# Requirement: When GPS Signal is Valid, the Recorder will Time Jam from the Current NMEA Message. Time Jammed will be within 50 usec (Based on METS/DACS Validation).

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| **#** | **Test** | **Validated** | | | | **Comments** |
| **Yes** | | **No** | |  |
| 01 | **Power cycle Recorder with GPS Antennae attached to both the Recorder and the METs 231**  **(StandardTest.tmt)** |  |  | |  | |
| 02 | **Record for 5 minutes** |  |  | | **Record should start with jammed time. Verify only 1 recoding.** | |
| 03 | **Verify with DACS that the Time JAM was within 50usec. Can use either the log or a .dcd file to determine the accuracy.** |  |  | | The Error is 24 usec. Note: (There is a 25usec issue with the METS time so we should be less than 75usec) ). | |
| 04 | **Verify Video with CMDP** |  |  | |  | |

# M2300 Regression Testing.

**This Test is to determine that all Ethernet/M1553/Video and PCM channels are working as in previous Releases. It will also check out the Publish functionality and determine MAX Ethernet speeds(Single Frame and Multi-Frame)**

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| --- | --- | --- | --- | --- | --- | --- |
| **#** | **Test** | **Validated** | | | | **Comments** |
| **Yes** | | **No** | |  |
| 01 | **Verify 8 Channels of PCM**  **FMT 1 512 bits, FE6B2840 @5Mb**  **Verify 8 Channels of M1553**   * **All channels running METS Multi-Message 1 @90%**   **Verify 8 Channels of Video**  **(StandardTest.tmt)** |  |  | | **Use the METS and DACS to verify**  **Also use CMDP to verify Video.** | |
| 02 | **Verify 1 Channel Ethernet**  **Multi-Frame at 20%** |  |  | | **Verify Using METS and DACS**  **Note: Only 1 Ethernet Channel with current test system** | |
| 03 | **Verify 1 Channel Ethernet**  **Multi-Frame at 30%.** |  |  | | **0 Dropped Frames** | |
| 04 | **Verify 1 Channel Ethernet**  **Multi-Frame at 40%.** |  |  | | **0 Dropped Frames** | |
|  | **Verify 1 Channel Ethernet**  **Multi-Frame at 45%.** |  |  | | **0 Dropped Frames** | |
|  | **Verify 1 Channel Ethernet**  **Multi-Frame at 48%.** |  |  | | **0 Dropped Frames** | |
|  | **Verify 1 Channel Ethernet**  **Multi-Frame at 51%.** |  |  | | **896 Dropped Frames** | |
|  | **Verify 1 Channel Ethernet**  **Multi-Frame at 55%.** |  |  | | **74518 Dropped Frames** | |
|  | **Verify 1 Channel Ethernet**  **Multi-Frame at 60%.** |  |  | | **184043 Dropped Frames** | |
| 08 | **Verify Ethernet @80% Multi Frame** |  |  | | **Expected Dropped Frames. All other channels were Good.(904234 dropped)** | |
|  | **MAX Multi Frame Speed** |  | | | | |
|  | | | | | | |
|  | **Verify 1 Channel Ethernet**  **Single Frame 14%** |  |  | | **0 Dropped Frames** | |
| 05 | **Verify 1 Channel Ethernet**  **Single Frame 15%** |  |  | | **0 Dropped Frames** | |
| 06 | **Verify 1 Channel Ethernet**  **Single Frame 16%** |  |  | | **86624 Dropped Ethernet Frames** | |
| 07 | **Verify 1 Chanel Ethernet**  **Single Frame 18%** |  |  | | **822732 Dropped Ethernet Frames** | |
|  | **MAX Single Frame Speed** |  | | | | |
|  | | | | | | |
| 09 | **Verify Publish Capability**  **(192.168.2.12)**  **TMATS file to Reside on the RMM, Ethernet Channel Disabled (PublishTest.tmt)** |  |  | | **Cannot Record Ethernet while publishing as we only have one channel** | |
| 10 | **Delete TMATS setup 14**  **Use .config to verify Setup14 exists**  **Use .TMATS delete 14 to delete file** |  |  | | **Verify Setup14 is no longer on the Recorder** | |

**The Following will test M1553 Bus Pause/Resume. This was a customer report Item. The Bus was not Pausing and Resuming all M1553 Busses.**

|  |  |  |  |  |  |  |
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| **#** | **Test** | **Validated** | | | | **Comments** |
| **Yes** | | **No** | |  |
| 01 | **Use the Customer Provided TMATS**  **(PauseResume.tmt)**  **Set METS to Multi-Message 1 @100%** |  |  | | **Use the METS and DACS to verify**  **Also use CMDP to verify Video.** | |
| 02 | **Wait for GPS Sync** |  |  | |  | |
| 03 | **Record for 20 Minutes**  **After 5 minutes, send the Bus Pause Command. Wait 2 minutes and send the Bus Resume Command** |  |  | |  | |
| 04 | **Verify Events Created.** |  |  | |  | |
| 05 | **Verify that the Bus traffic stop for the time above.** |  |  | |  | |
| 06 | **Verify No Index Errors** |  |  | |  | |
| 07 | **Verify No UART Errors** |  |  | |  | |

**The Following Test will test the PCM/UART Channels.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **Test** | **Validated** | | | | **Comments** |
| **Yes** | | **No** | |  |
| 01 | **Verify 7 Channels of PCM**  **FMT 1 512 bits, FE6B2840 @20Mb (Channels 2&6)**  **FMT 2 8192 bits , FE6B2840 @10Mb (Channels 3&7)**  **FMT 3 4096 bits, Fe6b2840 @1Mb (Channels 4&8)**  **FMT 4 88 bits, EB90 @200kbs (Channel 5)**  **PCM Channel 1 will be configured as an UART.**   1. **9600 8 bits no Parity 1 Stop** 2. **38400 8 bits even parity 1 stop** 3. **115200 8 bits odd parity 1 stop** 4. **230400 8 bits no parity 1 stop**   **Verify 8 Channels of M1553**   * **All channels running METS Single –Message @30Hz**   **Verify 8 Channels of Video** |  |  | | **Use the METS and DACS to verify**  **.** | |
| 02 | **Verify UART channel at 9600 Baud** |  |  | |  | |
| 03 | **Verify UART channel at 38400 Baud** |  |  | |  | |
| 04 | **Verify UART channel at 115200 Baud** |  |  | |  | |
| 05 | **Verify UART channel at 230400 Baud** |  |  | |  | |

**The customer reported Index and UART (GPS) Errors.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **Test** | **Validated** | | | | **Comments** |
| **Yes** | | **No** | |  |
| 01 | **Use the Customer Provided TMATS**  **(Bus Events with Index Errors and Pause Resume.tmt)**  **Set METS to All command Words @10%** |  |  | | **Use the METS and DACS to verify**  **Also use CMDP to verify Video.** | |
| 02 | **Wait for GPS Sync** |  |  | |  | |
| 03 | **Record for 20 Minutes** |  |  | |  | |
| 06 | **Verify No Index Errors** |  |  | |  | |
| 07 | **Verify No UART Errors** |  |  | |  | |

**The Following will test M1553 Bus Events.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **Test** | **Validated** | | | | **Comments** |
| **Yes** | | **No** | |  |
| 01 | **Use the Customer Provided TMATS**  **(EthernetRecord\_v26Sep19.tmt)**  **Set METS to B52 Messages @20Hz** |  |  | | **Use the METS and DACS to verify**  **Also use CMDP to verify Video.** | |
| 02 | **Wait for GPS Sync** |  |  | |  | |
| 03 | **Record for 20 Minutes** |  |  | |  | |
| 04 | **Verify Events Created.** |  |  | |  | |
| 05 | **Verify No Index Errors** |  |  | |  | |
| 06 | **Verify No UART Errors** |  |  | |  | |

**The Following will test M1553 Bus Filtering.**

Create the following TMATS files to perform the following tests.

1. ExclusiveFilter.tmt. This TMATS file will filter the following Command words for all channels.
   1. **0x5e54 -** RT 11 SA 18 Transmit
2. InclusiveFilter.tmt. This TMATS file will filter the following Command words for all channels.

1. **0x097f -** RT 1, SA 11 Receive
2. **0x68E0 -** RT 13 SA 7 Receive
3. **0x36C0 -** RT 6 SA 22 Transmit
4. **0x3FF2 –** RT 7 SA 31 Transmit
5. **0xAC02 –** RT 21 SA 0 Transmit
6. **0x7811 –** RT 15 SA 0 Receive

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **Test** | **Validated** | | | | **Comments** |
| **Yes** | | **No** | |  |
| 01 | **Load the TMATS file ExclusiveFilter.tmt**  **Set the METS to Mulit-Message1 @ 100%** |  |  | | **Use the METS and DACS to verify**  **Also use CMDP to verify Video.** | |
| 02 | **Record for 5 Minutes** |  |  | |  | |
| 04 | **Validate File using DACs.**  **Verify that the Command Word 0x5E54 is missing on Bus 1. Use the .dcd file to verify.** |  |  | |  | |
| 05 | **Load the TMATS file InclusiveFilter.tmt**  **Set the METS to Mulit-Message1 @ 100%** |  |  | |  | |
| 06 | **Validate File using DACs.**  **Verify that the Command Word 0x5E54 is missing on Bus 1. Use the .dcd file to verify.** |  |  | |  | |

**The Following will test how the system handles heat. Customers have reported Ethernet drop outs after 2 hours of continuous operation.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **Test** | **Validated** | | | | **Comments** |
| **Yes** | | **No** | |  |
| 01 | **Verify 8 Channels of PCM**  **FMT 1 512 bits, FE6B2840 @5Mb**  **Verify 8 Channels of M1553**   * **All channels running METS Multi-Message 1 @90%**   **Verify 8 Channels of Video**  **Verify 1 Channel Ethernet**  **Multi-Frame at 15%**  **(StandardTest.tmt)** |  |  | | **Use the METS and DACS to verify**  **Also use CMDP to verify Video.** | |
| 02 | **Record for 10 Minutes** |  |  | |  | |
| 03 | **Record for 10 Minutes** |  |  | |  | |
| 04 | **Record for 10 Minutes** |  |  | |  | |
| 05 | **Record for 10 Minutes** |  |  | |  | |
| 06 | **Record for 10 Minutes** |  |  | |  | |

**Release V27.014 When all the above have been tested and passed.**

|  |  |
| --- | --- |
| **Signature** |  |