

BSM_INIT - Initialise the BSM
 File: H_FCP_SPI_BSMI.xls
 Author: R. Biggins



Procedure Summary

Objectives

The objective of this procedure is to initialise the Beam Steering Mirror (BSM)

Summary of Constraints

n/a

Spacecraft Configuration

Start of Procedure

SPIRE is in BSM_ON mode

End of Procedure

SPIRE is in BSM_INIT mode

Reference File(s)

Input Command Sequences

Output Command Sequences

HFSBSMI

Referenced Displays

ANDs **GRDs** **SLDs**
 ZAZ90999

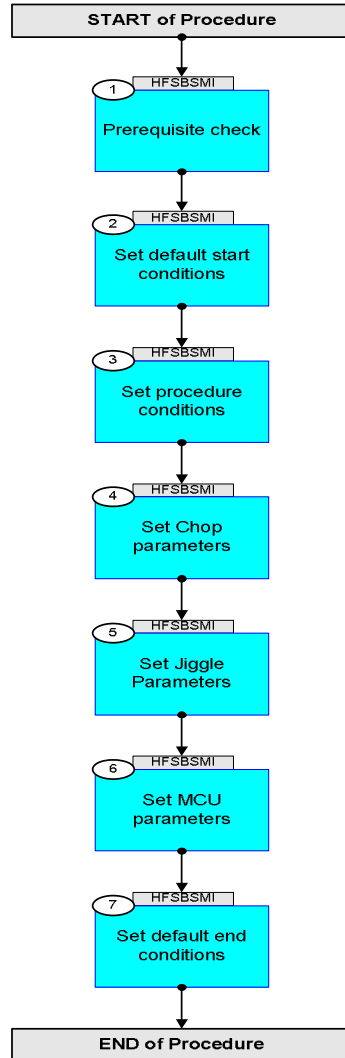
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
21/11/07		1	Created	R. Biggins	
15/01/08		2	Update due to initial testing against the simulator: - TCs updated due to new DB	R. Biggins	
24/01/08		3	Update due to changes in input file (BSM_INIT: version 3) - Execution times removed - Editorial updates	R. Biggins	
22/02/08		4	Update due to testing against MOC Simulator: - Time Tags updated - BBID/OBSID TM checks added - Editorial updates	R. Biggins	
03/03/08		4.01	Validation : Update due to comments by S. Sidher: - Update to cover	R. Biggins	
19/05/08	1	5	Updates due to SVT-1 testing: - TM parameters added to RESET_DRCU_COUNTERS telecommand (step 3) - comments added - AND associated with all TM parameters updated	R. Biggins	

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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
HFSBSMI BSM init				
SSID :				
1		Prerequisite check		Next Step: 2
		Verify Telemetry MODE SM00M500	= BSM_ON	AND=ZAZ90999
		Verify Telemetry BSW_SDB_ActProf DEF5F160	= 3 <dec>	AND=ZAZ90999
2		Set default start conditions		Next Step: 3
		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 SSID : 370	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80010001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= ClearObs	AND=ZAZ90999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 SSID : 370	SC003500 1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 SSID : 370	SC000500 B0000000 <hex>	
		Verify Telemetry OBSID SM10N500	= B0000000 <hex>	AND=ZAZ90999

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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 SSID : 370	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80000000 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ90999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 SSID : 370	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80020001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= StartObs	AND=ZAZ90999
3		Set procedure conditions		Next Step: 4
	ET=+ UT=+00.00.00	RESET_DRCU_COUNTERS RESET_DRCU_COUNTERS SSID : 370	SCD00505	
		Verify that the TRESET parameter has the same value as the THSK parameter TRESET SM01T500	same as THSK	AND=ZAZ90999
		THSK SM00T500	any	AND=ZAZ90999
		Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands		

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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 SSID : 370	SC003500 1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 SSID : 370	SC000500 OBS_ID	
		Verify Telemetry OBSID SM10N500	OBS_ID	AND=ZAZ90999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 SSID : 370	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80000000 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ90999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 SSID : 370	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 810A0001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= InitialiseBSMc	AND=ZAZ90999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SET_OBS_MODE SET_OBS_MODE Command Parameter(s) : OBSERVING_MODE SP02N500 SSID : 370	SC002500 202 <hex>	
		Verify Telemetry MODE SM00M500	= BSM_INIT	AND=ZAZ90999
4		Set Chop parameters		Next Step: 5
	ET=+ UT=+00.00.01	Send DRCU command to SetCKd SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 90C90DB0 <hex> 0 <hex> (Def)	
		Verify Telemetry CHOPKD SMG4N515	= 0DB0 <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetCKp SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 90C803E8 <hex> 0 <hex> (Def)	
		Verify Telemetry CHOPKP SMG3N515	= 03E8 <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetCKi SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 90CA0218 <hex> 0 <hex> (Def)	
		Verify Telemetry CHOPKI SMG5N515	= 0218 <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetDiffFilterTC1 SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 90CF1000 <hex> 0 <hex> (Def)	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry CHOPDIFFTC1 SMC3N515	= 1000 <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetCRateLimit SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 90D1FFFF <hex> 0 <hex> (Def)	
		Verify Telemetry CHOPRATELIMIT SMC1B515	= FFFF <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetChopTargetPosition SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 90C39300 <hex> 0 <hex> (Def)	
		Verify Telemetry CHOPPOSN SMC0P515	= 9300 <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetChopLoopMode SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 90C20001 <hex> 0 <hex> (Def)	
		Verify Telemetry CHOPLOOPMODE SMC0M515	= CLOSED_MRSENSE	AND=ZAZ90999
5		Set Jiggle Parameters		Next Step: 6
		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 SSID : 370	SC003500 0 <hex>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SSID : 370	SET_BBID SP01N500 80000000 <hex>	SC001500
		Verify Telemetry BBFULLTYPE	SM2LN500 = Null	AND=ZAZ90999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SSID : 370	SET_OBS_STEP SP03N500 0 <hex>	SC003500
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SSID : 370	SET_BBID SP01N500 810E0001 <hex>	SC001500
		Verify Telemetry BBFULLTYPE	SM2LN500 = InitialiseBSMj	AND=ZAZ90999
	ET=+ UT=+00.00.00	SET_OBS_MODE Command Parameter(s) : OBSERVING_MODE SSID : 370	SET_OBS_MODE SP02N500 202 <hex>	SC002500
		Verify Telemetry MODE	SM00M500 = BSM_INIT	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetJKd Command Parameter(s) : DRCUCOMMAND OVERRIDE SSID : 370	SEND_DRCU_COMMAND SPD4N505 SPD9N505 91491B58 <hex> 0 <hex> (Def)	SCD06505
		Verify Telemetry JIGGKD	SMG7N515 = 1B58 <hex>	AND=ZAZ90999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	Send DRCU command to SetJKp SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 914805DC <hex> 0 <hex> (Def)	
		Verify Telemetry JIGGKP SMG6N515	= 05DC <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetJKi SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 914A01F4 <hex> 0 <hex> (Def)	
		Verify Telemetry JIGGKI SMG8N515	= 01F4 <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetJDiffFilterTC1 SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 914F1A0B <hex> 0 <hex> (Def)	
		Verify Telemetry JIGGDIFFTC1 SMJ2N515	= 1A0B <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetJRateLimit SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 9151FFFF <hex> 0 <hex> (Def)	
		Verify Telemetry JIGGRATELIMIT SMJ1B515	= FFFF <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetJigTargetPosition SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 91439A60 <hex> 0 <hex> (Def)	
		Verify Telemetry JIGGPOSN SMJ0P515	= 9A60 <hex>	AND=ZAZ90999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	Send DRCU command to SetJigLoopMode SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 91420001 <hex> 0 <hex> (Def)	
		Verify Telemetry JIGGLOOPMODE SML3M515	= CLOSED_MRSENSE	AND=ZAZ90999
6		Set MCU parameters		Next Step: 7
		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 SSID : 370	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80000000 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ90999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 SSID : 370	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 89090001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Setup_MCU_Data	AND=ZAZ90999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	Send DRCU command to set BSM frame sampling SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 91C20000 <hex> 0 <hex> (Def)	
		Verify Telemetry MCUTM12TSAMPLE SM_2H515	= 0.00 ms	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to set SMEC frame sampling SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 91C00000 <hex> 0 <hex> (Def)	
		Verify Telemetry MCUTM10TSAMPLE SM_0H515	= 0.00 ms	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to set MCU eng. frame sampling SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 91C40000 <hex> 0 <hex> (Def)	
		Verify Telemetry MCUTM14TSAMPLE SM_4H515	= 0.00 ms	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to set MCU Test Pattern frame sampling SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 91C50000 <hex> 0 <hex> (Def)	
		Verify Telemetry MCUTM15TSAMPLE SM_5H515	= 0.0 ms	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to set BSM frame sampling SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 91C20025 <hex> 0 <hex> (Def)	
		Verify Telemetry MCUTM12TSAMPLE SM_2H515	= 15.54 ms	AND=ZAZ90999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	Send DRCU command to SetFrameNumber (to continuous) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 SSID : 370	SCD06505 91C3FFFF <hex> 0 <hex> (Def)	
		Verify Telemetry MCUFRAMES SMD7N515	= FFFF <hex>	AND=ZAZ90999
7		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 SSID : 370	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80000000 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ90999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 SSID : 370	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80030001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= EndObs	AND=ZAZ90999

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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 SSID : 370	SC003500 1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 SSID : 370	SC000500 00000000 <hex>	
		Verify Telemetry OBSID SM10N500	= 00000000 <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 SSID : 370	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80000000 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ90999
End of Procedure				