

PACS_Chopper_uk_move_18000_ast_OBS
 File: H_COP_PAC_C203.xls
 Author: R. Biggins



Procedure Summary

Objectives

The objective of this procedure is to perform rectangular chopping with step size of 18000 (move between chopper positions +18000 and -18000 with a plateau time of 2 sec and chop cycles of 10)

Based on procedure:
 PACS_Chopper_uk_move_18000_ast_OBS (v2)

Summary of Constraints

RT Science must be enabled to receive the Diagnostic HK packets

Spacecraft Configuration

Start of Procedure

PACS in NO_PRIME (SAFE) mode

End of Procedure

PACS in NO_PRIME (SAFE) mode

Reference File(s)

Input Command Sequences

Output Command Sequences

HCPC203

Referenced Displays

ANDs **GRDs** **SLDs**
 ZAZ98999

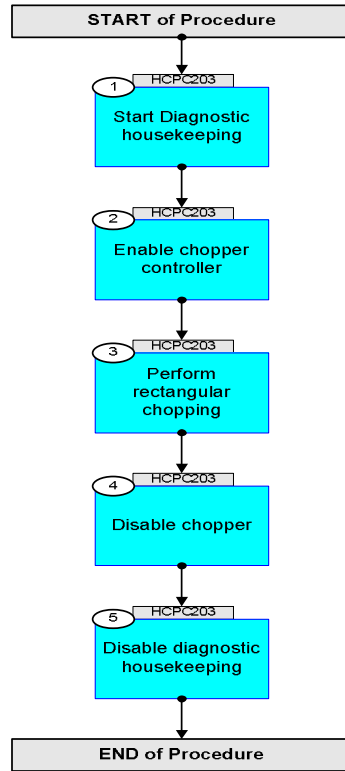
Configuration Control Information

| DATE | FOP ISSUE | VERSION | MODIFICATION DESCRIPTION | AUTHOR | SPR REF |
|----------|-----------|---------|---|------------|---------|
| 26/08/08 | 2 | 1 | Created | R. Biggins | |
| 20/04/09 | 2.3 | 1.01 | Validation : Final updates before flight - Summary updated - TC flags 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 | | | | |
| TC Seq. Name : HCPC203 (Chopper step 18000) | | | | |
| TimeTag Type: B Sub Schedule ID: □ | | | | |
| 1 | | Start Diagnostic housekeeping | | Next Step: 2 |
| | ET=+00.00.00 UT=+00.00.00 | DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 TC Control Flags : Subsch. ID : 90 Det. descr. : SET BBID IN DMC | DMC_SET_BBID PC079420 41DA0001 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_WRT_DIAG_HK_LIST Command Parameter(s) : DMC_DATA_LENGTH PP065420 DMC_4_BYTES_WORDS_DATA PP067420 DMC_4_BYTES_WORDS_DATA PP067420 DMC_4_BYTES_WORDS_DATA PP067420 DMC_4_BYTES_WORDS_DATA PP067420 DMC_4_BYTES_WORDS_DATA PP067420 DMC_4_BYTES_WORDS_DATA PP067420 DMC_CHECKSUM PP066420 SSID : 90 | DMC_WRT_DIAG_HK_LIST PC160420 6 <dec> D1 <hex> F4 <hex> F5 <hex> 102 <hex> 231 <hex> FFFF <hex> 7D1C <hex> | |
| | ET=+00.00.00 UT=+00.00.00 | DMC_START_DIAG_HK Command Parameter(s) : DIAG_HK_PERIOD PP076420 Subsch. ID : 90 Det. descr. : START THE ACQUISITION OF THE DIAGNOSTIC HK | DMC_START_DIAG_HK PC146420 0 <dec> | |
| | | Verify Telemetry DM_BBID PM029420 | = 41DA0001 <hex> | AND=ZAZ98999 |
| | | NOTE: The verification of the generation of the TM(21,3) diagnostic packets cannot be done on the MCS, but can be seen on the NCTRS (VC7) | | |
| 2 | | Enable chopper controller | | Next Step: 3 |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|------------------------------|--|--------------------------------|-----------------|
| | ET=+00.00.01 UT=+00.00.01 | DMC_ENABLE_CHOP_CONT DMC_ENABLE_CHOP_CONT TC Control Flags : Subsch. ID : 90 Det. descr. : ENABLE CHOPPER CONTROLLER GBM IL DSE --Y -- --- | PC121420 | |
| 3 | | Perform rectangular chopping | | Next Step: 4 |
| | | No telemetry checks are expected in this step, although the values of the BBID (PM029420) can be monitored to check that the value is increasing as expected. | | |
| | ET=+00.00.05 UT=+00.00.05 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630001 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 0 <dec> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630002 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630003 <hex> | |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|------------------------------|--|--------------------------------|-----------------|
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 -18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630004 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630005 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 -18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630006 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 18000 <dec> | |

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|----------|------------------------------|---|--------------------------------|-----------------|
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630007 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 -18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630008 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630009 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 -18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 4163000A <hex> | |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|------------------------------|--|------------------------------------|-----------------|
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 4163000B <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 -18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 4163000C <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 4163000D <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 -18000 <dec> | |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|------------------------------|---|--------------------------------|-----------------|
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 4163000E <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 4163000F <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 -18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630010 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630011 <hex> | |

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|----------|------------------------------|--|------------------------------------|-----------------|
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 -18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630012 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630013 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 -18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630014 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 18000 <dec> | |

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|----------|------------------------------|---|--------------------------------|-------------------|
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630015 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 -18000 <dec> | |
| | ET=+00.00.02 UT=+00.00.02 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41630016 <hex> | |
| | ET=+00.00.01 UT=+00.00.01 | DMC_MOVE_CHOP_ABS DMC_MOVE_CHOP_ABS Command Parameter(s) : SET_POINT PP079420 Subsch. ID : 90 Det. descr. : MOVE CHOPPER TO AN ABSOLUTE POSITION | PC123420 0 <dec> | |
| 4 | | Disable chopper | | Next Step: 5 |
| | ET=+00.00.01 UT=+00.00.01 | DMC_DISABLE_CHOP_CONT DMC_DISABLE_CHOP_CONT Subsch. ID : 90 Det. descr. : DISABLE CHOPPER CONTROLLER | PC122420 | |
| 5 | | Disable diagnostic housekeeping | | Next Step: END |
| | ET=+00.00.05 UT=+00.00.05 | DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 SSID : 90 | PC079420 41650001 <hex> | |

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| | ET=+00.00.01 UT=+00.00.01 | DMC_STOP_DIAG_HK DMC_STOP_DIAG_HK Subsch. ID : 90 Det. descr. : STOP THE ACQUISITION OF THE DIAGNOSTIC HK | PC147420 | |
| | | Verify Telemetry DM_BBID PM029420 | = 41650001 <hex> | AND=ZAZ98999 |
| | | NOTE: The verification of the end of generation of the TM(21,3) diagnostic packets cannot be done on the MCS, but can be seen on the NCTRS (VC7) | | |
| | | Offline analysis is required by the ICC to analyse the behaviour of the chopper during the time that the chopper controller is enabled | | |
| End of Procedure | | | | |