



NU-EYE SETTINGS FOR THE ACCENT 1000-10 & ACCENT 1200-10

General Settings

- **Eyegaze Positioning:** this displays the position of the eyes so that the device user can be positioned correctly.
- **Tracking Status Graphics:** this turns the graphics on and off in the track status box. The graphics and the text status box help position the device correctly.
- **Pupil Markers:** this allows crosses to appear in the track status box indicating the pupils can be seen. The pupil marker is a white bolder cross.
- **Glint Markers:** this allows crosses to appear to show where the glint is, this appears as a smaller darker cross.
- **Eye track Size:** this allows you to turn on and off the track status. If you have it on you can use **Track Status Size** to choose what size to display and its location.
- **Eye Track Size:** this allows you to determine the size of the track status box. If this is set to small it will display in the top right corner of the screen; if this is set to large it will simply display on screen in a larger box.
- **Manage Eyegaze Profiles:** this allows you to save; load or delete eyegaze profiles; useful for multiple users.
- **Calibrate Now:** this starts the calibration process (make sure you are ready).
- **Pause/Resume:** this pauses and activates the eyegaze; the device can be calibrated whilst paused.

Calibration Settings

- **Stimulus Type:** this allows you to calibrate using a point (circle), point 2 (circle with a dot), a cross or a picture.
- **Stimulus size:** allows you to change the size of the calibration stimulus (range between 10 and 400) the typical setting is 30.
- **Active Eye:** allows you to chose the eye that controls the calibration, you have a choice of: Both; Both Use left; left only; Both use right; Right only.
- **Stimulus Speed:** this controls the speed of the stimulus during a calibration, choices are: very slow; slow; medium; fast; or very fast.
- **Stimulus sound:** this is the sound that is played when calibrating, you have a choice: of no sound; beep; or a choice of 4 sounds (some could be startling to the client)
- **Keyboard Step through:** allows the Calibrator to walk the user through the calibration point by point allowing the device user to do the calibration at their own pace.
- **Calibration Points:** the number of points the user must gaze upon for calibration. Use Up/Down arrows to select 0,1,2,5,9 (Validation will give the device user 4 more than these quoted).
- **Calibration area:** the amount of the screen used for calibration. Default is 100%
- **Select Background Colour:** this allows you to change and select the background colour used when calibrating, a dark background is recommended.
- **Select Pointer Colour:** this allows you to change and select the pointer colour used when calibrating, a light colour is recommended.

Calibration Settings continued...

- **Validate after Calibration:** data is provided immediately following the calibration when this is set to 'on' - allows for tracking of calibration scores
- **Validation results:** offers you the validation results using text or graph. Text is the default.
- **Show Last Validation Results:** this displays the last validation report that was displayed on the device.
- **Validate Now:** this does the validation only and is not the calibration process.

Windows Settings

- **Mouse Post-select:** this turns on the mouse key within Windows and displays on the desktop.
- **Mouse Post-select Settings:** allows you to configure the mouse layout and function of the mouse keys.
- **Auto-Hide Windows Keyboard:** this turns off the Windows keyboard and prevents it opening when a text field is selected.
- **Windows Clicks:** 'ON' allows for mouse clicks in Windows using eye gaze. 'OFF' will disable mouse click activations while maintaining cursor control - useful with 'mouse over' or 'hover' activities in third party computer programs.
- **Magnify Windows Clicks:** Provides a magnification pane upon each activation on the screen in Windows with eye gaze. Helpful when accessing very small targets. 1. Magnification Factor: range of 2x – 5x. Use the Up/Down arrows to adjust the power of the magnification 2. Magnification Area: range 64 x 64 – 256 x 256. Use the Up/Down arrows to adjust the size of the magnification pane.
- **Magnification Factor:** this setting determines how big you magnify the magnify window x2, x3, x4 or x5.
- **Magnification Area:** This determines the area of the screen that is magnified, the choices are 64 - 256.
- **Magnify Windows Keyboard:** this allows you the choice to magnify the Windows keyboard, the choices are on or off.
- **Windows Selection Type:** you can change the selection type, for example have a different dwell time to that used in the MAP, it can be: Same; Dwell; Blink; or Switch

Pointer Settings

- **Highlight Keys:** this highlights the icon with a red border; it isn't possible to change the colour of the highlight it is red by default.
- **Show Cursor:** this option is to turn the cursor either on or off.
- **Cursor Size:** this allows you to change the size of the cursor used within NuVoice, the choices are small, medium or large.
- **Cursor Colour:** allows you to change the colour of the cursor.
- **Pointer Colour:** this allows you to change the colour of the pointer. The pointer is different from the cursor and is typically as circle or square.
- **Pointer Type:** this allows you to change the pointer to a circle, square or none (not having a pointer).
- **Pointer Size:** allows you to change the size of the pointer.
- **Pointer Mode:** this allows the pointer to be still or animated; if it is animated it gives the device user an idea how long to dwell.

Pointer Settings continued...

- **Pointer Border:** this allows you to add a border of different thickness to the pointer.
- **Pointer Transparency:** this allows you to determine how transparent the pointer is, the lower the percentage the darker and less transparent the pointer is.

Tracking Settings

What is a Saccade? A saccade is a fast movement of an eye, fast jumps from one fixation to the other. Saccades are quick, simultaneous movements of both eyes in the same direction. Regressive saccades and saccade pattern can reveal confusion and problems in understanding

What is a Fixation? Fixations occur when the eye is resting on a target. Typical duration of fixations are 100 – 600 milliseconds. Information from scene is gathered during this period the brain starts processing data during this stop period and the length of fixation often indicates information processing and/or cognitive activities.

Smoothing: The frequency of which the eye data is calculated to determine where the cursor (or pointer) should be drawn. The value can range from 2 to 45. The higher the number, the slower the cursor responds. The lower the number, the faster the cursor responds.

The calculation can be conducted in 3 ways:

- “Stream” [DEFAULT]: Works well for most users and at all ranges of smoothing. This setting moves with the eye wherever the user looks on the screen.
- “Snap”: Works well for users who have dramatic shifts in gaze (poor visual attention, frequent and constant head movement, severe nystagmus). Very robust and makes the cursor feel “sticky”.
- “Group”: Works well for users who have frequent shifts in gaze (mild to moderate nystagmus) around a central point.

Filter Method: Filter Method can be adjusted to separate an individual's saccades and fixations. The saccadic movements can be calculated as they are fast and usually have short durations. Fixations requires stability over a longer period of time. NuEye can determine the difference between a saccade and fixation and therefore apply separate methods to each eye event. [DEFAULT is to apply Stream to both the saccade and fixation.]

Other options include:

- Stream + Snap
- Stream + Group

Advanced and other Settings

Fixation Window: Increase the size of the fixation window to make target selection easier for users with ocular motor or visual attention issues that may be impacting their ability to select targets. Decrease the size of the fixation window to improve the precision of the selection made for more advanced users.

If you increase the number, less stability of the individual's gaze is required. You can increase or decrease each axis independently. For example if a user has a mild to moderate lateral nystagmus, you may increase the fixation window along the (x) axis and maintain the default settings along the (y) axis. This would give the user some level of compensation for their uncontrolled movement.

Another example would be that if a user has difficulty with vertical movement of the eye and they need greater tolerance along the y axis, than you increase the fixation window's (y) axis setting.

The Fixation Window is the area in which fixations are detected. Fixation default setting is 50px by 50px (NEW DEFAULT SETTING should be 200px by 200px) and can be ranged from 1px to 600px. The smaller the fixation window, the greater amount of stability will be required to make a selection. The larger the window the faster a selection will be detected. The fixation window allows you to balance precision and robustness.

The fixation window only applies to the pointer in Nuvoice and selections made in Windows. The fixation window has no bearing on the cursor.

Advanced and other Settings continued...

- **Fixation Window X:** this is the horizontal or width of the window, this increased the depth of the target making it easier to select horizontally.
- **Fixation Window Y:** this is the vertical or depth of the window, this increases the depth of the target making it easier to select vertically.
- **Default geometry:** this resets the camera to 0 degrees.
- **Camera Angle (deg):** angles the camera from 0 to 25 degrees
- **Reset Eyegaze Settings to Default:** this option resets all the eyegaze settings to the best default settings.
- **Copy Current Settings to All Areas:** this allows you to copy all the calibrated setting to the other 5 user areas in the device.

Liberator contacts

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(Option 2)