

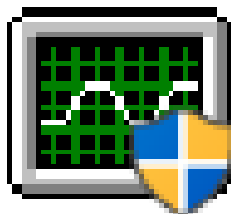
## Rugged Servo Drives & Control Systems for Extreme Environments



## HiDS Software Release Notes

Document Number: 100112-00W

Date of Doc Rev: 10/18/2018



2250A Union Place

Simi Valley, CA 93065

2250-A Union Place, Simi Valley, CA 93065

P: 800.823.3235

F: 800.823.9521

[www.esimotion.com](http://www.esimotion.com)

### **Important Information:**

**ESI MOTION makes no warranty, either express or implied, including but not limited to any implied warranties of merchantability and fitness for a particular purpose, regarding any marketing materials and makes such materials available solely on an "as-is" basis. In no event shall ESI MOTION be liable to anyone for special, collateral, incidental, or consequential damages in connection with or arising out of the purchase or use of these materials, and the sole and exclusive liability of ESI MOTION, regardless of the form of action, shall not exceed the purchase price of this product. Moreover, ESI MOTION shall not be liable for any claim of any kind whatsoever against the use of these materials by any other party.**

## REVISION HISTORY

<b>VERSION</b>	<b>ITEMS CHANGED</b>
<b>A</b>	<b>Initial Release</b>
<b>B</b>	<b>Updated For 3.1.51 Release</b>
<b>C</b>	<b>Updated For 3.1.61 Release</b>
<b>D</b>	<b>Updated For 3.1.71 Release</b>
<b>E</b>	<b>Updated For 3.1.73 Release</b>
<b>F</b>	<b>Updated For 3.1.74 Release</b>
<b>G</b>	<b>Updated For 3.1.75 Release</b>
<b>H</b>	<b>Updated For 3.1.81 Release</b>
<b>I</b>	<b>Updated For 3.1.84 Release</b>
<b>J</b>	<b>Updated For 3.1.85 Release</b>
<b>K</b>	<b>Updated For 3.1.89 Release</b>
<b>L</b>	<b>Updated For 3.1.91 Release</b>
<b>M</b>	<b>Updated For 3.1.96 Release</b>
<b>N</b>	<b>Updated For 3.2.8 Release</b>
<b>P</b>	<b>Updated For 3.2.10 Release</b>
<b>Q</b>	<b>Updated For 3.2.19 Release</b>
<b>R</b>	<b>Updated For 3.2.23 Release</b>
<b>S</b>	<b>Updated For 3.2.25 Release</b>
<b>T</b>	<b>Updated For 3.2.30 Release</b>
<b>U</b>	<b>Updated For 3.2.31 Release</b>
<b>V</b>	<b>Added Windows 10 Mite-Usb-Driver Work-Around</b>
<b>W</b>	<b>Updated For 3.2.36 Release</b> <b>Updated To New Style Guide, Logo, Copyright, Warranty Disclaimer</b> <b>And Non-Itar/Ear Legends</b>

**TABLE OF CONTENTS:**

**1 INTRODUCTION..... 5**

**2 COMPATIBLE PRODUCTS..... 5**

**3 UPGRADES..... 5**

**4 NEW FEATURES..... 6**

**5 KNOWN BUGS AND LIMITATIONS..... 12**

## 1 Introduction

The document communicates the major new features and changes in this release of the ESI Motion HiDS Servo Motor Controller interface software. It also documents known problems and workarounds.

## 2 Compatible Products

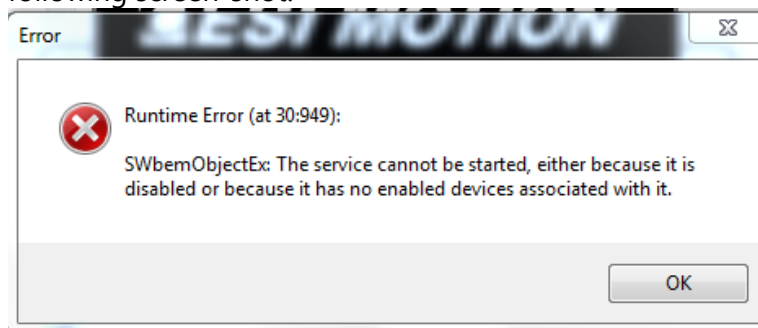
This product has been tested on the following platforms or with the following products:

- Windows 10 x64 (Mite/Scorpion USB-driver may require driver-signing disable, see known bugs and limitations below)
- Windows 8 x64
- Windows 7 x64
- Windows XP (Requires Visual Studio Runtime Library installation, see known bugs and limitations below)

## 3 Upgrades

To install HiDS:

1. Before installing, un-plug from your PC any ESIMotion Controllers or CAN IXXAT, or PCAN (USB-to-CAN) devices.
2. Double-click on the ESIMotion\_HiDS\_v3.2\_Setup.exe, and select OK, Setup, Begin Installation, and Next through each screen.
3. If the USB and CAN drivers are installed without error, select yes to reset your PC.
4. If the IXXAT/PCAN-device is not recognized by your PC, or the CAN driver installation reports an error, like the following screen-shot:



- a. Complete the HiDS installation, but do not restart your PC.
- b. Execute the IXXAT driver installation utility, vci\_3\_5\_2\_4072.exe. Select Yes and Next through all of the screen dialogs, and when completed, click yes to restart your PC.

5. After restart, but before executing HiDS, power your ESI Motion Controller and plug in either the CAN or USB cable (or both). This will allow the Windows device drivers to properly install.
6. Execute HiDS.exe and select the appropriate tab (USB or CAN) for your appropriate product.

## 4 New Features

By incremental version:

- 3.2.36:
  - Updated the sample application.
  - Added future product support.
- 3.2.25:
  - Updated embedded help file to Mite 0.27 release.
- 3.2.23:
  - Made the Run Panel and Advanced-tab input text boxes updatable from other sources (like an analog / CAN input).
  - Changed the digital-input gain/invert scheme to low/high values.
  - Added variable-descriptions in the Advanced-tab.
  - Added Page-log feature for long-term data logging.
- 3.2.20:
  - Add secondary feedback support (for alternate position-loop feedback)
  - Add variable file descriptions. This includes a menu item to enable/disable the variable descriptions, export descriptions to file, and text box under object details tab to display variable description.
- 3.2.19:
  - Changed CAN-driver filter to only listen to the single target address, which improves multi-target communication on a shared bus.
  - Distributed the Run Panel communications, which also improves shared-bus reliability.
- 3.2.11:
  - Checked for CAN channels assigned to target and to hex-file to disallow the wrong CAN channel file from being loaded.
- 3.2.10:
  - Disallow single-core Mite hex-files from being loaded onto dual-core targets, and visa-versa.
- 3.2.5:
  - Added support for EnDat encoders.

- Added support for Mite/Scorpion-product upgrades via USB.
- Added user-selectable Torque/velocity/position source inputs.
- Added user-selectable Digital-inputs and Digital-outputs, which can be bound to any controller object.
- Removed the unused Integral Time Constant input.
- 3.1.96:
  - Added support for Mite/Scorpion CPU2 upgrades.
- 3.1.93:
  - Added a serial connection tab to allow HiDS via RS422.
- 3.1.91:
  - Added to Run Panel the ability to modify the 2 default Run/Stop and Velocity/Torque buttons as well to add 2 additional button pairs.
  - Added to Run Panel the ability to make invisible the thermometer panel and to expand the LEDs to 2 columns.
  - Made the second Run Panel support a user-selectable option.
- 3.1.89:
  - Added USB support for Mite product line; note the drivers are copied into the installation driver but are not loaded automatically (yet).
  - Changed the Velocity-Loop gains tab to display the sensorless gains when in sensorless, and the other/physical-feedback gains otherwise.
  - Added a MotorB and a motor-phasing Run Panel for support and Run Panel customization example.
  - Modified the settings-compare to ignore differences within 0.01%.
  - Added support for second concurrent Run Panel.
  - Bound the variable-search window to the auto-refresh timer, so searched variables are auto-refreshed.
  - Added beta-version of the Scripting engine.
- 3.1.85:
  - Added feedback-direction and feedback-phase support for Hall feedback.
- 3.1.84:
  - Added SinCosEncoder feedback support.
- 3.1.83:
  - Added MotorB parameter, loop-gains, and limits tabs.
- 3.1.81:

- Added support for Dragon1 family CAN upgrade; note not all Dragon1 Controllers support this feature.
- Added support for Mite family CAN upgrade.
- Added Run Panel thermometer ranging and gauge customization.
- 3.1.75:
  - Changed the IXXAT driver from to 3\_5\_2\_4072, which was required to support the IXXAT V2 USB-to-CAN Compact.
  - Added support for a Motor-B only Run Panel.
- 3.1.74:
  - Added support for user-editable enable/disable (any variable) button in the Run Panel.
  - Added detection of parameter file objects that cannot be parsed (invalid numeric string).
  - Excluded internal ESI pages from parameter export.
- 3.1.73:
  - Added Verbose Logging feature.
- 3.1.71:
  - Added a beta-version of the Auto-Phase feature; refer to the HiDS User Manual for information.
- 3.1.61:
  - Added Compare-active-objects to txt file feature.
  - Fixed filtering of HiDS CAN messages to tolerate other CAN devices on bus.
  - Added 8-DTP channel support.
  - Added support for target to control DTP-configuration; variable DTPDisableHiDSUpdate.
  - Added Controller simulator for HiDS demonstration purposes.
- 3.1.51:
  - Stopped the Serial Test should other windows / views be opened.
  - Added warning to user importing an export-all file, which results in many read-back errors due to the attempts of writing to read-only variables.
- 3.1.41:
  - Fixed scope-channel-select to only show displayed variables (was showing zero-lines).
  - Added Serial-encoder to supported feedback list.
  - Changed "Resolver feedback" to "Motor feedback".
  - Disabled update-FW button if no USB device.
  - Added separate error message about no FPGA-upgrade supported via CAN.
- 3.1.31:



- Added Cycle Test menu item.
  - Added support for fault/warning enables/disables, new HiDS variable type/scope.
  - Allowed up to 8 DTPs (and reworked UI to support that).
  - Updated the USB-Express connection list to show either product names or unnamed devices.
- 3.1.21:
- Added minimum and maximum measurements to each scope channel.
  - Added import-settings, export-settings, and save-to-flash menu selections to Settings menu to allow simpler navigation.
  - Changed Run Panel description from product description to "Run Panel", which allows easier icon selection when open.
  - Changed Run Panel button colors from Windows background to off-white. This fixed the problem which made the buttons invisible if the background color was the same as the Run Panel background.
  - Changed the settings export file type from \*.csv to \*.txt to allow the file to be directly importable. Also excluded "zero" records (HiDS line breaks) from the export.
  - Added parameter read-back after settings import to verify each record was properly written. Also added record-names to result dialog in case any record failed to be written.
  - Shortened the USB-disconnection timeout from ~20 seconds to ~6 seconds.
  - Added DSPTemperature, IGBTTemperature, and I2T limits to Limit tab.
  - Added Auto-refresh-rate text box to allow slower (less resource) refreshing.
  - Added SettingsChangeLog.txt log file to C:\ProgramData\ESI Motion\HiDS\{version} directory, which logs all variable changes, imports, and saves to Flash. Note this file name is preceded by the product name, ESIMotion part number, and product software version number.
  - Changed Run Panel RPM and IQ dial-gauge limits to the set MaOverspeedPos.limit and Ma.HardwareOvercurrent respectively.
  - Changed Scope to validate the presence of a saved channel variable before displaying it. This occurred primarily when changing between ESI Motion product families.
  - Added Settings menu item to change the default Run Panel XML-configuration file, which allows product/application-specific customization of the Run Panel.
  - Allowed parameter-files to include comment lines, which must start with "///"
  - Changed Scope X-axis from data-buffer-index to milliseconds.

The following bugs were fixed in this release, by incremental version:

- 3.2.31:
  - Fixed the 3.2.20 bug that prevented USB-firmware updates of FPGA-based products.
- 3.2.30:
  - Fixed the 3.2.20 bug that prevented USB-firmware updates of Dragon2 products.
  - Changed the motor-B tab order to prevent the occasional empty motor-A tab.
  - Fixed the Windows-10 problem of changing the feedback-type to manual.
  - Allowed the num-HiDS-items check to fail gracefully when connected to an older controller.
- 3.2.25:
  - Simplified the Display-MotorB-tabs logic, which fixes the blank-limits-tabs bug.
- 3.2.24:
  - Changed the I2T references to I2Ta and I2Tb.
  - Lengthened the CAN-packet timeout during firmware downloads, which increases reliability in the presence of CAN noise/high traffic.
  - Removed Display MotorB Tabs from saved user settings; when the user-setting conflicted with the Controller setting, the MotorA tabs could be shown as blank.
- 3.2.23:
  - Removed the unused MaxStallCurrent setting.
  - Fixed an issue that could have led to a corrupt save-devices xml file.
  - Made the Firmware-update dialog buttons dynamically sized, to allow for varying screen resolutions.
- 3.2.13:
  - Fixed the occasional problem of losing the last 3 bytes on a received Dragon1 USB (USBExpress) packet.
- 3.1.99:
  - Fixed the unhandled exception that occurred when the SavedDevices XML file was corrupted. This problem locked out a HiDS login whenever this file got corrupted.
- 3.1.91:
  - Fixed the legacy DTP-tab capture-interval drop-down list to be the supported intervals.
- 3.1.89:
  - Fixed the MotorB-tab alignment problems that occurred on large PC screens.
  - Fixed the scope file-export that added the scope YOffset to the exported data.
- 3.1.81:
  - Updated IXXAT driver arguments to insure both old and new drivers are installed.

- 3.1.72:
  - When the scope channel Y-axis is manually changed, the Track is unchecked.
  - The Overcurrent warning checkbox was mistakenly bound to the DSP over-temperature warning.
  - Updated MotorA tab feedback every opening (in case feedback-type was changed elsewhere).
  - Fixed the scope manually-entered x-axis zoom number text-box.
  - Fixed parameter file import problem when numerical error exceeded floating point representation error.
- 3.1.71:
  - Fixed buffer-overflow problem that occurred when downloading large hex files.
- 3.1.51:
  - Fixed import-parameters bug, which occurred when importing a file that included a particular parameter that had focus within the HiDS UI when import was selected.
  - Fixed exception that occurred when the user right-clicked on an empty User Defined page.
- 3.1.41:
  - Swapped scope Auto and Normal buttons (were opposite of standard oscilloscope).
  - Removed converters on Inductance and Ke, and removed TorqueConstant dialog (did not convert properly).
  - Fixed HW-Overcurrent value in summary page (was not shown).
  - Fixed the update-object button, which was non-functional in last release.
- 3.1.31:
  - Fixed exception when no Regen variables exist.
  - Added change to allow HiDS to connect to very old Dragon code.
- 3.1.21:
  - For some laptop screen resolutions, made Run Panel smaller, moved Reset button, and made Run Panel resizable.
  - Changed ATP dialog to allow Enter to finalize the input, which is consistent with the other input screens.

## 5 Known Bugs and Limitations

- The USB driver for the Mite product family is copied to the installation directory, but the driver is not yet loaded automatically. To load the driver, plug in the Mite, and (on Windows 7) browse to the C:\Program Files (x86)\ESI Motion\HiDS\MiteUsb directory. On other Windows OS versions, the directory will be similarly named.
- On Windows 7 and newer, HiDS requires access to the C:\ProgramData directory, which depending on user-rights, may require HiDS to be run as an administrator.
- On Windows XP the RunPanel may not load due to missing national instruments libraries. In order to fix this issue, download the Microsoft Visual C++ Runtime library from the Microsoft website.
- The HiDS scope may not trigger with the Mite-USB driver.
- HiDS is currently incompatible with Windows 7, 32-bit.