RELEASE NOTES

VibroSight® software
version 2.9.5
(build 636)

VibroSight
Total Monitoring
Solution

Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
SWITZERLAND

REVISION RECORD SHEET

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	Department	Name	Date	Signature
Technical content approved by	Engineering	J. Theraulaz	01 March 2013	JT
	Product Management	A. Fernandez	01 March 2013	AF
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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 installations using the versions of VibroSight software described by this document, namely:

- VibroSight software version 2.9.5 build 636 (CD part number 609-004-000-015).

Where VibroSight software version 2.9.5 is used in this document, it refers to VibroSight software version 2.9.5 build 636, unless otherwise stated.

This document contains information about changes from previous versions, 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. 660-020-005-209A)

 *Getting started with VibroSight* installation guide (MSS document ref. 660-010-006-213A)

 *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**).

For example, VibroSight software version 2.9.5 build 636 (2.9.5.636).

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 card pairs that are designed for operation with the VibroSight software are the XMC16 / XIO16T, XMV16 / XIO16T and XMVS16 / XIO16T.

  Where VM600 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.

TABLE OF CONTENTS

1. Licensing

In general, the licence key required to enable purchased product options remains unchanged for updates between patch level releases (for example, from version 2.9.4 to version 2.9.5).

However, a new licence key is required for upgrades between major and minor version releases (for example, from version 2.8.x to version 2.9.5).

To obtain a new VibroSight licence key file or for further information on licence keys, contact Meggitt Sensing Systems customer support. See section 6.

2. New features

General

2.1. Removal of the one VibroSight Server per VM600 card restriction

Previously, there was a fixed limit of one VibroSight Server per VM600 card. That is, if a VibroSight Server had established a connection and was communicating with a VM600 card, then no other VibroSight Server could communicate with that card (until the first connection was closed).

However, certain applications require that a VM600 card supports communication with more than one server at the same time, for example, in order to support a control system and a condition monitoring system running in parallel. Previously, the work-around for these applications was to use two VM600 cards with duplicate configurations and shared input signal wiring in the same VM600 rack, configured so that:

- One VM600 card communicates using a CPUM card with the control system
- The other VM600 card communicates with the VibroSight Server of the condition monitoring system.

To eliminate the variations in the measurements and their timestamps that result from using two separate VM600 cards in such applications, the fixed limit of one VibroSight Server per VM600 card has been removed. It is now possible to have two VibroSight Servers with independent configurations – although the configuration for the “shared” VM600 card must be identical – communicating with the same VM600 card.

NOTE:	The two VibroSight Servers used with a shared VM600 card can be either two VibroSight Server software modules running on a host computer or computers, or a VibroSight server process running on a CPUM card and a VibroSight Server software module running on a host computer.

For example, this allows a single shared VM600 card to:

- Communicate using a VibroSight server process running on a CPUM card with the control system
- And communicate with the VibroSight Server of the condition monitoring system.

The VibroSight server process running on the CPUM card requires only that the configuration for the shared VM600 card is uploaded to it. The **Export card configuration** button at the card node level in VibroSight Configurator is used to generate a device configuration file (.xml) for this upload.

To avoid conflicts, only one of the two VibroSight Servers can have read and write access to the shared VM600 card (the other VibroSight Server will have read only access). The VibroSight Server with read and write access is the “master” and in a typical application, would be the more important system, for example, a control system.

The **Standalone Mode** check box at the card node level in VibroSight Configurator is used to select access to the shared VM600 card for the VibroSight Servers as follows:

- The master VibroSight Server should have **Standalone Mode** cleared in order to have read and write access
- The other VibroSight Server should have **Standalone Mode** selected in order to have read only access.

NOTE:	The read only access server can only successfully connect to the shared VM600 card after the master server has established a connection.

VibroSight System Manager

2.2. Stopping database operations

Common database operations such as database copy, database purge and database extract summary (statistics) can now be stopped cleanly, leaving the database in a usable state, by clicking the **Cancel** button in the database wizard.

Previously, after these database commands were started, it was necessary to wait until they had completed naturally or to end the process using a tool such as Windows Task Manager (leaving the database in an unknown state). However, ending the process abruptly can result in software artefacts that conflict with attempts to repeat the same task in the future.

Note: This improved functionality only applies to these database operations when they are run from within System Manager, as database commands run from a Windows command prompt cannot be stopped cleanly. For example, pressing CTRL+C in a Windows command prompt has the same result as closing the command prompt window, which does end the process but leaves the database in an unknown state. (The user must choose to keep any partial results or delete them.)

2.3. ‘Copy all’ and ‘Purge all’ options for database commands

The database copy command now supports a ‘copy all’ option that allows all of the data in a database to be copied.

The database purge command now supports a ‘purge all’ option that allows all of the data in a database to be purged.

Note: This improved functionality applies irrespective of whether the database operations are run from System Manager or run from a Windows command prompt.

VibroSight Configurator

2.4. XMVS16 card tacho bus routing

VM600 rack tacho bus routing for XMVS16 cards has been enabled in order to allow speed signals to be shared between XMC16, XMV16 and XMVS16 cards in a VibroSight configuration, without the need for additional external cabling.

Previously, access to the VM600 rack tacho bus was not enabled for XMVS16 cards.

NOTE:	The XMVS16 card is designed to not have access and therefore be unable to configure anything on the VM600 raw bus, thereby restricting dynamic channel inputs to the associated XIO16T rear panel connectors.

3. Solved problems and bug fixes

General

3.1. “Ghost” servers and clients

Under certain circumstances, when VibroSight software modules are closed normally, the software can actually remain in computer memory as a “ghost”. These ghosts can cause conflicts when the same software module or other software modules are started that require access to resources (such as databases, files and access rights) that remain locked by a ghost.

These ghost processes can be seen in Windows Task Manager on the Processes tab and a common work-around for this problem was to end the process directly in Windows Task Manager.

Improvements to the universal plug and play (UPnP) networking protocols used for the networking related to VibroSight software module discovery and inter-module communications have eliminated ghosts due to this bug.

 VibroSight System Manager

3.2. Database copy command

The Database Copy Wizard is used to specify the file name for the copied database (**Name**) and the folder in which the copied database should be saved (**Location**). These two data entry fields were linked so that the name for the copied database was automatically appended to the default folder location (C:\VibroSight Data) to create a new subfolder. However, the link between two data entry fields could be broken by manually typing in a new location, limiting the user to creating databases in the default folder only.

This bug has been corrected by changing the behavior of the Database Copy Wizard so that the **Name** and **Location** data entry fields are completely independent (that is, no subfolders are automatically created) and can be easily changed by the user. (C:\VibroSight Data is still used as the default folder for copied databases but it too can be changed, subfolders can be used, etc.)

3.3. VibroSight System Manager unable to start

VibroSight System Manager would stop responding or “crash” when starting, if the layout files (corresponding to the arrangement of windows configured by the user) were corrupted. This bug has been corrected.

3.4. Problems running multiple database operations concurrently

The command-line tools for database copying, purging and backup operations all require access to a Sybase® SQL Anywhere dbdata.dll that is unpacked each time that it is used.

Therefore, if a task scheduler is used to automate the management of VibroSight databases without scheduling the database operations to run mutually exclusively, there is a high probability of failure because database operations running concurrently will inevitably try to access the dbdata.dll at the same time (and only one operation can succeed). Automated operations and manual user operations (for example, due to the user being unaware of the scheduled tasks) running at the same time can similarly conflict.

This problem was due to a limitation of the SQL Anywhere software, which Sybase has now addressed by implementing a queuing mechanism and thereby mutual exclusion at system level whenever a database command-line operation requires a connection to a database. This improvement has positively impacted all database access operations.

3.5. Database purge command

Some database purge operations were sporadically aborting (not completing successfully) due to apparent problems with specific configuration revisions. Although random, the problem only occurred with SQL Anywhere version 11.0.1.2044 and was not due to configuration revisions.

As this problem is due to a limitation of the SQL Anywhere software, the solution is to ensure that SQL Anywhere version 11.0.1.2867 is used with VibroSight (as was previously recommended). See section 4.1.3.

 VibroSight Configurator

3.6. VM600 card minimum and maximum rectifiers

The minimum and maximum qualifiers (**Rectifier**) available for the time domain extractions of a VM600 card's dynamic processing block were inverted. That is, selecting a **Minimum (min)** rectifier for a time domain extraction resulted in the maximum rectifier being applied to the measurement and selecting a **Maximum (max)** rectifier for a time domain extraction resulted in the minimum rectifier being applied to the measurement. This bug has been corrected.

3.7. VibroSmart VSV300 module waveform averaging

The field for selecting the number of waveform averages (**1**, **2**, **4**, **8**, or **16**) for a VibroSmart VSV300 module's narrow band vibration processing block was not available (greyed out) under certain circumstances. For example, after a configuration with waveform averaging enabled was saved, and then the waveform averaging was disabled and re-enabled. This bug has been corrected.

3.8. VM600 card tachometer input channels in multi edit mode

When working with VM600 card tachometer input channels in multi edit mode, it was not possible to expand the Custom Min Full Display Value and Custom Max Full Display Value nodes in the Properties window, corresponding to the speed extractions selected in the main window.

This bug has been corrected and it is now possible to expand these nodes (if the values are the same for the selected speed extractions) and edit multiple parameters at the same time.

3.9. Exception errors when alarms are deleted

When an alarm is added to a VM600 card's speed extraction and then added to an events storage group in the Data Storage view for logging, if the alarm is subsequently deleted (from the speed extraction) without first being removed from the events storage group, then errors such as an Xms Server Exception or a Target Invocation Exception can result when the configuration is saved and the configuration can be corrupted. This bug has been corrected.

3.10. Failure to activate a configuration on VibroSmart DMS modules

VibroSight Configurator could fail to activate a configuration on a VibroSmart DMS module after encountering an error on the network (so this was only seen occasionally). This bug has been corrected.

3.11. VibroSmart VSI010 module logical functions

VibroSmart VSI010 modules provide logical functions that allow alarm and status information from all of the modules in the same measurement block as the VSI010 module to be logically combined to form aggregate bits (flags), which can be used to drive the VSI010's relay outputs.

However, VibroSmart VSI010 module logical functions were not working correctly as VSV300 modules were not being configured to broadcast their alarm information on the real-time network, so VSI010 modules had no alarm information from VSV300 modules to work with. This bug has been corrected.

3.12. VibroSmart VSV300 module logical functions

VibroSmart VSV300 modules provide logical functions that allow alarm and status information from the VSV300 module to be logically combined in order to form aggregate bits (flags), which can be used to drive the VSV300's relay outputs.

However, VibroSmart VSV300 module logical functions were not working correctly as the basic logical functions and the advanced logical functions were not being correctly mapped from the configuration to the module. This bug has been corrected.

3.13. VibroSmart VSV300 module configuration error not detected

Frequency domain extractions for a VibroSmart VSV300 module's narrow band vibration processing block where the **Band Stop** parameter was set to the same order (**nX**) as the **Band Start** parameter were not being detected as an error by the consistency checker. So VibroSight Configurator was attempting to send the configuration to a VSV300 module, although the module, correctly, would not accept it. This bug has been corrected.

VibroSight Server

3.14. Continuous VM600 card warning messages

If VM600 cards already have a valid configuration (for example, from a previously running VibroSight Server which has since been stopped) and a VibroSight Server is then started and data acquisition from the VM600 cards is enabled (**Data > Acquistion > XMC16/XMV16 Card Driver**), continuous warning messages can be reported by the server. For example:

```
Items have been received with a timestamp that is older than the
synchroniser buffer ...

A notification wasn't queued from the point Alarm State Controller ...

A notification wasn't queued from the Machine Operating Controller ...
```

This bug has been corrected.

3.15. NTP reference clock not being used correctly for OPC client data

OPC data imported into a VibroSight Server from an external OPC server was not being timestamped correctly with the time from the NTP reference clock configured for the VibroSight Server (**Tools > Options**, Environment \ Reference Clock Configuration).

This bug has been corrected so that OPC data imported into a VibroSight Server is timestamped correctly using the NTP reference clock.

Note: If no NTP reference clock is provided, then VibroSight Server will default to using the local computer clock as the reference clock.

3.16. Inaccessible user levels after a forced VibroSight Configurator disconnection

If VibroSight Configurator was not closed normally when it was connected to a VibroSight Server (for example, by ending the application/process in Windows Task Manager after it had stopped responding or as a result of a "crash"), then subsequent attempts to restart VibroSight Configurator, open the same server/database and log in at the same user level would not work, as VibroSight Server retained a password lock until it timed out after approximately 10 minutes.

This bug has been corrected as VibroSight Server will detect a forced client disconnection and release the password lock. The timeout has also been reduced to approximately 3 minutes. In addition, improved interactive messages are displayed after a failed log in order to explain the most likely reason for the failed attempt.

3.17. IP binding with an invalid IP address causes VibroSight Server to stop responding

When a server runs on a computer, it listens for incoming client connections on the available network connections. Since VibroSight 2.9.3, VibroSight Server supports IP binding in order to restrict the network connections on which it listens to a single network card (useful when operating in multi-LAN environments).

When IP binding is required, the server's .config file must be manually edited to include the "UsedNetworkCardIpAddress="xxx.xxx.xxx.xxx" parameter, where xxx.xxx.xxx.xxx is replaced with the IP address (in dot-decimal notation) of the appropriate network card. For example:

```
<Global InstanceName="TestDB001" UsedNetworkCardIpAddress="10.10.1.100"/>
```

NOTE:	The `UsedNetworkCardIpAddress` parameter must be added to the line near the top of the .config file that contains the `<Global />` tag.

However, if the IP binding address (`UsedNetworkCardIpAddress`) is incorrectly specified in the .config file, then the server can stop responding or "crash".

This bug has been corrected as VibroSight Server will default to normal operation (that is, without IP binding) if the IP binding address is invalid.

NOTE:	An invalid IP binding address can occur for many reasons. For example, the IP address not being configured at the level of a LAN controller, or being configured correctly but with the required Ethernet cable disconnected.

In addition, improved warning messages are reported in VibroSight Server in order to explain the most likely reason for the failed IP binding and how the system is operating. For example:

```
The parameter "UsedNetworkCardIpAddress" in the server configuration file
is an invalid IP address (unavailable IP). System will operate without IP
binding.
```

```
The parameter "UsedNetworkCardIpAddress" in the server configuration file
is an invalid IP address (wrong format). System will operate without IP
binding.
```

3.18. Alarms not working for scalar data entities in basic math processing blocks

Alarms added to scalar data entities in basic math processing blocks did not work, that is, changes in severity level were not recorded and events were not generated. This bug has been corrected.

3.19. Problems starting and stopping communications with a Modbus server

When a VibroSight Server's Modbus client was communicating with an external Modbus Server to read Modbus data values, the communications could not be turned off if the Modbus server was not available when the **Data > Acquisition > Modbus Device Driver** command was run. A similar problem occurred when trying to start communications with a Modbus server that was not available.

This bug was due to a problem with timeouts on the TCP port concerned and has been corrected. In addition, a mandatory timeout suitable for the external Modbus interface must now be configured by the user.

3.20. Unsolicited Modbus information warning messages

The VibroSight Server can start to display a large number of information messages related to Modbus communications, even if this log level has not been enabled (**Tools > Options**, Environment \ Technical Log Files, Log Level: Information). For example:

```
TX: 53, 206, 0, 0, 0, 6, 0, 3, 2, 88, 0, 2
```

```
RX: 53, 205, 0, 0, 0, 7, 0, 3, 4, 128, 0, 68, 187
```

This bug has been corrected.

3.21. Improved Modbus error and warning messages

When a VibroSight Server's Modbus client was communicating with an external Modbus Server to read Modbus data values, the error and warning messages reported when Modbus registers were not available were inadequate for helping the user to troubleshoot and correct the external Modbus interface.

This problem has been corrected as improved error and warning messages are now used, including Modbus register mismatch, Modbus function code mismatch and UnitID mismatch information.

VibroSight Event Viewer

3.22. VibroSmart DMS modules' DSI-related events not being reported correctly

The events related to the discrete signal interface (DSI) inputs – Alarm Reset (DSI_AR), Danger Bypass (DSI_DB) and Trip Multiply (DSI_TM) – are not being reported correctly. For example, activation of the Danger Bypass input on a VSV300 module is reported as a Trip Multiply event. This bug has been corrected.

4. 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.

4.1. VibroSight software

VibroSight 2.9.5 is a minor version release in the 2.x.x series and replaces VibroSight 2.9.4.

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 5.1.1.

4.1.1. Microsoft Windows operating systems

VibroSight 2.9.5 is compatible with 32-bit versions and 64-bit versions of Microsoft ® Windows ® operating systems.

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

4.1.1.1. Microsoft .NET Framework

For most Windows operating systems, VibroSight 2.9.5 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.

4.1.1.2. Microsoft Visual C++ Redistributable Package

VibroSight 2.9.5 requires that the Microsoft Visual C++ Redistributable Package is installed on the computer, in order to install and register the Visual C++ libraries required by a VibroSight OPC server.

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

4.1.2. Apple Bonjour

VibroSight 2.9.5 continues to use Apple ® Bonjour for the networking related to VibroSight hardware (VM600 cards and VibroSmart DMS modules and devices) discovery and VibroSight Server to hardware communications.

NOTE:	The 64-bit version of Bonjour must be installed on 64-bit Windows operating systems. Apple Bonjour for Windows version 3.0 is required since VibroSight 2.8.x. Only Apple Bonjour for Windows version 1.0.106 should be used with VibroSight 2.7.x or earlier.

(VibroSight 2.9.5 continues to use universal plug and play (UPnP) networking protocols for the networking related to VibroSight software module discovery and inter-module communications.)

4.1.3. Sybase SQL Anywhere 11 software

VibroSight uses the Sybase ® SQL Anywhere 11 database software in its standard configuration. VibroSight 2.9.5 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.

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 5.2.

(If Sybase SQL Anywhere 11 is not updated to version 11.0.1.2867, VibroSight 2.9.5 will still run but a warning message will be displayed by the VibroSight Server.)

4.2. VibroSight hardware

4.2.1. VM600 card firmware

There are no new firmware (embedded software) updates for the VM600 cards corresponding to VibroSight 2.9.5.

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-640-010-001-006.tgz
- Base System: base-system-640-003-001-007.tgz.

Therefore, for current versions of the XMC16, XMV16 and XMVS16 cards, no firmware upgrades are required.

4.2.2. VibroSmart DMS device firmware

There are no new firmware (embedded software) updates for the VibroSmart DMS modules and devices corresponding to VibroSight 2.9.5.

The latest firmware for the VSI010 module remains:

- 642-002-001-001.xmsifw.

The latest firmware for the VSN010 switch remains:

- 642-004-001-001.redboxfw.

The latest firmware for the VSV300 module remains:

- 642-001-001-001.xtranfw.

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

5. 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 (VM600 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 5.3.3.

5.1. Upgrading the VibroSight software

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 three files (`*.db, *.config` and `*.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.

5.1.1. 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*.

5.2. 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.

5.3. Updating the VibroSight hardware

Appropriate files and tools are included in the installation package to allow VM600 cards (CPUR, XMC16, XMV16 and XMVS16) 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.

5.3.1. VM600 card firmware

The latest VM600 card firmware files are copied to a directory on your computer as part of the VibroSight 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 card hardware (that is, XMC16, XMV16 and XMVS16 card pair firmware).

Table 1: VibroSight software and VM600 card firmware compatibility

	VM600 card firmware						
VibroSight client-server software (VibroSight version CD part number)	Applications-640-004-001-003.tgz Base-system-640-003-001-001.tgz	Applications-640-010-001-001.tgz Base-system-640-003-001-002.tgz	Applications-640-010-001-002.tgz Base-system-640-003-001-003.tgz	Applications-640-010-001-003.tgz Base-system-640-003-001-004.tgz	Applications-640-010-001-004.tgz Base-system-640-003-001-005.tgz	Applications-640-010-001-005.tgz Base-system-640-003-001-006.tgz	Applications-640-010-001-006.tgz Base-system-640-003-001-007.tgz
1.0.0 609-004-000-001	✓						
2.0.0 609-004-000-003		✓					
2.0.5 609-004-000-004		✓					
2.0.6 609-004-000-005		✓					
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					✓	✓	✓

5.3.2. VibroSmart DMS device firmware

The latest VibroSmart DMS device firmware files are copied to a directory on your computer as part of the VibroSight 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 `VSV-300` 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 VibroSmart DMS device hardware (that is, VSI010, VSN010 and VSV300 device firmware).

Table 2: VibroSight software and VibroSmart DMS device firmware compatibility

	VibroSmart DMS device firmware			
VibroSight client-server software (VibroSight version CD part number)	**VSI010**	**VSN010**	**VSV300**	**VSV310**
2.8.0 609-004-000-007	642-002-001-001.xmsifw	642-004-001-001.redboxfw	642-001-001-001.xtranfw	Not available yet
2.9.1 609-004-000-011	642-002-001-002.xmsifw	642-004-001-002.redboxfw	642-001-001-002.xtranfw	Not available yet
2.9.2 609-004-000-012	642-002-001-002.xmsifw	642-004-001-002.redboxfw	642-001-001-002.xtranfw	Not available yet
2.9.3 609-004-000-013	642-002-001-002.xmsifw	642-004-001-002.redboxfw	642-001-001-002.xtranfw	Not available yet
2.9.4 609-004-000-014	642-002-001-002.xmsifw	642-004-001-002.redboxfw	642-001-001-002.xtranfw	Not available yet
2.9.5 609-004-000-015	642-002-001-002.xmsifw	642-004-001-002.redboxfw	642-001-001-002.xtranfw	Not available yet

5.3.3. Updating the firmware using VibroSight System Manager

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

Failure to perform a necessary VibroSight 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 VM600 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.

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 (VM600 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 VM600 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 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 VM600 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.

5.4. Final check

After upgrading the VibroSight software, it is recommended to open the configuration and run a consistency check in order to ensure that the configuration has not been inadvertently modified by any changes to the VibroSight software, internal database structure and firmware for the hardware (VM600 cards and VibroSmart DMS modules).

6. Customer support

6.1. 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

6.2. 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.

6.3. 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

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	.NET Framework 4.5	.NET Framework 4.5	.NET Framework 4.5

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