

Introduction

WN introduced new touch panels and controller for BEETLE TFT displays BA7x from ELO with resistive touch technology. These controllers are not compatible with existing MicroTouch (3M) drivers! Therefore, new drivers are provided here.

Since we have used these driver releases provided in our download site for WN internal qualification process, we recommend downloading and installing of them, even if newer ones are distributed from original hardware manufacturers. The original ELO touch driver is incompatible to the WN touch driver and doesn't work with the WN hardware. The customized WN driver also includes additional features in comparison to the original ELO driver.

→ **All information given in this document is related to actual hardware, firmware (BIOS) and software and may change with newer releases.**

This document is made for people with technical knowledge. Thus, we do not need to tell you how to ...install a Windows driver and select INF files ("install from a list"), ...overwrite existing, "recommended" Windows drivers,...etc. For such basic information & education concerning operating systems and PC technology itself, please contact your favorite consultant or related books.

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Contents of DOWNLOAD.ZIP

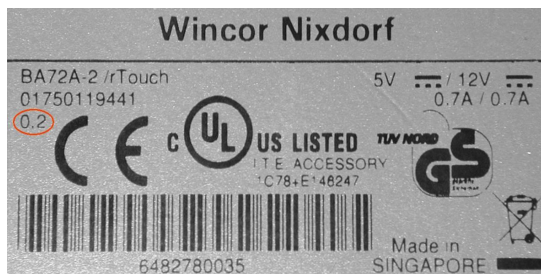
- Native 32-bit drivers, for both serial and USB touch screen controllers. for Microsoft Windows
- Setup application.
- This README.PDF done by WN, is an extract (only) from the original ELO manuals.
- For further software package details, see chapter contents ...

Known restrictions and differences to previous touch solutions

- This driver is released for all WN / ELO touch panels connected via serial interface!
Note! The WN PLINK cable already includes such a RS232 connection.
- **We recommend complete de-installation of previous driver releases before installing the new one!** The BEETLE may restart sporadically when re-installing the driver without uninstalling before.
- Since the driver is not signed by Microsoft (WHQL), there may pop up a **warning dialogue**, hidden by the actual ELO install window. If the ELO progress indicator while installation freezes, use ALT TAB keys to focus on the warning dialogue.
- There is a new graphical “monitor to COM port assignment” tool available.
- It is recommended that the **touch display is set up as primary** (first display device in the BIOS adjustment and also in the Windows display manager) and on the left position of a multiple display environment with the logical number “1”. All other configurations could require a new association procedure to set up the touch alignment correctly.
- The driver is able to read and write calibration data in the NVRAM of the controller, to prevent a new calibration of a new display which this was exchanged. In general **it is not necessary to calibrate a display when this driver is installed**.
- The **ELO touch driver does not force re-calibration** in case of changed screen resolution, like MicroTouch (3M) driver did.
- While calibration, the touch screen needs to be released without instruction on screen!
MicroTouch (3M) TouchWare changes calibration button to indicate “calibration ready”!
- If change of COM port (routing) for an already installed touch driver is required, you need to open system properties → add/remove software → ELO → CHANGE button
- Right click function: Closing circle time for right click on hold takes 0,5sec and is not related to the selected time e.g.5 sec
- After **uninstalling** this ELO driver, some files will remain on disk. Usually placed in systems program files folder, sub folder “EloTouchSystems”. Its good practise to delete the folder manually!
Never run the EloSetup.Exe of the now incomplete driver package!
- Unfortunately, the dialogues are not correctly translated. We could see some strange german dialogues.
- In multiple monitor configuration, the calibration window may occur also on display which was already calibrated. Press ESCAPE key another time and continue...

Identification of WN/ELO touch technology

The following picture shows a sample of a BA7x type label. There is a red marked field included which indicates the assembled touch technology. This driver works only properly when there is included after the dot the number “**0.3**” (not “0.2” as shown in picture). If on screen dialogues show a “CarrollTouch” device, this is an other name for the infrared type! “AccuTouch” is the name for resistive touch.



Installing the driver

- Connect ELO based BA7x display to the BEETLE
- Run BEETLE motherboard **BIOS SETUP** and re-route touch to wanted COM port.

NOTE! If you have ordered a WN piggy-back configuration, that consists of:
+ WN PLINK PCI controller based on Silicon Motion LynxEM4+ (SM712)
+ WN PCI COM (based on Sunix)
+ cable to connect both PCI cards
this is not required!

- Boot BEETLE and run EloSetup.Exe → Setup will launch.
- Select the **language** for the XP Universal driver package.

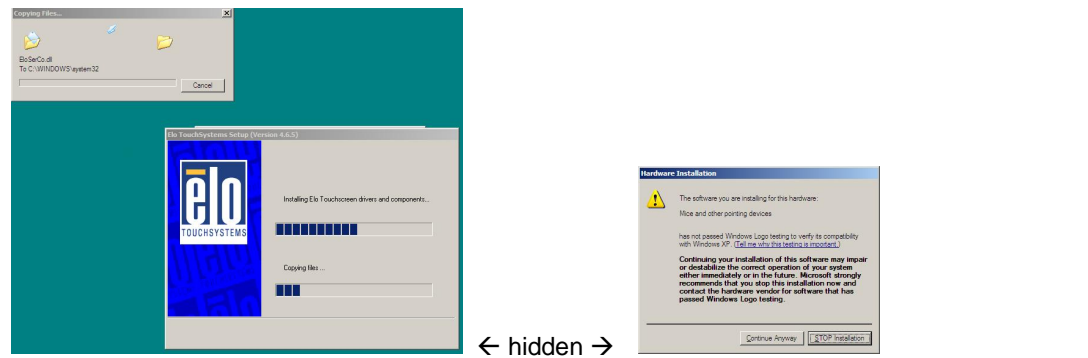
NOTE! This language is used for all Elo components in future on the system. To change the user language you must install the package again on the system. Default selection from the dropdown uses the current users input language from the Windows subsystem.

- We recommend to check **Auto-detect** Elo devices if your touch monitor is already re-routed or piggy-back cable is connected to the computer. If you connect the piggy-back cable later, do not check the **auto-detect** box.

A list of all the serial ports that the system detected is shown. If you checked the auto-detect box in the previous screen, the COM port that you selected should be checked in the list.

- Since the driver is not signed by Microsoft (WHQL) Windows may advise you that the "software you are installing has not passed Windows logo testing..."; select **Continue Anyway ...**

Unfortunately, the warning dialogue may be hidden by ELO install window! Use ALT TAB keys.



Silent install

The EloSetup program for this driver may also run as an attended or unattended program from a command line, batch file, etc. Example usage:

To Silent install for a Serial controller on COM1 use: `EloSetup /is /P:1 /s`

To view all the options available for this installation method, run EloSetup as `EloSetup /h`.

Uninstalling the Driver

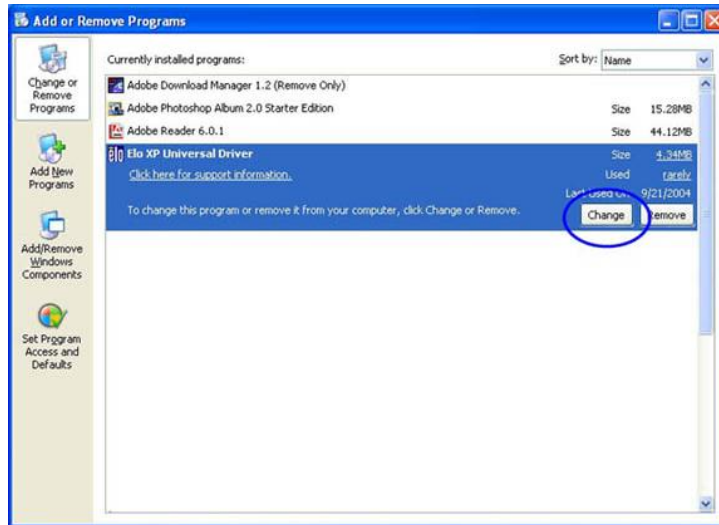
Run the Add/Remove Programs feature in the Control Panel and Click the Elo XP Universal Driver item REMOVE. After ELO reports uninstall success, lots of files will remain on disk. Its good practise to delete the folder "EloTouchSystems" (after reboot), to be found in systems program files folder.

Disabling the Driver

Touch functionality may be quickly and easily disabled using the **Tool Tray** icon. If the Elo icon is not in the Tool Tray (lower right corner of the display), see the section on enabling the Tool Tray icon below. Click **Disable Touch**. Touch functionality is re-enabled in the same manner

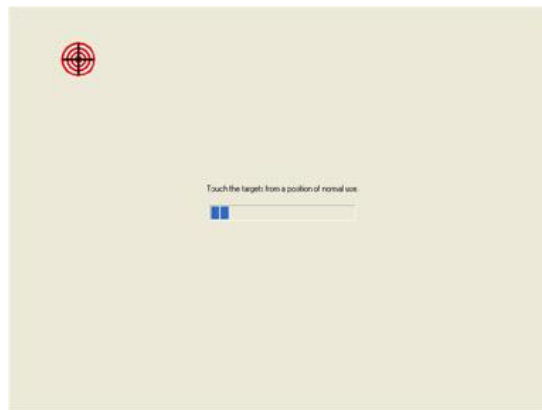
Change serial port for touch controller

To change Serial port click on the **Change** option from the Add/Remove programs in the Control Panel, Elo entry.



Video Alignment (Calibration)

Video alignment or calibration as it is also called, ensures that the mouse cursor appears at the position of touch. Elo uses a three-point calibration sequence that will accept touchscreens with any orientation of the X or Y axis, in landscape or portrait mode. Once calibrated, the touchscreen will be ready to use automatically each time the system is restarted.



Options to Launch

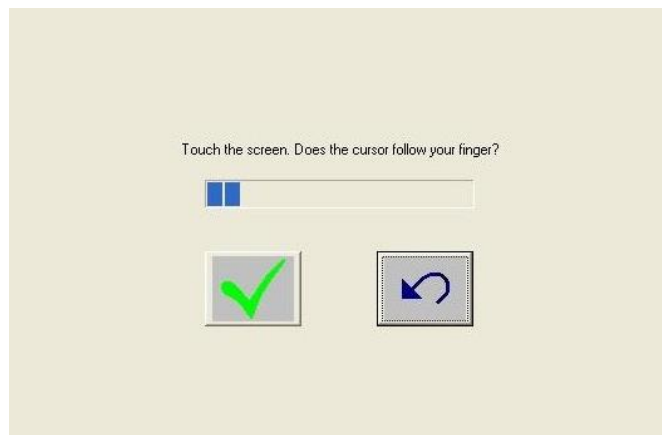
The video alignment program may be launched six different ways:

1. During setup a checkbox may be selected to run the alignment program automatically after setup is completed.
2. Via the Elo Control Panel application by selecting the General tab and clicking the alignment program icon.
3. Via the Elo Control Panel application by selecting the Properties tab for the individual monitor and clicking the alignment program icon.
4. By clicking the Elo icon in the window task bar at the bottom right of the display and selecting the video alignment option from the dialog list.
5. By double clicking the Elo icon in the Windows task bar at the bottom right of the display. This will bring up the Elo Control Panel application and the alignment program may be run via option two or three listed above.
6. By running EloVa.exe directly from the Windows command line or \Windows\System32 directory.
7. By calling EloVa.exe directly from an application.

Running the Alignment Program

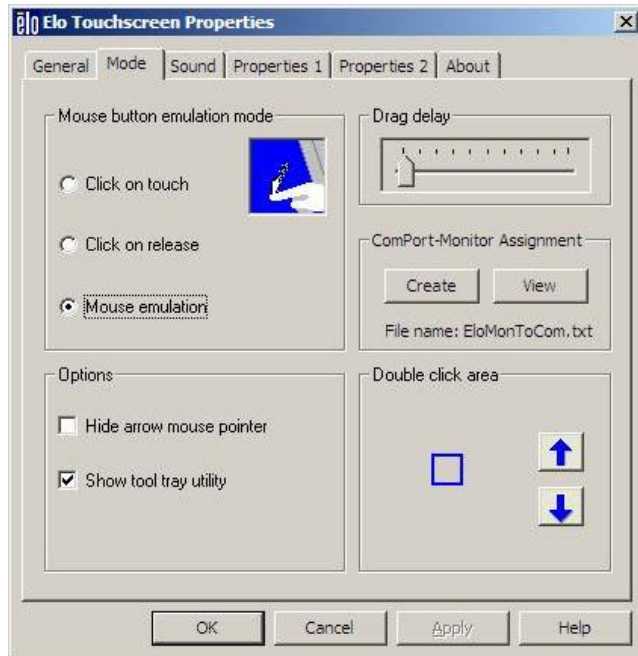
When you run EloVA using one of the options above, touch the three targets as they appear. You will then be asked to touch various points on the screen to verify that the cursor appears at the position touched. If the cursor appears at the position touched, click the green arrow. If the cursor does not appear at the position touched, click the blue curved arrow and the alignment program will run again.

If you are using multiple monitors the alignment program will run on each individual monitor. If one of the monitors is not a touch monitor, Press the Esc key on the keyboard and the alignment program will advance to the next monitor or wait until the program times out as indicated by completion of the progress bar.



Assignment of touch screens

Open ELO properties and select MODE. You will VIEW the actual assignment and may save it to a file for unattended installation afterwards. The file will be placed on system drive in folder “program files\EloTouchSystems”.

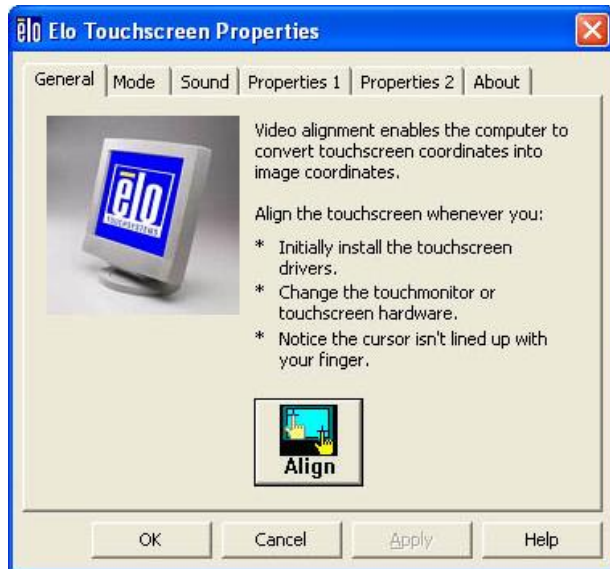


Control Panel (Elo Mouse Properties)

The Control Panel (CP) application allows configuration of the driver to suit application programs and presents system and diagnostic information to the user. Each of the five or more tabs in the control panel are described below.

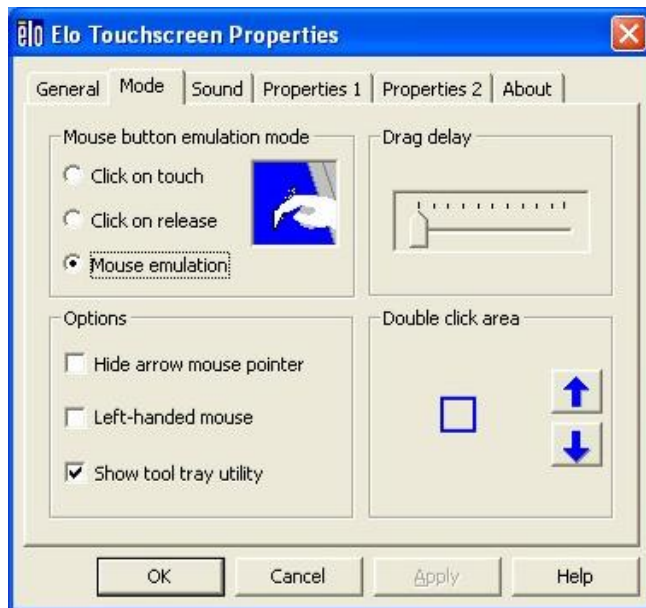
General

The General tab is displayed when the Control Panel is opened. The other tabs described below may be selected and the video alignment program EloVA may be launched from this tab.



Mode

The Mode tab selects touchscreen operating mode and configures the appearance and function ability of the desktop. All selections made in the Mode tab must be activated by clicking the "Apply" button at the bottom of the dialog. No further explanation required for "Mouse emulation", "click on touch", ...



Mouse Emulation (Drag and Double-click)

- Sends a mouse down message at the point of contact.
- Selects an object if it was at the initial point of contact.
- Drags a selected object on the screen.
- Response to dragging is set by the Drag delay slider bar.
- Sends a mouse up message at the point of untouch.
- Double-clicks on an object when the screen is touched twice in rapid succession at the same location.

- The speed to achieve double-click is identical to the speed of a successful double-click with the mouse.
- Double-click speed is set from the Mouse Properties control panel (Mouse Properties>Buttons>Double-click speed).
- Double click area graphically sets the dimensions of the location around each clickable icon or object on the screen which will be recognized by Windows as a double-click. The size of the wire-frame square displayed in the Double click area tab is the actual size of double-click area accepted by Windows. The square is increased or decreased in size by touching the appropriate arrows adjacent to the square. Note that the double-click box size is independent of screen resolution and must be defined for each user.

Options

Options allow various features of the desktop related to the touchscreen to be configured. Each of the features selected must be activated by clicking the "Apply" button at the bottom of the tab.

- **Hide arrow mouse pointer** turns off the standard mouse cursor.
- **Left-handed mouse** interchanges the standard two-button mouse button assignments.
- **Show tool tray utility** activates the Tool Tray utility in the Windows Task Bar. See tool bar chapter for a complete description of this feature.

Sound

The "beep on touch" can be configured here:

- The Sound tab sends a single-frequency tone or "Beep" to the system speaker each time that a valid touch occurs.
- The beep is enabled by default when the driver is installed. It may be turned off by unchecking the Beep on touch box in this tab.
- The frequency (Tone) and the Duration of the beep can be adjusted by moving the appropriate slider in this tab with the touchscreen or mouse, or by using the keyboard arrow keys.
- Selections or changes to the settings in this tab take effect when the "Apply" button is clicked.

Properties

A Properties page will be created for each touchscreen controller installed by EloSetup and for each serial port reserved for a controller, even if that controller is not present. A number will be assigned to each Properties page that is related to the order in which controllers or ports were detected or enumerated. Each Properties page contains information extracted from the touchscreen controller and the system about the monitor, touchscreen, controller, and internal driver.

If a serial port is reserved for a touch screen controller that is not actually installed, the only information contained in the screen information section of the associated properties page will be the number of the Windows COM port. No screen configuration icons will be displayed.

Each Properties page also contains an **Advanced** section. Here are the highlights ...

Advanced Touch Tab

Advanced page contains an Option and Right click on hold section. Option section has:

- **Show right mouse button tool** launches this feature for this monitor. See chapter "right mouse button" for a description of this feature.
- **Disable Touch** stops touch information from reaching Windows for this touchscreen. This feature may also be activated from the **Tool Tray** utility. Disabling touch has no effect on the operation of the standard mouse.
- **Edge Acceleration Tool** launches this utility for this monitor. See chapter "edge acceleration tool" for a complete description of this feature.

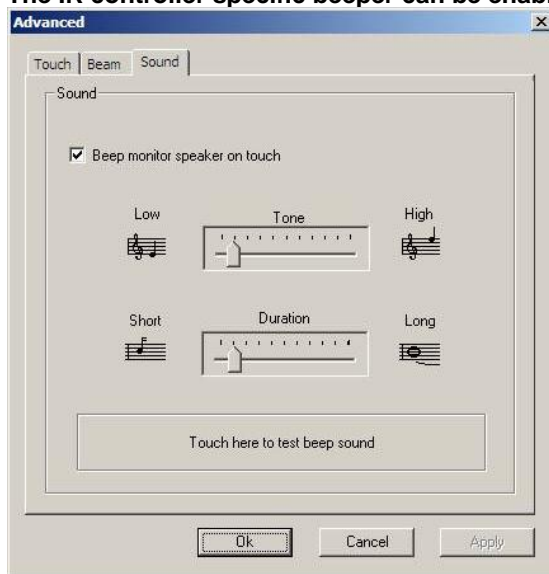
- Note, IR touch (only) has an advanced section called “**beam**”. If a chewing gum, a pencil or any other mechanical blocking device is placed on screen, then a sound and on screen message will be started, if enabled!



Advanced Sound Tab

This feature can be used to provide audio feedback of touches in cases where the screen is placed at some distance from the host computer. Use this tab to configure the sound characteristics of the beeper similar to the "Sound" tab on the main page.

- **Beep monitor speaker on touch.** Enables/disables the touch internal beeper.
- **Tone-** Adjusts the tone of the touch beep.
- **Duration-** Sets the duration of the touch beep.
- **Touch here to test beep sound area.** Tests the current settings without changing focus away from the control panel.
- **The IR controller specific beeper can be enabled by this dialoge.**



Right Click on Hold

Right Click on Hold is a new feature. This feature allows new and efficient way of creating right clicks on the touch screen without needing to run the Right Mouse Button Tool. If the user touches the screen and continues to touch, a right click is generated on the screen, if the users remains within the Right click area and after the Right click delay time-out has occurred. The right click delay allows the users to perform other touchscreen operations normally. When the user touches the screen and holds his finger down, an animated clock is painted at the location, the animated clock continues to tick and generates a right click at the location after it completes.

- The right click on hold button enables this feature for this screen, otherwise, it is disabled.
- Apply to all touchscreens: If checked, the current values are set to all touchscreens when "Apply" or "Ok" button is clicked.
- Right click delay: Defines the right click delay value in milliseconds. The right click delay allows the users to perform other touchscreen operations normally.
- Right Click Area: Touching within this area generates a right click. This area allows the user the flexibility to touch within a larger area.

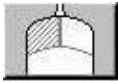
Note! Right click on hold feature is enabled only in "Mouse emulation" touch mode.
When Right click on hold feature is turned on, Drag Delay value is set to a minimum of 25 milliseconds.

For further information download newest online manual from ELO...

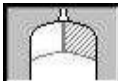
Elo Right Mouse Button Tool (RMBT)

Right Mouse Button tool allows a Windows right mouse button simulation on the touchscreen.

A representation of a typical two-button mouse is displayed in a small window on the desktop, when this application is run. The initial presentation of the RMBT shows the left button shaded, indicating that the left button is active. Any touch on the desktop or an application will produce a left button click consistent with the Button settings in the Control Panel.



A touch in the RMBT will change the shading to show the right mouse button active. Now any touch on this monitor on which RMBT is running will produce a right button click.



Typically, a right button action will activate a new dialog box for some function similar to mouse right button click. When that dialog box is touched, or any other touch on the touch monitor is made, this touch will be a left button event. Simultaneously, the mouse button shading in the RMBT will toggle back to the left button.

After the RMBT has been touched to toggle to the right button state, a second touch in the RMBT will activate a menu allowing the user to:

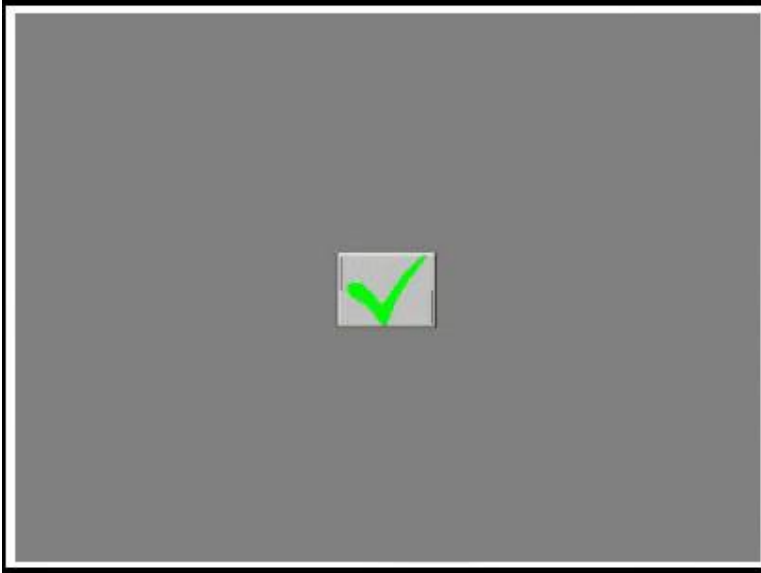
- Launch the Elo Control Panel (Elo Touchscreen Properties)
- Close the right button utility
- A right button click on the RMBT with the mouse will also activate this menu

The RMBT may be dragged to any location on the desktop by touching it and holding the touch momentarily until the crossed arrows appear. The RMBT may also be dragged with the standard mouse.

The RMBT cannot be resized. The RMBT can be run for every touchmonitor from the Elo Control Panel > Properties tab. Only one RMBT can be active for each touchmonitor.

Center Desktop Tool

- Presents a full screen image for the selected monitor to allow proper adjustment of the video prior to running the EloVA video alignment program
- Configurable parameters are
 - Border width, in pixels
 - Which monitor to adjust in a multiple monitor configuration
- Can be launched from the Tool Tray (for single monitor) or command line (for multiple monitors)
- Configuration syntax menu is available by running eloalmon /h. Only one monitor may be adjusted for each execution of the program.
- Program terminates when green "check" mark is touched or clicked with the mouse, or from the keyboard by pressing Esc, Enter or Space. See graphic below.



- The center desktop tool solves a common problem in video alignment programs-how to properly size the video image. The image presented is a black screen with a white border, which makes the edge of the image visible and allows it to be properly adjusted on CRT displays as well as flat panel displays of all technologies.

Edge Acceleration Tool (EAT)

Edge Acceleration tool can be used to configure cursor acceleration towards the edge of the touch-screen. Edge Acceleration is a special feature provided to allow touches towards the edges. EAT (i.e. EloAccel.exe) can be launched from Program Files> EloTouchsystems folder.

Presents a full screen image with the edge acceleration rectangle bounds and a **Cursor Acceleration Configuration** dialog, displaying the configuration parameters for Edge Acceleration.

Configurable parameters are:

- Cursor Acceleration scale. This scale can be set from a value of 0-10 where, 1 corresponds to no acceleration.
- Edge acceleration rectangle bounds dimensions.
- Edge acceleration rectangle bounds position
- Enable Edge acceleration

Cursor is accelerated beyond the rectangle bounds. These parameters can be configured using the mouse, to resize or move the bounds rectangle or, by entering the values directly in the dialog box. Changes to the settings in the Cursor Acceleration dialog take effect when the "Apply" button is clicked.

This applies to **all touchmonitors** unless run with appropriate command line options. To view the options available, run EloAccel using **EloAccel /h**.

ELO OPTION FILE

The file **ELOOPTIONS.TXT** contains presets to be adapted before installation of driver package.

They will force ELO settings to given parameters while user installation. You may open the file and see explaining comments ("#"), to learn how to adapt your installation. If unattended installation is performed, it will not be read.

For unattended installations or quick manual configuration of parameters, you can use the EloSetOptions.Exe file. It will read EloOptions.Txt file and setup all mentioned parameters.