

IQTX

Quick Start Guide

Step 1. Set up your IQTX instrument

To prevent product damage:

- Wear a grounded wrist strap at all times when handling the instrument.
- Please check the fiber end-face type of the optical ports (e.g. PC or APC) and only use the same type of optical connector to avoid damaging the end-face.
- Clean connector fiber end-faces each time before connecting it to the instrument, and cover unused optical connectors with clean dust caps.

1. Ensure the power isolation switch on the rear of the IQTX is turned **OFF** and connect the power cord.
2. Connect the instrument to:
 - a client computer via a USB cable; **or**
 - your network or client computer via an Ethernet cable.
3. Turn **ON** the isolation switch, and turn **ON** the instrument. The boot procedure will take up to 1 minute. Once completed, the touchscreen will display the IP address and you can communicate with the instrument. If both Ethernet and USB cables are connected to the instrument, the IP displayed on the touchscreen will alternate between the USB and Ethernet IP addresses.



Step 2. (OPTIONAL) Install Cohesion Operator software

The software enables you to connect with all Quantifi Photonics instruments that are available on your network, but is not required to operate the instrument or access its GUI via a web browser.

1. On a client computer, locate and run **CohesionOperator-<version>.exe**
 - on the USB media device provided with the product; **or**
 - download it from the Quantifi Photonics website (details below).
2. Follow the on-screen installation prompts. Required drivers, applications, and desktop icons will be installed on the computer.

You can find the software package on quantifiphotonics.com, go to Resources > Drivers, software and manuals > EPIQ Series

Step 3. Communicate with your IQTX instrument

You have the following options to communicate with Quantifi Photonics instruments that are available on your network:

Web browser

Open Google Chrome or Microsoft Edge on the client PC connected to the instrument and enter the instrument's IP address in the browser's address bar to access the GUI (CohesionUI).

Cohesion Operator software

Open the Cohesion Operator application on the client PC that is connected to the instrument, then:

1. Select the instrument by its IP address (displayed on the touchscreen).
2. Click **CONNECT** to collect instrument information. This is an easy way to verify which instrument you are communicating with.
3. To communicate with the selected instrument:
 - a. Click **OPEN COHESIONUI** to open the graphical user interface.
 - b. Click **OPEN SCPI COMMAND CONSOLE** to send SCPI commands via Quantifi Photonics' SCPI Command Console.

SCPI commands via programming interfaces

Choose from programming tools such as LabView, C++, Python etc. to work with the instrument's fully SCPI-compliant command set. For detailed information, refer to the IQTX User Manual included on the USB drive.

Step 4. Operate your IQTX from the touchscreen

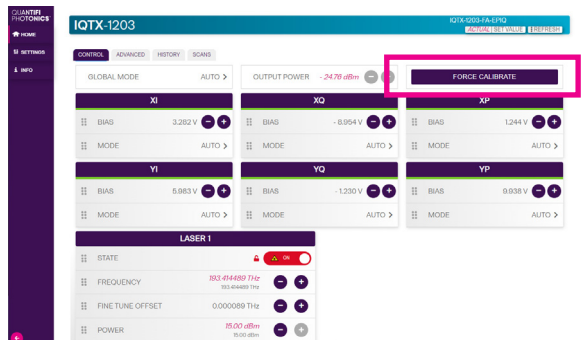
The IQTX touchscreen provides controls for the installed lasers and modulator bias control, display settings and network settings. To access the settings menu, tap the **SETTINGS** icon on the right-hand bottom corner of the touchscreen.



Step 5. Initialize the Automatic Bias Control

Connect the internal laser output to the modulator input using the short blue PM patch cord provided with the instrument. Turn the laser on at 10 dBm output power to avoid power monitor saturation during the calibration step.

Once the laser has stabilized, click **FORCE CALIBRATE** in CohesionUI to perform the DC bias scan and start the Automatic Bias Control (ABC). Once the ABC has locked, the laser power may be increased to the desired level.



Step 6. Apply the RF signal

Once the ABC has locked, connect the RF signal generator to the IQTX and turn the RF driving signal on. The peak-to-peak voltage amplitude of the driving signal should be set to below $1.8 \times V_{pi}$ for QPSK signals, and around $1.2 \times V_{pi}$ for multi-level formats such as 16 QAM. Typically, the driving signal amplitude should be around 200 mV to 300 mV peak-to-peak.

Important: The RF driving signal amplitude **must not exceed 500 mVpp** as this will damage the instrument.

For detailed operating information, refer to the IQTX User Manual included on the USB media drive.

Test. Measure. Solve.TM

Quantifi Photonics is transforming the world of photonics test and measurement. Our portfolio of optical and electrical test instruments is rapidly expanding to meet the needs of engineers and scientists around the globe. From enabling ground-breaking experiments to driving highly efficient production testing, you'll find us working with customers to solve complex problems with innovation and experience.

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