User's Manual

Tobii C-Series

C8

C12

C15

CEye

tobii

Celebrating Communication

Tobii C-Series User's Manual

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US Patent 7, 572,008 (applies to Tobii CEye)

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1 Introduction

Thank you for purchasing a Tobii C-Series device from Tobii Technology! To ensure the optimal performance of this product, please take the time to read this manual carefully.

The C-Series device is available in three different sizes: the Tobii C8 with an 8.4" screen, the Tobii C12 with a 12.1" screen and the Tobii C15 with a 15.0" screen. The Tobii C12 and C15 can be used with the Tobii CEye, to enable eye control of the device.

This User's Manual covers:

- The C-Series device, models Tobii C8, Tobii C12 and Tobii C15.
- The C-Series Hardware Options program (for controlling the device and licenses).
- Tobii CEye (eye tracking module including Windows Control). Tobii CEye is optional equipment and is only used with the Tobii C12 and C15.

1.1 Intended Use

A variety of communication methods allow Tobii C-Series users the ability to achieve their full potential. A user can communicate via text or symbols to generate synthesized (computer voice) or digitized (recorded voice) speech for face-to-face communication. A user also has the option of communication through e-mail, text messages and chat. With the Tobii C-Series, users also have the freedom and flexibility to write and edit documents, surf the Internet, play music and games, control a TV, DVD and other household appliances via IR remote control and even plan and manage their time – making independence easy. The C-Series devices are available both as a dedicated Speech Generating Devices, with communications software access only, or as open devices with access to the regular Windows environment.

The C-Series device is not intended as sole communication means for a user but as a complementary communication solution. Low-tech and no-tech Assistive and Alternative Communication (AAC) solutions used as additional methods are recommended as best practice for any person utilizing a high-tech AAC device.

1.2 Package Contents

The items below are included with your C-Series package:

- A Tobii C8, a Tobii C12 or a Tobii C15
- Two rechargeable Lithium Ion (LiPo) batteries
- A DC power adapter/charger including four different plugs for different regions
- A carrying strap, extendable to shoulder strap, for the C8 and C12
- A User's Manual (this document)
- A Getting Started Guide
- Three pairs of side covers, the black covers are mounted on the device
- A stylus
- System restore discs
- Communication software installation disc (if ordered)

The Tobii CEye package (if included with the Tobii C12 or C15):

- A Tobii CEye module with two screws attached
- A Torx 10 screwdriver
- A Getting Started Guide
- A USB stick with the latest necessary software

1.3 Customer Support

For support, please contact your local representative or Support at Tobii. In order to receive assistance as quickly as possible, make sure you have access to your C-Series device and, if possible, an Internet connection. You should also be able to supply the serial number of the device, which you find on the back of the device or in the C-Series Hardware Options, see the **System Information** section in the **Using the Tobii C-Series** chapter.

For further product information and other support resources, please visit the Tobii community www.mytobiicommunity.com and the Tobii website www.tobii.com.

1.4 Warranty

Please read this User's Manual carefully before using the device. The warranty is only valid if the device is used according to the User's Manual and the warranty seal is not broken. Disassembling the C-Series device will void the warranty.

2 Safety

The C-Series device has been tested and approved as compliant to all the Specifications and Standards listed in the **8.3 Appendix C: Compliance Information** section of this manual and in the **8.4 Appendix D: Technical Specifications** section -- including, but not limited to, the Medical Device Standard (Class 1/Type B). Nevertheless, in order to ensure safe operation of your Tobii C-series device, there are a few safety warnings to bear in mind:

⚠ Do not place the device on your lap, a pillow or any other soft material when it is powered on, since the material can block the fan and cause the device to overheat.

⚠ The C-Series device contains Lithium Ion batteries. These batteries have a storage temperature range of between -20°C and 40°C within 3 month. Only charge the batteries in the temperature range of between 0°C and 40°C. Avoid exposing the batteries to fire or to temperatures above 50°C (122°F). These conditions may cause a battery to malfunction, generate heat, ignite or explode. Be aware that it is possible, in a worst case scenario, for temperatures to reach greater than those stated above in, for example, the trunk of a car on a hot day. So, storing the device, with batteries installed, in a hot car trunk could conceivably lead to a malfunction.

⚠ Do not disassemble or harm the battery. Pay attention to the environmental laws and regulations which apply in your area when disposing of batteries.

⚠ For safe operation of the C-Series device, use only charger, batteries and accessories approved by Tobii Technology.

⚠ Do not open, or modify, the metal casing of the C-Series device or of the power supply, since you may be exposed to potentially hazardous electrical voltage. The device contains no serviceable parts. If the C-Series device or it's accessories are mechanically damaged, **do not try to use them**.

2.1 Avoiding Hearing Damage

Permanent hearing loss may occur if earphones, headphones or speakers are used at high volume. To prevent this, the volume should be set to a safe

level. You can become desensitized over time to high sound levels which may then sound acceptable yet still could be damaging your hearing. If you experience symptoms such as ringing in your ears, please lower the volume or stop using the earphones/headphones. The louder the volume, the less time is required before your hearing could be affected.

Hearing experts suggest the following measures to protect your hearing:

- Limit the amount of time you use earphones or headphones at high volume.
- Avoid turning up the volume to block out noisy surroundings.
- Turn the volume down if you cannot hear people speaking near you.

To establish a safe volume level:

1. Set your volume control at a low setting.
2. Slowly increase the sound until you can hear it comfortably and clearly, without distortion.

2.2 Mounting Warning

The C-Series devices should be mounted according to instructions for approved mounts or mounting brackets. However, should the device for any reason harm or damage someone or something due to falling, neither Tobii Technology nor any of its representatives will be responsible or liable for any damages or injuries which may arise. The mounting of devices from the C-Series is done entirely at the user's own risk.

2.3 Emergency Warning

Do not rely on the device for emergency calls or banking transactions. We recommend having multiple ways to communicate in emergency situations. Banking transactions should only be carried out with a system recommended by, and approved according to the standards of, your bank.

2.4 Infrared Warning

When activated, the Tobii CEye emits pulsed infrared (IR) light. Certain medical devices are susceptible to disturbance by IR light and/or radiation. Do not use the CEye when in the vicinity of such susceptible medical devices as their accuracy or proper functionality could be inhibited.

2.5 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. Such 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 you feel odd during use, move your eyes away from the eye tracker.

2.6 Child Safety

The C-Series are advanced computer systems and electronic devices. As such they are composed of numerous separate, assembled parts. In the hands of a child certain of these parts have the possibility of being separated from the device, possibly constituting a choking hazard or another danger to the child.
Young children should not have access to, or the use of, the device without parental or guardian supervision.

3 Overview of the Tobii C8, C12 and C15

3.1 Key Features

The C-Series has several built-in features. Some of these come standard and some can be ordered as additional features.

Standard features: Camera, microphones and speakers.

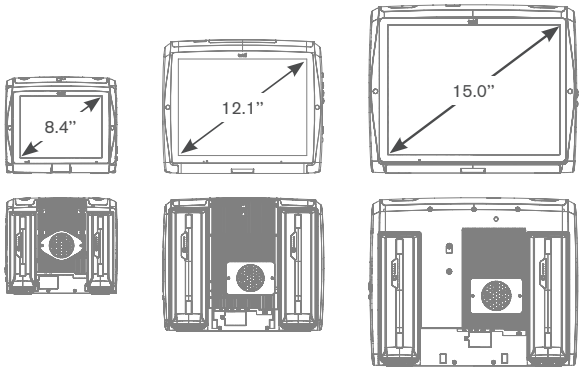
Additional features: ECU (Environmental Control Unit), Bluetooth, Mobile phone and WLAN (Wireless Local Area Network).

The additional features can be purchased with the initial order or as an additional license after delivery. To order a license, please contact Tobii Customer Service, your reseller or your sales representative.

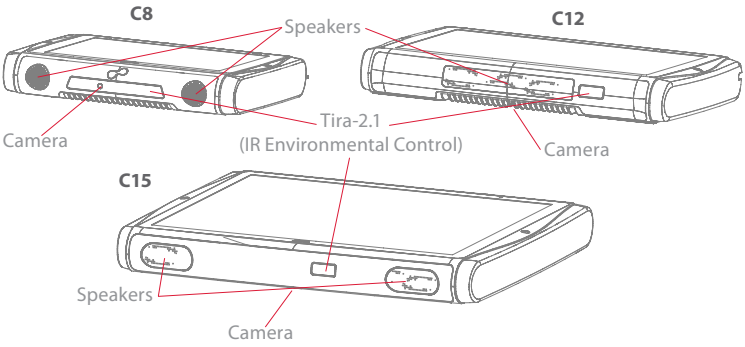
3.2 Product Layout

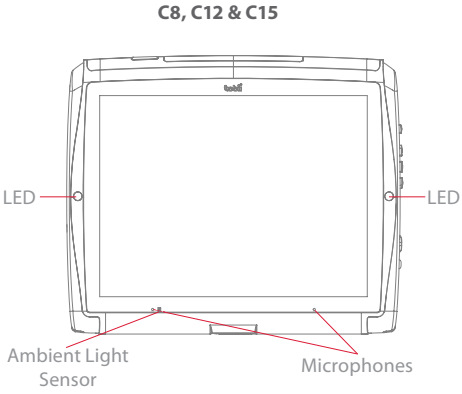
A C-Series device has a color TFT display with a touch screen. The Tobii C8 has an 8.4" screen with an 800x600 pixel resolution. The Tobii C12 has a 12.1" screen with a 1024 x 768 pixel resolution. The Tobii C15 has a 15.0" screen with a 1024 x 768 pixel resolution.

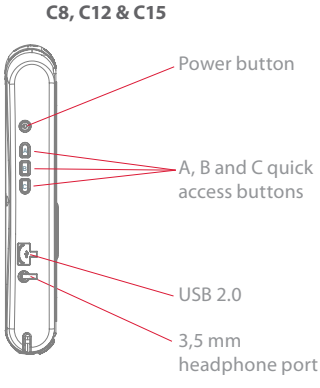
3.2.1 The Tobii C8, Tobii C12 and Tobii C15

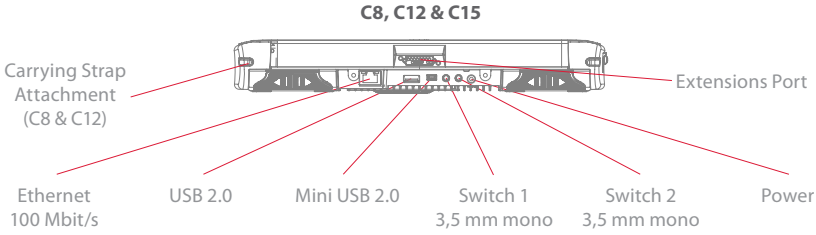


3.2.2 Ports, Sensors and Device Buttons









Never force a connector into a port. If the connector and port do not join with reasonable ease, they probably do not match. Make sure that the connector matches the port and that you have positioned the connector correctly in relation to the port.

3.3 Preinstalled Software

The C-Series device is delivered with all preordered and required software installed and ready to use. Should a reinstallation become necessary at any stage, a setup file and discs are included.

The product number for Windows® can be found on the back of the C-Series device, if there should be a need to reinstall Windows®.

3.4 Configuring the Device

Use the preinstalled **C-Series Hardware Options** to configure the hardware functions on the device. You can access **C-Series Hardware Options** in one of the following ways:

1. Go to **Start menu** > **Control Panel**.

2. Double-click **C-Series Hardware Options**, , if the Control Panel is in Classic View. If the Control Panel is in Control Panel Home view, click **Additional Options** > **C-series Hardware Options**.

or

- Double-click on the **C-Series Hardware Options** shortcut on the desktop, .

or

3. Go to **Start** menu > **All Programs** > **Tobii** > **C-Series Hardware Options**.
4. Click **C-Series Hardware Options**, .

In the list to the left, select which hardware configuration you want to change. In the list to the right, the different settings will be revealed. The changes are instantly executed. If you want to cancel the changes click **Cancel**.

Please note that anywhere you see this icon, , an information box is displayed when you briefly rest the mouse pointer on the icon or by touching the icon on the screen.

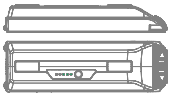
4 Batteries in the Tobii C-Series

4.1 Batteries

The C-Series device has two battery compartments. The batteries for the Tobii C8 differ in size and capacity from those of the Tobii C12 and C15, see the **Appendix C: Technical Specifications**.

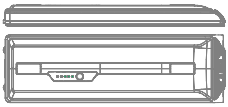
Tobii C8 batteries:

- Standard, included.



Tobii C12 and C15 batteries:

- Standard, included.



4.1.1 Hot Swappable

You can remove/replace one battery without switching off the device, providing that the remaining battery is sufficiently charged. The remaining battery requires being at least 5% charged to maintain device operation.

4.2 Charging

The batteries should only be charged using the included adapter, or by using the Tobii C-Series Table Charger (not included, separate purchase required). When the C-Series device is shut down and the adapter is plugged in, the charging of completely discharged batteries may take up to 6 hours. The device can be used while the batteries are being charged, though this may affect the time a battery takes to reach full capacity.

⚠ **To be sure that charging takes place in both the C-Series device and when using the C-Series Table Charger, be sure to plug the adaptor into both the wall socket and the device or Charger BEFORE you insert the batteries.**

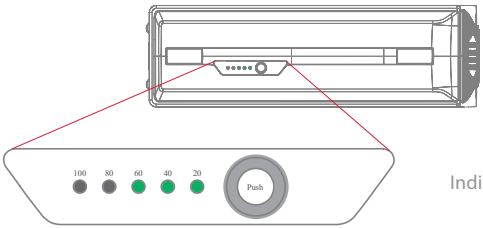
The expected battery lifetime is 500 charge/discharge cycles. After that, the capacity of the battery will decrease by about 20% in usage time.

See **Safety** chapter for battery storage and charging temperatures.

4.2.1 Checking Charge Level

Click on the battery icon, in the Notification area to see the remaining charge of the battery, which is installed in the device.

You may also, at any time, check the status of a battery by pressing the indicator button on the face of the battery. Five LEDs (light-emitting diodes) will indicate the remaining charge level. For example, three lit LEDs indicate a 60% remaining charge.



Indicator button and LED's

When charging, the highest capacity LED indicator will be blinking.

The lowest capacity LED indicator (the "20" LED), will also blink when the indicator button is pressed if the battery's capacity has dropped below 10%. So don't rely upon the blinking of the 20% indicator as a guarantee for charging.

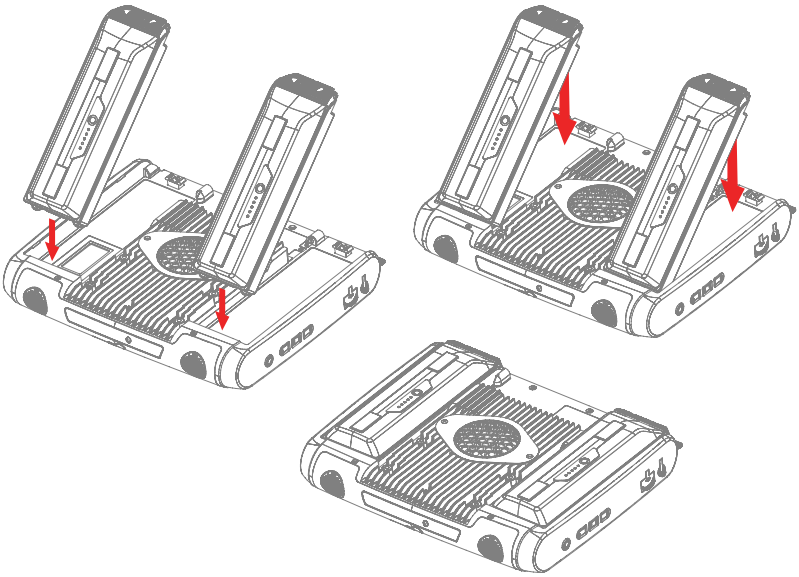
If the batteries have been deeply discharged (this can happen by leaving an empty battery inserted in the C-Series device without the power adapter connected) you may not see any indication of charging when you reconnect the adapter properly to the C-Series device or the Table Charger. It may take some time (even up to 20 minutes) before you see an LED indication that any charging is taking place. The battery IS being charged during this duration though it is a recovery charge raising the level enough to begin normal charging.

4.3 Inserting and Releasing the Batteries

For safety reasons, the C-Series device is delivered without the batteries inserted. The batteries are delivered only partially charged. The C-Series device can be used right away. It is nevertheless recommended that the batteries are charged for at least two hours before taking the device in use.

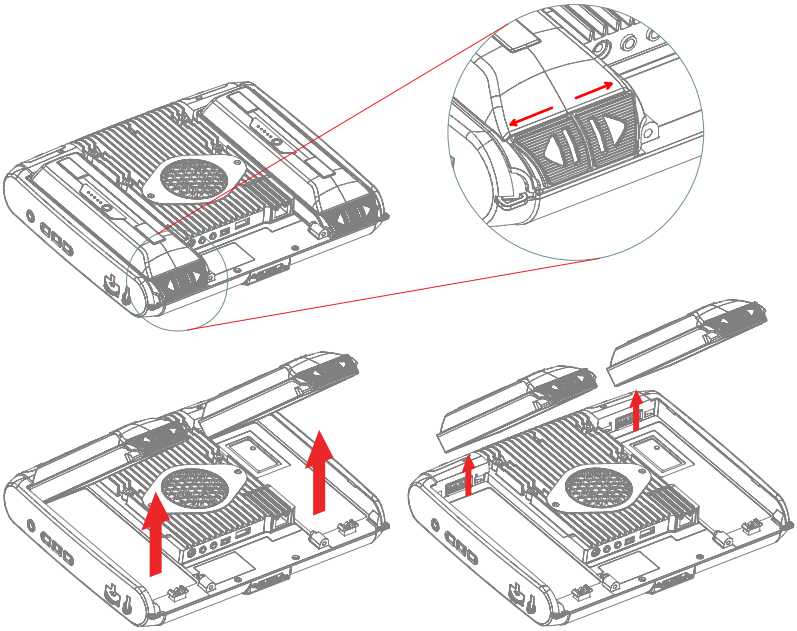
To insert the batteries:

1. Place the C-Series device face down on a flat surface.
2. Insert a battery in the battery compartment.
3. Press the battery down until it locks in place. You should hear a click that confirms that the battery is in a locked position.



To release the batteries:

1. Place the C-Series device face down on a flat surface.
2. Use both hands to slide the rubber feet apart on the battery. You will hear a click as they are released.
3. Lift the battery up and out of the device.



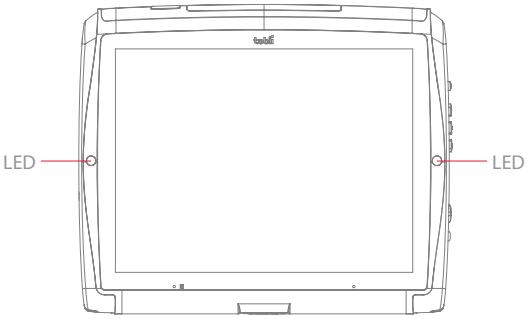
5 Using the Tobii C-Series

5.1 Starting the Device

Start the device in one of the following ways:

- Press the power button on the right side of the device ⏻.
- Activate a configured Switch (see **Configuring a Switch to Power On or Off**).

When you have started the device, the LEDs on both sides of the display will first shine blue, then turn green at the start up of the display.



5.1.1 Password Information

The C-Series device is configured to start up, using the operating system present, without a password. Though unusual, there are situations in which the password window could plausibly pop up; for example, when creating a new user in the operating system, when returning from the operating system's sleep mode or when downloading software updates from the internet.

Be aware that creating a new user and downloading updates from the internet could possibly compromise the system and software settings of the operating system that have been set and installed at Tobii Technology.

Should the password window pop up, requiring a password, the default

password on all C-Series devices is, "**Tobii**" (case sensitive). In order to type in the password, an external USB keyboard is required (not included).

If you decide to change the password, be sure to write it down in a safe place for later use.

Suggested place to keep new password: _____

Without the operating system's access password, Tobii Support may be unable to assist you with any future difficulties.

5.1.2 C-Series Welcome Guide

When you start your C-Series Device for the first time you will be greeted by the C-Series Welcome Guide. The guide is a setup wizard that will walk you through four steps that will help you make the most of your device.

Follow the instructions and click on **Next** to get to the next page of the Guide.

Note: The guide will only take about two minutes to complete, but if you wish you can opt out of going through the steps by clicking on **Ask me later**. If you opt out the Welcome Guide will open again the next time you start your device.

5.1.3 C-Series Welcome Center

The C-Series Welcome Center is the program on your C-Series Device where you can access and change the settings that you have chosen during your first setup with the C-Series Welcome Guide, or even run the Welcome Guide again at a time of your choosing.

To open the C-Series Welcome Center:

- Navigate in Windows from your desktop to **Start Menu > All Programs > Tobii > C-Series Welcome Center** and click on the C-Series Welcome Center icon, .

or

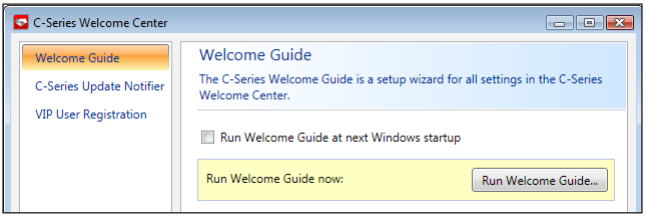
- Navigate in Windows from your desktop to **Start Menu > Control Panel > Additional Options** and click on the C-Series Welcome Center icon, .

or (if you use the "Classic View" for your Control Panel in Windows)

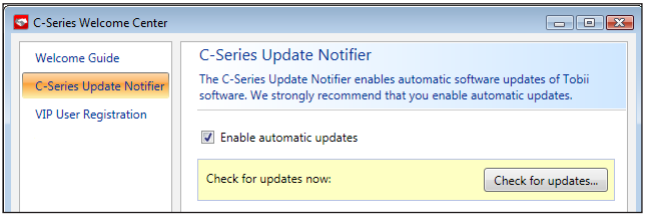
- Navigate in Windows from your desktop to **Start Menu > Control Panel** and click on the C-Series Welcome Center icon, .

Within the C-Series Welcome Center you can:

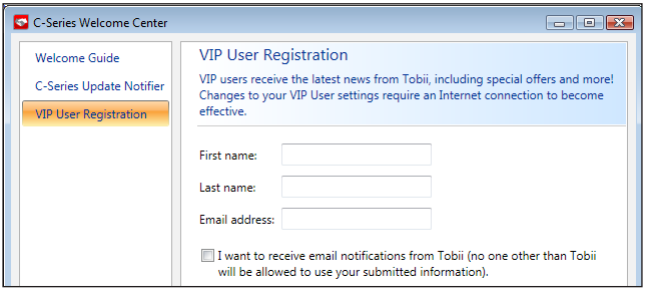
- Run the C-Series Guide immediately or choose to have it run upon the next start up



- Choose to enable the automatic updates for your Tobii software or search for updates immediately (must be connected to the internet).



- Register as a VIP User.



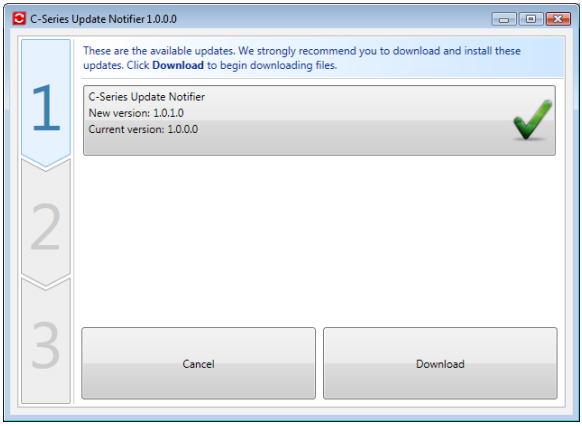
5.1.4 C-Series Update Notifier

The Tobii C-Series Update Notifier is a program that notifies you when the latest software updates for your Tobii Software are available (either automatically, on a regular basis, or manually, at a time of your choosing) and assists you in installing the updates.

If you have chosen to "Enable automatic updates" in either the C-Series Welcome Guide or, later, in the C-Series Welcome Center, the Update Notifier will actively search Tobii's sites for version Updates of your software.

To keep your C-Series Device running properly it is highly recommended that you update your Tobii Software on a regular basis and it is therefore highly recommended that you enable automatic updates.

If an update is found the following Update Notifier window will pop up:



The update or updates available will show themselves in the Step One window of Update Notifier as large button with a green check mark on the right side. You will also be able to see the version number of the software that you currently have and the version number of the update.

If you choose not to download one or more of the available updates you can click on the button of the update you do not want and the check mark will turn into a red "X" mark.

Proceed in the following way:

- Click the **Download** button to download the updates to your Device and continue to Step Two.
- In Step Two, Click the **Install** button to install the chosen updates on your device and proceed to Step Three.
- Step Three informs you that your system has been updated, click the **Done** button to close the Update Notifier.

If you choose not to "Enable automatic updates" you can still check for updates for your Tobii software and update them manually using the C-Series Update Notifier.

To open and activate the C-Series Update Notifier manually (this opens the Step One window shown above and starts the same automatic update process):

- Navigate in Windows from your desktop to **Start Menu > All Programs > Tobii > C-Series Update Notifier** and click on the C-Series Update Notifier icon, .

5.2 Shutting Down the Device

The device should be shut down using one of the following ways:

- Use the start menu in Windows (recommended when possible).
- Press a configured Switch for two to seven seconds. Please note that pressing the Switch for more than 7 seconds will shut down the device immediately, disregarding any unsaved changes.

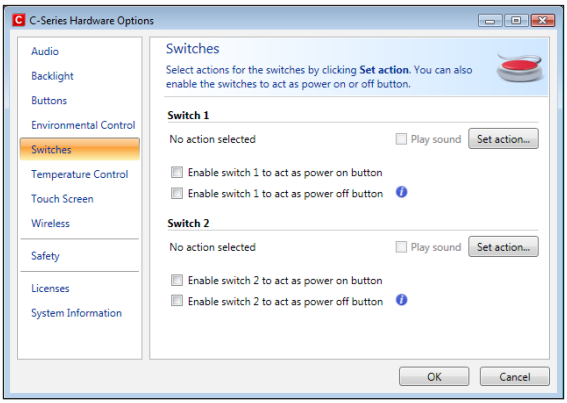
Should you be unable to shut the device down using either of the above, you can hold the power button on the right side of the device down for five seconds. The device will consequently shut down immediately, without waiting for open applications to close. This is not considered a "clean" Windows shut down and is thus not recommended unless completely necessary.

5.3 Configuring a Switch to Power On or Off

5.3.1 Configuring a Switch to Power On

To configure a connected Switch to power on the device:

1. Open the **C-Series Hardware Options** > **Switches**.
2. Select the **Enable switch X to power on device** check box. To disable, click to clear the **Enable switch X to power on device** check box.



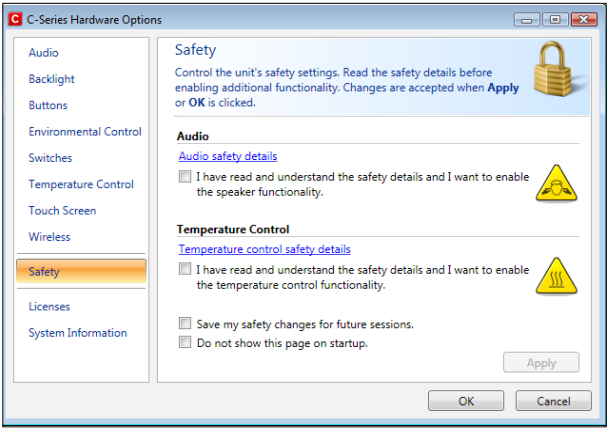
5.3.2 Configuring a Switch to Power Off

To configure a connected Switch to power off the device:

1. Open the **C-Series Hardware Options** > **Switches**.
2. Select the **Enable switch X to power off device** check box. To disable, click to clear the **Enable switch X to power off device** check box.

5.4 Safety Settings: C-Series Hardware Options

Upon starting the device, the safety settings in **C-Series Hardware Options** will open as the default page automatically (other that during the first start up of the device, when the C-Series Welcome Guide setup wizard will open first). The safety settings exist for the safety of the customer. Be sure to read the safety details before accepting any changes.



5.4.1 Audio Safety

Before you can use the speaker functionality and adjust speaker output settings in **C-Series Hardware Options > Audio** you need to confirm the Audio safety details. To confirm:

1. Open the **C-Series Hardware Options > Safety**
2. Click on the **Audio safety details** text. A new dialog box opens and displays the safety text. Please read this thoroughly.
3. Select the **I have read and understand the safety details and I want to enable the speaker functionality** check box to confirm that you have read and understood the safety text.
4. Click **Apply** or **OK** to save.

5.4.2 Temperature Control Safety

Before you can set the device usage in **C-Series Hardware Options > Temperature Control** you need to confirm the Temperature control safety details. To confirm:

1. Open the **C-Series Hardware Options > Safety**
2. Click on the **Temperature control safety details** text. A new dialog opens and displays the safety text. Please read this thoroughly.
3. Select the **I have read and understand the safety details and I want to enable the temperature control functionality** check box to confirm that you have read and understood the safety text.
4. Click **Apply** or **OK** to save.

You can use the device in a portable or mounted mode. Your choice will affect the maximum allowed device temperature and the fan speed. While having the device mounted, it is allowed to run at a higher temperature.

Specifying device usage mode takes place outside of the **Safety** settings but within **C-Series Hardware Options**. To specify device usage:

1. Open the **C-Series Hardware Options > Temperature Control**.
2. Click on preferred option below **Device usage**.

Important! If the device is gets overheated the LEDs on the sides of the display turn orange and the device shuts down. It may take a while before it can be restarted as the unit may first need time to cool down.

Return to **C-Series Hardware Options > Safety** to save changes for future sessions.

5.4.3 Saving Changes for Future Sessions

To save your changes for future sessions:

1. Select the **Save my changes for future sessions** check box.
2. Click **Apply** or **OK** to save. Both the audio and the temperature control settings will be stored in memory. If this check box is not selected when you click **Apply** or **OK** the settings will only be stored until you log out.

5.4.4 Disabling Safety Page as Default Page on Startup

The Safety page is shown by default when the C-Series device is started. In order to disable:

1. Open the **C-Series Hardware Options > Safety.**
2. Select the **Do not show this page on startup** check box.
3. Click **Apply** or **OK** to save.

5.5 Adapting the Touch Screen for the User

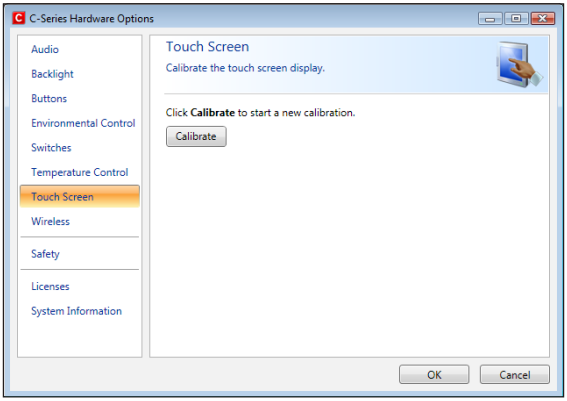
The Touch Screen interprets your touch and moves the cursor to wherever your finger contacts the screen. The Touch Screen can be "calibrated" for your touch, either by the separate touch screen software, TouchKit (Windows Vista), eGalaxTouch (Windows 7), or in the C-Series Hardware Options.

Use your finger or a stylus on the Touch Screen. Do not use any sharp objects as the screen could scratch or break.

5.5.1 Calibrating the Touch Screen

Using the Touch Screen calibration in the **C-Series Hardware Options**:

1. Open the **C-Series Hardware Options** > **Touch Screen**.
2. Press the calibrate button to start a calibration of the Touch Screen. The screen will turn white and display an active red target in the bottom left corner with a progress bar beside it.
3. Touch and hold the target before the 15 seconds is up, it will turn yellow Continue holding until the timer clock has counted up to 100%. The target will then move to the next corner, anticlockwise/ counterclockwise.



Using the Touch Screen software calibration:

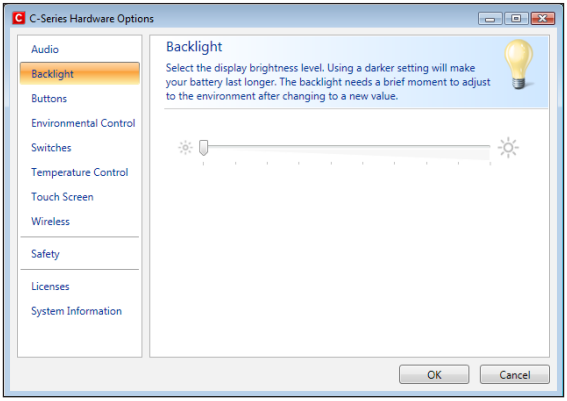
1. For Windows Vista: Go to **Start** menu > **All Programs** > **TouchKit** > **Configure Utility**.
   For Windows 7: Go to **Start** menu > **All Programs** > **eGalaxTouch**> **Configure Utility**.
2. Select the **Tools** tab.
3. Click on **4 Points Calibration** to start the calibration of the touch screen. The screen will turn white and display an active red target in the bottom left corner with a progress bar beside it.
4. Touch and hold the target before the 15 seconds is up, it will turn yellow. Continue holding until the timer clock has counted up to 100%. The target will then move to the next corner, anticlockwise/ counterclockwise.

5.6 Adjusting the Backlight

You can adjust the display brightness level by:

1. Opening the **C-Series Hardware Options** > **Backlight**.
2. Moving the slider to the right to increase the brightness and to the left to decrease it. The backlight needs a short while to adjust when changing the brightness.

There is a sensor on the device which will automatically adjust the screen brightness according to the surrounding light, relative to the selected level.



Using a darker setting can improve battery life.

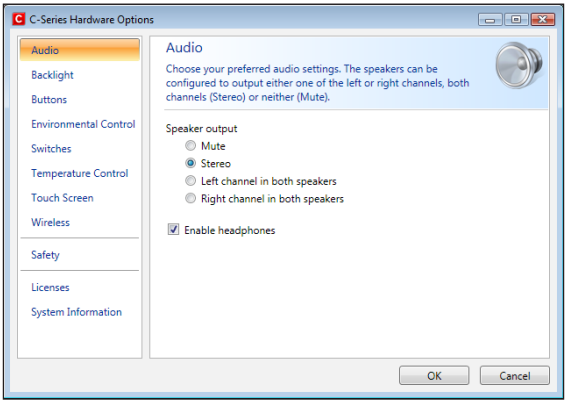
5.6.1 Adjusting the Sound

You can configure the built-in speakers using the **Windows 7 Control Panel > Hardware and Sound** and the **C-Series Hardware Options**.

Refer to Microsoft's information on how to configure the sound in the Windows 7 Control Panel.

To configure the sound in C-Series Hardware Options:

1. Open the **C-Series Hardware Options** > **Audio**.
2. Click one of the options below **Speaker output**.



The two audio channels, Left and Right, provide two levels of audio output. For example, the Left Channel may output the auditory scanning cues to the user's headphones, while the Right Channel could output the chosen text to the speakers of the device, to be spoken aloud.

Please note that the Left and Right Channel do not refer to left and right speakers. Either channel can output sound/audio to both of the speakers.

5.7 Using Headphones

If you want to enable the use of headphones:

1. Open the **C-Series Hardware Options** > **Audio**.
2. Select the **Enable headphones** check box.

If you want to disable the use of headphones:

1. Open the **C-Series Hardware Options** > **Audio**.
2. Click to clear the **Enable headphones** check box.

5.8 Using Bluetooth® (optional)

Not applicable for RF Free units.

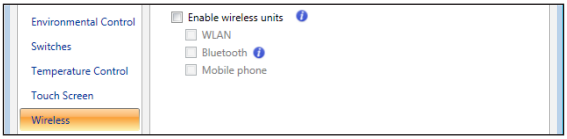
The built-in Bluetooth® enables connection to wireless devices which comply with ordinary Bluetooth® standards.

5.8.1 Handling Licenses

To use Bluetooth® communication in the device, a license is required. To view or enter a license, go to the Licenses section in the C-Series Hardware Options.

5.8.2 Enabling and Disabling Bluetooth® Communication

You enable and disable Bluetooth® communication in the Wireless section in the C-Series Hardware Options.



To enable Bluetooth® communication:

1. Select the **Enable wireless units** check box.
2. Select the **Bluetooth** check box.

To disable Bluetooth® communication:

- Clear the **Bluetooth** check box or the **Enable wireless units** check box for disabling all wireless units.

If the Bluetooth® communication is activated you can see the Bluetooth icon in the Notification area on the desktop.

5.8.3 Connecting to a Bluetooth® Device

When the Bluetooth communication is activated (see above) you can connect the C-Series device to another Bluetooth® device.

To search for available Bluetooth® devices and connect to them, use the **Bluetooth Devices** in Windows 7. To access **Bluetooth Devices**:

- Double-click on the Bluetooth icon, in the Notification area.

5.9 Using the WLAN (optional)

Not applicable for RF Free units.

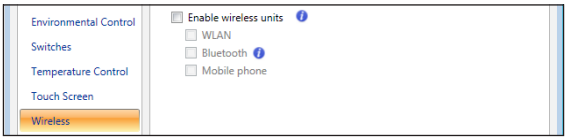
The built-in WLAN (Wireless Local Area Network) support enables connection to a wireless network in compliance with the standard 802.11 b/g for the C8 and C12 and 802.11 b/g/n for the C15.

5.9.1 Handling Licenses

To be able to use WLAN communication, a license is required. To view or enter a license, go to the Licenses section in the C-Series Hardware Options.

5.9.2 Enabling and Disabling the WLAN Communication

You can enable and disable WLAN communication in the Wireless section in the C-Series Hardware Options.



To enable WLAN communication:

1. Select the **Enable wireless units** check box.
2. Select the **WLAN** check box.

To disable WLAN communication:

- Clear the **WLAN** check box or clear the **Enable wireless units** check box for disabling all wireless units.

5.9.3 Connecting to a WLAN

To enable WLAN communication:

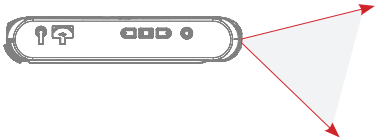
1. Click on the WLAN icon, , in the Notification area on the Desktop.
2. Select **Connect to a network**.
3. Select a network to connect to.

A wireless access point which supports antenna diversity is recommended when setting up a wireless network to use with a C-Series device, for reliable performance. Such access points are generally recognized by having two antennas on the router device.

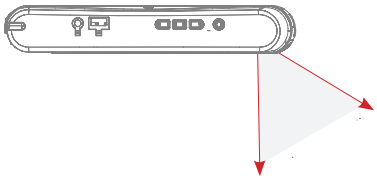
Using an antivirus program is strongly recommended.

5.10 Using the Camera

The built-in camera allows you to take snapshots of items in front of the C-Series device. On the Tobii C8, the camera is located on the top of the device.



On the Tobii C12 and Tobii C15, it is located on the back of the device.

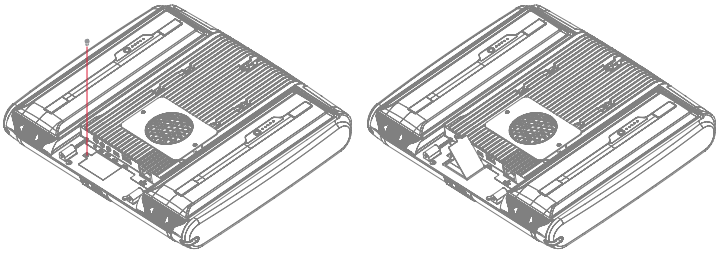


Refer to Tobii Communicator or alternative communication software manuals for camera function utilization.

5.11 Using the Mobile Phone (optional)

Not applicable for RF Free units.

To use the built-in Mobile phone communication feature you need a valid SIM card from a network operator in your area. The SIM card should be installed beneath the SIM card cover on the back of the C-Series device.



The Mobile phone feature can be used to:

- Send and receive text messages (SMS) and multimedia message (MMS)

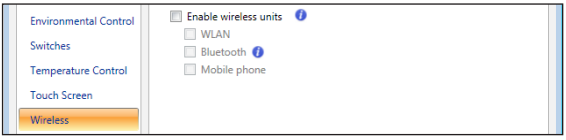
- Make telephone calls through synthetic voice
- Answer telephone calls through synthetic voice

5.11.1 Handling Licenses

To be able to use Mobile phone communication, a license is required. To view or enter a license, go to the Licenses section in the C-Series Hardware Options.

5.11.2 Enabling and Disabling the Mobile Phone

You can enable and disable Mobile phone communication in the Wireless section in the C-Series Hardware Options.



To enable Mobile phone communication:

1. Select the **Enable wireless units** check box.
2. Select the **Mobile Phone** check box.

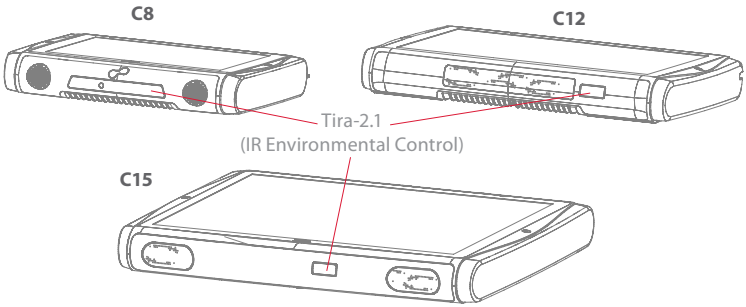
To disable Mobile phone communication:

- Clear the **Mobile Phone** check box or clear the **Enable wireless units** check box for disabling all wireless units.

The SIM card must not have a security code enabled to be used with a C-Series device.

5.12 Using Environmental Control (optional)

The C-Series device includes an environmental control unit, Tira-2.1. The Tira is a programmable infrared device that can be used to control equipment with IR remote controllers such as TV-sets or DVDs. Refer to Tobii Communicator or alternative communication software manuals on how to connect, configure and use IR remote controls.



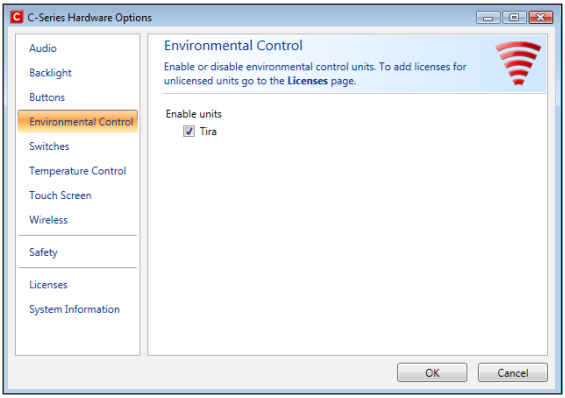
If the device you are trying to control is not responding, try tilting the C-Series device up or down slightly to change angle at which the IR signal is being sent.

5.12.1 Handling Licenses

To use the Tira, a license is required. To view or enter a license, go to the Licenses section in the C-Series Hardware Options.

5.12.2 Enabling and Disabling Tira

You can enable and disable Tira in the Environmental Control section of the C-Series Hardware Options.



To enable Tira:

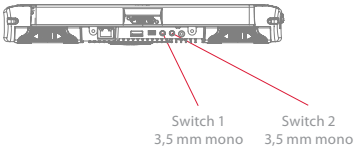
- Select the Tira check box.

To disable Tira:

- Clear the Tira check box.

5.13 Creating Shortcuts to Actions

You can create shortcuts to tasks, called actions, by programming the quick access buttons and connected Switches. The quick access buttons are located on the right side of the C-Series device, named A, B and C. Switches are connected to the Switch connectors.



5.13.1 Available Actions

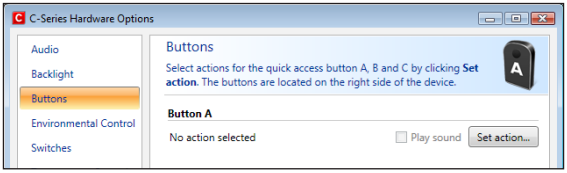
This is a short description of each action available to set:

- Send input – Allows the user to send input to an alternative program (keystroke, mouse click or text).
- Start Program – Allows the user to start a program.
- Volume – Allows the user to adjust the volume up or down or to set mute on or off.
- Backlight – Allows the user increase or decrease the backlight of the screen.
- Eye tracking – Allows the user to show and hide the track status window, calibrate or pause the eye tracking on or off.
- Wireless – Allows the user to either set all radio connections on or off, or a specific wireless connection.
- Touch Screen – Allows the user to turn on or off the Touch Screen.

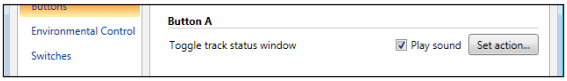
The available actions are the same for the quick access buttons and Switches. To create a shortcut to an action:

1. Open the **C-Series Hardware Options**.

2. Select **Buttons** or **Switches**, depending on which one you want to customize.
3. Click **Set action** to view the dialog box where you can select the action you would like the button to perform. By selecting one of the actions, the options for this action will be revealed below the chosen action.

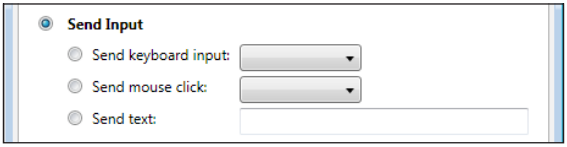


If you would like the quick access button to make a sound when pressed, select the **Play sound** check box after having set an action.



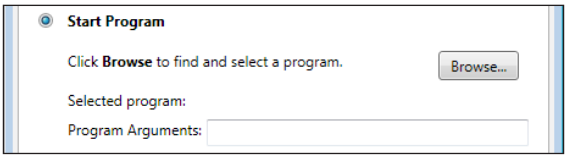
5.13.2 Selecting Actions

Send Input – choose either to send a keyboard input, a mouse click or specified text by clicking the option you want the device button or Switch to perform.

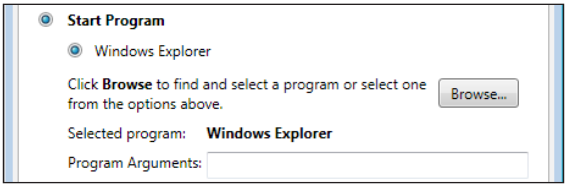


- **Send keyboard input** – In the **Send keyboard input list**, select the keystroke you want to send to an alternative program.
- **Send mouse click** – In the **Send mouse click list**, select the desired mouse click: left, middle or right mouse click.
- **Send text** – In the **Send text box**, type the text you want to send to an alternative program.

Start Program – Click **Browse** the first time you are using this option to find and select a program.



The next time you click the **Start Program** option a list of previously selected programs will be displayed. You can then directly select a program from the list or click **Browse** if you want to start a program not in the list.

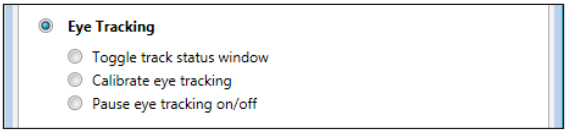


For the selected program it is possible to add program arguments. However, this is normally not required. If the program should require arguments and you do not know what to enter, please contact the company you purchased the software from.

Volume – choose to increase, decrease or mute the volume by clicking the preferred option.

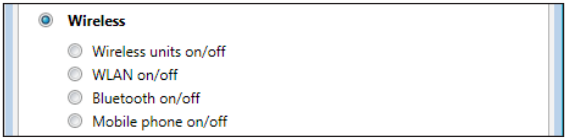
Backlight – choose to either increase or decrease the screen backlight by clicking the preferred option.

Eye Tracking – choose to toggle track status window, calibrate eye tracking or toggle eye tracking on/off.

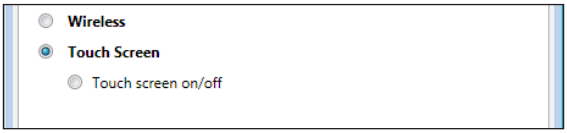


To enable this option you have to install the Tobii Eye Control Suite and a CEye. See **Tobii CEye Module** chapter.

Wireless – you can either set all radio connections on/off or each individual wireless unit on/off one by one, by clicking the options.



Touch Screen – choose to turn the touch screen on or off.

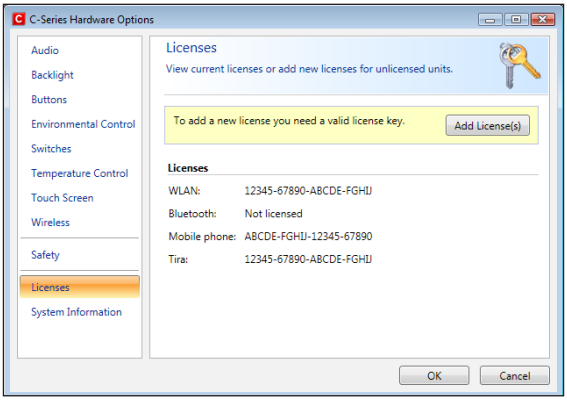


If actions for a Switch are customized both in the C-Series Hardware Options and in Tobii Communicator or in alternative communication software all actions will be performed simultaneously. Ensure that the specified action for a Switch does not conflict with an action set for the same Switch in Tobii Communicator or in alternative communication software.

5.14 Handling Licenses

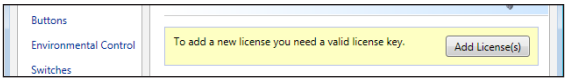
To add new and/or view existing licenses:

- Open the **C-Series Hardware Options** > **Licenses**.

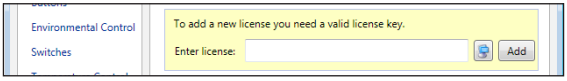


To add a license:

1. Click **Add License(s)**.



2. In the **Enter license box**, type the new license and then click **Add**.



For typing the license use either a connected keyboard or the on-screen keyboard by clicking this button .

5.15 System Information

To view the version and model of the device:

1. Open the **C-Series Hardware Options**.
2. Select **System Information**. Please have this information available if you have problems with the device and need to contact Customer Support.

By clicking **Copy all information** you can paste the information into a document (such as Notepad or WordPad) or directly into an e-mail.

5.16 Performing Backup and Restore

5.16.1 User Profile Card

The C-Series device comes with a 1GB SD card installed. The purpose of this card is to backup personal settings and data. In the case of fatal damage to the C-Series device, Tobii Technology can remove the SD card and have it inserted into a new device for quick and easy retrieval and restoration of personal data and settings.

5.16.2 Restoring Backup Files by the User

The backup files are placed in the directory Q:\Backup\<date>. The backup process, which runs as user TobiiTaskManager, executes once a week (every Sunday at 15.00) and the three latest backups are saved.

If your C-series device is not up and running at this time the backup will not be performed.

The process backs up files for all users. If the backup drive does not have enough space some files will not be backed up. Image files have the lowest priority (backed up last). The largest file size for the backup of individual files is 100 MB, files larger than this will be excluded.

To restore backup files, copy the folders in the directory Q:\Backup\<date> to the C:\ drive.

Copies of these backup files can be saved anywhere you wish, to an external hard drive, for example, or to a USB stick. Copy the folders in the directory Q:\Backup\<date> to any external directory or drive of your choosing.

5.16.3 Restoring the Factory Settings of a C-Series Device:

Every C-Series device has a factory image stored on the disk. If you need to restore the device back to its original state, this can be done by using our OEM Factory Restore Application.

Please note that this will delete any personal data or software installed after the device was delivered.

The device will be reset to the exact same image it had when it was shipped from Tobii

To restore the factory settings for your C-Series device, performe the following procedure:

1. Backup your personal data such as documents and Tobii Communicator settings etc.
2. Shut down the device
3. Connect a keyboard
4. Start up device again.
5. Press and hold F8 during startup
6. Select "Repair your computer"
7. Select the keyboard layout (language) you want
8. Select "Tobii User" and enter "Tobii" as password (Case Sensistive)
9. Select "OEM Factory Restore Application"
10. Select "Restore".
11. Now accept the agreements and confirm the restore again with "Yes".

The factory restore process will now start. This will take about 30-40 minutes. After the restore process is finished, the device will be reset to its original image. If you have ordered additional licenses after you ordered the device, these will have to be input again. Any licenses originally ordered **together** with the device will automatically be activated. Also, if the device was ordered without a CEye module, Tobii Eye Control Suite will have to be reinstalled if the device is intended to be used with a CEye.

Make sure you've connected the power supply before you start the process - do not run the device on batteries, as it might run out of power during the factory restore. In such a scenario, you might have to send the unit back to Tobii for repair.

6 Tobii CEye Module & Eye Control

The Tobii CEye Module is an eye control unit which is designed to dock seamlessly into a Tobii C12 or C15 (not used with C8) and operate with precision regardless of glasses, contact lenses, eye color or light conditions. The CEye Module enables you to control the computer with your eyes. By looking at the screen, you control the mouse pointer and you click by blinking, dwelling (staring at the screen for a certain length of time) or using a Switch.

6.1 Installing the Tobii CEye Module

To enable eye control with a Tobii C12 or C15 you must first install the Tobii Eye Control Suite and then connect the Tobii CEye Module to the device. See instructions below.

⚠ Do not use the table stand (or regular mounting bracket stand) with a CEye connected.

6.1.1 Required Software

The required software for the CEye module is the Tobii Eye Control Suite. The Tobii Eye Control Suite includes two components: the interaction server application and a system tray application, **Tobii Eye Control Options**.

The interaction server runs in the background and has no user interface. A user interface is instead provided by the tray application, **Tobii Eye Control Options**, or by Tobii Communicator or alternative communication software. The interaction server also contains the **Windows Control** application, accessible from the **Tobii Eye Control Options**.

ⓘ The latest required software will be on a USB stick delivered with the CEye Module.

6.1.2 Installation of Eye Control Software from USB Stick

To install the latest necessary software from the USB stick, make sure the C-Series Device is turned on, then:

1. Insert the included USB stick in one of the two USB ports on the C-Series (marked with the USB icon,). The **AutoPlay** window opens automatically, labeled with the name of the USB manufacturer and the drive, KINGSTON (D:).
2. Double-click on the **Open folder to view files** folder.
3. Double-click on the **-Startup** icon to start the **Tobii Eye Control Suite** installation process.

Be aware that after double-clicking the **-Startup** icon it may take up to a minute or so before the **Tobii Eye Control Suite** window will open. Though nothing appears to be happening during this time, drivers are being automatically installed.

4. **Tobii Eye Control Suite** window will open. Read the installation information and follow the instructions (click **Next**, etc.). After installation is complete, click **Close**.
5. Close the **KINGSTON (D:)** drive window
6. Remove the **USB** stick.

The required software is now installed onto your C-Series device. To activate the software once your CEye module is physically attached:

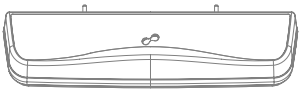
- Open Tobii Communicator or your alternative communications software, and follow the instructions provided in the respective manuals for enabling and calibrating eye control.

To enable eye control in the Windows environment (**Windows Control**), launch **Tobii Eye Control Options** using the following pathway:

- **Start > All Programs > Tobii > Tobii Eye Control Suite > Tobii Eye Control Options**

See **Accessing the Tobii Eye Control Options** in this chapter of the User's Manual for more information.

6.1.3 Mounting the CEye Module to the Tobii C12 or C15

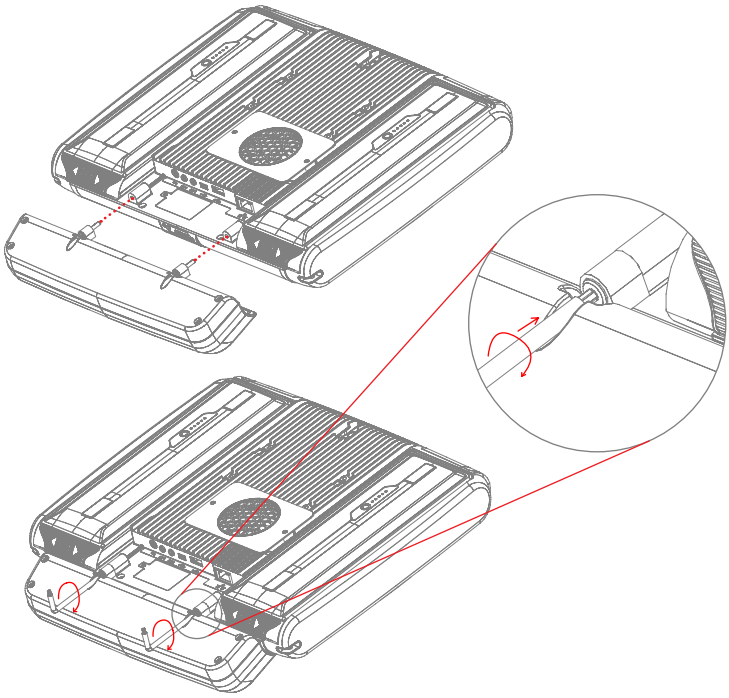


When mounting the Tobii CEye to a Tobii C12 or C15 it is important that the contact areas between them are clean.

Mount the CEye to the Tobii C12 or C15 in the following way:

1. Make sure that the Tobii C12/C15 is shut down.
2. Remove the power adapter and batteries.
3. Place the Tobii C12/C15 face down on a flat surface.
4. Use the accompanying Torx 10 screwdriver and screws to mount the CEye to the Tobii C12/C15.

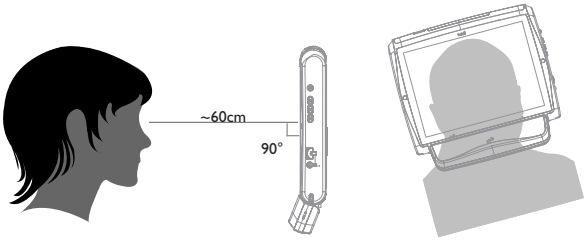
Do not overtighten the screws, tighten until you encounter resistance. Overtightening may increase risk for breakage and will not improve functionality. First, screw one screw in lightly, then the second, lightly. Second, tighten the first screw, then the second.



6.2 Using the Tobii CEye Module

6.2.1 Positioning

The Tobii C12 or C15 with the CEye attached is designed to work optimally when it is parallel to the user's eyes at a distance of about 60 cm (23.5 in). This means that for those users leaning sideways or those lying down the C12/CEye or C15/CEye also needs to be tilted in order to keep the users eyes parallel to the screen and at the optimal distance.

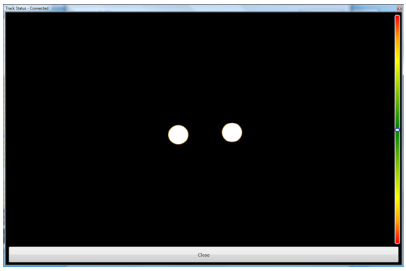


Make sure the user is placed comfortably in relation to the optimal positioning of, and distance from, the unit. Be aware also that the user's comfort, as well as the Eye Tracking performance, will be enhanced if the sun is not shining directly on the screen or into the user's eyes.

6.2.2 Track Status Viewer

Use the Track Status viewer (see **Using the Tobii C-Eye Module>Showing Track Status** for more information on how open the Track Status viewer) to help determine the optimal height and horizontal positioning for eye tracking with the C12/CEye or C15/CEye.

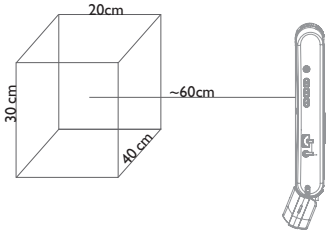
- Ideally, the two dots that represent the user's eyes should be in the middle of the Track Status viewer.
- Use the distance meter on the right hand side of the Track Status viewer to determine the optimal distance the user should be from the C12/CEye or C15/CEye.
- The white bar in the distance meter should hover near the center, within the green, when the optimal distance from the C12/CEye or C15/CEye is reached.



For information about calibration of the CEye see **Using the Tobii C-Eye Module>Calibrating**. Also check the lighting conditions, related to what is mentioned above, when calibrating.

6.2.3 Track Box

The Tobii CEye allows for extensive head movement. Once the C12/ CEye or C15/CEye is properly calibrated and placed in front of the user, no further adjustments are required.



The Tobii CEye produces an industry leading sized track box with the approximate dimensions of 40 cm x 30 cm 20 cm / 15.7 in x 11.8 in x 7.9 in (Width x Height x Depth). The Track Box is an invisible box positioned approximately 60 cm (23.5 in) straight out from a point just above the middle of the C12 screen.

In order to be tracked properly for functional Eye Tracking the user needs at least one eye in the track box at all times.

6.2.4 Accessing the Tobii Eye Control Options

The **Tobii Eye Control Options** is a program for quick and easy access to control functions such as track status, calibration and common settings. You start **Tobii Eye Control Options** in one of the following ways:

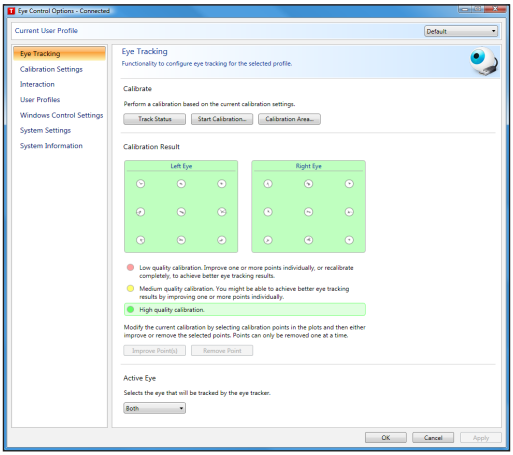
- Go to **Start** menu > **All Programs** > **Tobii** > **Tobii Eye Control Suite** > **Tobii Eye Control Options**.
- Double-click on the **Tobii Eye Control Options** icon, , in the Notification area, or on the shortcut, , on the Desktop (if one has been made).
- Right-click (hold finger on icon for touch screen right clicking) on the **Tobii Eye Control Options** icon, , in the Notification area and then click **Settings**.

In the list to the left in **Tobii Eye Control Options**, select which option you want to change. In the list to the right, the available options will be revealed.

Click **OK** to save changes. This will also close Tobii Eye Control Options closes.

Click **Cancel** to cancel the changes. This will also close Tobii Eye Control Options.

Click **Apply** to save changes. Tobii Eye Control Options will remain open.

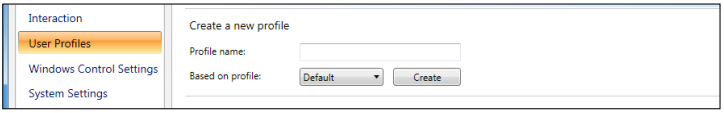


6.2.5 Creating a New Profile

Use of different profiles allows you to store multiple people's calibrations and feedback preferences on one device. Alternatively, one person might want to store multiple profiles for him/herself if that person wears glasses occasionally or uses multiple means of accessing the device.

To create a new profile:

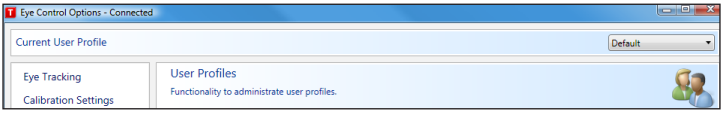
1. Open **Tobii Eye Control Options**, click **User Profiles**.
2. Enter a new name in the **Profile name** field.
3. Select an existing profile in the **Based on profile** drop down list. The new profile will inherit all settings from the selected profile. Note that if no profiles have been created previously, the only one to select is the default profile.
4. Click **Create** to save the new profile. The new profile is saved directly upon clicking **Create**.



6.2.6 Selecting Current User Profile

To select current user profile:

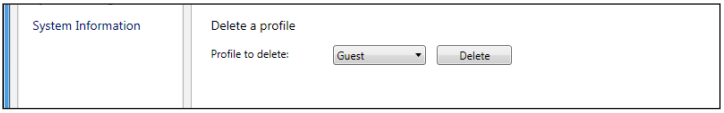
1. Open **Tobii Eye Control Options**.
2. Select a user profile in the **Current User Profile** drop down list.
3. Select **Apply**.



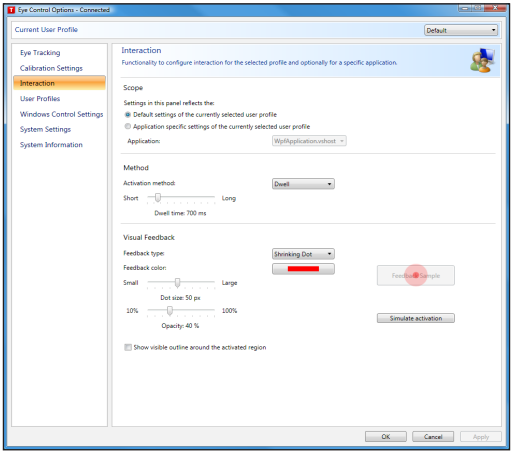
6.2.7 Deleting a Profile

To delete a profile:

1. Open **Tobii Eye Control Options** > **User Profiles**.
2. Select a profile in the **Profile to delete** drop down list.
3. Click **Delete** to delete the selected profile. The profile is deleted directly upon clicking Delete. Note that the default profile cannot be deleted.



6.2.8 Customizing the Interaction



To adapt the CEye module's interaction, follow the steps below.

1. Open **Tobii Eye Control Options** > **Interaction**.

Scope

2. Select how the interactions setting should be reflected:

    - Click **Default settings of the currently selected user profile** if you want to apply the new settings to the whole user profile and not only to a particular application.
    - Click **Application specific settings of the currently selected user profile** if you want to apply the new settings to a specific application of a user profile. Then select application in the **Application** drop down list.

Method

3. Select the activation method from the **Activation method** drop down list. There are three methods available, each with different activation times:

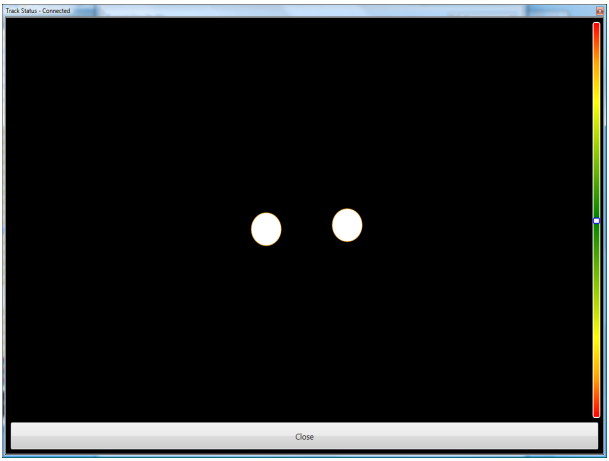
    - Dwell. Adjust the dwell time by moving the **Dwell time** slider.
    - Switch. Adjust the minimum time for a click duration and the minimum time between clicks by moving the respective slider.
    - Blink. Adjust the minimum and maximum duration for a blink by moving the respective slider.

Visual Feedback

4. Select the symbol for visual feedback from the **Dwell feedback type** drop down list.
5. Select the color of the feedback symbol in the **Feedback color** drop down list.
6. Specify the dot size and opacity of the feedback symbol by moving the respective slider.
7. Select the **Show visible outline around the activated region** checkbox to see a dashed line around the activated area in all instances of eye control selection
8. Select **Simulate activation** if you want to see how the activation method will appear on the screen. The example is shown above the **Simulate activation** button.

6.2.9 Showing Track Status

The track status viewer is a window/dialog where you can verify that the eye tracker recognizes your eyes and that you are well positioned in front of the device.



Open the track status viewer in one of the following ways:

- Open **Tobii Eye Control Options** > **Eye Tracking** and select the **Track status** button.
- Right-click (hold finger on icon for touch screen right clicking) on the **Tobii Eye Control Options** icon, , in the Notification area and select **Show track status**.

6.3 Calibration

6.3.1 Starting Calibration

The calibration can be started in one of the following ways:

- Open **Tobii Eye Control Options** > **Eye Tracking** and then click the **Start Calibration...** button.
- Right-click (hold finger on icon for touch screen right clicking) on the **Tobii Eye Control Options** icon, , in the Notification area and select **Start Calibration.**

6.3.2 Interrupting Calibration

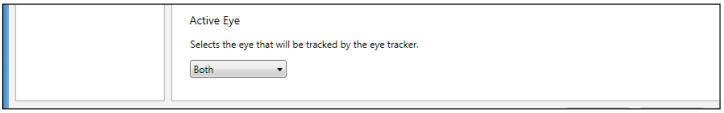
Interrupt the calibration in one of the following ways:

- Press **Esc**.
- Left-click on the screen with the mouse.
- Touch the screen.

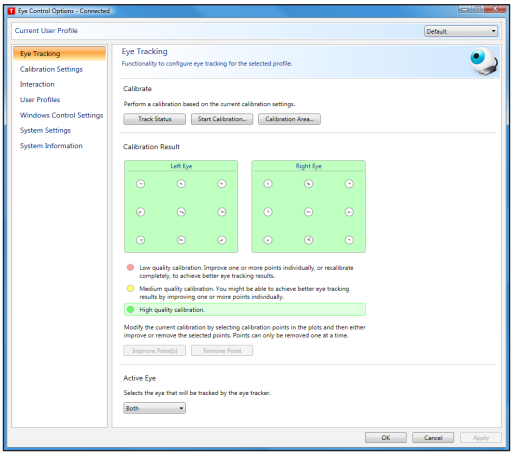
6.3.3 Customizing Active Eye

Select the eye you want to be tracked by the eye tracker by:

1. Opening **Tobii Eye Control Options** > **Eye Tracking**.
2. Selecting active eye from the **Active Eye** drop down list.
   Note! This is done after a calibration is finished.



6.3.4 Improving Calibration Point(s)



After calibration, you may want to improve one or more points.

There is a color scheme used that will help you to understand the quality of your calibration.

- If the background color of the Calibration Result is light red, you have achieved a relatively low quality calibration. You can improve one or more points individually, or recalibrate completely, to achieve better eye tracking results.

- If the background color of the Calibration Result is light yellow, you have achieved a medium quality calibration. You might be able achieve better eye tracking results by improving one or more points individually.

- If the background color of the Calibration Result is green, you have achieved a high quality calibration.

Be aware that no matter what quality of calibration you have achieved you will be able to select **OK** or **Apply** and begin using eye control. It is the accuracy and functionality of the eye control that is affected by the quality of the calibration results. Try for the best calibration possible.

The closer the lines within the calibration point are to a dot in the center of the circle of the calibration point, the better the calibration is of that point, .You can choose the points to be improved and calibrate only those points again. Improve one or more calibration points by:

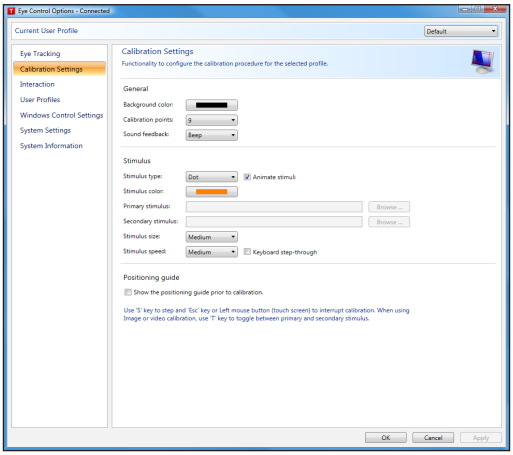
1. Opening **Tobii Eye Control Options** > **Eye Tracking**.
2. Under **Calibration Result** marking the point(s) you want to improve.
3. Clicking **Improve Point(s)** and a calibration for the selected point(s) will start.

6.3.5 Removing Calibration Point(s)

If there is a calibration point that is consistently bad after calibration (the green lines are scattered all around and outside the circle of the calibration point) you can remove that point completely from the calibration, this may improve the calibration of the other points. Be aware that if you remove a point, that area of the screen will be uncalibrated and eye tracking will not function properly there.
Remove one or more calibration points by:

1. Opening **Tobii Eye Control Options** > **Eye Tracking**.
2. Under **Calibration Result** marking the point(s) you want to remove.
3. Clicking **Remove Point(s)**.

6.3.6 Customizing the Calibration



To customize the calibration, follow the steps below.

1. Open **Tobii Eye Control Options** > **Calibration Settings**.

General

2. Select calibration background by clicking the background color button and select the desired color.
3. Specify the number of points you want to calibrate with (two, five or nine) from the **Calibration points** drop down list. The higher number of points, the more accurate the calibration.
4. Select if you want to have sound feedback or not from the **Sound feedback** drop down list.

Stimulus

5. Select the stimulus type from the **Stimulus type** drop down list. There are three types available, each with different customizing options:

    - Dot:

        - Select color of the dot by clicking the **Stimulus color** button.
        - Select size of the dot by selecting from the **Stimulus size** drop down list.
        - Select speed of the dot by selecting from the **Stimulus speed** drop down list.
    - Image:

        - Select primary stimulus by clicking **Browse** and selecting an image.
        - Select secondary stimulus by clicking **Browse** and selecting an image.
        - Select size of the image by selecting from the **Stimulus size** drop down list.
        - Select speed of the image by selecting from the **Stimulus speed** drop down list.

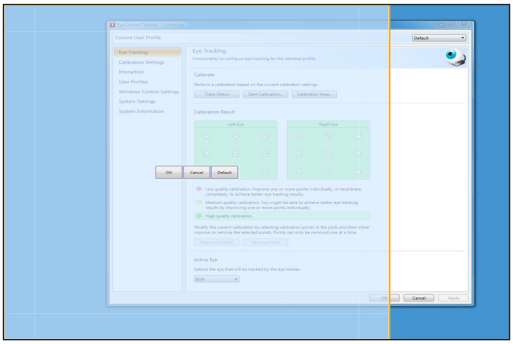
    - Video:

        - Select primary stimulus by clicking **Browse** and selecting a video.
        - Select secondary stimulus by clicking **Browse** and selecting a video.
        - Select size of the video by selecting from the **Stimulus size** drop down list.
        - Select speed of the video by selecting from the **Stimulus speed** drop down list.

6. Check the **Animate stimuli** check box if you want the stimuli to be animated.
7. If you want to control the calibration, i.e. decide when to move the calibration stimuli, with a keyboard, check the **Keyboard step-through** check box.

- For **Keyboard step-through,** use the 'S' key to step (to move the calibration stimuli) and the 'Esc' key, the Left mouse button or touching the touch screen to interrupt calibration. When using Image or Video calibration, use the 'T' key to toggle between primary and secondary stimulus images.

6.3.7 Customizing the Calibration Area



Customizing the calibration area can be useful if you have discovered that the user cannot access certain areas of the screen using eye control. By sizing the calibration area to exclude the areas that the user cannot access it can improve the overall calibration.

To customize the calibration area, follow the steps below:

1. Open **Tobii Eye Control Options** > **Eye Tracking**.
2. Click the **Calibration Area…** button.
3. A blue semi-transparent area is displayed on the desktop. You can move and resize the blue area to make it fit your preferred calibration area.

6.4 Windows Control

Windows Control allows you to access the desktop and all applications of your Windows computer with Eye Control and Gaze Interaction.

6.4.1 Starting and Disabling Windows Control

To start the Windows Control, right-click on the **Tobii Eye Control Options** icon, , in the Notification area and select **Enable Windows Control**.

Or

Select the **Tobii Windows Control** shortcut icon, , from your desktop. This will immediately start Windows Control.

To disable Windows Control right-click on the **Tobii Eye Control Options** icon, , in the Notification area and select **Disable Windows Control**.

You can also start the Windows Control from Tobii Communicator or alternative communication software, which has implemented the functions provided by the Tobii Eye Control SDK

Auto start

- Open **Tobii Eye Control Options** > **Windows Control Settings**.
- Check the **Auto start windows control at boot** check box if you want Windows Control to auto start when the Tobii Eye Control Suite starts.

6.4.2 Windows Control Type

Windows Control can be used in two different modes:

- Gaze Selection
- Mouse Emulation

To select which type of WIndows Control you wish to use and to customize Windows Control:

- Open **Tobii Eye Control Options** > **Windows Control Settings**.
- Select your prefered type of Windows Control under **Windows Control Type**

6.4.3 Gaze Selection

The Gaze Selection mode of Windows Control makes it possible for the user to control a standard Windows desktop operating system with a two step selection method which reduces the risks of unwanted clicks. It also prevents the following of the mouse cursor with your gaze as opposed to the controlling of it (there is no floating mouse cursor in Gaze Selection).

1. The first step is to select the desired Task from the docked Task Bar by looking at it.
2. The second step is to look at the desired portion of the screen (or icon on the screen) where you want to execute the Task. An automatic zoom function is enabled, ending in the selection of the icon or execution of the task.

The settings for Gaze Selection are found in the Gaze Selection Taskbar, docked to the screen when Gaze Selection Windows Control is running. Gaze at the cogwheel settings icon to select it and the Settings Dialog will open.

6.4.3.1 Gaze Selection Taskbar

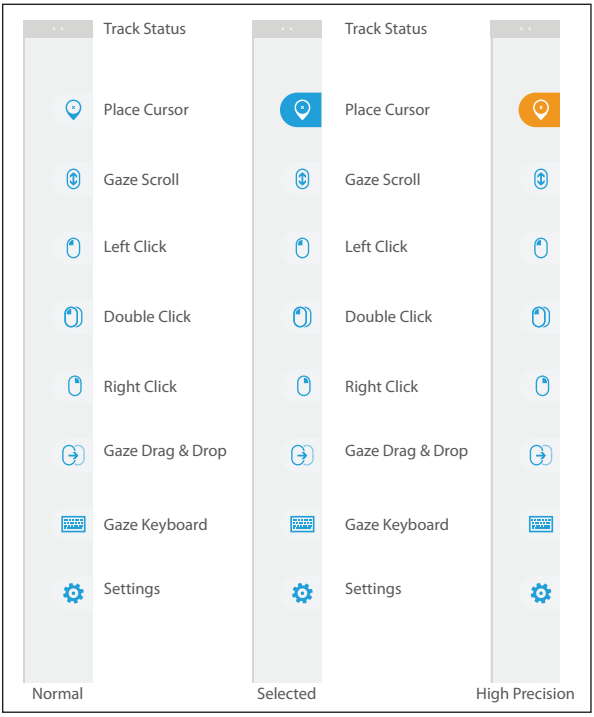
At the top of the Gaze Selection Taskbar there is a Track Status viewer. It allows you to verify that the eye tracker recognizes your eyes and that you are well positioned in front of the device.

The Task Buttons in the Gaze Selection Taskbar can be in three different modes as shown in the figure below.

- **Normal (Unselected)** - No Task Button for Gaze Selection is chosen.

- **Selected** - The marked Task Button is selected and the Task will be executed after the automatic zoom when the user looks at the desired position on the screen or icon on it. If the selection method is set to Switch in the Gaze Selection Settings Dialog, the chosen Task Button will still remain active after executing the Task.

- **High Precision** - Same as **Selected** but with a higher precision. **High Precision** means that the zoom will progress deeper before the final execution of the Task, making the desired portion of the screen bigger and easier to select within. Activate this mode by resting your gaze on the Task Button until the color changes according to the image below.



6.4.3.2 Task Buttons

Task Button	Action	Description
	Place Cursor	Task that places the mouse cursor on a desired point/ position. Used for mouse over functions, etc (this is not a "click").
	Gaze Scroll	Task that, if performed on a scrollable window, enables a gaze-controlled way to scroll the page • Select the Task • Look at any scrollable area and hold your gaze, the Gaze Scroll icon will appear where you looked • Look above the icon to scroll up • Look below the icon to scroll down • Look back at the Gaze Selection Taskbar (or outside of the screen) to end scrolling
	Left Click	Task that performs a single left-click
	Double Click	Task that performs a double left-click
	Right Click	Task that performs a single right-click

Task Button	Action	Description
	Gaze Drag & Drop	Task that performs two "clicks", where the first one represent the starting position for the drag and the second the drop position (to move objects or select areas). • Select the Task • Look at the object you want to move or the starting point for the area selection • Execute the Gaze Selection (first "click") by Switch or Gaze • Look immediately at the drop position for the object or end point for the area selection. • Execute the second "click" by Switch or Gaze
	Gaze Keyboard	Task that opens an on-screen Gaze enabled keyboard for Gaze typing
	Settings	Task that opens the Settings Dialog

6.4.3.3 Selection Methods

There are two methods to execute the chosen Task. The method of choice is set from within the Gaze Selection Settings Dialog.

Before executing a selection you must always select a Task from the Taskbar to execute. Gaze at your chosen task until it is highlighted as "Selected" or "High Precision".

- **Gaze** - To execute the chosen Task, rest your gaze at the desired portion of the screen (or icon on the screen) where you want to execute the Task. An automatic zoom function is enabled, ending in the selection of the icon or execution of the task.

- **Switch** - Two different execution modes.
  - **Single activation of the Switch** - the zoom function will execute in the same way as with the Gaze method and according to the settings made in the Gaze Selection Settings Dialog.
  - **Activate and hold the Switch** - the zoom function will zoom continuously and end only upon the release / deactivation of the switch.

When using the Gaze method, you always have to look back to the Taskbar to select a new Task after the execution of the Task, even if it is the same as you have just used.

When using the Switch method, the Task buttons will become "sticky" once you select them. This means that you do not have to look back at the Taskbar if you want to repeat the execution of a selected Task, only if you want to change the Task.

6.4.3.4 Gaze Keyboard

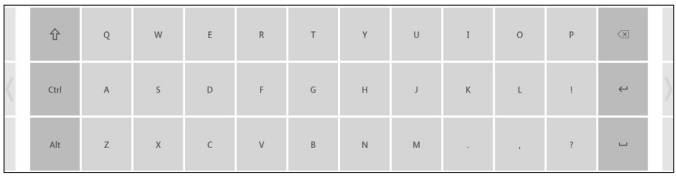
By selecting the Gaze Keyboard button on the Taskbar, the Gaze Keyboard will launch as an on-screen keyboad. The Gaze Keyboard will be positioned either at the top or at the buttom of the screen depending on where the user has placed the last mouse click (or last cursor position) before launching the Gaze Keyboard.

The Gaze Keyboard consists of four keyboard pages in a rotating loop. The user can easily switch between the different keyboard pages by selecting the next page buttons located to the far left and right on all pages of the Gaze Keyboard.

The key on the keyboard where the user is looking will be indicated by a light frame around the character/function on the key.

While the user is typing, the last 5-10 characters will be displayed in blue on the indicated/highlighted key. This feature assists the user in easily spotting misspellings and reduces the need for looking at the actual spot where the text is inserted, thus increasing typing speed.

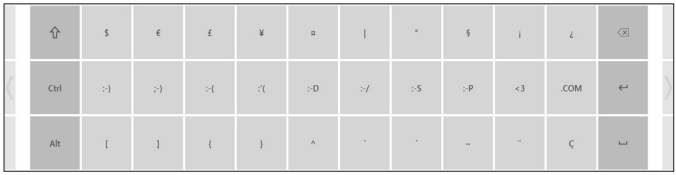
The four keyboard pages are:



Default Startup Page

First Page to the Right

Third Page



First Page to the Left (fourth Page)

The Shift, Ctrl, Alt, Win and Alt Gr keys will become "sticky" once selected. This means that they will stay selected until the user selects a new key from the keyboard. They will stay sticky if the next selected key is another sticky key.

To write a letter with an accent:

1. Select the accent
2. Select the character
3. The character will appear with the choosen accent.

The Number keys in the keyboard are positioned as on a Number Pad and can be used in combination with the Alt key to write Ascii characters.

1. Select the Alt key
2. Select the number combination for the Ascii character
3. Select the Alt key
4. The Ascii character will appear.

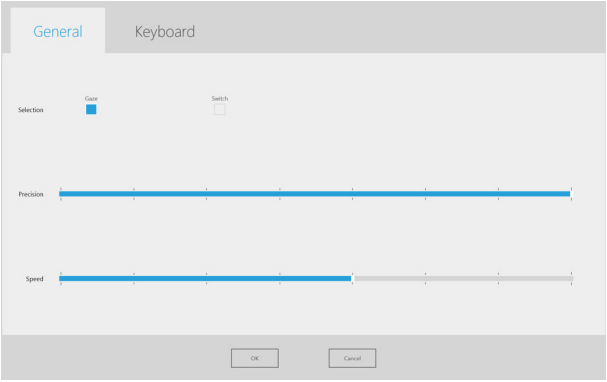
To delete a full word at a time instead of one character at a time:

1. Select the Ctrl key
2. Select the Backspace key

6.4.3.5 Gaze Selection Settings

The Gaze Selection Settings Dialog is Eye Controlled and the user can make all changes without using a keyboard and/or a mouse.

The General Settings Tab:



Selection

- **Gaze** - Choose Gaze to use your gaze position to activate the zooming function that ends with the execution of the desired Task.

- **Switch** - Choose Switch to use a switch to activate the zooming function that ends with the execution of the desired Task.

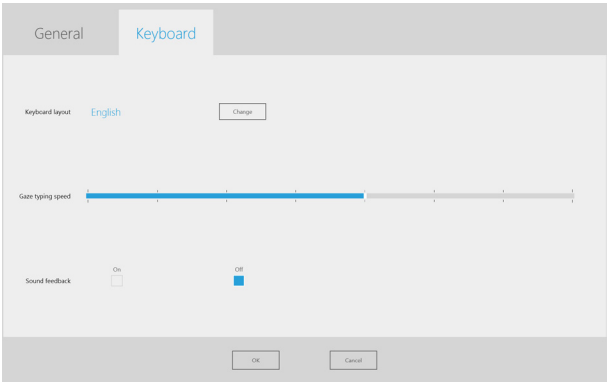
Precision

The zoom precision can be set to 8 different levels, just look at the desired position to change the setting. Changing the Precision will adjust how deep the zoom will go before executing the Task. The further to the right on the scale the deeper the zoom.

Speed

The zoom speed can be set to 8 different levels, just look at the desired position to change the setting. Changing the Speed will affect how fast the zoom is before the execution of the Task. The further to the right on the scale the faster the zoom.

The Keyboad Settings Tab:



Keyboard layout
The selected language keyboard layout is shown. Select the Change button to change the keyboard layout to another language. There are a number of different language keyboard layouts available.

Gaze typing speed
The Gaze typing speed can be set to 8 different levels, just look at the desired position to change the setting. Changing the Gaze typing speed will adjust how long the user must fix their gaze on a button before the Task is executed. The scale presents lower Gaze typing speeds to the left and higher to the right.

Sound feedback

- **On** - Choose On to activate sound feedback when selecting a button on the Gaze keyboard.

- **Off** - Choose Off to deactivate sound feedback when selecting a button on the Gaze keyboard.

To finish, select **OK** to save or **Cancel** to abort you changes.

6.4.3.6 Gaze Selection in Combination with Region Based Keyboards

Gaze Selection can be used in combination with other eye controlled applications. "Eye Enabled" regions in other applications are active as long as there is no active Task in the Gaze Selection Toolbar. If you are using Gaze Selection with switch the Task Buttons will be "sticky", if you need to deselect a Task just look back at the selected Task for a short moment.

6.4.3.7 Gaze Selection with "Windows Full Screen Mode"

When using Gaze Selection to view images, films, and files or to run programs in Windows Full Screen mode the Gaze Selection Taskbar will be covered.

To be able to exit Windows Full Screen mode without the Taskbar an "Esc" command has been emulated with a Gaze selectable "X" in the top left corner of anything that is run in Windows Full Screen mode.

To exit Windows Full Screen mode:

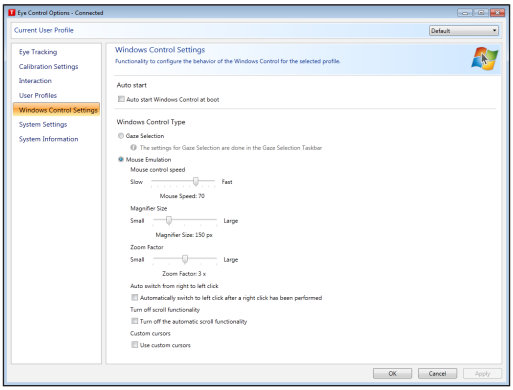
- Rest your Gaze for a few moments on the "X" in the top left corner of the screen. The "X" will be highlighted in red while it is being activated.
- Windows Full Screen mode will then be exited

Note that the "X" might be difficult to see sometimes depending on the colors of what is being viewed in Windows Full Screen mode. It always starts out large and shrinks to draw your attention to it.

6.4.4 Mouse Emulation

The Mouse Emulation mode makes it possible for the user to emulate and control a standard PC mouse pointer on the screen.

6.4.4.1 Customizing Windows Control for Mouse Emulation



Mouse control speed

- Customize the mouse control speed by moving the **Mouse control speed** slider. Move the slider to the right to increase the speed and to the left to decrease it.

Magnifier size and zoom

- Customize the size of the magnifier by moving the **Magnifier Size slider**. Move the slider to the right to increase the size and to the left to decrease it.
- Customize the zoom factor by moving the **Zoom Factor** slider. Move the slider to the right to increase the zoom factor and to the left to decrease it.

Auto switch from right to left click

- Check this check box if you want Windows Control Mouse Emulation mode to automatically switch the desired mouse click selection back to a left click, after a right click, has been chosen and performed.

Turn off scroll functionality

- Check the **Turn off scroll functionality** check box if you do not want eye controlled scrolling to be active.

Custom cursors

Custom cursors is a feature that turns the regular mouse cursor into a number of different cursors when using Windows Control in Mouse Emulation mode.

The different cursors visually represent the type of "mouse click" for eye control that you have chosen from the Mouse Emulation Menu (for the definitions of the Nouse Emulation Menu symbols see **Clicking with Windows Control in Mouse Emulation Mode**, **Magnifying with Windows Control in Mouse Emulation Mode** and **Selecting Mouse Emulation Functions**).

or + = cursor type (move cursor, no clicking)

+ = cursor type (single left click)

+ = cursor type (single right click)

+ = cursor type (double left click)

+ = cursor type (double right click)

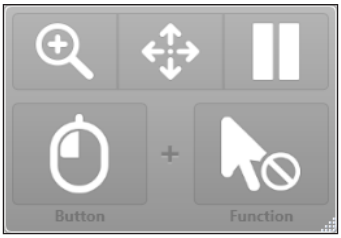
or + = cursor types (drag) and (drop)

or + = cursor type (no movement)

- Check the Custom cursors check box to activate custom cursors for Windows Control in Mouse Emulation mode.

6.4.4.2 Placing the Mouse Emulation Menu

The menu can be placed anywhere on the desktop or docked along the edge of the screen. You dock the Mouse Emulation Menu by dragging it to the edge of the screen. You can also do this by pressing and dragging the Move icon . When the menu is docked you have to look outside the screen to bring up the Mouse Emulation Menu items.



6.4.4.3 Clicking with Windows Control in Mouse Emulation Mode

Select what type of mouse click you want to perform from the **Button** drop down list in the Mouse Emulation Menu.

Right-click simulates a right mouse click.

Left-click simulates a left mouse click.

6.4.4.4 Magnifying with Windows Control in Mouse Emulation Mode

To use the magnifier, select the magnifier icon, , in the Mouse Emulation Menu.

If you want to perform a click with the magnifier:

1. Select the magnifier.
2. Select the other options as usual. The options will now have changed to reflect the magnification state.

Right Click Zoom

Left Click Zoom

6.4.4.5 Selecting Mouse Emulation Functions

You can set different functions for clicking:

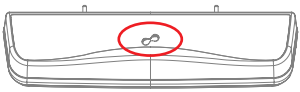
- Mouse cursor
- No cursor movement on screen
- Single-click
- Double-click
- Drag and drop

6.4.4.6 Pausing Windows Control in Mouse Emulation Mode

To pause Windows Control select the Pause icon in the Windows Control Menu.

- Pause

When Windows Control is not enabled, pausing eye control can also be accomplished by looking at (about) the Tobii logo at the bottom/center of the Tobii CEye, then selecting, using eye control, the pause icon that pops up.



6.4.4.7 Scrolling with Windows Control in Mouse Emulation Mode

The scroll buttons appear automatically in the upper right corner in any object which can be scrolled. The buttons will only appear on the window which has focus. To activate the scroll press the ↕ icon. If the buttons are in the way you can use the ⊗ icon to hide them.

When scroll mode is activated you will see a shaded gradient over the window which will be scrolled.

To scroll, look at the top or bottom of this gradient area.

Scroll functionality can be turned off in **Tobii Eye Control Options > Windows Control Settings > Turn off scroll functionality.**

7 Product Care

7.1 Temperature & Humidity

7.1.1 General Use

The Tobii C-series and CEye is best kept in dry conditions at room temperature. The recommended range for temperature and the humidity value for the device is as follows:

Portable mode:

- Temperature: 0°C to 30°C (32°F to 86°F)
- Humidity: Max 70% (no condensation on the device)

Mounted mode:

- Temperature: 0°C to 40°C (32°F to 104°F)
- Humidity: Max 70% (no condensation on the device)

7.1.2 Transportation and Storage

For transportation and storage excluding batteries the recommended range for temperature and the humidity value for the device is as follows:

- Temperature: -40°C to 70°C (-40°F to 158°F)
- Humidity: 20% to 70% (no condensation on the device)

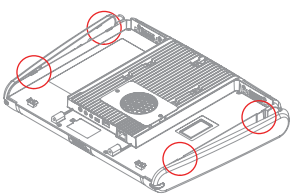
The Tobii C-series and CEye is not waterproof or water resistant. The device should not be kept in excessively humid, damp or otherwise wet conditions. Do not submerge the device in water or in any other liquid. Be careful not to allow liquids to be spilled upon the device.

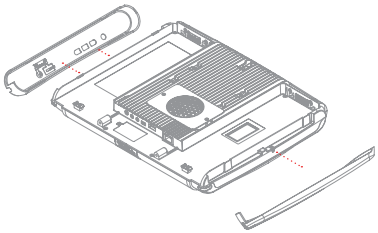
7.2 Changing the Side Covers

To remove the side covers:

1. Shut down the C-series.
2. Remove the power adaptor and batteries (**See Installing and Releasing the Batteries**)
3. Place the C-Series device face down on a flat surface with the side cover you wish to remove facing away from you.
4. Take a firm grip on the top and bottom of the device and push the

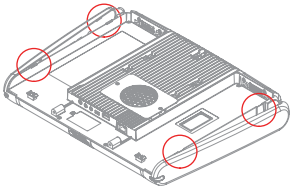
two protruding plastic tabs away from you with your thumbs. With some pressure the tabs should release and the side cover should come off.

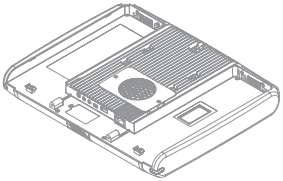




To reapply the side covers:

1. Place the C-Series device face down on a flat surface with the side cover you wish to apply facing away from you.
2. Place the plastic tabs in their slots on the device.
3. Press the side cover onto the side of the device. You should hear a click when it has fastened.





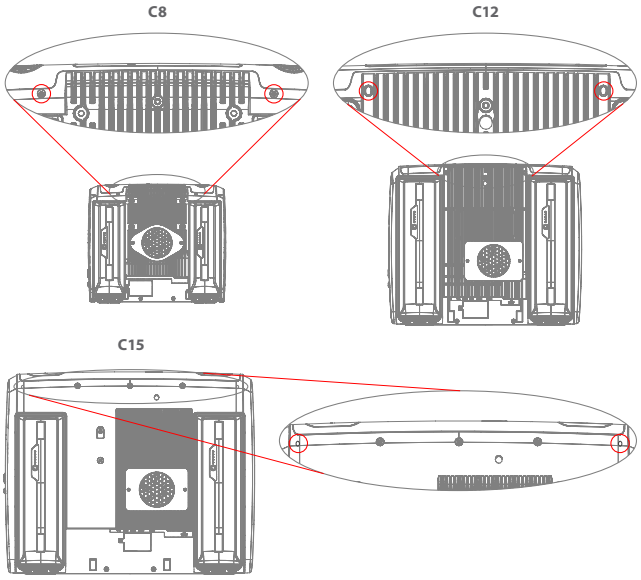
When reapplying the side cover to the side of the device with the power button, be sure that the power button (and other buttons) makes it's way through the hole in the side cover and is not stuck under it. Otherwise the device might not start, as the power button may be registered as pressed.

7.3 Cleaning

Before cleaning the C-Series device shut it down, unplug all cables and remove the batteries. Use a soft, slightly damp, lint-free cloth. Avoid getting moisture in openings on the device. Don't use window cleaners, household cleaners, aerosol sprays, solvents, alcohol, ammonia, or abrasives to clean the device.

7.3.1 Cleaning of the Speaker Mesh

Spray the speaker mesh carefully with a water and dish soap mixture using a misting spray bottle. Wipe the mesh clean. If excess moisture gets into the speaker housing, make sure that it drains through the drainage holes (see illustration) in the back of the device.



7.4 Placement

Only use the arms and stands specified by the supplier and make sure that they are mounted and fastened correctly according to the instructions. Do not place the device on unstable and uneven surfaces.

Do not cover the ventilation opening on the back of the device, with the fan underneath. If this opening is covered, built up heat may cause failure and be a possible fire hazard.

7.5 Transporting the C-Series Device

Disconnect all the cables and either hold the device with both hands while carrying it, or use the included carrying strap/shoulder strap (the carrying strap/shoulder strap is not included for the C15).
When you transport the device for repair, shipment or traveling, use the original casing and packaging materials.

⚠ If you have attached a CEye to a C12 or C15 device, do not carry the connected devices by solely gripping the CEye. The CEye attachment points may not hold the weight of the C12 or C15, and the devices could break apart causing permanent damage to both and causing the C12 or C15 to fall.

7.6 Disposing of the Batteries

Do not dispose of the batteries in general household or office waste. Follow your local regulations for the disposal of batteries.

7.7 Disposing of the C-Series Device

Do not dispose of the C-Series Device in general household or office waste. Follow your local regulations for the disposal of electrical and electronic equipment.

8 Appendices

8.1 Appendix A: Training Resources

Tobii offers a range of training resources for the C-Series products and related communication products. You can find them on the Tobii website, www.tobii.com, including Getting Started Guides, webinars and Quick guides. The C-Series Getting Started Guide is delivered with, and stored on, the device.

8.2 Appendix B: CEye - Software License

The CEye module contains open source software. Please refer to the attached license document for terms and conditions.

8.3 Appendix C: Compliance Information

8.3.1 FCC Statment

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

⚠ Modifications not expressly approved by Tobii Technology could void the user's authority to operate the equipment under FCC rules.

This equipment 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. This equipment generates, uses and 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 this equipment 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 one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into a wall outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or experienced radio/TV technician for assistance.

8.3.2 Radio Wave Exposure and Specific Absorption Rate (SAR) Information

The C-Series device has been tested as a Class 1 Medical Device. Medical electrical equipment such as this requires special caution regarding Electro-magnetic Compatibility (EMC) and thus needs to be installed and placed into service according to the information provided in this manual.

⚠ Using other cables and accessories other than those provided or that are integrated in the device may affect EMC performance.

The SAR (Specific Absorbtion Rate) limit as dictated by the FCC (in the USA) is 1.6W/kg averaged over 1 gram of tissue. In Europe/EU (CE regulations) it is 2.0 W/kg averaged over 10 grams of tissue. The Devices, Tobii C8 (FCC ID: W5MTOBIIC8), Tobii C12 (FCC ID: W5MTOBIIC12B) and Tobii C15 (FCC ID:W5MTOBIIC15) have been tested against these SAR limits to maintain compliance with FCC/CE RF exposure requirements.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.
The highest SAR value for the C8 device is: 1.025 W/kg. The highest SAR value for the C12 device is 0.107 W/kg. The highest SAR value for the C15 device is 0.16 W/kg.

Guidance and manufacturer's declaration – electromagnetic emissions		
The C-Series is intended for use in the electromagnetic environment specified below. The customer or the user of the C-Series device should assure that it is used in such an environment.		
Emissions Test	**Compliance**	**Electromagnetic environment – guidance**
RF (Radio Frequency) emissions CISPR 11	Group 1	The C-Series must emit electromagnetic energy in order to perform its intended function. Nearby electronic equipment may be affected
RF emissions CISPR 11	Class B	
Harmonic emissions IEC 61000-3-2	Not Applicable	The product has an active power of P≤75 W at rated load conditions. Therefore no limits are applicable.
Voltage Fluctuations/flicker emissions IEC 61000-3-3	Not Applicable	The product has an active power of P≤75 W at rated load conditions. Therefore it is not likely to produce voltage fluctuations or flicker above the limit values.

⚠ The C-Series device should not be used adjacent to or stacked with other equipment.

Guidance and manufacturer's declaration – electromagnetic immunity			
The C-Series device is intended for use in the electromagnetic environment specified below. The customer or the user of the C-series device should assure that it is used in such an environment.			
IMMUNITY test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment – guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/ output lines	± 2 kV for power supply lines ± 1 kV for input/ output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line to line	± 1 kV line to line	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines. IEC 61000-4-11	< 5 % U_T (>95 % dip in U_T) for 0.5 cycles. 40 % U_T (60 % dip in U_T) for 5 cycles. 70 % U_T (30 % dip in U_T) for 25 cycles. < 5 % U_T (>95 % dip in U_T) for 5 s	< 5 % U_T (>95 % dip in U_T) for 0.5 cycles. 40 % U_T (60 % dip in U_T) for 5 cycles. 70 % U_T (30 % dip in U_T) for 25 cycles. < 5 % U_T (>95 % dip in U_T) for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the C-Series device requires continued operation during mains interruptions, it is recommended that the C-Series device batteries are in place or that the device be powered from an uninterruptable power supply (UPS). U_T is at 100 VAC 60 Hz or 230 VAC 50Hz.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Guidance and manufacturer's declaration – electromagnetic immunity

The C-Series device is intended for use in the electromagnetic environment specified below. The customer of the user of the C-Series device should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
			Portable and mobile RF communications equipment should be used no closer to any part of the C-Series device, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 V	$d = \frac{3.5}{3}\sqrt{P}$ for 150 kHz to 80 MHz
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d = \frac{3.5}{3}\sqrt{P}$ for 80 MHz to 800 MHz $d = \frac{7}{3}\sqrt{P}$ for 800 MHz to 2.5 GHz where "P" is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and "d" is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,[a] should be less than the compliance level in each frequency range.[b] Interference may occur in the vicinity of equipment marked with the following symbol.

NOTE 1 At 80MHz and 800MHz, the higher frequency range applies.
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflected from structures, objects and people.

a.	Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the C-Series device is used exceeds the applicable RF compliance level above, the C-Series device should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the C-Series device.
b.	Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF (Radio Frequency) communications equipment and the C-Series device.

The C-Series device is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the C-Series device can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communication equipment (transmitters) and the C-Series device as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
0.01	0.12 m	0.12 m	0.24 m
0.1	0.37 m	0.37 m	0.74 m
1	1.2 m	1.2 m	2.4 m
10	3.7 m	3.7 m	7.4 m
100	11.7 m	11.7 m	23.4 m

Under test specifications specified in 6.2.1.10 EN 60 601-1-2 (2007) the C-Series device shall not:

- Exhibit component failure
- Exhibit changes in its programmable parameters
- Reset unintentionally to factory defaults
- Emit false alarms
- Initiate any unintended operation, even if accompanied by alarm

With regard to the test specifications specified in 6.2.1.10 EN 60 601-1-2 (2007) the cessation or interruption of any intended operation, even if accompanied by an alarm, is allowed in the C-Series device due to it not performing any safety critical operations.

Also with regard to the test specifications specified in 6.2.1.10 EN 60 601-1-2 (2007) errors of a displayed numerical value sufficiently large to affect diagnosis or treatment is not applicable for the C-Series device.

In order to maintain compliance as a Class 1 Medical device, the switches that are used in combination with the C-Series device must fulfill the isolation requirements of IEC/EN 60601-1 based on 15 V DC. They must be electrically floating switches (switches that are not grounded).

8.3.3 Industry Canada Statement

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This device has been tested to the safety requirements for exposure to radio waves (SAR) in RSS-102 to the General Public (Uncontrolled Environment) limits (1.6W/Kg). The highest SAR value for the C8 device is: 1.025 W/kg. The highest SAR value for the C12 device is 0.107 W/kg. The highest SAR value for the C15 device is 0.16 W/kg. This device can be operated safely with a minimum distance 0cm between the equipment and the user's body.

Ce dispositif a été testé aux exigences de sécurité pour l'exposition aux ondes radio (SAR) dans le CNR-102 à le grand public (environnement non contrôlé) des limites (1.6W/Kg). La valeur maximale mesurée est de SAR pour le C8 dispositif est: 1.025 W/kg. La valeur maximale mesurée est de SAR pour le C12 dispositif est: 0.107 W/kg. La valeur maximale mesurée

est de SAR pour le C15 dispositif est: 0.16 W/kg. Ce dispositif peut être exploité en toute sécurité avec un 0cm distance minimale entre le matériel et les corps de l'utilisateur.

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.

8.4 Appendix D: Technical Specifications

Standard	Tobii C8	Tobii C12	Tobii C15
Model	T-C84-R1.0A-V0	T-C12-R1.0A-V1	T-C15-R1.0A-V0
Screen	8.4" resistive touch, CCFL backlit	12.1" resistive touch, CCFL backlit	15.0" resistive touch, LED backlit
Screen resolution	800 x 600 pixels	1024 x 768 pixels	1024 x 768 pixels
Dimensions (WxHxD)	9.4" x 7.9" x 1.5" 23,9 x 20,1 x 3,8 cm	12.3" x 10.4" x 1.8" 31,2 x 26,4 x 4,6 cm	14.6" x 11.8" x 2.2" 37,0 x 30,0 x 5,7 cm
Weight	4.0 lbs 1,8 kg	6.5 lbs 2,9 kg	8.8 lbs 4,0 kg
Speakers	2 integrated	2 pairs integrated	
Microphones	2 integrated		
Processor	Intel Core Duo U2500 / 1,2 GHz		
RAM	2GB DDR2		
Operating system	Microsoft Windows 7		
Hard disk drive	60GB		
SD Card	1GB		
Connectors	2 x USB 2.0 1 x Mini USB 2.0 Ethernet (1 x RJ45) 2 x 1/8" Switch 1 x 1/8" Headphone (stereo) 1 x DC in 2.5/5.5 mm		
WLAN (optional)	IEEE 802.11 b/g	IEEE 802.11 b/g/n	
Bluetooth (optional)	Class 2 v2.1 + EDR		
Mobile Phone / GSM (optional)	Tri-band (900, 1800, 1900 MHz)	Quad-band (850, 900, 1800, 1900 MHz)	
ECU (Environmental Control Unit)	Tira-2.1		
Battery Time	~6h	~5h	~5h
Camera	640x480 pixels		
Deskstand	Integrated		
Mounting Systems Supported	Optional brackets for Vesa, Daessy, Rehadapt, CJT		
Power Supply	Powerbox EXM 80 5121 (24 V)		

RF Free	Tobii C8	Tobii C12	Tobii C15
Model	Tobii C8 RF Free	Tobii C12 RF Free	Tobii C15 RF Free
Screen	8.4" resistive touch, CCFL backlit	12.1" resistive touch, CCFL backlit	15.0" resistive touch, LED backlit
Screen resolution	800 x 600 pixels	1024 x 768 pixels	1024 x 768 pixels
Dimensions (WxHxD)	9.4" x 7.9" x 1.5" 23,9 x 20,1 x 3,8 cm	12.3" x 10.4" x 1.8" 31,2 x 26,4 x 4,6 cm	14.6" x 11.8" x 2.2" 37,0 x 30,0 x 5,7 cm
Weight	4.0 lbs 1,8 kg	6.5 lbs 2,9 kg	8.8 lbs 4,0 kg
Speakers	2 integrated	2 pairs integrated	
Microphones	2 integrated		
Processor	Intel Core Duo U2500 / 1,2 GHz		
RAM	2GB DDR2		
Operating system	Microsoft Windows 7		
Hard disk drive	60GB		
SD Card	1GB		
Connectors	2 x USB 2.0 1 x Mini USB 2.0 Ethernet (1 x RJ45) 2 x 1/8" Switch 1 x 1/8" Headphone (stereo) 1 x DC in 2.5/5.5 mm		
ECU (Environmental Control Unit)	Tira-2.1		
Battery Time	~6h	~5h	~5h
Camera	640x480 pixels		
Deskstand	Integrated		
Mounting Systems Supported	Optional brackets for Vesa, Daessy, Rehadapt, CJT		
Power Supply	Powerbox EXM 80 5121 (24 V)		

	Tobii CEye
Working distance (optimal)	23,5 in 60 cm
Track Box -for Eye/Head Movement (Width Height Depth)	15,7 x 11,8 x 7,9 in 40 x 30 x 20 cm
Head movement speed (optimal)	11,8 in/s 30 cm/s
Gaze Data rate	Variable, up to 40 Hz
Accuracy gaze estimation	0,8 degrees
Weight	12.3 oz 350 g

8.5 Appendix E: Approved Accessories

For information about the latest approved Tobii Accessories, please visit the www.tobii.com website or contact your local Tobii reseller.

tobii
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Tobii Support

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