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Extracting Data from a BPR Memory Card

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Authored by:	JXJ/LXH	10 April 2025
Approved by:	PAB	11 April 2025

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Amendment history

The amendment history records all amendments and additions made to this document.

Issue	Date	Comments
1	As per the date of the last approval signature	Initial Issue

Definitions

Abbreviation	Definition
CSV	Comma Separated Values file extension
DAS	Data Acquisition and logging Sub-system
MMC	Multi-Media Card (Memory Card)
Sonardyne	Sonardyne International Ltd and its affiliates

Related documents

Reference	Title
IOM-8303	Installation, Operation and Maintenance Manual for the 6G Tsunami Detection System
UM-8300	Compatt 6+ B1 User Manual
MmcDataRecover.exe	BPR memory card data retrieval and CSV management software
TsunamiMemInit.exe	BPR memory card initialisation software

1 Introduction & Scope

The following procedure is for the removal of the MMC, data retrieval and reinstallation from an 8303 Tsunami BPR.

2 Memory Card Removal

To physically access the MMC, the transducer endcap must be removed, the sensor endcap released and partially removed.

The transducer endcap must be removed by following the procedure detailed in 8.9.1 of UM-8300.

The MMC is located on the DAS board fitted to the sensor endcap. Partially remove the sensor endcap following the procedure detailed in 8.11.1 of UM-8300. The DAS board and its chassis do not need to be fully removed. This procedure can be halted during step 13 when the MMC is exposed (as per Figure 1).

Using a 2.5 mm Allen (hex) key, carefully remove the screw (highlighted by the red circle in Figure 1) holding the MMC in place, along with the M3 crinkle washer and the brass card-retainer washer. Note that the brass washer does not clamp down on top of the card.

The MMC can then be removed from its caddy.

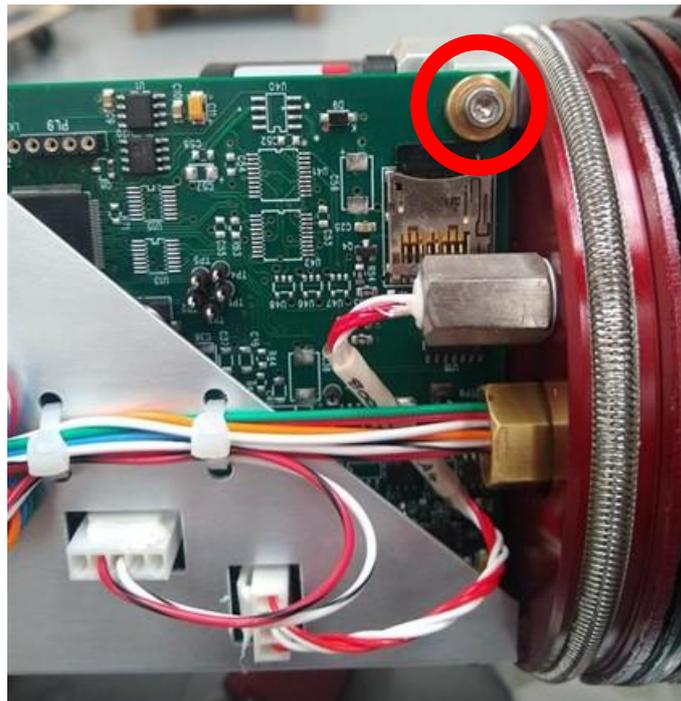


Figure 1 - DAS board with MMC exposed as sensor endcap is partially removed

3 MMC Data Retrieval

3.1 Procedure

1. Fit a suitable USB card reader to a PC and insert the BPR memory card.

CAUTION

⚠ If Windows displays a “Disk is not formatted” message (Figure 2), click “No”. Data stored on the memory card uses a proprietary binary data format, which can only be read by the Sonardyne card reader software. If Windows is allowed to reformat the card, all data will be lost.

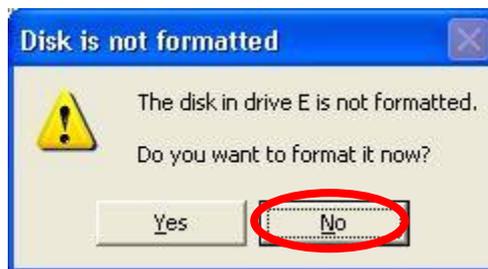


Figure 2 - Disk format warning

2. Run the memory card reader software **MmcDataRecover.exe**.

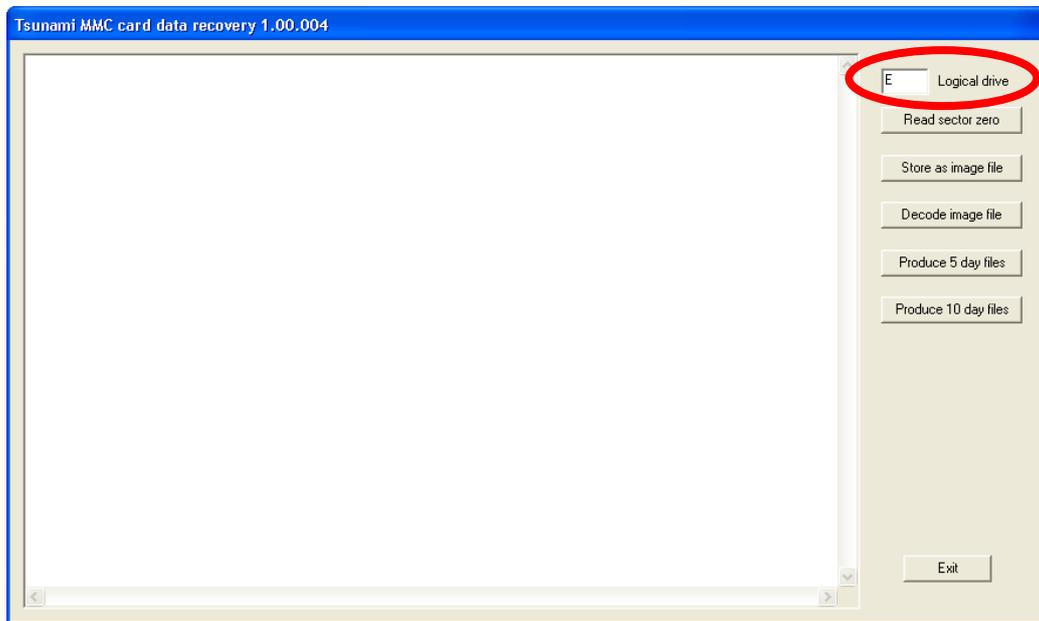


Figure 3 - MmcDataRecover.exe with logical drive selector highlighted

3. Select the logical drive (Figure 3), and then click < **Read sector zero** > (Figure 4) which shows the calibration data.

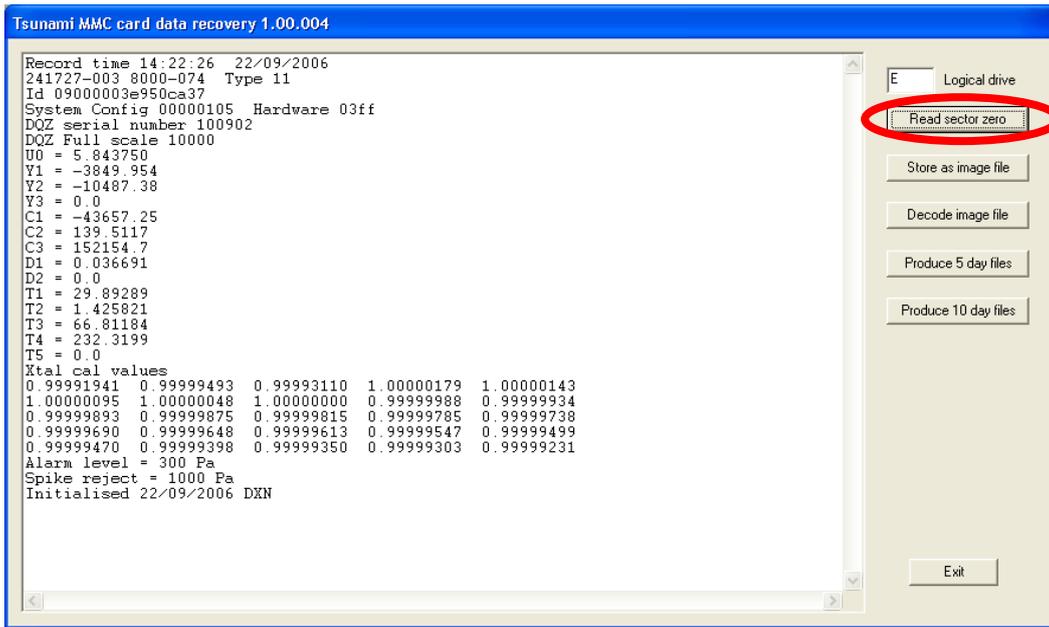


Figure 4 - MmcDataRecover.exe with Read sector zero highlighted and calibration information displayed

- 4. Click < **Store as image file** >.(Figure 5) This will take several minutes to complete. The image file will be stored in c:\sonardyne\tsunami, and will have a *.mmc filename, comprising the serial number of the endcap, the time and date the card was initialised, e.g:

241727-001 4-44 9_09_2006 Data.mmc

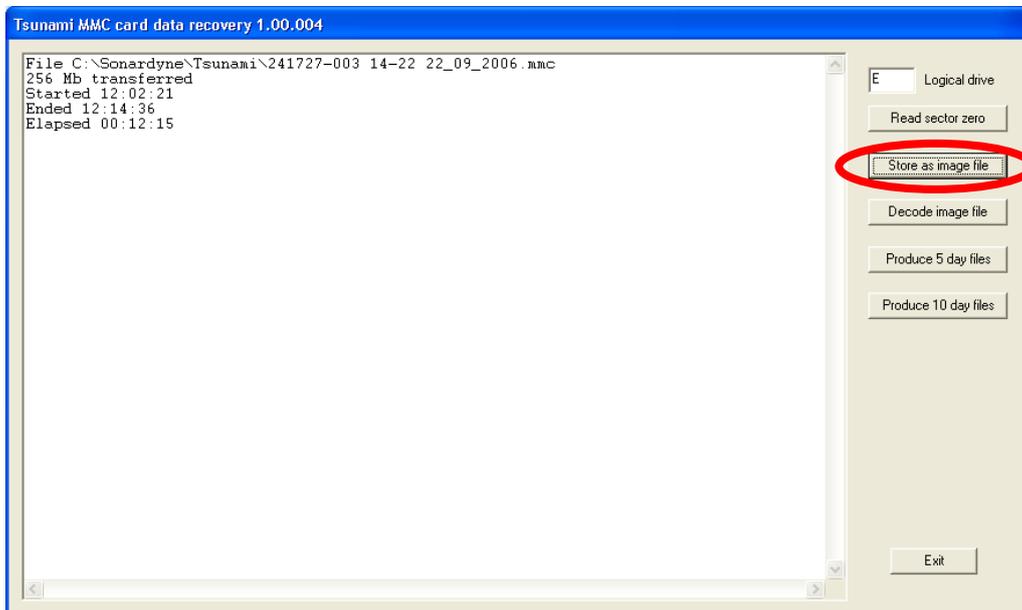


Figure 5 - MmcDataRecover.exe with Store as image file highlighted

- Click < **Decode image file** > (Figure 6).

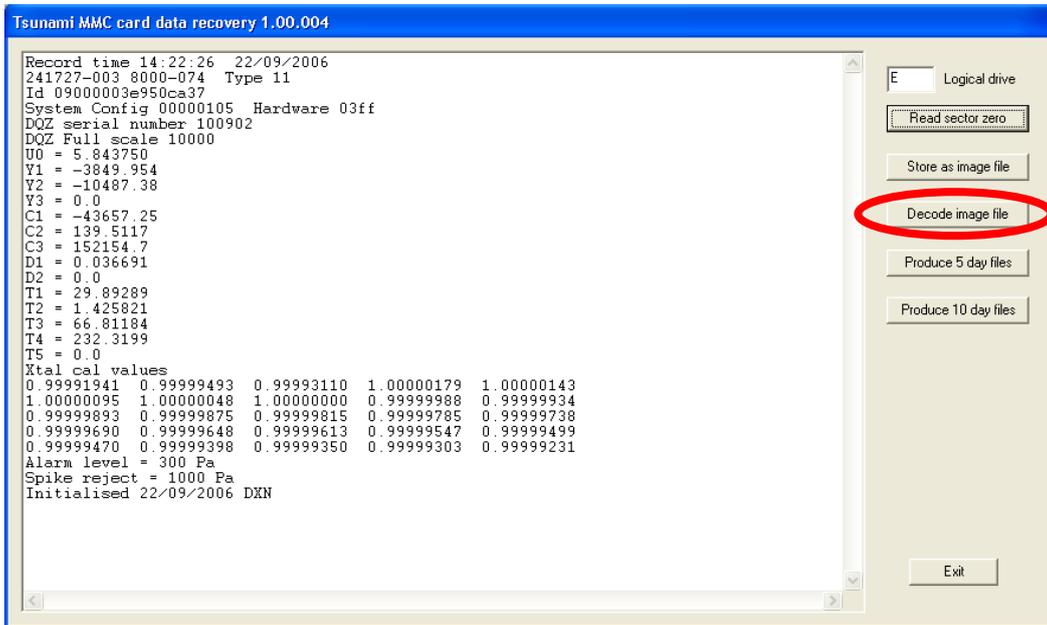


Figure 6 - MmcDataRecover.exe with Decode image file highlighted

- Select the image file to be decoded, then the software will extract all data records, and create a csv file in the same directory, with the same file name but a *.csv file extension, e.g:
241727-001 4-44 9_09_2006 Data_FULL.csv
- Once complete, the < **Read Sector Zero** > display (Figure 4) is shown again.

3.2 Additional Data Manipulation

It is good practice to make the *.mmc file and the *_FULL.csv file Read-Only so that original data is not lost.

The csv file may be very large. To assist data analysis, the software offers the ability to extract data from the *_FULL.csv file and save it into multiple, smaller files containing 5- or 10-days' worth of data (Figure 7).

The **< Produce 5 day files >** button will create a series of separate csv files, containing 5 days data, ending at midnight on the fifth day. One csv file will contain 28,000 lines of data that Excel can plot on a single Chart.

The **< Produce 10 day files >** button will create a series of separate csv files, containing 10 days worth of data ending at midnight on the tenth day. One csv file will contain approximately 56,000 lines of data, which Excel can hold in a single Sheet.

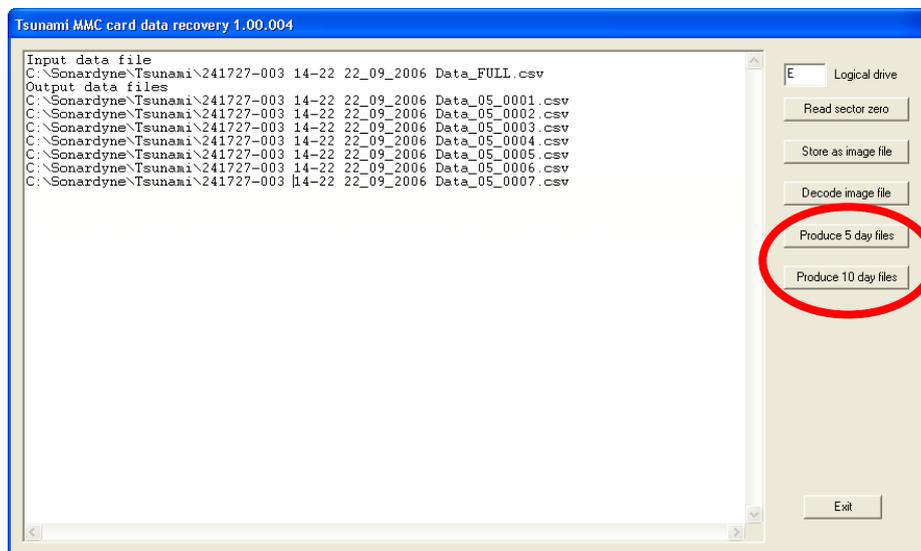


Figure 7 MmcDataRecover.exe with 5/10 days file options highlighted

4 Reassembly of BPR Unit

NOTE

Insert the card with the contacts facing the board. The card has to be gently pushed into the socket as far as it will go to allow the brass washer to mount flush onto the board.

The MMC can now be re-installed in the BPR. Remember to fit the brass washer, the crinkle washer and the M3 socket cap screw, to hold the MMC in place.

Follow the procedure detailed in 8.11.2 of UM-8300, starting from step 5, to refit the sensor and transducer endcaps.

5 Verification of Reinstalled Memory Card

5.1 DAS Calibration Mode

Connect the Dual Serial Cable as per 9.3.1 of UM-8300.

Connect the CPU connector of the Dual Serial Cable via a suitable RS232 serial USB adapter to the PC and run 6G Terminal. Navigate to the **6G Setup** tab and, after the fields have been updated by the BPR, select **DAS Calibration < ON >** (Figure 8).

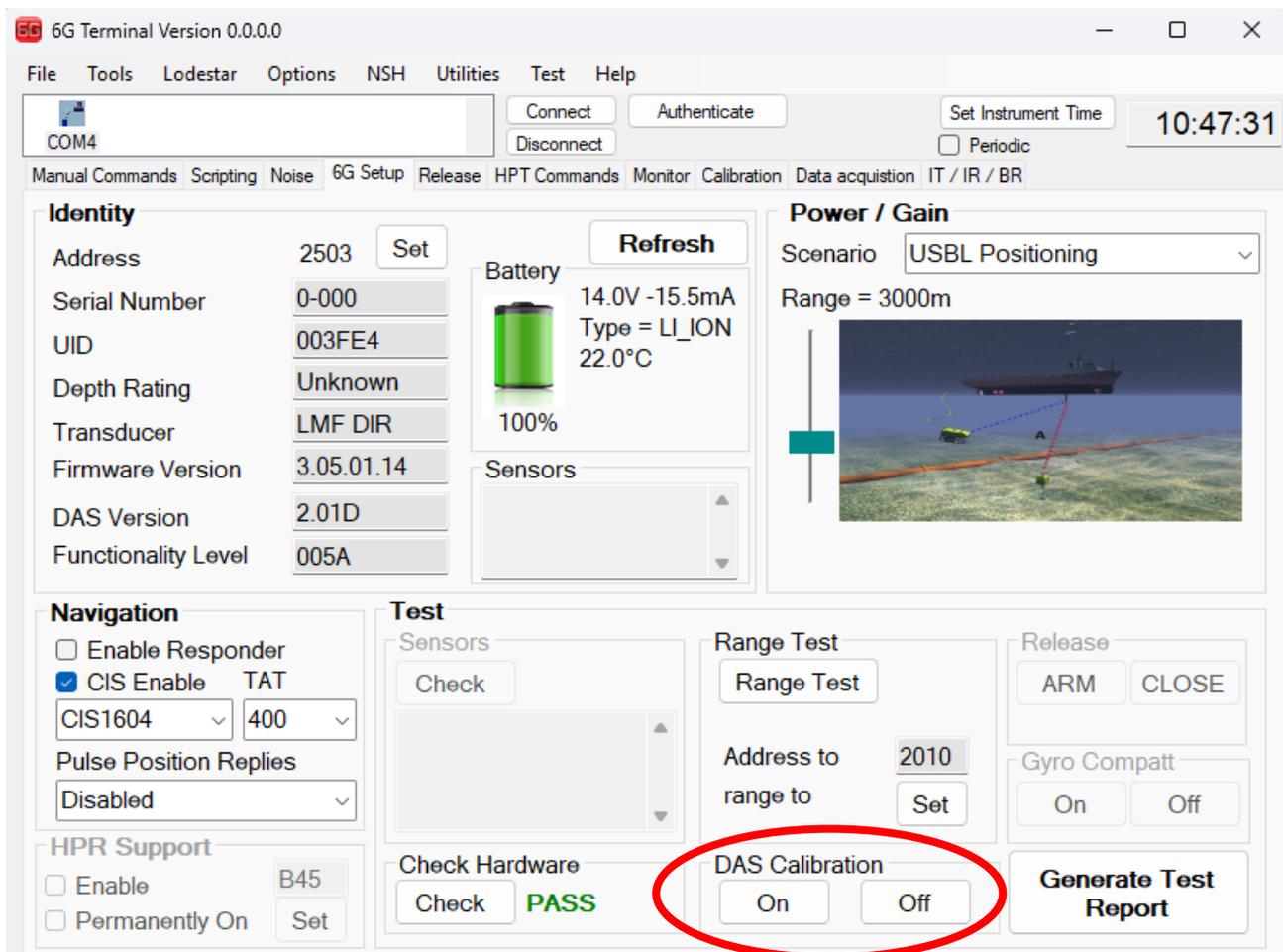


Figure 8 - 6G Terminal DAS Calibration Option

Close 6G Terminal, disconnect the CPU serial connector and connect the DAS serial connector.

5.2 MMC/SD Card initialisation

To verify that the MMC is installed correctly and can be read run the **TsunamiMemInit.exe** software. Select **< Get current status >** and confirm that *"MMC/SD card does contain data"* is displayed (Figure 9).

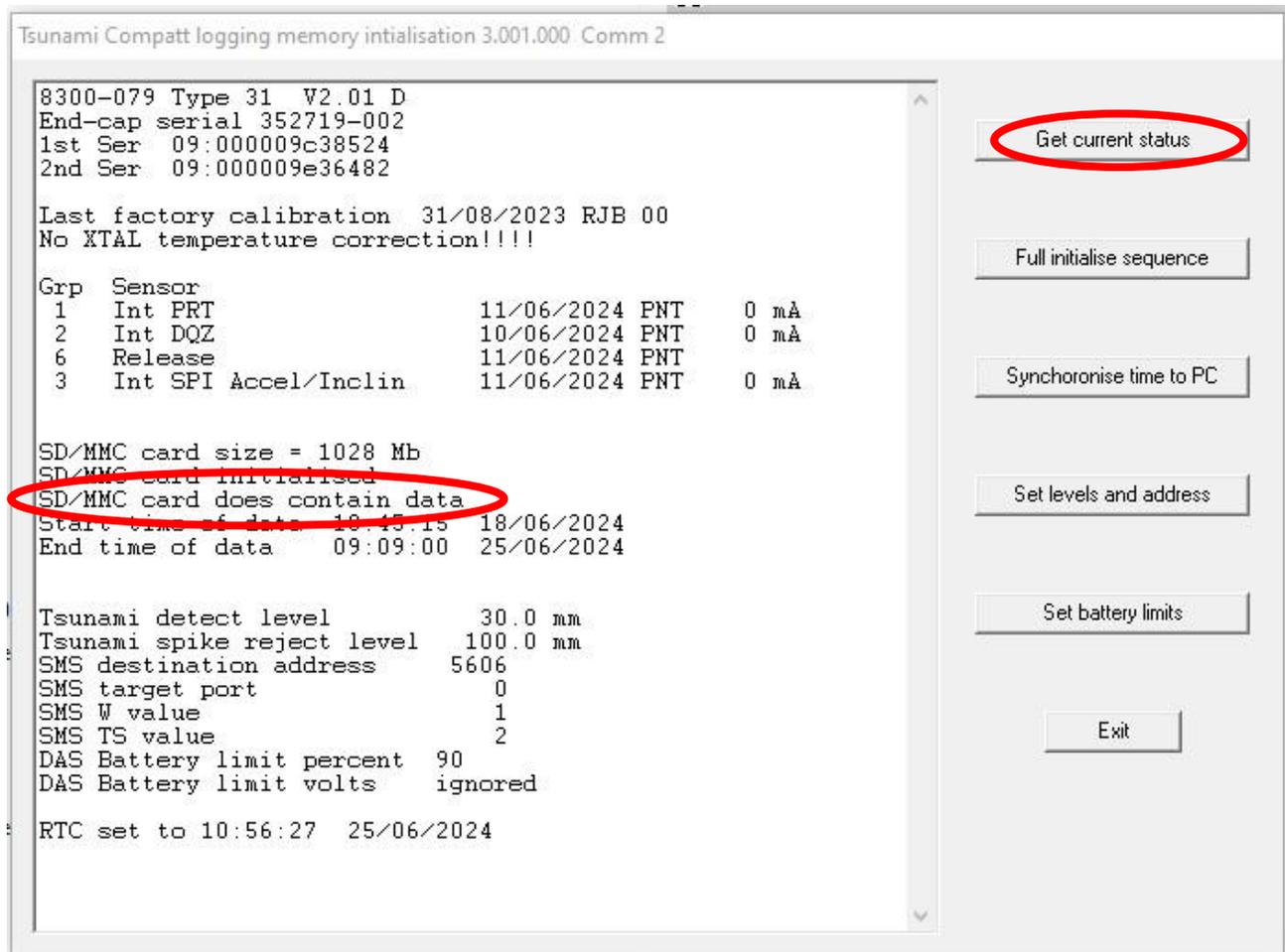


Figure 9 - TsunamiMemInit.exe with Get current status and data response highlighted

This confirms the MMC card is correctly installed. Select **< Full Initialise sequence >** and delete data if a copy has been made and is not required to remain on the card. The **< Get current status >** window will be displayed with *"MMC/SD card does not contain data"*.

Using 6G Terminal, as per 5.1, select **DAS Calibration < Off >**.

END