

Tobii Pro Glasses 3

User Manual

tobii

Tobii Pro Glasses 3 User Manual

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1 Introduction

Tobii Pro Glasses 3 is designed to enable easy, precise, and efficient collection of eye tracking data in a wide variety of research scenarios. The discreet, ultra-lightweight design ensures natural behavior and research validity in both qualitative and quantitative situations. Accurate data and robust eye tracking capabilities can be relied on in uncontrolled situations and real-world environments.

This document describes how to use the Tobii Pro Glasses 3 system, including the Tobii Pro Glasses 3 controller application.



Figure 1. Tobii Pro Glasses 3

1.1 Intended use

Tobii Pro Glasses 3 is a wearable eye tracker for academic, commercial, and industrial used to capture truly objective and deep insights into human behavior in a real-world environment. The glasses are designed to capture what the wearer is viewing while providing robust and accurate eye tracking data. The complete Tobii Pro Glasses 3 system consists of a head unit, a recording unit, and the Tobii Pro Glasses 3 controller application installed on an external device.

The product should only be used as described in the Tobii Pro Glasses 3 User Manual. Please read the User Manual and other supplied documentation thoroughly before using the product.

This product is continuously being developed and refined. Visit [Tobii Connect](#) for the most recent specifications for Tobii Pro Glasses 3 and for the latest version of this document.

1.2 Documentation

Further documentation is available for viewing and download on [Tobii Connect](#).

The following documentation is available for Pro Glasses 3:

- Release Notes
- Tobii Pro Glasses 3 Product Description
- Tobii Pro Glasses 3 User Manual
- Tobii Pro Glasses 3 Field Guide
- Tobii Pro Glasses 3 Developer Guide

1.3 Symbols used in this document

Three different symbols are used in this document:



The Information symbol means something is important or needs special attention.



The Tip symbol denotes additional information that can make a process or function easier.



The Warning symbol means there is a possible risk of harm if the warning is ignored.

2 System requirements

2.1 Pro Glasses 3 controller application requirements

Operating System	Microsoft Windows	macOS	Android
Version	Windows 10 or 11	macOS 11 (Big Sur)	Android OS 11 or 12
Processor (CPU)	6th Generation Intel Core™ i5 (Dual core) or equivalent	6th Generation Intel Core i5 (Dual core) or equivalent	Snapdragon 835 or equivalent
Memory	8 GB RAM	8 GB RAM	4 GB RAM



Tobii Pro Lab and other software may have different requirements. Read more about [Tobii Pro Lab](#).

3 Safety

3.1 General precautions



The Tobii Pro Glasses 3 system is described in the Tobii Pro Glasses 3 User Manual and must be used according to the manufacturer's instructions. Connecting any other component to the system, or using the components improperly can cause injury to the user or damage to the equipment and is done so entirely at the user's own risk.



The glasses system must be fitted on the test participant according to instructions in the Tobii Pro Glasses 3 User Manual. Tobii or its agents are not liable for damage or injuries to a person or their property due to a Tobii Pro Glasses 3 eye tracker system in any configuration being dropped. Fitting the glasses onto a test participant is done entirely at the user's own risk.



The glasses system is to be used for research purposes only. Be aware that due to the low, but possible risk of failure or distraction, Tobii Pro Glasses 3 should not be relied upon or used in dangerous or otherwise critical situations.



The Tobii Pro Glasses 3 system is composed of several components as described in the User Manual and should be used according to manufacturer instructions. Connecting, or by other means using any other component than advised in the User Manual may damage or injure a person, their property or recorded data, and is done entirely at the user's own risk.



The head unit is equipped with a head strap to enable tighter mounting of the eye tracker onto the wearer's head. Neither Tobii nor its agents are liable for damages or injuries to a person or their property caused by the head unit head strap.

3.2 Emergency



The Tobii Pro Glasses 3 system is to be used for research purposes only. Be aware that due to the low, but possible risk of failure or distraction, the Pro Glasses 3 should not be relied upon or used in dangerous or otherwise critical situations.

3.3 Child warning



Tobii Pro Glasses 3 is an advanced system with electronic devices that are composed of numerous separate, assembled parts. These parts can become separated from the device, constituting a potential choking hazard or other danger to a child. Young children should not have access to or use the device without parental or guardian supervision.

3.4 Infrared warning



Do not use the Tobii Pro Glasses 3 system when in the vicinity of devices that are susceptible to Infrared (IR) light. When activated, the head unit emits IR light, which can affect certain medical devices and other devices that are susceptible to disturbance by IR light and/or radiation.

3.5 Photosensitivity/epilepsy warning



Some people with photosensitive epilepsy are susceptible to epileptic seizures or loss of consciousness when exposed to certain flashing lights or light patterns in everyday life. This may happen even if the person has no medical history of epilepsy or has never had any epileptic seizures.

A person with photosensitive epilepsy would also be likely to have problems with TV screens, some arcade games, and flickering fluorescent bulbs. These people may have a seizure while watching certain images or patterns on a monitor, or even when exposed to the light sources of an eye tracker. It is estimated that about 3-5% of people with epilepsy have this type of photosensitive epilepsy. Many people with photosensitive epilepsy experience an "aura" or feel odd sensations before the seizure occurs. If the participant starts to feel odd during use, have them remove the head unit immediately.

3.6 Mechanical shock



The Tobii Pro Glasses 3 system is a delicate measuring instrument used for research purposes and should be treated with care at all times. To avoid breaking or damaging the internal electronic circuits, do not drop, knock, or shake the device. Eye tracking quality or accuracy can be seriously affected if the head unit or recording unit are dropped. If the eye tracker is exposed to mechanical shock, for example, when dropped, do not try to start it or connect it to a power source. Contact Tobii Customer Care for instructions.

3.7 Bending



To avoid breaking or damaging the internal electronic circuits, do not bend any part of the eye tracking system. Eye tracking quality or accuracy can be seriously affected if the head unit or recording unit has been bent.

3.8 Do not open or disassemble



Do not open or disassemble the head unit or the recording unit. Noncompliance will result in loss of warranty! There are no user-serviceable components inside. Contact Tobii Customer Care if your Tobii Pro Glasses 3 system is not working properly.

3.9 Connectors



The head unit and recording unit have numerous external interfaces (connectors). Connecting any other device or connector than those intended may cause personal injuries and/or damage the glasses system. Tobii or its agents are not liable for any damages or injuries to a person or their property due to connecting unintended connectors.

3.10 Head unit cable



The head unit cable connected to the head unit must only be used to connect to the recording unit. Do not use the head unit cable for any other purpose or for connecting to any other devices. Tobii or its agents are not liable for any damages or injuries to a person or property due to incorrect use of the head unit cable.

3.11 Environment



Avoid any exposure to direct sunlight as this will affect eye tracking quality and longer exposure can overheat the equipment. Avoid prolonged exposure to any liquids, gels, moist, rain, or sweat. Do not use the eye tracker underwater.



Do not place or use the equipment in places subject to extreme temperatures and humidity, such as on top of and or near a heating element, in a hot or damp room, or in a hot automobile in the sun. Usage temperature: 5°C to +45°C / 23°F to 113°F

3.12 Component connection safety



The head unit is designed to connect only to the Tobii Pro Glasses 3 recording unit and should not be connected to any other device.



The recording unit is designed to connect to the head unit, a device running specific operating systems, with the Tobii Pro Glasses 3 controller application installed. The recording unit should not be connected to any other devices.

3.13 Battery safety



There is a risk of explosion if the battery is replaced by an incorrect type.



Replacement of a battery with an incorrect type can defeat safeguards (for example, in the case of some lithium battery types).



Disposal of a battery in a fire or a hot oven, or mechanically crushing or cutting of a battery can result in an explosion.



Batteries exposed to extremely high temperatures or environments can result in an explosion or leakage of flammable liquid or gas.



Batteries subjected to extremely low air pressure may result in an explosion or the leakage of flammable liquid or gas.

Attention!



Risque d'explosion en cas de remplacement de la pile par une pile de type incorrect.



Le remplacement d'une PILE par une pile de type incorrect peut neutraliser un SYSTÈME DE SÉCURITÉ (par exemple dans le cas de certains types de PILES au lithium).



La mise au rebut d'une PILE dans le feu ou dans un four chaud, ou par écrasement ou découpe, peut entraîner une EXPLOSION.



L'exposition d'une PILE à un environnement présentant une température extrêmement élevée peut entraîner une EXPLOSION ou une fuite de liquide ou de gaz inflammable.



L'exposition d'une PILE à une pression d'air extrêmement faible peut entraîner une EXPLOSION ou une fuite de liquide ou de gaz inflammable.

3.14 Wireless warning



The recording unit contains radio transmitters and receivers (WLAN). Make sure that it is placed as far as possible from any equipment, objects or body parts sensitive to such signals.

電波法により5GHz帯は屋内使用に限ります。

3.15 Transportation

Use the provided case when traveling with the eye tracker. For shipping and storage, use the original packing.

For transportation, the recommended range for temperature and humidity for the device is as follows:

- **Temperature:** -40°C to 65°C (-40°F to 149°F)
- **Humidity:** 5% to 95%

ETSI 300 019-2-2 V2.4.1, T2.3 (Public transportation) with exception of high air temperature at +65°C.

3.16 Accessories



Only use accessories provided by or approved by Tobii.

3.17 Cleaning



Avoid touching, scratching, or smudging the lenses on the head unit and/or the Corrective Lenses (optional accessory) and keep all the surfaces clean. Eye tracking quality may be degraded if surfaces are dusty or damaged. Take special care to ensure that there are not smudges or scratches covering either the illuminators or sensors in the lenses as these can impair performance.



Do not use window cleaners, household cleaners, aerosol sprays, solvents, alcohol, ammonia, or abrasives on any component of the Tobii Pro Glasses 3 system.



Before cleaning the glasses, unplug the head unit cable.



Use the included cleaning cloth and clean the glass lenses gently.



Avoid getting moisture in openings and ports on the device.

3.18 California Proposition 65 warnings



WARNING: The batteries in this product can expose you to chemicals including Carbon-Black Extracts and Nickel (Metallic), which is known to the State of California to cause cancer. For more information, visit [P65Warnings.ca.gov](https://www.P65Warnings.ca.gov).



WARNING: The Tobii Pro Recording Unit in this product can expose you to chemicals including Carbon-Black Extracts and Nickel (Metallic), which is known to the State of California to cause cancer. For more information, visit [P65Warnings.ca.gov](https://www.P65Warnings.ca.gov).



WARNING: The USB-C to Gigabit Ethernet Adapter in this product can expose you to chemicals including Lead and Bisphenol A (BPA), which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [P65Warnings.ca.gov](https://www.P65Warnings.ca.gov).



WARNING: The head strap in this product can expose you to Di(2-ethylhexyl)phthalate (DEHP) and Bisphenol A (BPA), which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [P65Warnings.ca.gov](https://www.P65Warnings.ca.gov).



WARNING: The foam in the carrying bag in this product can expose you to Benzo [b]fluoranthene, Benzo[j]fluoranthene, Benzo[k]fluoranthene and Indeno[1,2,3-cd]pyrene, which is known to the State of California to cause cancer. For more information, visit P65Warnings.ca.gov.



WARNING: The AC/DC Adapter including the USB cable in this product can expose you to chemicals including Bisphenol A (BPA), which is known to the State of California to cause birth defects or other reproductive harm. For more information, visit P65Warnings.ca.gov.

4 Overview of Tobii Pro Glasses 3

Congratulations on your purchase of Tobii Pro Glasses 3. They're created with active researchers in mind and give you the freedom to take your research further with wider gaze angles and comprehensive data on visual attention.

4.1 Tobii Pro Glasses 3 packages

Tobii Pro Glasses 3 is sold in four different packages. The table below details the specific features available in each package.

Components	Pro Glasses Cabled 50	Pro Glasses Cabled 100	Pro Glasses Wireless 50	Pro Glasses Wireless 100
Pro Glasses 3 controller application	•	•	•	•
50 Hz	•		•	
100 Hz		•		•
WLAN functionality			•	•
Basic support	•	•	•	•

4.2 What's in the box

Tobii Pro Glasses 3 ships with a convenient carrying case which contains the following:

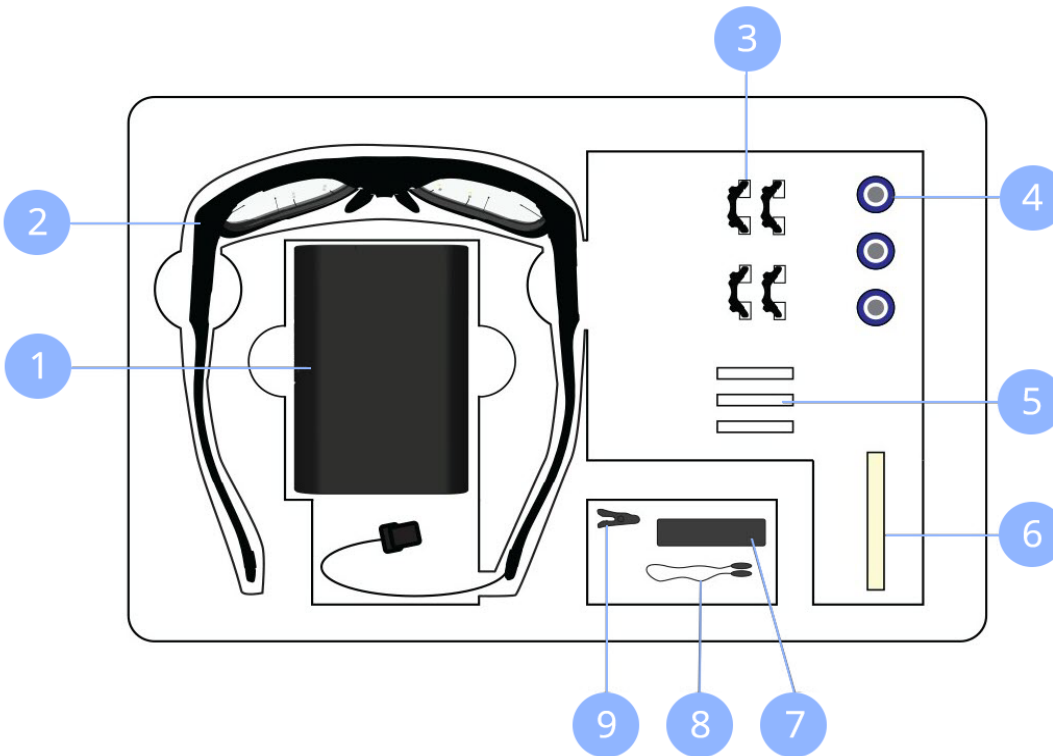


Figure 2. What's in the box

1. Recording unit	6. Calibration card
2. Head unit	7. Cleaning cloth
3. Removable nose pads (4 pcs in two different sizes)	8. Head strap
4. Rechargeable Li-ion batteries, type 18650 (3 pcs)	9. Cable clip
5. SD cards with cases (3 pcs)	

There is also an accessories box which contains the following items:



Figure 3. What's in the accessories box

1. Battery charger for Li-ion batteries	6. Ethernet cable (3 meters)
2. Ethernet to USB Type-C adapter	7. SD card to USB Type-A adapter
3. Standard and 12v power cords for the battery charger (EU, US, UK, AUS)	8. Calibration cards (2 pcs)
4. USB charger for recording unit and USB Type-A to micro USB adapter cable	9. Calibration stickers (10 pcs)
5. Power adapter plugs for the USB charger (EU, US, UK, AUS)	Safety and Compliance leaflet (not pictured)

4.3 Optional accessories and software

The following optional components can be added to the Pro Glasses 3 system. Learn more on tobiipro.com.

Component	Description
Corrective Lenses	Snap-on corrective lenses for Tobii Pro Glasses 3 used with people who wear prescription lenses. The Corrective Lenses accessory for Pro Glasses 3 is a set of attachable lenses to correct both nearsightedness and farsightedness. This accessory allows you to include a larger cross-section of the population in your research.
Protective Lenses	This accessory package contains two lenses, clear and tinted, to protect Tobii Pro Glasses 3 from damage in challenging situations and to support research in bright environments.
Motion Capture Marker Set	Combine Tobii Pro Glasses 3 with motion capture systems and study the links between attention and movement.

Optional software for Pro Glasses 3

Tobii Pro Lab¹	Pro Lab is a comprehensive research software platform for eye tracking designed to meet the highest demands on different research scenarios with exact timing accuracy. This software offers an efficient workflow, making it easy to design experiments, record data, analyze and visualize eye tracking data, and to sync this data with other biometric data streams.
Third-party software	This term refers to any application built on Pro SDK.

4.4 System components

The Tobii Pro Glasses 3 system is comprised of the head unit, recording unit, and Tobii Pro Glasses 3 controller application. Each component is briefly described below. In addition, Tobii Pro Lab software (purchased separately) can be used for further analysis of eye tracking data.

The Tobii Pro Glasses 3 system:

1. The head unit, comprised of wearable eye tracking glasses.
2. A recording unit, connected to the head unit via a head unit cable. The recording unit holds the battery and stores the recorded data on a SD card. The recording unit is controlled from a device running Pro Glasses 3 controller application.
3. Tobii Pro Glasses 3 controller application is used to manage the participants, start and stop recordings, as well as to view real time and recorded video and eye tracking data.

¹Tobii Pro Lab may have different system requirements than Tobii Pro Glasses controller application.



The controller application is designed to be installed and used on specific operating systems and processors. The application should not be installed on any other type of devices

4. A computer running the specified operating systems; or an Android device running version 9 or later; with Tobii Pro Glasses 3 controller application installed.

The controller application connects to the eye tracker through an network connection (either wireless or wired).

5. Tobii Pro Lab (purchased separately) installed on a Windows computer. Any eye tracking analysis beyond qualitative analysis of eye tracking session replay, is carried out using Tobii Pro Lab.



The controller application is designed to be used only with Tobii Pro Glasses 3. No other type of eye trackers can or should be used together with the controller application.

4.5 Head unit

The head unit is a highly sophisticated measuring device. It consists of several very sensitive sensors and must be cared for correctly. For more information, read [Product care](#).

The head unit consists of the following parts:



Figure 4. The head unit or "glasses"

Part	Description
1. Infrared illuminators (x 8 per eye)	Illuminates the eyes to assist the eye tracking sensors
2. Head unit cable	Connects to the recording unit to save collected data
3. High-definition scene camera	Captures a Full HD video of what is in front of the participant
4. Microphone	Picks up sounds from the participant and their immediate surroundings
5. Eye tracking cameras (x 2 per eye)	Records eye orientation and movements

Part	Description
6. Accessory attachment	Used to attach some of the optional accessories, for ex., the Protective Lens
7. Nose pad	Additional nose pads can be used to change sizing

4.6 Recording unit

The recording unit is a small computer that controls the head unit. It records and stores eye-tracking data, sounds, and scene camera video on a removable SD card. The recording unit carries a replaceable and rechargeable Li-ion battery that supplies power to both the recording unit and the head unit. The recording unit has several connectors and a power button and is controlled from Pro Glasses 3 controller application.

The recording unit consists of the following parts:

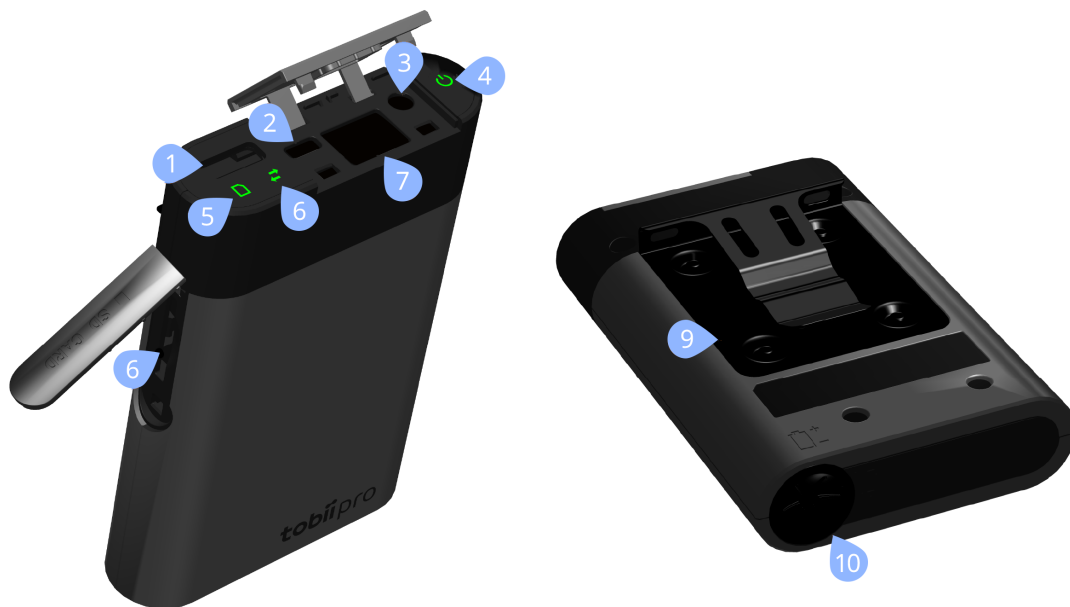


Figure 5. The recording unit

Part	Description
1. Head unit connector	Connects to the head unit cable
2. Micro USB connector	Connects to USB charger for powering the unit and charging the battery

3. 3.5 mm connector for data synchronization	TTL pulse for synchronization with external data sources
4. Power button and LED power indicator	Touch button that turns the recording unit on and off. LED power indicator indicates power state and remaining battery power
5. SD card Activity LED	Indicates if SD card is present and if the recording unit is currently saving data to the SD card
6. Connection status LED	Indicates connection to the head unit.
7. LAN port	Connects to a device running the Pro Glasses 3 controller application, via the supplied Ethernet cable. The recording unit can also be connected to a device via WLAN*.
8. SD card slot	Slot for SD card
9. Belt clip	Attaches the recording unit to participant's belt
10. Battery compartment	Holds the Li-ion battery

* Not available in the Tobii Pro Glasses 3 Live View Package



The Tobii Pro Glasses 3 system contains an external SD card reader for use with computers that are not equipped with an internal SD card reader. For installation instructions, see the documentation in the SD card reader's package or the manufacturer's website.

5 Tobii Pro Glasses 3 controller application

Tobii Pro Glasses 3 controller application runs on your Mac or Windows computer or your Android device. It is used to manage recordings made using the recording unit. Use it to:

- Manage participant information
- Manage recordings
- Show live view of the scene camera with gaze overlay
- Instant replay recordings
- Calibrate the eye tracker

Tobii Pro Glasses 3 controller application is optimized for easy and efficient data collection with Tobii Pro Glasses 3. The application also supports a basic replay functionality for qualitative observational analysis and for validation of recorded data. For more in-depth analysis, we recommend using Tobii Pro Lab. Learn more about Tobii Pro Lab at [Tobii.com](https://www.tobii.com).

5.1 Start Pro Glasses 3 controller application

When you start Tobii Pro Glasses 3 controller application, the following happens:

1. Agree to inform participants about the data collected per the eye tracking data transparency policy in the pop-up window.
2. Live video starts and the **Record** screen displays. You can immediately start a new recording or use the menu in the top left corner to open other menu items. Read more in [Pro Glasses 3 controller application menu](#).
3. On the **Recording mode** screen, you can view information about the selected glasses at the top or select any other connected glasses using the drop-down list.
4. The selected glasses are shown on a card on the right-hand side of the screen. Use the expander arrows to view more information about the glasses, including the recording mode and the firmware version.
5. Select the Recording mode you want to use.

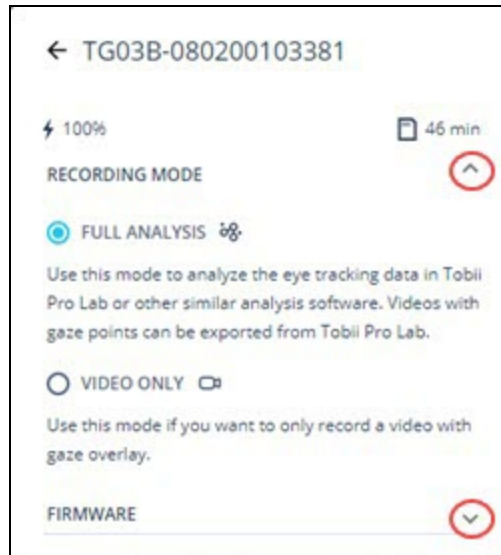


Figure 6. Use the expander arrows on the right to see the recording mode and firmware information.

5.2 Pro Glasses 3 controller application menu

Open the controller application menu by selecting the "hamburger" symbol in the top left corner. Close the menu by selecting the "X" when the list of menu options is showing.



Figure 7. Open the menu by clicking the "hamburger" icon

Use the controller application menu to navigate between the **Record** and **View Recordings** screens, as well as other functions. Read more about each menu item in the sections that follow this one.

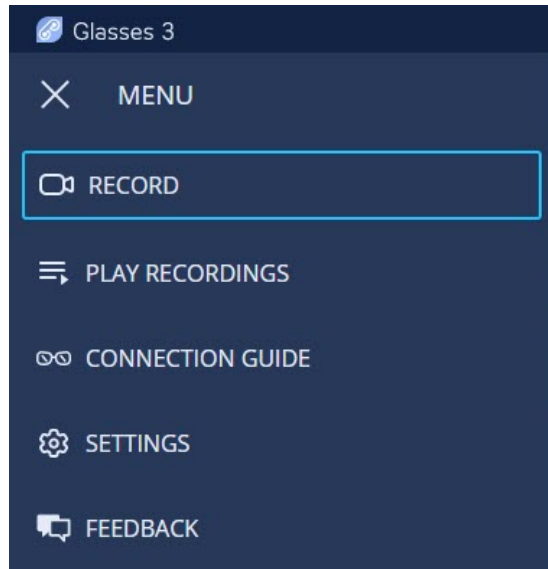


Figure 8. The controller application menu

5.2.1 Recording mode

Before starting a recording, you must select a recording mode. Full analysis mode is the default and recommended. This is done using the dropdown list of connected glasses at the top right of the **Record** menu.



Glasses recordings made *prior* to release 2021.2 will be classified as Full Analysis mode.

Full Analysis mode

This is the default mode. In Full Analysis mode, the Tobii Pro Glasses 3 video and gaze data is stored separately. Use this mode to analyze eye tracking data in Tobii Pro Lab or another similar analysis software. Video with gaze overlay can be exported from Pro Lab.

Video Only mode

Use Video Only mode if you want to record a video with *only* gaze overlay. It can be played with gaze overlay directly in any video player. In this mode, you can *not* import recordings into Tobii Pro Lab or other analysis software.



The recording mode can *not* be changed after the recording has started! Make sure to select the correct mode for your needs.

Read more about [Record](#).

5.2.2 Record

The **Record** menu displays the available recording units and is used to start a new recording and/or to stop an ongoing recording.

Select the glasses icon at the top right to view connected glasses from the expandable list. Each glasses card contains recording mode and firmware information.

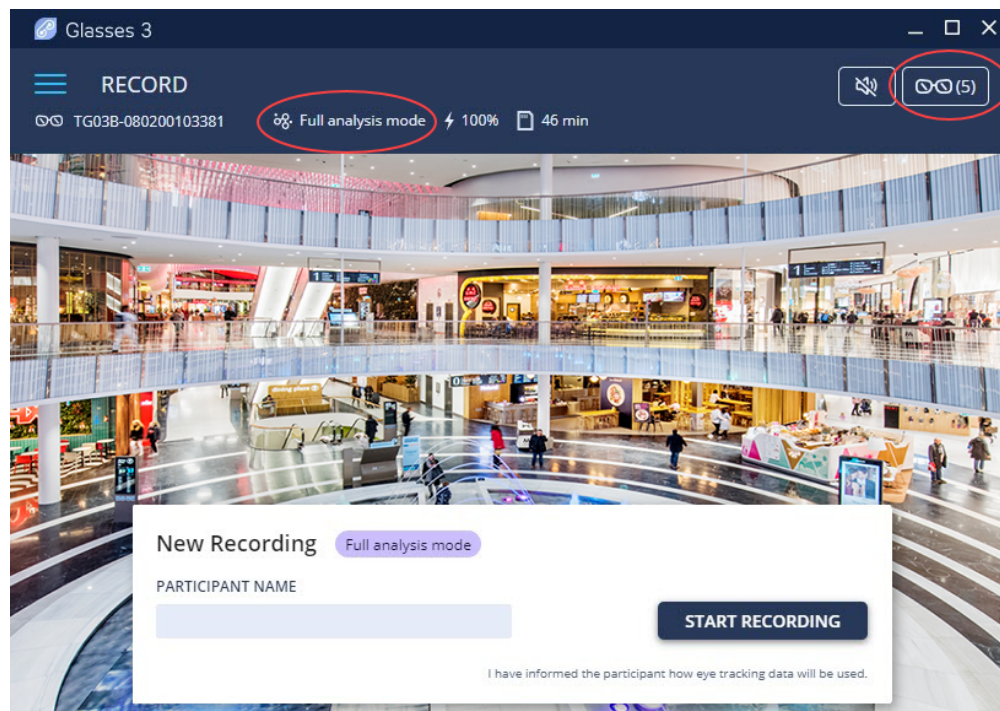


Figure 9. The Record menu

Read more about [Audio mode \(mute/unmute\)](#).

Read more about [Recording mode](#).

Read more about how to [Update the Tobii Pro Glasses 3 firmware](#).

5.2.3 Play recordings

Play Recordings in the controller application menu lists all of the recordings stored on the SD card of the connected recording unit. From this window, it is possible to play or delete a recording.



All video and eye tracking data is stored on the SD card inside the recording unit. This means that in order for the replay to work, the recording unit and the SD card that was used for recording must be connected to the device running Pro Glasses 3 controller application. For best performance, use a wired connection.

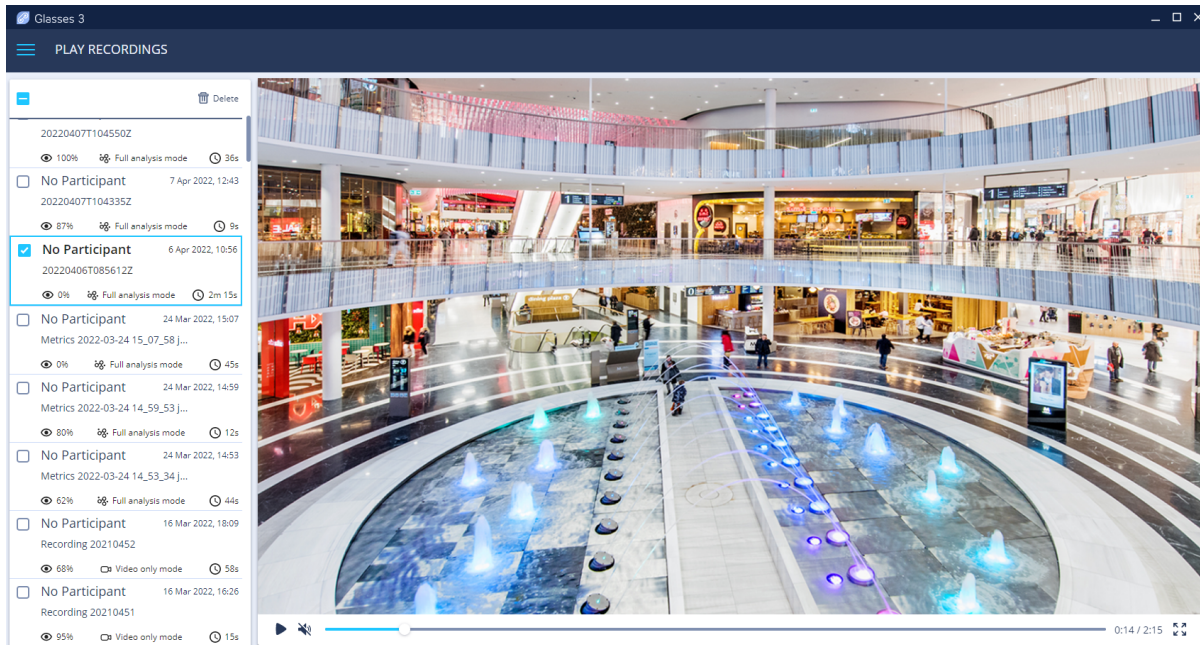


Figure 10. The Play Recordings window

Read more about how to [Work with recordings](#).

5.2.4 Connection guide

In order for Tobii Pro Glasses 3 controller application to send or receive information to or from the glasses, the recording unit and the device running the controller application must be connected to each other.

The **Connection Guide** in the controller application menu shows you how to connect the Tobii Pro Glasses 3 system.

This information can also be found in this user manual. Read [Connect the Tobii Pro Glasses 3 system](#).

5.2.5 Settings

The **Settings** option in the controller application menu contains calibration, language, privacy settings, and logs.

Calibration

Use the toggle switch to control the "success" and "failure" sounds during calibration.

Language

Select between English, Chinese, or Japanese.

Privacy

Toggle on or off sharing of anonymous usage statistics.

Logs

Tobii Customer Care may ask you to share logs to help troubleshoot an issue. Select the

More options menu at the top right to view or download the application log.

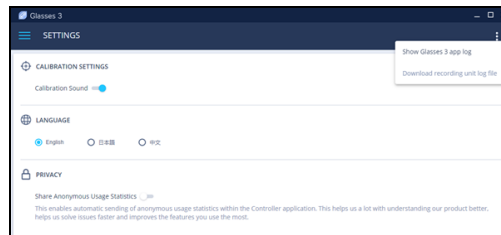


Figure 11. Settings

5.2.6 Feedback

Use the **Feedback** form to send us improvement suggestions.

6 Set up Tobii Pro Glasses 3

This section describes how to assemble and prepare the head unit and the recording unit, and how to download and install the Pro Glasses 3 controller application.

To get Pro Glasses 3 ready for use, follow the instructions in the sections below.

6.1 Prepare the head unit

Before using Tobii Pro Glasses 3, there are a few optional adjustments you can choose to make.

6.1.1 Attach a different nose pad

Tobii Pro Glasses 3 comes with four additional nose pads (2 x 2 different sizes) that can be attached to the built-in nose pad on the head unit. If necessary, use these to ensure that the Pro Glasses fits comfortably on the participant's face.

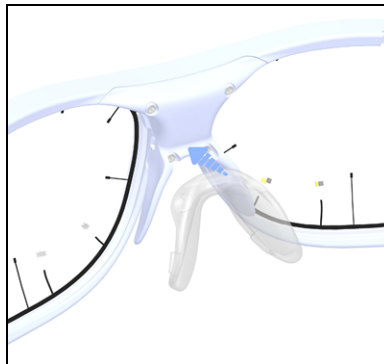


Figure 12. Push the top of the nose pad against the lip of the nose pad mount.

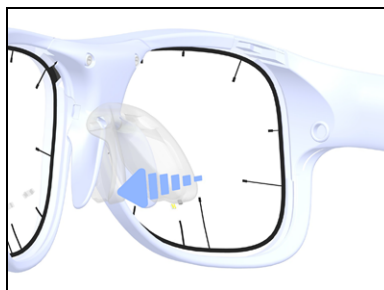


Figure 13. Holding the top of the nose pad in place, push the bottom of the nose pad onto the frame until you hear a click and it snaps into place

6.1.2 Remove the nose pad

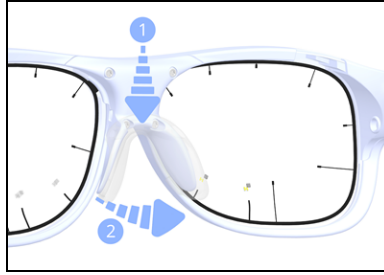


Figure 14. Remove the nose pad

To remove the nose pad, do the following:

1. Place your index finger on the top of the nose pad.
2. With your thumb and middle finger, gently squeeze the bottom tips together and pull the nose pad away from the bottom.

6.1.3 Prepare the Corrective Lenses (optional)

The Corrective Lenses is an optional accessory. Please see the Corrective Lenses User Manual for more information on attaching them to Pro Glasses 3.

6.2 Prepare the recording unit

Before making your recordings, you need to set up the recording unit and check for firmware updates.

6.2.1 Insert/remove the battery



Only use the rechargeable Li-ion batteries (type 18650, 3.6 volts) supplied by Tobii Pro in the recording unit.

How to insert the battery into the Pro Glasses 3 recording unit.



Figure 15. Insert the battery into the recording unit

1. Turn off the recording unit.



Wait until all LEDs are off before removing the battery or SD card. For more information, read [Recording unit status LEDs](#). It can take up to five seconds.

2. Press in the battery compartment cover and turn counter-clockwise. Stop pressing in the cover to release it and open the battery compartment.
3. Remove any partially or fully depleted battery and insert a fully charged battery.
4. Put the battery cover back on and lock it by pressing it in and turning it according to the markings on the cover.



Never insert batteries the wrong way in the recording unit as this may damage the device. The battery should be inserted with the positive end (+) at the top of the recording unit and the negative end (-) at the bottom.

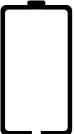
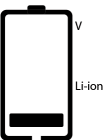
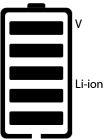
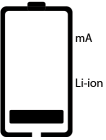
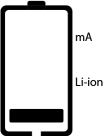


Never insert any other type of batteries than the Li-ion batteries (type 18650, 3.6 volts) supplied by Tobii Pro in the recording unit as this may damage the device permanently.

6.2.2 Charge the battery using the stand-alone battery charger

When charging recording unit batteries, use the supplied battery charger. Use only batteries supplied by Tobii Pro. Charging the battery inside the recording unit by using the USB charger should only be considered a backup solution.

1. Take out the battery charger that came with the Tobii Pro Glasses 3.
2. Pull down the bottom spring-tensioned tabs and insert rechargeable batteries with the positive end (+) at the top of the charger and negative end (-) against the bottom spring tab.
3. Plug the power cord into a standard AC outlet.
4. Check the charge of the inserted battery on the LCD screen.

	No battery is loaded OR the battery has been damaged OR the battery has been inserted upside down.
	Charging in progress with battery voltage displayed and capacity bar flashing.
	Fully charged (4.2 volts) as indicated by battery voltage display and the five solid bars in the battery.
	Charging in progress, normal speed (500mA/h)
	Charging in progress, high speed (1000mA/h).

5. Use the red buttons above the batteries to toggle between 500 mA (normal) and 1000 mA (high speed) charging. Note that high speed charging will reduce the cycle life and maximum deliverable capacity of the battery. We recommend to only use high speed charging if the situation demands it. Normal charging should always be used by default to extend battery life and capacity.
6. Remove the batteries and unplug the power cord when done charging.



The Tobii Pro Glasses 3 system includes rechargeable Lithium-ion batteries. Lithium-ion batteries can explode or cause a fire if they are used or charged incorrectly or if they are defective.



Do not short-circuit the battery. Do not expose the battery to water or humidity. Do not expose batteries to heat, direct sunlight, solder or fire. Immediately disconnect the batteries if, during operation, they emit an unusual smell, feel hot, change shape/dimensions, or behave abnormally. Do not use any defective batteries.



To recharge the batteries, use a battery charger specifically designed for the purpose and observe the recharging instructions specified by the manufacturer of the charger. Charge the batteries under supervision and do not place combustible materials close to or on top of the batteries or the charger, as this may result in overheating, explosion or fire.



Never install batteries backwards or attempt to charge non-rechargeable batteries in the battery charger.



Only use batteries supplied by Tobii.



Use the charger only as instructed.



High speed charging (1000 mA) reduces battery life and capacity. Use it sparingly.



Stop using the battery charger if the battery contacts, cord, or charger are/is dropped or damaged in any way.



Always disconnect the power supply and remove the batteries when charging is complete.



Do not attempt to charge with AC and car outlet at the same time.



Under no circumstances should the charger be dismantled, modified, or used for other purposes.



Keep the charger out of the reach of children.

6.2.3 Charge the recording unit battery using the USB cable

We recommend charging the batteries using the supplied, stand-alone battery charger. For more information, read [Charge the battery using the stand-alone battery charger](#). You should only charge a battery inside the recording unit with the supplied USB charger as a backup solution. If the recording unit is in use while it is being charged with the USB charger, the recording unit may become hot. If so, stop charging the battery immediately.

How to charge a battery inside the recording unit:

1. Take out the USB charger that came with the Tobii Pro Glasses 3.
2. With the battery inside the recording unit, connect the micro USB cable to the recording unit.
3. Plug the USB charger into a standard AC outlet.

4. Turn on the recording unit. After a short while the power LED on the unit will blink green while the battery is being charged.



Only use the USB charger and cable provided by Tobii Pro.

6.2.4 Working with SD cards

It's important that SD cards be handled correctly in the recording unit so that the data on the card does not get damaged.



Never remove the SD card from the Tobii Pro Glasses 3 recording unit while a recording is ongoing. Doing so corrupts any data being recorded.



Do not interchange SD cards used with Tobii Pro Glasses 2 with those used with Tobii Pro Glasses 3. This can result in lost data.



The recording unit only supports SD cards formatted as (recommended) exFAT or FAT32. Make sure any new SD cards are formatted to FAT32 or exFAT before inserting them in the recording unit.



SD card formatted with FAT32 has a file size limit of 4 GB. This means it is only possible to record videos somewhere between 45 min – 1 hour 45 minutes in length. The exact recording time differs depending on the light conditions during the recording. If you plan to record longer periods than 45 minutes, make sure the SD card used is formatted to exFAT.



Do not change the name of, or move, files and folders on the SD card. Doing so may make Tobii Pro Glasses 3 controller application and Tobii Pro Lab unable to find them.

Change an SD card in the recording unit



Please read the warnings in the [Working with SD cards](#) section in order to avoid any damage to your data.

How to change the SD card:

1. If the recording unit is on, make sure the SD card activity LED is **not** lit before removing the SD card. For more information, read [Recording unit status LEDs](#).
2. Open the SD card cover on the recording unit.
3. Release the SD card by firmly pressing and releasing the SD card inside the recording unit.
4. Remove the SD card.
5. Gently insert a new SD card into the SD card slot.



The contacts of the SD card must face towards the front of the recording unit.

6. Close the SD card cover.

6.2.5 Connect the head unit cable

The cable from the head unit connects to the recording unit as shown below.



Figure 16. Connect the head unit cable



Do not change the head unit while the recording unit is powered on.



If the head unit is disconnected from the recording unit after the system has booted, it is important to reconnect the *same* head unit in order for the eye tracking to be correct. If a different head unit is connected after the system has booted the hardware configurations for the system will be invalid and the eye tracking will not be correct.



If for any reason you wish to change the head unit, the system must be booted with the new head unit already connected to the recording unit.

6.2.6 Update the Tobii Pro Glasses 3 firmware

Tobii Pro periodically releases new updates of the Pro Glasses 3 firmware that improve performance and/or introduce new functionality. You can update the firmware via Pro Glasses 3 controller application. If the device is online, Pro Glasses 3 controller application displays a firmware information tab for each connected Glasses. A green indicator appears if new firmware is available.

Tobii Pro Glasses 3 can also be updated using an SD card with the new firmware. If this alternative is necessary, contact [Tobii Customer Care](#) for further instructions and to download the latest firmware.



Start the firmware update process with a fully charged battery.

How to update the recording unit firmware:

1. Make sure the device running the controller application is connected to the recording unit and that the recording unit is turned on.
2. In the controller application menu, select the glasses icon to display a list of connected glasses. Expand the firmware tab for the selected glasses. A green symbol means a firmware update is available.

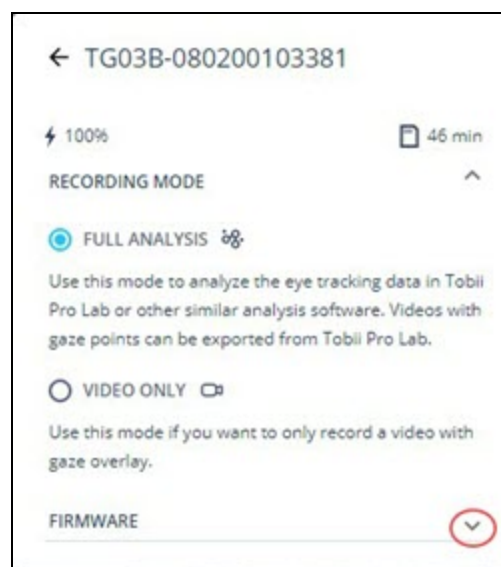


Figure 17. Expand the firmware tab for the selected glasses

3. Select **Upgrade Firmware**.
4. Follow the instructions on your screen.
5. During the firmware upgrade process, Tobii Pro Glasses 3 will disconnect from your device and the recording unit will continue updating on its own. Please leave the recording unit alone/uninterrupted and allow up to 15 minutes (or until the LED indicator lights become static) for this process to complete safely.
6. Once finished, turn off and then turn on the recording unit, and connect it to your device again to verify the new firmware version.



Tobii Pro Glasses 3 needs to be periodically connected to the internet in order to receive timely firmware updates.

6.3 Install and Update Tobii Pro Glasses 3 controller application

Pro Glasses 3 controller application is designed to be installed on specific operating systems. Read more in [Pro Glasses 3 controller application requirements](#).

6.3.1 Download and install the controller application for Windows and Mac

A QR code containing the download link to the installer for Tobii Pro Glasses 3 application controller is in the Tobii Pro Glasses 3 carrying case. Alternatively, the latest version of the controller application can be downloaded from [Tobii Connect](#). For best performance, check for application updates frequently and install available new releases.

To install the controller application, do the following:

1. Download the Tobii Pro Glasses 3 controller installer.
2. Select the installer file.
3. Follow the on-screen instructions to install the file.
4. To launch the controller application, select the Glasses 3 icon on your desktop.



Tobii Pro Glasses 3 controller application uses the following ports to communicate with the recording unit: 5353 (udp), 80 (tcp, http). Please make sure to allow the application to use these ports in the firewall.



We recommend you don't install any antivirus software on your device because these might block communication between your device and the Tobii Pro Glasses 3. For best performance, also avoid installing any application that relies on constant internet access such as communication or media software.

6.3.2 Download and install the controller application for Android

To install Pro Glasses 3 controller application for Android, do the following:

1. Open Google Play™ on your Android device.



If you do not have access to the Google Play store on your device, Tobii Pro Glasses 3 controller can be downloaded directly from [Tobii Connect](#).

2. Search for Glasses 3. It is published by Tobii AB.
3. Select **Install**.



To get the latest updates of the controller application, allow **Auto download over Wi-Fi** in the settings for your Android device. This can be found under **Settings > Software update**.

6.3.3 Update the controller application

When a new version of Tobii Pro Glasses 3 controller application is available, there is a notification symbol at the top of the controller screen when the device is online.

How to update the controller application:

1. Select the notification symbol.
2. Select **Release Notes** and read the release notes.
3. Select **Update**.
4. Follow the instructions on your screen.

6.4 Connect the Tobii Pro Glasses 3 system

In order for Tobii Pro Glasses 3 controller application to be able to send or receive information to or from glasses, the recording unit and the device running Tobii Pro Glasses 3 controller application must be connected to each other. The connection can either be established using Wi-Fi or a cable or router connection (read more below). A device running the Tobii Pro Glasses 3 controller application connects to it the same way that a computer connects to a network.



Tobii Pro recommends closing the controller application before changing connection types.



Under no circumstances should the computer running the controller application connect to the same recording unit using both a wireless and a wired connection at the same time. Connecting using more than one connection type to the same recording unit can cause loss of data. Read more in the Tobii Connect article [Can I connect Tobii Pro Glasses 2 or 3 via WLAN and Ethernet cable at the same time?](#)



To connect using a cable or router, the controller application must be used with a Windows device.

6.4.1 Connect via Wi-Fi (Access Point)



How to connect the glasses to Tobii Pro Glasses 3 controller application via Wi-Fi:

1. Connect the recording unit to the head unit.
2. Turn on the recording unit.
3. Go to the Wi-Fi settings on your device that has Tobii Pro Glasses 3 controller application installed:

- a. If using a Windows computer, click the network icon in the bottom right of the screen.



Networks settings on the computer must be set to *Obtain an IP address automatically* for the connection to work correctly. Most computers have this as the default setting.

- b. If using an Android device, navigate to **Settings** and select **Network & Internet**.

4. Wait for the list of available Wi-Fi networks to appear. This might take a few minutes to complete.
5. Select the Wi-Fi network name that corresponds to “TG03B-serial number” and click **Connect**.



The serial number is located on the label on the back of the recording unit.



Figure 18. Locate the serial number on the back of the recording unit

6. Enter the Wi-Fi password **TobiiGlasses** into the network security field and click **Next**.
7. Confirm that the recording unit now appears in the list of connected Glasses units in the controller application.



Tobii Pro Glasses 3 supports 802.11 a/b/g/n Wi-Fi standard [also known as Wi-Fi 1(a),2(b),3(g),4 (n)]. Most adapters automatically detect a device's supported Wi-Fi standard when they are set to automatic.



Wi-Fi 802.11ac and Wi-Fi 5 standards are not supported.

8. Tobii Pro Glasses 3 is now connected.

6.4.2 Connect using a cable (Direct)



How to connect Pro Glasses to Tobii Pro Glasses 3 controller application using an Ethernet cable:



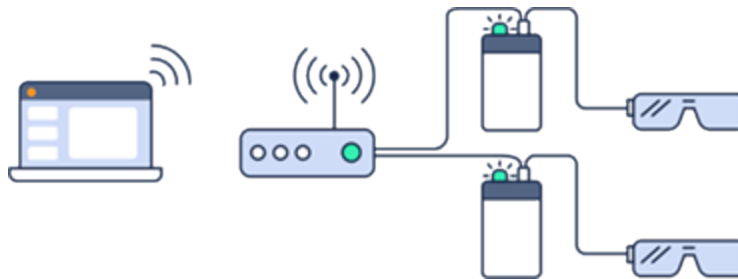
To connect using a cable, the controller application must be used with a Windows device.

1. Locate the LAN port on your computer, or install a USB Ethernet adapter if there is no available Ethernet port.
2. Disable the Wi-Fi (if connected). Some laptops have a physical button specifically for turning on/off Wi-Fi. Alternatively, go to the Wi-Fi settings to turn it off.
3. Turn on the recording unit.
4. Connect the Ethernet cable to the LAN port on the computer and to the recording unit's LAN port. When the network is established, the glasses will appear in the list of available glasses in the controller application. This can take up to a few minutes.
5. Tobii Pro Glasses 3 is now connected.



The connection is lost if the Ethernet cable is unplugged or if the computer or the recording unit is turned off. When there is no connection between the controller application and the recording unit, the glasses control panel displays *Disconnected*. The connection is re-established when the Ethernet cable is reconnected.

6.4.3 Connect using a router



How to connect the glasses to the controller application using a router:



To connect using a router, Tobii Pro Glasses 3 controller application must be used with a Windows device.

1. Connect your computer to the router via Wi-Fi or a cable.
2. Turn on the recording unit.
3. Connect the cable from the recording unit to your router.
4. Tobii Pro Glasses 3 is now connected.

7 Recording

Pro Glasses 3 recordings are initiated from the Pro Glasses 3 controller application on your device. Before you start or stop a recording, make sure the recording unit is correctly connected over WLAN or Ethernet to your device with Pro Glasses 3 controller application .

7.1 Before recording with the Tobii Pro Glasses 3 system

The following steps are necessary before starting to make a recording.

7.1.1 Fit the head unit

Before fitting the head unit to the participant, ensure the following:

- All optical parts, such as eye tracking cameras and IR illuminators are clean and undamaged
- Pro Glasses 3 controller application is running on the connected device
- The recording unit is switched on
- The **RECORD** screen shows a connection between the controller application and the recording unit

How to fit the head unit

1. Fit the head unit on the participant. For more information, read [Prepare the head unit](#).



Use the head strap to secure the head unit on the participant's head. This will reduce the risk of the head unit falling.

2. Check that the glasses fit comfortably and securely.
3. Check that the glasses are correctly positioned on the participant's head with their eyes positioned in the center of the lenses.
4. If the glasses are not positioned correctly, change the nose pad. See [Attach a different nose pad](#).
5. Secure the head unit cable to the participant's clothes using the Clip.
6. Attach the recording unit to the participant, usually either on the belt or waistband, or in a back pocket.



The recording unit can become warm during use. Do not place the recording unit in direct skin contact with the participant.

7.1.2 Turn the recording unit on and off

How to turn on the recording unit



Figure 19. Turn on the recording unit

1. Make sure the head unit and recording unit are properly connected to one another.
2. On the recording unit, press and hold the power button until the Connection Status LED and the SD card Activity LED flash green. This can take up to five seconds.



Do not unplug the head unit while the recording unit is powered on. If you need to turn the head unit on after accidentally unplugging it, turn off the recording unit before plugging in the head unit again.

If the head unit is disconnected from the recording unit after the system has booted, it is important to reconnect the *same* head unit in order for the eye tracking to be correct. If a different head unit is connected after the system has booted, the hardware configurations for the system will be invalid and the eye tracking will not be correct.



If for any reason you wish to change the head unit (the glasses), the system must be booted with the new head unit already connected to the recording unit.

How to turn off the recording unit

1. On the recording unit, press and hold the power button. This process can take up to 5 seconds.
2. Wait for the LEDs to stop blinking and turn solid red. Then release the power button.
3. Wait for all three LED indicators to turn off completely.



For more information on the indicator LEDs and what they mean, read [Recording unit status LEDs](#).

Recording unit status LEDs

There are three LED indicators on the recording unit: the Power Indicator, the Connection Status, and the SD card Activity.

The image below illustrated the different meanings of the recording unit's status LEDs. When lights are blinking yellow, a message will also display on Pro Glasses 3 controller application.

Power Indicator		SD Card Activity	
Status	LED	Status	LED
Recording unit is ready to be powered on	 LED off	Recording unit is ready to start recording. The SD card can be removed	 Solid green
The recording unit is powered on. ~30-100% of battery power is remaining	 Solid green	There is 15 minutes or less of recording time left on the SD card	 Solid red
The recording unit is powered on. ~10-29% of battery power is remaining (approx. 15 minutes)	 Solid red	There is less than 5 minutes of recording time left on the SD card	 Blinking red
Battery charge is critically low, approx. 5 minutes or less remaining. (User must replace the battery. The recording unit will stop the recording immediately.)	 Blinking red	There is an error with the SD card and it cannot be written to	 Blinking yellow
The battery inside the recording unit is charging via the USB port	 Blinking green		

7.2 Make a recording

How to make a recording (click an orange link to learn more):

1. [Start Pro Glasses 3 controller application](#).
2. Confirm the License Agreement (first time only) and the Data Transparency agreement.
3. Navigate to the Record screen (using the menu) if it is not already open.
4. Confirm the [Recording mode](#) (Full Analysis or Video Only) which is listed for the current Glasses 3 at the top.

You can see more information and/or select a different glasses (if there is more than one connected) from the drop-down list. Select the cogwheel icon on the glasses card on the left to see the Recording Mode expandable tab.



You can also change the recording mode in the new recording dialog by selecting the displayed recording mode next to "New Recording." This opens the selected glasses card.

5. [Add a new participant](#) .
6. Toggle on/off [Audio mode \(mute/unmute\)](#) during the live recording.



Muting/Unmuting does not affect the audio that is recorded and saved on the SD card.

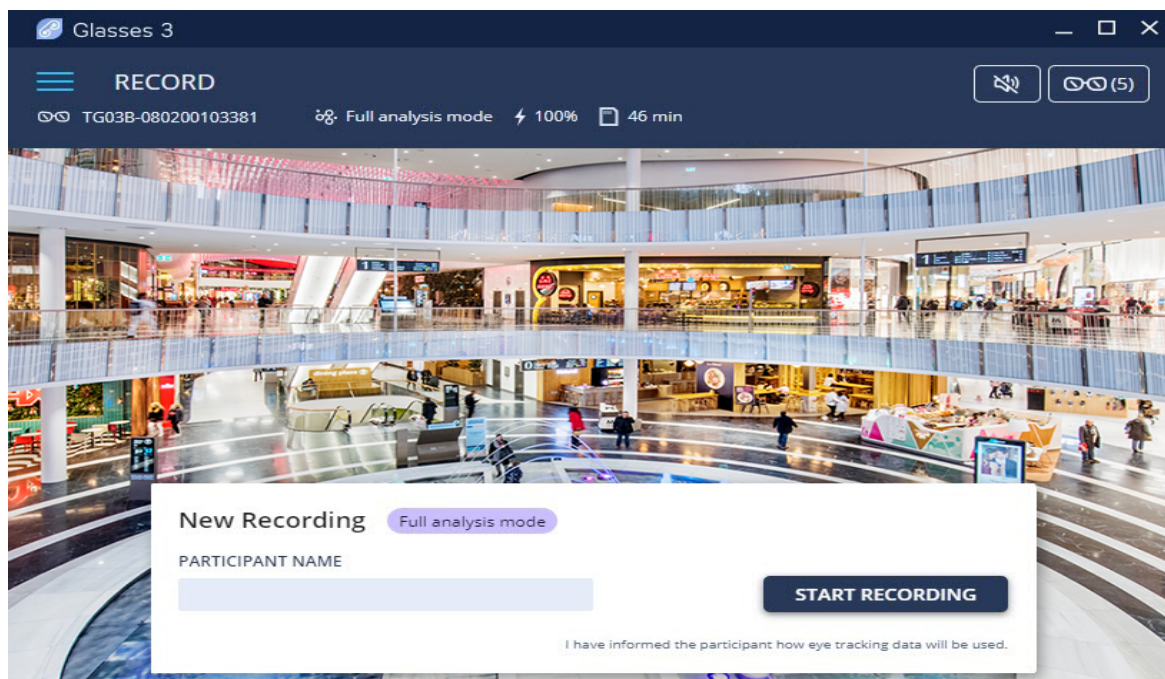
For more information about the SD card and recordings, read [Work with recordings](#)

7. Select the **New Recording** button.
8. [Calibrate](#) the head unit.
9. [Start the recording](#).
10. [End the recording](#).

7.2.1 [Add a new participant](#)

How to add a new participant:

1. Start Tobii Pro Glasses 3 controller application.
2. The **Record** window opens. (Select it from the menu if it is not showing.)



3. Select the glasses you want to use (if there are multiple connected glasses). Make sure the desired recording mode is selected.
4. Enter the participant's name into the text field at the bottom of the screen.
5. Select the **Start Recording** button.

7.2.2 Audio mode (mute/unmute)



Figure 20. Muting/Unmuting does not affect the recorded audio

You can toggle on and off hearing the audio during the live recording. Unmuting allows you to listen to audio recorded with the Tobii Pro Glasses 3 microphone.



Muting/Unmuting does not affect the recorded audio which is still saved on the SD card.

7.3 Calibration

To collect accurate eye tracking data, Tobii Pro Glasses 3 must be calibrated individually for each participant. During the calibration process, the participant must wear the head unit and focus their gaze on the center of the calibration card.

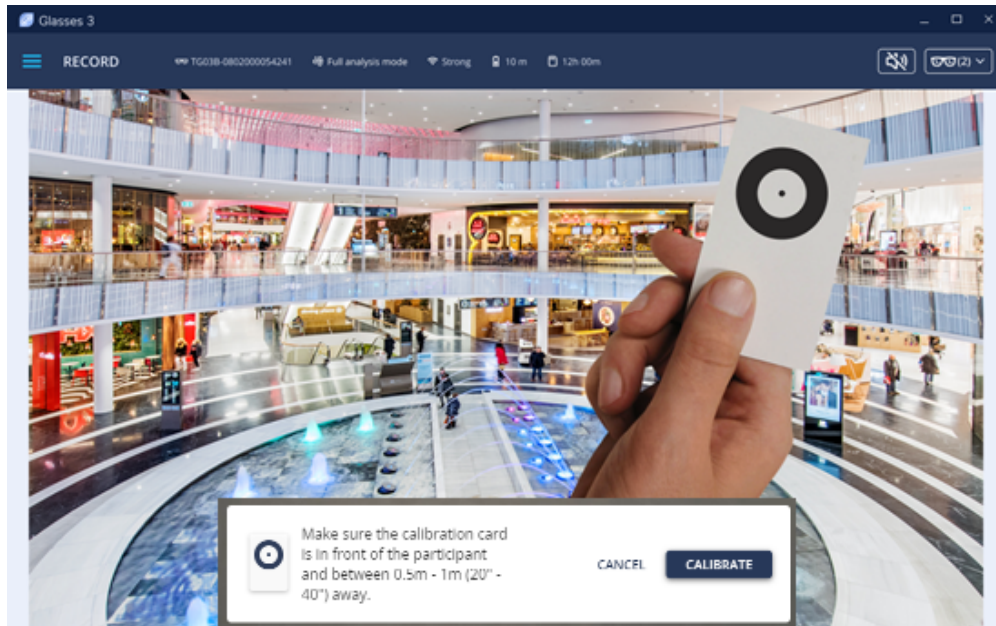


You can turn on and off the calibration sound using Settings in the controller application menu.

The **red circle** (gaze target) shows what the participant is focusing their eyes on. Before calibration the gaze target will not accurately show where the participant is focusing.

The **green circle** (calibration marker) shows what the calibration is tracking.

1. Hold the calibration card facing the participant at about arm's length, 0.5 to 1 m (20" – 40").



Make sure that the calibration card is visible in the scene camera **Record** screen.



The calibration card is not required to be in the center of the scene camera view. Hold the calibration card in the area of the view where you want the most accuracy.

2. Ask the participant to focus on the center of the calibration card. The green calibration marker should be stable and centered around the calibration card.



Keep the calibration card completely still during the calibration process.

3. Select the **Calibrate** button.
4. When the calibration is complete, a "success" sound chimes and you will see an on-screen confirmation.
5. If the calibration was unsuccessful, you will hear an "error" sound and you will see an on-screen error message. To fix this, repeat steps 1 to 4. For more information, read [Troubleshoot calibration](#).
6. Verify the calibration. Ask the participant to focus on a known object and check that the gaze indicator in the live view matches what the participant focuses on. You can re-use the calibration card if there is no obvious thing to focus on. Check that the gaze indicator in the live view matches what the participant is focusing on.

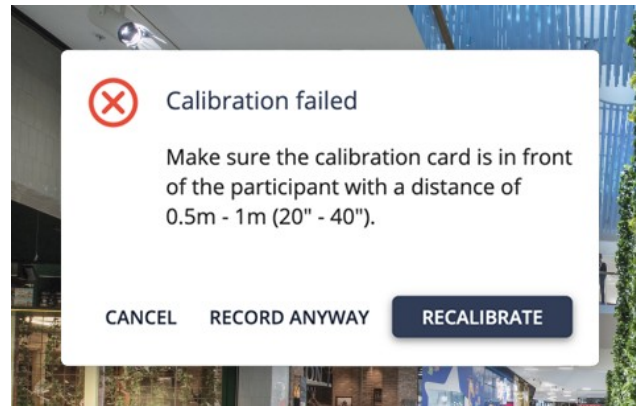


Tobii Pro does not recommend making a recording without a confirmed calibration.

7.3.1 What calibration does

The human eye shows a natural individual variation in its shape and geometry. For example, the exact location of the fovea, the area responsible for the part of the visual field that we perceive in focus and full color, varies from individual to individual. Tobii Pro eye trackers use an individual calibration procedure to optimize their gaze estimation algorithms (i.e. the 3D eye model) and account for this variation. The end result of this optimization is a fully customized and more accurate gaze point calculation.

7.3.2 Troubleshoot calibration



If you are having trouble getting the calibration to work, check the following:

- The participant should focus on the calibration card before you start the calibration.
- Direct sunlight and devices that emit IR light (eg. halogen lights) may interfere with the eye tracking sensors. Avoid using the Pro Glasses 3 in direct sunlight or near other IR sources. Tobii Pro sells tinted IR Blocking Lenses that can be used when testing is required to be done in such environments.
- Avoid flickering light sources.
- Make sure there are no other objects visible in the scene view that look similar to the calibration card. The green calibration marker should follow the calibration card and not jump around in the scene view.
- Too dark or too brightly lit environments can also cause trouble with the calibration. Try making the calibration in another room or area with different lighting conditions.
- The distance between the eye tracking cameras and the eye can affect the calibration and tracking quality. Try fitting the glasses with the alternative nose pads to change the distance.

7.4 Start the recording

After [Calibration](#), select **Record** at the bottom of the window to start the recording. A timer displays to indicate that the recording has started.



Every new recording should start with a calibration for best results. Read more about [Calibration](#).

7.5 Create events while recording (beta)



This functionality is in a testing phase and will be developed further.

During recording (after selecting **Play**), you can create a time-stamped event by selecting the **New event** button at the bottom right of the recording window. A pop-up message confirms you have created an event. You can continue to add new events by repeating the process.

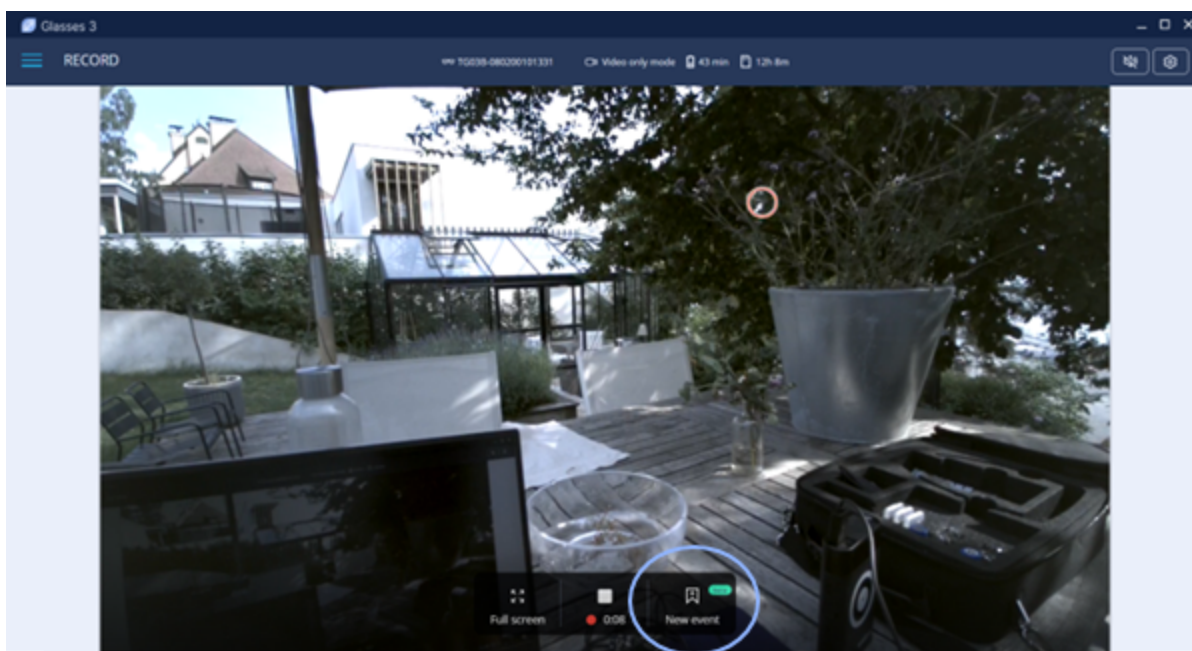


Figure 21. Create a new event after starting the recording

Read more about [Events \(beta\)](#) and how to [Add events to recordings on the SD card \(beta\)](#).

7.6 End the recording

Recordings in progress can only be stopped when the recording unit is connected to the device running Pro Glasses 3 controller application. To stop the recording, do the following:

1. Select the **Stop** button at the bottom of the screen.
When you stop the recording, a pop-up displays information about the recording including the participant name, gaze coverage and duration. From here you can also navigate to View Recordings and view the newly created video.

2. In the pop-up window, select **Stop** to confirm the command.



The recording is still ongoing until you select **STOP**. To continue the recording without stopping, select **Continue Recording**.

3. To view the new recording, see [Work with recordings](#).

7.7 Work with recordings

7.7.1 Locate and play a recording (Full Analysis mode)

Recordings made using Full Analysis mode in Pro Glasses 3 controller application are located on the SD card. Recordings are located and accessed from the Recordings list in the controller application menu. Read more about the menu options in [Pro Glasses 3 controller application menu](#).



Playback only works when the recording unit is connected to the device with Pro Glasses 3 controller application.

1. Select **Play Recordings** in the controller application menu.
2. In the menu, select a recording card to select the one you want to replay.

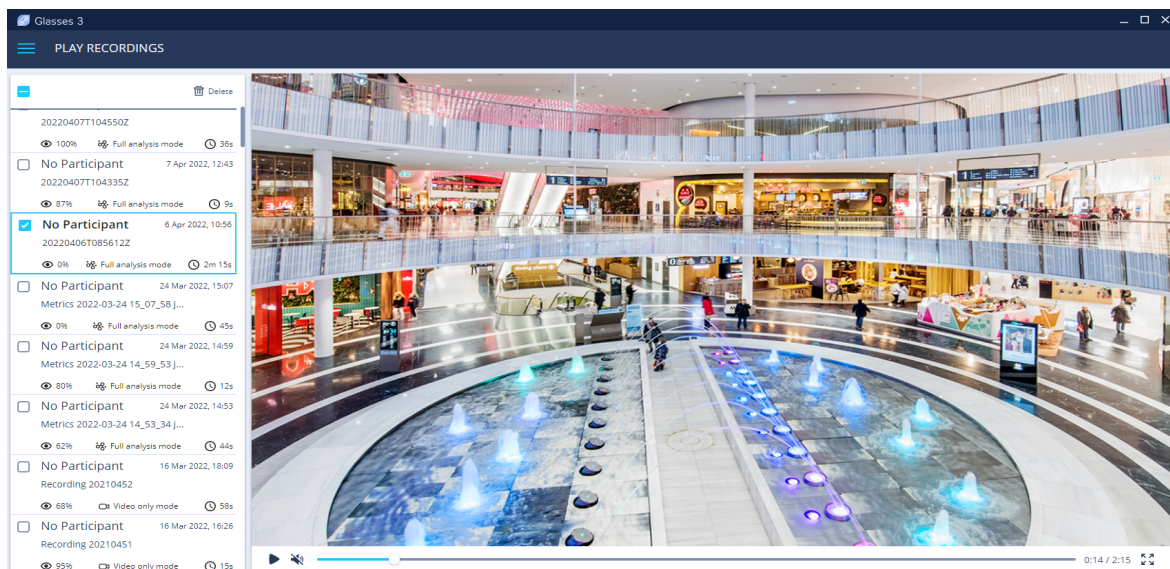
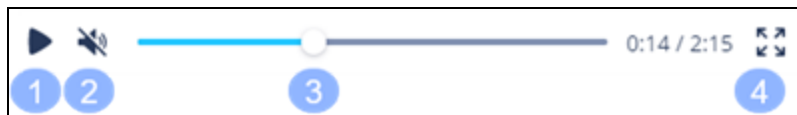


Figure 22. Select the recording you want to replay

3. The video plays when you click the recording card or you can click anywhere on the playback screen to play or pause the playback. Use the tools at the bottom of the recording screen as shown in [Playback functions in the Play Recordings screen](#).

-  A weak or low quality WLAN signal might decrease the quality of, or even interrupt, the live viewing video in Pro Glasses 3 controller application or disconnect the recording unit from the device. The best possible live viewing quality is achieved when you use an Ethernet cable to connect to the recording unit.
-  The live view audio is muted by default. Avoid audio feedback; it may occur if the Pro Glasses 3 head unit is too close to the device you use for Live View.
-  Video/Audio and eye tracking data is stored only on the SD card inside the recording unit, not on the Pro Glasses 3 controller application device. To replay a recording, the recording unit with the SD card used during the recording must be connected to Pro Glasses 3 controller application.

7.7.2 Playback functions in the Play Recordings screen



1. Adjust or mute volume	3. Playback progress bar
2. Playback time/total time	4. Full screen mode

-  Select anywhere in the recording screen to pause and start the recording.

7.7.3 Download a recording (Video mode)

Recordings made using Video mode in Pro Glasses 3 controller application are located on the SD card. You can save the MP4 output file to your computer and play it in a media player.



1. Select the **Download** button.
2. Follow your system's prompts for saving the file locally.
3. Use any MP4 media player to play the recording.

7.7.4 Events (beta)



This functionality is in a testing phase and will be developed further.

Time-stamped events can be created during recording or added when replaying a recording. To view the list of events (if applicable) select **Play Recordings** in the main menu. Each recording has a list of Events in a separate tab. When you replay the recording, the events are shown on the timeline under the recording.

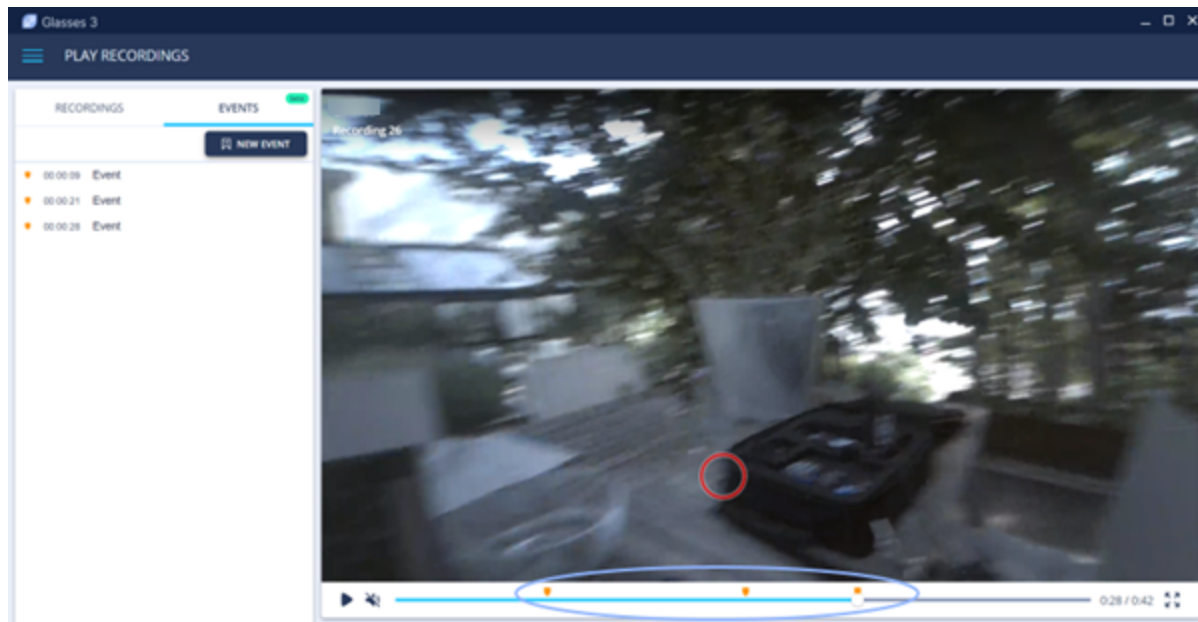


Figure 23. Event markers shown on the timeline while playing the recording

Read more about how to [Create events while recording \(beta\)](#), [Add events to recordings on the SD card \(beta\)](#) and [How to delete an event \(beta\)](#).

Add events to recordings on the SD card (beta)



This functionality is in a testing phase and will be developed further.

During replay of recordings, you can add time-stamped events *while the recording is still on the SD card*. Read more about [Working with SD cards](#).

How to add a new event:

Choose **Play Recordings** in the main menu. Each recording has a list of Events in a separate tab. Select the button **New Event**.

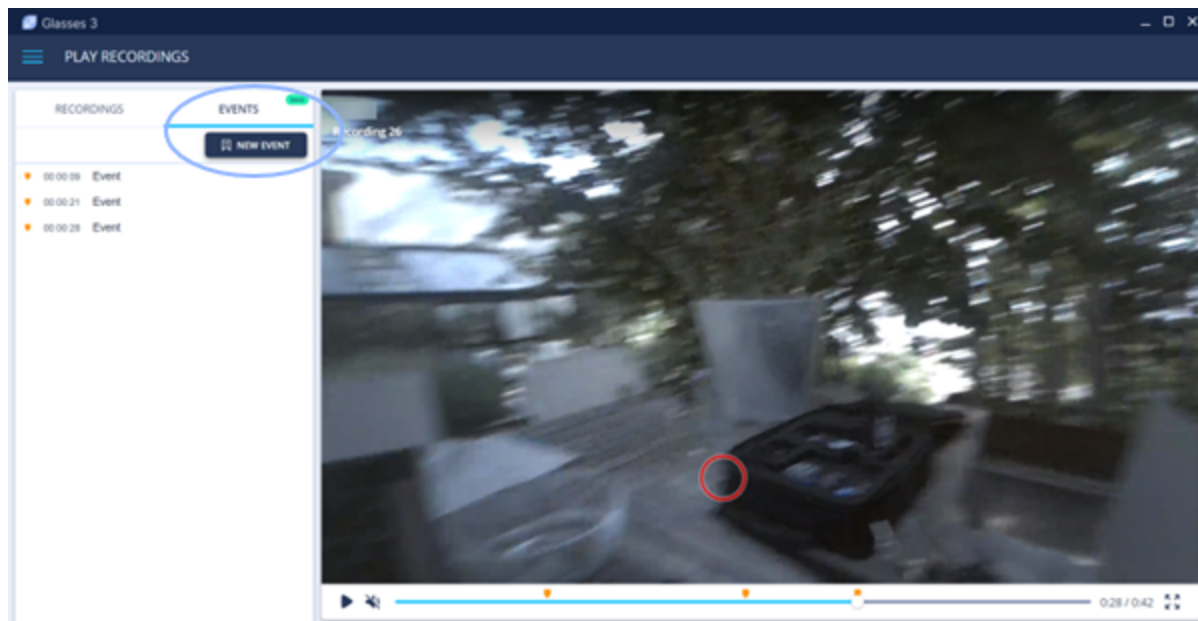


Figure 24. You can add a new event during replay of the recording

Read more about [Events \(beta\)](#) and how to [Create events while recording \(beta\)](#) or [How to delete an event \(beta\)](#).

How to delete an event (beta)



This functionality is in a testing phase and will be developed further.

Select an event and then use the **More options** menu to the right of its name to delete that event.

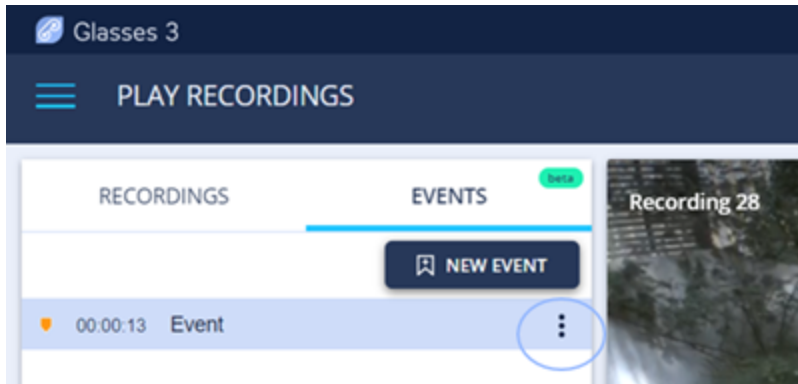


Figure 25. Use the More Options menu to delete an event

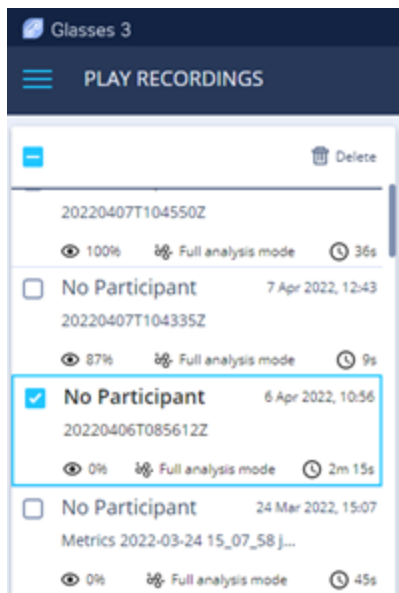
Read more about how to [Create events while recording \(beta\)](#) and [Add events to recordings on the SD card \(beta\)](#).

7.7.5 Delete a recording

When you delete recordings, the recording unit with the associated inserted SD card must be connected to the controller application.

How to delete a recording:

1. Select **Play Recordings** in the sidebar menu.
2. Select the check box to the left of each recording you wish to delete.
3. Select the **Delete** symbol in the top right corner of the menu.



4. In the pop-up window, select **Delete** to confirm the deletion. Select **Cancel** to cancel the action and return to the previous window.



To select all recordings in the side menu, click the check box at the top left of the list of recordings.

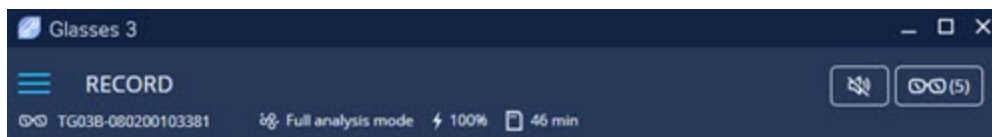
7.8 Additional operations

7.8.1 Display the Tobii Pro Glasses 3 properties

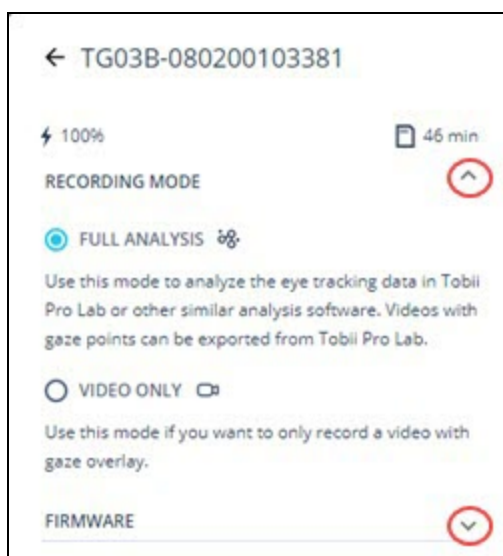
Every recording unit has unique device name, serial number, etc. This information is accessible through Tobii Pro Glasses 3 controller application.

How to display the recording unit properties:

1. In the controller application, select the desired recording unit from the **Record** screen. If there is more than one connected glasses, click the dropdown list next to the glasses icon on the top bar.
2. The information about the selected recording unit displays at the top of the screen, including the recording mode, the remaining battery time, and the amount of time left on the SD card.



3. You can view information about each connected glasses by expanding the list and selecting it. Expand the tabs to see Recording mode and Firmware information.



7.8.2 Pro Glasses 3 API

Pro Glasses 3 uses a REST API intended for developers that want to integrate with third party solutions. For high level information on the functionality of the API and how to use it, please refer to the Pro Glasses 3 Developer Guide, available on [Tobii Pro Connect](#).

To use the API and get specifics about its commands and operation (built-in documentation), open the API in the Pro Glasses 3 browser.

8 Product care

8.1 Operational environment

The recommended range for temperature and humidity during operations is as follows:

- **Temperature:** -5°C to 45°C (32°F to 113°F)
- **Humidity:** 5% to 95%

ETSI 300 019-2-7 V3.0.1, Portable T7.2 (Partly temperature-controlled locations).

8.2 Transportation

Use the provided case when traveling with the eye tracker. For shipping and storage, use the original packing.

For transportation, the recommended range for temperature and humidity for the device is as follows:

- **Temperature:** -40°C to 65°C (-40°F to 149°F)
- **Humidity:** 5% to 95%

ETSI 300 019-2-2 V2.4.1, T2.3 (Public transportation) with exception of high air temperature at +65°C.

8.3 Storage

For shipping and storage, use the original packing.

For storage, the recommended range for temperature and humidity for the device is as follows:

- **Temperature:** -25°C to 55°C (-13°F to 131°F)
- **Humidity:** 5% to 100%

ETSI 300 019-2-1 V2.3.1, T 1.2 (Weather protected, not temperature-controlled storage locations).

8.4 Cleaning



Avoid touching, scratching, or smudging the lenses on the head unit and/or the Corrective Lenses (optional accessory) and keep all the surfaces clean. Eye tracking quality may be degraded if surfaces are dusty or damaged. Take special care to ensure that there are not smudges or scratches covering either the illuminators or sensors in the lenses as these can impair performance.



Do not use window cleaners, household cleaners, aerosol sprays, solvents, alcohol, ammonia, or abrasives on any component of the Tobii Pro Glasses 3 system.



Before cleaning the glasses, unplug the head unit cable.



Use the included cleaning cloth and clean the glass lenses gently.



Avoid getting moisture in openings and ports on the device.

8.5 Disposal of the eye tracker

Do not dispose of your Tobii Pro eye tracker in general household or office garbage receptacles. Follow your local regulations for the proper disposal of electrical and electronic equipment.

9 Technical Specifications

9.1 Eye tracking

Eye tracking technique	Corneal reflection, dark pupil, stereo geometry
Binocular eye tracking	Yes
Sampling rate	50 Hz or 100 Hz
Calibration procedure	One point
Accuracy	0.6°
Parallax compensation tool	Automatic
Slippage compensation	Yes, 3D eye tracking model
Pupil measurement	Yes, absolute measure
Gaze recovery time	1 frame (immediate)
Blink recovery time	1 frame (immediate)

9.2 Head unit

Material	Grilamid plastic, stainless steel, optical grade plastic
Nose pad	Grilamid plastic, with clip on attachments
Scene camera, video resolution	1920 × 1080 at 25 fps
Scene camera, video format	H.264
Scene camera, field of view (diagonal)	106 deg. 16:9 format
Scene camera, field of view (horizontal and vertical)	95 deg. horizontal / 63 deg. vertical
Weight	76.5 grams including cable
Frame dimensions (width × depth × height)	153 × 168 × 51 mm
Cable length	1200 mm
Audio	16 bit mono, integrated microphone
Design characteristics	Light weight and discreet
Number of eye tracking sensors	4 sensors (2 per eye)
Fixed geometry	Yes
Sensors	ST™ LSM9DS1 sensors: Gyroscope and Accelerometer (sampled at 100Hz); Magnetometer: (sampled at 10 Hz)
Input voltage and current rating	5.5Vdc max, 0.5A

9.3 Recording unit

Battery recording time	105 min.
Battery type	Rechargeable 18650 Li-ion, Capacity: 3 400 mAh
Storage media	SD (SDXC, SDHC) card

Connectors	Micro USB, RJ45 (Ethernet), 3.5 mm jack (sync port), head unit connector
Dimensions (height x width x depth)	130 x 85 x 27 mm
Weight	312 grams
Sync Port	3.5 mm jack (TTL signal)

10 Compliance information

10.1 Australia and New Zealand compliance



The RCM (Regulatory Compliance Mark) label signifies compliance with the Australian and New Zealand product safety requirement for electrical and electronic equipment according to EESS and radio communication and electromagnetic compatibility according to ACMA.

Tobii Pro Glasses 3 is registered at the Australian National Equipment Registration System.

10.2 China compliance

The Tobii Pro Glasses 3 recording unit and its operation comply with the following standards:

- GB 4943.1-2011 (Chinese Standard)

10.3 EU Compliance

10.3.1 Conformity with EU directives

Tobii Pro AB declares that this device is in compliance with the essential requirements of the following EU directives:

- 2014/35/EU Low Voltage Directive (LVD)
- 2014/30/EU Electromagnetic Compatibility (EMC) Directive
- 2014/53/EU Radio Equipment (RED) Directive
- 2011/65/EU Restriction of Hazardous Substances (RoHS) Directive

10.3.2 CE marking



All Tobii Pro Glasses 3 are CE-marked, indicating compliance with the essential health and safety requirements set out in European Directives.

10.3.3 WEEE marking



Pro Glasses 3 is compliant with the Waste Electrical and Electronic Equipment (WEEE) Directive 2012/19/ EU

10.4 Japan compliance

The Tobii Pro Glasses 3 recording unit and its operation comply with the following standards:

- J60950-1(H22) (Japanese Standard)

The Pro Glasses 3 head unit complies with:

- J62368-1(H30) and IEC 62368:2014 2nd Edition



この装置は、クラスB機器です。この装置は、住宅環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

VCCI — B

The Pro Glasses 3 recording unit complies with:



R 201-150060

- Telefication, certification number 201-150060

10.5 Korea compliance



The KC (Korea Certification) mark signifies compliance with Korea's product safety requirements for electrical and electronic equipment and is issued by Korea-based certification bodies that have been approved by the Korea Standards Association.

10.6 United States and Canada compliance

10.6.1 FCC interference and Industry Canada statement



Pro Glasses 3 recording unit has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Tobii Pro Glasses 3 can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If Tobii Pro Glasses 3 does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by increasing the separation between Tobii Pro Glasses 3 and the receiver. Modifications not expressly approved by Tobii Pro AB could void the user's authority to operate the equipment under FCC rules.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

10.6.2 ETL compliance



The Pro Glasses 3 head unit ETL 5001591 complies with ETL regulations based on safety standard UL 62368-1:2014 2nd, CAN/CSA C22.2 No. 62368-1:2014 2nd, control number 5001591.

The Pro Glasses 3 recording unit complies with UL 60950-1 and CAN/CSA C22.2

No. 60950-1-07, certification number E180881.

10.6.3 UL compliance



The Pro Glasses 3 recording unit E180881 is compliant with UL 508A.

10.7 Electromagnetic compatibility compliance

Pro Glasses 3 complies with the following emission and immunity standards:

- FCC 47 CFR Part 15, Class B
- ICES-003 Issue 6, Class B
- EN 55032:2015, Class B
- EN 55035:2017
- CISPR 32:2015, Class B
- CISPR 35:2016

In addition to the above, the Pro Glasses 3 recording unit complies with the following emission and immunity standards:

- EN 61000-6-3:2007/A1:2011
- EN 61000-3-2:2014
- EN 61000-3-3:2013
- EN 61000-6-1:2007
- EN 55024:2010/A1:2015

10.8 Safety compliance

Pro Glasses 3 complies with the following safety standards:

- IEC/EN 62471:2008, Photobiological safety of lamps and lamp systems
- EN 62311:2008, Specific Absorption Rate

Pro Glasses 3 head unit complies with the following standards:

- IEC 62368-1:2014 2nd Ed, Audio/video, information and communication technology equipment Part 1: Safety requirements

Pro Glasses 3 recording unit complies with the following standards:

- IEC 60950-1:2005 2nd + Am 1:2009 + Am 2:2013, Information Technology Equipment Safety Part 1: General requirements

Appendix A Customer Care, training, and warranty

A1 Customer Care

If you need help, please contact [Tobii Customer Care](#). In order to receive assistance as quickly as possible, make sure you have access to your Tobii device and, if possible, an Internet connection. You should also be able to supply the serial number of the device, which is located on the device.

A1.1 Get help

Many questions can be answered by visiting Tobii Connect. It contains the latest information about contacting Customer Care, helpful articles and FAQs, links to downloads, and much more. Log in or register to see information about your account and to reach Customer Care on [Tobii Connect](#).

A2 Training and education services

If you are new to eye tracking, or want to extend your knowledge about eye tracking research, sign up for one of our online sessions, onsite trainings, Tobii Academy, and more on [training and education services](#).

A3 Warranty information

Read more online about [Tobii limited warranty and Tobii Care](#).

Appendix B Limitations and considerations

B1 Intended use



Tobii Pro eye trackers are intended to be used in research activities about human behavior including eye movements, in a dry and dust free indoor environment. The product should only be used as described in this User's Manual. Please read the User Manual and other supplied documentation thoroughly before using the product.

B2 Light conditions



Tobii Pro recommends that eye tracking studies be performed in a controlled environment. Sunlight should be avoided since it contains high levels of infrared light which will interfere with the eye tracker system. Sunlight affects eye tracking performance severely and longer exposure can overheat the eye tracker. This eye tracker is not designed for exposure to (direct) sunlight. Eye tracking generally does not work in strong direct sunlight.

Shielding the eye tracker adequately from the sun may prevent sunlight from interfering with eye tracking.

B3 Eyelashes



Long eyelashes can be obstructive when the participant's eyes are less open, especially if the participant is wearing mascara. In rare cases, eyelashes may completely block the view of the participant's pupils, making eye tracking impossible.

B4 Droopy eyelids



Droopy eyelids or otherwise obstructive eyelids can block the view of the participant's pupils. In rare cases, such eyelids may completely block the view of the participant's pupils, making eye tracking impossible.

Appendix C Sync Port

The recording unit is equipped with a sync port capable of transmitting and receiving a sync signal to and from external devices.

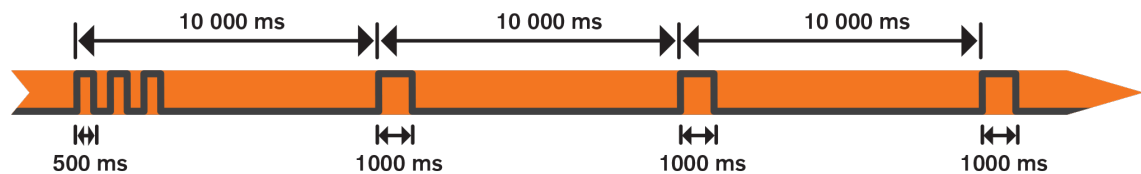
The sync port is a standard 3.5 mm jack in which the tip is used for receiving a sync signal, the middle ring is used for transmitting the sync signal, and the sleeve is the ground.

C1 Sync-out

Sync-out is emitted from the recording unit using a standard TTL 3.3 V signal, described as a high signal (1) one, or a low signal 0 (zero).

Implementation

- The sync signal, which is 10 000 ms long, starts when the recording starts, and is initiated by a start sequence in the following format: One 500 ms long high pulse, (3.3 V), followed by a 500 ms long zero pulse (0 V), repeated three (3) times.



- During the recording the sync pulse is emitted once every ten seconds with a duration of 1000 ms, followed by a 9000 ms long zero pulse, and so on.
- When the recording is terminated, the sync pulse stops immediately. No stop sequence is transmitted.

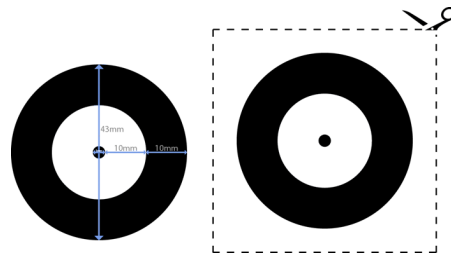
C2 Sync-in

Sync-in is triggered by the recording unit using a standard TTL 3.3 V signal, described as a high signal 1 (one), or a low signal 0 (zero).

Appendix D Calibration target

Below are two scale illustrations of the Tobii Pro Glasses 3 calibration target; one with accurate dimensions illustrated (below left) and one without (below right). The right-hand target can be printed, cut out, and used for calibration with Tobii Pro Glasses 3.

Please verify that the dimensions of the printout are accurate, as stated in the below left illustration.



If you want to use a printed calibration target, you can print and cut out the right-hand Calibration Target (above). Make sure your printer is set to print at 100% scale. The printed target must have the exact dimensions defined in the left figure. If other dimensions are used, the calibration may be inaccurate.



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Support for your Tobii Pro product

Get help

Visit [Tobii Connect](#) for help with your Tobii device. It contains the latest information about contacting Customer Care, documentation, courses, articles, and more.

Contact your solution consultant or reseller

For questions or issues with your product, contact your Tobii sales representative or authorized reseller for assistance. They are most familiar with your personal setup and can help you with tips and product training.