

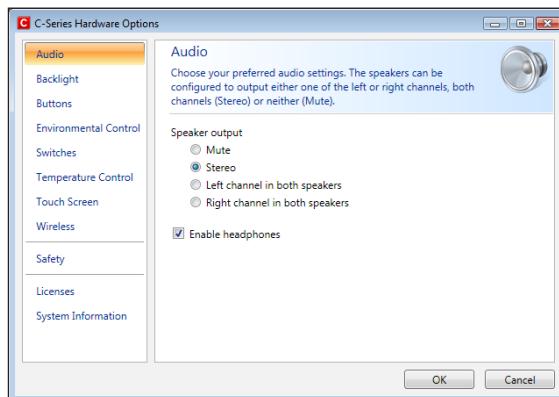
5.6.1 Adjusting the Sound

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)

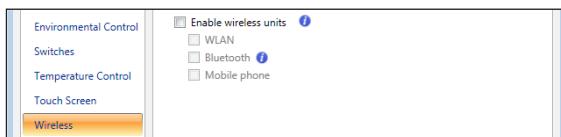
The built-in Bluetooth® enables connection to wireless devices which comply with ordinary Bluetooth® standards.

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.



— Notification Area

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)

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:

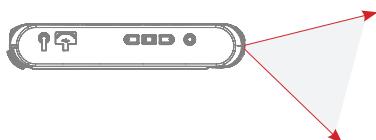
1. Click on the **WLAN** icon, , in the Notification area on the Desktop.
2. Select **Connect to a network**.
3. Select a network to connect to.

ⓘ 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.

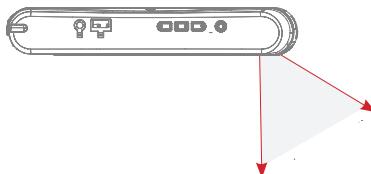
ⓘ Using an antivirus program is strongly recommended.

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.



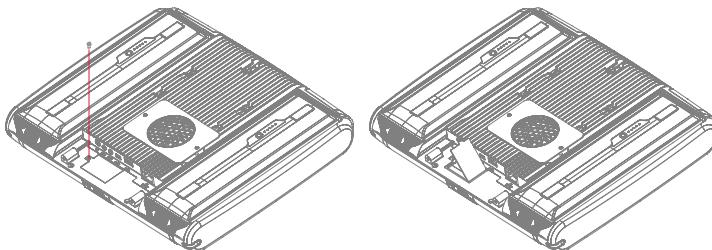
On the Tobii CI2 and Tobii CI5, it is located on the back of the device.



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

5.11 Using the Mobile Phone (optional)

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

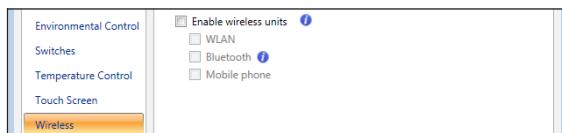
5.11.1 Handling Licenses

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.

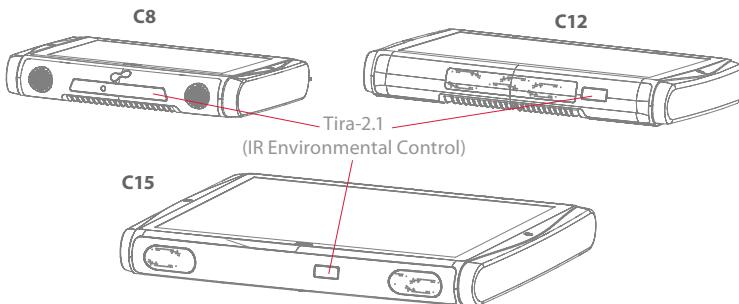
To disable Mobile phone communication:

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

i 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.I. 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.



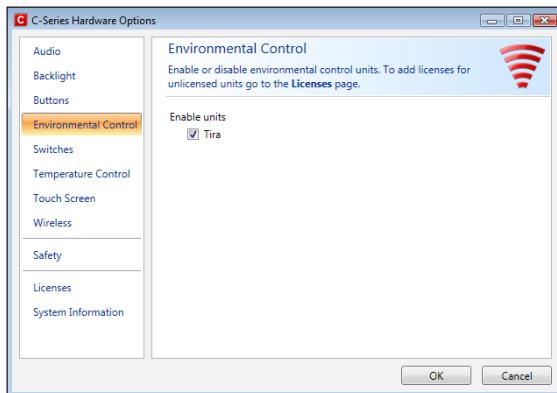
- ⓘ If the device you are trying to control is not responding, try tilting the C-Series device up or down slightly to change angle at which the IR signal is being sent.

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:

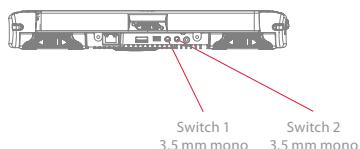
- Select the Tira check box.

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

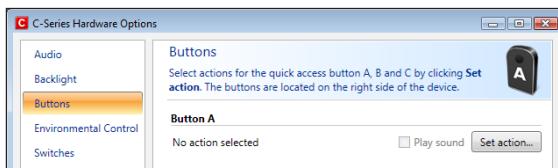
This is a short description of each action available to set:

- 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:

- I. 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.



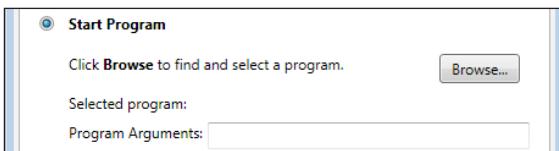
5.13.2 Selecting Actions

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.

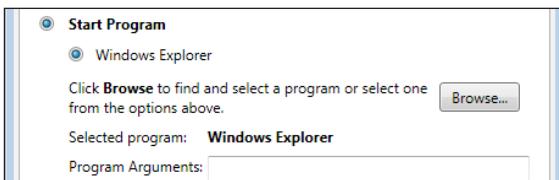


- **Send keyboard input** – In the **Send keyboard input** list, select the keystroke you want to send to an alternative program.
- **Send mouse click** – In the **Send mouse click** list, select the desired mouse click: left, middle or right mouse click.
- **Send text** – In the **Send text box**, type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

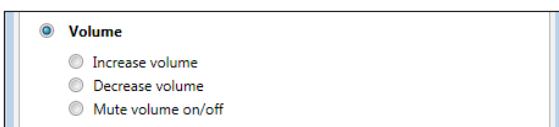


The next time you click the **Start Program** option a list of previously selected programs will be displayed. You can then directly select a program from the list or click **Browse** if you want to start a program not in the list.



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.

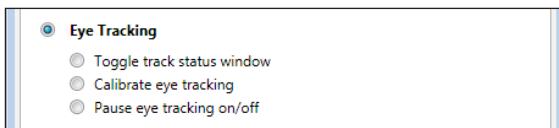


Backlight – choose to either increase or decrease the screen backlight by clicking the preferred option.



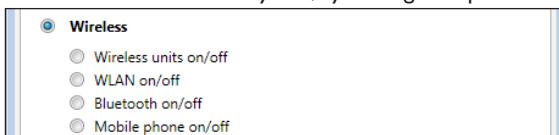
Eye Tracking – choose to toggle track status window, calibrate eye

tracking or toggle eye tracking on/off.

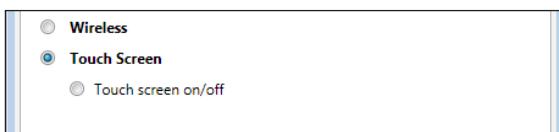


- ➊ To enable this option you have to install the Tobii Eye Control Suite and a CEye. See **Tobii CEye Module** chapter.

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.

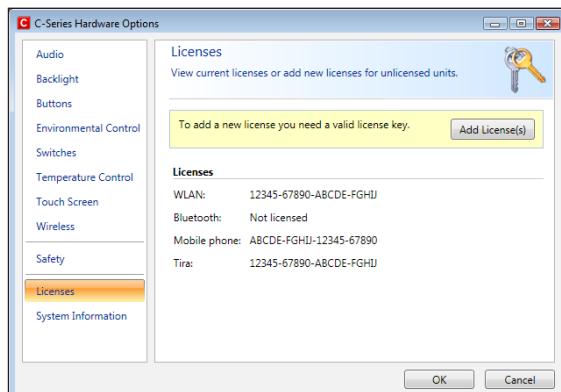


- ➋ If actions for a Switch are customized both in the C-Series Hardware Options and in Tobii Communicator or in alternative communication software all actions will be performed simultaneously. Ensure that the specified action for a Switch does not conflict with an action set for the same Switch in Tobii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

5.14 Handling Licenses

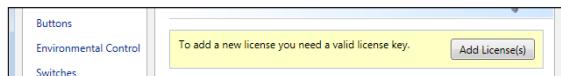
To add new and/or view existing licenses:

- 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.

- ➊ 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.

- ➊ 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, perform 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 Sensitive)
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.

- ➋ 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 connect the Tobii CEye Module to the device and then install the Tobii Eye Control Suite. See instructions below.

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

6.1.1 Mounting the CEye Module to the Tobii C12 or C15

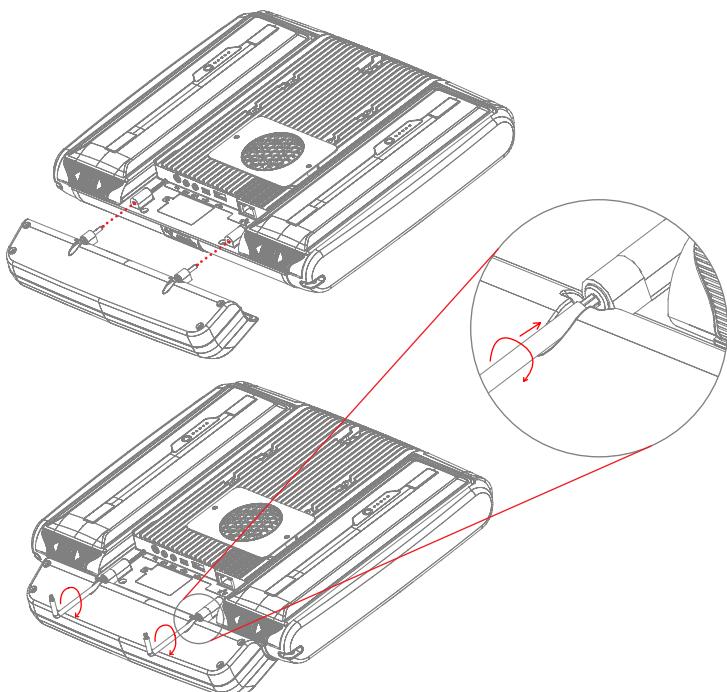


When mounting the Tobii CEye to a Tobii C12 or C15 it is important that the contact areas between them are clean.

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 T10 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.



6.1.2 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**.

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

6.1.3 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 **T -Startup** icon to start the **Tobii Eye Control Suite** installation process.

 Be aware that after double-clicking the **T -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:

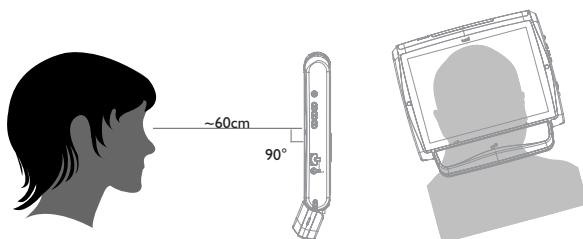
- **Start > All Programs > Tobii > Tobii Eye Control Suite > Tobii Eye Control Options**

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

6.2 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.

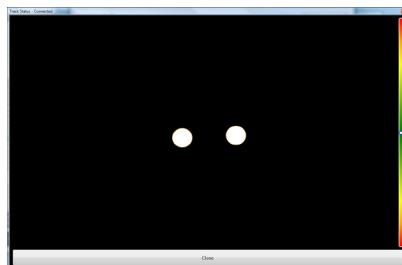


- ➊ Make sure the user is placed comfortably in relation to the optimal positioning of, and distance from, the unit. Be aware also that the user's comfort, as well as the Eye Tracking performance, will be enhanced if the sun is not shining directly on the screen or into the user's eyes.

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.

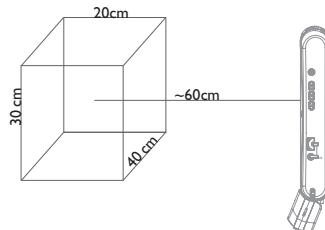
- Ideally, the two dots that represent the user's eyes should be in the middle of the Track Status viewer.
- Use the distance meter on the right hand side of the Track Status viewer to determine the optimal distance the user should be from the C12/CEye or C15/CEye.
- The white bar in the distance meter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

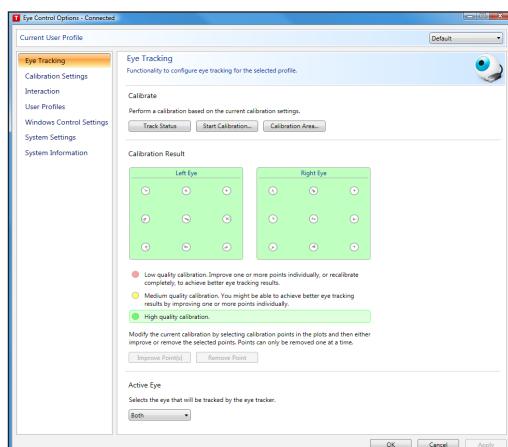
- Go to **Start** menu > **All Programs** > **Tobii** > **Tobii Eye Control Suite** > **Tobii Eye Control Options**.
- Double-click on the **Tobii Eye Control Options** icon, , in the Notification area, or on the shortcut, , on the Desktop (if one has been made).
- Right-click (hold finger on icon for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

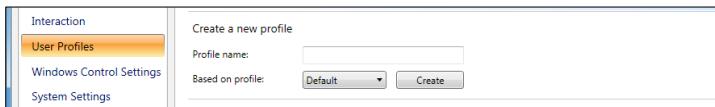


6.2.5 Creating a New Profile

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**.



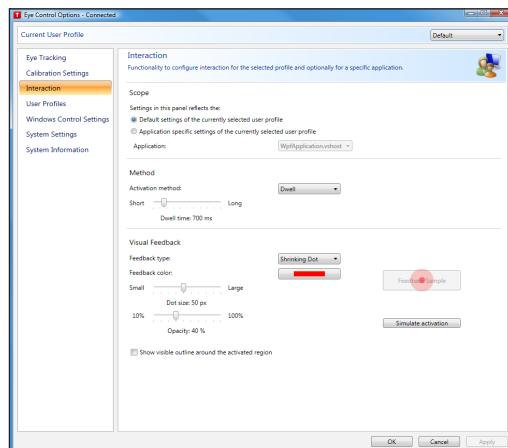
6.2.7 Deleting a Profile

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.

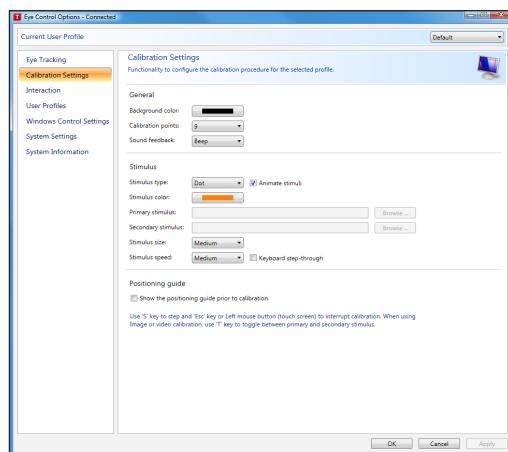
Method

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 Customizing the Calibration



To customize the calibration, follow the steps below.

I. Open Tobii Eye Control Options > Calibration Settings.

General

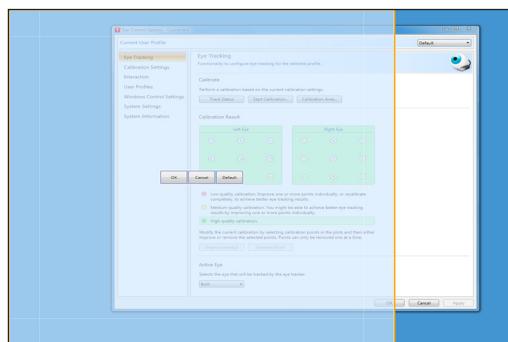
2. Select calibration background by clicking the background color button and select the desired color.
3. Specify the number of points you want to calibrate with (two, five or nine) from the **Calibration points** drop down list. The higher number of points, the more accurate the calibration.
4. Select 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.

6.2.10 Customizing the Calibration Area



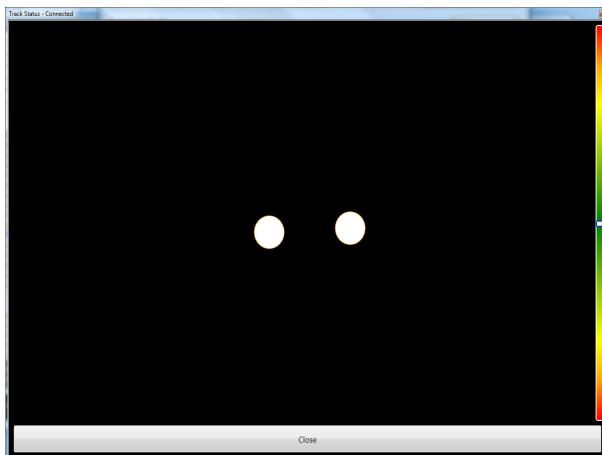
Customizing the calibration area can be useful if you have discovered that the user cannot access certain areas of the screen using eye control. By sizing the calibration area to exclude the areas that the user cannot access it can improve the overall calibration.

To customize the calibration area, follow the steps below:

- Open **Tobii Eye Control Options > Eye Tracking**.
- Click the **Calibration Area...** button.
- 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.

6.2.11 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**.



6.2.12 Calibrating

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**.



6.2.13 Interrupting Calibration

Interrupt the calibration in one of the following ways:

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

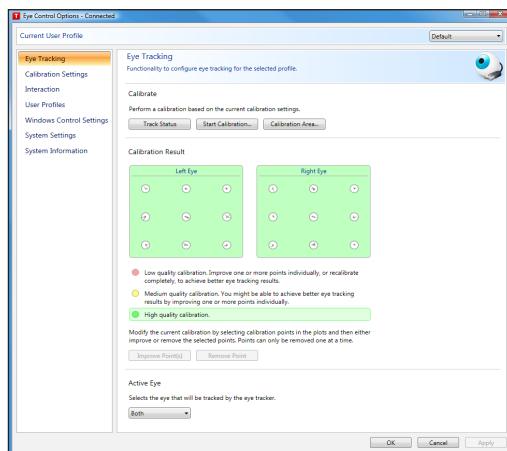
6.2.14 Customizing Active Eye

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.



6.2.15 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 to 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.

i 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.

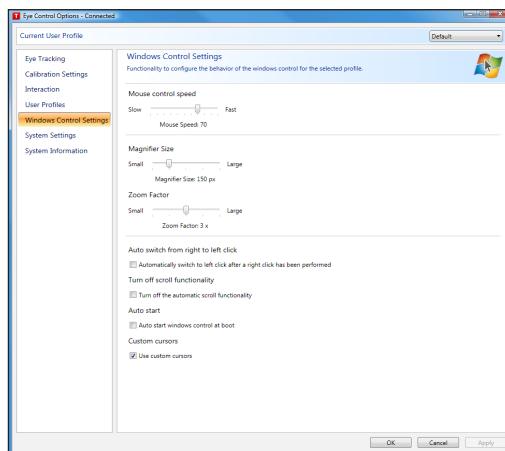
6.2.16 Removing Calibration Point(s)

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)**.

6.2.17 Customizing Windows Control



To customize Windows Control, follow the steps below:

- Open **Tobii Eye Control Options > Windows Control Settings**.

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 to automatically switch the desired mouse click selection back to a left click,  after a right click, , has been chosen and performed.

Auto start

- 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.

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.

The different cursors visually represent the type of “mouse click” for eye control that you have chosen from the Windows Control Menu (for the definitions of the Windows Control Menu symbols see **Clicking with Windows Control**, **Magnifying with Windows Control** and **Selecting Windows Control 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.

6.2.18 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

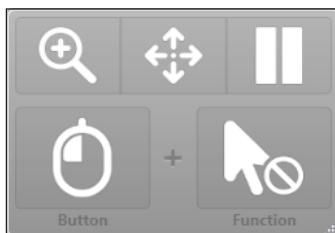
Select the **Tobii Windows Control** shortcut icon, , from your desktop. This will immediately start Windows Control.

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 Menu from Tobii Communicator or alternative communication software, which has implemented the functions provided by the Tobii Eye Control SDK

6.2.19 Placing the Windows Control Menu

The menu can be placed anywhere on the desktop or docked along the edge of the screen. You dock the Windows Control 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 Window Control Menu items.



6.2.20 Clicking with Windows Control

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



Right-click simulates a right mouse click.



Left-click simulates a left mouse click.

6.2.21 Magnifying with Windows Control

To use the magnifier, select the magnifier icon, in the Windows Control 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

6.2.22 Selecting Windows Control Functions

You can set different functions for clicking:



Mouse cursor



No cursor movement on screen



Single-click



Double-click



Drag and drop

6.2.23 Pausing Windows Control

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



Pause

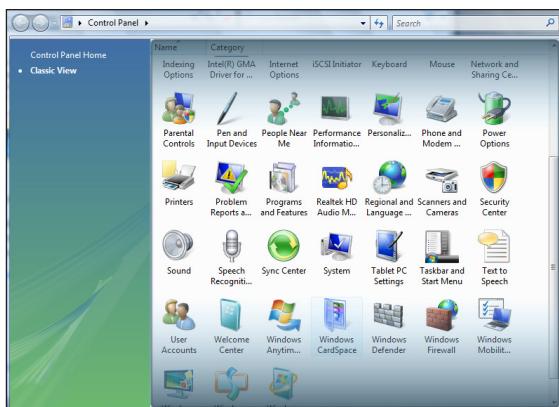
- When Windows Control is not enabled, pausing eye control can also be accomplished by looking at (about) the Tobii logo at the bottom/center of the Tobii CEye, then selecting, using eye control, the pause icon that pops up.



6.2.24 Scrolling with Windows Control

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)

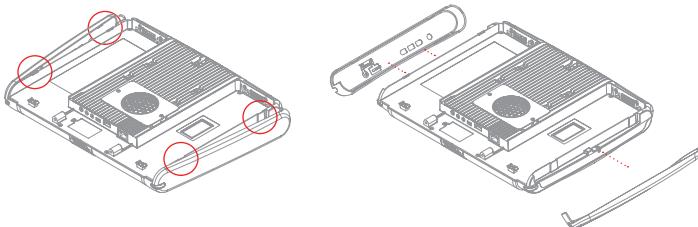
The Tobii C-series and CEye is not waterproof or water resistant. The device should not be kept in excessively humid, damp or otherwise wet conditions. Do not submerge the device in water or in any other liquid. Be careful not to allow liquids to be spilled upon the device.

7.2 Changing the Side Covers

To remove the side covers:

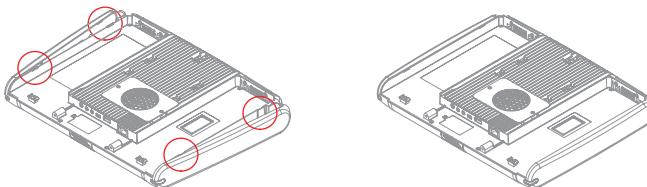
1. Shut down the C-series.
2. Remove the power adaptor and batteries ([See Installing and Releasing the Batteries](#))
3. Place the C-Series device face down on a flat surface with the side cover you wish to remove facing away from you.
4. Take a firm grip on the top and bottom of the device and push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



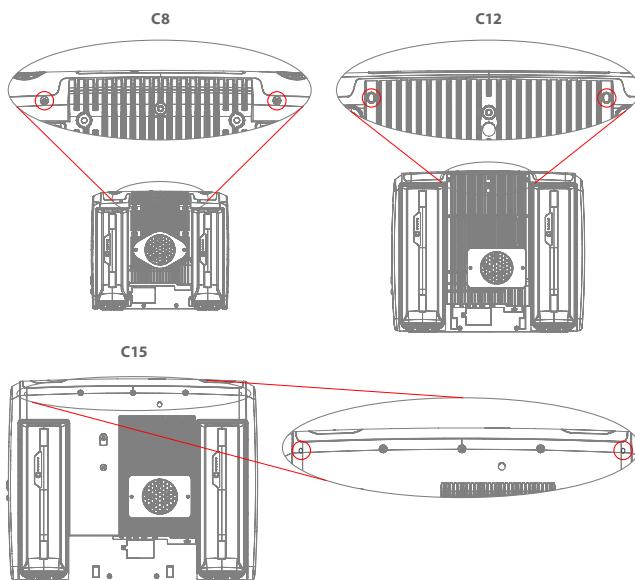
- !** When reapplying the side cover to the side of the device with the power button, be sure that the power button (and other buttons) makes it's way through the hole in the side cover and is not stuck under it. Otherwise the device might not start, as the power button may be registered as pressed.

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 CI5).

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 CI2 or CI5 device, do not carry the connected devices by solely gripping the CEye. The CEye attachment points may not hold the weight of the CI2 or CI5, and the devices could break apart causing permanent damage to both and causing the CI2 or CI5 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 Statement

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 I Medical Device. Medical electrical equipment such as this requires special caution regarding Electromagnetic 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 II	Group I	The C-Series must emit electromagnetic energy in order to perform its intended function. Nearby electronic equipment may be affected
RF emissions CISPR II	Class B	
Harmonic emissions IEC 61000-3-2	Not Applicable	The product has an active power of $P \leq 75$ 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 $P \leq 75$ 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 uninterruptible 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
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 V	<p>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.</p> <p>Recommended separation distance</p> $d = \frac{3.5}{3} \sqrt{P} \text{ for } 150 \text{ kHz to } 80 \text{ MHz}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d = \frac{3.5}{3} \sqrt{P} \text{ for } 80 \text{ MHz to } 800 \text{ MHz}$ $d = \frac{7}{3} \sqrt{P} \text{ for } 800 \text{ MHz to } 2.5 \text{ GHz}$ <p>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).</p> <p>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</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol.</p> 

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 I 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

	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)	

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	30 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 Support

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Support hours: 8 am - 6 pm Between July-August: 9am - 5pm (Central European Time, GMT +1)	Support hours: 8 am - 6 pm Between July-August: 9am - 5pm (Central European Time, GMT +1)	Support hours: 9 am - 9 pm (US Eastern Standard Time, GMT -6)	Support hours: 9 am - 5.30 pm (Japan Standard Time, GMT +9)

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