

Release notes for SMT Version 2.0

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September 7, 2007

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1 Introduction

This release of the SINUS Measurement Toolbox (SMT) for MATLAB[®] is the release version 2.0. It requires MATLAB 6.5.1 (Release 13, Service Pack 1) or later and the device driver releases for HARMONIE/Soundbook and MSX16 (4.0.0.15 or later) as well as the SINUS licence manager.

The release is available under Windows (2000 & XP); 2-, 4- & 8-channel HARMONIE/Soundbook devices are supported as well as MSX16 and SYMPHONIE.

Please address all correspondence regarding the SMT to *smt.support@sinusmess.de*; correspondence regarding the supported devices and their drivers may be addressed to *drivers.support@sinusmess.de*.

2 Installation Instructions

1. Unpack the SMT.zip file to the (new) SMT directory. If files are copied from a CD rather than unpacked from the zip file, ensure that they are write-enabled.
2. Install the device driver (including HARMONIE / SYMPHONIE / MSX16) from the relevant subdirectories (*HarmonieDDK*) of the SMT directory. The installation begins automatically when the devices are first attached to the PC.

The automatic installation triggered by Windows should be cancelled and the installation should be performed using the EXE file in the *HarmonieDDK* subdirectory.

3. Install the Licence Manager from the driver subdirectory. If the licence file (*.lic) is in the same path as the Licence Manager installation program it is added automatically. Otherwise use the Licence Administrator to install a licence to the system. The Licence Administrator can be found under the Startmenu Path (default: Start→Programs→Sinus) or the installation path (default: %Programs%\SinusLicenceManager) that were selected during the installation.
4. Ensure that the SMT directory is at the top of the MATLAB path and that the System32 subdirectory of the Windows directory is at the bottom of the MATLAB path.

3 New Features

- Support for the synchronisation of multiple HARMONIE PCI devices
- Support for synchronising HARMONIE PLUS devices using a Garmin GPS receiver
- More flexible and comprehensive device and channel description
- Configurable SMTLog-file output for debug reasons
- New supported modes Environmental4_96000/102400 (96kHz/102.4kHz sampling rate)
- Support for SYMPHONIE devices, including a new SYMPHONIE mode to make it compatible with HARMONIE light devices (might require an interface card update)
- New channel types (Tacho, Digital channels, ...)
- New function SMTGetMeasurementFiles and example program SINUSMAT for Measurement Administration

4 Changes in usage

The SMT version 2.0 is based on a new driver interface. A comprehensive device, mode and channel description contained in the driver allows for a flexible and uncomplicated update for new devices/modes. This interface is already implemented for most SINUS devices. It enables the usage of many new features of SINUS devices such as the synchronisation of up to four HARMONIE PCI Standard/Plus devices, introduction of the SYMPHONIE device to the SMT, compatible modes for SYMPHONIE, HARMONIE Classic and HARMONIE Standard/Plus, and many more.

The SMT has been reworked to use this new interface while maintaining compatibility to former versions and previously recorded data. However, some minor changes in usage appear:

- Because the Mode and BaseSampleRate determine the list of channels a device supports, these two settings have to be set *before* SMTOpenDevice is called. When the device is open, the Mode and BaseSampleRate are no longer settable.
- Some property names and settings have changed due to the new SMT/driver interface. For example:
 - The Mode names changed from Signal/Environmental to Signal4/ Environmental4/ Environmental8 to have the option to use the 102.4kHz mode (only available as 4channel mode) with an 8 channel device. Another option might be to use the 8 channel Environmental mode with a HARMONIE Plus device to monitor the 4 analog together with the 4 AES inputs simultaneously.
 - In order to make the description more intuitive, properties like ICP can be set to ON or OFF instead of 1 or 0. The OFFSET_COMPENSATION-property now takes the set values **dynamic** and **static**.
 - The channel property **Range** has been removed.

Use SMTSetChannel or SINUSconfigure to learn about possible set values.

- There are more properties for the devices/channels than before. Because of the complexity the SMT documentation cannot describe every device, channel and property available. The function SMTHelp has been introduced to give short descriptions depending on the current setup (used for example to show tooltips in the SINUSconfigure property window).
- When starting a new measurement, the SMT looks for previously stored measurements with the same filename. It doesn't overwrite earlier files anymore. If [RC, RM] = SMTStart issues the SMTFileExists error (RC = 36), the RM parameter gives the filename that has to be deleted prior to a new measurement. See handling in SINUSconfigure or SINUSoscilloscope.

5 Known Errors Remaining

- Loading measurements recorded with a previous SMT version might be buggy, meaning there might still be some compatibility issues left.