Supplement to the user manual

Version 1.0

(january 2007)

II.2. Eye-tracker configuration

(*File/configuration/acquisition* menu, "*Eyetracker*" tab)

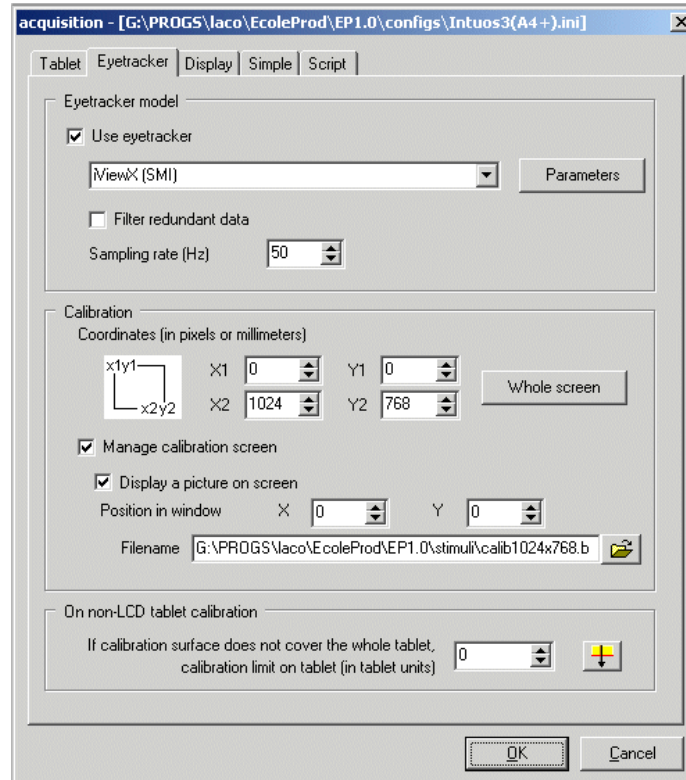Once the acquisition configuration panel has appeared, click on the "*Eyetracker*" tab.

Figure 5: Acquisition configuration panel, "Acquisition" tab.

The "*Eyetracker*" tab shows three frames:

- "*Eyetracker model*": choose the eye tracker you are using from the list;
- "*On screen calibration*": for calibration on a PC screen or an LCD tablet;
- "*On non-LCD tablet calibration*": for calibration on a standard tablet.

II.2.1. Eye tracker model

LABEL	DESCRIPTION
Use eyetracker	This option allows to choose whether you want to use an eye tracker or not. If this option is selected (ticked), the *"Eyetracker model"* options become available. You can select the eye tracker model from the drop-down list below the option. Four models are available: **Eyelink I and II, ASL504, Eyeputer, iViewX.** <u>**Important:**</u> if you wish to use an eye tracker that is not listed, leave a message on the Eye and Pen forum.
Parameters	This button allows you to set the eye-tracker parameters. If you are using: • Eyelink I and II: see page 18; • Eyeputer: see page 21; • ASL 504: see page 20 • iViewX
Filter redundant data	This option allows you to discard successive items of identical eye data (the eye is still watching the same location). With a very accurate and high-speed sampling eye tracker, this option is not particularly useful, as our eyes move slightly all the time. On the other hand, a less accurate eye tracker with a low sampling rate may return many identical eye positions when the eye is in a "stationary" state.
Sampling rate	Represents the number of times per second that the eye tracker samples the eye position. This value has to be set manually, as many eye trackers do not return this value, and some may have more than one sampling rate available.

II.2.2. Eye tracker configuration ("Parameters" button)

d°) iViewX (S.M.I. GmbH)

(*File/configuration/acquisition* menu, *"Eyetracker"* tab*, "iViewX"* model, then *"Parameters"* button)
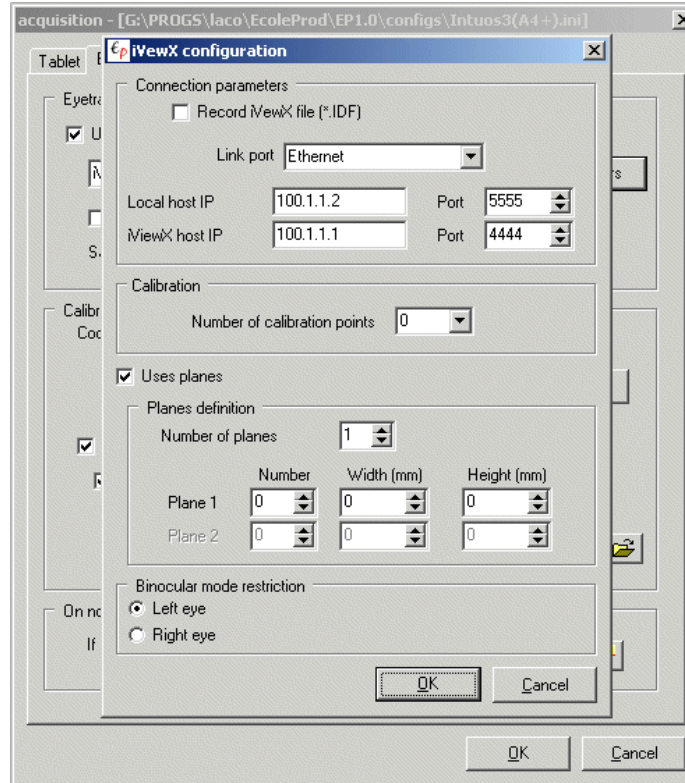

Figure 6: Acquisition configuration, Eyetracker tab ("parameters" button, iViewX)

The configuration panel for "iViewX" contains four frames, called:

- « *Connection parameters* » : settings to connect to the eyetracker;

- « *Calibration*» : calibration configuration;

- « *Planes definition*» : parameters to set if your iViewX model records eye data relative to 3D planes (e.g. the HED-HT model);

- "*Binocular mode restriction*": choice of the recorded eye;

The « *Connection parameters* » frame allows to set how the Eye and Pen computer will « talk » with the iViewX computer. Options are described in the following table.

LABEL	DESCRIPTION
Record iViewX data file (*.IDF)	If this option is ticked, data will also be recorded on iViewX host PC, in the "iViewX" format.
Link port	For the time being, only the Ethernet link is supported.
Local host IP (and port)	Internet protocol address of the network adapter of the computer executing Eye and Pen. « Port » is the port

	number that will be used to communicate with the iViewX computer
iViewX host IP (and port)	Internet protocol address of the network adapter of the computer executing Eye and Pen. « Port » is the port number defined in the « Ethernet »configuration of the iViewX.

To achieve maximum communications efficiency, we suggest that you link both computers network adapter with an Ethernet cross wired cable (recent computers may also use simple cable), removing any other network connection, and using the following parameters (menu Start/Parameters/ Network connections of Windows) :

❖ « Eye and Pen » computer: IP address 100.1.1.2, subnet mask 255.255.255.0, no gateway, nor DNS or WINS.

❖ iViewX computer: IP address 100.1.1.1, subnet mask 255.255.255.0, no gateway, nor DNS or WINS.

In the iViewX software, select **Ethernet** in the « **Remote** » dialog box of the **Setup-Preferences-Hardware** menu. In the **Config** tab, select the Ethernet address and port. To allow Eye and Pen to send commands to the iViewX, select the **Enable Data Streaming** option in the **Online** menu.

The *"Calibration"* frame options are described in the following table.

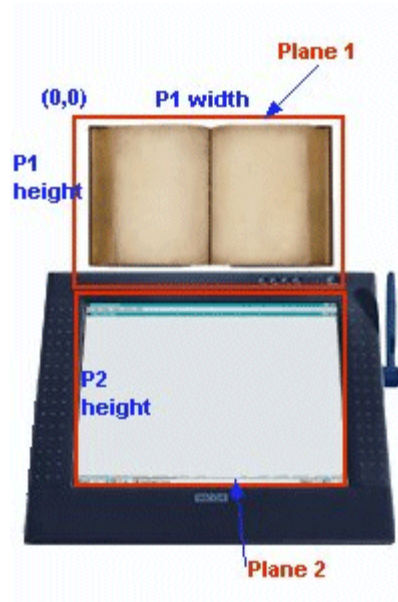| LABEL	DESCRIPTION
Number of calibration points	Number of points used for calibration You may choose 0, 1 , 2 ,5 ,9 et 13 points. If you whish to let iViewX use its own calibration, choose 0 points

If your iViewX uses 3D planes (e.g. the HED-HT device), tick the « Use planes » checkbox and fill in the fields of the frame below.

The « *Planes definition* » frame allows to configure parameters for each individual plane.

LABEL	DESCRIPTION
Number of planes	Number of planes (1 or 2) whose data will be readen by Eye and Pen.
Plane 1 **(number, width, height)**	iViewX plane number Eye and Pen is to read data from, and its horizontal and vertical measures in millimeters.
Plane 2 **(number, width, height)**	Same principle as for plane 1.

If you are to use two planes (as in the illustration below), some restriction applies:

> ➢ Plane 1 is to be located above plane 2 ;

> ➢ Both planes are aligned on their left side ;

> ➢ Planes can be of different widths;

> ➢ Plane 1 and plane 2 are in vertical proximity (contiguous).

The "*Binocular mode restriction*" frame option is described in the following table:

LABEL	DESCRIPTION
Binocular mode restriction	"Eye and Pen" only records data for one eye. This option allows you to choose which eye (left or right) will be recorded if your eyetracker is in binocular mode.