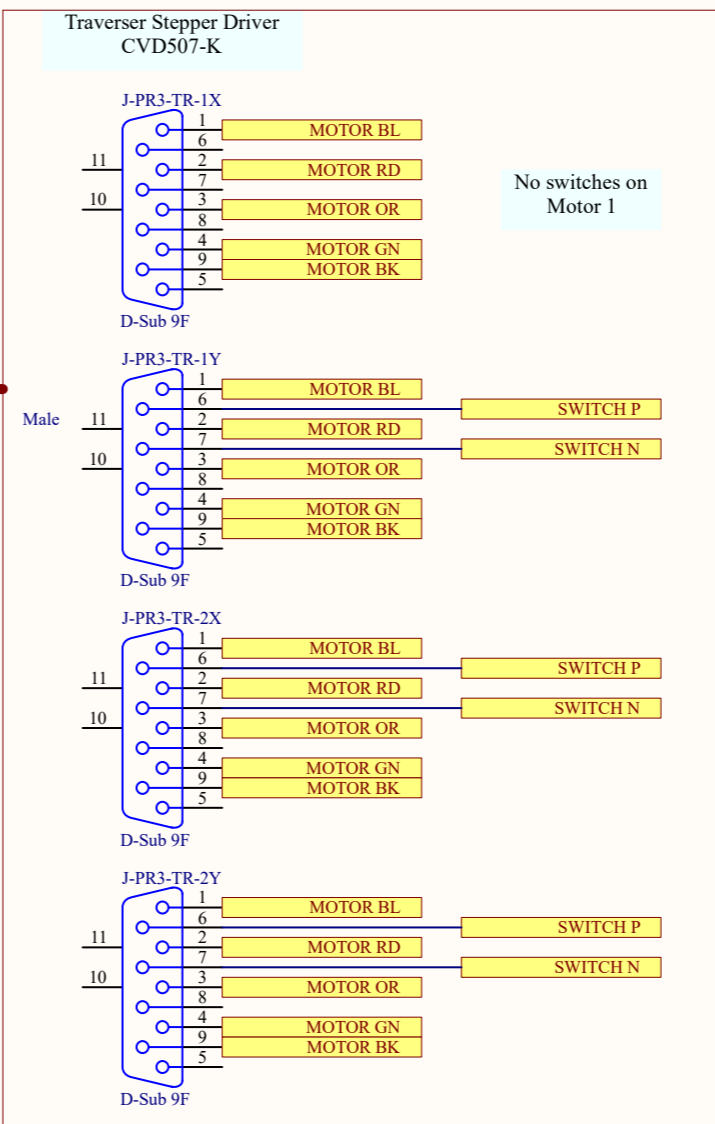
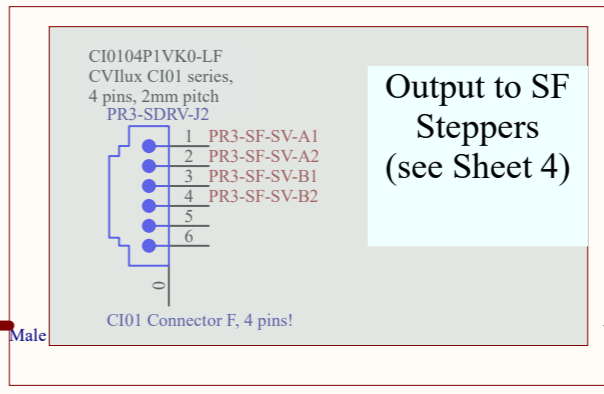
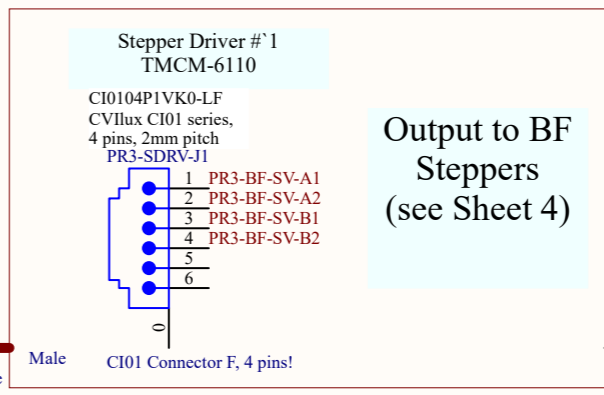
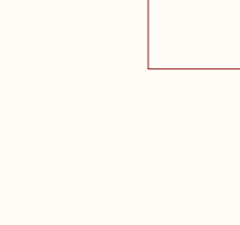
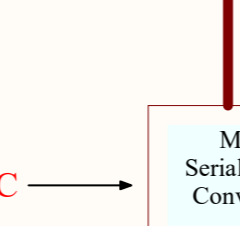
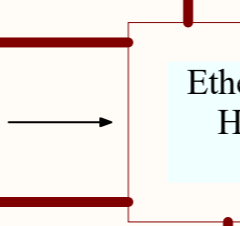
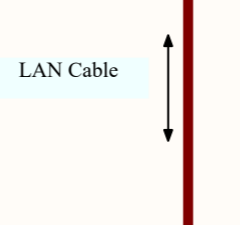
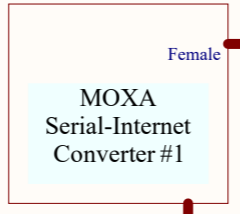
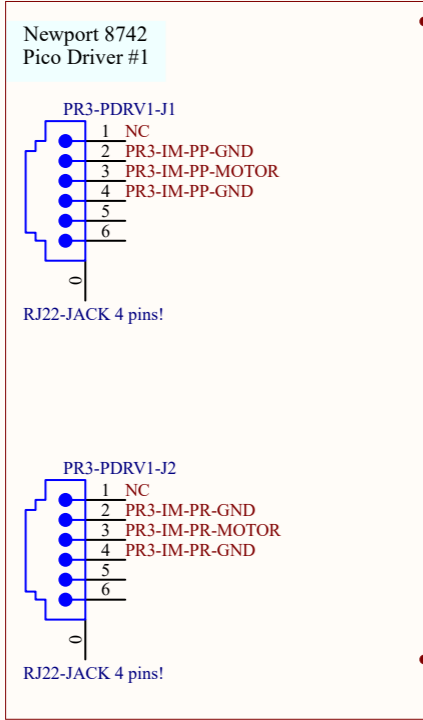
LVDT Main Module
JGW-D1301467



Title PR3 Suspension Cabling - LVDT Drivers		
Size A3	Number JGW-D1503615	Revision -v2
Date: 5/25/2022	Sheet of 10	Drawn By:
File: C:\Users\...LVDT Drive.SchDoc		

Pico, Stepper and Traverser Drivers

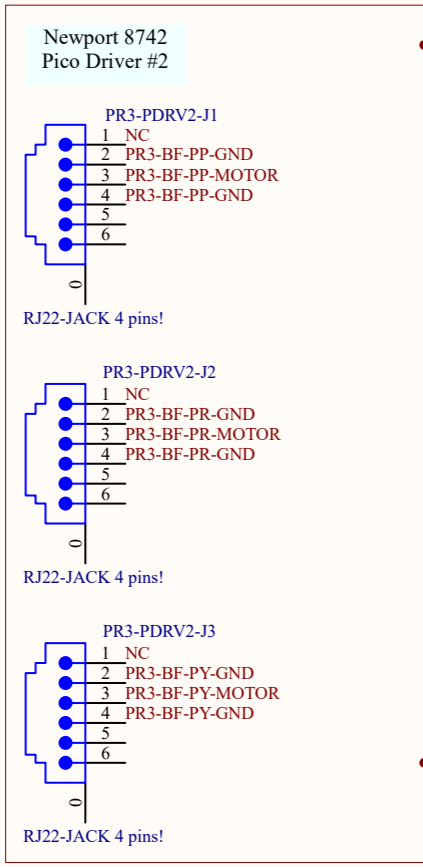
Outputs to IM Picos (see Sheet 3)



Output to BF Steppers (see Sheet 4)

Output to SF Steppers (see Sheet 4)

Outputs to BF Picos (see Sheet 4)



24 V Power

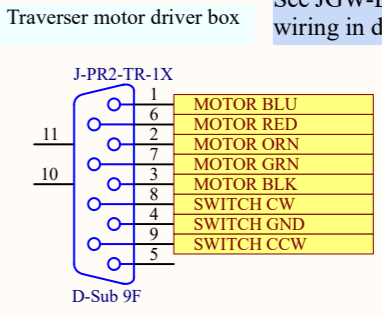
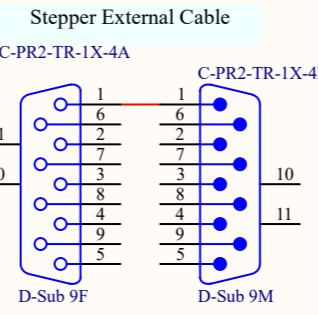
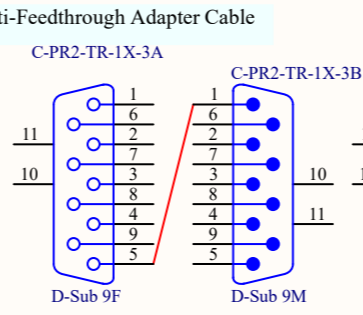
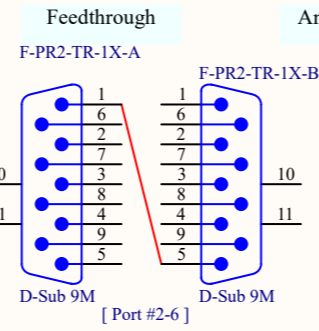
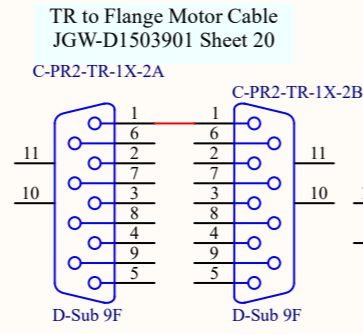
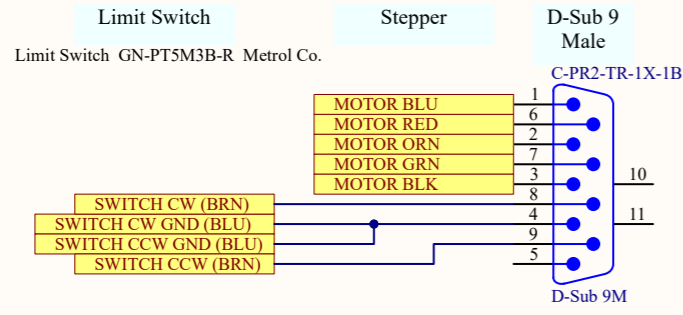
Title PR3 Suspension Cabling - Pico , Stepper and Traverser Drivers		
Size A3	Number JGW-D1503615	Revision -v2
Date: 5/25/2022	Sheet 8 of 10	Drawn By:
File: C:\Users\...\Pico&Stepper Drive.SchDoc		

Traverser Steppers (T1, R1, T2, R2)

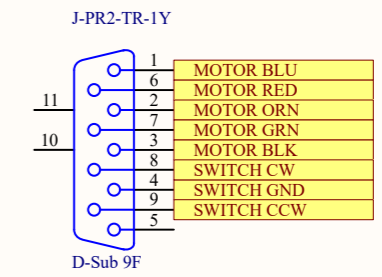
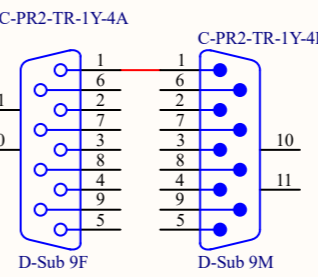
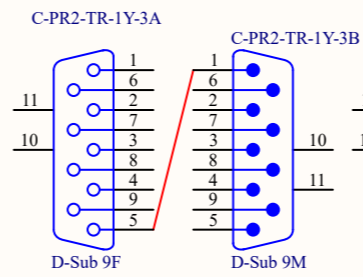
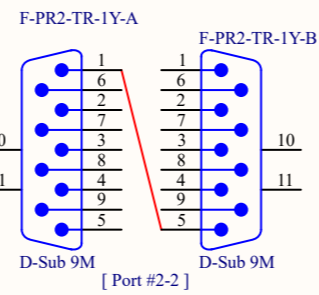
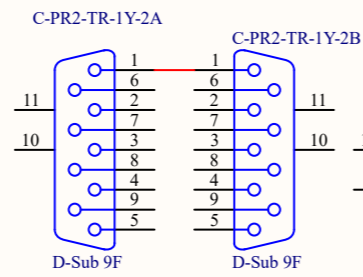
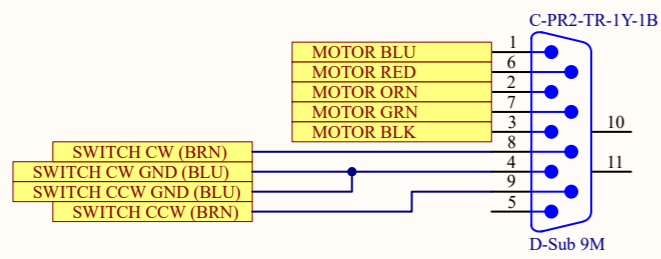
PR3

See JGW-E2213834 for wiring in driver box.

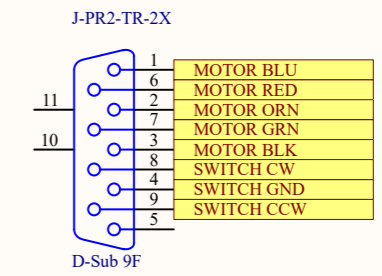
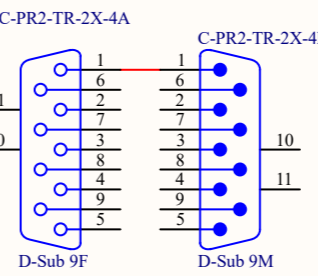
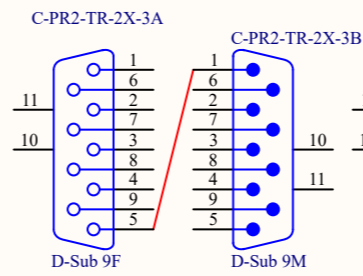
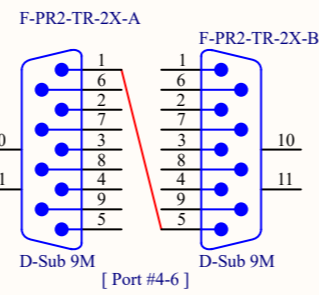
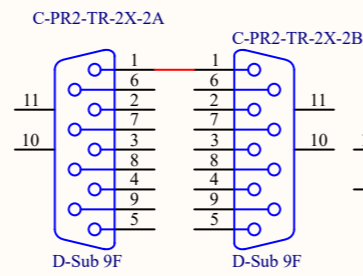
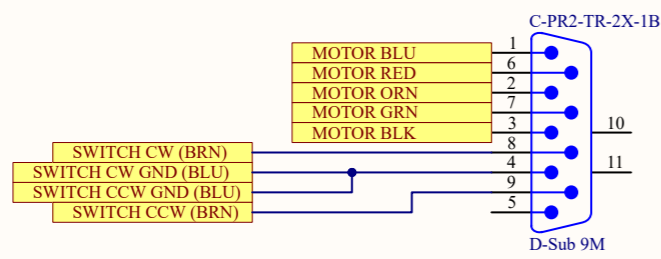
[T1]



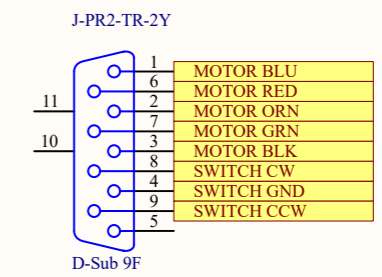
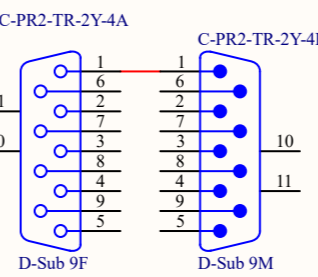
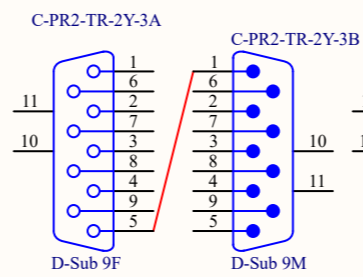
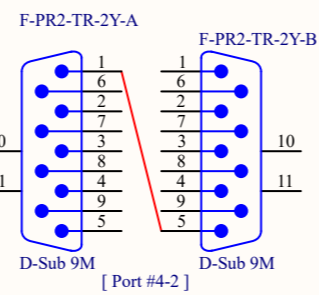
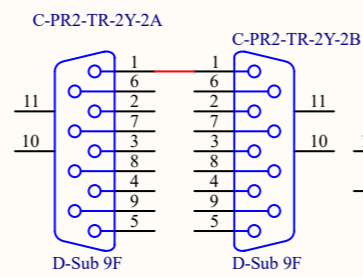
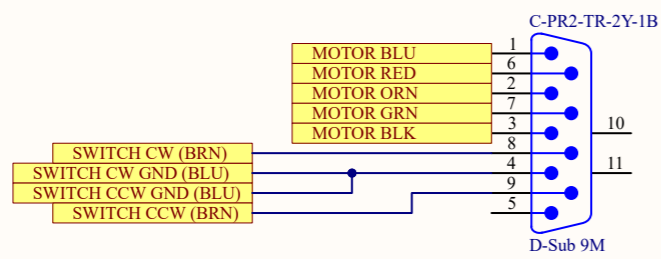
[R1]



[T2]



[R2]

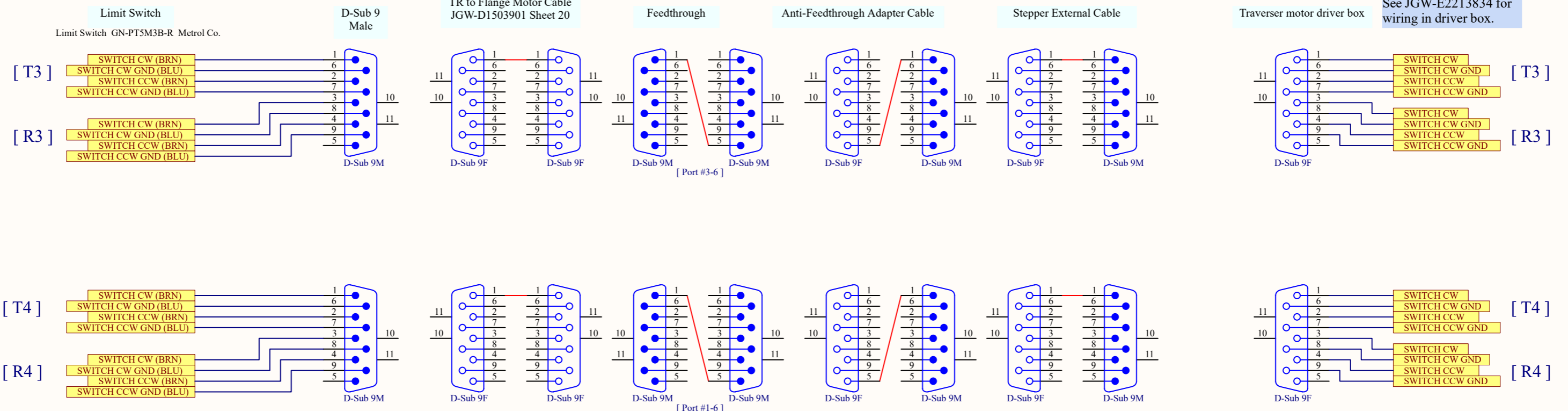


2022.5.11 Revision v2
 * Limit switches have been replaced and added.
 * Motor pin assignments have been changed. (k-log 15944, <https://klog.icrr.u-tokyo.ac.jp/osl/?r=15944>)

Title PR3 Suspension Cabling - Traverser Steppers		
Size A3	Number JGW-D1503615	Revision -v2
Date: 5/25/2022	Sheet 9f 10	
File: C:\Users\...TR Steppers PR3.SchDoc	Drawn By: N. Sato	

Traverser Limit switch (T3, R3, T4, R4)

PR3



Title PR3 Suspension Cabling - Traverser limit switch		
Size A3	Number JGW-D1503615	Revision -v2
Date: 5/25/2022	Sheet 1 of 10	Drawn By: N. Sato
File: C:\Users\...TR Limit switch PR3.SchDoc		