

LCTF Commander User Manual



CHEMIMAGE CORPORATION

LCTF Commander User Manual

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Overview

LCTF Commander is a tool for controlling a single ChemImage LCTF device. This tool commands the LCTF to filter incoming light to specific wavelengths and provides feedback and device information to the user.

LCTF Commander Interface

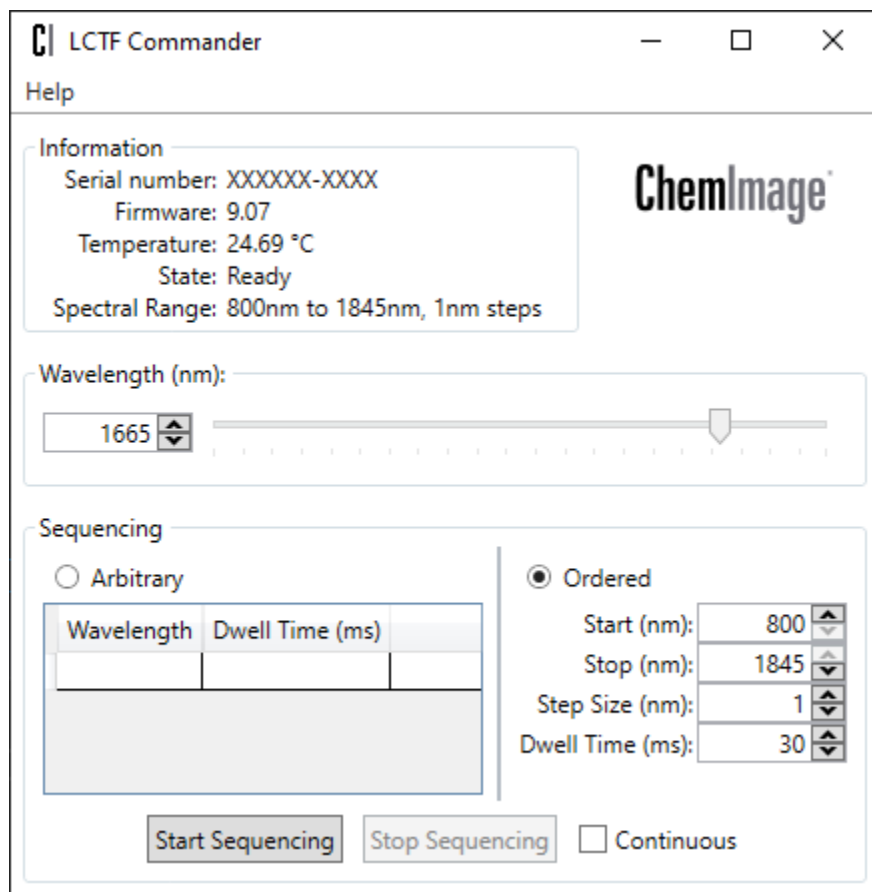


Figure 1: The LCTF Commander interface.

Each of the sections (Information, Wavelength, and Sequencing) shown in Figure 1 are explained in the following sections.

Information Section

The information section shows the serial number, firmware version, internal temperature, and current state of the LCTF.

Item	Description
Serial Number	A unique identifier for the LCTF.
Firmware	The version of firmware on the LCTF.
Temperature	The internal temperature of the LCTF. This updates every two seconds.
State	The current state of the LCTF firmware. See Table 2 for the possible states and their meaning.
Spectral Range	The range of wavelengths that the LCTF can be tuned to.

Table 1: Descriptions of the fields in the Information section.

State Name	Description
Ready	The LCTF is tuned to the displayed wavelength and ready for commands.

Tuning	The LCTF is currently tuning to the last commanded wavelength. This should take less than 250ms before the LCTF is back to Ready state.
Calibrating	The LCTF is calibrating its internal voltages. This can take up to 30 seconds and only occurs when the device is first powered on.

Table 2: The possible states of the LCTF.

Wavelength

The wavelength section allows the user to manually set the wavelength of the LCTF. Dragging the slider or typing a wavelength into the text box will immediately tune the LCTF to that wavelength.

The lower and upper limits of wavelength are determined by the Spectral Range in the Information section.

Sequencing

The sequencing section allows the user to configure the LCTF to cycle through a sequence of wavelengths. The two types of sequences (Arbitrary and Ordered) are explained in their own sections below.

The Start Sequencing button begins a sequencing operation and the Stop Sequencing button stops an already running operation after the next tuned wavelength.

If the Continuous checkbox is checked, the sequence will repeat after it reaches the last wavelength. If it is unchecked, the sequencing operation will automatically end when the sequence has been completed once.

Arbitrary

Arbitrary sequencing allows the user to specify a series of wavelengths and dwell times. The dwell time is how long (in milliseconds) to stay at that wavelength after tuning. It's important to note that the dwell time does NOT include the time it takes the LCTF to tune to the wavelength, or latency in the USB communications.

Ordered

Ordered sequencing allows the user to step through wavelengths in some order. The order can be "forward" if Start is less than Stop and Step is positive, or the order can also be "backward" by setting Start higher than Stop and using a negative Step.