RELEASE NOTES

VibroSight ® software
version 2.10.1

VibroSight
Total Monitoring
Solution

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REVISION RECORD SHEET

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PREFACE

About these release notes

This document provides important information about the VibroSight ® software from Meggitt Sensing Systems. It is applicable to all VibroSight-based condition monitoring and machinery protection systems using the versions of software described by this document, namely:

VibroSight software version 2.10.1 (CD part number 609-004-000-019).

This document contains information about changes to the software since the previously released version (VibroSight 2.10.0), such as new features and improvements, solved problems and bug fixes, and hardware and software compatibility.

For more general information on the actual software, or the entire condition monitoring system (CMS), refer to the following Meggitt Sensing Systems (MSS) documentation:

VibroSight software data sheet (MSS document ref. 660-020-005-213A)

Getting started with VibroSight installation guide (MSS document ref. 660-010-006-216A)

VibroSight help

VibroSight application notes and technical notes.

Users who are familiar with previous versions of VibroSight may also find it useful to refer to the respective release notes included in their installation.

Structure of the release notes

This document presents information in the following order: general items first, then in terms of the software modules that constitute VibroSight, such as Configurator, Server, Vision and so on.

You should read those sections that are most relevant to you and then keep the document for future reference.

Version identifiers

A complete VibroSight software product version number has four components x.x.x build x (or x.x.x.x) that provide the following information:

- Major release identifier: **x**.x.x build x (or **x**.x.x.x)
- Minor release identifier: x.**x**.x build x (or x.**x**.x.x)
- Update identifier: x.x.**x** build x (or x.x.**x**.x)
- Build identifier: x.x.x build **x** (or x.x.x.**x**).

The version identifiers for installed software appear in the Help About box (obtained using **Help > About …** in any VibroSight software module).

Terminology

To distinguish between the different Meggitt Sensing System products that can be used with the VibroSight software, the following terminology is used in this document:

- VM600 card – to refer to the VibroSight-software compatible cards that are installed in a VM600 rack. The currently available VM600 cards that are designed for operation with the VibroSight software are the XMx16 card pairs (XMC16 / XIO16T, XMV16 / XIO16T and XMVS16 / XIO16T) and the CPUR card (for configuration only).

  Where XMx16 card is used in this document, it refers to XMC16 / XIO16T, XMV16 / XIO16T and XMVS16 / XIO16T cards, unless otherwise stated.

- VibroSmart DMS module or VibroSmart DMS device – to refer to VibroSight-software compatible modules or devices that are used in a distributed monitoring system. The currently available VibroSmart DMS modules and devices that are designed for operation with the VibroSight software are the VSI010, VSN010 and VSV300.

  Where VibroSmart DMS module is used in this document, it refers to VSI010 and VSV300 modules, unless otherwise stated.

  Where VibroSmart DMS device is used in this document, it refers to the VSN010 device, unless otherwise stated.

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1. Licensing

In general, the licence key required to enable purchased product options remains unchanged between update level releases. For example, from version 2.10.0 to version 2.10.1.

However, a new licence key is required for upgrades between major and minor version releases. For example, from version 2.9.x to version 2.10.1.

To obtain a new VibroSight licence key file or for further information on licence keys, contact Meggitt Sensing Systems customer support. See section 7.

2. Features

General

2.1. Features for the VibroSmart DMS

VibroSight 2.10.1 contains features for the VibroSmart DMS that have been activated in order to ensure compatibility with future releases of VibroSmart module firmware.

NOTE:	However, this means that the current (or earlier) versions of the firmware for the VSI010 and VSV300 modules are not compatible with VibroSight 2.10.1.

See sections 2.3 and 2.4 for more information on these features.

VibroSight Configurator

2.2. Reworked user interfaces for the configuration of VibroSight Modbus Servers and VibroSight OPC Servers

The configuration of the following data export interfaces has been simplified and improved in order to make them more user friendly:

- VibroSight Modbus server
  (**File > New > Modbus Server Configuration**)
- VibroSight OPC server.
  (**File > New > OPC Server Configuration**).

The improvements to these user interfaces have also made them more consistent, in that the controls used and their behaviour is as similar as possible to the VibroSmart Modbus, OPC and Profibus data export user interfaces. See also section 2.3.

2.3. Reworked user interfaces for the configuration of Modbus interfaces and Profibus interfaces for VibroSmart VSI010 modules

The configuration of the following data export interfaces has been simplified and improved in order to make them more user friendly:

- Modbus interface (fieldbus port) for a VibroSmart VSI010 module
  (Right-click on the Fieldbus Ports node under a VibroSmart VSI010 module in the Hardware view tool window and click **New Modbus Port**)
- Profibus interface (fieldbus port) for a VibroSmart VSI010 module.
  (Right-click on the Fieldbus Ports node under a VibroSmart VSI010 module in the Hardware view tool window and click **New Profibus Port**).

The improvements to these user interfaces have also made them more consistent, in that the controls used and their behaviour is as similar as possible to the VibroSight Modbus Server and OPC Server user interfaces. See also section 2.2.

2.4. Input signal inversion for VibroSight VSV300 module position processing

The Position Processing block for a VibroSmart VSV300 module now allows the signal from the input channel to be inverted. More specifically, the sign of the input value can be optionally inverted using a Signal Inverted control, in accordance with the following position processing formula:

Xout = (Xin × Sinv) – Xinitial, where Sinv is the Signal Inverted parameter which can have a value of +1 or –1.

The **Signal Inverted** control is available on the Position Extraction node under a Position Processing Block and is used as follow:

- Clear the **Signal Inverted** check box to configure no signal inversion: Sinv = +1 (the default).
- Select the **Signal Inverted** check box to configure signal inversion: Sinv = –1.

VibroSight Vision

2.5. Logarithmic scales for certain plots

The logarithmic scale is now available for the following types of plot:

- For the y-axis of Spectrum plots
  (**Y-Axis** tab of the Plot Properties window, under Scale)
- For the y-axis of Waterfall/Cascade plots
  (**Y-Axis** tab of the Plot Properties window, under Scale)
- For the colour scale of Spectrogram plots.
  (**Color scale** tab of the Plot Properties window, under Scale).

This improvement allows VibroSight to be used for the stochastic analysis of vibration signals.

2.6. Configurable reference level for the decibel scale for certain plots

The reference level used for the decibel scale is now configurable for the following types of plot:

- For the y-axis of Spectrum plots
  (**Y-Axis** tab of the Plot Properties window, under Scale)
- For the y-axis of Waterfall/Cascade plots
  (**Y-Axis** tab of the Plot Properties window, under Scale)
- For the colour scale of Spectrogram plots.
  (**Color scale** tab of the Plot Properties window, under Scale).

Either the default decibel reference value (**Default**) can be used or a different decibel reference value can be entered using the Plot Properties window. (The reference level (**Ref. level**) is only available to be edited when **Decibels** is selected as the Scale.)

The default decibel reference values (equivalent to 0 dB) for different physical quantities are configured on the Decibels tab of the Default Plot Settings available under **Tools > Options**.

In addition, a **Ref. level** column can be added to the legend at the bottom the plot document window to display the reference level used for the decibel scale.

2.7. Feedback on the measurement data items displayed in historical data plots

For plots created using historical data, fewer data items than the total available in the database can be displayed, according to a data reduction algorithm that considers the data handling limits configured for plots (**Tools > Options**, then Environment \ Data Handling Limitation). See also section 2.8.

NOTE:	Smaller numbers (lower processing overhead) improve the system response time but reduce the resolution of the plots.

Historical data plots now display information on the number of measurement data items that are displayed in the plot.

NOTE:	For static plots, the number of measurement data items displayed is a count of the number of points per measurement included in the plot. For dynamic plots, the number of measurement data items displayed is a count of the number of waveforms, spectra or orbits per measurement included in the plot.

Information on the number of measurement data items included in a plot is available from two locations:

- In the summary bar at the top of every plot document window (top right, just before the data quality indicator).
  This item count is the total number of data items included in the plot. To display additional information about the data items, move the pointer over the data items in the summary bar in order to display an on-screen tip.

- In the legend at the bottom of every plot document window, in the Items column (optional). This item count is the number of data items included in the plot for an individual curve. To display additional information about the data items, move the pointer over the data items cell in the legend in order to display an on-screen tip.

If the number of data items included in a plot has been reduced by the data handling limits, then a filter icon is displayed in the item count displayed in the summary bar at the top of the plot and the on-screen tip will provide additional information (for example, “Data reduction has been applied”).

2.8. Data handling limits for historical data plots

The default values and the maximum permitted values (hard-coded limits) for the user configurable data handling limits have changed:

- The default data display limit for variables (static plots) is now 150000 data items (was 10000) and the maximum permitted value is now 1000000 (was 120000).
- The default data display limit for waveforms, spectra and orbits (dynamic plots) is now 500 data items (was 60) and the maximum permitted value is now 1000 (was 500).

NOTE:	These data display limits are on a per curve basis. For example, with a data display limit of 150000 data items for variables, each curve displayed in a Trend plot is limited to 150000 data items. But multiple curves, each up to 150000 data items, can be displayed in the same Trend plot.

The data handling limits are used by a data reduction algorithm to display fewer data items in a plot than the total available in the database.

NOTE:	Smaller numbers (lower processing overhead) improve the system response time but reduce the resolution of the plots.

3. Solved problems and bug fixes

General

3.1. Improvements and bug fixes

General improvements and bug fixes throughout the VibroSight software modules, including:

- Improvements to VibroSight Vision that have greatly reduced previously seen performance issues that affected the display of plots when viewing live data (typically characterised by data being displayed with delays, data being updated non-continuously, or delays before plots were updated when switching between different plots in a VibroSight Vision project).
- Improvements to the database data management tools and in particular, the command-line tools for database copy, purge and backup operations, in order to allow more reliable operation with task schedulers running on a computer to automate the management of VibroSight databases.
- General stability improvements and multiple bug fixes across the various software modules that constitute VibroSight.

4. Known issues

4.1. Small “holes” in plotted data for large VibroSight Vision projects when viewing live data

Depending on the complexity of a VibroSight application and the performance of the computer running the VibroSight software, the responsiveness of VibroSight Vision can decline under certain situations and affect the display of plots when viewing live data.

In particular, this performance issue has been seen with large VibroSight Vision projects containing many open plots using live data. It is typically characterised by plots being displayed with small “holes” in the data, corresponding to when the computer has reached its performance limits.

If this behaviour is seen, the recommended workaround is to:

- Reduce the number of active plots in the VibroSight Vision project in order to reduce the computational load, as only the currently displayed (foreground) plots are constantly refreshed. Plots that are hidden or minimized (background) are not active and will only be refreshed when they become visible again.
- If it is necessary to view historical data at the same time, consider using a separate VibroSight Vision session to work with the historical data, preferably on a different computer.

4.2. VibroSight Server reference clocks

In order to ensure that the time is set accurately and remains synchronized for all of the components used in a VibroSight-based system, all of the components (VibroSight Server and VM600 XMx16 cards or VibroSmart DMS devices) should be configured to use the same NTP server as a reference clock.

In the event of a problem with the NTP server such as step changes in time or excessive drift, the VibroSight Server will revert to using the local host computer clock as a backup reference clock.

However, under certain circumstances (probably related to the quality of the reference clocks used in a system), a VibroSight Server can experience problems with the reference clock that affect system operation. For example, switching from an NTP server to the local host computer clock can produce a step change in time for a VibroSight Server which can result in problems communicating with VM600 XMx16 cards, logging data and timestamping measurements.

4.3. Incomplete use of qualifiers in VibroSight Vision (D#5678)

In VibroSight Vision, the measurements displayed in the cursor columns of a plot’s legend include the physical quantity and the unit, and the qualifier (rectifier) that is used for the measurement.

However, the qualifier that is displayed uses the abbreviation from the qualifier’s family rather than the abbreviation from the qualifier’s group (which is more unique). As a result, it can be necessary to verify the qualifier that was configured in VibroSight Configurator in order to be sure of the qualifier that is used for the measurement, that is, to be sure from which qualifier group the rectifier comes. For example, the Time Domain True RMS, the Time Domain True Peak or Time Domain True Peak-Peak group.

For example, in a time domain plot, **pk** for peak and **pp** for peak-to-peak displayed in the plot's legend could be from the Time Domain True RMS group (**s_pk** and **s_pp**) or from the Time Domain True Peak group (**t_pk** and **st_pp**) or from the Time Domain True Peak-Peak group (**st_pk** and **t_pp**).

4.4. VibroSight Server and Host Service restart required after changes to network adapter

If the configuration of a network adapter is changed (for example, enabled or disabled, connected or disconnected) on a computer running VibroSight, then the VibroSight Servers and Host Services running on the computer must be restarted in order for the network adapter to be recognized by the VibroSight discovery mechanism.

4.5. Length limitation of VibroSight Server instance names

Since VibroSight 2.9.6, VibroSight Server instance names are limited to 18 characters, whereas up to 27 characters were allowed in previous versions. This constraint is enforced during the creation of new server instances with VibroSight 2.9.6 or later.

However, existing server instances may be non-compliant (too long) and no longer run after an upgrade of the VibroSight software. In such cases, the server instance name should be manually edited in the VibroSight database configuration file (`*.vssrvcfg` or `*.config`) to be 18 characters or less. Changes may also be required in any VibroSight software that references the server instance name, for example, associated VibroSight Vision Projects.

For automated database copies that append a timestamp (_yyyyMMddHHmmss) to the Server instance name, the number that remain available for VibroSight Server instance names is deduced to 3 characters. Alternatively, the server instance name can be shorted after the database copy is complete.

4.6. VibroSight client connections to local and remote VibroSight Servers are mutually exclusive

When a VibroSight Server is running on a (local) computer, a VibroSight client, such as VibroSight Configurator or VibroSight Vision running on the same (local) computer cannot connect to a VibroSight Server running on a different (remote) computer.

4.7. VibroSight Servers listen to a single IP address

VibroSight Servers use one specific IP address for connections to VibroSight clients. This IP address can be set to any of the available LAN adapters or logical addresses on the host computer, such that all traffic is directed through this address. However, this prevents concurrent connections from VibroSight clients running on other computers through different IP addresses.

4.8. Gaps in logged Modbus data

When data logging with pre-trigger is used (for example, a time-based data logging rule with Pre Logging selected) or database operations such as a database copy or a database purge command occur at the same time as standard data logging, gaps can appear in the Modbus data that has been logged at a standard rate.

These gaps in Modbus data are related to the computation of alarms when data is written to the database, which can be slow and can prevent some subsequent Modbus data from being handled correctly, especially when VibroSight Server is busy with other data intensive tasks.

5. Compatibility

NOTE: Refer also to the latest version of the *Getting started with VibroSight* installation guide or the *VibroSight software* data sheet for further information on VibroSight's prerequisites and compatibility.

As part of the VibroSight software installation process, the installation wizard will automatically check to see if the "Microsoft Visual C++ Redistributable Package" (see section 5.1.5) and the "OPC Core Components Redistributable (x86)" (see section 5.1.6) are available on the computer.
If these items have not previously been installed and they are required by the VibroSight installation's application, then the VibroSight installation wizard can be used to install them.

5.1. VibroSight software

VibroSight 2.10.1 is a minor version release in the 2.10.x series and replaces VibroSight 2.10.0.

Compatibility with existing databases is achieved using the database **Update** tool (from VibroSight System Manager's **Database** tools) which supports the continued used of configurations and data from previous versions. See section 6.2.1.

5.1.1. Microsoft Windows operating systems

VibroSight 2.10.1 is compatible with 32-bit versions and 64-bit versions of Microsoft ® Windows ® operating systems.

NOTE: Since VibroSight 2.9.0, VibroSight can run on 64-bit versions of Windows in order to help eliminate memory and performance issues that can occur due to the limitations of the 32-bit memory space.

However, VibroSight 2.10.x remains 32-bit software that runs on x64 Windows in the same manner as it does on 32-bit windows, that is, VibroSight is "x64-compatible" software (not "native x64" software).

See the appendix of this document for detailed information on VibroSight software and Windows operating system compatibility.

5.1.2. Microsoft .NET Framework

For most Windows operating systems, VibroSight 2.10.1 requires that the Microsoft .NET Framework 4.5 is installed on the computer.

NOTE:	Microsoft .NET Framework 4.5 is required since VibroSight 2.9.4. Microsoft .NET Framework 4 (Standalone Installer) is required for VibroSight 2.9.2 and 2.9.3. Microsoft .NET Framework 3.5 SP1 is required for VibroSight 2.9.1 or earlier.

See the appendix of this document for detailed information on VibroSight software's Microsoft .NET Framework requirements.

5.1.3. Apple Bonjour

Since VibroSight 2.9.6, Apple ® Bonjour is no longer required, as a proprietary implementation of the zero configuration networking (zeroconf) protocols is now used for all required networking operations: VibroSight hardware (XMx16 cards and VibroSmart DMS modules and devices) and software module discovery, VibroSight Server to hardware communications and inter-module communications.

5.1.4. Sybase SQL Anywhere 11 software

VibroSight uses the Sybase ® SQL Anywhere 11 database software in its standard configuration. VibroSight 2.10.1 remains compatible with the previously deployed version of SQL Anywhere, namely SQL Anywhere version 11.0.1.2044.

NOTE:	VibroSight requires the 32-bit version of SQL Anywhere 11 on both 32-bit and 64-bit Windows operating systems. It is strongly recommended that only the 32-bit version of SQL Anywhere 11 is installed on the computer running VibroSight.

NOTE:	Updating SQL Anywhere to version 11.0.1.2867 is **mandatory** in order to avoid potential memory issues (fixed by Sybase). A software update (patch) included on the Sybase CD must be run in order to update Sybase SQL Anywhere from version 11.0.1 to version 11.0.1.2867: *SA11_Full_Win32+x64.1101_2867_EBF.exe*. See section 6.3.

5.1.5. Microsoft Visual C++ Redistributable Package

The Microsoft Visual C++ Redistributable Package is required in order to install and register the Visual C++ libraries required by a VibroSight OPC server.

If this package does not already exist on the computer, then the VibroSight installation wizard will install it automatically. (The package is included in the ISSetupPrerequisites folder on the VibroSight CD.)

NOTE:	The Microsoft Visual C++ Redistributable Package is required since VibroSight 2.9.4, if VibroSight OPC servers are being used. The 32-bit version of the package (“vcredist_x86.exe”) is installed on both 32-bit and 64-bit Windows operating systems, as the VibroSight OPC server is a 32-bit application.

5.1.6. OPC Foundation OPC Core Components Redistributable

The OPC Core Components Redistributable is required in order to configure and run VibroSight OPC clients and OPC servers correctly: the redistributable must be installed on OPC client computers in order to allow connections to remote OPC servers and it must be installed on OPC server computers in order to allow OPC clients to browse for running OPC servers.

If this redistributable does not already exist on the computer, then the VibroSight installation wizard will install it automatically. (The redistributable is included in the ISSetupPrerequisites folder on the VibroSight CD.)

NOTE:	The OPC Core Components Redistributable is required since VibroSight 2.9.4, if OPC clients or OPC servers are being used. The 32-bit version of the package (“OPC Core Components Redistributable (x86)”) is installed on 32-bit Windows operating systems and the 64-bit version of the package (“OPC Core Components Redistributable (x64)”) is installed on 64-bit Windows operating systems.

5.2. VM600 cards

5.2.1. Firmware

There are no firmware updates for VibroSight-compatible VM600 cards corresponding to VibroSight 2.10.1.

The latest firmware for the CPUR card remains:

- Applications: applications-640-012-001-003.tgz
- Base System: base-system-640-011-001-003.tgz.

The latest firmware for the XMC16, XMV16 and XMVS16 cards remains:

- Applications: applications-640-010-001-007.tgz
- Base System: base-system-640-003-001-008.tgz.

Therefore, for current versions of the VibroSight-compatible VM600 cards, no firmware upgrades are required.

5.3. VibroSmart DMS devices

5.3.1. Firmware

There are no firmware updates for the VibroSmart DMS modules and devices corresponding to VibroSight 2.10.1.

The latest firmware for the VSI010 module remains:

- 642-002-001-002.xmsifw.

The latest firmware for the VSN010 device remains:

- 642-004-001-003.redboxfw.

The latest firmware for the VSV300 module remains:

- 642-001-001-004.xtranfw.

Therefore, for current versions of the VibroSmart DMS modules and devices, no firmware upgrades are required.

NOTE:	VibroSight 2.10.1 contains features for VibroSmart DMS that have been activated in order to ensure compatibility with future releases of VibroSmart module firmware. However, this means that the current (or earlier) versions of the firmware for the VSI010 and VSV300 modules are not compatible with VibroSight 2.10.1.

6. Upgrade procedure

This section describes the procedure for upgrading a VibroSight system from a previous version. Perform the steps in the given sequence in order to complete a system upgrade.

NOTE:	It is strongly recommended to verify the version of firmware running in the related hardware (XMx16 cards and VibroSmart DMS modules and devices) before starting a VibroSight system upgrade, in order to establish if any firmware updates are also required. See section 6.4.3.

6.1. Important notes

6.1.1. Applications using VibroSight OPC Servers require that these servers are recreated in VibroSight 2.10.1

VibroSight 2.10.1 contains an update to the VibroSight OPC Server software which means that the VibroSight OPC database file used to contain the data used by the OPC server is not compatible with earlier versions of the VibroSight OPC database file.

Therefore, when updating applications using a VibroSight OPC Server to VibroSight 2.10.1, it is required to recreate the VibroSight OPC Server using the original VibroSight OPC Server configuration file (`*.opcscfg`). In VibroSight 2.10.1 System Manager:

1. Delete the OPC server.
   (Select the VibroSight OPC Server under the host computer from the VibroSight Hosts tree structure in the System Explorer window and use the Delete command under the OPC Server tools in the Actions window.)
2. Recreate the VibroSight OPC Server.
   (Select the host computer from the VibroSight Hosts tree structure in the System Explorer window and use the Create command under the OPC Server tools in the Actions window, using the original VibroSight OPC Server configuration file (`*.opcscfg`).)
3. Load the configuration on the VibroSight OPC Server.
   (Select the recreated VibroSight OPC Server under the host computer from the VibroSight Hosts tree structure in the System Explorer window and use the Load Configuration command under the OPC Server tools in the Actions window.)
4. Publish the VibroSight OPC Server.
   (Select the recreated VibroSight OPC Server under the host computer from the VibroSight Hosts tree structure in the System Explorer window and use the Publish command under the OPC Server tools in the Actions window.)

6.2. Upgrading the VibroSight software

NOTE: Since VibroSight 2.9.6, VibroSight Server instance names are limited to 18 characters (previously, it was 27). So VibroSight installations with VibroSight Server instance names of more than 18 characters will experience problems with VibroSight 2.10.x until the existing VibroSight Server instance names (and any references to them) are manually edited to be 18 characters or less. See section 4.5.

1. If it is not necessary for the VibroSight-based system to remain operational during the upgrade procedure, back up any important (required) VibroSight databases in the following way:
   - Exit all VibroSight software modules (clients and servers) – no VibroSight software modules, such as Vision, Configurator or Server, should be running.
   - Copy the files (`*.vssrvdb, *.vssrvcfg` and optionally, `*.log`) from the directory where your database files are located to another location, for example, to a specific backup directory.

NOTE: The default data (data path) directory is `C:\VibroSight Data`

Or if it is necessary for the VibroSight-based system to remain operational for as long as possible during the upgrade procedure, back up any important (required) VibroSight databases in the following way:

- Exit all VibroSight software modules (clients) – no VibroSight software modules, such as Vision or Configurator, should be running.
- Start VibroSight System Manager and use the database  **Backup** tool from VibroSight System Manager's  **Database** tools, and follow the instructions presented by the Database Backup Wizard.

NOTE: It is necessary to be logged in to System Manager as 'Admin' in order to have the user rights to access the database tools:

Select your  VibroSight Host (computer) in the System Explorer tree structure and click  **Login** (from VibroSight System Manager's  **Access Rights** tools).

NOTE: Refer also to the *Backing up a database* topic in the  *VibroSight help*.

2. Make backup copies of any important (required) VibroSight Vision projects in the following way:
   - Create an archive file (for example, `*.zip`) containing all of the files (`*.xml` and `*.xmsproj`) in the directory where your project files are located.

NOTE: The default project directory is:
`C:\Documents and settings\username\My Documents\VibroSight\Projects`

3. Ensure that no VibroSight software modules are running.
4. Remove the currently installed version of the VibroSight software (for example,  VibroSight Standard Edition) using Windows Add or Remove Programs, in one of the following ways:
   - Click **Start > Settings > Control Panel** and then double-click **Add or Remove Programs**.
   - Or click **Start**, click **Control Panel** and then double-click **Add or Remove Programs**.
5. Install the latest version of the VibroSight software by inserting the VibroSight CD into the CD/DVD drive of the computer and follow the instructions presented by the VibroSight installation wizard.

NOTE: Refer to the  *Getting started with VibroSight* installation guide for detailed information on installing the VibroSight software – including prerequisites and compatibility.

6. Restart VibroSight Server and ensure that the required communications are enabled. For example, enable card and module device drivers according to the hardware in the system:
   - For example, click **Data > Acquisition > XMC16/XMV16 Card Driver** or **Data > Acquisition > VibroSmart Module Driver**.
7. Restart VibroSight Vision and ensure that live data is being received from the hardware and displayed in Vision.
8. The VibroSight system is now up and running.

6.2.1. Updating the internal structure of a VibroSight database

When VibroSight Server is started, it checks the status of the database and will automatically inform the user if any internal structures of the database need to be updated before proceeding.

1. Update a VibroSight database in the following way:
   - Start VibroSight System Manager and use the database  **Update** tool from VibroSight System Manager's  **Database** tools, and follow the instructions presented by the Database Update Wizard.

NOTE:	It is necessary to be logged in to System Manager as 'Admin' in order to have the user rights to access the database tools: Select your  VibroSight Host (computer) in the System Explorer tree structure and click  **Login** (from VibroSight System Manager's  **Access Rights** tools).

NOTE:	Refer also to the *Updating a database* topic in the  *VibroSight help*.

6.3. Upgrading the Sybase SQL Anywhere 11 software

VibroSight software is compatible (and extensively tested) with Sybase SQL Anywhere versions 11.0.0 and 11.0.1.

However, with the release of SQL Anywhere version 11.0.1.2867, Sybase has fixed some previously known memory issues. Therefore, it is **mandatory** to upgrade all VibroSight systems to this version of SQL Anywhere 11.

Determine the version of the SQL Anywhere 11 database engine installed on a computer in the following way:

1. From the Start menu, click **Start > All Programs > SQL Anywhere 11 > Sybase Central**.

   The Sybase Central window appears. Sybase Central is a GUI-based management tool for Sybase products.

2. Click **Help > About Sybase Central**.

   The About Sybase Central windows appears, displaying the version information for SQL Anywhere 11 (and any other installed Sybase products).

NOTE:	Refer also to the *Determining the version of SQL Anywhere 11 installed on a computer* topic in the  *VibroSight help*.

If SQL Anywhere 11 version 11.0.0 is installed on the computer, it is necessary to first remove version 11.0.0, then install version 11.0.1 from the Sybase CD.

If SQL Anywhere 11 version 11.0.1 is installed on the computer, simply update to version 11.0.1.2867 by running the software update (patch) included on the Sybase CD.

When SQL Anywhere 11 software version 11.0.0 is installed on the computer:

NOTE: Do not use the SQL Anywhere 11.0.1 setup to upgrade directly to software version 11.0.1 from software version 11.0.0. Instead, it is necessary to upgrade the Sybase database software as follows:

1. Remove SQL Anywhere 11.0.0, using the Windows Add or Remove Programs tool.

2. Install SQL Anywhere 11.0.1, using the Sybase SQL Anywhere 11.0.1 CD.

Refer also to the *Getting started with VibroSight* installation guide for information on installing the Sybase software.

1. Exit all VibroSight software modules (clients and servers) – no VibroSight software modules, such as Vision, Configurator or Server, should be running – as this also stops the SQL Anywhere 11 database engine.

   The lightning icon that appears in the notification area (at the far right of the task bar) to indicate that a Sybase database engine is running should no longer be shown.

2. Remove the currently installed version of Sybase SQL Anywhere 11 using Windows Add or Remove Programs, in one of the following ways:

   - Click **Start > Settings > Control Panel**, then double-click **Add or Remove Programs**
   - Or click **Start**, click **Control Panel** and then double-click **Add or Remove Programs**.

   And remove SQL Anywhere 11.

3. Restart the computer.

4. Install Sybase SQL Anywhere VibroSight 11.0.1.2044 by inserting the Sybase CD into the CD/DVD drive of the computer and following the instructions presented by the SQL Anywhere 11 installation wizard.

5. Restart the computer.

   Without this final computer restart, VibroSight Server may not be able to start the SQL Anywhere 11 database engine.

When SQL Anywhere 11 software version 11.0.1 is installed on the computer:

1. Update to Sybase SQL Anywhere VibroSight 11.0.1.2867 by inserting the Sybase CD into the CD/DVD drive of the computer, running the *SA11_Full_Win32+x64.1101_2867_EBF.exe* software update (patch) and following the instructions presented by the SQL Anywhere 11 installation wizard.

2. Restart the computer.

6.4. Updating the VibroSight hardware

Appropriate files and tools are included in the installation package to allow VM600 cards (CPUR and XMx16) and VibroSmart DMS devices (VSI010, VSN010 and VSV300) to be updated to the latest standard, in order to take advantage of improvements to the VibroSight software.

6.4.1. VM600 card firmware

The latest VM600 card firmware files are copied to a directory on your computer as part of the VibroSight software installation process.

NOTE:	For example, the default firmware directory for VM600 cards is: `C:\Program Files\Meggitt\VibroSight 2\Firmware\VM600`

The firmware files for a VM600 card can be found in the appropriate subfolder and identified by their .tgz file name extension. For example, the `XMV16` subfolder contains the applications and base system firmware for use by XMV16 cards. Any additional firmware updates received from Meggitt Sensing Systems should also be stored in these directories.

Table 1 shows the compatibility between VibroSight software and VM600 XMx16 card hardware (that is, XMC16, XMV16 and XMVS16 card pair firmware).

NOTE:	It is strongly recommended to use the most recent version of the VM600 XMx16 card firmware that is compatible with the version of VibroSight software being used.

Table 1: VibroSight software and VM600 XMx16 card firmware compatibility

	VM600 XMx16 card firmware						
VibroSight software version	Applications (*.tgz)						
	640-010-001-001	640-010-001-002	640-010-001-003	640-010-001-004	640-010-001-005	640-010-001-006	640-010-001-007
CD part number	Base-system (*.tgz)						
	640-003-001-002	640-003-001-003	640-003-001-004	640-003-001-005	640-003-001-006	640-003-001-007	640-003-001-008
2.5.0 609-004-000-006	✓						
2.7.5 609-004-000-008	✓	✓					
2.8.0 609-004-000-007	✓	✓					
2.9.0 609-004-000-010			✓				
2.9.1 609-004-000-011				✓	✓	✓	
2.9.2 609-004-000-012				✓	✓	✓	
2.9.3 609-004-000-013				✓	✓	✓	
2.9.4 609-004-000-014				✓	✓	✓	
2.9.5 609-004-000-015				✓	✓	✓	
2.9.6 609-004-000-016				✓	✓	✓	
2.9.7 609-004-000-017							✓ See note 1
2.10.0 609-004-000-018							✓ See note 1
2.10.1 609-004-000-019							✓ See note 1

Notes for Table 1 – See the next page.

Notes for Table 1

1. Updating to this version of VM600 XMx16 card firmware requires a two step process: (i) VibroSight System Manager's Change Firmware command should be used to update the base-system firmware (640-003-001-008.tgz) only, then (ii) the Change Firmware command should be used again to update the applications firmware (640-010-001-007.tgz) only.

6.4.2. VibroSmart DMS device firmware

The latest VibroSmart DMS device firmware files are copied to a directory on your computer as part of the VibroSight software installation process.

NOTE:	The default firmware directory for VibroSmart DMS devices is: `C:\Program Files\Meggitt\VibroSight 2\Firmware\VibroSmart`

The firmware files for a VibroSmart DMS device can be found in the appropriate subfolder and identified by their .*fw file name extension. For example, the `VSV300` subfolder contains the firmware for use by VSV300 modules. Any additional firmware updates received from Meggitt Sensing Systems should also be stored in these directories.

Table 2 shows the compatibility between VibroSight software and the VibroSmart VSI010 module firmware.

Table 3 shows the compatibility between VibroSight software and the VibroSmart VSN010 device firmware.

Table 4 shows the compatibility between VibroSight software and the VibroSmart VSV300 module firmware.

NOTE:	It is strongly recommended to use the most recent version of the VibroSmart DMS firmware that is compatible with the version of VibroSight software being used.

Table 2: VibroSight software and VibroSmart VSI010 module firmware compatibility

	VibroSmart DMS device firmware	
VibroSight software version CD part number	**VibroSmart VSI010 module** See note 1	
	642-002-001-001.xmsifw	642-002-001-002.xmsifw
2.8.0 609-004-000-007	✓	
2.9.1 609-004-000-011	✓	
2.9.2 609-004-000-012	✓	
2.9.3 609-004-000-013	✓	
2.9.4 609-004-000-014	✓	
2.9.5 609-004-000-015	✓	
2.9.6 609-004-000-016		✓
2.9.7 609-004-000-017		✓
2.10.0 609-004-000-018		✓
2.10.1 609-004-000-019	See note 2	

Notes for Table 2

1. It is strongly recommended to restart a VibroSmart DMS device before updating its firmware. For example, by turning the power supply to the device off and on, or removing and re-inserting the device.

2. VibroSight 2.10.1 contains features that have been activated in order to ensure compatibility with future releases of VibroSmart DMS device firmware. However, this means that VibroSight 2.10.1 is not compatible with the current (or earlier) versions of the VSI010 firmware. See section 5.3.

Table 3: VibroSight software and VibroSmart VSN010 device firmware compatibility

	VibroSmart DMS device firmware		
VibroSight software version CD part number	**VibroSmart VSN010 device** See note 1		
	642-004-001-001.redboxfw	642-004-001-002.redboxfw	642-004-001-003.redboxfw
2.8.0 609-004-000-007	✓		
2.9.1 609-004-000-011	✓		
2.9.2 609-004-000-012	✓		
2.9.3 609-004-000-013	✓		
2.9.4 609-004-000-014	✓		
2.9.5 609-004-000-015	✓		
2.9.6 609-004-000-016		✓	
2.9.7 609-004-000-017		✓	✓
2.10.0 609-004-000-018			✓
2.10.1 609-004-000-019			✓

Notes for Table 3

1. It is strongly recommended to restart a VibroSmart DMS device before updating its firmware. For example, by turning the power supply to the device off and on, or removing and re-inserting the device.

Table 4: VibroSight software and VibroSmart VSV300 module firmware compatibility

	VibroSmart DMS device firmware			
VibroSight software version CD part number	**VibroSmart VSV300 module** See note 1			
	642-001-001-001.xtranfw	642-001-001-002.xtranfw	642-001-001-003.xtranfw	642-001-001-004.xtranfw
2.8.0 609-004-000-007	✓			
2.9.1 609-004-000-011		✓		
2.9.2 609-004-000-012		✓		
2.9.3 609-004-000-013		✓		
2.9.4 609-004-000-014		✓		
2.9.5 609-004-000-015		✓		
2.9.6 609-004-000-016			✓	
2.9.7 609-004-000-017			✓	✓
2.10.0 609-004-000-018				✓
2.10.1 609-004-000-019	See note 2			

Notes for Table 4

1. It is strongly recommended to restart a VibroSmart DMS device before updating its firmware. For example, by turning the power supply to the device off and on, or removing and re-inserting the device.

2. VibroSight 2.10.1 contains features that have been activated in order to ensure compatibility with future releases of VibroSmart DMS device firmware. However, this means that VibroSight 2.10.1 is not compatible with the current (or earlier) versions of the VSV300 firmware. See section 5.3.

6.4.3. Updating the firmware using VibroSight System Manager

When performing VibroSight software upgrades, it is strongly recommended to systematically upgrade the firmware of VM600 XMx16 cards and VibroSmart DMS devices to the latest compatible version.

Failure to perform a necessary VibroSight-compatible VM600 card firmware update may lead to incoherent system behaviour and affect the proper functioning of data acquisition in a system. It is only in systems where the firmware running on the XMx16 cards and VibroSmart DMS devices already corresponds to the latest available version that no firmware update is required. Therefore, it is strongly recommended to verify the version of firmware running on the hardware before starting a VibroSight system upgrade, in order to establish if a firmware update is also required.

NOTE:	Changing the firmware of the VibroSight hardware is a special administrative task that can – if performed unintentionally – affect the proper functioning of data acquisition in a system. It is therefore strongly recommended to change the firmware of the VibroSight hardware only when it is necessary. For example, when the devices must be updated to be compatible with a VibroSight software upgrade.

NOTE:	It is strongly recommended to restart a VibroSmart DMS device before updating its firmware. For example, by turning the power supply to the device off and on, or removing and re-inserting the device.

Update the firmware on a VibroSight device using the  **Change Firmware** tool (from VibroSight System Manager's **Maintenance** tools):

1. Ensure that the computer running the VibroSight software is on the same network as the hardware (XMx16 card or VibroSmart DMS module or device) to be updated.
2. Start VibroSight System Manager and navigate to the Devices tree structure in the System Explorer window.

   The Devices tree lists all of the VibroSight compatible hardware that VibroSight can see on the network. If there are no XMx16 cards or VibroSmart DMS devices in the tree structure or some cards are missing, verify your network connections.
3. Select the card or device that requires its firmware to be changed.

   The Actions tool window updates to show the available tools.
4. Click  **Change Firmware** in the Maintenance tools group of the Actions window.

   The Change Firmware dialog box appears.

5. Click the **Add** button and select the new firmware files for the card or new firmware file for the device.

NOTE: The Change Firmware dialog box automatically opens the firmware folder corresponding to the VibroSight-compatible VM600 card or VibroSmart DMS device selected.

`.tgz` files are for VM600 cards and `.*fw` files are for VibroSmart DMS devices.

6. Click the **Finish** button to start the firmware upgrade process.

   For XMx16 cards and VibroSmart DMS devices, the firmware upgrade process can take up to 5 minutes, during which:

   - The IP address beside the device's serial number in the Devices tree structure can disappear.
   - The LEDs on the front panel of the device can change to reflect the status of the upgrade.

7. Repeat steps 3 to 6 for each device that requires a firmware update.

NOTE: Although the firmware for each VibroSight device must be changed individually using the **Change Firmware** tool, as each device updates its firmware independently of the VibroSight software (once the process has started), firmware updates can be performed on several devices in parallel.

8. After the firmware upgrade, verify that the VibroSight system is acquiring data from the cards.

NOTE: Refer also to the *Changing the firmware* topics in the *VibroSight* help.

The **Change Firmware** tool can be used to load a VibroSight device with any version of firmware. It is therefore possible to change a device's firmware to any previously available version, as well as the latest update.

This feature can be useful in certain situations, for example, swapping spare VibroSight hardware between different VM600 racks or VibroSmart DMSs, where systems are operating with different versions of VibroSight.

6.5. Final checks

After upgrading the VibroSight software, the following checks are recommended to ensure that VibroSight has not been inadvertently modified and that it continues to operate as expected:

- Use VibroSight Configurator to run a consistency check on the configuration in order to ensure that the configuration has not been modified by any changes to the VibroSight software, internal database structure and firmware for the hardware (VM600 cards and VibroSmart DMS modules).
- Use the VibroSight Server window to check that the data acquisition, data post-processing and data logging settings are as expected. (Click **Data > Acquisition**, **Data > Post-processing** and **Data > Logging** and disable/enable the drivers, processing managers and logging as required.)

7. Customer support

7.1. Contacting us

Meggitt Sensing Systems worldwide customer support network offers a range of support including Technical support and Sales and repairs support. For customer support, please contact your local Meggitt Sensing Systems representative. Alternatively, contact our main office:

Customer support
Meggitt SA
Route de Moncor 4
PO Box 1616
CH-1701 Fribourg
Switzerland

Telephone: +41 (0) 26 407 11 11
Email: energysupport@ch.meggitt.com
Web: www.meggittsensingsystems.com

7.2. Technical support

Meggitt Sensing Systems technical support team provide both pre-sales and post-sales technical support, including:

- General advice
- Technical advice
- Troubleshooting
- Site visits.

7.3. Sales and repairs support

Meggitt Sensing Systems sales team provide both pre-sales and post-sales support, including advice on:

- New products
- Spare parts
- Repairs.

Appendix

VibroSight software and Windows operating system compatibility

	Windows XP and Windows Server 2003 R2	Windows Vista and Windows Server 2008	Windows 7 and Windows Server 2008 R2	Windows 8 and Windows Server 2012
VibroSight software compatible?	Yes, but not recommended for new installations as Microsoft support for Windows XP SP3 ends on 08 April 2014	Yes, but not recommended. Windows Server 2008 R8 should be used instead of Windows Server 2008	Yes – recommended for new installations	To be announced

Microsoft .NET Framework versions pre-installed on Windows operating systems

	Windows XP and Windows Server 2003 R2	Windows Vista and Windows Server 2008	Windows 7 and Windows Server 2008 R2	Windows 8 and Windows Server 2012
Microsoft .NET Framework pre-installed on Windows operating system	None on XP. .NET Framework 2.0 on Server 2003 R2	.NET Framework 3.0	.NET Framework 3.0 SP1	.NET Framework 4.5

VibroSight software's Microsoft .NET Framework requirements

VibroSight software version	Windows XP and Windows Server 2003 R2	Windows Vista and Windows Server 2008	Windows 7 and Windows Server 2008 R2	Windows 8 and Windows Server 2012
VibroSight 2.9.1 or earlier	.NET Framework 3.5 SP1	.NET Framework 3.5 SP1	.NET Framework 3.5 SP1	.NET Framework 3.5 SP1
VibroSight 2.9.2 and 2.9.3	.NET Framework 4	.NET Framework 4	.NET Framework 4	.NET Framework 4
VibroSight 2.9.4 or later	.NET Framework 4 [1]	.NET Framework 4.5	.NET Framework 4.5	.NET Framework 4.5