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Gravity Probe B Relativity Mission

Telescope Readout Electronics (TRE)
Detector Module Assembly (DMA)
Connector Savers and Standardizers

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DMA Connector Saver/Standardizers

The telescope detector module assemblies have two different pinout configurations for use in Probe-C in order to match certain wiring constraints. During the test phase of the development of the modules, a connector saver is required to minimize the number of matings of the flight connectors. This connector saver remains with the DMA through various characterization tests until the units are finally mounted on the telescope and the probe is inserted into the SMD. In order to simplify the test station requirements, the wiring of the connector saver will not be one-to-one, as is common practice, but will standardize the connections to a pinout that has been previously used in the test stations for engineering unit DMA testing. Thus, the connections to the flight DMAs via the connector savers will be common, and similar to historical wiring. It is simply a matter of installing the correct version of the standardizer to the flight modules, thus lessening the probability of an external connection error.

The connector savers will have a custom, non magnetic micro-D connector, 65113-1C34534-102, which mates to the flight connector, and a less expensive, standard micro-D connector, M83513/01-EN that mates with other test equipment.

The connectors will be separated by approximately 5 inch lengths of Belden 8056, AWG 32 solderable magnet wire. This dual film insulated magnet wire combines the excellent dielectric characteristics of polyurethane with toughness and solvent resistance of a nylon overcoat, and may be soldered without insulation removal. This wire complies with J-W-1177/9 specifications.

Each connector saver/standardizer assembly shall be labeled to indicate whether it is a mate for the (-201/-202) DMA or the (-203/-204) DMA.

Rev. A changes XOMD from pin 15 to pin 20 of M83513/01-EN on both types, and eliminates SPARE on -203, -204 type.

The -201 and -202 DMAs use one pinout, and the -203 and -204 DMAs use the second pinout. The signal names and pin lists are shown in the following table.

DMA Connector Saver/Standardizers

	Mates with -201 or -202	Mates with Dewar MDM-31P
	65113-1C34534-102	M83513/01-EN
-DS	1	1
+DS	2	2
Q1DRN	3	7
SDKI	4	4
HTRVO	5	5
RESV+	6	6
SPARE	7	31
SRC2	8	8
VRG	9	9
PDK	12	12
SDKV	13	10
SDAV	14	11
-DR	17	17
+DR	18	18
SRC1	19	23
XOMD	20	20
HTRRTN	21	21
+FCAP	22	22
SPARE	23	16
RESV-	24	24
-FCAP	25	25
RJFG	27	27
SDAI	29	26

	Mates with -203 or -204	Mates with Dewar MDM-31P
	65113-1C34534-102	M83513/01-EN
-DS	1	1
+DS	2	2
Q1DRN	3	7
SDKI	4	4
HTRRTN	6	21
+FCAP	7	22
SPARE	8	31
RESV-	9	24
-FCAP	10	25
SDAI	11	26
RJFG	12	27
-DR	17	17
+DR	18	18
SRC1	19	23
RESV+	20	6
HTRVO	21	5
XOMD	22	20
SPARE	23	16
SRC2	24	8
VRG	25	9
SDKV	26	10
SDAV	27	11
PDK	28	12