

SMEC_INIT - Initialise the SMEC
 File: H_FCP_SPI_SMCI.xls
 Author: R. Biggins



Procedure Summary

Objectives

The objective of this procedure is to initialise the Spectrometer Mechanism (SMEC)

Summary of Constraints

n/a

Spacecraft Configuration

Start of Procedure

SPIRE is in SMEC_ON mode

End of Procedure

SPIRE is in SMEC_INIT mode

Reference File(s)

Input Command Sequences

Output Command Sequences

HFSSMCI

Referenced Displays

ANDs **GRDs** **SLDs**
 ZAZ94999

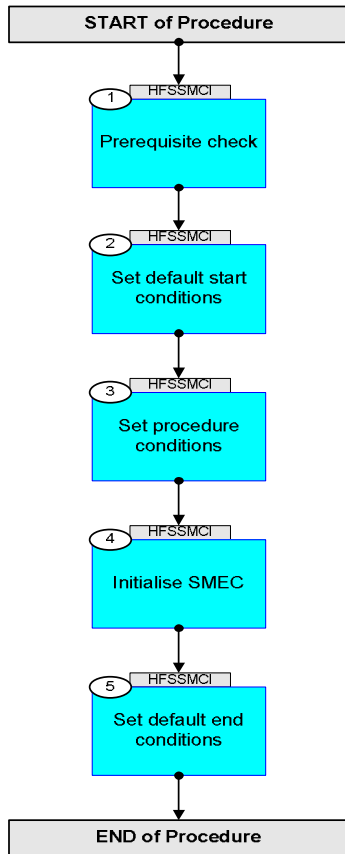
Configuration Control Information

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	
23/01/08		3	Update due to changes in input file (SMEC_INIT: version 4) - Execution times removed - Update to DRCU Commands	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	
19/05/08	1	5	Updates due to SVT-1 testing: - TM checks added to RESET_DRCU_COUNTERS TC - Default OBSID value updated to 0x0000 0000 - flags updated - comment added - AND updated for all TM parameters	R. Biggins	
25/03/09	2.2	5.01	Validation : Cross Checks	L.Lucas-hp	

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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name : HFSSMCI (Initialise SMEC)				
TimeTag Type: N				
Sub Schedule ID:				
□				
1		Prerequisite check		Next Step: 2
		Verify Telemetry MODE SM00M500	= SMEC_ON	AND=ZAZ94999
		Verify Telemetry BSW_SDB_ActProf DEF5F160	= 3 <dec>	AND=ZAZ94999
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 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 80010001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= ClearObs	AND=ZAZ94999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 1 <hex>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	SET_OBSID Command Parameter(s) : OBSERVATION_ID Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SET_OBSID SP00N500 B0000000 <hex>	
		Verify Telemetry OBSID SM10N500	= B0000000 <hex>	AND=ZAZ94999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SP03N500 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>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ94999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SP03N500 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 80020001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= StartObs	AND=ZAZ94999
3		Set procedure conditions		Next Step: 4

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	RESET_DRCU_COUNTERS Subsch. ID : 370 Det. descr. : RESET DRCU COUNTERS	SCD00505	
		Verify that the TRESET parameter has the same value as the THSK parameter TRESET SM01T500	same as THSK	AND=ZAZ94999
		THSK SM00T500	any	AND=ZAZ94999
		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 Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SC000500 OBS_ID	
		Verify Telemetry OBSID SM10N500	OBS_ID	AND=ZAZ94999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	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=ZAZ94999

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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 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 82000001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Initialise_FTS	AND=ZAZ94999
	ET=+ UT=+00.00.00	SET_OBS_MODE SET_OBS_MODE Command Parameter(s) : OBSERVING_MODE SP02N500 Subsch. ID : 370 Det. descr. : SET OBSERVING MODE	SC002500 205 <hex>	
		Verify Telemetry MODE SM00M500	= SMEC_INIT	AND=ZAZ94999
4		Initialise SMEC		Next Step: 5
	ET=+ UT=+00.00.01	Send DRCU command to SetSFeedFwdOffset SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 90557D00 <hex> 0 <hex> (Def)	
		Verify Telemetry SMECFFOFFSET SMS0A515	= 7D00 <hex>	AND=ZAZ94999
	ET=+ UT=+00.00.15	Send DRCU command to SetSTrajEndPosition SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 90450000 <hex> 0 <hex> (Def)	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry SCANEND SMS1P515	= 0.0 mm	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to SetSTrajStartPosition SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 90460000 <hex> 0 <hex> (Def)	
		Verify Telemetry SCANSTART SMS0P515	= 0.0 mm	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to SetSTrajMode SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 90490001 <hex> 0 <hex> (Def)	
		Verify Telemetry SCANMODE SMS2M515	= STEP	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to SetSTrajMode SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 90490004 <hex> 0 <hex> (Def)	
		Verify Telemetry SCANMODE SMS2M515	= INIT	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to SetSTrajMode SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 90490001 <hex> 0 <hex> (Def)	
		Verify Telemetry SCANMODE SMS2M515	= STEP	AND=ZAZ94999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	Send DRCU command to SetSRateLimit SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 9051012C <hex> 0 <hex> (Def)	
		Verify Telemetry SMECRATELIMIT SMS1B515	= 012C <hex>	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to SetSIntegrationLimit SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 904E07D0 <hex> 0 <hex> (Def)	
		Verify Telemetry SMECINTLIMIT SMS3N515	= 07D0 <hex>	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to SetSDerivFilter SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 904C07D0 <hex> 0 <hex> (Def)	
		Verify Telemetry SMECDFILT SMS1N515	= 07D0 <hex>	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to SetSKd SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 904B02BC <hex> 0 <hex> (Def)	
		Verify Telemetry SMECKD SMG1N515	= 02BC <hex>	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to SetSLoopMode SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 90440001 <hex> 0 <hex> (Def)	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry SMECLOOPMODE SMS1M515	= CLOSEDENC0-1	AND=ZAZ94999
	ET=+ UT=+00.00.02	Send DRCU command to SetSTrajEndPosition SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 904503E8 <hex> 0 <hex> (Def)	
		Verify Telemetry SCANEND SMS1P515	= 1.0000 mm	AND=ZAZ94999
	ET=+ UT=+00.00.05	Send DRCU command to SetSKp SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 904A07D0 <hex> 0 <hex> (Def)	
		Verify Telemetry SMECKP SMG0N515	= 07D0 <hex>	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to SetSKi SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 904D03E8 <hex> 0 <hex> (Def)	
		Verify Telemetry SMECKI SMG2N515	= 03E8 <hex>	AND=ZAZ94999
	ET=+ UT=+00.00.01	DISABLE_SELECTION DISABLE_SELECTION Command Parameter(s) : FRAMEID_DISABLESELECTION SPD2N505 Subsch. ID : 370 Det. descr. : DISABLE SELECTION OF DATA FROM SCIENCE FRAME	SCD05505 10 <hex>	
	ET=+ UT=+00.00.01	SET_TABLE SET_TABLE Command Parameter(s) : TABLEID_SETTAB SPB0N500 TABLESIZE_SETTAB SPB1N500 Subsch. ID : 370 Det. descr. : SET SPACE FOR A TABLE	SCB00500 a <hex> c <hex>	

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	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 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 89090001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Setup_MCU_Data	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to set BSM frame sampling SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 91C0000A <hex> 0 <hex> (Def)	
		Verify Telemetry MCUTM12TSAMPLE SM_2H515	= 0.00 ms	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to set SMEC frame sampling SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 91C00000 <hex> 0 <hex> (Def)	
		Verify Telemetry MCUTM10TSAMPLE SM_0H515	= 0.00 ms	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to set MCU eng. frame sampling SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 91C40000 <hex> 0 <hex> (Def)	
		Verify Telemetry MCUTM14TSAMPLE SM_4H515	= 0.00 ms	AND=ZAZ94999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	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 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 91C50000 <hex> 0 <hex> (Def)	
		Verify Telemetry MCUTM15TSAMPLE SM_5H515	= 0.0 ms	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to set BSM frame sampling SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 91C2000A <hex> 0 <hex> (Def)	
		Verify Telemetry MCUTM12TSAMPLE SM_2H515	= 4.20 ms	AND=ZAZ94999
	ET=+ UT=+00.00.01	Send DRCU command to SetFrameNumber (to continuous) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 91C3FFFF <hex> 0 <hex> (Def)	
		Verify Telemetry MCUFRAMES SMD7N515	= FFFF <hex>	AND=ZAZ94999
5		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 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	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 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SP01N500 80000000 <hex>	SC001500	
		Verify Telemetry BBFULLTYPE	SM2LN500	= Null	AND=ZAZ94999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SP03N500 0 <hex>	SC003500	
	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=ZAZ94999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SP03N500 1 <hex>	SC003500	
	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=ZAZ94999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SC001500 80000000 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ94999
End of Procedure				