

TM packet routing to downlink or MM or both
 File: H_FCP_DHS_3034.xls
 Author: S. Manganelli



Procedure Summary

Objectives

This procedure describes the steps needed to enable or disable the real time downlink and/or Mass Memory storage of selected TM packets.

Summary of Constraints

In TC(14,5):

- a packet definition with both APID and Type set to 0 have to be the first definition in the TC;
- in a packet definition with APID = 0 and Type = 0, Sub-Type shall also be 0;
- in a packet definition with APID > 0, both Type and Sub-Type shall be 0.

Note that TC(14,6) will be delayed if a TC(14,6) is already ongoing.

Spacecraft Configuration

Start of Procedure

CDMU in default configuration, that is:

- PM A or B ON (nominally A)
- TM Encoder/OBT A or B active (nominally A)
- RM A and B enabled
- MM A and B ON

End of Procedure

CDMU in default configuration, that is:

- PM A or B ON (nominally A)
- TM Encoder/OBT A or B active (nominally A)
- RM A and B enabled
- MM A and B ON

Reference File(s)

Input Command Sequences

Output Command Sequences

HFD3034

Referenced Displays

ANDs GRDs SLDs
 (None)

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
29/10/07		1	Created	cmevi-hp	
10/06/08	1	2	TC flag and seq property changed	S. Manganelli	

Status : Version 3 - Unchanged
 Last Checkin: 27/10/08

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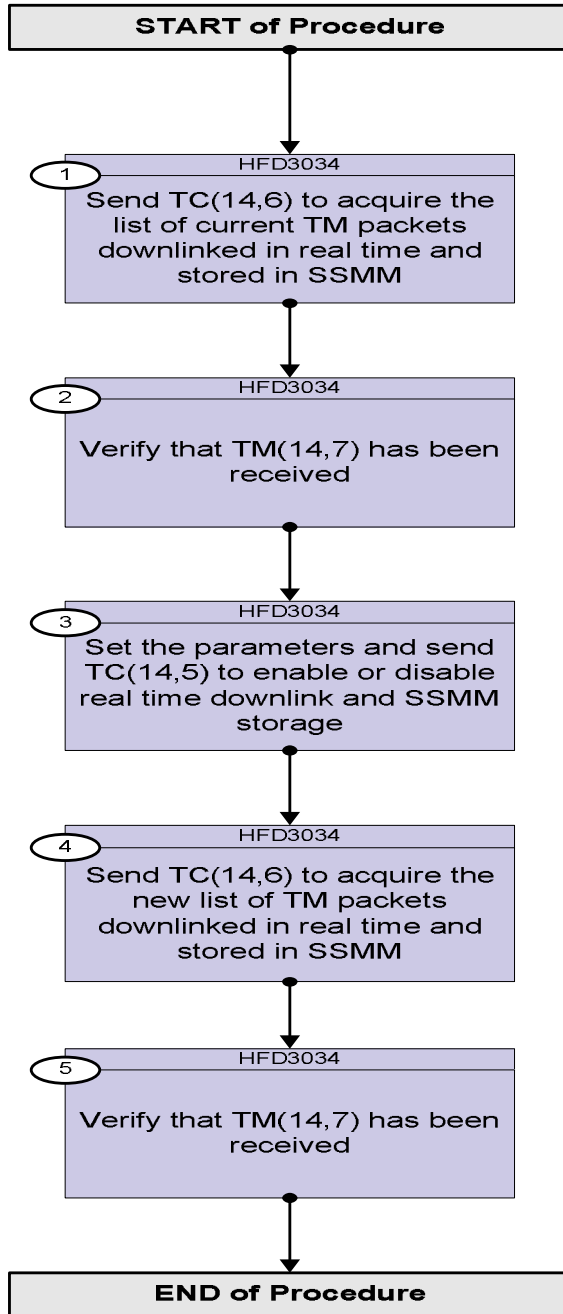


27/10/08	2	3	Restructured upon OBSW 3_6_2 modifications	S. Manganelli	
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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name :HFD3034 (TM TRA/STO flags)				
TimeTag Type: N Sub Schedule ID: □				
1		Send TC(14,6) to acquire the list of current TM packets downlinked in real time and stored in SSMM		Next Step: 2
		When CDMU receives this request, the real time down-linking and SSMM storage status are determined for all telemetry packet (Application ID, Type, Sub-Type) and a report (14,7) is generated.		
		Execute Telecommand <div style="text-align: right;">RepDownlinkTMStorage</div> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : Report Telemetry Packets Down-linking/ Storage Status	DC141160	
2		Verify that TM(14,7) has been received		Next Step: 3
		Verify Packet Reception Telemetry Packets DownLinking-Storage Status Report Packet Details: <div style="text-align: right;">APID: 16 Type: 14 Subtype: 7 PI1: PI2:</div>	(14,7)-1400	
		Verify Telemetry <div style="text-align: right;">N DE042160</div>		(None)
		The following parameters are repeated N times		
		Verify Telemetry <div style="text-align: right;">APID DE047160</div>		(None)
		Verify Telemetry <div style="text-align: right;">Type DE043160</div>		(None)
		Verify Telemetry <div style="text-align: right;">Sub-Type DE046160</div>		(None)
		Verify Telemetry <div style="text-align: right;">Transmit_Flag DE048160</div>	= DISABLED = ENABLED	(None)
		Verify Telemetry <div style="text-align: right;">Storage_Flag DE049160</div>	= DISABLED = ENABLED	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
3		Set the parameters and send TC(14,5) to enable or disable real time downlink and SSMM storage		Next Step: 4
		When CDMU receives this request, the dedicated parameters update and Real Time down-linking and/or SSMM storage shall be performed according to received flags.		
		<u>WARNING: the following TC is a variable length TC which does not allow the definition of a generic procedure. The following is therefore only an example.</u>		
		In the TC(14,5) it is necessary to set the following parameters: <u>N</u> : number of TM packet definition that follow. <u>Application ID</u> : repeated N times, identifier of Application Process from which TM packets Real Time down-linking and/or SSMM storage shall be Enabled/Disabled. Note that: APID = 16 (10HEX) all CDMS TM packets except Non-Essential HK Parameter Report and Diagnostic Parameter Report APID = 18 (12HEX) CDMS Non-Essential HK Parameter Report and CDMS Diagnostic Parameter Report <u>Type</u> and <u>Sub-Type</u> (repeated N times)		
		<u>Keep Transmit</u> : repeated N times, can take two values and indicates if the setting of the Transmit flag is to be taken into account or not <u>Transmit flag</u> : repeated N times, can take two values and indicate if down-linking is to be enabled or disabled. 0 = Disabled 1 = Enabled In this case this flag has to be equal to 0 <u>Keep Storage</u> : repeated N times, can take two values and indicates if the setting of the Storage flag is to be taken into account or not <u>Storage flag</u> : repeated N times, can take two values and indicate if SSMM storage is to be enabled or disabled. 0 = Disabled 1 = Enabled In this case this flag has to be equal to 1		
		The {Application ID, Type, Sub-Type} set identifies the TM packets to which the Real Time downlinking and/or SSMM storage control shall be applied as follows :		
		<u>WARNING: the following TCs are intended to be just examples.</u>		

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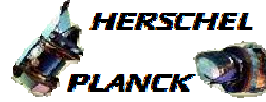
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3.1		Setting Real Time down-linking and/or SSMM storage for all TM packets carrying a selected Application ID		<input type="checkbox"/>																																								
		If Application ID > 0 (then Type and Sub-Type shall be = 0), Real Time down-linking and/or SSMM storage of all TM packets carrying the selected Application ID shall be Enabled/Disabled according to the Transmit flag and Storage flag values.																																										
		Execute Telecommand <p style="text-align: center;">SelDownlinkTMStorage</p> Command Parameter(s) : <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;"></td> <td style="width: 15%;">N</td> <td style="width: 25%;">DH019160</td> <td style="width: 45%;">1 <dec> (Def)</td> </tr> <tr> <td style="text-align: right;">Application_ID</td> <td></td> <td>DH058160</td> <td>Application_ID</td> </tr> <tr> <td style="text-align: right;">Type</td> <td></td> <td>DH020160</td> <td>0 <dec></td> </tr> <tr> <td style="text-align: right;">Sub-Type</td> <td></td> <td>DH021160</td> <td>0 <dec></td> </tr> <tr> <td style="text-align: right;">Keep_Transmit</td> <td></td> <td>DH070160</td> <td>Keep or Update</td> </tr> <tr> <td style="text-align: right;">Transmit_Flag</td> <td></td> <td>DH059160</td> <td>ENABLED or</td> </tr> <tr> <td style="text-align: right;">Keep_Storage</td> <td></td> <td>DH071160</td> <td>DISABLED</td> </tr> <tr> <td style="text-align: right;">Storage_Flag</td> <td></td> <td>DH060160</td> <td>Keep or Update</td> </tr> <tr> <td></td> <td></td> <td></td> <td>ENABLED or</td> </tr> <tr> <td></td> <td></td> <td></td> <td>DISABLED</td> </tr> </table> TC Control Flags : <p style="text-align: center;">GBM IL DSE</p> <p style="text-align: center;">--Y -- ---</p> Subsch. ID : 10 Det. descr. : Select Down-linking/ Storage of Telemetry Packets This Telecommand will not be included in the export		N	DH019160	1 <dec> (Def)	Application_ID		DH058160	Application_ID	Type		DH020160	0 <dec>	Sub-Type		DH021160	0 <dec>	Keep_Transmit		DH070160	Keep or Update	Transmit_Flag		DH059160	ENABLED or	Keep_Storage		DH071160	DISABLED	Storage_Flag		DH060160	Keep or Update				ENABLED or				DISABLED	DC140160	
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3.2		Setting Real Time down-linking and/or SSMM storage for all TM packets of selected Type and Sub-Type		<input type="checkbox"/>																																								
		If Application ID = 0 and Type > 0 (then Sub-Type shall be > 0), Real Time downlinking and/or SSMM storage of all TM packets carrying the selected {Type, Sub-Type} shall be Enabled/Disabled according to the Transmit flag and Storage flag values.																																										
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4		Send TC(14,6) to acquire the new list of TM packets downlinked in real time and stored in SSMM		Next Step: 5																																								
		When CDMU receives this request, the real time down-linking and SSMM storage status are determined for all telemetry packet (Application ID, Type, Sub-Type) and a report (14,7) is generated.																																										
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5		Verify that TM(14,7) has been received		Next Step: END																																								

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		Verify Packet Reception Telemetry Packets DownLinking-Storage Status Report Packet Details: APID: 16 Type: 14 Subtype: 7 PI1: PI2:	(14,7)-1400	
		Verify Telemetry N DE042160		(None)
		The following parameters are repeated N times		
		Verify Telemetry APID DE047160		(None)
		Verify Telemetry Type DE043160		(None)
		Verify Telemetry Sub-Type DE046160		(None)
		Verify Telemetry Transmit_Flag DE048160	as commanded	(None)
		Verify Telemetry Storage_Flag DE049160	as commanded	(None)
End of Procedure				