Technote 775-400007 | HYPERION ENLIGHT Support of os7500

Micron Optics Inc.
1852 Century Place NE
Atlanta, GA 30345

phone 404.325.0005
fax 404.325.4082
www.micronotics.com

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1. INTRODUCTION

Micron Optics is proud to announce support of the os7500 line of Fabry-Pérot accelerometers in its ENLIGHT Sensing Analysis Software. ENLIGHT is an industry leading software package provided for free for every user of Micron Optics interrogators. With the BETA release of ENLIGHT version 1.17.5, the creation and streaming of Fabry-Pérot sensor data can be performed directly within ENLIGHT. This release is coupled with a BETA release of the HYPERION firmware version 12.17.3. Customers who require ENLIGHT to interact with the Fabry-Pérot sensor stream should upgrade both ENLIGHT and the HYPERION instrument.

2. GETTING STARTED

Navigate to the software tab of the os7500 product page at www.micronoptics.com to download the BETA release of ENLIGHT and HYPERION firmware. In the future, when the next scheduled release of each occurs, production releases of the software can be found on the HYPERION product page.
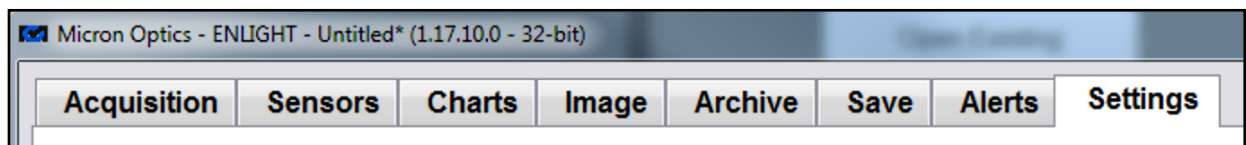
Uninstall any current version of ENLIGHT on your PC.

Run `setup.exe` from the ENLIGHT download to install ENLIGHT. Follow the on-screen instructions.

Once installed, open ENLIGHT. Power on your HYPERION instrument. Enter the IP address of your instrument in the dialog box.
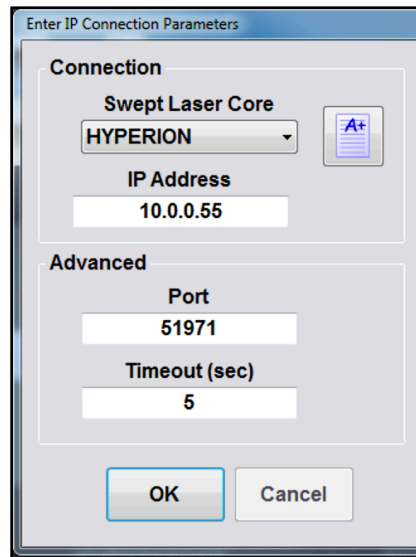
Ensure the version of ENLIGHT is equal to or greater than 1.17.10.0 from the title bar.
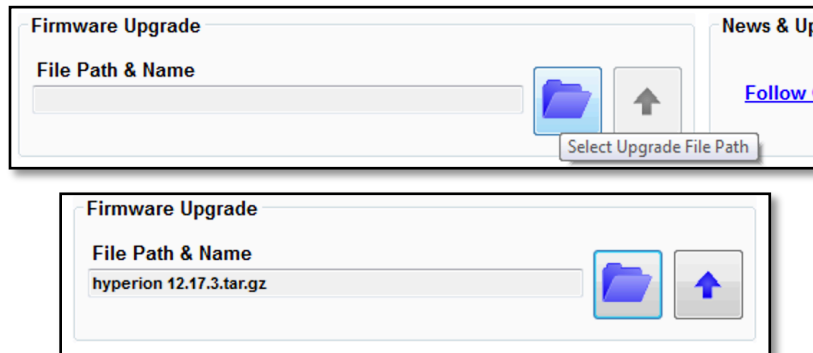
Ensure the firmware of the HYPERION instrument is adequate. Under the "Settings" tab, confirm the firmware version is greater than 12.17.3.

If not, update the firmware using the "Firmware Upgrade" section in the "Settings" tab. Select the new firmware file (e.g. "hyperion 12.17.3.tar.gz") by clicking on the folder icon.

Click the "Up Arrow" icon to upgrade firmware.

## 3. CREATING A FABRY-PÉROT ACCELEROMETER SENSOR

Connect the input of an os7500 accelerometer to one of the channels of the HYPERION interrogator. Open ENLIGHT and connect to the HYPERION instrument. If an existing configuration opens automatically, click the "New Configuration" button at the bottom of the screen to initiate a new session.

NOTE: The sensor is NOT bi-directional. The input port must be closest to the HYPERION when connected as a single sensor or as an array.

In ENLIGHT, navigate to the "Acquisition" tab. Turn on the full spectrum of the channel that is connected to the sensor. In the following case, this is channel 5.
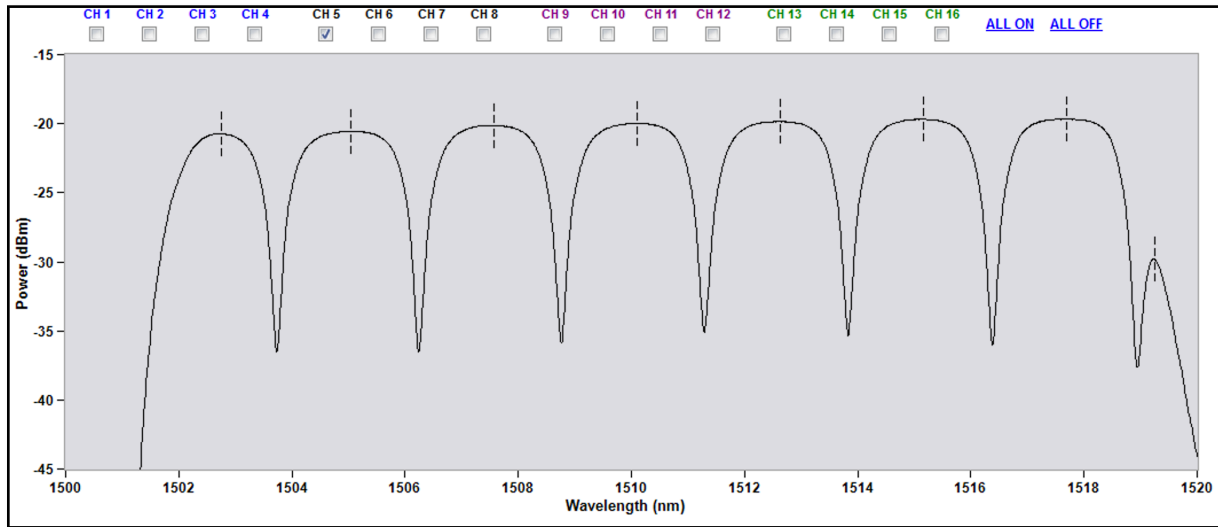
If connected correctly, the response should look similar to the above figure.

Set the peak detection setting to `0.25 nm Valley (197)` in the bottom part of the acquisition tab.
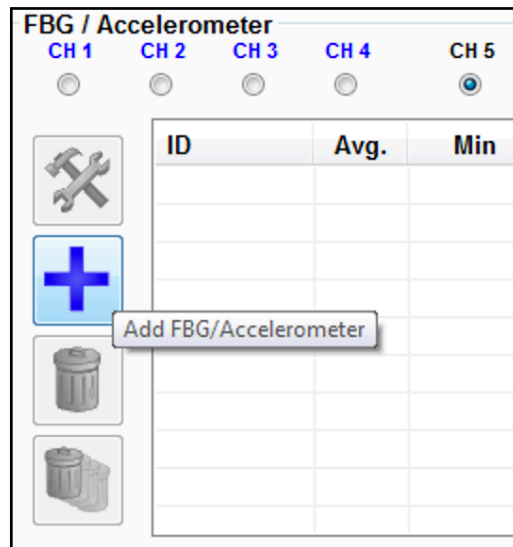
The spectrum view should now indicate the valleys are being detected by the dashed lines in the bottom valleys of the response.
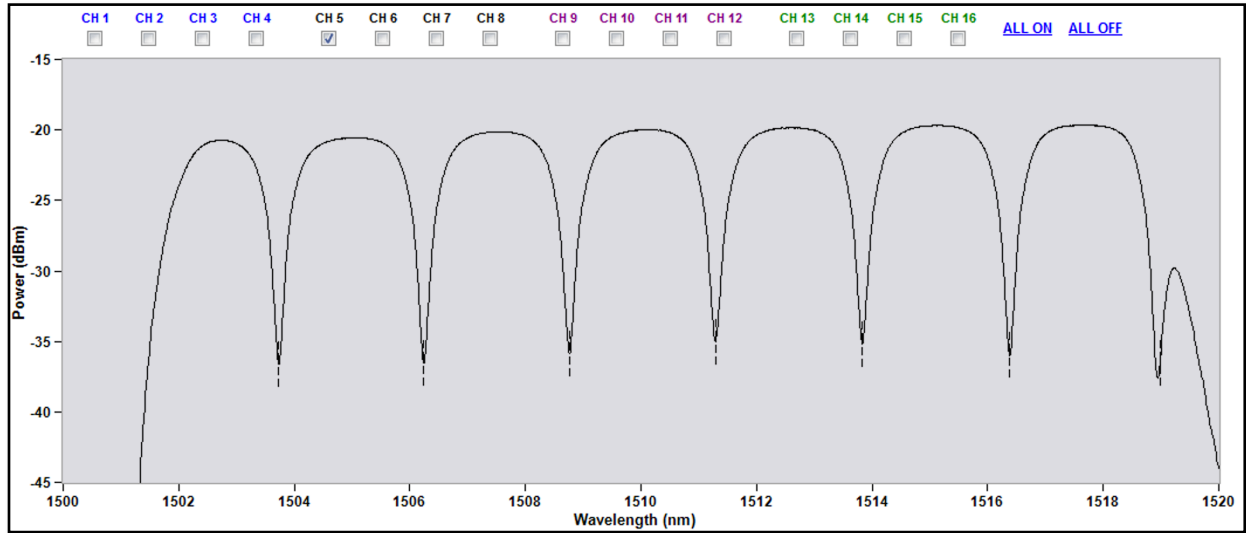
Similarly, to how FBG's are defined with ENLIGHT, an Accelerometer is defined in the "Sensors" tab in the "FBG/Accelerometer" section. Select the channel on which the sensor is connected and **CTRL + click** the "plus" icon to define an accelerometer.

NOTE: A user must press the CTRL key while left mouse clicking the "plus" icon to add an accelerometer.

Enter in the center wavelength in the "Center (nm)" field and the calibration coefficient in the "Calibration" field in the next window. Given the sensor a unique name in the "ID" field.

Click "Apply" then "OK".

The "Current" column in the "FBG/Accelerometer" section should indicate a current snapshot of the accelerometer value.

Like FBG-based sensors, a "Sensor" must be defined in the "Sensors" section in the "Sensors" tab. Unlike FBG-based sensors, the sensor can simply be defined by the accelerometer value. Zeroing and other functions can be utilized in the sensor expression. See the ENLIGHT manual for more information.

Click the "plus" icon in the "Sensors" section.

Define a sensor by filling in the "ID" field with a unique name and the expression with the "ID" from the accelerometer defined earlier.

Click "Apply" then "OK.

The sensor is now defined and available to interact with as usual such as charting and saving.

4. VIEWING SENSOR DATA

The "Charts" tab is an easy way to view the sensor information. Below is a screen shot of data from the sensor created above.