



RELEASE NOTES

VibroSight® software
version 2.11.4



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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 2.11.4 (CD part number 609-004-000-024).

This document contains information about changes to the software since the previously released version (VibroSight 2.11.3), 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



XMV16 / XIO16T extended vibration monitoring card pair data sheet
(MSS document ref. 660-020-010-207A)










VibroSight application notes and technical notes.

Users who are familiar with VibroSight may also find it useful to refer to the release notes included in earlier versions of the software:

- VibroSight 2.9.0 (MSS document ref. VIBROSIGHT-RN/E)
- VibroSight 2.9.1 (MSS document ref. VIBROSIGHT-RN/E)
- VibroSight 2.9.2 (MSS document ref. VIBROSIGHT-RN/E)
- VibroSight 2.9.4 (MSS document ref. VIBROSIGHT-RN/E)
- VibroSight 2.9.5 (MSS document ref. VIBROSIGHT-RN/E)
- VibroSight 2.9.6 (MSS document ref. VIBROSIGHT-RN/E)
- VibroSight 2.9.7 (MSS document ref. VIBROSIGHT-RN/E)
- VibroSight 2.10.0 (MSS document ref. VIBROSIGHT-RN/E)
- VibroSight 2.10.1 (MSS document ref. 660-010-013-201A)
- VibroSight 2.11.0 (MSS document ref. 660-010-013-203A)
- VibroSight 2.11.1 (MSS document ref. 660-010-013-204A)

- VibroSight 2.11.2 (MSS document ref. 660-010-013-205A)
- VibroSight 2.11.3 (MSS document ref. 660-010-013-206A).

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,  Event Viewer,  Mimic,  Scope,  Server,  System Manager and  Vision.

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.

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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 2.11.3 to version 2.11.4.

However, a new licence key is required for upgrades between major and minor version releases. For example, from version 2.10.x to version 2.11.x.

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

2. Features



VibroSight Configurator

2.1. Leading and trailing whitespace characters are automatically removed in serial numbers

Leading and trailing whitespace characters (spaces or tabs) are no longer accepted as valid characters in the serial numbers entered in the **Serial Number** field for the various devices (XMx16 cards) in a VibroSight configuration.

For existing VibroSight systems that use leading and trailing whitespace characters in device serial numbers, these characters will be ignored and the VibroSight configuration and database will be updated to remove these characters the next time that the configuration is saved or activated.

This eliminates the possibility of entering device serial numbers that are not recognised due to whitespace characters in a configuration, which will allow automatic device discovery (**Connection Mode: Automatic Discovery**) to automatically detect and use the IP address that has been configured for the device.

3. Solved problems and bug fixes

General

3.1. Improvements and bug fixes

General stability improvements and multiple bug fixes across the various VibroSight 2.11.4 software modules.

3.2. Problems with VibroSight OPC servers

General problems configuring and working with VibroSight OPC Servers.

For example, problems creating and configuring a VibroSight OPC Server, and exporting the published measurements to a CSV file.

3.3. Problems with spectra published by VibroSight OPC servers

A VibroSight OPC Server publishes spectra using the data type VT_ARRAY_R4 (an array of scalar values). In fact, three separate arrays are used for amplitude, phase and frequency, with the number of elements in each array being the number of lines in the spectra + 1.

However, published spectra were incorrect as the length of the amplitude array was wrong (off by 1) and the x-axis unit used for order tracked data was Hz (rather than nX).



VibroSight Mimic

3.4. Changes to VibroSight configurations not being propagated

Under certain circumstances, changes made to a VibroSight configuration were not propagated to VibroSight Mimic.

Depending on the configuration changes, VibroSight Mimic could stop responding (no values and timer runs out) and may not recover, even after stopping and restarting VibroSight Mimic. In addition VibroSight Mimic could report reference errors (for example, "The entity [1474148408;25] has a revision that is out of date") with associated errors reported by VibroSight Server.

In addition, the "configuration has changed" messages have been improved in order to provide more useful information to the user.

VibroSight System Manager

3.5. VibroSight System Manager stops responding

Under certain circumstances, VibroSight System Manager stopped responding and was required to be restarted in order to continue. For example, when trying to establish a connection to a remote VibroSight Server, or when connected to a VibroSight Server that becomes unavailable (exited (closed) by the user or due to a network infrastructure issue such as an unplugged cable).

3.6. Database operations using external compression / file archiving tools

The option (`-c`) in the database Copy and the database Backup commands to use a third-party compression / file archiving software tool was not working correctly, so the option (`-zip`) to use the integrated (native) support had to be used when database compression was required.

NOTE: In VibroSight 2.11.4, the option to use a third-party compression / file archiving software tool has been changed from `-c` to `-custom-zip-command`.

This bug was due to the command-line parser not correctly parsing commands with options that contained sub-options. The command-line parser has now been reworked to support sub-options and be more consistent with standard parameter interpretation in Microsoft Windows.

NOTE: The improved command-line parser in VibroSight 2.11.4 may not be compatible with existing data management batch (.bat) files using the database Copy and database Backup commands.

Changes to the command-line parser in VibroSight 2.11.4 include:

- Parameters use the space character as a separator.
- For parameters using spaces, the whole parameter must be enclosed in double quotation marks.
For example: `-p="This is only one parameter"`
- For parameters containing quotation marks, the backslash character can be used to escape (that is, allow) these quotation marks.
For example: `-p="This is an \"example\" parameter"`
Note: Do not use the backslash character to escape the double quotation marks that are used to contain a parameter containing spaces.
For example: `-p="C:\This is my path"`
- The option to use a third-party compression / file archiving software tool has been changed from `-c` to `-custom-zip-command`.
For example: `-custom-zip-command="This is my custom command"`
Note: The use of the equals sign is mandatory.

The option (`-zip`) to use the integrated (native) support and the option (`-custom-zip-command`) to use a third-party compression / file archiving software tool are mutually exclusive.

3.6.1. Example command-line tool usage to copy a database with external compression / file archiving using 7-Zip

7-Zip is an open-source file archiver that has achieved good results with VibroSight databases. That is, much improved data compression compared to the (native) data compression available with the -zip option.

Example command-line tool command to copy a VibroSight database:

```
"C:\Program Files (x86)\Meggitt\VibroSight 2\Bin\VibroSightDataCopy.exe" -s="C:\VibroSight Data\Rotorkit\Rotorkit.vssrvdb" -d="C:\VibroSight Data\Backup" -file=CompressRotorkit -t -a -r -datatype=all -hierarchy=all -all -log -sum -custom-zip-command="\"C:\Program Files\7-Zip\7z.exe\" a -t7z -mx9 {ARCHIVE}.7z {FILES}" -del
```

The equivalent 7-Zip command line in the Command line of the VibroSight System Manager Copy wizard, under Use a custom compression tool (when Compress Copied files is selected) is:

```
"C:\Program Files\7-Zip\7z.exe" a -t7z -mx9 {ARCHIVE}.7z {FILES}
```

Unlike the command-line tool command, the VibroSight System Manager Copy wizard does not need to escape the quotation marks used within the parameter for the -custom-zip-command.

Notes:

In the example command-line tool command to copy a VibroSight database,

```
"C:\Program Files\7-Zip\7z.exe" a -t7z -mx9 {ARCHIVE}.7z {FILES}
```

is the actual 7-Zip command to be executed, which is contained in double quotation marks ("") with its options.

The 7-Zip command requires escaped double quotation marks (") in order to escape the 7-Zip path and command, and indicate to the command-line parser that the 7-Zip command contains its own options.

3.6.2. Example command-line tool usage to copy a database with external compression / file archiving using WinRAR

WinRAR is a shareware file archiver and data compression utility that has achieved good results with VibroSight databases. That is, improved data compression compared to the (native) data compression available with the -zip option.

Example command-line tool command to copy a VibroSight database:

```
"C:\Program Files (x86)\Meggitt\VibroSight 2\Bin\VibroSightDataCopy.exe" -s="C:\VibroSight Data\Rotorkit\Rotorkit.vssrvdb" -d="C:\VibroSight Data\Backup" -file=CompressRotorkit -t -a -r -datatype=all -hierarchy=all -all -log -sum -custom-zip-command="\"C:\Program Files (x86)\WinRAR\Winrar.exe\" a {ARCHIVE}.rar {FILES}" -del
```

The equivalent WinRAR command line in the Command line of the VibroSight System Manager Copy wizard, under Use a custom compression tool (when Compress Copied files is selected) is:

```
"C:\Program Files (x86)\WinRAR\Winrar.exe" a {ARCHIVE}.rar {FILES}
```

Unlike the command-line tool command, the VibroSight System Manager Copy wizard does not need to escape the quotation marks used within the parameter for the -custom-zip-command.

Notes:

In the example command-line tool command to copy a VibroSight database,

```
"C:\Program Files (x86)\WinRAR\Winrar.exe" a {ARCHIVE}.rar {FILES}
```

is the actual WinRAR command to be executed, which is contained in double quotation marks (") with its options.

The WinRAR command requires escaped double quotation marks (") in order to escape the WinRAR path and command, and indicate to the command-line parser that the WinRAR command contains its own options.

4. Known issues

4.1. Changing a VibroSight Server's maximum RAM cache size when DSNs are not used

Since VibroSight 2.9.7, a VibroSight Server database no longer requires a data source name (DSN), so it is no longer required to use the ODBC Data Source Administrator to manage the underlying connection to the Sybase SQL Anywhere 11 database (which provided convenient access to the start line command that is used to start the SQL Anywhere 11 server).

NOTE: `dbeng11.exe -ch 600m` is the default command used to start the SQL Anywhere 11 server, where the `-ch 600m` option specifies that a maximum RAM cache size of 600 MB should be used. (This option limits the underlying SQL Anywhere's database server cache during automatic cache growth.)

However, for more complex machinery monitoring applications and larger databases, it is recommended that a maximum RAM cache size of 2000 MB (`-ch 2000m`) is used, in order to improve the overall performance of the VibroSight machinery monitoring system.

When a DSN is not used with a VibroSight Server database, the settings usually written to the DSN using the ODBC Data Source Administrator are managed by the VibroSight Server itself and stored in the VibroSight Server configuration file (`*.vssrvcfg`). However, this means that the specification of the maximum cache size to be used by the VibroSight Server database is not as convenient to access by the user.

Presently, the default command used to start the SQL Anywhere 11 server will be used unless:

- In VibroSight Configurator, when saving the configuration as a server / database, the Configure advanced settings option is used to enter a different SQL database start line command.
- In VibroSight System Manager, when copying the database, the Configure advanced settings option is used to enter a different SQL database start line command.

So when DSNs are not used with a VibroSight Server database, the VibroSight Server configuration file (`*.vssrvcfg`) must be edited manually if it is necessary to change the SQL database start line command after a VibroSight Server database has been created or copied:

1. Exit all VibroSight software modules (clients and servers) that use the VibroSight Server database to be modified.
2. Use a text editor program to open the VibroSight Server configuration file (`*.vssrvcfg`) and search for the text string `dbeng11.exe`.
3. Edit the `StartLine="dbeng11.exe -ch 600m"` command in the configuration file to use the new required maximum cache size.
For example, `StartLine="dbeng11.exe -ch 2000m"`, then save the file.
4. Restart the VibroSight Server.

If the `StartLine="dbeng11.exe -ch 600m"` command cannot be found in the VibroSight Server configuration file being used, then a "dummy" copy of the VibroSight Server database should be

created using VibroSight System Manager's Database Copy command with the Configure advanced settings option selected. A "dummy" VibroSight Server configuration file created in this way will include the SQL database start line command and can be used as an example to edit the VibroSight Server configuration file being used. (After which, the "dummy" files should be deleted.)

NOTE: It is highly recommended to make a backup copy of the VibroSight Server configuration file being used before manually editing it.

Such manual edits must be done carefully in order to ensure that the tags and delimiters used in the VibroSight Server configuration file are used correctly.

4.2. Display of timestamps in VibroSight Vision

In VibroSight Vision, when the timestamps (date and time) are configured to be displayed as Site time or Local computer time and the site time or local computer time is subsequently changed on the relevant computer (for example, using Windows > Control Panel > Date and Time), this change is not reflected in the VibroSight Vision user interface until the user clicks on the **Timestamp** displayed in the VibroSight Vision status bar.

4.3. Small "holes" in plotted data for larger 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 larger 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.

4.4. Missing data for XMV16 and XMVS16 cards

When the order-tracked sampling mode is being used, XMV16 and XMVS16 cards have been seen to disappear (drop out) and produce no data for periods of 10, 20 or 30 seconds. After which, the card usually reappears without any intervention and normal operation resumes.

This issue is being investigated and appears to be a XMV16 and XMVS16 card firmware problem that is related to transitions in the input speed signal from "zero speed" to "non-zero speeds".

4.5. 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.

4.6. 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 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.

4.7. 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.

4.8. 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.

4.9. 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.

4.10. Display of timestamps in VibroSight clients other than VibroSight Vision

Although VibroSight Vision now supports the display of timestamps (date and time) as either Site time, UTC time or Local computer time, all other VibroSight client software modules continue to display timestamps in local computer time only (that is, the date and time according to the local clock of the computer running the VibroSight software module).

4.11. Display of devices in VibroSight System Manager

In the System Explorer window of VibroSight System Manager, the Devices tree-view does not always update correctly to show all of the devices (VM600 cards) available on the network.

In particular, this has been seen when changing the firmware of a device, and can persist even after a refresh (using the **Refresh** toolbar button or **View > Refresh**).

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

- Wait a few minutes and refresh again.
- Restart VibroSight System Manager.

4.12. VibroSight Mimic backwards compatibility

VibroSight 2.10.0 contained significant improvements and changes, including a separate VibroSight Mimic client software module for mimics (that were previously available in VibroSight Vision). As a result, VibroSight Vision mimics created with VibroSight 2.9.7 or earlier are not compatible with VibroSight 2.10.0 or later.

VibroSight 2.11.0 contained significant improvements and changes to the VibroSight Mimic client software module. As a result, VibroSight Vision mimics created with VibroSight 2.10.1 or earlier are not compatible with VibroSight 2.11.0 or later.

4.13. VibroSight OPC servers



After certain changes to a VibroSight configuration, the VibroSight OPC Server can stop publishing data to the OPC client.

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

- Unpublish and republish the VibroSight OPC Server
In VibroSight System Manager, in the Actions window, under **OPC Server**, use the **Unpublish** command and the **Publish** command.
- Re-establish the OPC client.
Use the third-party OPC client to disconnect and reconnect to the VibroSight OPC Server.

Depending on the nature of the problem, one or both of the above actions can be required to resolve the problem.

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 5.1.6) and the "OPC Core Components Redistributable (x86)" (see section 5.1.7) 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 2.11.4 is an update version release in the 2.x.x series and replaces VibroSight 2.11.3.

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 6.2.1 Updating the internal structure of a VibroSight database.

5.1.1. Microsoft Windows operating systems

VibroSight 2.11.4 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 2.11.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 2.11.4 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. Sybase SQL Anywhere 11 software

VibroSight uses the Sybase® SQL Anywhere 11 database software in its standard configuration. VibroSight 2.11.4 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 6.3 Upgrading the Sybase SQL Anywhere 11 software.

5.1.4. VM600 CMS software

The VM600 CMS software from Meggitt Sensing Systems uses Sybase SQL Anywhere 8. Both Sybase SQL Anywhere 8 (VM600 CMS) and Sybase SQL Anywhere 11 (VibroSight) can be installed on the same computer.

However, while SQL Anywhere 8 and SQL Anywhere 11 can be installed on the same computer and run at the same time for standard database operations, certain administrative tasks are mutually exclusive and may block one another.

More specifically, all operations that refer to Sybase ISQL (a command-line Interactive SQL utility) in the background could be directed to the wrong version of Sybase SQL Anywhere. For example, this impacts all user operations and system operations involving the creation, copying and updating of databases.

NOTE: It is recommended to install and use VibroSight on a computer that does not have the VM600 CMS software installed.

5.1.5. SIMATIC Step 7 software

The SIMATIC Step 7 software from Siemens typically uses Sybase SQL Anywhere 9. Both Sybase SQL Anywhere 9 (SIMATIC Step 7) and Sybase SQL Anywhere 11 (VibroSight) can be installed on the same computer.

However, while SQL Anywhere 9 and SQL Anywhere 11 can be installed on the same computer, they cannot run at the same time.

More specifically, if SIMATIC Step 7 and VibroSight are both installed, certain administrative tasks, such as all user operations and system operations involving the creation, copying and updating of databases, may not work correctly. If this behaviour is seen, the recommended workaround is to manually change or remove the SQLANY environmental variable in order to allow VibroSight to work correctly.

Note: The SQLANY environment variable is used to contain the directory where Sybase SQL Anywhere is installed.

NOTE:	It is recommended to install and use VibroSight on a computer that does not have the SIMATIC Step 7 software installed.
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5.1.6. 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:	<p>The Microsoft Visual C++ Redistributable Package is required since VibroSight 2.9.4, if VibroSight OPC servers are being used.</p> <p>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.</p>
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5.1.7. 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 VM600 cards corresponding to VibroSight 2.11.4.

The latest firmware for the CPUR 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 remains:

- Applications: applications-640-010-001-009.tgz
- Base System: base-system-640-003-001-010.tgz.

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

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) before starting a VibroSight system upgrade, in order to establish if any firmware updates are also required.
See 6.4.2 Updating the firmware using VibroSight System Manager.

6.1. VibroSight software user settings

The VibroSight Software generates and uses some files on the hard disk of the computer running VibroSight to keep track of user-configurable settings, so that these settings are remembered and applied for the VibroSight installation.

These settings files have an `.xmssettings` file name extension and on a computer running Windows 7, can be found here:

C:\Users\username\AppData\Roaming\Meggitt\VibroSight 2, where *username* is the Windows account name.

For example, the `VibroSightVision.xmssettings` file records the user-configurable default settings for VibroSight Vision, such as default settings for plots.

NOTE: VibroSight software updates and upgrades do not replace these settings files, so:

- For a computer on which VibroSight was previously installed, an update, upgrade or a re-installation of VibroSight will continue to use the previous defaults recorded in the `.xmssettings` files.
- For a computer on which VibroSight was not previously installed, the installation of VibroSight will generate and use new `.xmssettings` files, which use the latest VibroSight software defaults.

If a settings file is deleted for any reason, VibroSight will generate and use a new settings file, which uses the latest VibroSight software defaults.



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 2.11.x until the existing VibroSight Server instance names (and any references to them) are manually edited to be 18 characters or less. See 4.6 Length limitation of VibroSight Server instance names.




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).


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**.



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).

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) to be updated to the latest firmware, in order to take advantage of improvements to the VibroSight software.

Updating the firmware is a special task that can, if used unintentionally or incorrectly, lead to malfunctioning of the device and affect proper function of data acquisition.

During the firmware update of a device, the card or module being updated cannot provide its normal machinery monitoring functions because its outputs (alarms and relays) can go to undetermined states, irrespective of how they have been configured.

NOTE: It is highly recommended that firmware updates are only performed in accordance with the operating procedures for the machinery being monitored and that appropriate precautions are taken at the control system level (such as DCS or PLC).

For example, alarms and relay outputs should be ignored (bypassed or inhibited) in order to avoid false trips of the machinery being monitored.

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

VibroSight software version CD part number	VM600 XMx16 card firmware					
	Base-system (*.tgz)					
	640-003-001-005	640-003-001-006	640-003-001-007	640-003-001-008	640-003-001-009	640-003-001-010
	Applications (*.tgz)					
	640-010-001-004	640-010-001-005	640-010-001-006	640-010-001-007	640-010-001-008	640-010-001-009
2.9.2 609-004-000-012	✓ See note 1	✓ See note 1	✓ See note 1			
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 2		
2.10.0 609-004-000-018				✓ See note 2		
2.10.1 609-004-000-019				✓ See note 2		
2.11.0 609-004-000-020				✓ See note 2	✓ See notes 2 and 3	
2.11.1 609-004-000-021						✓ See note 4
2.11.2 609-004-000-022						✓
2.11.3 609-004-000-023						✓
2.11.4 609-004-000-024						✓

Notes for Table 1 (see the next page)

Notes for Table 1

1. VibroSight 2.9.1 or later is not compatible with any previous versions of the VM600 card firmware as the protocol between the SW and the FW has changed (to improve the implementation of the card type handling between the SW and the cards, required for the XMVS16 card).
2. Updating to these versions 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 (640-003-001-00*.tgz) only.
 - (ii) Then the Change Firmware command should be used again to update the applications firmware (640-010-001-00*.tgz) only.
3. This version of VM600 XMx16 card firmware introduces support for the direct measurement mode that is used to acquire direct data (digitised waveform) before an event.
4. This version of VM600 XMx16 card firmware introduces support for the operation of a VibroSight system without an NTP server (NTP-free).


6.4.2. 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 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 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 (XMx16 card) 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 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 selected.


.tgz files are for VM600 cards.

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


For XMx16 cards, 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, 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).
- 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.meggittsensingssystems.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