

Event-action table maintenance
File: H_FCP_DHS_3049.xls
Author: S. Manganelli



Procedure Summary

Objectives

The ASW function "Event/Action Management" is responsible to perform the action telecommands associated to corresponding events.

This procedure describes the steps needed to perform one of the following actions:

- Add Events to Detection List;
- Delete Events from Detection List;
- Enable Actions;
- Disable Actions;
- Enable Parameter Passing;
- Disable Parameter Passing;
- Configure Action FDIR Mode Status.

Summary of Constraints

Default status of the function: "Started".

When the function is stopped, it does not accept any other telecommands than the:

- Start Function TC(8,1,108);
- Clear Event Detection List TC(19,3);
- Report Function Status TC(8,5,108);
- Report Event Detection List TC(19,6).

Thus, if the function is stopped this procedure cannot be executed.

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

HFD3049A
HFD3049C
HFD3049D
HFD3049E
HFD3049F
HFD3049G
HFD3049H
HFD3049I
HFD3049B

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Referenced Displays

ANDs GRDs SLDs
 ZAZAI999

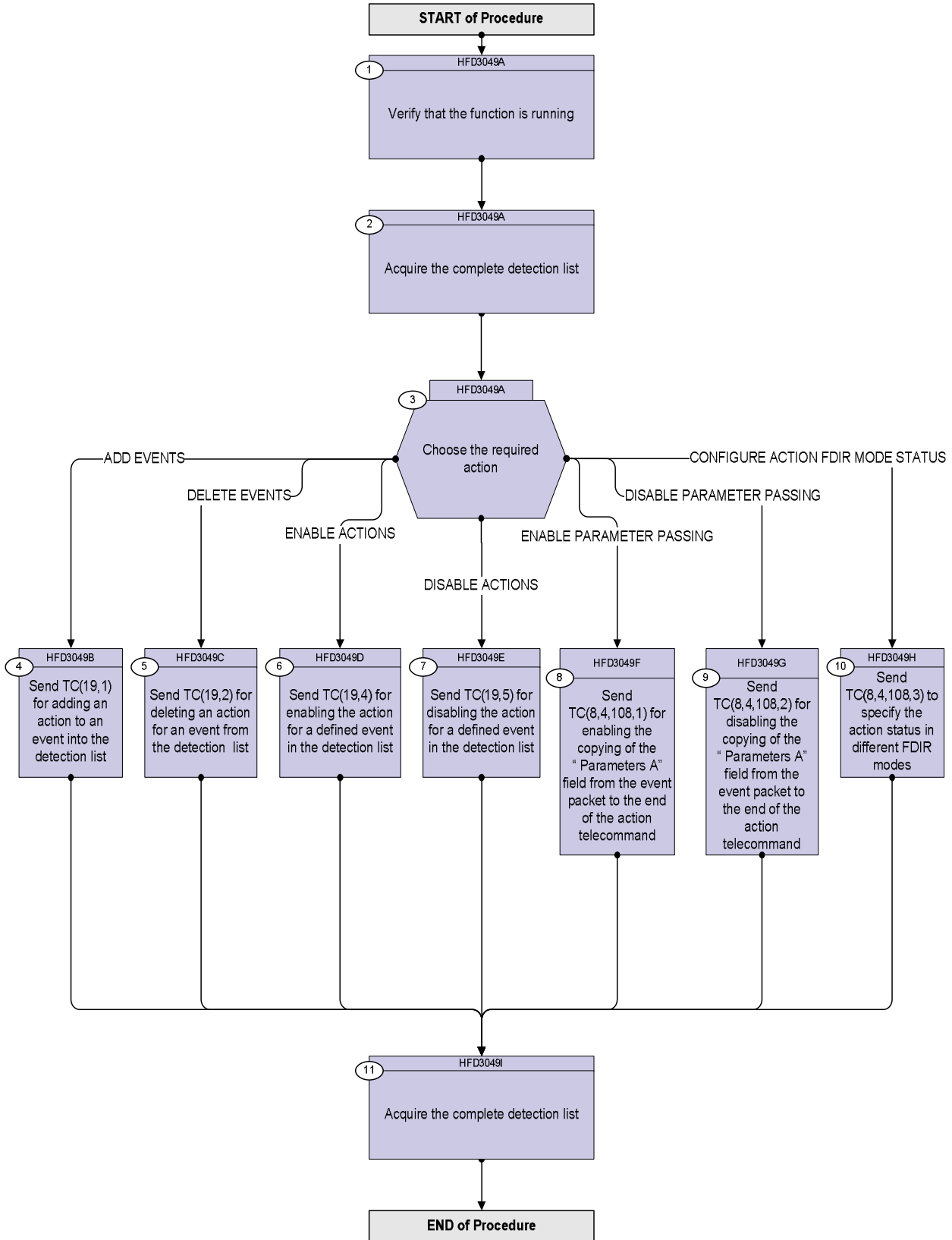
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
21/12/2007		1	Created	cmevi-hp	
10/06/2008	1	2	TC Flag and Seq Properly changed	S. Manganelli	
01/12/2008		3	Procedure updated according to latest version received from industry on 24/10/2008	cmevi-hp	
13/01/2009	2	4	Updated following OBSW 3_8	S. Manganelli	
02/03/2009	2.1	5	Comment added at step 3	cmevi-hp	
15/03/2009	2.2	6	Fixed MOIS FP bug	S. Manganelli	
19/04/2009	2.3	7	Steps 2 and 11 modified to include directly the TC to report EAT rather than a procedure call. Removed references to descoped procedure for re-uplink of default EAT.	S. Manganelli	
23/08/2010		8	Added comment on interpretation of EAT display	S. Manganelli	
07/02/2011	3.1	9	Added use of ESOC TC XC182991, added comments	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				
<p>TC Seq. Name :HFD3049A (Acquire complete EAT)</p> <p>TimeTag Type: Sub Schedule ID:</p> <p style="text-align: center;">□</p>				
1		Verify that the function is running		Next Step: 2
		Verify Telemetry EaSts DEG19170	= Running	AND=ZAZAI999
2		Acquire the complete detection list		Next Step: 3
		Execute Telecommand ReptEvtActTable TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)	DCT86170	
		The EAT model displays the enabling status of the AIR entry Action TC, under both sides of the column "Action" (E=enabled D=disabled N=not initialized in model) The left side is updated by TC, the second by the reception of TM. An enabled entry may be shown as N/E or E/E A disabled entry may be shown as N/D or D/D		
3		Choose the required action		Next Step: ADD EVENTS 4 DELETE EVENTS 5 ENABLE ACTIONS 6 DISABLE ACTIONS 7 ENABLE PARAMETER PASSING 8 DISABLE PARAMETER PASSING 9 CONFIGURE ACTION FDIR MODE STATUS 10

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<p>TC Seq. Name :HFD3049B (Add EAT entry)</p> <p>TimeTag Type: B Sub Schedule ID: <input type="checkbox"/></p>				
4		<p>Send TC(19,1) for adding an action to an event into the detection list</p>		Next Step: 11
		<p>When this request is received, the event is added to the detection list, the corresponding Action, i.e. the Telecommand delivered by the TC(19,1) is stored in the Action-Store.</p> <p>If for the specified APID and EventID an entry is already in the detection list, the Action replaces the existing one, provided that the current Action status is «disabled».</p>		
		<p>Note: If the EAT table is full (currently sized for up to 200 entries), TM(1,8,0x8801) event is raised.</p> <p>If an active entry is already present for the specified APID and EventID, TM(1,8,0x8802) event is raised.</p>		
		<p>In the TC(19,1) it is necessary to set the following parameters:</p> <ul style="list-style-type: none"> - Application Process ID - Event ID - Telecommand Packet to be sent when the specified event for the given APID is detected, provided the action status is enabled as well the current FDIR status. Note that the actual size of Action-Telecommands is limited to 232 bytes (220 bytes for the data field). <p>By default when an EAT entry is added:</p> <ul style="list-style-type: none"> - the action status is <i>Disabled</i>; - the AFS status is <i>Enabled</i>; - the AFO status is <i>Enabled</i>; - the Parameter Passing status is <i>Disabled</i>. 		
		<p>WARNING: Use the following TC if the ACTION TC is not defined in the MCS DB and so has to be encoded manually as HEX WORDS. (The example uses a meaningless event id and hex encoding)</p>		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch															
		<p>When this request is received, the indicated event and its associated Action-Telecommand is deleted from the detection list, provided that the current action status is «disabled».</p> <p>Note: In case the action is not found or if the existing action is still active TM(1,8,0x8807) is raised.</p>																	
		<p>In the TC(19,2) it is necessary to set the following parameters:</p> <p>N: the number of events (<59) to be deleted that follow.</p> <p>Application Process ID: the identifier of the Application Process generating this event report (TM packet type (5,1), (5,2) or (5,4)).</p> <p>Event ID: together with the Application Process ID, identifies unambiguously the event to be deleted from the Detection List.</p>																	
		The EAT entry must be disabled before being deleted.																	
		<p>Execute Telecommand</p> <p style="text-align: right;">DelEvtActEntry</p> <p>Command Parameter(s) :</p> <table style="width: 100%; border: none;"> <tr> <td style="padding-left: 40px;">N_Repetition</td> <td style="padding-left: 40px;">DH041170</td> <td style="padding-left: 40px;">1 <dec> (Def)</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td style="padding-left: 40px;">DH236170</td> <td style="padding-left: 40px;">APID</td> </tr> <tr> <td style="padding-left: 40px;">EventId</td> <td style="padding-left: 40px;">DH146170</td> <td style="padding-left: 40px;">EVENTID</td> </tr> </table> <p>TC Control Flags :</p> <table style="width: 100%; border: none;"> <tr> <td style="padding-left: 40px;">GBM</td> <td style="padding-left: 40px;">IL</td> <td style="padding-left: 40px;">DSE</td> </tr> <tr> <td style="padding-left: 40px;">--Y</td> <td style="padding-left: 40px;">--</td> <td style="padding-left: 40px;">---</td> </tr> </table> <p>Subsch. ID : 10 Det. descr. : TEMPLATE Delete entry from event/action table TC(19,2)</p>	N_Repetition	DH041170	1 <dec> (Def)	APID_for_EAT_TC	DH236170	APID	EventId	DH146170	EVENTID	GBM	IL	DSE	--Y	--	---	DCT82170	
N_Repetition	DH041170	1 <dec> (Def)																	
APID_for_EAT_TC	DH236170	APID																	
EventId	DH146170	EVENTID																	
GBM	IL	DSE																	
--Y	--	---																	
<p>TC Seq. Name :HFD3049D (Enable actions)</p> <p>TimeTag Type: N Sub Schedule ID: Formal Parameter List : EvApid APID=16 EventId EVENTID=</p> <p style="text-align: right;">16 <dec> <dec></p>																			
6		Send TC(19,4) for enabling the action for a defined event in the detection list		Next Step: 11															
		<p>WARNING: This TC is a variable length TC which does not allow the definition of a generic procedure. The following TC is therefore only intended to be an example.</p>																	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>When this request is received, the Action-Telecommand associated with the corresponding event will be enabled.</p> <p>Changing the enable/disable status of an action is executed irrespective of the previous action status.</p> <p>Note: In case the action is not found TM(1,8,0x8807) is raised.</p>		
		<p>In the TC(19,4) it is necessary to set the following parameters:</p> <p><u>N</u>: The number of events (<59) to be enabled that follow.</p> <p><u>Application Process ID</u>: The identifier of the Application Process generating this event report (TM packet type (5,1), (5,2) or (5,4)).</p> <p><u>Event ID</u>: together with the Application Process ID, identifies unambiguously the event to be disabled in the Detection List.</p>		
		<pre>Execute Telecommand EnableActions DCT84170 Command Parameter(s) : N_Repetition DH041170 1 <dec> (Def) APID_for_EAT_TC DH236170 APID EventId DH146170 EVENTID TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE Enable Actions TC(19,4)</pre>		
TC Seq. Name :HFD3049E (Disable actions)				
<pre>TimeTag Type: N Sub Schedule ID: Formal Parameter List : EvApid APID=16 16 <dec> EventId EVENTID= <dec></pre>				
7		<p>Send TC(19,5) for disabling the action for a defined event in the detection list</p>		<p>Next Step: 11</p>
<p><u>WARNING</u>: This TC is a variable length TC which does not allow the definition of a generic procedure. The following TC is therefore only intended to be an example.</p>				

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>When this request is received, the Action-Telecommand associated with the corresponding event will be disabled.</p> <p>Changing the disable status of an action is executed irrespective of the previous action status.</p> <p>Note: In case the action is not found TM(1,8,0x8807) is raised.</p>		
		<p>In the TC(19,5) it is necessary to set the following parameters:</p> <p><u>N</u>: the number of events (<59) to be disabled that follow.</p> <p><u>Application Process ID</u>: the identifier of the Application Process generating this event report (TM packet type (5,1), (5,2) or (5,4)).</p> <p><u>Event ID</u>: the Event ID, together with the Application Process ID, identifies unambiguously the event to be disabled in the Detection List.</p>		
		<pre> Execute Telecommand DisableActions DCT85170 Command Parameter(s) : N_Repetition DH041170 1 <dec> (Def) APID_for_EAT_TC DH236170 APID EventId DH146170 EVENTID TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE Disable Actions TC(19,5) </pre>		
<p>TC Seq. Name :HFD3049F (Ena EAT par pass)</p> <p>TimeTag Type: N Sub Schedule ID: Formal Parameter List : EvApid APID=16 16 <dec> EventId EVENTID= <dec></p>				
8		<p>Send TC(8,4,108,1) for enabling the copying of the " Parameters A" field from the event packet to the end of the action telecommand</p>		Next Step: 11
		<p>When the parameter passing is enabled, the packet length is also modified to include the parameters. In addition the telecommand length is modified to be valid after the parameter copying.</p> <p>For new entries added to the Event/Action table the parameter passing is <i>Disabled</i> by default.</p>		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		In the TC(8,4,108,1) it is necessary to set the following parameters: - APID of the event - Event ID of the event		
		Execute Telecommand EnblParamPass Command Parameter(s) : APID_for_EAT_TC DH236170 APID EventId DH146170 EVENTID TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE Enable Parameter Passing TC(8,4,108,1)	DCT87170	
<p>TC Seq. Name :HFD3049G (Disable EAT par pass)</p> <p>TimeTag Type: N Sub Schedule ID: Formal Parameter List : EvApid APID=16 16 <dec> EventId EVENTID= <dec></p>				
9		Send TC(8,4,108,2) for disabling the copying of the " Parameters A" field from the event packet to the end of the action telecommand		Next Step: 11
		In the TC(8,4,108,2) it is necessary to set the following parameters: - APID of the event - Event ID of the event		
		Execute Telecommand DisblParamPass Command Parameter(s) : APID_for_EAT_TC DH236170 APID EventId DH146170 EVENTID TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE Disable Parameter Passing TC(8,4,108,2)	DCT88170	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch												
<p>TC Seq. Name :HFD3049H (Set EAT entry AFOAFS)</p> <p>TimeTag Type: N Sub Schedule ID: Formal Parameter List : EvApid APID=16 16 <dec> EventId EVENTID= <dec> AfoStatus AFOstat= <dec> AfsStatus AFSstat= <dec></p>																
10		Send TC(8,4,108,3) to specify the action status in different FDIR modes		Next Step: 11												
		<p>The FDIR mode status does not affect the Enabled/Disabled status of the Action, i.e no disabled action is sent in any FDIR mode, whatever FDIR mode status the action has.</p> <p>The default value for new actions added to the Event/Action table is <i>Enabled</i> in both AFO and AFS.</p>														
		<p>In the TC(8,4,108,3) it is necessary to set the following parameters:</p> <ul style="list-style-type: none"> - APID of the event - Event ID of the event - FDIR mode bits <p style="text-align: center;">Enabled=1, Disabled=0</p>														
		<p>Execute Telecommand</p> <p style="text-align: right;">ConfActFdirStsMode</p> <p>DCT89170</p> <p>Command Parameter(s) :</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">APID_for_EAT_TC</td> <td style="width: 30%;">DH236170</td> <td style="width: 40%;">APID</td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>EVENTID</td> </tr> <tr> <td>AfoStatus</td> <td>DH148170</td> <td>AFOstat</td> </tr> <tr> <td>AfsStatus</td> <td>DH149170</td> <td>AFSstat</td> </tr> </table> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : TEMPLATE Configure Action FDIR Mode Status TC(8,4,108,3)</p>	APID_for_EAT_TC	DH236170	APID	EventId	DH146170	EVENTID	AfoStatus	DH148170	AFOstat	AfsStatus	DH149170	AFSstat		
APID_for_EAT_TC	DH236170	APID														
EventId	DH146170	EVENTID														
AfoStatus	DH148170	AFOstat														
AfsStatus	DH149170	AFSstat														
<p>TC Seq. Name :HFD3049I (Acquire complete EAT)</p> <p>TimeTag Type: Sub Schedule ID: <input type="checkbox"/></p>																
11		Acquire the complete detection list		Next Step: END												

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">ReptEvtActTable</p> <i>TC Control Flags :</i> <p style="text-align: right;">GBM IL DSE --Y -- --</p> <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)	DCT86170	
		The EAT model displays the enabling status of the AIR entry Action TC, under both sides of the column "Action" (E=enabled D=disabled N=not initialized in model) The left side is updated by TC, the second by the reception of TM. An enabled entry may be shown as N/E or E/E A disabled entry may be shown as N/D or D/D		
End of Procedure				