thermo scientific

Microscope Companion™ 1.14

Release Notes

PN 1551025

Revision A • June 2024

ThermoFisher SCIENTIFIC

Copyright and Trademarks

Technical Publications

Technical Publications Team - Hillsboro

Trademark Acknowledgments

Limited Rights

The following notice applies to the U.S. Government and other purchases with federal funds:

Contractor Name: Thermo Fisher Scientific

Contractor Address: 5350 NE Dawson Creek Drive, Hillsboro OR 97124

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these technical data are restricted to those rights specified in DFARS 252.227-7015(b)(2), FAR 52.227- 14(g)(2)(Alternate II) and FAR 12.211. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings. Any person, other than the Government, who has been provided access to such data, must promptly notify the above named Contractor.

Document History

Rev A, June 2024

Introduction

Purpose

This document describes the Thermo Scientific Microscope Companion™ (MiCo) software releases. (referred to as MiCo in the remainder of this document). For details about the use and features of the MiCo software, see the Microscope Companion™ User Manual.

Hardware Requirements

The MiCo software can be used on the Microscope PC of Thermo Scientific and FEI TEM systems with a compatible TEM Server software version and compatible cameras and/or detectors.

System, Software and Configuration Compatibility

MiCo is a hardware-oriented application with live-viewing of camera's and detectors for diagnostic purposes only. The application is not intended to be used for data acquisition. Data acquisition can be performed in other dedicated software applications like Thermo Scientific Velox, EPU, etc. In some situations it may be necessary to use the extended (camera/detector) functionalities in other applications in combination with MiCo.

Below sections shows the preferred version of MiCo software in combinations with the microscope software and the system configuration compatibility for the latest version.

Preferred MiCo Version per Microscope Software Version

The best user experience and access to the latest features is achieved in combination with the latest versions of the microscope software. We intend to make MiCo backward compatible with a limited range of Microscope Software versions, i.e., six versions in particular. We make this choice in order to deliver improvements on a more frequent basis. Therefore, you may or may not see some features described in these Release Notes based on your system and software versions. We recommend upgrading to the latest MiCo version that supports the current Microscope Software as detailed in the table below. Software version combinations outside of the range specified in the table are not supported.

The following table lists the preferred version of MiCo software in combination with the microscope software.

MiCo / Apollo	Titan	Talos
MiCo 1.14	3.21 - 3.15	2.21 - 2.15

Compatible Microscopes and Supported Functionalities

Thermo Scientific Microscope Companion™ software contains functionalities for a limited range of Thermo Scientific transmission electron microscopes and is installed only on those by default.

The following microscopes are supported and their main functionalities are described.

Microscope Name	Functionality
Tundra	Automated alignments, SmartCam, Recovery options (Vacuum, Source/HT).
Glacios (G1 and G2), Arctica, L120C, F200	Automated alignments, SmartCam.
Krios, Glacios, Arctica	Autoloader temperature and cryo cycle (requires Autoloader SW upgrade).
Spectra Ultra	EDS detector calibration.
Metrios 6	EDS detector calibration, SmartStage insert/retract.

MiCo offers live-viewing most camera's and (STEM) detectors on any microscope (on Windows 10) for diagnostic purposes only. Only some Falcon/Ceta reference image are supported (not all and not SmartCam).

Note: It is recommended to close FlucamViewer before using SmartCam in MiCo, see known issues.

Microscope Companion™ (MiCo) 1.14

This release includes new features for Autoloader microscopes (Krios, Glacios, and Arctica):

- Temperature and liquid nitrogen display for column and autoloader.
- Temperature mode control (Room temperature and Cryo temperature).
- Cryo Cycle for column and/or autoloader.
- Error reporting of autoloader and/or column filling.

Minor improvements for EDS detector and heating cycle.

Known issues

The following are known issues that are being released with this version of the software.

ID	Description	Workaround
1	The startup time of MiCo may be longer than usual for some systems during the first time after TEM server start, taking from about 10 to 60 seconds.	None available for now.
2	Grey progress images are shown for few alignments using a Falcon (3) camera	None available for now.
3	Dose measurement for Falcon camera's is too sensitive and may prevent live-viewing of the camera.	Use other applications, like EPU.
4	Running SmartCam in the application blocks other software from using the same (like automated alignments) and it may cause alignments to fail quickly.	Close SmartCam manually. Note that MiCo does not need to remain open when working in other applications.
5	Gun Shift alignment requires an inserted holder for X-Ray safety on systems without Autoloader. However, it requires vacuum/no sample in beam.	Holder can be navigated to hole or holder can be slightly retracted from microscope.
6	Thermionic source not supported in MiCo and always shows good state.	Do not rely on MiCo for thermionic source state.
7	Stage recovery error is thrown with recovery of stage.	Ignore the error, the stage will be enabled
8	Missing reference image manager links for some camera's	Use Microscope Software Launcher to access the reference image managers
9	SmartCam has buttons for default overlays that may not be correct or relevant for the microscope	None available, not recommended to use