



Measure Life ... Anywhere

Release Note: OmniSense 3.9



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1 Scope

This document provides an overview of the added features and release status for Zephyr OmniSense 3.9 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. For more specific information about new features, refer to the New Features page in the OmniSense software user guides.

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
3.9	Support for Live GPS data feed over ECHO, Integrated GPS assignment and auto-pairing via ECHO, Data Management Enhancements in OmniSense Analysis, New optional add-ons for Barcode Rapid Allocation Tool and Pebble Watch Interface, Support for Wireless Download via Bluetooth



3 References

This document refers to the OmniSense Live and Analysis versions 3.9 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



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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 or GPS)



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 Pebble watch. This version has new Bluetooth module that supports Bluetooth classic and Bluetooth modes, while also retaining the support for ECHO. It can transmit over both Bluetooth and ECHO protocols simultaneously.

BioHarness 3 Hardware Part No.	Radio Protocol Supported
9800.0153 (1G)	Bluetooth only (current version 1.4.5.0)
9800.0189v6-v9g (2G)	Bluetooth + ECHO (current version 1.4.5.0)
9800.0189v9k (3G)	Bluetooth + ECHO + Bluetooth Low Energy (current version 1.4.5.0)



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	1.4.5.0	ECHO Gateway (replaces the Bluetooth Access Point)
PSM Training w/GPS	n/a	1.4.5.0	QStarz 818XT GPS (now supported live and logging)
PSM Training BT Access Point	n/a	1.4.5.0	Zephyr Bluetooth Access Point case (no longer available)
PSM Bluetooth Direct	2.3.10.0	1.4.5.0	Bluetooth with Windows Drivers
PSM Responder	2.3.10.0	1.4.5.0	XTS Mic. 2.1.1.0 , XTS RID 1.0.16.0
PSM Defense	2.3.10.0	1.4.5.0	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 ECHO, Responder, and Defense radio networks only, excluding MBITR)



6 New Features

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

Copies of previous release notes are obtainable here:

<http://zephyranywhere.com/support/downloads/>



6.1 OmniSense Live and Analysis Modules

6.1.1 Support for Live GPS data feed over ECHO

6.1.1.1 *Feature enables user to get GPS data via OmniSense Live eliminating the need to download logs for collection of the GPS data. This capability requires that the user update the firmware on all BioModules and that the GPS units be added and assigned in OmniSense database via the “add hardware wizard” in OmniSense Live using Bluetooth (PC with Bluetooth capability and Windows Bluetooth stack required).*

6.1.2 Integrated GPS assignment and auto-pairing via ECHO

6.1.2.1 *This feature enables the assignment of GPS devices by the OmniSense Live device assignment workflow eliminating need to pair GPS units to BioModule with the Zephyr Config Tool. This capability requires that the GPS units be added into the OmniSense database via the “add hardware wizard” in OmniSense Live using Bluetooth (PC with Bluetooth capability and Windows Bluetooth stack required).*

6.1.3 Data Management Enhancements in OmniSense Analysis

6.1.3.1 *New capabilities for reassignment of personnel from team to team, reassignment of data from person to person, deletion of personnel (along with all data), deletion of teams (along with personnel and data) –*

6.1.4 New optional add-ons:

6.1.4.1 *Barcode Rapid Allocation Tool for quick assignment and deployment. Assign and deploy personnel and equipment in a hurry without touching the computer. Contact Sales for more information.*

6.1.4.2 *BTLE capable BioModule with **Zephyr custom** Pebble watch interface to provide real time feedback to the wearer. Contact Sales for more information.*



6.1.5 Support for Wireless Download via Bluetooth

6.1.5.1 Zephyr Downloader now supports unattended wireless download with Windows Bluetooth stack

6.1.5.2 Download will work in mixed mode sharing USB and Bluetooth resources to achieve unattended automatic download of all devices in 50 device charging case, to simultaneously download from 10 devices at a time (4 USB and 6 Bluetooth) while queuing any others that are detected.

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 to include the following:

- Fixed overlapping labels in Analysis for Fitness Tests
- Added checks for max/min ranges in setting Safety Threshold defaults

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 will be supplied with the system if the software is purchased as a Zephyr 10/30/or 50 Subject Advantage Pack with or without GPS components. This will be installed automatically with all hardware prepopulated into the database 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.
- For updating a system, be sure to perform the update when you have time to **update firmware on all BioModules**. The system will not connect via live until firmware is updated (after installing the new OmniSense software).
- For updating a system that previously had GPS units paired directly to BioModules, there is a significant amount of work required to add GPS units to the system and assign them to personnel to restore full functionality. Updating without performing this step will effectively unpair GPS units from devices deployed in live mode. **Do NOT perform this update unless you have time to complete the process. Updating a 50 man system with GPS units could take as much as 2-4 hours.** If you would like onsite support to perform the update, contact your Zephyr sales representative. Keep in mind that this is an optional update, so if you do not have time or do not see that the new features add sufficient value, do not perform the update.

9.2 Limitations

- BioHarness 3 modules PN 9800.0189v6-v9 (2G) must be used for an ECHO system.



- BioHarness 3 modules PN 9800.0189v9k (3G) must be used for Bluetooth Low Energy compatibility with custom Pebble watch (contact Zephyr Sales)
- Pebble watch requires custom Zephyr supplied firmware and should not be connected with Pebble Android or iOS smart phone app to avoid automatic update of Pebble firmware to an incompatible open market version.
- BioModule Firmware upgrades are required, as outlined in section 5.4.2
- Current BioModule Firmware is shipped with this release and available to download from <http://zephyranywhere.com/support/downloads/>.
- 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.