

FAQs: Spectra-FT Tunable Source

Q. How many target Spectra can I match?

A. There is no limit to the number of spectral distributions the Spectra-FT products can reproduce and save.

Q. Would you agree that there generally is no need for sending the Spectra-FT system back at all over its lifetime, if there are no faulty parts?

A. Yes, this is the value of the customer recalibration and recharacterization feature. The Spectra-FT control software allows the user to recalibrate and recharacterize the systems with no extra hardware or tooling needed.

Q. What is the project lifetime of the LED Light Engine in the Spectra-FTs?

A. Labsphere warrants its Spectra-FT LED light engines for 12000 hrs of operation at Standard Illuminants over the dynamic range of the sources.

Q. What is the difference between Calibration and Characterization with the Spectra-FT?

A. These two processes work in concert but should not be confused with each other.

Calibration pertains to the internal spectrometer spectral radiance response. The internal spectrometer is calibrated by transferring a calibration from an external spectrometer to an internal spectrometer. This transfer is done by measuring the Spectra-FT spectral radiance while the internal QTH reference calibration lamp is operating in the integrating sphere source. This measurement is transferred to the internal spectrometer. By saving these data the internal spectrometer can be recalibrated at any time using the QTH internal reference lamp. Customers can easily reproduce the process with the Spectra-FT-LS software calibration routine.

Characterization pertains to creating a characterization file that represents the total spectral radiance of the Spectra FT source for each contributing LED channel over its entire dynamic range. By measuring the output of each LED "channel" individually over the full scale of available power, a predictive model is created. Each channel is characterized and these, taken together, can be used to optimize the system's spectral radiance under any luminance level for any spectrum uploaded into the Spectra-FT-LS software.

Q: What is A' and how is it defined

A: The metric A' is the ratio of the out of band total radiance produced by Labsphere's spectral tunable sources and the target spectrum total radiance. It is a metric Labsphere uses to define the total spectral matching confidence. With the FT-2200 and FT-2300, the A' value is less than 10% for most continuous spectra. With the UT-1000, the A' is typically less than 2% for most spectra.

Q. If the embedded spectrometer is used to monitor the Spectra-FT spectral radiance and is also used for recharacterization the Spectra-FT systems, how often do we need to recalibrate the spectral radiance monitor?

A. The spectrometer should be baseline offset corrected (BOC) at least once a week. More frequently if there are large temperature swings or low radiance levels testing. Monthly recalibration of the spectrometer is typical.

Q. How long does it take to recalibrate the spectral radiance monitor?

A. The BOC is around 15 seconds or less, the spectrometer calibration is about 15 minutes.
It is mostly warm up time of the embedded tungsten halogen reference lamp.

Q. How long does it take to run a characterization of the system?

A. The routine can take about 15 hours. We recommend setting it up and running it at the end of the day or shift and run it overnight. This is rarely done if not very infrequently. It depends on the usage of the source. When you come back to the office it is complete. With this feature, there is virtually no need to send it back to Labsphere, resulting in minimal user downtime.

Q. If I recharacterize my Spectra-FT system after a year, can I expect to get as reliable performance as the factory characterization?

A. Yes. The method used in the Spectra-FT-LS software is the same method used during factory calibration at Labsphere. The only difference will be related to any changes to the NIST traceable tungsten reference lamp output between the time Labsphere calibrated it and the time the lamp is used for the calibration of the spectrometer before recharacterization. After one year, the tungsten lamp should only have about 3 hours of use on it, if it is used only once a month as recommended.

Q. What happens if we have an LED failure?

A. Labsphere must replace the LED board(s) if the system is deemed to be in need of repair. Followed by the Re-Characterization of the Spectra-FT product, replacement and calibration of tungsten reference calibration lamp and LED engine, system recharacterization. Like new again.

Q. Do you replace the tungsten reference source when the Spectra-FT is returned for repair?

A. Labsphere's recommendation is when the system is back for relamping and recharacterization, we will recommend the Tungsten reference source be replaced at this time as well.

Q. Can one run several CCSs from one PC? How would you distinguish them in the software?

A. The Spectra-FT-LS User Application can create and use solution files (optimized spectral profiles) as well as run the integrated spectrometer for real-time measurements and longer-term calibration and characterization.

The FT-2200/2300-W Hardware itself manages individual channel control, including safe operating parameters, as well as storing and transitioning between profiles sets in a hardware or software triggered operation. For triggering, the hardware has a list of pre-defined profiles (channel settings) that it can quickly iterate through. **Example scripts are available.**

Use without the Spectra-FT-LS User Application could provide mechanisms to run more than one FT-2200-W Hardware system at a time.

Use with the Spectra-FT-LS User Application is restricted to one system at a time.

Q. How long are your Spectra-FT products supported?

A. The Spectra-FT products are available for a life cycle of 5 to 7 years. When Labsphere makes an announcement that we are discontinuing a product, we still provide support for 3 more years.

Q. Can I get a virtual demonstration?

A. Yes contact us at www.labsphere.com to request your personal demonstration.

