6 Configuring the Tobii Dynavox I-Series+ with the I-Series Control Center

The I-Series Control Center is the program on your Tobii Dynavox I-Series+ Device where you can access and change the settings that you have chosen during your first setup with the I-Series Welcome Guide. You can also run the Welcome Guide again at any time of your choosing.

To open the I-Series Control Center:

- Double-click on the **I-Series Control Center** shortcut on the desktop, .

or

1. Go to **Start menu** > **Control Panel**.
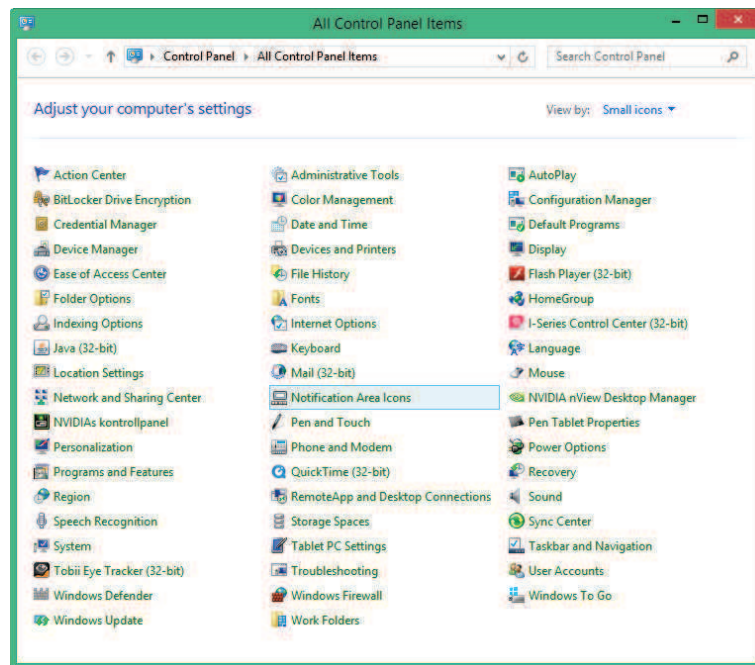
2. Double-click **I-Series Control Center**, , if the Control Panel is in Classic View.
   If the Control Panel is in Category view, select **View by: > Small icons or Large icons**, and Double-click **I-Series Control Center**
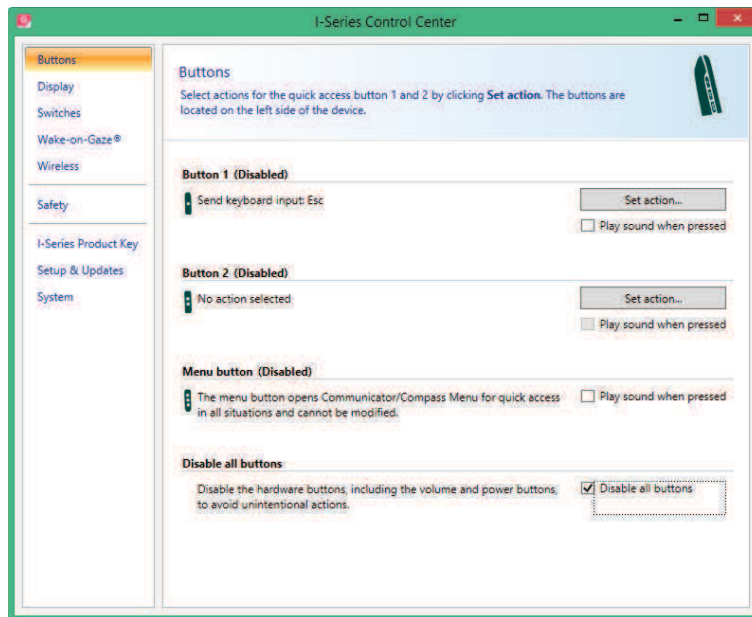
or

1. Go to **Start menu > Tobii Dynavox**.

2. Click **I-Series Control Center,** .

or

- Through the communication software installed on the device

6.1 Buttons

You can create shortcuts to tasks, called actions, by programming the Quick Access buttons. The Quick Access buttons are located on the left side of the Tobii Dynavox I-Series+ device, named **1**, **2** and **Menu**.

For more information about how to program an action for a button, see *6.10 Creating Shortcuts to Actions, page 58*

6.1.1 Play Sound when Pressed

To enable Play sound when pressed:

1. Open the **I-Series Control Center > Button**.
2. Select the **Play sound when pressed** check box to allow Audio feedback when the button is activated.

To disable Play sound when pressed:

1. Open the **I-Series Control Center > Button**.
2. Select to clear the **Play sound when pressed** check box.

6.1.2 Disable All Buttons

To avoid unintentional actions, all buttons on the Tobii Dynavox I-Series+ device can be disabled.

To Disable all buttons:

1. Open the **I-Series Control Center > Button**.
2. Select the **Disable All Buttons** check box.

> The Power button will work for starting the device even if all buttons are disabled.
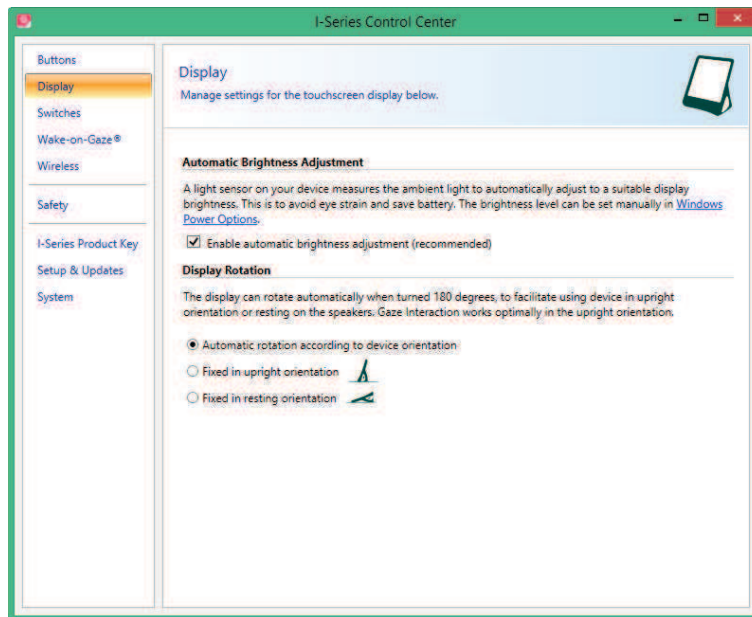
> Pressing the Power button for more than 7 seconds will shut down the device immediately, disregarding any unsaved changes, even if all buttons are disabled.

To Enable all buttons:

1. Open the **I-Series Control Center >Button**.
2. Select to clear the **Disable All Buttons** check box to allow all buttons again.

6.2 Display

6.2.1 Brightness Adjustment

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

To disable Automatic Brightness Adjustment:

1. Open the **I-Series Control Center > Display**.
2. Select to clear the **Enable automatic brightness adjustment (recommended)** check box.

To enable Automatic Brightness Adjustment:

1. Open the **I-Series Control Center > Display**.
2. Select the **Enable automatic brightness adjustment (recommended)** check box.

To manually adjust Brightness:

1. Open the **I-Series Control Center > Display**.
2. Select the **Windows Power Options** link.
3. Make the Brightness adjustments

> ℹ️ Using a darker setting can improve battery runtime.

6.2.2 Display Rotation

The display can rotate automatically when turned 180 degrees, to facilitate using device in Upright orientation or Resting on the speakers.

> ℹ️ With the Automatic display rotation activated, it could take a couple of seconds (the screen could also turn black) before the display is rotated.

To enable Automatic rotation according to device position:

1. Open the **I-Series Control Center > Display**.
2. Select the **Automatic rotation according to device orientation** radio button.

> **i** The external display will rotate when the Tobii Dynavox I-Series+ is rotated if the Tobii Dynavox I-Series+ is set up like this:
>
> - External display connected via HDMI
> - The Tobii Dynavox I-Series+ is set to Automatic rotation in I-Series Control Center
> - Dual screens is set to Clone/Duplicate mode in Windows
>
> To be able to rotate the Tobii Dynavox I-Series+ without rotating the external display, set the Dual screen to Extended mode in Windows. In Extended mode the rotation function is independent on each display.
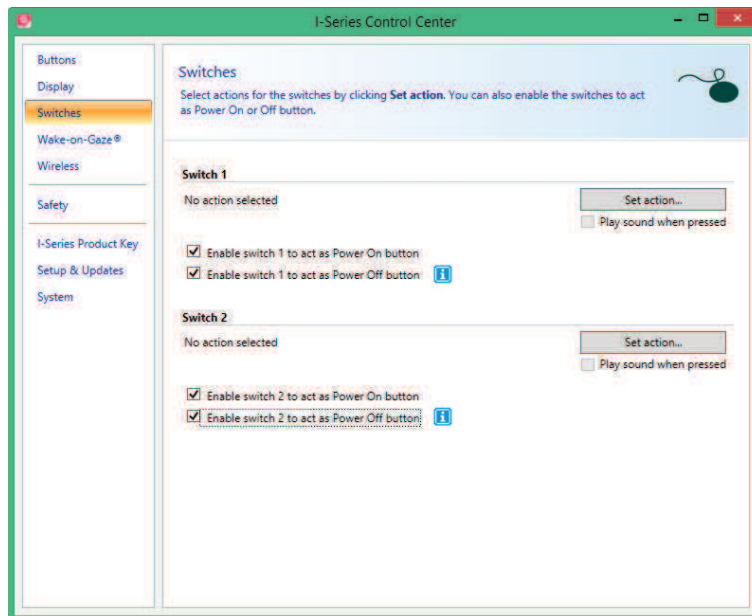
To set Fixed device position:

1. Open the **I-Series Control Center > Display**.

2. Select the **Fixed in upright orientation** or the **Fixed in resting orientation** radio button.

> **i** Gaze Interaction is optimized to work properly in the Upright orientation.

For more information about Upright orientation and Resting orientation, see *1.3.1 Portable Use, page 9*.

6.3 Switches

You can enable the switches to act as power ON (see *6.3.2 Configuring a Switch to Power On, page 50*) or OFF (see *6.3.3 Configuring a Switch to Power Off, page 50*) button.

Select the **Play sound when pressed** checkbox to allow Audio feedback when the switch is activated.

Select actions for the switches by selecting **Set action**.

For more information about how to program an action for a Switch, see *6.10 Creating Shortcuts to Actions, page 58*

6.3.1 Play Sound when Pressed

To enable Play sound when pressed:

1. Open the **I-Series Control Center >Button**.

2. Select the **Play sound when pressed** check box to allow Audio feedback when the button is activated.

To disable Play sound when pressed:

1. Open the **I-Series Control Center > Button**.

2. Select to clear the **Play sound when pressed** check box.

6.3.2   Configuring a Switch to Power On

To enable a connected Switch to power on the device:

1. Open the **I-Series Control Center > Switches**.
2. Select the **Enable switch "1 or 2" to act as Power On Button** check box.

To disable a connected Switch to power on the device:

1. Open the **I-Series Control Center > Switches**.
2. Select to clear the **Enable switch "1 or 2" to act as Power On Button** check box.

### 6.3.3   Configuring a Switch to Power Off

To enable a connected Switch to power off the device:

1. Open the **I-Series Control Center > Switches**.
2. Select the **Enable switch "1 or 2" to act as Power Off Button** check box.

To disable a connected Switch to power off the device:

1. Open the **I-Series Control Center > Switches**.
2. Select to clear the **Enable switch "1 or 2" to act as Power Off Button** check box.

6.4   Wake-on-Gaze®
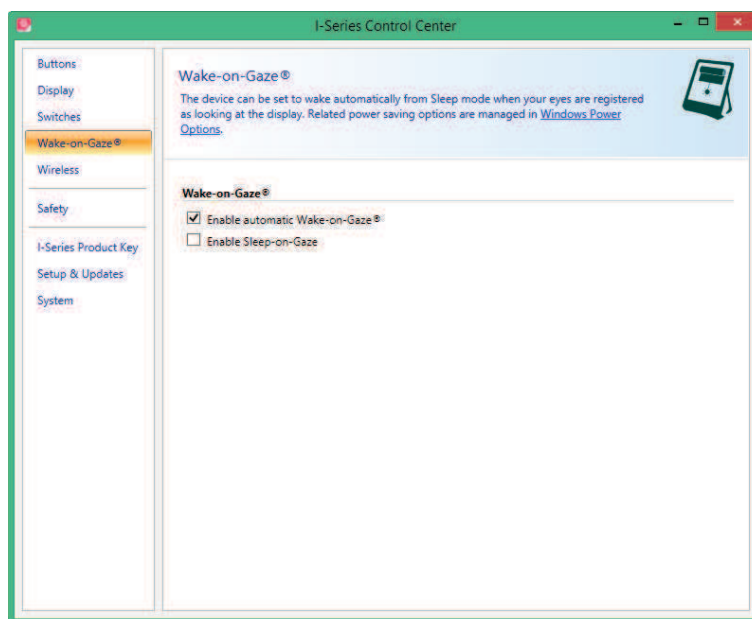
The Tobii Dynavox I-Series+ device can be set to wake automatically from Sleep mode when your eyes are registered as looking at the display.

To enable Wake-on-Gaze for the device:

1. Open the **I-Series Control Center > Wake-on-Gaze**.
2. Select the **Enable automatic Wake-on-Gaze** check box.
3. Select **Windows Power Options** link to adjust the Power Options (if needed)

To disable Wake-on-Gaze for the device:

1. Open the **I-Series Control Center > Wake-on-Gaze**.
2. Select to clear the **Enable automatic Wake-on-Gaze** check box.

For information about how to use Wake-on-Gaze®, see *5.5 Wake the Tobii Dynavox I-Series+ from Sleep with Gaze Interaction, page 41*.

The Tobii Dynavox I-Series+ device can also be set to go to sleep using your gaze (to reduce battery consumption, or in situations where the device is not needed).

To enable Sleep-on-Gaze for the device:

1. Open the **I-Series Control Center > Wake-on-Gaze**.
2. Make sure Wake-on-Gaze is activated
3. Select the **Enable Sleep-on-Gaze** check box.

To disable Wake-on-Gaze for the device:

1. Open the **I-Series Control Center > Wake-on-Gaze**.
2. Select to clear the **Enable Sleep-om-Gaze** check box.

For information about how to use Sleep-on-Gaze®, see *5.5 Wake the Tobii Dynavox I-Series+ from Sleep with Gaze Interaction, page 41*.

6.5   Wireless
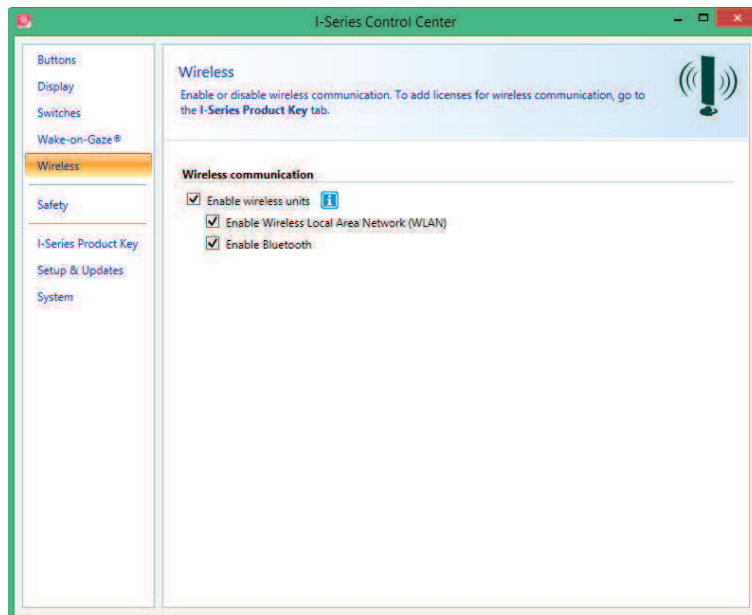
6.5.1   WLAN

The built-in WLAN (Wireless Local Area Network) support enables connection to wireless networks (such as Wi-Fi™ networks and access points) in compliance with the standard 802.11 b/g/n for both the I–12+ and the I–15+.

6.5.1.1   Handling Tobii Dynavox Product Key

To be able to use WLAN communication, a I-Series Product Key is required. To view or enter a I-Series Product Key, go to the I-Series Product Key section in the **I-Series Control Center**. See *6.7 I-Series Product Key, page 54*

6.5.1.2 Enabling and Disabling the WLAN Communication

To enable WLAN communication:

1. Open the **I-Series Control Center > Wireless**.
2. Select the **Enable Wireless Local Area Network (WLAN)** check box.

To disable WLAN communication:

1. Open the **I-Series Control Center > Wireless**.
2. Clear the **Enable Wireless Local Area Network (WLAN)** check box or select the **Disable all wireless units** check box for disabling all wireless units.

6.5.1.3 Connecting to a WLAN

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 Tobii Dynavox I-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.

6.5.2 Bluetooth® for Mobile Phone Communication

The built-in Bluetooth® enables connection to a mobile phone which complies with mobile Bluetooth® standards.

Only for use with **Tobii Dynavox Communicator** for mobile phone communication.

For more information about how to use and program an Mobile phone to work with Bluetooth® on the Tobii Dynavox I-Series+ device, see **Tobii Dynavox Getting Started Communicator 5**.

For information about the Mobile phones that complies with the Tobii Dynavox I-Series+ device, see www.tobiidynavox.com

6.5.2.1 Handling I-Series Product Key

To use Bluetooth® communication in the device, a I-Series Product Key is required. To view or enter a I-Series Product Key, go to the I-Series Product Key section in the **I-Series Control Center**. See *6.7 I-Series Product Key, page 54*

6.5.2.2 Enabling and Disabling Bluetooth® Communication

To enable Bluetooth® communication:

1. Open the **I-Series Control Center > Wireless**.
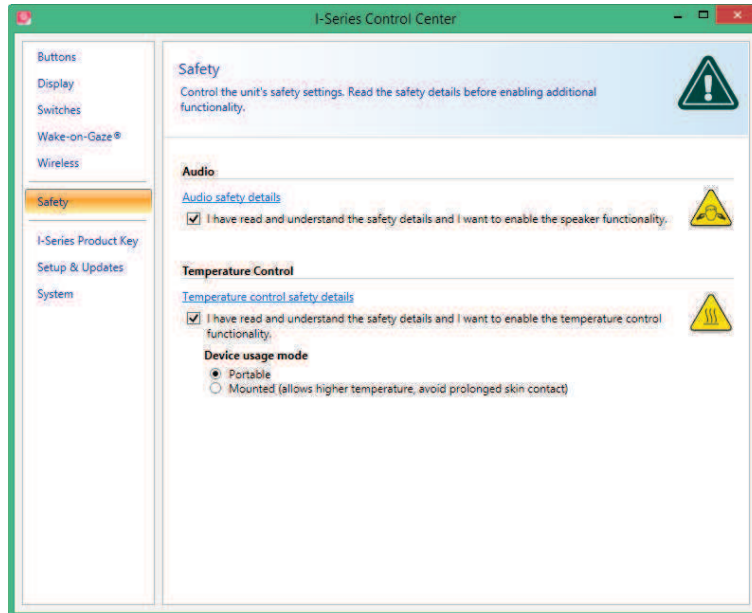2. Select the **Enable Bluetooth** check box.

To disable Bluetooth® communication:

1. Open the **I-Series Control Center > Wireless**.
2. Clear the **Enable Bluetooth** check box or select the **Disable all wireless units** check box for disabling all wireless units.

For more information see **Getting Started with Essentials for Communicator 4**.

6.6 Safety

Upon starting the device for the first time, the safety settings in the **I-Series Control Center** will be a part of the I-Series Welcome Guide. To be able to run through the guide these safety settings must be confirmed. The safety settings exist for the safety of the customer. Be sure to read the safety details before accepting any changes.

6.6.1 Audio

Before you can use the speaker functionality and adjust speaker output settings you need to confirm the Audio safety details (if not already done during first start up).

To confirm:

1. Open the **I-Series Control Center > 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.

6.6.2 Temperature Control

Before you can set the device usage in **I-Series Control Center > Temperature Control** you need to confirm the Temperature control safety details (if not done during first start up).

To confirm:

1. Open the **I-Series Control Center > 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.

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

Both the I–12+ and the I–15+ can be used both as a portable and mounted device and can be operated in both portable and mounted mode.

⓵ If the device is gets overheated the device will shut down. It may take a while before it can be restarted as the unit may first need time to cool down. If the device is still too hot, the power button will flash purple for a couple of seconds when trying to restart the Tobii Dynavox I-Series+ device. For more information, see *Appendix C Computer Device States of Operation, page 85* and *Table D.1 Maximum Allowed Temperature, page 87*.

6.6.2.1   Device Usage

Specifying device usage mode takes place outside of the **Safety** settings but within **I-Series Control Center**.

To specify device usage:

1. Open the **I-Series Control Center > Safety**.
2. Click on preferred option for **Device usage**.
   - Portable — Portable mode sets the maximum device temperature shut down limit to a lower temperature, reducing the risk for permanent bodily harm cased by prolonged exposure to the skin
   - Mounted — Mounted mode sets the maximum device temperature to a higher temperature shut down limit

For more information, see *Table D.1 Maximum Allowed Temperature, page 87*

6.7   I-Series Product Key
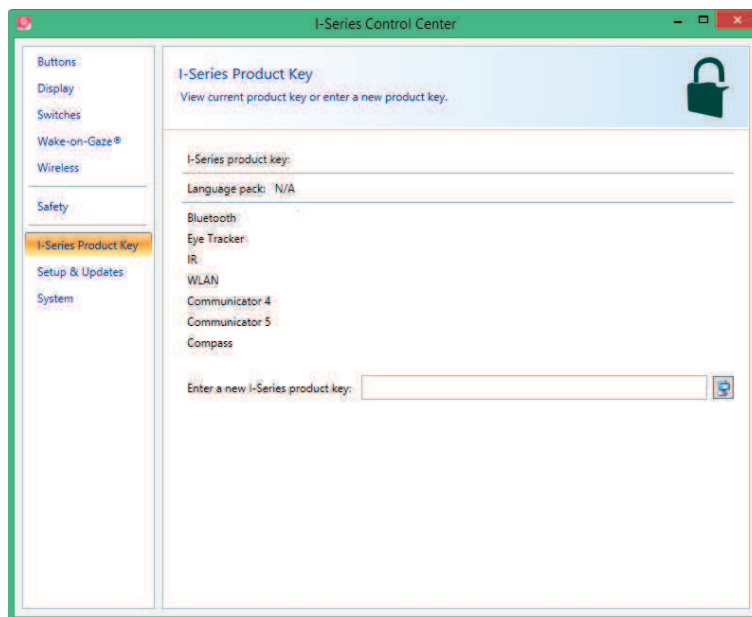
The following features on the Tobii Dynavox I-Series+ needs a licence for use:

- Eye tracker
- Bluetooth®
- WLAN
- IR
- Tobii Dynavox Communicator
- Tobii Dynavox Compass

To view existing I-Series Product Key:

- Open the **I-Series Control Center > I-Series Product Key**.

If the ![checkmark] symbol is visible after a feature, the I-Series Product Key(s) on the device are valid for that feature.
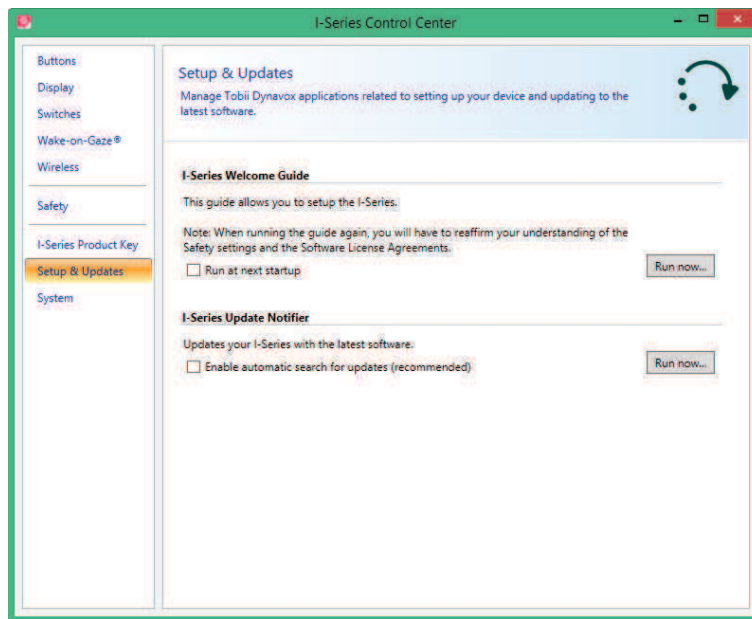
To add a I-Series Product Key:

1. Open the **I-Series Control Center > I-Series Product Key**.
2. In the **Enter a I-Series product key** box, type the new I-Series Product Key.

To type the I-Series Product Key use either a connected keyboard or enable the on-screen keyboard by selecting this button ![icon].

6.8 Setup & Updates

Manage Tobii Dynavox applications related to setting up your device and updating to the latest software.

6.8.1 I-Series Welcome Guide

The I-Series Welcome Guide guides the user through the setup procedure, such as License Agreement and Safety Setting etc.

ℹ️ If the I-Series Welcome Guide is not finished, it will automatically start up next time the Tobii Dynavox I-Series+ is powered up.

To run the I-Series Welcome Guide at next start up, follow these step:

1. Open the **I-Series Control Center > Setup & Updates**.
2. Select the **Run at next startup** check box.

To run the I-Series Welcome Guide at once, follow these steps:

1. Open the **I-Series Control Center > Setup & Updates**.
2. Select the **Run now** button.

6.8.2 I-Series Update Notifier

The I-Series Update Notifier is a program that notifies you when the latest software updates for your Tobii Dynavox 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 I-Series Welcome Guide or, later, in the I-Series Control Center, the I-Series Update Notifier will actively search Tobii Dynavox's sites for version Updates of your software.

> To keep your Tobii Dynavox I-Series+ device running properly it is highly recommended that you update your Tobii Dynavox Software on a regular basis and it is therefore highly recommended that you enable automatic updates.

To Enable automatic search for updates:

1. Open the **I-Series Control Center > Setup & Updates**.
2. Select the **Enable automatic search for updates (recommended)** check box.

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

The update or updates available will show themselves in the Step One window of I-Series 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, select the **Done** button to close the I-Series Update Notifier.

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

To open and activate the I-Series Update Notifier manually (this opens the Step One window shown above and starts the same automatic update process):
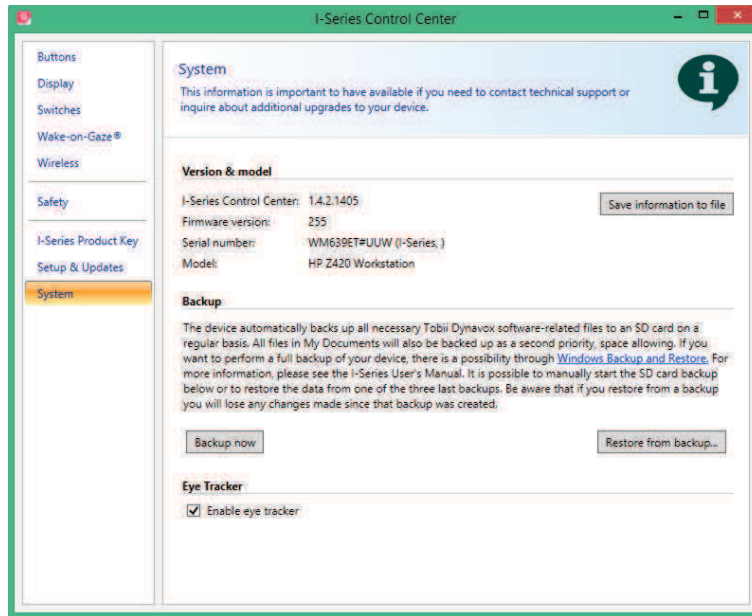
- Navigate in Windows from your desktop to **Start Menu Tobii Dynavox** and select the I-Series Update Notifier icon,

.

or

1. Open the **I-Series Control Center > Setup & Updates**.
2. Select the **Run now** button.

6.9 System

6.9.1 Version & Model

To view the version and model of the device:

- Open the **I-Series Control Center > System**.

i Please have this information available if you have problems with the device and need to contact Customer Support.

To save the version and model of the device to a file:

1. Open the **I-Series Control Center > System**.
2. Select the **Save information to file** button.

i You can attach the file containing all the information into a an e-mail.

6.9.2 Backup

This is a system backup specific to your Tobii Dynavox software-related files. The device automatically and regularly, once a week, backs up the data that is associated with your Tobii Dynavox communications applications (
Tobii Dynavox Communicator /Tobii DynaVox Compass Page Sets, files, settings, etc.), your Gaze Interaction files (profiles, calibration settings, interaction settings, etc.) and your device specific settings from the I-Series Control Center. You can manually start the backup below and/or restore the data from one of the three latest backups. Be aware that the changes made since the latest backup will be reverted if you choose to restore from a previous backup. All files in the My Documents folder will be backed up as well, if space is available on the microSD-card, as a second priority after the Tobii Dynavox software-related files. **To back up all files on your device please use Microsoft's own Windows Backup and Restore application.**

The backup process executes once a week (every Sunday at 15.00) and the three latest backups are saved on the microSD-card.

i If your Tobii Dynavox I-Series+ device is not up and running at this time the backup will be performed at next start up.

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.

The backup files are placed in the directory **Q:\Backup\<date> (On the microSD-card)**.

ⓘ Tobii Dynavox will not take responsibility for any other data than the "Tobii Dynavox applications data"

6.9.2.1 User Profile Card

The Tobii Dynavox I-Series+ device comes with a 32 GB microSD-card installed. The purpose of this card is to backup personal settings and data. In the case of fatal damage to the Tobii Dynavox I-Series+ device. The microSD-card can be removed and inserted into a new device for quick and easy retrieval and restoration of personal data and settings.

6.9.2.2 Backup Manually by the User

To perform a manual backup of the system:

1. Open the **I-Series Control Center > System**.
2. Select the **Backup now** button.

   When the backup is finished, the following will show up on the screen: ✓ **Backup finished**.

6.9.2.3 Restoring Backup Files by the User

To restore one of the three last backup of the system:

1. Open the **I-Series Control Center > System**.
2. Select the **Restore from backup** button.
3. Select the one of the last backups by selecting the **Restore from this backup** button next to the date of the stored backup.

   When the restore is finished, the following text will show up on the screen: **Restore finished** and the ✓ symbol will show up next to the date that was selected to restore from.

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.

6.9.2.4 Backup Failed

One likely reason that the backup failed is that there are too many files in the My Documents folder. Try moving the files that are not backup- critical to another location (such as pictures, music files, etc).

6.9.3 Eye Tracker

To enable the Eye tracker:

1. Open the **I-Series Control Center > System**.
2. Select the **Enable Eye Tracker** check box.

To disable the Eye tracker:

1. Open the **I-Series Control Center > System**.
2. Clear the **Enable Eye Tracker** check box.

6.10 Creating Shortcuts to Actions

You can create shortcuts, called actions, by programming the Quick Access buttons and connected Switches. The Quick Access buttons are located on the left side of the Tobii Dynavox I-Series+ device, named **1**, **2** and **Menu**.

Switches are connected to the Switch connectors.

6.10.1 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.
- Gaze Interaction – Allows the user to show and hide the track status window, calibrate or pause the Gaze Interaction ON or OFF.
- Wireless – Allows the user to either set all radio connections on or off, or a specific wireless connection.
- Tobii Dynavox Communicator /Tobii DynaVox Compass — Actions are set and customized in Tobii Dynavox Communicator /Tobii DynaVox Compass.

The available actions are the same for the Quick Access buttons and Switches.

To create a shortcut to an action:

1. Open the **I-Series Control Center**.

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.

6.10.2 Selecting Actions
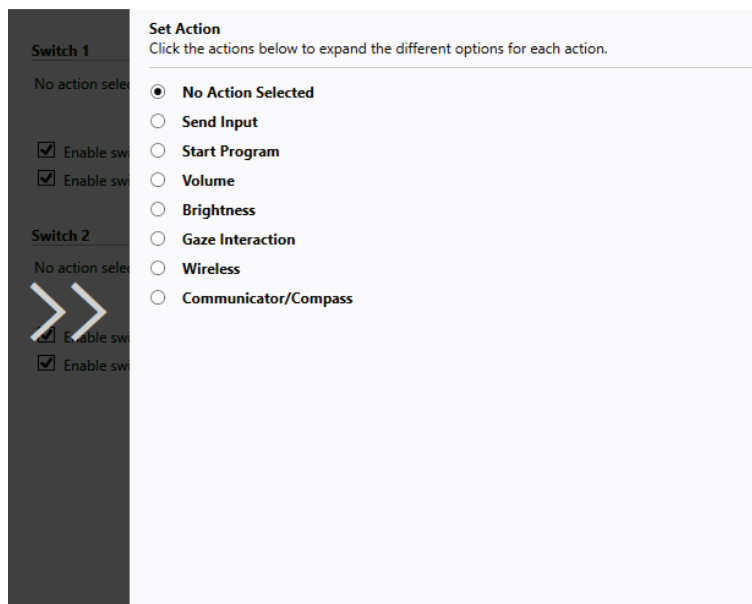
- **No Action Selected** — Default — choose to delete a previous set task
- **Send Input** – choose either to send a keyboard input, a mouse click or specified text by selecting the option you want the device button or Switch to perform.
    - **Send keyboard input** — In the **Send keyboard input list**, 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 select the **Start Program** option a list of previously selected programs will be displayed. You can then directly select a program from the list or select **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 program 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 selecting the preferred option.
- **Backlight** — choose to either increase or decrease the screen backlight by selecting the preferred option.
- **Gaze Interaction** – choose to toggle track status window, calibrate Gaze Interaction, Pause the Gaze Interaction or toggle Windows Control ON/OFF.

> ℹ️ To enable this option the Tobii Dynavox I-Series+ device must have an Eye Tracker and the Tobii Dynavox Gaze Interaction Software installed.

- **Wireless** — you can either set all radio connections on/off or each individual wireless unit on/off one by one, by selecting the options.
- **Communicator /Compass** — Actions are set and customized in Tobii Dynavox Communicator /Tobii DynaVox Compass

> ℹ️ If actions for a Switch are customized both in the **I-Series Control Center** and in **Tobii Dynavox Communicator /Tobii DynaVox Compass** 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 Dynavox Communicator /Tobii DynaVox Compass** or in alternative communication software.

> ℹ️ To get back from slide in menus, just select the arrows in the greyed out areas.

7 Gaze Interaction Settings

7.1 Accessing the Gaze Interaction Settings

Gaze Interaction Settings is a program for quick and easy access to control functions such as Track Status, Calibration and common settings.

Start **Gaze Interaction Settings** for Windows 8.1 in one of the following ways:

- Go to **Start menu > Tobii Dynavox**.

- Double-click on the **Gaze Interaction Settings** icon, , in the Notification area, or on the shortcut, , on the Desktop (if one has been made).

- Right-click (long-hold finger on icon for touch screen right clicking) on the **Gaze Interaction Settings** icon, , in the Notification area and then select **Settings**.


- Through the communication software installed on the device.

In the list to the left in **Gaze Interaction Settings**, 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 Gaze Interaction Settings.

Click **Cancel** to cancel the changes. This will also close Gaze Interaction Settings.

Click **Apply** to save changes. Gaze Interaction Settings will remain open.
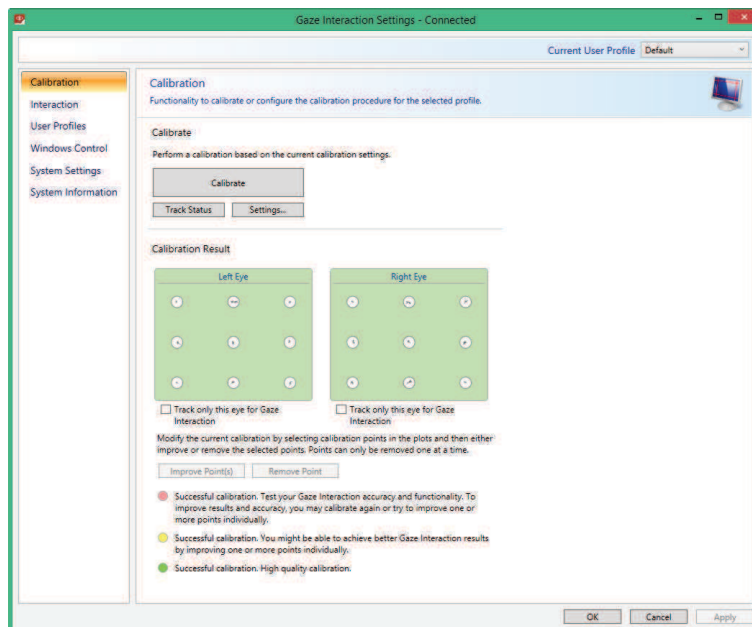
 Anywhere you see this icon, , there is an information box with additional information for the feature.

7.2   Calibration

This section will describe how to calibrate an individual, enabling optimal Gaze Interaction with the Tobii Dynavox I-Series+ device.

7.2.1   Starting Calibration

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

- Open **Gaze Interaction Settings > Gaze Interaction** and then select the **Start Calibration...** button.

- Right-click (long-hold finger on icon for touch screen right clicking) on the **Gaze Interaction Settings** icon, , in the Notification area and select **Start Calibration.**

- Through the communication software installed on the device.

7.2.2   Interrupting Calibration

Interrupt the calibration in one of the following ways:

- Press **Esc**.
- Left-click on the screen using a mouse.
- Touch the screen (on a touch screen device).

7.2.3   Customizing Active Eye

Based on certain conditions, or disabilities, you may only have one eye that functions well with Gaze Interaction. In this case, and if you know which eye is most functional, you can select which eye to track for Gaze Interaction.
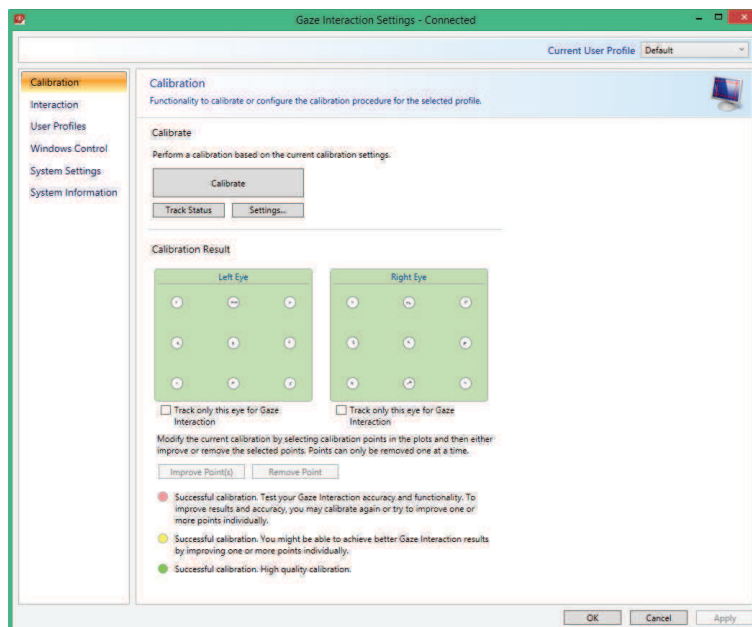
To select the eye you want to be tracked by the eye tracker, follow these steps:

1. Open **Gaze Interaction Settings > Calibration**.
2. Select the **Track only this eye for Gaze Interaction** check box under Left or Right Eye Calibration Result box.

7.2.4 Improving Calibration Point(s)
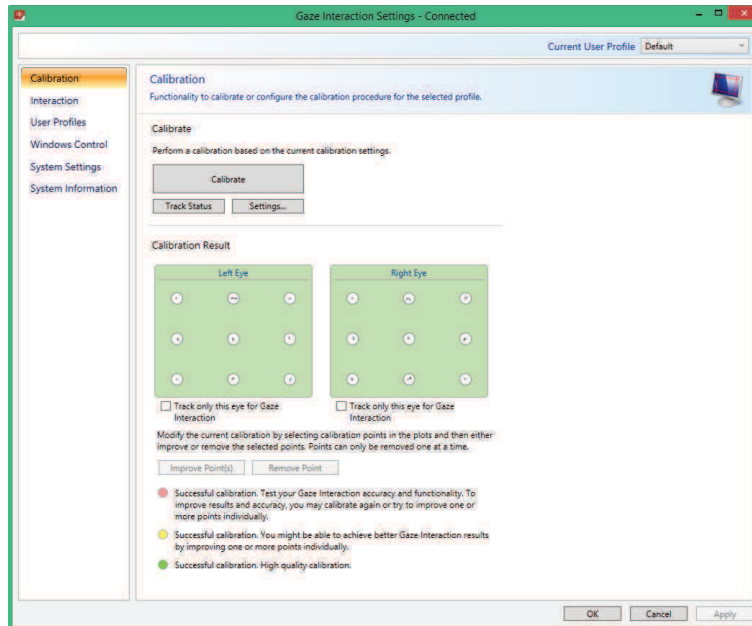
After calibration, you may want to improve one or more points.

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

> **i** All three color statuses are the result of a **successful** calibration.

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

> **i** Improving even one (or more) of the calibrations points can significantly improve the calibration.

- If the background color of the Calibration Result is light yellow, you have achieved successful and good quality calibration. You might be able achieve better Gaze Interaction results by improving one or more points individually.
- If the background color of the Calibration Result is green, you have achieved a successful and 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 Gaze Interaction. It is the accuracy and functionality of the Gaze Interaction that is affected by the quality of the calibration results. Try for the best calibration possible.
>
> **Remember!** In the end it is the personal experience that counts!

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.

To improve one or more calibration points, follow these steps :

1. Open **Gaze Interaction Settings > Calibration**.
2. Select the point(s) you want to improve under **Calibration Result**.
3. Select the **Improve Point(s)** button and a calibration for the selected point(s) will start.

7.2.5 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 Gaze Interaction will not function properly there.

To remove one or more calibration points, follow these steps:

1. Open **Gaze Interaction Settings > Calibration**.
2. Select the point(s) you want to remove under **Calibration Result**.
3. Select the **Remove Point(s) button**.

7.2.6 Customizing the Calibration
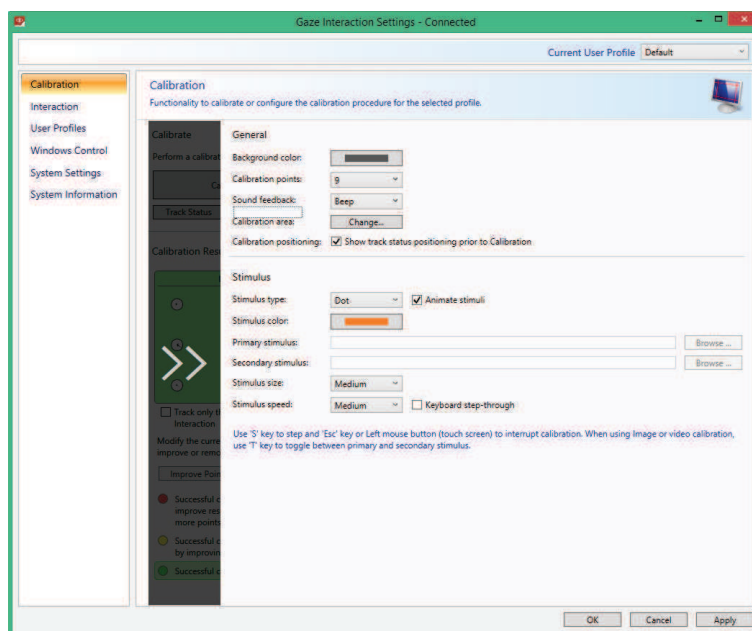
To customize the calibration, follow these steps:

1. Open **Gaze Interaction Settings > Calibration**.
2. Select the **Settings...** button

General

3. Select calibration background by selecting the background color button and select the desired color.
4. 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.
5. Select if you want to have sound feedback or not from the **Sound feedback** drop down list.

Stimulus

6. 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 selecting 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 selecting **Browse** and selecting an image.
- Select secondary stimulus by selecting **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 selecting **Browse** and selecting a video.
    - Select secondary stimulus by selecting **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.
7. Check the **Animate stimuli** check box if you want the stimuli to be animated (as opposed to static).
8. 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.

> ℹ️ To get back from slide in menus, just select the arrows in the greyed out areas.

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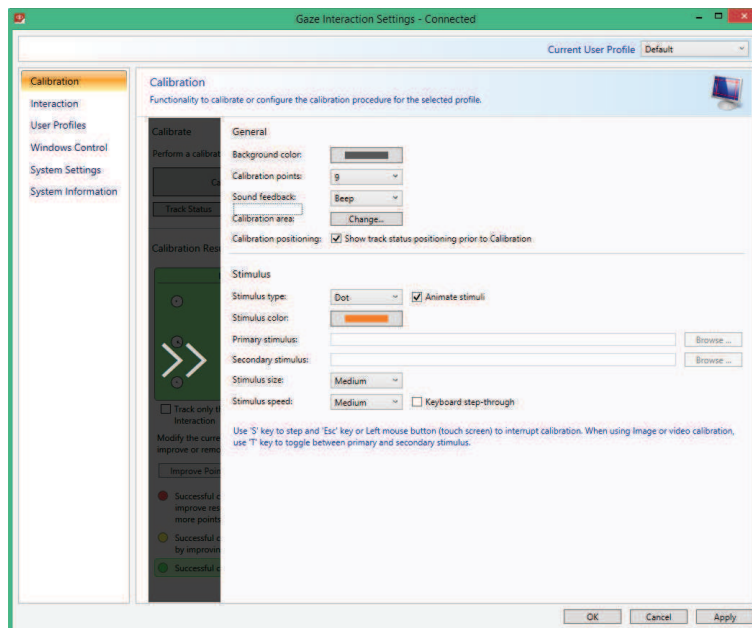
Customizing the calibration area can be useful if you have discovered that the user cannot access certain areas of the screen using Gaze Interaction. By sizing the calibration area to exclude the areas that the user cannot access it can improve the overall calibration.

To customize the calibration area, follow these steps:

1. Open **Tobii Dynavox Gaze Interaction Settings > Calibration**.
2. Select the **Setting...** button.
3. Select the Calibration area: **Change...** button.

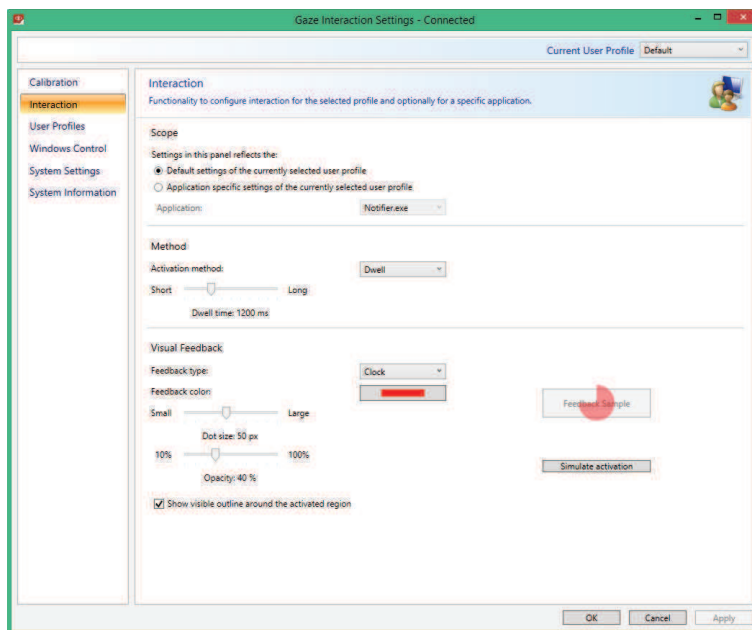4. A blue semi-transparent area is displayed on the desktop. You can move and resize the blue area to make it fit your preferred calibration area.
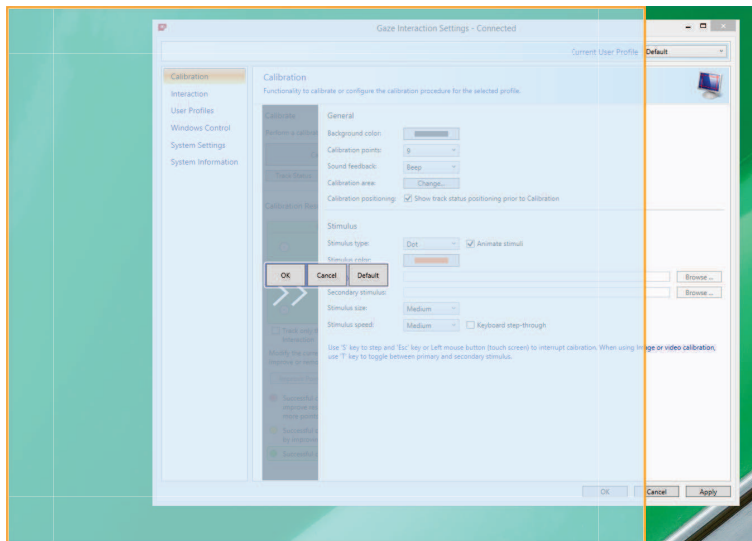
7.3 Interaction

To adapt the interaction method and visual feedback for Gaze Interaction, follow these steps:

1. Open **Gaze Interaction Settings > Interaction.**

Scope

If different settings are needed for different Gaze Interaction applications, make the adaptations here.

2. Select how the interactions settings should be reflected:
    *   Select **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.
    *   Select **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 the available 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** check box to see a dashed line around the activated area in all instances of Gaze Interaction 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.

7.4 User Profile
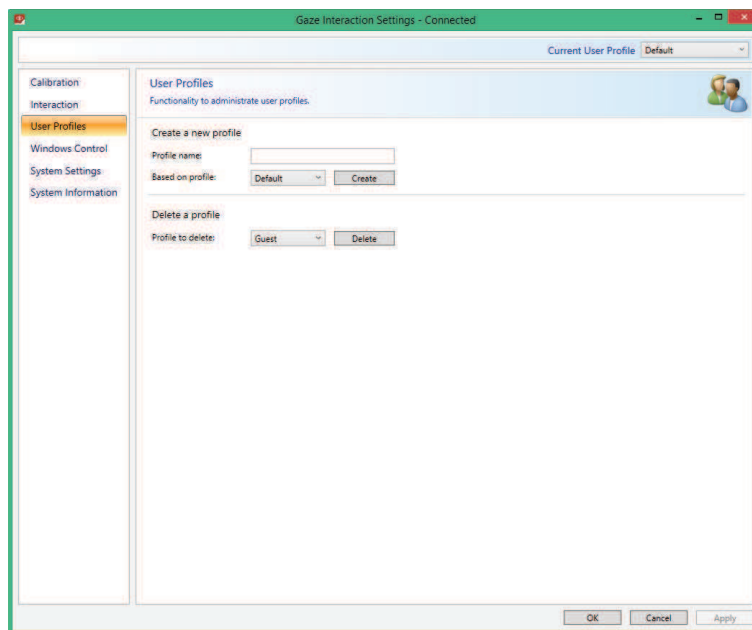
7.4.1 Creating a New Profile

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 **Gaze Interaction Settings**, select **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 selecting **Create**.

7.4.2　Selecting Current User Profile

To select current user profile:

1. Open **Gaze Interaction Settings**.
2. Select a user profile in the **Current User Profile** drop down list.
3. Select **Apply**

7.4.3　Deleting a Profile

To delete a profile:

1. Open **Gaze Interaction Settings** > **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 selecting Delete. Note that the default profile cannot be deleted.

7.5　Windows Control

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

7.5.1　Auto Start

To enable Windows Control automatically when the your device starts up:

- Select the **Auto start Windows Control at boot** check box.

To disable Windows Control automatically when the your device starts up:

- Select to clear the **Auto start Windows Control at boot** check box.

7.5.2　Windows Control Type

Select which type of Windows Control you wish to use:

- Gaze Selection — Select the Gaze Selection radio button. For more information about using Gaze Selection, see *5.4.3 Using Gaze Selection, page 29*
- Mouse Emulation — Select the Mouse Emulation radio button. For more information about using Mouse Emulation, see *5.4.4 Using Mouse Emulation, page 39*

7.5.2.1 Gaze Selection
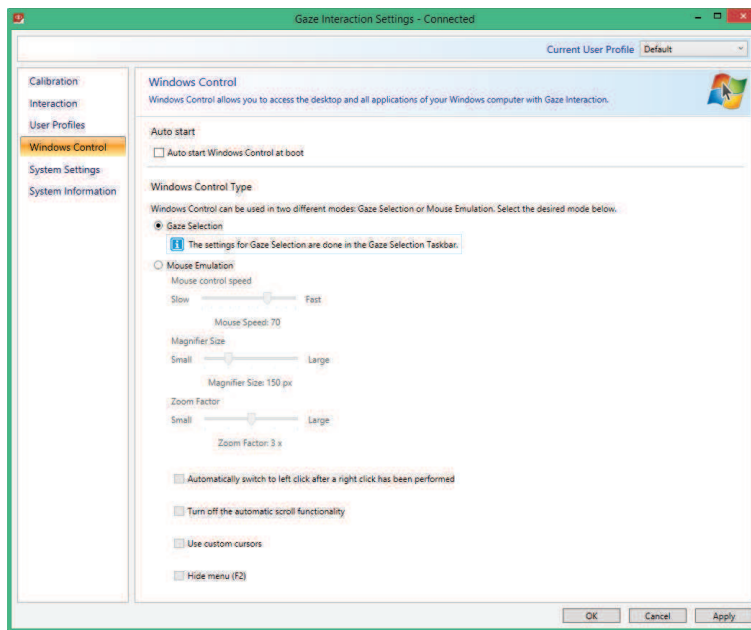
ℹ️ The settings for Gaze Selection are found in the Gaze Selection Taskbar, docked to the screen when Gaze Selection Windows Control is running. Gaze at the ⚙️ settings icon to select it and the Gaze Selection Settings will open. For information about the Gaze Selection Settings, see *8 Gaze Selection Settings, page 73*

7.5.2.2 Mouse Emulation
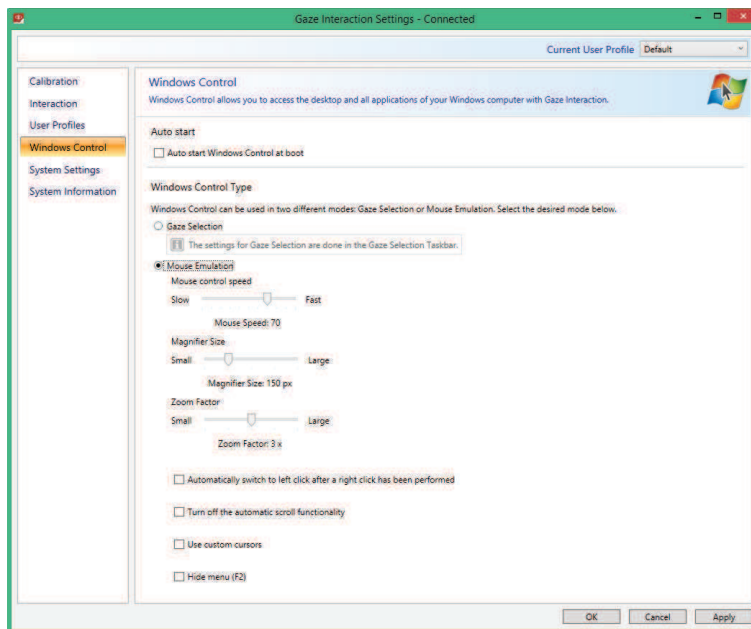
7.5.2.2.1 Mouse Control Speed

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.

7.5.2.2.2 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.

7.5.2.2.3 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.

7.5.2.2.4 Turn off Scroll Functionality

Check the **Turn off scroll functionality** check box if you do not want Gaze Interactionscrolling to be active.

7.5.2.2.5 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 Gaze Interaction that you have chosen from the Mouse Emulation Menu (for the definitions of the Mouse Emulation Menu symbols see *5.4.4.2 Clicking with Windows Control in Mouse Emulation Mode, page 40*, *5.4.4.3 Magnifying with Windows Control in Mouse Emulation Mode, page 40* and *5.4.4.4 Selecting Mouse Emulation Functions, page 40*).

 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.

7.5.2.2.6 Hide Menu

Check the **Hide Menu** check box if you want the Mouse Emulation menu to be hidden during use. The [F2] (F2) key on the keyboard can also be used to toggle On and Off (hide/show) the Mouse Emulation Menu instantly during use.

7.6   System Settings
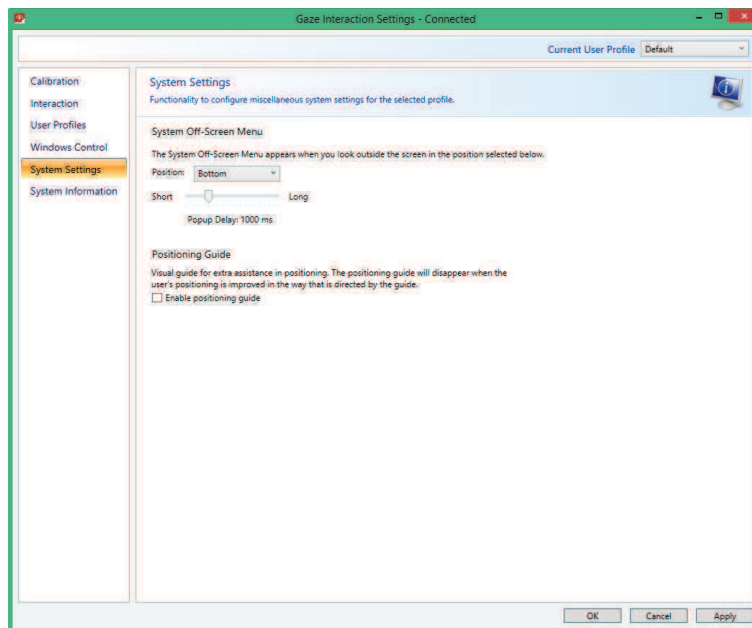
7.6.1   System Off-Screen Menu

Select the **Position** Drop down menu to make changes to where the System Off-Screen menu appear on the screen.

The System Off-Screen menu can be set to appear:

- Bottom (Default)
- Top
- Left
- Right
- None

> ℹ️ Set the System Off-Screen menu to None to disable the System Off-Screen menu.
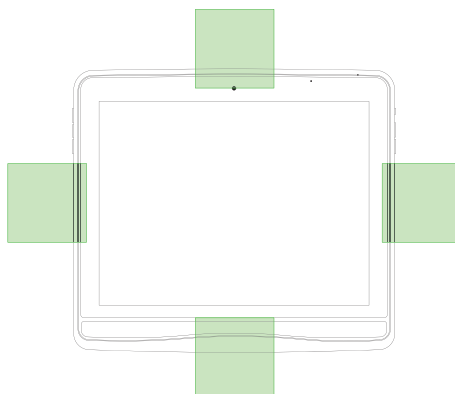
Figure 7.1 System Off-Screen Menu Areas

7.6.2   Positioning Guide

To turn On the Positioning Guide:

1. Open **Gaze Interaction Settings > System Settings**.

2. Select the **Enable positioning guide** check box.

To turn Off the Positioning Guide:

1. Open **Gaze Interaction Settings > System Settings**.
2. Select to clear the **Enable positioning guide** check box.

For more information about the Positioning Guide, see *5.3.4 Positioning Guide*

7.7 System Information
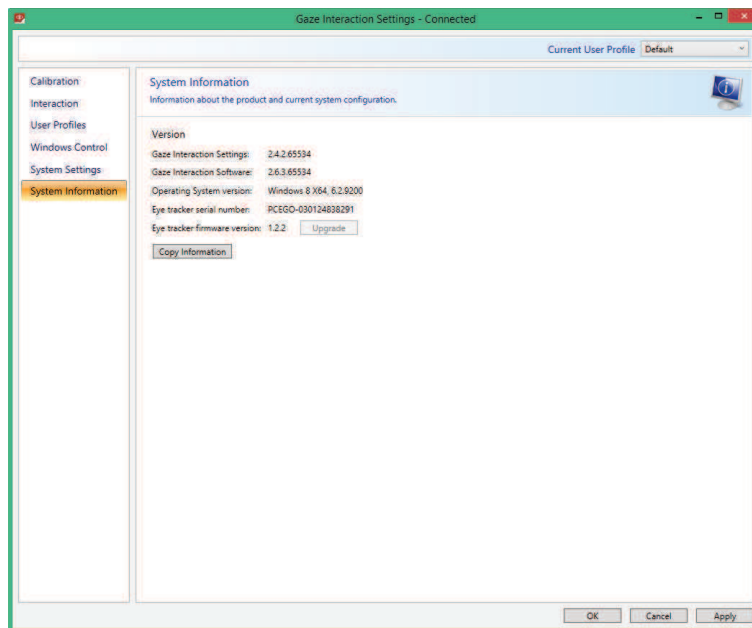
To view the version and model of the device:

Open the **Gaze Interaction Settings > 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 in-to an e-mail.

7.7.1 Upgrade Eye Tracker Firmware

If there is a new Firmware for the Eye Tracker module, the **Upgrade** button will be selectable.

Select the **Upgrade** button to start upgrading the Firmware for the Eye Tracker.

> A Pop up notification will be shown when starting the Tobii Dynavox Gaze Interaction Settings if there is a Upgrade for the Eye Tracker Firmware.

8 Gaze Selection Settings

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

8.1 The General Settings Tab
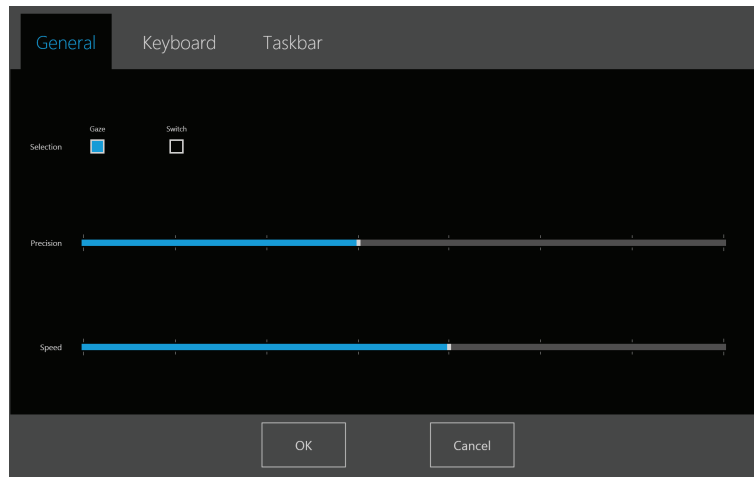
Selection

- **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.

> ℹ️ If the Precision is set to zero, no zooming will happen. It will be an instant click with Primary Selection. With Secondary Selection it will still be a 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.

8.2 The Keyboard Settings Tab
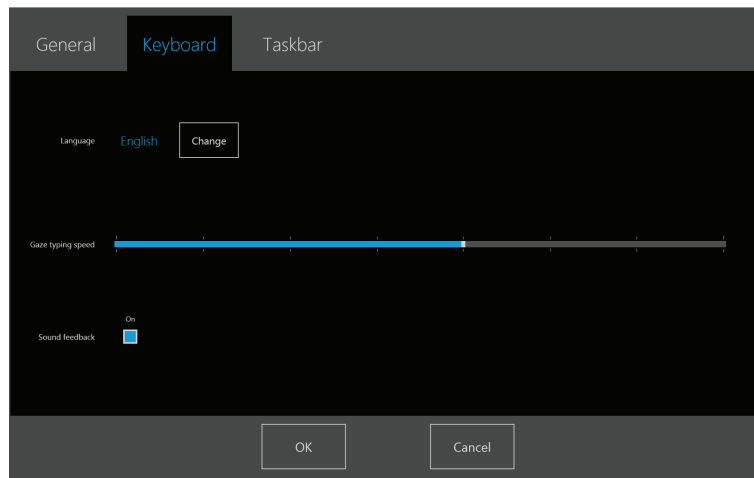
Keyboard layout

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.

8.3 The Taskbar Settings Tab
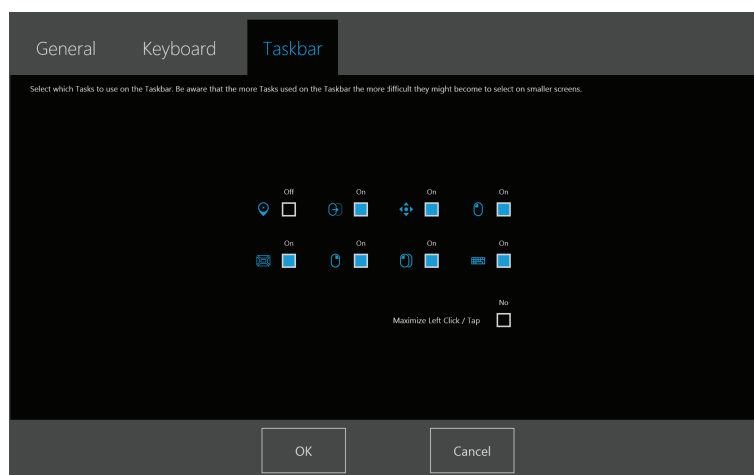
Select which tasks to use on the Taskbar. For more information about the tasks, see *5.4.3.2 Task Buttons, page 31*.

 Be aware that the more Tasks used on the Taskbar the more difficult they might become to select on smaller screens.

Toggle the On/Off check box to On for each Task to enable it for use on the Taskbar.

Toggle the On/Off check box to Off for each Task to disable its use and visibility on the Taskbar.

8.3.1   Maximize Left Click/Tap

Use the **Maximize Left Click/Tap** feature to expand and emphasize the Left Click/Tap Task on the Taskbar. If it is toggled to Off, all selected Tasks will be spaced evenly along the Taskbar. If it is toggled to On, all Tasks other than Left Click/Tap will retain their original/smaller sizes and the Left Click/Tap Task will fill the remaining space on the Taskbar. Activating this feature can greatly expand the active region of the Left Click/Tap Task making it much easier to select.

9 Product Care

9.1 Temperature & Humidity

9.1.1 General Use

The Tobii Dynavox I-Series+ 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:

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

Mounted mode:

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

9.1.2 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 Dynavox I-Series+ is not waterproof or fully 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 especially in the connector areas without the I/O covers in place(Position 29 in *Figure 3.2 Bottom, Left and Right Side, page 17*). The device is registered as IP Class 43 (with I/O covers in place).

9.2 Cleaning

Before cleaning the Tobii Dynavox I-Series+ device shut it down, unplug all cables, attach the I/O covers (Position 29 in *Figure 3.2 Bottom, Left and Right Side, page 17*) and remove the batteries. Use a soft, slightly damp, lint-free cloth or Alcohol Cleaning Wipes (i.e. damp cloth with 96% alcohol). 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.

9.2.1 Cleaning of the Speakers

If the openings for the speakers are clogged carefully use cotton sticks and/or a toothbrush to avoid damaging the IP-protection for Tobii Dynavox I-Series+ speakers.

9.3 Placement

Only use the recommended mounts specified by the your local reseller or sales represent and make sure that they are mounted and fastened correctly according to the instructions. Do not place the device on unstable and uneven surfaces.

9.4 Transporting the Tobii Dynavox I-Series+ Device

Disconnect all the cables and use the handle on the back side of the device to hold the device while carrying it.

When you transport the device for repair, shipment or traveling, use the original casing and packaging materials.

> **i** **Keep the original packaging materials for the Tobii Dynavox I-Series+.**
>
> In case the device needs to be returned to Tobii Dynavox for Warranty related issues or repair, it is required that the original packaging (or equal equivalent) is used for shipping.

9.5   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.

9.6   Disposing of the Tobii Dynavox I-Series+ Device

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

Appendix A   Support, Warranty, Training Resources

A1   Customer Support

For support, please contact your local representative or Support at Tobii Dynavox. In order to receive assistance as quickly as possible, make sure you have access to your Tobii Dynavox I-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, in the I-Series Control Center or Gaze Interaction Settings, see *6.9 System, page 57* and *7.7 System Information, page 72*.

For further product information and other support resources, please visit the Tobii Dynavox website www.tobiidynavox.com.

A2   Warranty

Please read the Manufacturer's Warranty paper included in the package.

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. Disassembling the Tobii Dynavox I-Series+ device will void the warranty.

> **i** **Keep the original packaging materials for the Tobii Dynavox I-Series+.**
>
> In case the device needs to be returned to Tobii Dynavox for Warranty related issues or repair, it is required that the original packaging (or equal equivalent) is used for shipping.

A3   Training Resources

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

Appendix B   Compliance Information

B1   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 Dynavox could void the user's authority to operate the equipment under FCC rules.

B1.1   For P15B Equipment

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 an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

B1.2   For Portable Devices

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device was tested for typical hand held operations with the device contacted directly to the human body to the sides of the device. To maintain compliance with FCC RF exposure compliance requirements, avoid direct contact to the transmitting antenna during transmitting.

B2   Radio Wave Exposure and Specific Absorption Rate (SAR) Information

The Tobii Dynavox I-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 Dynavox I–12+ (FCC ID: W5MTDI12A) and Tobii Dynavox I–15+ (FCC ID: W5MTDI15) 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 I–12+ device is 0.8 W/kg. The highest SAR value for the I–15+ device is 0.8 W/kg.

Guidance and manufacturer's declaration – electromagnetic emissions		
The Tobii Dynavox I-Series+ is intended for use in the electromagnetic environment specified below. The customer or the user of the Tobii Dynavox I-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 Tobii Dynavox I-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 Tobii Dynavox I-Series+ device should not be used adjacent to or stacked with other equipment.

Guidance and manufacturer's declaration – electromagnetic immunity			
The Tobii Dynavox I-Series+ device is intended for use in the electromagnetic environment specified below. The customer or the user of the Tobii Dynavox I-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.

Guidance and manufacturer's declaration – electromagnetic immunity			
The Tobii Dynavox I-Series+ device is intended for use in the electromagnetic environment specified below. The customer or the user of the Tobii Dynavox I-Series+ device should assure that it is used in such an environment.			
IMMUNITY test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Voltage dips, short interruptions and voltage variations on power supply input lines. IEC 61000-4-11	< 5 % UT (>95 % dip in UT) for 0.5 cycles. 40 % UT (60 % dip in UT) for 5 cycles. 70 % UT (30 % dip in UT) for 25 cycles. < 5 % UT (>95 % dip in UT) for 5 s	< 5 % UT (>95 % dip in UT) for 0.5 cycles. 40 % UT (60 % dip in UT) for 5 cycles. 70 % UT (30 % dip in UT) for 25 cycles. < 5 % UT (>95 % dip in UT) for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Tobii Dynavox I-Series+ device requires continued operation during mains interruptions, it is recommended that the Tobii Dynavox I-Series+ device batteries are in place or that the device be powered from an uninterruptable power supply (UPS). UT is at 100 VAC 60 Hz or 230 VAC 50 Hz.
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 Tobii Dynavox I-Series+ device is intended for use in the electromagnetic environment specified below. The customer of the user of the Tobii Dynavox I-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 Tobii Dynavox I-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	$d = \dfrac{3,5}{3}\sqrt{P}$ for 150 kHz to 80 MHz
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d = \dfrac{3,5}{3}\sqrt{P}$ for 80 MHz to 800 MHz

Guidance and manufacturer's declaration – electromagnetic immunity			
The Tobii Dynavox I-Series+ device is intended for use in the electromagnetic environment specified below. The customer of the user of the Tobii Dynavox I-Series+ device should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
			$d = \frac{7}{3}\sqrt{P}$ 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,[i] should be less than the compliance level in each frequency range.[ii] Interference may occur in the vicinity of equipment marked with the following symbol. $((\cdot))$
NOTE 1 At 80 MHz and 800 MHz, 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.			
i.	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 Tobii Dynavox I-Series+ device is used exceeds the applicable RF compliance level above, the Tobii Dynavox I-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 Tobii Dynavox I-Series+ device.		
ii.	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 Tobii Dynavox I-Series+ device.			
The Tobii Dynavox I-Series+ device is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Tobii Dynavox I-Series+ device can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communication equipment (transmitters) and the Tobii Dynavox I-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 Tobii Dynavox I-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 Tobii Dynavox I-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 Tobii Dynavox I-Series+ device.

In order to maintain compliance as a Class 1 Medical device, the switches that are used in combination with the Tobii Dynavox I-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).

B3   Industry Canada Statement

Low-power license-exempt radio communication devices (ICES-003)

De faible puissance exempts de licence des appareils de communication radio (CNR-210)

a. Common information
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.

b. Operation in 2.4 GHz band
To prevent radio interference to the licensed service, this device is intended to be operated indoors and installation outdoors is subject to licensing.

a. Informations communes
Son fonctionnement est soumis aux deux conditions suivantes:

1. Ce dispositif ne peut causer des interférences, et

2. Ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

b. Le fonctionnement en bande de 2,4 GHz
Pour prévenir les interférences radioélectriques aux services sous licence, cet appareil est destiné à être exploité à l'intérieur et à l'extérieur d'installation est soumise à licence.

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 I-12+ device is 0.8 W/kg. The highest SAR value for the I-15+ device is 0.8 W/kg. This device can be operated safely with a minimum distance 0 cm 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 de SAR pour le I-12+ dispositif est: 0.8 W/kg. La valeur maximale mesurée de SAR pour le I-15+ dispositif est: 0.8 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 CNR-210 du Canada.

B4   CE Statement

This equipment complies with the requirements relating to electromagnetic compatibility, EN 300386 class B for ITE, the essential protection requirement of Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility and R&TTE Directive 1999/5/EC to meet the regulation of the radio equipment and telecommunications terminal equipment.

B5 Standards

We, Tobii Technology AB, hereby declare that the Tobii Dynavox I-Series+ products listed in this manual complies with the following directives:

- 93/42/EEC (MDD) - Medical Device Directive, as amended by 2007/47/EC
- 2011/65/EU (RoHS 2) - Restriction of Hazardous Substances Directive
- 2004/108/EC (EMC) - Electromagnetic Compatibility Directive
- 2006/95/EC (LVD) - Low Voltage Directive
- R&TTE 1999/5/EC (R&TTE) - European Radio equipment and Telecommunications Terminal Equipment Directive
- 2002/96/EC - WEEE Directive
- 2006/121/EC - Reach Directive

The following standards have been used:

- ISO 14971:2007
- CAN/CSA-C22.2No. 60601-1:08
- ANSI/AAMIES60601-1:2005
- IEC 60601-1 ed.3
- IEC 60601-1:2005
- IEC 60601-1-11:2010
- EN 60601-1:2006
- EN 60601-1-2:2007+AC:2010
- IEC60950-1:2005+A1:2009
- EN 60950-1:2006+A11:2009+A1:2010+A12:2011
- EN 55011:2009+A1:2010
- EN 61000-3-2:2006+A1:2009+A2:2009
- EN 61000-3-3:2013
- EN 55022:2010+AC:2011 (EMC)
- EN 55024:2010 (EMC)
- ETSI EN 301 489-1:V1.9.2 (09-2011) (EMC)
- ETSI EN 301 489-17:V2.1.1 (09-2012) (EMC)
- ETSI EN 300 328: V1.8.1 (2012-06)(BT-WLAN)
- FCC 47 CFR Part 15 Subpart B
- FCC 47 CFR Part 15 Subpart C (BT-WLAN)
- FCC 47 CFR Part 18 Subpart C
- 47 CFR Part §2.1093
- ANSI C63.4:2009
- CISPR22:1997 (EMC)
- ANSI/IEEE C95.1-1999
- IEEE Std 1528-2003 (SAR)
- IEEE Std 1528a-2005 (SAR)
- EN62479 2010
- RSS-102 Issue 4, March 2010 (SAR)
- EN 62209-2:2010 (SAR)
- Canada RSS-210 ISSUE 8 Dec., 2010 Canada RSS-Gen ISSUE 4 Nov., 2014
- Canada RSS-Gen Issue 3: Dec.2010
- ACMA Radiocom. (Short Range Devices):2004
- AS/NZS60950.1
- AS/NZS 4268 (BT-WLAN)
- AS/NZS CISPR22:2009 (EMC)
- ICES-003: issue 5 (EMC)
- IEC 60529 Ed 2.1:2001 (IP)
- CNCA-01C-020:2010
- EN 60825-1:2007 (Near Infra Red (NIR) Radiation)
- MEPS (Australia and NZ)
- VCCI (Japan)

Appendix C   Computer Device States of Operation

Table C.1 Computer Device States of Operation

Advanced Configuration and Power Interface (ACPI) State	Description
S0 (Working)	Normal operating state - Windows session is running Display will dim and turn off after a time of idle. The 1, 2, Menu and Volume Up and Down buttons are however always illuminated in state S0.
S3 (Sleep)	The device is sleeping. The Windows session is suspended to RAM, allowing a quick resume to state S0 by: 1. Pressing the power button 2. Pressing a button connected to a switch port configured to have power on functionality 3. Wake on Gaze (if enabled) The device is consuming a small amount of power in state S3. Fully charged batteries (no AC adapter attached) will last a minimum of 24 h in state S3. Windows Critical battery level is monitored in state S3 to prevent the batteries from being fully drained. The device will enter state S4 (Hibernate) if the critical value is reached.
S4 (Hibernate)	The device is in hibernation. The Windows session is suspended to the SSD (hard drive) and the device is powered off. The session can be resumed to state S0 by: 1. Pressing the power button 2. Pressing a button connected to a switch port configured to have power on functionality
S5 (Soft Off)	Windows is shut down. The device is powered off. Batteries (not drained) and/or AC adapter attached.
G3 (Mechanical Off)	All power sources removed (no batteries and no AC adapter attached).

Table C.2 Power Button Normal Operation, LED Behavior

| ACPI State | Power Button Illumination | | Button 1, 2, Menu, Volume Up and Volume Down Buttons |
	No Battery Charging	Battery Charging	White Illumination
S0 (Working)	Green Light	Blue Light	ON
S3 (Sleep)	Green Blinking Light	Blue Blinking Light	OFF
S4 (Hibernate)	OFF	Blue Light	OFF
S5 (Soft off)	OFF	Blue Light	OFF

Table C.3 Power Button Error or Warning, LED Behavior

Error or Warning	ACPI State and condition	Power Button Ilumination	Comment
Chassis near overheating	In state **ACPI S0 (Working)**, when the chassis temperature is ≤ 1 degree Celsius from the Maximum Threshold according to the Safety Settings specified in *Table D.1 Maximum Allowed Temperature, page 87.*	Purple Light	Purple light as a warning to the user when the Device is close to the overheat threshold.
Chassis overheats	In state **ACPI S0 (Working)**, when the chassis temperature is > the Maximum Threshold according to the Safety Settings specified in *Table D.1 Maximum Allowed Temperature, page 87.*	Purple Quick Blinking Light	The Device will blink the LED during the hibernate or shutdown process.
Chassis overheated	In state **ACPI S4 (Hibernate)** and **ACPI S5 (Soft Off)**, when the power button[i] is pressed.	Purple Quick Blinking Light for 5 seconds.	The Device will blink the LED and remain in the state **ACPI S4 (Hibernate)** or **ACPI S5 (Soft Off)**. ℹ️ The Device will start up and be operational for up to 9 minutes if the temperature does not drop below the Maximum Threshold according to the Safety Settings specified in *Table D.1 Maximum Allowed Temperature, page 87* within the 9 minutes.
Low Battery Level for Battery Packs	In state **ACPI S4 (Hibernate) and S5 (Soft off)**, when the power button[i] is pressed and: 1. No DC plug inserted, and 2. Battery level is at or below the critical level	Blue Quick Blinking Light for 5 seconds.	

i.   Or a switch port configured to have power button functionality.

Appendix D   Maximum Allowed Temperature

Table D.1 Maximum Allowed Temperature

| Allowable maximum temperature for the Tobii Dynavox I-Series+ metal external surfaces which are likely to be touched	Maximum Temperature °C/°F	
	Portable Mode	Mounted Mode
Mounted Mode temperature threshold: External surfaces temperature allowed		55/131
External surfaces temperature allowed in an area unlikely to be touched, see position 1 in *Figure D.1 Temperature Threshold Area, page 87* for the position of this area.		60/140
Portable Mode temperature threshold: External surfaces temperature allowed	43/109	
External surfaces temperature allowed in an area unlikely to be touched, see position 1 in *Figure D.1 Temperature Threshold Area, page 87* for the position of this area.	46/115	
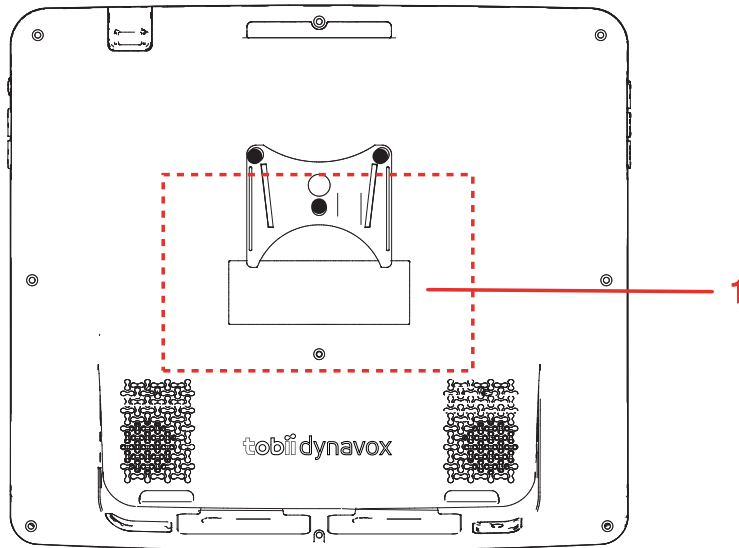
Figure D.1 Temperature Threshold Area

Appendix E   Technical Specifications

E1   Standard Tobii Dynavox I-Series+

Standard	Tobii Dynavox I–12+	Tobii Dynavox I–15+
Type/Model	I–12+ ETR	I–15+ ETR
Screen	12.1″, Aspect ratio: 4:3, LED Backlight Unit, White Luminance 500 cd/m^2	15.0″, Aspect ratio: 4:3, LED Backlight Unit White Luminance 400 cd/m^2
Screen Resolution	1024 × 768 pixels (XGA)	
Touch Panel	Projected Capacitive Touch with Gorilla® Glass, 10 point multi touch	
Dimensions (WxHxD)	30,7 × 27,4 × 10,5 cm 12.1 × 10.8 × 4.1 inches	36,9 × 32,6 × 11,2 cm 14.5 × 12.8 × 4.4 inches
Weight	2,8 kg 6.2 lbs	3,8 kg 8.4 lbs
Speakers	2 × 3 W Closed Box Speakers	
Microphone	1 × Analog Microphone	
Processor	Intel® Celeron Quad Core Processor J1900 (2M Cache, 2 Ghz)	
RAM	4 GB DDR3	
Operating system	Microsoft Windows 8.1	
Hard disk drive	2.5″ SSD 120 GB minimum	
SD-Card	MicroSD-Card 32 GB	
Connectors	1 × Connector for an HDMI 1.3 Connector Type A cable 2 × USB 2.0 (Current limit = 1000 mA) 1 × USB 3.0 (Current limit 1500 mA) 1 × RJ45 100/1000 Mbit/s (Ethernet) 2 × 3.5 mm Switch connector interface, (Pin out for mono plug: Sleeve = Common ground, Tip = Signal) 1 × 3.5 mm″ Headphone jack (stereo) with jack detection 1 × 24 VDC in 2.5/5.5 mm (Power connector)	
Buttons	1 × Power On 1 × Volume Up 1 × Volume Down 1 × Menu 2 × Programmable	
WLAN (optional)	IEEE 802.11 b/g/n Dual antenna diversity system	
Bluetooth® (optional)	Bluetooth® 3.0+HS Dedicated for Mobile Phone Communication	
IR Remote Control (Environmental Control Unit)	GEWA Programmable IR Remote Control (Environmental Control Unit), 19 – 455 kHz, 940 nm, compatible with a wide range of remote controls Resting Orientation: 1 × IR filter window with 1 × IR Receive Sensor, 3 × IR Transmit Diodes and 1 × Red Status LED Upright Orientation: 1 × IR filter window with 4 × IR Transmit Diodes	

Standard	Tobii Dynavox I–12+	Tobii Dynavox I–15+
Type/Model	I–12+ ETR	I–15+ ETR
Camera	User Camera (back) 5 MP AF (Auto Focus)	
	Web Camera (front) 2 MP FF (Fixed Focus)	
Eye Tracker	Tobii IS20 Module	
Battery Run Time[i]	~9 h	~9.5/8[ii] h
Battery Charge Time	Maximum 5.4 h (0-100%)	
Battery Storage Time	Maximum 6 months @ charge ≥ 40%	
Deskstand	Integrated	
Mounting Systems Supported	Tobii Dynavox QR adapter plate for Daessy and REHAdapt	
Power Supply	Adapter Technology Co. Ltd, ATM065-A240	
	Input: Universal 100 ~ 240 VAC / 50 ~ 60 Hz	
	Output: +24VDC / 0~2.71A	
IP class	IP 43 (with I/O covers in place)	

i.   Indoor with continuous communication and with Gaze Interaction if applicable. ~24 hours with a Power optimized scenario.

ii.   9.5 hours without the Eye tracker activated, 8 hours with the Eye tracker activated

E2   Battery pack

Item	Specification	Remark
Battery Technology	Li-Ion rechargeable battery pack with gas gauge (SMBus v1.1 interface)	
Cell	6× Panasonic NCR18650 (3S2P)	
Battery Pack Capacity	62.64 Wh	Initial capacity, new battery pack
Nominal Voltage	10.8 V	
Charge Time	Maximum 5.4 h	Charge from 0 to 100%
Cycle Life	500 cycles	Minimum 75% of initial capacity remaining
Allowable Operating Temperature	0 – 45 ℃, 45-85%RH	Charge condition
	-20 – 60 ℃, 45-85%RH	Discharge condition
Storage Temperature	-20 – 35 ℃, 45-85%RH	1 year
	-20 – 40 ℃, 45-85%RH	6 months
	-20 – 45 ℃, 45-85%RH	1 month
	-20 – 50 ℃, 45-85%RH	1 week
Storage Time[i]	Maximum 6 months @ charge ≥ 40%	❗ Do not long time store battery packs with less than 40% charge level

i.   Batteries shall not be stored in the device

E3 Eye Tracker

Technical Specifications	Tobii IS20 Module
Working Distance	40 - 90 cm 18 - 35 inches
Freedom of Head Movement[i] @ 70 cm / 27.5 inches (Width x Height)	50 × 36 cm 20 × 14 in
Head Movement Speed (optimal)	11.8 in/s 30 cm/s
Gaze Data Rate	30 Hz
Gaze Accuracy[ii]	
Under ideal conditions	0.4° (Std dev 0.1°)
Across 30 × 20 × 20 cm head box	0.5° (Std dev 0.2°)
Screen Size	<22″
Distance (from screen)	45 — 85 cm 17.7 — 33.5 in
Track box size (Width × Height)	27 × 23 — 52 × 44 cm 10.6 × 9.1 — 20.5 × 17.3 in
Track box depth	40 cm 15.7 in
Gaze Precision (=sample to sample noise)[iii]	
Under ideal conditions, without filter, on artificial eyes	Pending
Across head box, without filter, on human eyes	0.4° (Std dev 0.1°)
Mounting	Built in
Power Supply	Built in

i. Freedom of head movement describes the volume in front of the tracker in which the user must have at least one of the eyes. The numbers are specified parallell/orthogonal to screen surface, assuming eye tracker is at 20 degree angle to screen.

ii. Gaze accuracy describes the angular average distance from the actual gaze point to the one measured by the eye tracker.
Accuracy under ideal conditions is measured with users placed in the center of the eye tracker track box with the head resting on a chin rest, and the room and screen illumination constant at 300 lux.

Accuracy across head box is measured with users after calibration systematically positioned at varying positions ranging from center of the head box up to +/- 15 cm horizontal, +/- 10 cm vertical and +/- 10 cm distance.

Accuracy across varying background illumination is measured with users' head resting on a chin rest, and after calibration modifying background illumination from 1 to 1000 lux.

iii. Gaze Precision describes the point-to-point variation between individual gaze samples (here specified with binocular data, ie both eyes, and measured on artificial eyes). Gaze Precision with Stampe filter is with Stampe stage 2 noise-reduction algorithm applied to raw data (Stampe , Behavior Research Methods, Instruments & Computers 1993, 25 (2), 137-142).
Precision without filter is based on raw data, without any de-noising filter applied, either inside or outside the eye tracker.

Precision under ideal conditions is measured with users placed in the center of the eye tracker track box with the head resting on a chin rest, and the room and screen illumination constant at 300 lux.

Precision across head box is measured with users after calibration systematically positioned at varying positions ranging from center of the head box up to +/- 15 cm horizontal, +/- 10 cm vertical and +/- 10 cm distance.

Appendix F   Approved Accessories

Description	Model	Tobii Dynavox Part No.
Tobii Dynavox I-Series+ AC Adapter (Power Supply)	AdapterTech ATM065–A240	12002664
Battery pack	TISB1	12004072

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

Support for Your Tobii Dynavox Device

Get Help Online
See the product-specific Support page for your Tobii Dynavox device. It contains up-to-date information about issues and tips & tricks related to the product. Find our Support pages online at: *www.TobiiDynavox.com* or *www.myTobiiDynavox.com*.

Contact Your Sales Representative or Reseller
For questions or problems with your product, contact your Tobii Dynavox sales representative or authorized reseller for assistance. They are most familiar with your personal setup and can best help you with tips and product training. For contact details, visit *www.TobiiDynavox.com/contact*