

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Procedure Summary

Objectives

The purpose of this procedure is to switch on the DRCU.

This is a mode transistion procedure.

Based on procedure:SPIRE_DRCU_START

Name:DRCU_START

Version number:6

Generated:27/03/2009

Summary of Constraints

n/a

Spacecraft Configuration

Start of Procedure

Mode: DPU_ON

End of Procedure

Sub-Mode: DRCU_ON

Reference File(s)

Input Command Sequences

Output Command Sequences

HCSMDRN
 HCSMDRNP
 HCSMDRNR
 HCSMDRNB

Referenced Displays

ANDs **GRDs** **SLDs**
 ZAZ95999

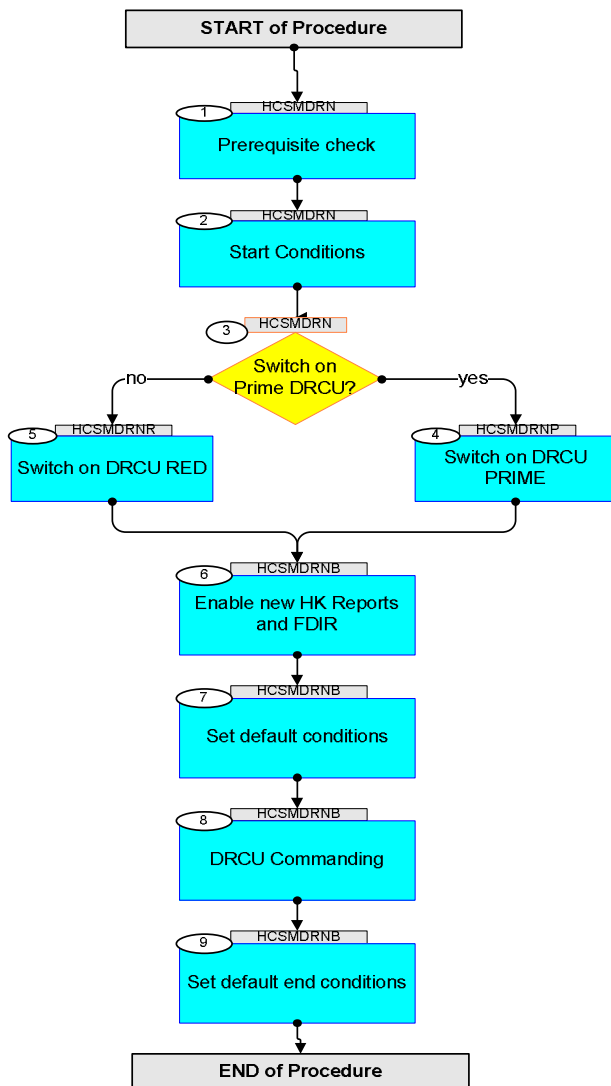
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
19/04/2009		1	Created	L.Lucas-hp	
21/04/2009	2.3	1.01	Validation : Text Updates	L.Lucas-hp	
04/05/2009	2.4	2	Remove ET	L.Lucas-hp	
14/12/2010	3.1	3	Update to remove TC to start monitoring	R. Biggins	

SPIRE_DRCU_ON
File: H_COP_SPI_MDRN.xls
Author: R. Biggins



Procedure Flowchart Overview



SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name : HCSMDRN (MT DRCU ON/Start)				
TimeTag Type: Y Sub Schedule ID: <input type="checkbox"/>				
1		Prerequisite check		Next Step: 2
1.1		HSC/ICC input		<input type="checkbox"/>
		Verify that the HSC has supplied a valid OBSID value: OBS_ID = 0xnnnn nnnn		
1.2		ICC Input, which DRCU		<input type="checkbox"/>
		Verify which DRCU to Switch ON, PRIME/RED		
2		Start Conditions		Next Step: 3
2.1		TM checks		<input type="checkbox"/>
		Verify Telemetry	MODE SM00M500 = DPU_ON	AND=ZAZ95999
2.2		Disable the TFL_TM FDIR		<input type="checkbox"/>
	ET=+ UT=+00.00.00	Execute Telecommand Command Parameter(s) : RTA DH011161 M0 DH030161 M1 DH031161 M2 DH032161 M3 DH033161 M4 DH034161 M5 DH035161 M6 DH036161 M7 DH037161 F0 DH018161 F1 DH019161	ConfiguresDBFDIR DC005161 SPIRE A Ignore Flag Ignore Flag Ignore Flag Ignore Flag Ignore Flag Ignore Flag Ignore Flag ON Alive	

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		F2 DH020161 F3 DH021161 F4 DH022161 F5 DH023161 F6 DH024161 F7 DH025161 M12 DH051161 M_C DH043161 M8 DH038161 M9 DH039161 M10 DH040161 M11 DH041161 F12 DH050161 CNT DH042161 F8 DH026161 F9 DH027161 F10 DH028161 F11 DH029161 TC Control Flags : Subsch. ID : 10 Det. descr. : Configure SDB FDIR GBM IL DSE --Y -- ---	Well TC Well TM Valid Non-vital NOMINAL ON Update status Ignore CNT Ignore Flag Ignore Flag Ignore Flag Ignore Flag Ignore Flag DISABLED LoopCnt1 Bus A Healthy Healthy ENABLED	
2.3		Disable HK Packets Stop the generation of nominal and critical SPIRE HK reports		<input type="checkbox"/>
		WARNING: The following TCs will disable TM generation from SPIRE. If there is no TM generated for 30-90 seconds, SPIRE will be switched OFF. Please ensure that all TCs from the following sequences have been loaded onto the stack and can be executed in a timely fashion.		
	ET=+ UT=+00.00.00	CLEAR_HK_REPORT Command Parameter(s) : PCKTID_CLEARHK TC Control Flags : Subsch. ID : 370 Det. descr. : CLEAR HOUSEKEEPING PARAMETER REPORT DEFINITION	CLEAR_HK_REPORT SPR6N500 GBM IL DSE --Y -- ---	SCR01500 300 <hex>

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



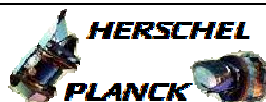
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	CLEAR_HK_REPORT CLEAR_HK_REPORT Command Parameter(s) : PCKTID_CLEARHK SPR6N500 Subsch. ID : 370 Det. descr. : CLEAR HOUSEKEEPING PARAMETER REPORT DEFINITION	SCR01500 301 <hex>	
		Verify Telemetry is not incrementing TM2N SMT1N500		AND=ZAZ95999
		Verify TM is not refreshing THSK SM00T500		AND=ZAZ95999
3		Switch on Prime DRCU?		Next Step: yes 4 no 5
		Confirm with the Instrument Team if the PRIME or RED DRCU should be switched on.		
<p>TC Seq. Name : HCSMDRNP (MT DRCU ON/Start P)</p> <p>TimeTag Type: N Sub Schedule ID: <input type="checkbox"/></p>				
4		Switch on DRCU PRIME		Next Step: 6
		Upon LCL switch ON, two TM(5,1) packets [No_SCU_Response_Clear, No_DCU_Response_Clear] are expected as the units are not switched on.		
	ET=+ UT=+00.00.00	Execute Telecommand SwOn_SpireHSFCU_N_L51 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : PCDU: TC(8,4,112,5) SPIRE HSFCU Nom - switch LCL_51 on	DC51D170	
		Verify: FCU LCL status SpirHsfN_L51_1S WM42C565	= ON	AND=ZAZ95999
		Verify: FCU LCL current (+/- 0.5A) SpirHsfN_L51_I WM408565	= 0.4 A	AND=ZAZ95999

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



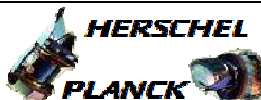
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
TC Seq. Name : HCSMDRNR (MT DRCU ON/Start R) TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
5		Switch on DRCU RED		Next Step: 6
		Upon LCL switch ON, two TM(5,1) packets [No_SCU_Response_Clear, No_DCU_Response_Clear] are expected as the units are not switched on.		
	ET=+ UT=+00.00.00	Execute Telecommand SwOn_SpireHSFCU_R_L52 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : PCDU: TC(8,4,112,5) SPIRE HSFCU Red - switch LCL_52 on	DC52D170	
		Verify Telemetry, LCL Status SpirHsfr_L52_1S WM72C565 = ON		AND=ZAZ95999
		Verify Telemetry, LCL Current (+/- 0.5 A) SpireHsfr_L52_I WM708565 = 0.4 A		AND=ZAZ95999
TC Seq. Name : HCSMDRNB (MT DRCU ON/Start +) TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
6		Enable new HK Reports and FDIR		Next Step: 7
		Execute remaining commands in sequence if DRCU is successfully switched on		
6.1		Enable HK TM		<input type="checkbox"/>

SPIRE_DRCU_ON
File: H_COP_SPI_MDRN.xls
Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch															
	ET=+ UT=+00.00.01	<p>DEFINE_NEW_HK_REPORT</p> <p style="text-align: center;">DEFINE_NEW_HK_REPORT</p> <p>Command Parameter(s) :</p> <table> <tr> <td>HKPCKTID_DEFINENEWHK</td> <td>SPR0N500</td> <td>300 <hex></td> </tr> <tr> <td>HKSID_DEFINENEWHK</td> <td>SPR1N500</td> <td>300 <hex></td> </tr> <tr> <td>HKINTERVAL_DEFINENEWHK</td> <td>SPR2N500</td> <td>7D0 <hex></td> </tr> <tr> <td>HKREPEAT_DEFINENEWHK</td> <td>SPR3N500</td> <td>1 <hex></td> </tr> <tr> <td>TABLEID_DEFINENEWHK</td> <td>SPR4N500</td> <td>0 <hex></td> </tr> </table> <p>TC Control Flags :</p> <p style="text-align: center;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 370 Det. descr. : DEFINE NEW HOUSEKEEPING PARAMETER REPORT</p>	HKPCKTID_DEFINENEWHK	SPR0N500	300 <hex>	HKSID_DEFINENEWHK	SPR1N500	300 <hex>	HKINTERVAL_DEFINENEWHK	SPR2N500	7D0 <hex>	HKREPEAT_DEFINENEWHK	SPR3N500	1 <hex>	TABLEID_DEFINENEWHK	SPR4N500	0 <hex>	SCR00500	
HKPCKTID_DEFINENEWHK	SPR0N500	300 <hex>																	
HKSID_DEFINENEWHK	SPR1N500	300 <hex>																	
HKINTERVAL_DEFINENEWHK	SPR2N500	7D0 <hex>																	
HKREPEAT_DEFINENEWHK	SPR3N500	1 <hex>																	
TABLEID_DEFINENEWHK	SPR4N500	0 <hex>																	
	ET=+ UT=+00.00.00	<p>DEFINE_NEW_HK_REPORT</p> <p style="text-align: center;">DEFINE_NEW_HK_REPORT</p> <p>Command Parameter(s) :</p> <table> <tr> <td>HKPCKTID_DEFINENEWHK</td> <td>SPR0N500</td> <td>301 <hex></td> </tr> <tr> <td>HKSID_DEFINENEWHK</td> <td>SPR1N500</td> <td>301 <hex></td> </tr> <tr> <td>HKINTERVAL_DEFINENEWHK</td> <td>SPR2N500</td> <td>3e8 <hex></td> </tr> <tr> <td>HKREPEAT_DEFINENEWHK</td> <td>SPR3N500</td> <td>1 <hex></td> </tr> <tr> <td>TABLEID_DEFINENEWHK</td> <td>SPR4N500</td> <td>1 <hex></td> </tr> </table> <p>Subsch. ID : 370 Det. descr. : DEFINE NEW HOUSEKEEPING PARAMETER REPORT</p>	HKPCKTID_DEFINENEWHK	SPR0N500	301 <hex>	HKSID_DEFINENEWHK	SPR1N500	301 <hex>	HKINTERVAL_DEFINENEWHK	SPR2N500	3e8 <hex>	HKREPEAT_DEFINENEWHK	SPR3N500	1 <hex>	TABLEID_DEFINENEWHK	SPR4N500	1 <hex>	SCR00500	
HKPCKTID_DEFINENEWHK	SPR0N500	301 <hex>																	
HKSID_DEFINENEWHK	SPR1N500	301 <hex>																	
HKINTERVAL_DEFINENEWHK	SPR2N500	3e8 <hex>																	
HKREPEAT_DEFINENEWHK	SPR3N500	1 <hex>																	
TABLEID_DEFINENEWHK	SPR4N500	1 <hex>																	
		<p>Verify the TM is being generated. Check Packet History: Prime: Critical 3,25, 1280 (Critical_HK_Parameter_Report) Nominal HK 3,25, 1282 (Nominal_HK_Parameter_Report)</p> <p>Or Red: Critical 3,25, 1281 (Critical_HK_Parameter_Report) Nominal HK 3,25, 1283 (Nominal_HK_Parameter_Report)</p>																	
		<p>Verify Telemetry is incrementing at 1 second intervals</p> <table> <tr> <td>TM2N</td> <td>SMT1N500</td> </tr> </table>	TM2N	SMT1N500		AND=ZAZ95999													
TM2N	SMT1N500																		
		<p>Verify Telemetry is refreshing at 1 second interval</p> <table> <tr> <td>THSK</td> <td>SM00T500</td> </tr> </table>	THSK	SM00T500		AND=ZAZ95999													
THSK	SM00T500																		
6.2		Re-enable the TFL_TM FDIR		<input type="checkbox"/>															

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																																																																													
	ET=+ UT=+00.00.00	<p>Execute Telecommand</p> <p>ConfigureSDBFDIR</p> <p>Command Parameter(s) :</p> <table border="0"> <tr><td>RTA</td><td>DH011161</td><td>SPIRE A</td></tr> <tr><td>M0</td><td>DH030161</td><td>Ignore Flag</td></tr> <tr><td>M1</td><td>DH031161</td><td>Ignore Flag</td></tr> <tr><td>M2</td><td>DH032161</td><td>Ignore Flag</td></tr> <tr><td>M3</td><td>DH033161</td><td>Ignore Flag</td></tr> <tr><td>M4</td><td>DH034161</td><td>Ignore Flag</td></tr> <tr><td>M5</td><td>DH035161</td><td>Ignore Flag</td></tr> <tr><td>M6</td><td>DH036161</td><td>Ignore Flag</td></tr> <tr><td>M7</td><td>DH037161</td><td>Ignore Flag</td></tr> <tr><td>F0</td><td>DH018161</td><td>ON</td></tr> <tr><td>F1</td><td>DH019161</td><td>Alive</td></tr> <tr><td colspan="3"> </td></tr> <tr><td>F2</td><td>DH020161</td><td>Well TC</td></tr> <tr><td>F3</td><td>DH021161</td><td>Well TM</td></tr> <tr><td>F4</td><td>DH022161</td><td>Valid</td></tr> <tr><td>F5</td><td>DH023161</td><td>Non-vital</td></tr> <tr><td>F6</td><td>DH024161</td><td>NOMINAL</td></tr> <tr><td>F7</td><td>DH025161</td><td>ON</td></tr> <tr><td>M12</td><td>DH051161</td><td>Update status</td></tr> <tr><td>M_C</td><td>DH043161</td><td>Ignore CNT</td></tr> <tr><td>M8</td><td>DH038161</td><td>Ignore Flag</td></tr> <tr><td>M9</td><td>DH039161</td><td>Ignore Flag</td></tr> <tr><td>M10</td><td>DH040161</td><td>Ignore Flag</td></tr> <tr><td>M11</td><td>DH041161</td><td>Ignore Flag</td></tr> <tr><td>F12</td><td>DH050161</td><td>ENABLED</td></tr> <tr><td>CNT</td><td>DH042161</td><td>LoopCnt1</td></tr> <tr><td>F8</td><td>DH026161</td><td>Bus A</td></tr> <tr><td colspan="3"> </td></tr> <tr><td>F9</td><td>DH027161</td><td>Healthy</td></tr> <tr><td>F10</td><td>DH028161</td><td>Healthy</td></tr> <tr><td>F11</td><td>DH029161</td><td>ENABLED</td></tr> </table> <p>TC Control Flags :</p> <p style="padding-left: 400px;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : Configure SDB FDIR</p>	RTA	DH011161	SPIRE A	M0	DH030161	Ignore Flag	M1	DH031161	Ignore Flag	M2	DH032161	Ignore Flag	M3	DH033161	Ignore Flag	M4	DH034161	Ignore Flag	M5	DH035161	Ignore Flag	M6	DH036161	Ignore Flag	M7	DH037161	Ignore Flag	F0	DH018161	ON	F1	DH019161	Alive				F2	DH020161	Well TC	F3	DH021161	Well TM	F4	DH022161	Valid	F5	DH023161	Non-vital	F6	DH024161	NOMINAL	F7	DH025161	ON	M12	DH051161	Update status	M_C	DH043161	Ignore CNT	M8	DH038161	Ignore Flag	M9	DH039161	Ignore Flag	M10	DH040161	Ignore Flag	M11	DH041161	Ignore Flag	F12	DH050161	ENABLED	CNT	DH042161	LoopCnt1	F8	DH026161	Bus A				F9	DH027161	Healthy	F10	DH028161	Healthy	F11	DH029161	ENABLED	DC005161	
RTA	DH011161	SPIRE A																																																																																															
M0	DH030161	Ignore Flag																																																																																															
M1	DH031161	Ignore Flag																																																																																															
M2	DH032161	Ignore Flag																																																																																															
M3	DH033161	Ignore Flag																																																																																															
M4	DH034161	Ignore Flag																																																																																															
M5	DH035161	Ignore Flag																																																																																															
M6	DH036161	Ignore Flag																																																																																															
M7	DH037161	Ignore Flag																																																																																															
F0	DH018161	ON																																																																																															
F1	DH019161	Alive																																																																																															
F2	DH020161	Well TC																																																																																															
F3	DH021161	Well TM																																																																																															
F4	DH022161	Valid																																																																																															
F5	DH023161	Non-vital																																																																																															
F6	DH024161	NOMINAL																																																																																															
F7	DH025161	ON																																																																																															
M12	DH051161	Update status																																																																																															
M_C	DH043161	Ignore CNT																																																																																															
M8	DH038161	Ignore Flag																																																																																															
M9	DH039161	Ignore Flag																																																																																															
M10	DH040161	Ignore Flag																																																																																															
M11	DH041161	Ignore Flag																																																																																															
F12	DH050161	ENABLED																																																																																															
CNT	DH042161	LoopCnt1																																																																																															
F8	DH026161	Bus A																																																																																															
F9	DH027161	Healthy																																																																																															
F10	DH028161	Healthy																																																																																															
F11	DH029161	ENABLED																																																																																															
7		Set default conditions		Next Step: 8																																																																																													
		Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands																																																																																															
	ET=+ UT=+00.00.00	<p>SET_OBS_STEP</p> <p>SET_OBS_STEP</p> <p>Command Parameter(s) :</p> <table border="0"> <tr><td>OBSERVATION_STEP</td><td>SP03N500</td><td>0 <hex></td></tr> </table> <p>TC Control Flags :</p> <p style="padding-left: 400px;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP</p>	OBSERVATION_STEP	SP03N500	0 <hex>	SC003500																																																																																											
OBSERVATION_STEP	SP03N500	0 <hex>																																																																																															

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SP01N500 8001500 80010001 <hex>	
		Verify Telemetry BBFULLTYPE	SM2LN500 = ClearObs	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP TC Control Flags : Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SP03N500 1 <hex> GBM IL DSE --Y -- ---	
	ET=+ UT=+00.00.01	SET_OBSID Command Parameter(s) : OBSERVATION_ID Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SET_OBSID SP00N500 00000000 <hex>	
		Verify Telemetry OBSID	SM10N500 = 00000000 <hex>	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP TC Control Flags : Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SP03N500 0 <hex> GBM IL DSE --Y -- ---	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SP01N500 80000000 <hex>	
		Verify Telemetry BBFULLTYPE	SM2LN500 = Null	AND=ZAZ95999

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 8C010001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= DRCU_ON	AND=ZAZ95999
8		DRCU Commanding		Next Step: 9
	ET=+ UT=+00.00.02	SET_OBS_MODE SET_OBS_MODE Command Parameter(s) : OBSERVING_MODE SP02N500 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 370 Det. descr. : SET OBSERVING MODE	SC002500 1 <hex>	
		Verify Telemetry MODE SM00M500	= DRCU_START	AND=ZAZ95999
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84120000 <hex> 0 <hex> (Def)	

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84130000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84050000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84060000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84070000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84080000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84090000 <hex> 0 <hex> (Def)	

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 840a0000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 840b0000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 840c0000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 840d0000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 840e0000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 840f0000 <hex> 0 <hex> (Def)	

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84100000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84140000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84370000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84340000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84350000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84360000 <hex> 0 <hex> (Def)	

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84110000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84330000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84010000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84020000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84030000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84040000 <hex> 0 <hex> (Def)	

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84310000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84320000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 843000ff <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 840000ff <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84190095 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84180006 <hex> 0 <hex> (Def)	

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 8439007a <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 84380001 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SET_OBS_MODE SET_OBS_MODE Command Parameter(s) : OBSERVING_MODE SP02N500 Subsch. ID : 370 Det. descr. : SET OBSERVING MODE	SC002500 100 <hex>	
	ET=+ UT=+00.00.00	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 80000000 <hex>	
8.1		Verify DRCU TM		<input type="checkbox"/>
		Verify Telemetry is incrementing at 1 second intervals TM2N SMT1N500		AND=ZAZ95999
		Verify Telemetry is refreshing at 1 second interval THSK SM00T500		AND=ZAZ95999
		Now check the following DCU and SCU Board voltages are within limits		
		Verify Telemetry is ~5V BIASP5V SMB6V510		AND=ZAZ95999
		Verify Telemetry is ~9V BIASP9V SMB7V510		AND=ZAZ95999
		Verify Telemetry is ~9V BIASM9V SMB8V510		AND=ZAZ95999

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry is ~5V SCUP5V SM_0V520		AND=ZAZ95999
		Verify Telemetry is ~9V SCUP5V SM_0V520		AND=ZAZ95999
		Verify Telemetry is ~9V SCUM9V SM_2V520		AND=ZAZ95999
		Verify Telemetry is set to MODE SM00M500	= DRCU_ON	AND=ZAZ95999
9		Set default end conditions		Next Step: END
		Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands		
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 80000000 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	

SPIRE_DRCU_ON
 File: H_COP_SPI_MDRN.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SP01N500 80030001 <hex>	SC001500	
		Verify Telemetry BBFULLTYPE	SM2LN500	= EndObs	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP TC Control Flags : Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SP03N500 GBM IL DSE --Y -- ---	SC003500 1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID Command Parameter(s) : OBSERVATION_ID Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SET_OBSID SP00N500 00000000 <hex>	SC000500	
		Verify Telemetry OBSID	SM10N500	= 00000000 <hex>	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP TC Control Flags : Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SP03N500 GBM IL DSE --Y -- ---	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SP01N500 80000000 <hex>	SC001500	
		Verify Telemetry BBFULLTYPE	SM2LN500	= Null	AND=ZAZ95999

SPIRE_DRCU_ON
File: H_COP_SPI_MDRN.xls
Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
End of Procedure				