Release Note: OmniSense 3.8.0

Contents

1. Scope

This document provides an overview of the added features and release status for Zephyr OmniSense 3.8.0 application software. It covers both OmniSense Live and Analysis applications. Existing functionality is maintained for PSM Responder, PSM Training ISM, PSM Defense, Direct Connect and ECHO

2. Document Version Control

Version	Description
1.1	First Release
1.2	Updated Release to fix minor issues in Version 1.1
2.0	Updated to support more radios, new features and modified GUI, added restrictions on Blood Pressure and SpO^2 devices
2.1	Updated to include the Z-Modem, Beep Test, Physiology Normative comparison report, Various RIDs, Various new software features and bug fixes
2.2	Updated to include Bluetooth direct to the PC
2.3	Support for additional accelerometer data in Live; support for next-generation BioHarness devices. Jump and Dash Test peak acceleration values added [for BT systems].
3.0	Updated to describe Bluetooth Access Point systems using BioHarness 3 devices, & Bluetooth Direct Systems using BioHarness 2 devices
3.2	Internal release only Load parameters replace Effort, functional changes to Analysis module; support for 802.15.4 systems when available
3.3	BioGauge updates, Downloader Install integration
3.4	ECHO system, initial GPS support, revised ROG, Z-Modem & tactical RID support
3.5	Live Training & workout tabs, more GPS support, increased variety of Training reports – not released
3.6	Includes all changes from 3.5 with Bug fixes and updated Intensity and Load algorithms
3.7	Updated for support with Windows 8, performance improvements and bug fixes. Improved GPS support. Windows Security Certificates updated. Multi-language support updates. Added Impact Processing tool in Analysis
3.8	Training Limits, Archiving (to zsf), Custom Intensity ranges, Auto calibration of time over ECHO, Accel Processor (from summary and waveform logs), Markers (single, team, all), Subsession creation wizard, selectable Training Zone model

3. References

This document refers to the OmniSense Live and Analysis versions 3.8.0 software releases.

4. Definitions and Abbreviations

4.1. Abbreviations

AT	Anaerobic Threshold

BioGauge	Graphical representation of physiological parameters
BPM	Blood Pressure Meter
ECHO	Zephyr 2.4GHz radio network type
HR	Heart Rate
HR@AT	Heart Rate at Anaerobic Threshold
PSM	Physiological Status Monitoring
RID	Radio Interface Device
RSM	Remote Speaker Microphone
SCL	Skin Conductance Level
SpO_2	Pulse Oximeter (% dissolved blood oxygen)
USB	Universal Serial Bus

5. Operational Requirements

5.1. Operating systems supported

Windows XP with Service Pack 3 / Windows Vista / Windows 7 / Windows 8 / Windows 8.1.

5.2. PC System Requirements

PC Operating System:	Microsoft ® Windows XP SP1, Windows Vista or Windows 7 Windows 7 – all updates installed recommended. Windows 8 or 8.1 .NET 4.0 framework required
PC Processor:	32 or 64 bit Dual core or higher, 2.4GHz or higher
PC RAM:	2GB or higher
PC Memory:	50GB or higher free disk space required
Connectivity:	USB
Graphics Card:	NVIDIA or Radeon recommended
Screen Resolution:	1024 x 768 (preferably higher). Touchscreen preferred but not essential.
Bluetooth:	Default Microsoft Windows Bluetooth stack. This may not be the case for

PCs with built-in Bluetooth compatible with Windows Bluetooth stack. (Not required unless using BT Direct)

5.3. Motorola XTS Requirements

The following feature sets must be installed on the XTS Motorola radios:

- Q947 – Packet Data Interface

5.4. Firmware

Zephyr Bluetooth BioHarness modules require firmware upgrades for use with this application release, as stated in the table below.

Firmware upgrades for existing devices are included in the supplied Zephyr installation disc or root directory.

5.4.1. Zephyr Hardware

A new hardware version of the Zephyr BioHarness 3 is required to support the ECHO radio network type. This version has an IEEE 802.15.4 ECHO module in addition to Bluetooth, and can transmit over both protocols simultaneously

BioHarness 3 Hardware Part No.	Radio Protocol Supported
9800.0153	Bluetooth only (current version 1.3.27.0)
9800.0189	Bluetooth + ECHO (current version 1.3.27.0)

5.4.2. Firmware Versions

Upgrades to the following firmware is required to access new functionality.

System	BioH 2.0	BioH 3.0	Additional Components
PSM Training ECHO	n/a	1.3.27.0	ECHO Gateway (replaces the Bluetooth Access Point)
PSM Training w/GPS	n/a	1.3.27.0	QStarz 818XT GPS (logging only)
PSM Training BT Access Point	n/a	1.3.27.0	Zephyr Bluetooth Access Point case (no longer available)
PSM Bluetooth Direct	2.3.10.0	1.3.27.0	Bluetooth with Windows Drivers
PSM Responder	2.3.10.0	1.3.27.0	XTS Mic. 2.1.1.0 , XTS RID 1.0.16.0
PSM Defense	2.3.10.0	1.3.27.0	Various RID firmware updates – confirm with Zephyr. They are shipped with PSM Defense.
PSM Responder APX	n/a	n/a	Not yet released

5.4.3. Third Party Hardware

(no firmware upgrades required, supported with OmniSense Live in Responder, Defense and Bluetooth Direct modes)

- MyTech: HPL-108 USZ 1005232045.
- Nonin: 9560 Not applicable
- QStarz: 818XT GPS (Live tracking supported in Responder and Defense radio networks only, excluding MBITR)

6. New Features

Copies of previous release notes are obtainable here:

http://www.zephyr-technology.com/support/release-notes

A list of new features for each module is available in the start page for each Help File accessed from the application toolbar.

6.1. OmniSense Live and Analysis Modules

6.1.1. Training Limits

Enables user in Live to set Load limits for a workout to generate flashing indication when the load is reached for team or individual training objective.

6.1.2. Archiving (to zsf)

Enables user to clean up database and export old data in bulk from the database to an external zsf file that can be imported into another system for sharing of data or archived for data preservation without slowing down the system

6.1.3. Custom Intensity ranges

Enables user to tailor 0-10 intensity ranges for individual preference

6.1.4. Auto calibration of time over ECHO

BioModule internal clocks are now automatically calibrated when OmniSense Live begins a session

6.1.5. Accel Processor (from summary and waveform logs)

If devices are set to Summary and Waveform log format (not default) then logs can be downloaded and analysed

for detailed impulse analysis to include categorized step, jump, and impact detection, rate of force development, and peak acceleration magnitude and direction (requires Microsoft Excel 2010 or later).

6.1.6. Markers (single, team, all)

Enables users to apply marker to an individual, team, or to all in OmniSense Live.

6.1.7. Subsession creation wizard

Enables user to select a large number of sessions using the filter selection and set start and end time for streamlined sub-session creation.

6.1.8. Selectable Training Zone model

Enables user to toggle between Heart Rate at Anaerobic Threshold and Heart Rate Max as the basis for the Training Zone model applied throughout the application with customizable zones in each category.

7. Fixes and Corrections

7.1. Various bug fixes.

Various minor bugs that do not affect system performance or user interfaces were rectified to enable a more reliable product.

Please contact support@zendesk.zephyrtech.com to report any issues encountered.

8. Dropped Features

None

9. Known Issues, Limitations and Restrictions

9.1. Known Issues

9.1.1. Installation/ Upgrade

- A pre-configured database may be supplied with the system if the intended use is with Zephyr ECHO components. This will be installed automatically if the installation PC has never had OmniSense previously installed. If upgrading from a previous installation, it is recommended to contact Zephyr support for assistance in the upgrade to ensure the system is properly configured.

9.2. Limitations

- BioHarness 3 modules PN 9800.0189 must be used for an ECHO system.
- Firmware upgrades are required, as outlined in section 5.4.2
- Current Firmware is shipped with this release.
- PC hibernation should always be disabled when using OmniSense.
- PSM Bluetooth Direct is no longer supplied as a standard configuration for OmniSense. Bluetooth continues to be supported. Zephyr professional customers are being directed to the ECHO system as having several advantages. Notable are increased range, and a device limit of 50 per system, as well as reducing driver compatibility related issues.

9.3. Restrictions

- The accelerometer, jump and dash test data is restricted to systems using Bluetooth direct-to-PC, Bluetooth Access Point, or ECHO RF communications. The data is not available for XTS systems or ISM systems. The Accel side panel will not be visible when Network Type is set to XTS or ISM

- In the Analysis Module, Jump and Dash parameters are visible but data is not available when XTS and ISM systems are used.
- In OmniSense Analysis, Accelerometry data (as opposed to Peak & minimum accelerations, can only be accessed if streaming accelerometry data has been activated in the Live module at the time of session recording. This is restricted to a single device per system, and is only supported by Bluetooth direct systems, PSM Responder and PSM Training ECHO systems.

10. Related Documentation

All product documentation is contained on the OmniSense installer CD under the “Documentation” folder.