

PUEO Cabling and Connectors

Scott Mackey

OSU, June 2024

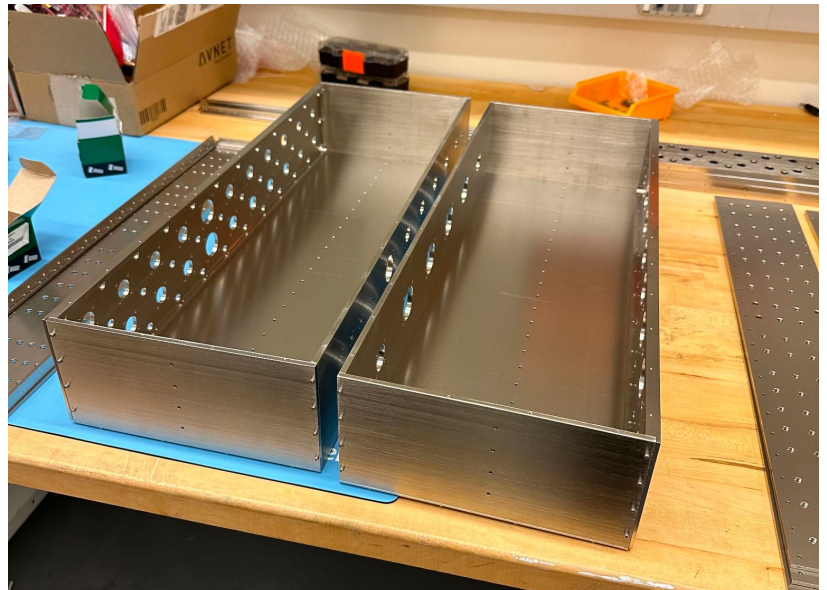
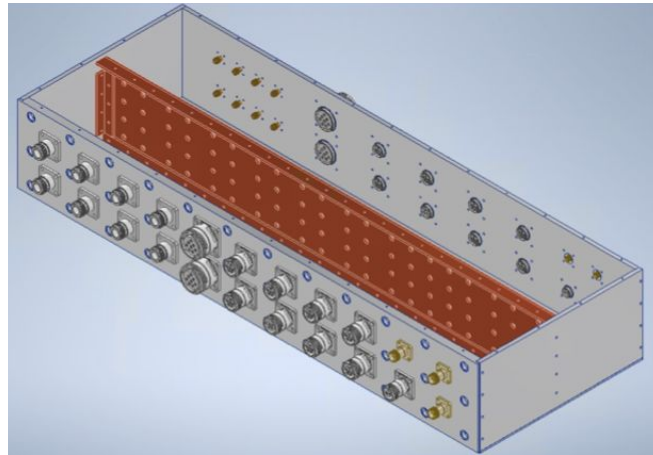
Master spreadsheet in progress

Cable Name	Made	Received	Coming From	From	Cable Connector	Bulkhead Connect	Backshell	To	Cable Connector	Bulkhead Connect	Backshell	Purpose
IMU1-PWR	No	No	WashU		D38999/26FB4SN	D38999/20FB4PN	CPH701F-1103H-8	Power Box	D38999/26FB4PN	D38999/20FB4SN	CPH701F-1103H-8	IMU1 Power
IMU2-PWR	No	No	WashU		D38999/26FB4SN	D38999/20FB4PN	CPH701F-1103H-8	Power Box	D38999/26FB4PN	D38999/20FB4SN	CPH701F-1103H-8	IMU2 Power
GPS-PWR	No	No	WashU		D38999/26FB4SN	D38999/20FB4PN	CPH701F-1103H-8	Power Box	D38999/26FB4PN	D38999/20FB4SN	CPH701F-1103H-8	GPS Power
STG A-PWR	No	No	WashU		D38999/26FB4SN	D38999/20FB4PN	CPH701F-1103H-8	Power Box	D38999/26FB4PN	D38999/20FB4SN	CPH701F-1103H-8	Storage A Power
STG B-PWR	No	No	WashU		D38999/26FB4SN	D38999/20FB4PN	CPH701F-1103H-8	Power Box	D38999/26FB4PN	D38999/20FB4SN	CPH701F-1103H-8	Storage B Power
STG C-PWR	No	No	WashU		D38999/26FB4SN	D38999/20FB4PN	CPH701F-1103H-8	Power Box	D38999/26FB4PN	D38999/20FB4SN	CPH701F-1103H-8	Storage C Power
ACT 1-PWR	No	No						Power Box				
ACT 2-PWR	No	No						Power Box				
CAM-PWR	No	No	WashU	Camera Board	D38999/26FB4SN	D38999/20FB4PN	CPH701F-1103H-8	Power Box	D38999/26FB4PN	D38999/20FB4SN	CPH701F-1103H-8	Downward Camera Pot
STAR TRK-PWR	No	No	WashU		D38999/26FB4SN	D38999/20FB4PN	CPH701F-1103H-8	Power Box	D38999/26FB4PN	D38999/20FB4SN	CPH701F-1103H-8	Star Tracker Camera A
STARLINK-PWR	No	No						Power Box				
SUN-PWR	No	No	WashU		D38999/26FB4SN	D38999/20FB4PN	CPH701F-1103H-8	Power Box	D38999/26FB4PN	D38999/20FB4SN	CPH701F-1103H-8	Sun Sensors Power
TURF-PWR	No	No	WashU	TURF	302W2CPXX41A10X	302W2CSXX41A10X	Amph D9000GE0	Power Box	D38999/26FB2PN	D38999/20FB2SN	CPH701F-1103H-8	TURF Power
TURF?	No	No						Power Box				
CPU-PWR	No	No						Power Box				
SFC USB-PWR	No	No						Power Box				
MAG-PWR	No	No						Power Box				
DAQ V-PWR	No	No	WashU	V DAQ Crate	D38999/26FG16SN	D38999/20FG16PN	CPH701F-1603H-8	Power Box	D38999/26FG16PN	D38999/20FG16SN	CPH701F-2003H-8	V DAQ Crate Power
DAQ H-PWR	No	No	WashU	H DAQ Crate	D38999/26FG16SN	D38999/20FG16PN	CPH701F-1603H-8	Power Box	D38999/26FG16PN	D38999/20FG16SN	CPH701F-2003H-8	H DAQ Crate Power
PV A-PWR	No	No	WashU					Power Box				
PV B-PWR	No	No	WashU					Power Box				
BAT A-PWR	No	No	WashU					Power Box				
BAT B-PWR	No	No	WashU					Power Box				
SCI 1-PWR	No	No		Science Stack				Power Box				
SCI 2-PWR	No	No		Science Stack				Power Box				
RF 1-PWR	No	No	WashU	RF Receiver Box 1	D38999/26FB35SN	D38999/20FB35PN	CPH701F-1103H-8	Power Box	D38999/26FB35PN	D38999/20FB35SN	CPH701F-1103H-8	RF Receiver Box Powe
RF 2-PWR	No	No	WashU	RF Receiver Box 2	D38999/26FB35SN	D38999/20FB35PN	CPH701F-1103H-8	Power Box	D38999/26FB35PN	D38999/20FB35SN	CPH701F-1103H-8	RF Receiver Box Powe
RF 3-PWR	No	No	WashU	RF Receiver Box 3	D38999/26FB35SN	D38999/20FB35PN	CPH701F-1103H-8	Power Box	D38999/26FB35PN	D38999/20FB35SN	CPH701F-1103H-8	RF Receiver Box Powe
RF 4-PWR	No	No	WashU	RF Receiver Box 4	D38999/26FB35SN	D38999/20FB35PN	CPH701F-1103H-8	Power Box	D38999/26FB35PN	D38999/20FB35SN	CPH701F-1103H-8	RF Receiver Box Powe
RF 5-PWR	No	No	WashU	RF Receiver Box 5	D38999/26FB35SN	D38999/20FB35PN	CPH701F-1103H-8	Power Box	D38999/26FB35PN	D38999/20FB35SN	CPH701F-1103H-8	RF Receiver Box Powe
RF 6-PWR	No	No	WashU	RF Receiver Box 6	D38999/26FB35SN	D38999/20FB35PN	CPH701F-1103H-8	Power Box	D38999/26FB35PN	D38999/20FB35SN	CPH701F-1103H-8	RF Receiver Box Powe
LF Rx-PWR	No	No	WashU	LF Receiver Box	D38999/26FB35SN	D38999/20FB35PN	CPH701F-1103H-8	Power Box	D38999/26FB35PN	D38999/20FB35SN	CPH701F-1103H-8	LF Receiver Box Power
TEMP 1-PWR	No	No						Power Box				
TEMP 2-PWR	No	No						Power Box				
TEMP 3-PWR	No	No						Power Box				
TEMP 4-PWR	No	No						Power Box				
TEMP 5-PWR	No	No						Power Box				
TEMP 6-PWR	No	No						Power Box				
FCRTM1-TURF1	No	No	Chicago	Flight Computer RTM1	SFP+			TURF	SFP+	1-2007492-5		
FCRTM1-TURF2	No	No	Chicago	Flight Computer RTM1	SFP+			TURF	SFP+	1-2007492-5		
FCRTM1-SSD	No	No	Chicago	Flight Computer RTM1	ix			NTU SSD Storage				
FCRTM1-SWCH	No	No	Chicago	Flight Computer RTM1	ix			Ethernet Switch	RJ45			

- Required cables and connectors have been identified for:
 - Housekeeping/power system to connected subsystems
 - RF receivers through to SURF
 - TURF to TURFI/O
- Cable types/lengths still need to be specified
- Cable inventory needs to be finalized for:
 - External RF
 - Flight computer (mostly done)
 - External subsystems and interfaces (eg. nav systems, cameras, SIP)
- Verification of a few connector types for some components (eg. actuators); I will reach out to people as necessary

MIE Filter Pin Boxes

- Required to reduce RFI on cable lines going into the main instrument enclosure
- Designed and fabricated, assembly in progress



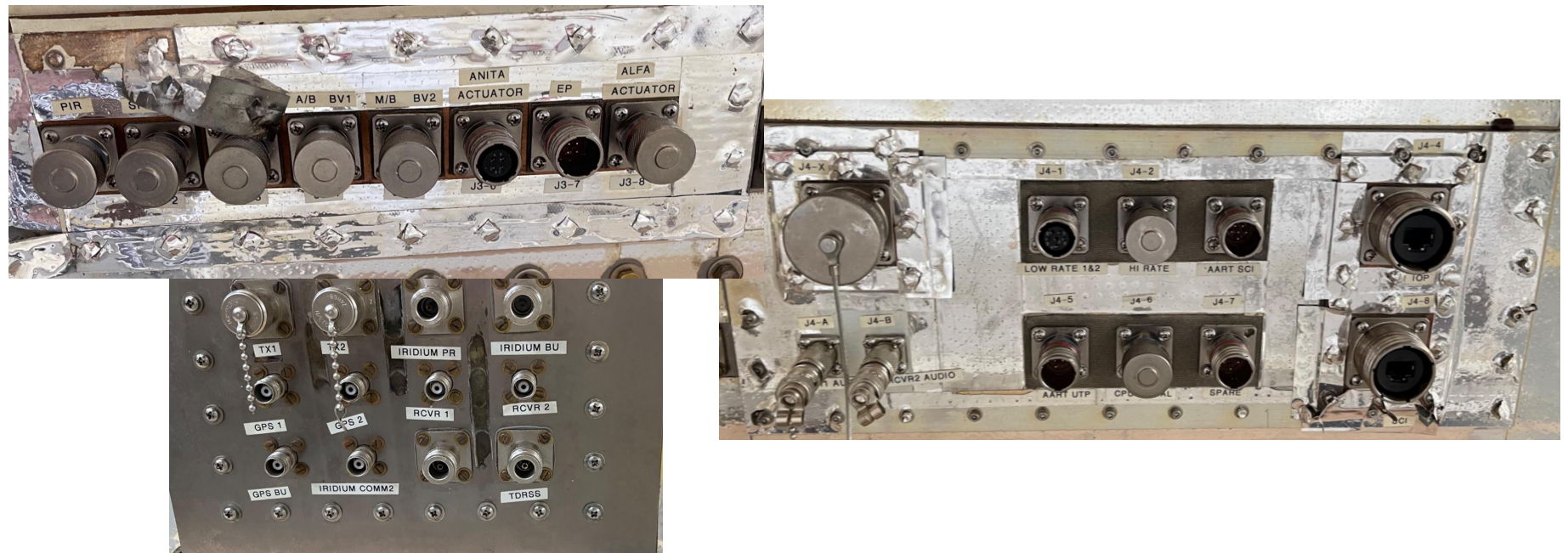
MIE Filter Pin Boxes

- For most subsystems, we plan to use [Spectrum Control 51-719-021](#) pins, rated for 10A at 200V with 5500 pF capacitance (same as ANITA)
- Other options are being considered for sun sensors
- On ANITA, connections to SIP passed through ferrites but not filter pins; can anyone provide context for this?



SIP Interfaces

- We plan to reuse SIP enclosure filterpin boxes and connector panels from ANITA wherever possible (unless anyone knows of a reason why they need to be updated)



Questions?