

Mpression Odyssey Kit Firmware Update Release Notes & Errata

Version 2.0 Update 1

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Capabilities Added

1. Hex data display option
 - Return fields
 - Autonomous Updates field
2. Hex data entry option for user data entry field (writes)
3. Offload Processing Capability
 - Ability to manipulate, convert sensor data and user data
 - Over 100 opcodes: Math, logic, Input/output, programmable delays & LED activity
 - Fully customizable state machine with compares, branching (loops), accumulators, user RAM
 - Data collection with single commands and display of collected data with single buttons
 - Debug opcodes to allow debug of commands and personalities

Updates / Fixes

1. Odyssey board firmware version shown in User Console display
2. Enable "CMD Stop" command. Stops Heart rate command processing.
3. Renumbered entry/return fields in Web Utility to match Button numbering (1..8)
4. Web Application commands cleaned up (removed unused commands)
5. Minor Web and Smart phone Application adjustments

Errata

1. When creating personality buttons, leaving one button blank between buttons can cause operational issues with the personality. Users should not leave buttons blank between buttons.
2. The comparison indicators in the web application were never implemented.

New Offload Processing User Guide and Public Personalities Available

The new Offload Processing capabilities are extensive and a special user guide has been created for it. Look for the following on the software download site:

[Odyssey Offload Processing User Guide](#) (for Odyssey Firmware v2.0)

Two new public personalities are made available to demonstrate offload processing capabilities. They are outlined below. For more information on these, see Personalities section in the Offload Processing User Guide.

1. Temp Collection

- Loop collects several timed samples of raw temperature data via I2C, converts to Fahrenheit and stores in User RAM
- One button displays Fahrenheit temperature values. A second button displays Celsius values. Offload processing commands do the conversion.
- The public example collects 8 samples, 2 seconds apart. Users can modify to hours or days apart and up to 256 stored values. The LED lights for each sample.

TIP: Putting a finger on the temp sensor (white top) during sampling will help collect a variation of temperature readings.

2. Custom Command Test

- Allows a user to test custom commands without creating a personality first
- Users enter Opcode, Parameter and User Data into this personality and hit the “execute” button
- Other buttons allow data results to be read from the Accumulator in various formats
- Users can chain several entries to simulate a custom personality

Upgrading Firmware on the Mpression Odyssey kit

See the original Mpression Odyssey User Guide, chapter 5 for steps to upgrade firmware. Use files from the download site for both BLE and EFM32 on-board processors labeled v2.0 to upgrade to version 2.0. BOTH processors (BLE and EFM32) must have matching versions for proper operation.

EFM32 Firmware Upgrade

See the [Mpression Odyssey Kit User Guide](#), section 5.1 for steps. The Firmware binary file is on the Downloads page, marked v2.0.

BLE Firmware Upgrade

See the [Mpression Odyssey Kit User Guide](#), section 5.2 for steps. The Firmware hex file is on the Downloads page, marked v2.0.

It is recommended that users download and install the latest Broadcom SDK v2.2.2 which provides the proper environment for the upgrade scripts. This is the same SDK that has been used to build the firmware.

The SDK for Windows can be found here: <https://community.broadcom.com/docs/DOC-2645>

The Mac version can be found here: <https://community.broadcom.com/docs/DOC-2793>

The firmware should be upgraded with the Macnica batch script: BLE_Firmware_Update.bat from the downloads page (Utilities). The firmware hex file comes with a predefined Bluetooth Device Address equal to: C1:44:49:45:47:4F

If the Bluetooth Device Address needs to be changed, the “.CGS” firmware file (Utilities area) should be used with Macnica batch script (as prompted by the script).

NOTE: If the posted update utility script does not work, users can try the “alternate BLE update utility script” posted below it (zip file). Some users have host configurations that cause the original script to fail, in some cases – Windows 10.

How to Determine the Firmware version installed on an Odyssey Kit

The following will guide a user to determine what firmware version is running on their Mpression Odyssey kit. This will also help the user to determine whether or not a firmware upgrade has been successfully installed.

Version	At power-on, green LED on BLE board flashes 3 times in first seconds	Version displayed on the User Console display (within first 2 times hitting <enter> key)
1.0	No	None
1.1	Yes	None
2.0	Yes	2.0