

BROADSONIC

User manual



An illustrated guide to setup, optical care, measurement and recording.

ReadoutGUI v2.0.0 for Windows | October 30, 2026

0-4.5 MHz calibrated measurement band

READOUTGUI V2.0.0 / WINDOWS

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For a first measurement, use the quick start guide. Use this manual for the complete procedures and reference tables.

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Select a contents entry to open that section. The quick start guide provides the initial setup procedure; this manual includes the full operating instructions and fault reference.

1 / INTRODUCTION

System overview

A fiber-coupled optical microphone and readout unit for non-contact acoustic measurements across the calibrated 0-4.5 MHz band.



This manual covers setup, routine optical-connector cleaning, the Windows ReadoutGUI v2.0.0 interface, recording and troubleshooting. Start with the quick start guide for a first measurement.

The probe, cable and paired SC/APC connector form one assembly. The readout unit connects both the 638 nm and 1550 nm optical paths and transfers digitized data to the computer over USB.

In the kit: readout unit; microphone with paired optical connector; supplied 9 VDC power supply; and 2.5 mm SC/ST/FC fiber-cleaner pen. Use a suitable USB data cable.

Screenshots. Settings and signal levels are examples, not prescribed measurement settings. Some control views show the app without a connected device. The Analyze example uses labelled synthetic data.

2.1 / SAFETY

Safety



Never look into the probe tip or an open optical port.



Never touch the sensing face; keep at least 4 mm from the target.

WARNING: LASER RADIATION. Avoid direct eye exposure. Never look into the probe tip, fiber ends or readout-unit apertures. The 1550 nm light is invisible; no visible glow does not mean the unit is safe to inspect.

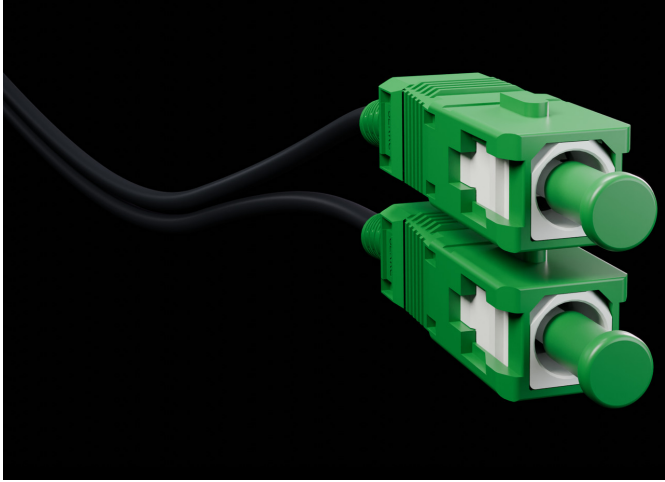
Before disconnecting, cleaning or inspection: select STOP, confirm breathing white, then unplug the 9 VDC power supply. Keep power disconnected throughout the procedure. Never inspect an energized fiber with a microscope.

The sensing face is delicate. Handle only the outer casing. Avoid impact, elevated temperatures and contact with the target. Never apply the cleaner pen, wipes, alcohol or other liquids to the sensing face.

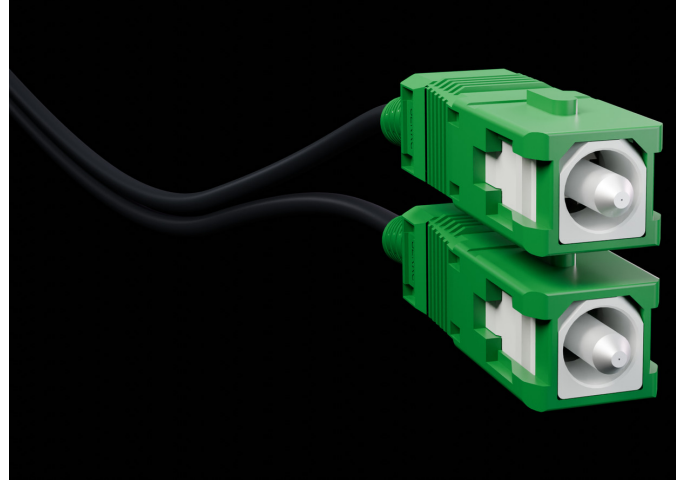
Keep the sensor cap fitted during transit and storage. Stop using the system if the probe, fiber or enclosure is damaged. Do not open the readout unit or attempt to repair the sensing optics.

2.2 / HANDLING

Fiber handling



Remove caps only when ready to clean and connect.



The white connector ends are optical end faces. Never touch them.

Hold the shared connector housing when connecting or disconnecting. Keep the two fibers together in their keyed assembly. Do not separate them to select individual ports.

Dust, oils and scratches on an end face can reduce returned light or prevent stable operation. A dirty connection can transfer contamination to its mating surface. Clean both connectors and both ports before connecting.

Cleaning does not repair scratches or chips. Protect clean optical surfaces with clean caps. Use a suitable fiber inspection tool with power disconnected; contact Ultracoustics if damage or persistent contamination is found.

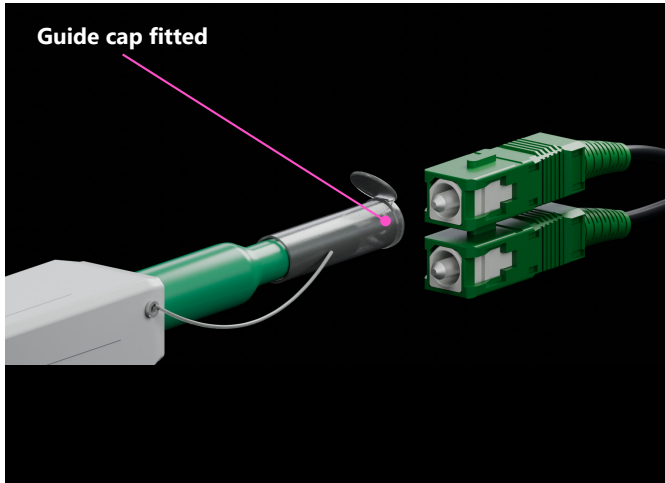
Do not pull, pinch, clamp, twist tightly or sharply bend the cable. Maintain a **minimum bend radius of 30 mm**. Route it clear of moving equipment and sharp edges. Do not lift the probe by its cable.

Green SC/APC connectors must mate with matching APC ports. Do not substitute blue UPC connections. Keep the cleaner capped, dry and free of contamination.

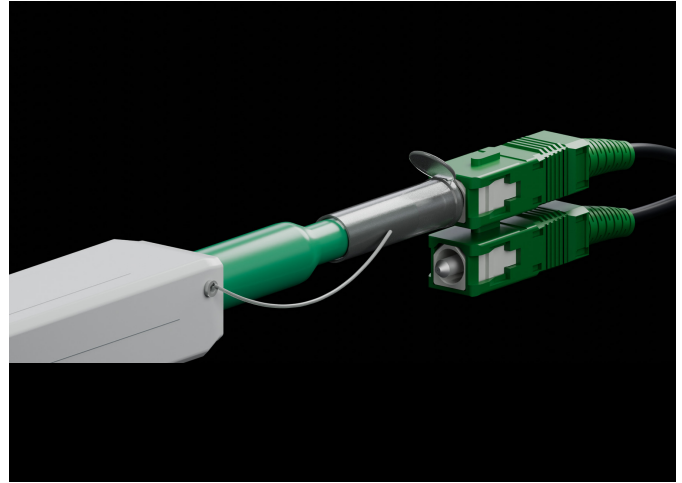
2.3 / FIBER-CLEANER PEN

Optical connector cleaning

STOP, confirm breathing white, and disconnect the 9 VDC supply before removing the paired connector. Keep the sensor head capped.



Guide cap fitted; only its small hinged cover is open.



Support the housing and push straight until the cleaner clicks.

1 Prepare the supplied pen

Use the 2.5 mm SC/ST/FC cleaner. Leave its guide cap fitted and open the small cover. Follow the supplied pen instructions if its mechanism differs.

2 Clean each end face

Support the paired housing. Place one connector straight into the guide-cap opening. Push the cleaner body until it clicks, then withdraw straight. Repeat for the second connector.

3 Inspect and protect

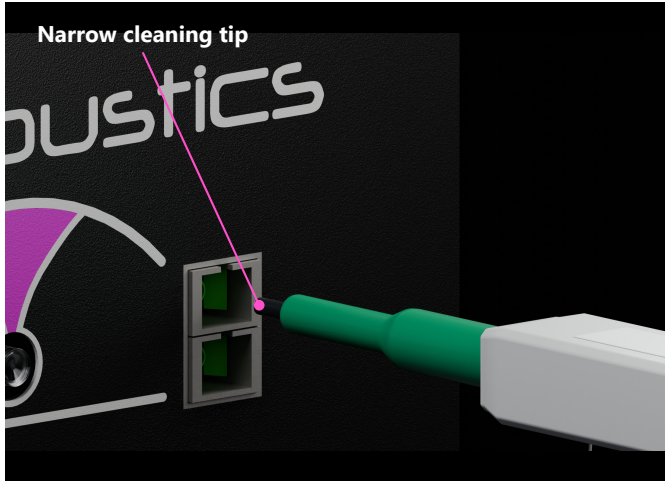
With power disconnected, inspect using a suitable fiber end-face inspection tool. If contamination remains, clean and inspect again. Keep clean ends protected until mating.

Do not force, twist or rock the tool. If the paired housing prevents a straight fit, stop and contact Ultracoustics. Do not separate the housing. Use dry cleaning for this routine; do not add liquid to the pen.

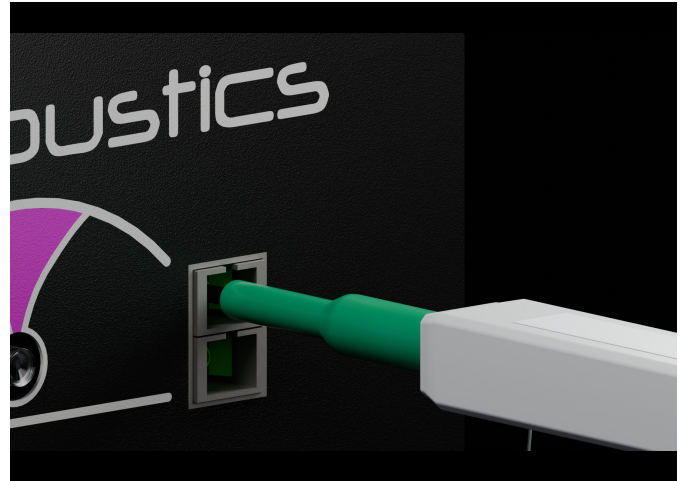
2.4 / FIBER-CLEANER PEN

Optical port cleaning

Keep power disconnected. This cleans the optical end face inside each SC/APC port, not the exterior housing or the sensing face.



Remove the whole guide cap to expose the narrow tip.



Insert straight along the port axis, push until it clicks, then withdraw.

1 Remove the guide cap

Opening only the small hinged cover is for disconnected connectors. Remove the entire guide cap for the readout-unit ports.

2 Clean both ports

Insert the narrow tip straight into one port. Push until it clicks, then withdraw straight. Repeat for the other port. Stop if the pen does not move normally; do not use it as a lever.

3 Inspect and reconnect

Inspect both mating connections with a suitable end-face inspection tool while power remains disconnected. Reconnect the keyed assembly or fit clean caps promptly.

Reconnect power only after both fibers are fully seated. Close the cleaner cover and refit its guide cap for storage. Replace exhausted cleaning material or a damaged pen. Persistent dirt, scratches or chips require support.

3.1 / HARDWARE

Readout unit



FRONT / Control button, central status indicator and paired optical ports.



REAR / USB-C data and supplied 9 VDC power connections.

Part	Purpose
Control button	Start or resume; hold for standby or stop. See Section 5.2.
Status indicator	Color and pattern show the operating state or a counted fault. See Section 5.1.
Paired SC/APC ports	638 nm and 1550 nm optical connections. The keyed connector mates with both at once.
USB-C port	USB 2.0 High-Speed data link to the computer. Use a data-capable cable.
Power input	Use the supplied 9 VDC power supply.
Ventilation openings	Keep at least 5 cm clear around all openings. Do not block the fans.

3.2 / OPTICAL CONNECTION

Microphone connection

Connect the microphone before applying power. Follow Sections 2.3 and 2.4 to clean both sides of the connection.



Align the keyed housing with the two ports.



Fully seated: both optical connections are made together.

- 1. Remove the caps.** Keep them clean. Do not touch the connector end faces or the port interiors.
- 2. Align the housing.** It fits in only one orientation. Hold the shared housing and align it with both front-panel ports.
- 3. Seat it straight.** Push the housing until both connectors are fully seated. Never force it into another orientation or pull on the cable.
- 4. Check the cable route.** Support the probe by its casing, avoid sharp bends, and keep the cable clear of moving equipment.

To disconnect later, STOP and confirm breathing white, unplug the power supply, then remove the assembly by its housing. Refit clean caps to both ends and both ports.

3.3 / POWER AND VENTILATION

Power and USB connections



Connect rear USB-C data and the supplied 9 VDC supply.



Allow at least 5 cm of clear space around every ventilation opening.

Power. Once the optical connector is seated, connect the supplied 9 VDC supply to the rear input. The unit powers on into its inactive state. Breathing white means the laser boards are off.

Computer. Connect USB-C to a Windows computer using a data-capable cable. Charging-only cables do not provide a data connection. For initial troubleshooting, connect directly to the computer.

Airflow. Use the unit in a ventilated location and keep all vents unobstructed. A recurring fan fault requires service; do not open the enclosure.

Detection. Open ReadoutGUI and check the status at the top of the sidebar. If it says Not connected, check the power and USB cable before selecting START.

During firmware writing, a solid bright cyan indication means power must stay connected until writing completes. Firmware maintenance is separate from normal measurement.

4.1 / SOFTWARE SETUP

Windows software setup

Requirement	Windows release
Operating system	Windows 10 (1809 or later) or Windows 11, 64-bit x64
Memory	4 GB minimum; 8 GB recommended
Storage	About 600 MB for the downloaded ZIP and extracted app, plus recordings
Download	208.7 MB portable ZIP; no separate Python installation needed

1 Download the complete ZIP

Use ultracoustics.ca/downloads. The Windows download is hosted in GitHub Releases.

2 Verify and extract

Compare the SHA-256 checksum with the download page. Right-click the ZIP and choose Extract All. Do not run the app from inside the ZIP.

3 Keep the folder intact

Open BROADSONIC_ReadoutGUI_v2.0.0_Dist and launch BROADSONIC ReadoutGUI v2.0.0.exe. Its _internal folder contains required support files and tour images.

4 Review the tours

The hardware welcome tour explains connections and cleaning. Help > Hardware tour and Help > Software tour reopen either guide.

The Windows build is unsigned. If SmartScreen appears, verify that you downloaded the official package and that its checksum matches before deciding to run it. Keep the full folder together when moving the application.

4.2 / AUTOMATIC STARTUP AND CALIBRATION

Startup and calibration

Select START to begin automatic warm-up and pressure calibration.



- 1 **Ready**
Startup complete
- 2 **Waveform**
Optical power (μW)
- 3 **Spectrum**
Calibrated dB SPL/√Hz

Before START: keep the microphone still and away from active sound sources. Check the optical connections and cable route. Leave the acoustic source quiet while the app warms up.

During Warming up: let the process finish. Recording and triggering wait for readiness. STOP cancels startup. Do not use a fixed waiting time as a substitute for the Ready status.

After Ready: a successful pressure calibration reports "Calibrated". Confirm the displayed units before interpreting levels. If the app uses the last calibration, keep the setup quiet and select STOP then START to retry.

Ready alone is not proof of a new pressure calibration. If only raw optical units are available or calibration keeps failing, use Diagnostics > Self-check and contact Ultracoustics.

4.3 / TIME TAB

Time-domain waveform

View and scale. Choose the visible time interval and vertical scale. Reset View on the plot returns to the automatic view.

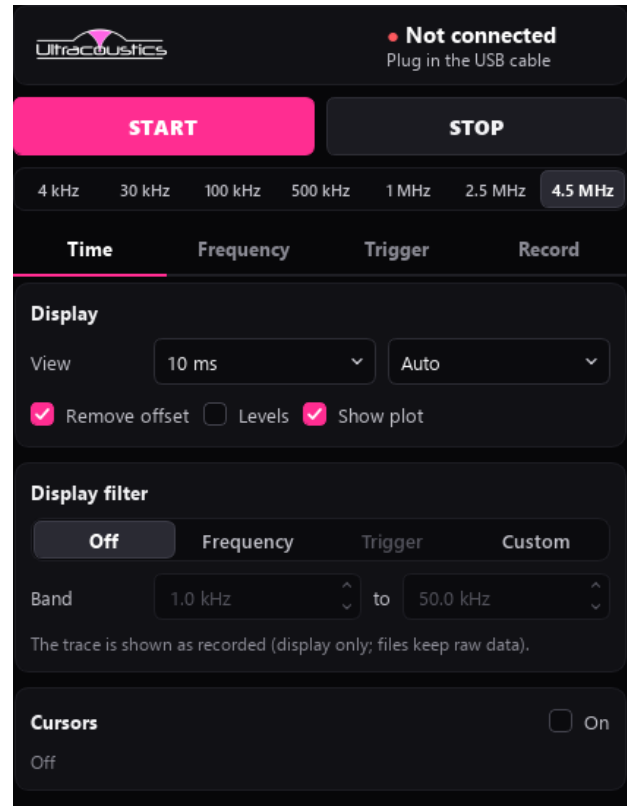
Remove offset. Removes the mean optical offset from the displayed trace. Levels shows signal statistics. Show plot hides or reveals the time plot.

Units. When a pressure calibration is available, the Units controls offer Pa alongside the raw optical signal. Check the axis label.

Display filter. Choose Off, Frequency, Trigger or Custom. A custom band limits what is shown in the waveform. This is display processing; recordings retain raw samples.

Cursors. Turn them on to compare time and level positions. Move them on the plot to inspect a feature.

Keep the sensor tip at least 4 mm from the target. Moving or vibrating the cable can contribute to the measured signal.



Pressure-unit controls appear when calibration is available.

4.4 / FREQUENCY TAB

Frequency spectrum

Range. Quick-range buttons span 4 kHz to 4.5 MHz. The Frequency tab provides finer frequency and level limits. The calibrated band is 0-4.5 MHz.

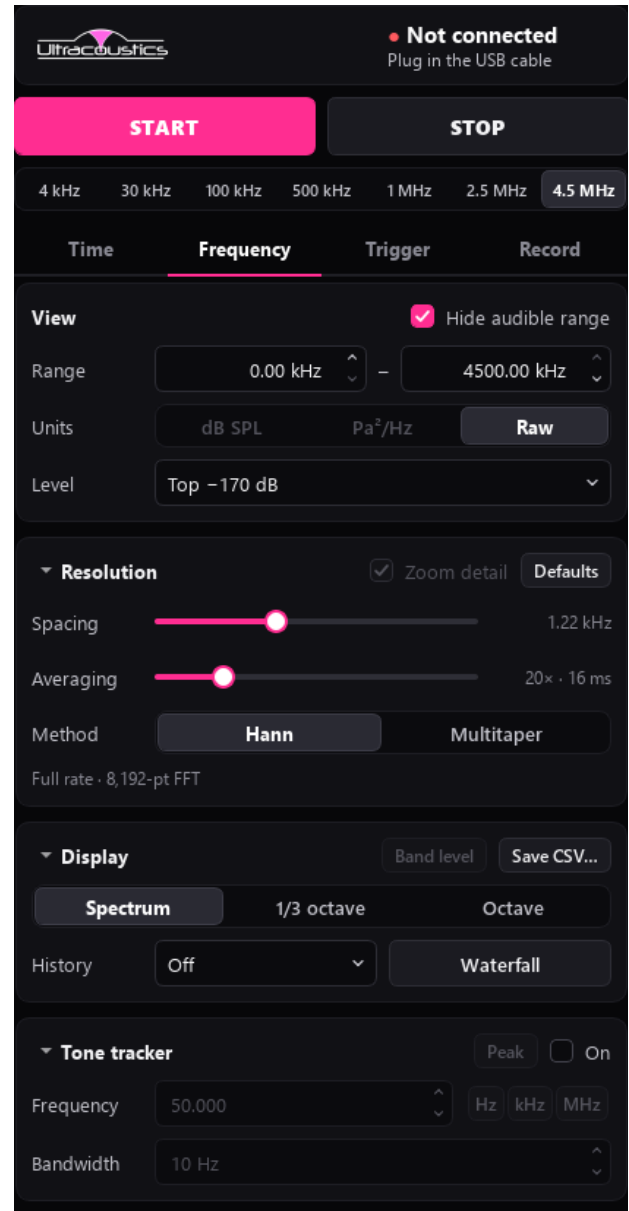
Units. Raw is optical-power spectral density. Pa^2/Hz and dB SPL need a valid pressure calibration. Read the axis label to distinguish density from per-bin level.

Hide audible range. Folds away 0-20 kHz on wider views. Turn it off when audible sound is part of the measurement.

Resolution. Expand the card. Spacing controls frequency detail; Averaging controls spectral averaging. Choose Hann or Multitaper. Defaults restores the selected range settings.

Display. Choose Spectrum, 1/3 octave or Octave; History and Waterfall show changes over time. Band level reads an integrated selected band.

Tone tracker. Expand its card to follow a frequency within a chosen bandwidth. Save CSV exports spectrum data; Record preserves raw data.



Select a card title to show or hide its settings. Some controls require calibrated data.

4.5 / TRIGGER TAB

Time trigger

Off, Single or Repeat. Off disables triggering. Single catches one event and opens Analyze; Arm next returns to live and waits again. Repeat keeps collecting while the plots stay live.

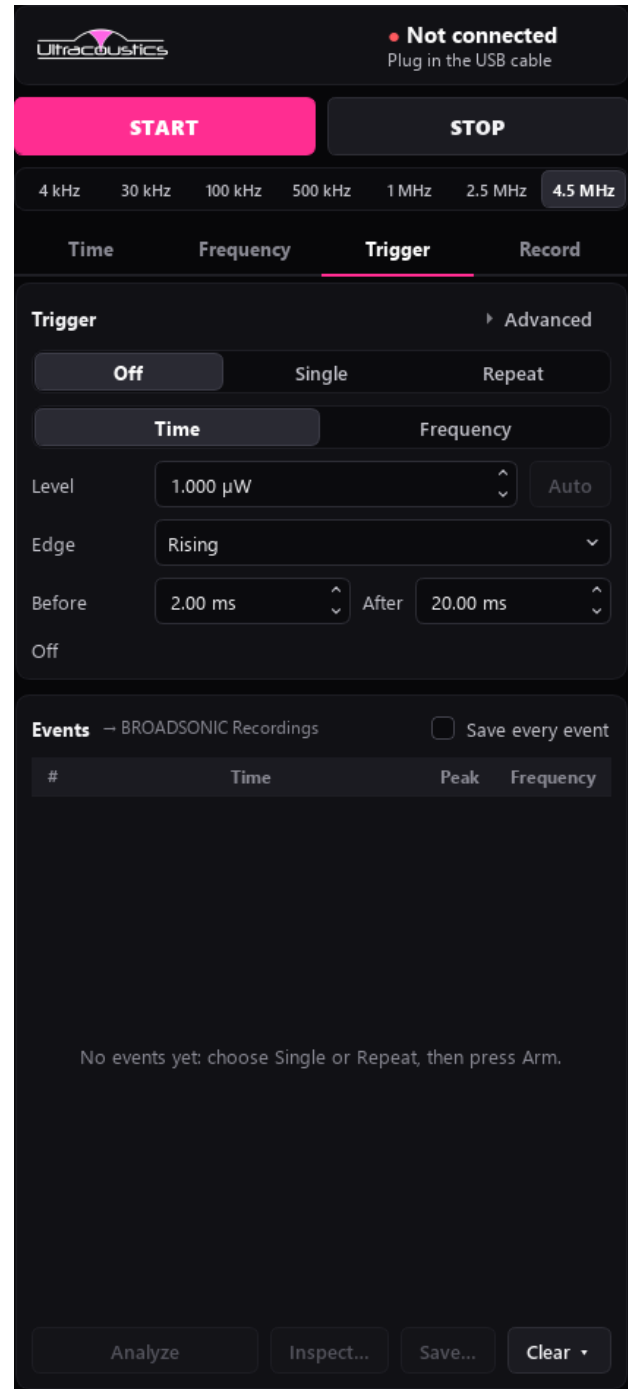
Source: Time. Set Level and Edge. Rising detects upward crossings, Falling downward crossings, and Either detects both directions.

Auto. Uses the highest recent noise peak to propose a trigger level. Inspect it and adjust for your signal.

Before and After. Each event keeps raw samples around the trigger. A longer After interval allows finer spectral detail. The next event waits until that capture ends.

Events. Select an event to view it. Analyze compares selected events, Inspect examines one, and Save writes captured data.

The trigger operates only when the microphone is Ready. Set the recording folder and capture interval before enabling automatic event saving.



Time source with triggering Off. The meter and Arm control appear in active trigger modes.

4.6 / FREQUENCY TRIGGER

Frequency trigger

Source: Frequency. Choose the band to watch and a Threshold in dB above its learned background. With the trigger on, drag the shaded band on the Frequency Domain plot.

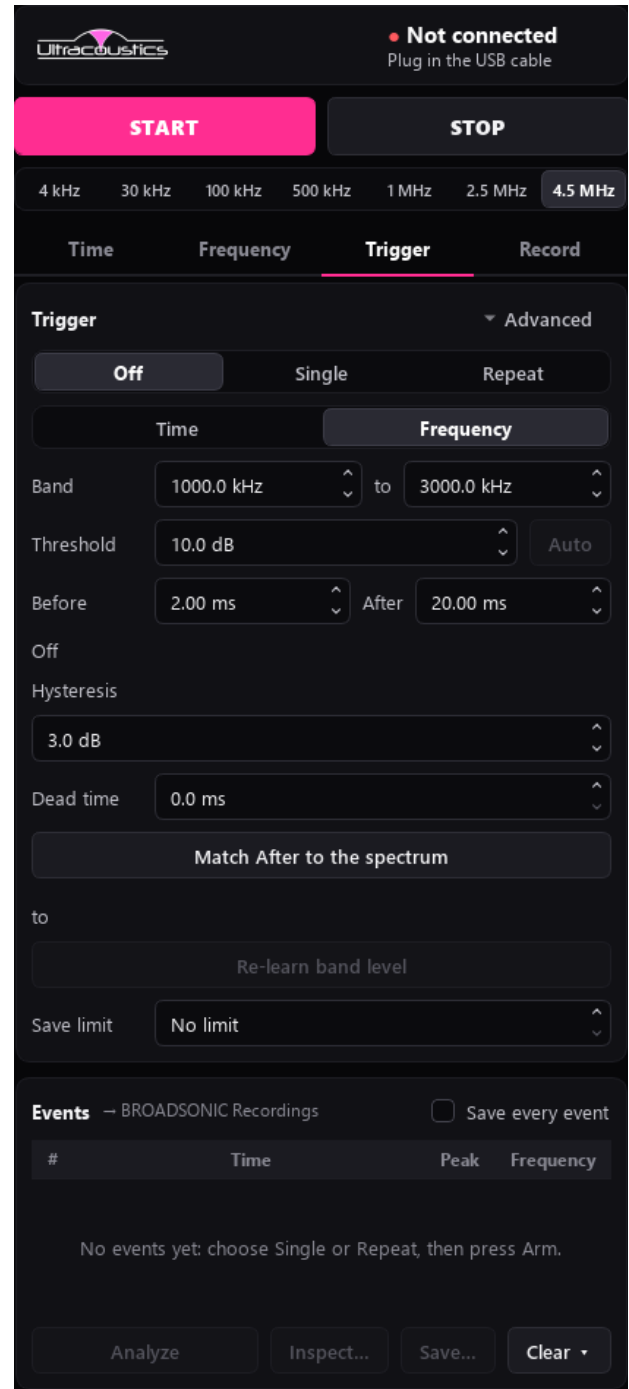
Auto. Suggests a threshold above the highest recent band reading. Re-learn band level refreshes the background when appropriate.

Advanced. Hysteresis separates firing and rearming. Dead time adds a wait after a capture. Match After to the spectrum matches the event length to live spectral detail.

Trigger filter. For the Time source, filter detection to a chosen band. This is separate from the waveform Display filter.

Save every event. Saves each capture and a CSV event table in the Record folder using its Label. Enabling it while Off switches to Repeat. Save limit stops automatic saving after the chosen count.

The visible list holds the latest 500 events; saved files preserve those recorded to disk. Check available storage before a long unattended run.



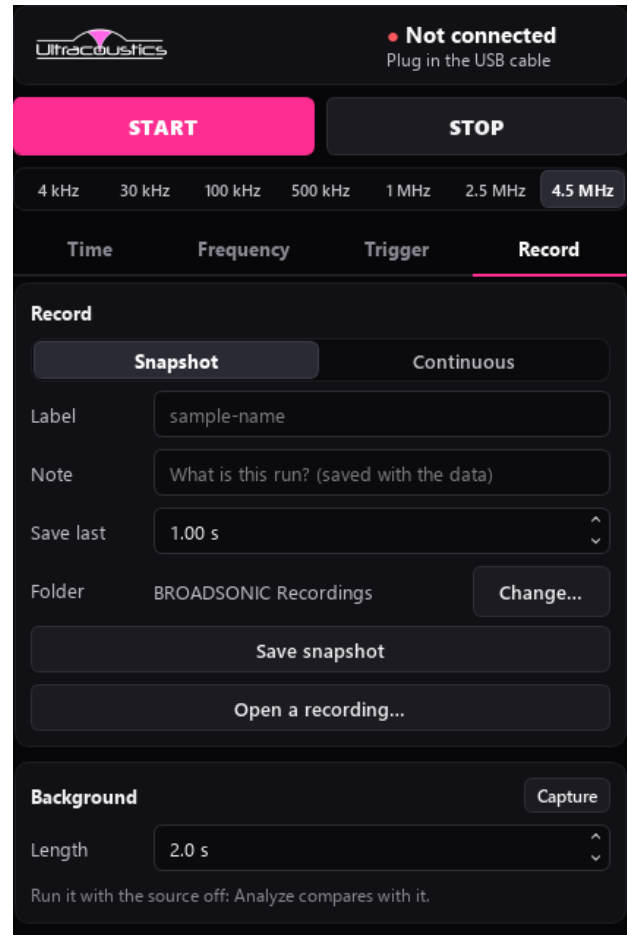
Frequency source, Advanced open, triggering Off. Example values are not recommended defaults.

4.7 / RECORD TAB

Snapshot recording

Snapshot saves a recent interval from the buffer, including data from before you pressed Save snapshot.

- 1. Set the destination.** Check Folder and use fast local storage. Enter a useful Label and Note so the capture can be identified later.
 - 2. Choose Save last.** Set the duration you need. Only available buffered data can be saved; allow the system to acquire it first.
 - 3. Save snapshot.** Wait for the saved-file confirmation. The session list provides access to files saved during the session.
 - 4. Analyze.** Use the confirmation or Open a recording to review the saved data. Back to live returns to the live workspace.
- Keep the .sigmf-data raw samples and .sigmf-meta metadata together. A plot image or spectrum CSV is not a replacement for the raw recording.



Snapshot is available when acquisition is ready and buffered data is present.

4.8 / RECORD TAB

Continuous recording

Continuous records data arriving after Start recording. It does not substitute for Snapshot when you need pre-existing data.

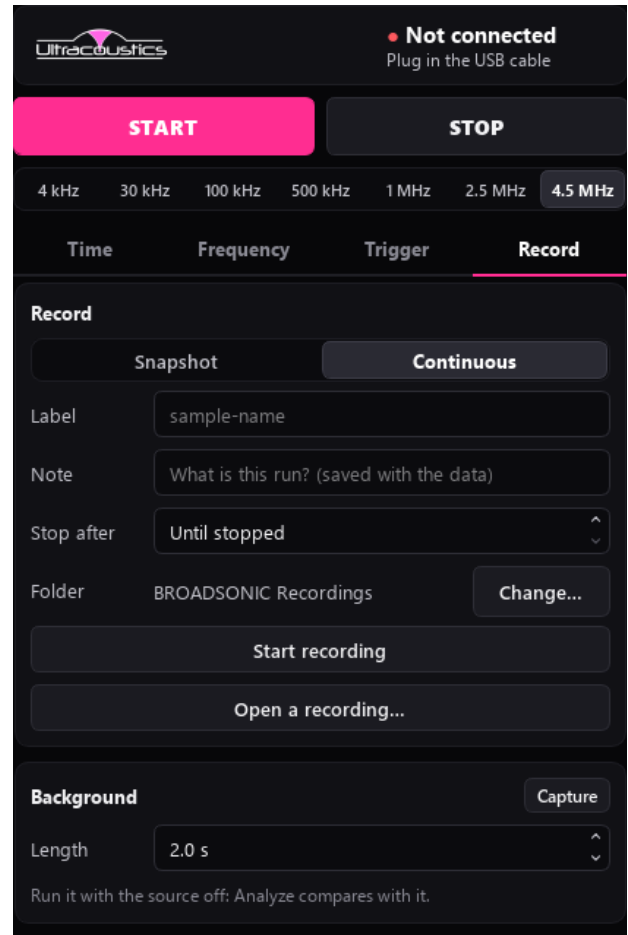
Prepare. Check Folder, Label and Note. Set Stop after for a timed recording, or leave it without a time limit for a run you stop yourself.

Record. Select Start recording after the microphone is Ready. Watch for recording errors or data-gap warnings. Stop the recording before disconnecting hardware.

Files. Long runs split automatically. Preserve all raw-data and metadata pairs. Do not rename only one member of a pair.

Space. Raw 16-bit samples at 10 MSPS require about 20 MB/s, or 1.2 GB per minute, before metadata. Actual size follows the recorded sample rate and duration.

Review. Open saved recordings in Analyze. Retain the original files when exporting images, spectra or shorter segments.



The screenshot shows the Ultracoustics software interface. At the top, there's a status bar with the Ultracoustics logo and a red dot indicating "Not connected" with the text "Plug in the USB cable". Below this are two large buttons: "START" in red and "STOP" in grey. A frequency selection bar shows options: 4 kHz, 30 kHz, 100 kHz, 500 kHz, 1 MHz, 2.5 MHz, and 4.5 MHz (selected). Below the frequency bar are four tabs: "Time", "Frequency", "Trigger", and "Record" (selected). The "Record" tab contains two sub-tabs: "Snapshot" and "Continuous" (selected). Under "Continuous", there are input fields for "Label" (containing "sample-name"), "Note" (containing "What is this run? (saved with the data)"), and "Stop after" (set to "Until stopped"). There's also a "Folder" field showing "BROADSONIC Recordings" with a "Change..." button. Below these are two buttons: "Start recording" and "Open a recording...". At the bottom, there's a "Background" section with a "Capture" button and a "Length" field set to "2.0 s". A small note at the very bottom says "Run it with the source off: Analyze compares with it."

Continuous mode before recording. The storage estimate is a calculation, not a guaranteed throughput specification.

4.9 / ANALYZE WORKSPACE

Recording analysis

Choose File > Open recording or Open a recording in Record. Analyze works on saved samples; it does not stop the readout unit.



Current Analyze interface with an explicitly named illustrative signal. This is synthetic data, not a BROADSONIC measurement or performance example.

Navigate. Use the overview strip to position the visible interval. Reset View restores the plot view. Time and Frequency controls are available while analyzing.

Compare. Use + Segment or Shift-drag to select an interval. Give comparisons meaningful names and choose a reference when using Difference from the reference.

Events. Captured events can be opened from the Events list. Single-trigger captures offer Arm next to return to live and wait for another event.

Return. Select Back to live at the bottom of the sidebar. An analysis view, including a paused buffer, is separate from STOP.

4.10 / DATA INTERPRETATION

Background comparison and export

Background recording

In Record, use Background to capture a source-off reference. Keep probe position, cable route, software settings and environment unchanged. Turn the acoustic source off for the background, then record the source-on measurement.

A source-off acoustic background is different from the lasers-off dark reference used during startup calibration. Do not use the two interchangeably.

In Analyze, load the background and add it to the comparison. Choose a reference before using Difference from the reference. Check that recordings use compatible calibration and settings.

Output	Use
SigMF data and metadata	Preserve raw samples, timing and acquisition information for later analysis. Keep the pair together.
Spectra / CSV	Export the displayed or compared spectrum for numerical work.
Image / PNG or SVG	Export a plot for reports; choose light or dark presentation as appropriate.
Segments	Save selected intervals for focused analysis. Retain the original recording.

Changing bin width changes how a narrow tone appears in a spectral-density display. Use the axis units and band or tone readouts when reporting levels. Record the measurement conditions, calibration state and analysis settings with the result.

4.11 / DIAGNOSTICS AND HELP

Diagnostics and help

Menu item	When to use it
Help > Hardware tour	Review the optical assembly, cleaner setup, connections, indicator and physical button.
Help > Software tour	Locate START and STOP, plot controls, Trigger, Record and Analyze.
Diagnostics > Self-check	Investigate persistent startup or measurement problems and create a support report.
Diagnostics > Adjust signal level	Use when START or Self-check reports that the signal is too strong. Follow the dialog instructions.

Before running a check

Stop recording and finish other operations using the readout unit. Keep the optical assembly connected and follow the instructions in the diagnostic dialog. Maintain normal laser precautions throughout.

Self-check and signal-level adjustment use the connected hardware. Let a check finish or use its own cancel action before starting another operation. Do not disconnect a fiber while the unit is active.

Save the report and describe what happened before the issue: startup or measurement, status message, fault color and count, and whether the issue repeats.

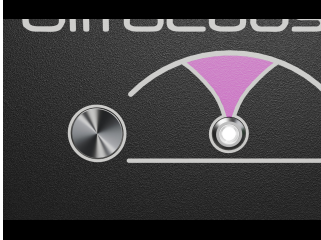
For startup and calibration, follow Section 4.2. For common measurement or connection problems, see Section 6.

Request support at ultracoustics.ca/contact. Describe the issue and mention any reports or recordings available.

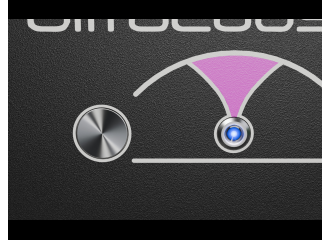
5.1 / OPERATING STATES

Status indicator

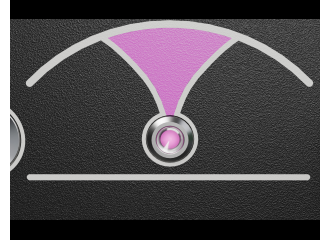
Breathing is a smooth fade. A fault is a repeating group of sharp flashes separated by a longer pause. Read both color and pattern.



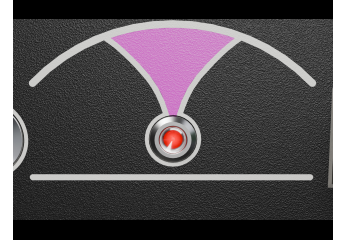
Breathing white



Breathing blue



Solid magenta



Counted flashes

Indication	Meaning
Breathing white	Powered; laser boards inactive. Awaiting START.
Breathing blue	Standby. Boards remain powered.
Startup colors	Blue/teal, yellow and amber may appear during startup and readiness. Some stages are brief.
Solid magenta	Normal measuring state. In the GUI, also wait for Ready.
Breathing amber after measuring	Readiness has been lost. Wait for it to recover; report persistent or repeated loss.
Counted flashes	Record the color and count. Use the fault tables on the next pages.

Solid bright cyan indicates firmware writing: keep power connected until it completes. Blue or white while holding the button is temporary feedback; confirm the resulting breathing pattern after releasing it.

5.1.1 / FAULT REFERENCE

Optical and readiness faults

Count flashes between the longer pauses. Record the pattern before pressing the button, because a restart can clear the indication.

Fault indication	Meaning
Red 1	Valid optical signal not acquired during startup.
Red 2	Signal check failed while waiting for the 638 nm board to become ready.
Red 3	The signal check failed during operation or through the fast signal-protection check.
Blue 1	1550 nm board did not assert ready within 60 seconds of its start request.
Blue 2	638 nm board did not assert ready within 30 seconds of its start request.
Blue 3	1550 nm board dropped its ready signal.
Blue 4	Requested 1550 nm startup output setting could not be applied and confirmed.
Amber 1	Fan rotation feedback was absent for more than 2 seconds on at least one fan while monitored.

Red: check the paired connection and cable condition. A red indication alone does not prove probe damage. Use the power-off procedure before cleaning or reconnecting.

Blue: readiness or startup failed. Report recurring faults. Blue 4 applies when a startup output setting has been requested.

Amber 1: check external ventilation openings and report a recurring fan fault. This is different from smooth amber breathing.

After addressing the cause, use START for a new startup sequence. If the fault returns, stop repeated retries and contact Ultracoustics.

5.1.2 / FAULT REFERENCE

Programming and internal faults

Fault indication	Meaning
Violet 1	A board did not acknowledge a programming setting as successful.
Violet 2	A programming operation exceeded its 30-second limit.
Violet 3	A firmware version query failed validation.
Violet 4	A laser-board firmware update failed its start or completion acknowledgement.
Violet 5	The main-board firmware image header was rejected.
Violet 6	The main-board firmware image checksum did not match.
Violet 7	The main-board flash-writing routine stopped after a size-check, erase, write or verification failure.
White 1	The controller entered an undefined internal state.
White 2	The controller entered its software error handler, for example after a hardware-interface or clock initialization failure.
White 3	The processor encountered an internal execution fault.
White 4	Host communication keepalive expired after monitoring was enabled in override mode.

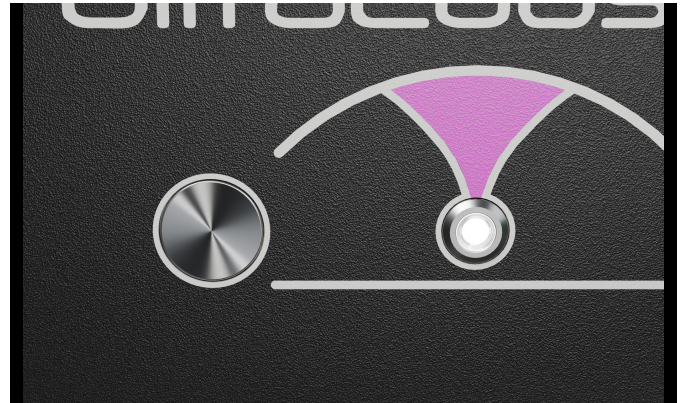
Report recurring programming faults and white internal-fault codes. Violet 7 can require service recovery. White 2 or 3 may leave the controller unresponsive. White 4 applies when override keepalive was enabled, not to every disconnected USB cable.

5.2 / PHYSICAL CONTROLS AND SHUTDOWN

Physical controls and shutdown



Release when blue feedback appears for standby.



Release when white feedback appears for stop.

Action	Button command	Confirm after release
Start or resume	Briefly press and release.	Startup sequence, then solid magenta. Wait for GUI Ready.
Standby	Hold until blue appears; release at once.	Breathing blue.
Stop	Hold until white appears, then release.	Breathing white.

Use START in ReadoutGUI to run the startup and calibration sequence. The front button can also start or resume the readout unit; still check GUI readiness and pressure units.

Finish a session. Stop recording, select STOP and confirm breathing white. Before handling optical connections, unplug the 9 VDC supply.

Remove the paired connector by its housing. Fit clean caps to connectors and ports, cap the sensor, and store the cable loosely without sharp bends. GUI Pause or an Analyze view does not switch off the lasers.

6.1 / TROUBLESHOOTING

Measurement troubleshooting

Observation	Next step
Warming up	Keep the probe still and the room quiet. Let the process finish, or use STOP to cancel.
Not ready or Signal lost	Read the hint below the status. Check the probe and cable. Use START again as directed; report repeated failures.
Using the last calibration	The new fit did not succeed. Keep the setup quiet, then STOP and START to try again. Check units before reporting pressure.
Ready but raw units only	Warm-up may have finished without a usable pressure fit. Retry under quiet conditions; use Self-check if persistent.
Signal too strong	Use Diagnostics > Adjust signal level as prompted, then retry START.
Plots blank while controls work	Check START/Ready, Show plot and Reset View. Use a fresh extraction of the complete official ZIP; do not copy only the EXE.
Cannot record or trigger	Wait for Ready. Check that buffered data is present, the destination is writable, and sufficient space is available.
Repeated LED flashes	Record color and count and consult Section 5.1. Do not confuse a smooth breathing pattern with a fault code.

If optical contamination is suspected, STOP, confirm breathing white, unplug power and follow the cleaning procedure. Never clean the sensor face. Persistent faults or suspected damage require Ultracoustics support.

6.2 / WINDOWS TROUBLESHOOTING

USB and file troubleshooting

Not connected

Check the supplied power supply, then reconnect a known data-capable USB cable. Try a direct computer port and close other applications that may be using the readout unit. Avoid running multiple GUI instances.

If Windows does not recognize the device, inspect Device Manager and record the device name and hardware IDs. Contact Ultracoustics before replacing drivers on an unidentified USB device.

USB too slow or data gaps

Try a direct port, a known-good cable and less background computer load. The readout is a USB 2.0 High-Speed device; successful control commands alone do not prove that the data stream is healthy.

For recurring power-management interruptions, check the BROADSONIC device Power Management options in Device Manager if that tab is available. Record what changed when reporting the issue. Do not infer a data rate from plots alone.

Missing tour images or support files

Download the official portable ZIP again and extract it completely. Keep the EXE beside its _internal folder. Do not run from inside the ZIP or move only the executable. Verify the download checksum if file corruption is suspected.

Saved recording cannot be opened

Keep the matching .sigmf-data and .sigmf-meta files together, preserve the same base filename, and check that the copy completed. Keep the original recording while diagnosing an export or transfer problem.

6.3 / SUPPORT

Support and version information

Use the contact form at ultracoustics.ca/contact to request support. Include enough detail to reproduce the issue.

- The application version and Windows version.
- The displayed status and hint; whether the issue occurred at startup, while measuring, or while saving.
- The indicator color and flash count. A short video can help distinguish breathing from counted flashes.
- The Self-check report, where available, and the steps already tried.
- A screenshot or relevant recording pair if needed to demonstrate the problem.

Document information

Item	Details
Product	BROADSONIC optical microphone and readout unit
Software	BROADSONIC ReadoutGUI v2.0.0 for Windows
Manual revision	Revision 3
Document date	October 30, 2026
Software downloads	ultracoustics.ca/downloads
Support	ultracoustics.ca/contact