Elo Driver v6.9.10 for IR Touch Solutions User Guide

Introduction

The Elo touch driver v6.9.10 is the latest supported Windows driver for the legacy Infrared (IR) touch screens from Toshiba Global Commerce Solutions (TGCS). Related solutions that may use this driver are:

Function	PCAP Solutions	IR Solutions
All-in-One System	TCxWave x3x/x4x/x5x	SurePOS 500
Touch Monitor	TCx Display 5Cx/5Sx	SurePoint 2xx/5xx

The driver may or may not be required, depending on the OS version, interface and the application. For HID USB interfaces, the driver is optional, but generally recommended for legacy single touch applications. If the interface is RS232, then the driver is a requirement. If the OS is Windows POSReady 2009 (XPe), then the driver is required for all PCAP devices. This is summarized in the table below.

Device	Interface	Touch Type	OS	Driver	Recommended
SurePOS 500	RS232	Pointer/mouse	All Windows	*Required*	
TCxWave x3x/x4x/x5x	HID USB	Digitizer/tablet	Windows 7/8.1/10	Optional	Single touch applications
SurePoint 2xx/5xx	RS232	Pointer/mouse	All Windows	*Required*	
	HID USB	Pointer/mouse	All Windows	Optional	Single touch applications
TCx Display 5Cx	HID USB	Digitizer/tablet	POSReady 2009	*Required*	
			Windows 7/8.1/10	Optional	Single touch applications

For application on the PCAP solutions, please refer to the documents on that subject:

TCxWave x3x/x4x/x5x Touch Screen User Guide
TCx Display Touch Screen User Guide

For the SurePoint 2xx/5xx monitors with the HID USB interface, it is possible to use the touch function without loading the OEM driver. The touch controller is a HID pointer and will interface with the OS as a mouse device and function as a mouse with the normal button down on touch, drag while touching the screen and button up when the touch is released.   For any other operating characteristics or need for a system beeper, then the OEM driver is recommended.

This document will focus on the use of the driver for the IR touch solutions. The topics covered are:
- Improvements to Prior Releases
- Installation Setup
- Driver Installation
- Control Panel
- Dual Monitor Scenarios
- Touch Mode Settings
- Manual Calibration
- Unintentional Touch Configuration
- Language Support
- Known Limitations

Note: All references to Windows 7 also apply to POSReady 7

Improvements to Prior Releases

The Elo driver v6.9.10 is intended to replace all prior releases of the Elo driver, especially v5.5.2 and earlier. In addition to supporting the new PCAP touch screens, this driver addresses a number of issues from older versions for IR touch screens such as those used on SurePoint Displays and SurePOS 500 all-in-ones.

Prior to v6.x.x drivers, Toshiba included within the Elo driver package a couple of TGCS logoed files (DTCTTCH.exe and EloVA.exe) to enhance the base Elo driver, including automating some installation procedures and association of monitors. Those enhancement functions required frequent updates to fix bugs and to work with new releases of the Elo driver. Even with concerted efforts to keep the files updated, there continued to be occasional issues with lost touch or inability to detect a touch screen. Most of these issues were attributable to the DTCTTCH executable. The ultimate solution was to remove the TGCS "wrapper" files and to incorporate the functions into the Elo driver so that they were an integral part of the base driver and not an add-on. With v6.9.10 these features have been incorporated into the Elo driver, removing the problematical "DTCTTCH.exe" file.

Other improvements in the v6.9.10 driver include:

- Improved control panel GUI
- More intuitive access to individual settings of multiple attached screens (separate tab per screen)
- Most common settings together on a single tab (no searching through multiple tabs)
- "EloOptions.ini" file has more complete annotations
- "EloOptions.ini" has additional settings to better customize default settings
    - Default speaker/beeper selection
    - Auto calibration during silent install option
    - Edge acceleration options
    - Desktop shortcut options
    - Calibration options
    - Individual monitor settings
    - Blocked beam monitoring
- Auto detects type of interface during installation (simplified installation)
- Added "EloOptions.ini" option **AutoInvokeCalibration** to enable/disable auto invoking calibration
- No reboot needed for RS232 installations
- Comprehensive beam monitoring utility
- Fixed various bugs in v6.6.0 and v6.8.2

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Installation Setup

Remove All Prior Touch Drivers

Before installing the Elo driver, one must uninstall any pre-existing Elo drivers (or any other touch drivers for the target screens). Failing to do this and removing any residual folders/files may prevent the installation of the new driver, cause error messages or simply not work. Uninstalling older drivers is done via the control panel, **uninstall** or **add/remove** programs, selecting the Elo driver and choosing **uninstall** or **remove**. Alternatively, for v6.x drivers, one may use the **silent_uninstall.cmd** executable found in the v6.9.10 driver package to uninstall the older driver. When finished, it is advisable to do a reboot to remove any residual files or registry entries before starting the install process on the new driver.

Some of the older drivers (before v6.x.x) may not completely uninstall using the normal uninstall process. In this case, any residual folders/files will need to be manually removed before attempting to install the new driver. Use the following steps to completely remove an older Elo driver and any of its residual folders/files.

1. Uninstall the Elo driver using the Windows **Control Panel**, **Uninstall** or **Add/Remove Programs** (for Win 10, open **Settings/System/Apps & features**)
   - select the Elo driver from the list of programs and choose **Uninstall** or **Remove**
   - wait for the uninstallation to complete, confirming intentions where requested
   Alternatively, one may execute **EloSetup /S /U** from the **Elo Touch…** folder under "Program Files"
2. Reboot the system
3. Remove any residual Elo Touch folders from the **\Program Files** folder
   - if unsuccessful, there is probably an old driver file in use, such as **DTCTTCH.exe**
   - open the **Elo Touch…** folder from the **\Program Files**
   - find the executable files that were not removed, such as **DTCTTCH.exe**
   - open Task Manager to the Processes tab
   - select the Elo files identified above and click on End Process
   - now delete the **Elo Touch…** folder
4. Remove any **Elo Touch…** folders from the **\Program Data** folder or the **\Document and Settings** folder
5. Open the \Windows\System32\drivers folder and search for any Elo files and delete them
6. Reboot the system to clear any residual registry entries

The above procedure may be particularly needed when uninstalling the Elo driver, V5.4.9 or V5.5.2.

Driver Install Package

Unzip the "EloTouch_v6.9.10_TGCS.zip"to create an install folder wherein will reside three subfolders (**32Bit**, **64Bit** and **Common**) and three executables **EloSetup.exe**, **silent_install.cmd** and **silent_uninstall.cmd.** In the **Common** subfolder one may find among other files to be installed the following important files:

UserManual.pdf
ReleaseNotes.rtf
EloOptions.ini

The **UserManual** is the Elo document that describes the various features of the driver (a pdf file reader is required). This document is intended to complement the Elo manual. The **ReleaseNotes** simply track changes which have occurred to fix bugs. The **EloOptions** file defines the default settings of the driver, as established by TGCS. The original default file from Elo is the "EloOptions_orig" file, and is maintained for reference only.

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EloOptions (setup configuration)

The *EloOptions* file will define the initial settings of the driver when it is installed. It may also be used with another utility *EloDriverDefaults* to modify settings after installation. The following settings are predefined by TGCS as a default for settings at installation ([Setup Options] and [Calibration] sections) to cover most applications, but may be modified to fulfill specific needs (see separate document on **EloOptions**).

Parameter	Value	Action	Comments
ForceMouse	1	Makes the touch a HID pointer	Applicable to PCAP
MaxTouch	0	No driver limit on multiple touch	Applicable to PCAP
MouseMode	1	Click on release	0 = click on touch 6 = mouse/drag mode
ExternalSpeaker	0	No touch beep on external spkr	1 = external speaker
MotherboardBeeper	1	Touch beep on motherboard spkr	0 = no motherboard spkr
IRMonitorBeeper	1	Touch beep on local monitor beeper (IR touch monitor only)	0 = no local speaker
BeepDuration	100	Touch beep duration in ms	
BeepFrequency	800	Touch beep frequency in Hz	
DoubleClickSize	80	Double click area in pixels per side	
DoubleClickSpeed	500	Double click speed in ms	
IrUTR	0	Unintentional Touch Rejection	IR touch monitors only
IrAutoCalibration	1	Auto calibration for IR touch	IR touch monitors only
CustomMapping_1PCap1IR	0	No auto association for IR as secondary display to PCAP	1 = auto associate IR touch as secondary
IRBeamMonitoring	0	IR blocked beam monitoring	IR touch monitors only
IRBeamLogging	0	IR blocked beam logging	IR touch monitors only
IRBeamStatusScanInterval	20	Interval to detect blocked beam	IR touch monitors only
CalibrateWithSilentInstall	1	Calibration will start as needed at end of silent install	0 = no calibration at end of silent install
HardwareHandshaking	0	No hardware handshaking (RS232 interface only)	1 = hardware handshaking enabled
MouseExtraInformation	31	Use by GetMessageExtraInfo() to differentiate mouse from touch	Special feature for custom API's
EdgeAcceelerartion	N/A	Not enabled	Edge Acceleration
CopyEloCPShortcut ToDesktop	1	Copy Elo control panel shortcut icon to desktop	
CopyEloAlignmentShortcut ToDesktop	0	No alignment shortcut icon on desktop	
BaseMode	0	Reserved for Elo	Do not change
AutoSizing	0	Not used by TGCS touch screens	
AutoInvokeCalibration	1	Auto Initiate calibration process	
DriverCalibration	0	Calibration fixed by controller	1=manual calibration
TargetRadius	40	Calibration target radius	pixels
TimeOut	10	Time-out to exit calibration	seconds
Transparent	1	Transparent calibration screen	
VerifyCalibration	0	For digitizer mode only	

More details may be found in the separate document on EloOptions, including advanced usage.

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Note: If the image is to be cloned from a master unit, be sure the ***EloOptions.ini*** file is edited for the preferred parameters before installing the driver on the master unit. The driver installation will create default registry values which will be used for each instance of installation. That is the settings done via the GUI on the master unit will not carry forward to cloned units (the cloned units will pick up the default parameters defined by ***EloOptions.ini*** file only).

Driver Installation

Standard Installation

With the aid of a mouse and keyboard, open the "EloTouch_v6.9.10_TGCS" folder and click on the ***EloSetup.exe*** file. After giving the administrative privilege, the Elo license agreement screen will appear as shown in Figure 1. If you click on "Yes, I agree…," the install progress screen will appear as shown in Figure 2.   When the installation is complete, the image shown in Figure 3 will appear. Click OK and the touch screen will be ready to use. If the OS is POSReady 2009, you may need to reboot the system to get touch to work. Depending on the mix of attached touch monitors an alignment process may start automatically to associate the touch screen to the monitors.
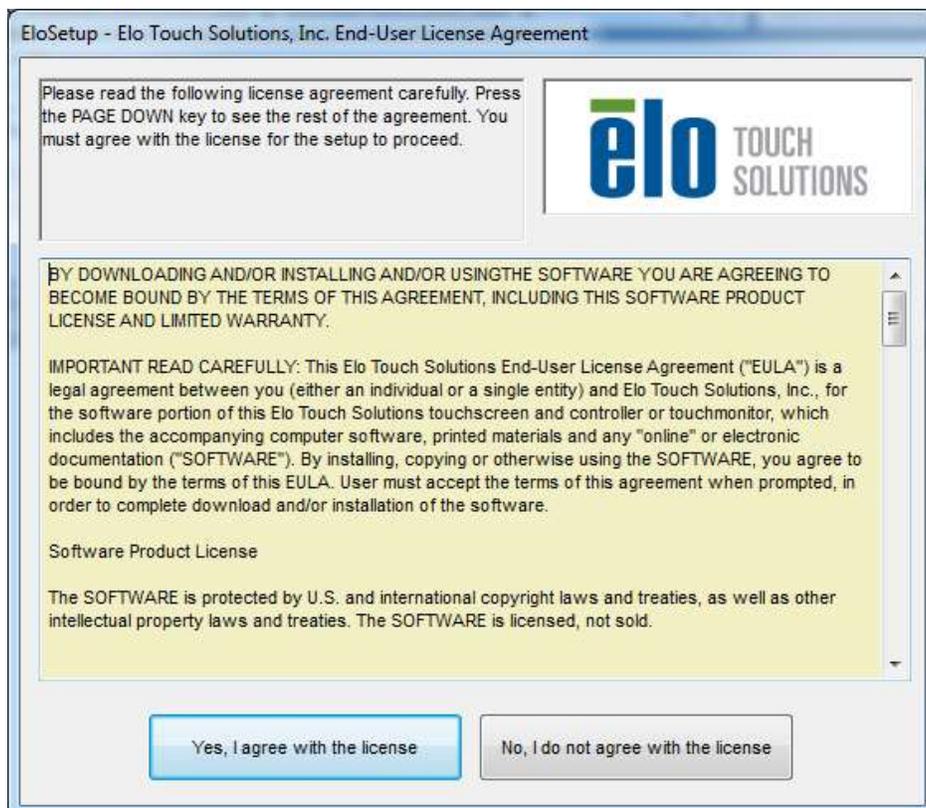
Fig 1. Elo license agreement
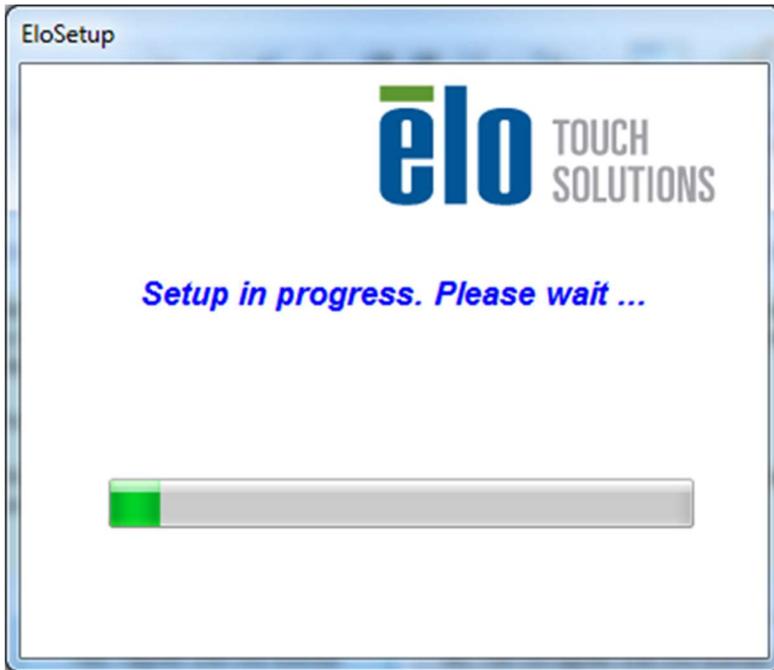
Fig 2. Elo install progress screen
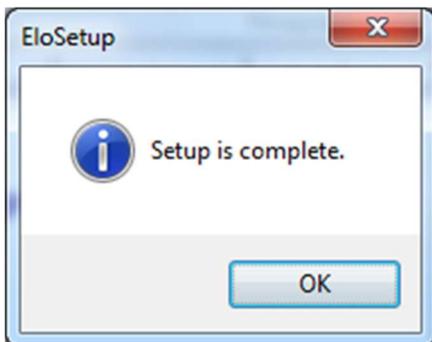
Fig 3. Install complete screen

Silent Installation

To install the driver with no user interaction, find the *silent_install.cmd* file in the "EloTouch_v6.9.10_TGCS" folder and execute it using administrative privileges. A CMD window will appear with a statement that it will close when the installation is complete. The process may take about a minute to complete.

Uninstalling Driver

To uninstall the Elo driver, open the Microsoft **Control Panel** and select either **Uninstall a program** or **add/remove programs** (for Win 10, open **Settings/System/Apps & features**), then selecting the Elo driver and choosing **uninstall** or **remove**. When finished, it is advisable to do a reboot to remove any residual files or registry entries before starting the install process on the new driver.

To silently uninstall the driver, run the **silent_uninstall.cmd** file found in the "EloTouch_v6.9.10_TGCS" install folder, using administrative privileges. A CMD window will appear with a statement that it will close when the installation is complete. The process may take about a minute to complete.

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Control Panel

The initial driver configuration will be determined by the values in the text editable "EloOptions.ini" file. Modifications to this file are for advanced users and is treated in a separate document. Modifications may be made with a GUI interface by clicking the *EloConfig* shortcut icon on the desktop or the *EloConfig* application found under Start/All Programs/apps.   The main menu appears as shown in Figure 4 below. The first button option *Restart Windows Touch Service* is for those rare cases when touch may not be working. It basically resets the touch service to get touch back to working.   This option applies to Windows 7 and POSReady 7 only. For other OS's this may be grayed out (not used).
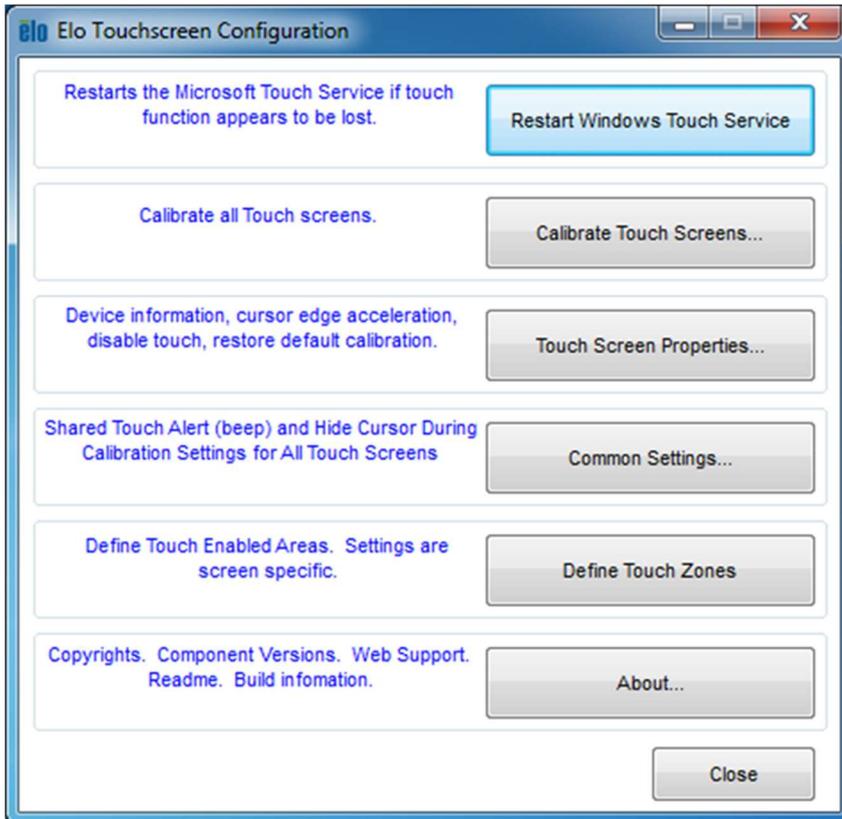
Fig 4. EloConfig main menu

Calibrate

The **Calibrate Touch Screens…** button is for aligning the touch screen and association of multiple monitors. The Elo driver is designed to work with many different technology touch screens and Elo's default manual calibration method is via three different targets. But for TGCS solutions, the calibration (alignment) is preset and only one target will appear to allow the association process. During the calibration process, the touch is associated with the corresponding monitor at the same time the calibration values are applied.

Since the TGCS touch screen needs no alignment (preset), the primary purpose of "calibration" is more relevant to associating the touch screens on two attached monitors in extended mode. When the *Calibrate* button is clicked, the desktop will get a target and instructions as shown in Figure 5.   When you release touch from the target, the screen shown in Figure 6 appears, requesting confirmation that the calibration is good.   After clicking the **Accept** button, the images will appear on the secondary screen (if present) and you repeat the process to

associate the touch screens to the corresponding LCD. For a single screen setup, this is a rather benign operation, but for dual screen setups, this is necessary to properly associate the touch screens with the monitors and needs to be done after installation or after changing screen resolutions.
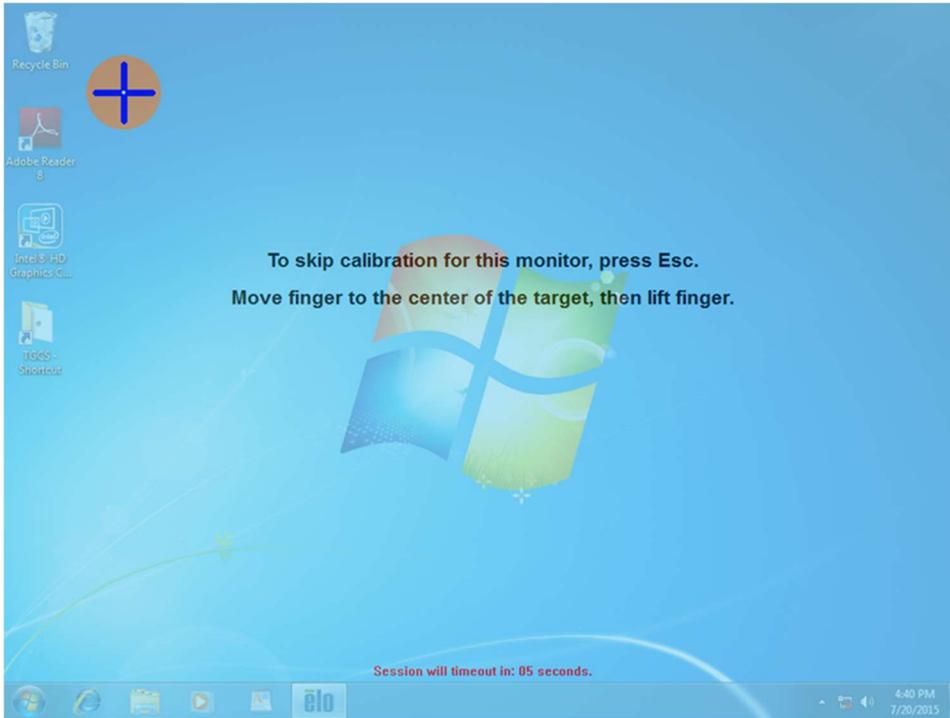
Fig 5. Calibrate/Associate target
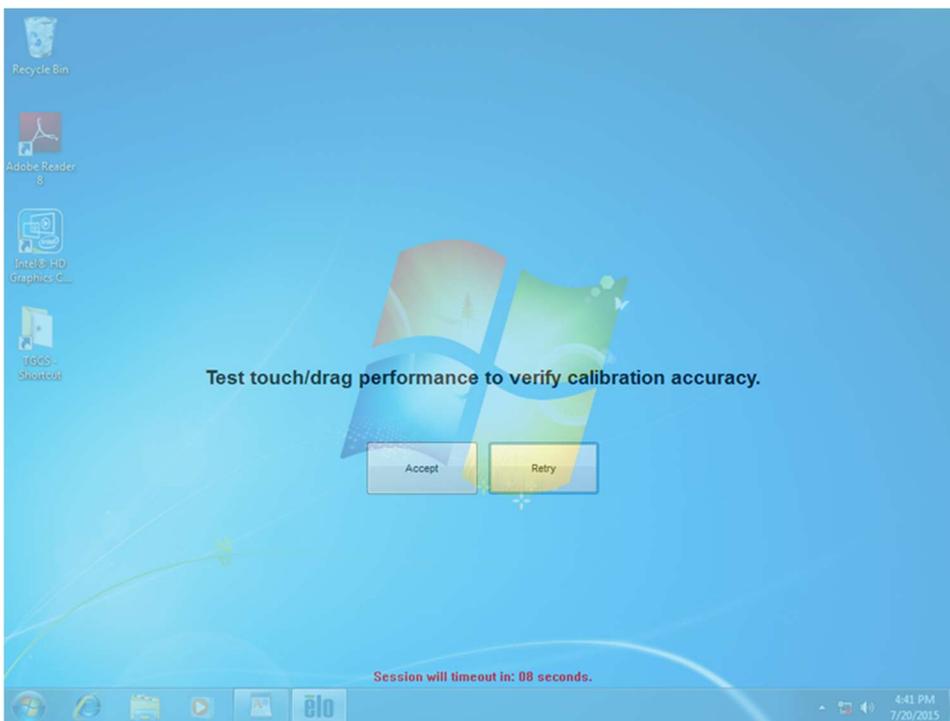
Fig 6. Confirm calibration screen

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Touch Screen Properties

The **Touch Screen Properties…** button opens the configurable properties screen as shown in Figure 7. This screen shot shows only a single screen attached, as indicated by the single "Elo-1" tab at the top. An "Elo-0" means it is not calibrated yet, "Elo-1" means calibration has been completed for screen #1. If more screens are attached, then there will be more tabs as shown in Figure 8 where the IR screen is associated with "Elo-2" (sometimes in reverse order). The screen number corresponds to that shown by the **Identify Monitor** button.
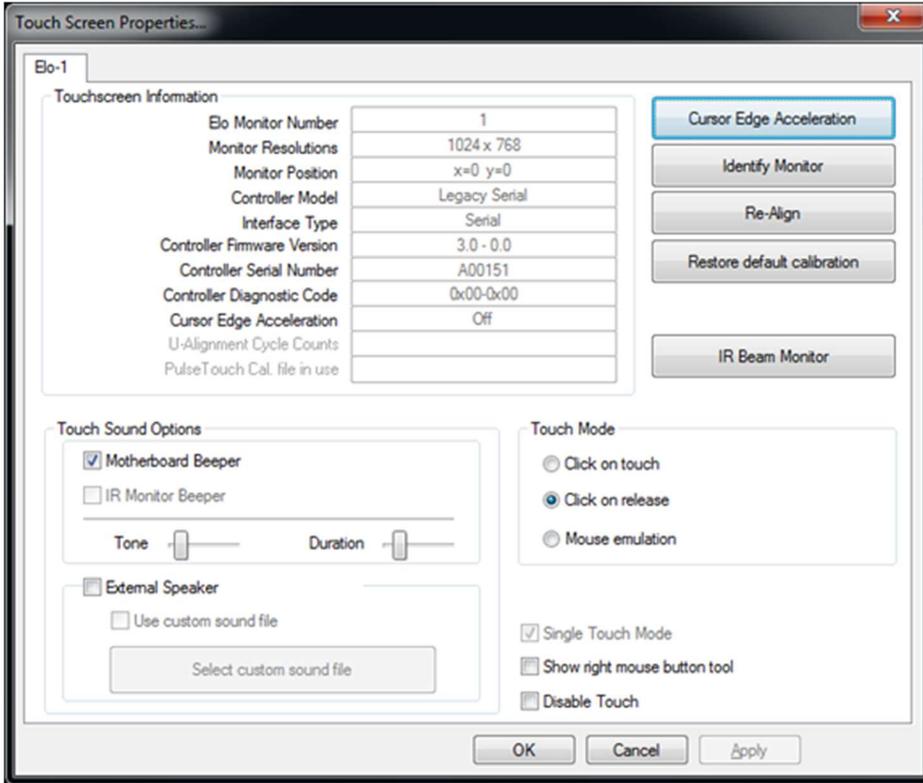
Fig 7. Typical Touch Screen Properties screen
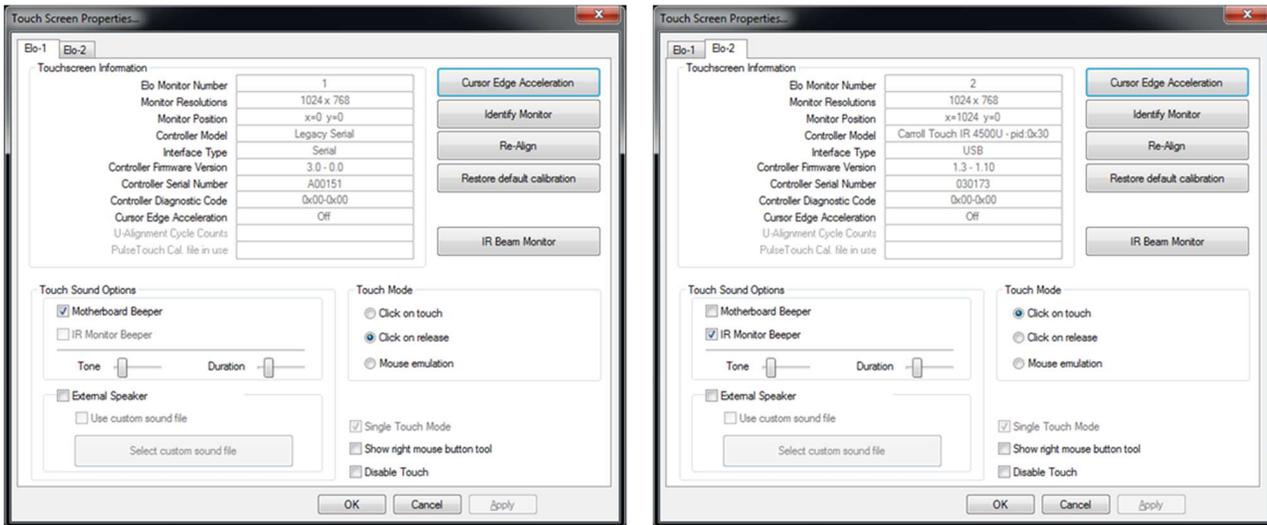
Fig 8. Touch Screen Properties screen for dual touch cases

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In the upper left hand quadrant is a list of information about the touch solution, including the monitor number (more relevant if multiple monitors are attached, typically the same as the monitor identification shown in the Windows video driver). Below that are the monitor resolution and relative pixel origin location, followed by the Elo brand touch solution and type of interface. Next is the firmware version number as reported by the touch controller and the touch screen serial number. The diagnostics code "0x00-0x00" indicates a "good" condition.

The "Touch Sound Options" show options to turn on or off the **Motherboard** and **IR Monitor** beepers, as well as the **External Speaker**. The **IR Monitor** beeper is an internal monitor beeper found in the TGCS SurePoint touch monitors, and is controlled by the Elo controller in such monitors. In the case of the SurePOS 500, the IR Monitor Beeper is grayed out because it does not have the internal monitor beeper (only the system beeper). In the case of the SurePoint touch monitor it will not be grayed out. For both the beeper options the Tone and Duration are adjustable with the slider bars. The defaults for these are defined in the "EloOptions.ini" file.

The "Touch Mode" is configurable, as is the **Right Mouse Button** tool. And the touch may be disabled. The **Restore default calibration** applies only to other Elo touch technologies and should be not enabled.

In the upper right hand corner are buttons to enable **Curser Edge Acceleration** (described below), **Identify Monitor** (more relevant to multi-monitor installations), to run the calibration again (**Re-Align**) on that specific monitor (again more relevant to multi-monitor cases and for other Elo technologies) and to enable/configure the **IR Beam Monitor**.

Clicking on the **Cursor Edge Acceleration** (CEA) button will give a screen as shown in Fig 9. By default, CEA is disabled. It is more relevant to bezel type displays, such as IR touch screens where it may be more difficult to touch near the edges of the screen. This function will force the cursor out toward the edges to compensate for the inability to get one's finger there. To enable this function, click on **Select Defaults**, shown in Figure 10.
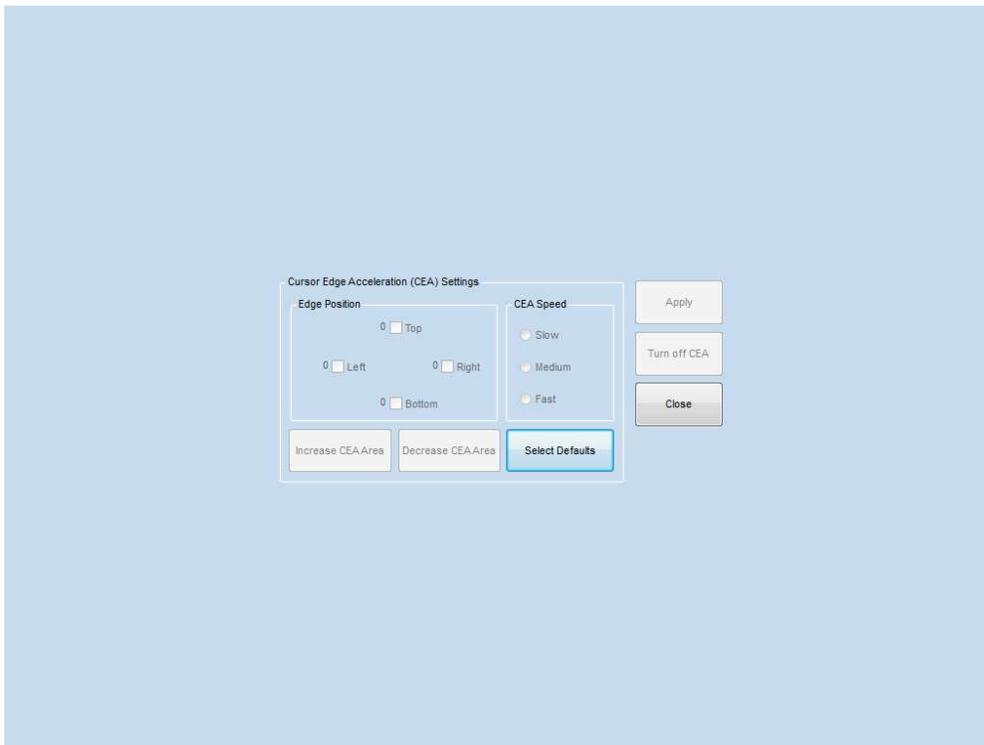
Fig 9. Cursor Edge Acceleration (CEA) control panel

In Figure 10 you will see values applied to each side, and the area near the edges affected are illustrated by the green band around the edge. The width of the green bands may be adjusted outward or inward by clicking on the *Increase* or *Decrease* CEA area buttons, or for individual side adjustments using the buttons in the center of each side.   When satisfied, click the *Apply* button, or to disable click on the *Turn Off CEA* button and *Close*.
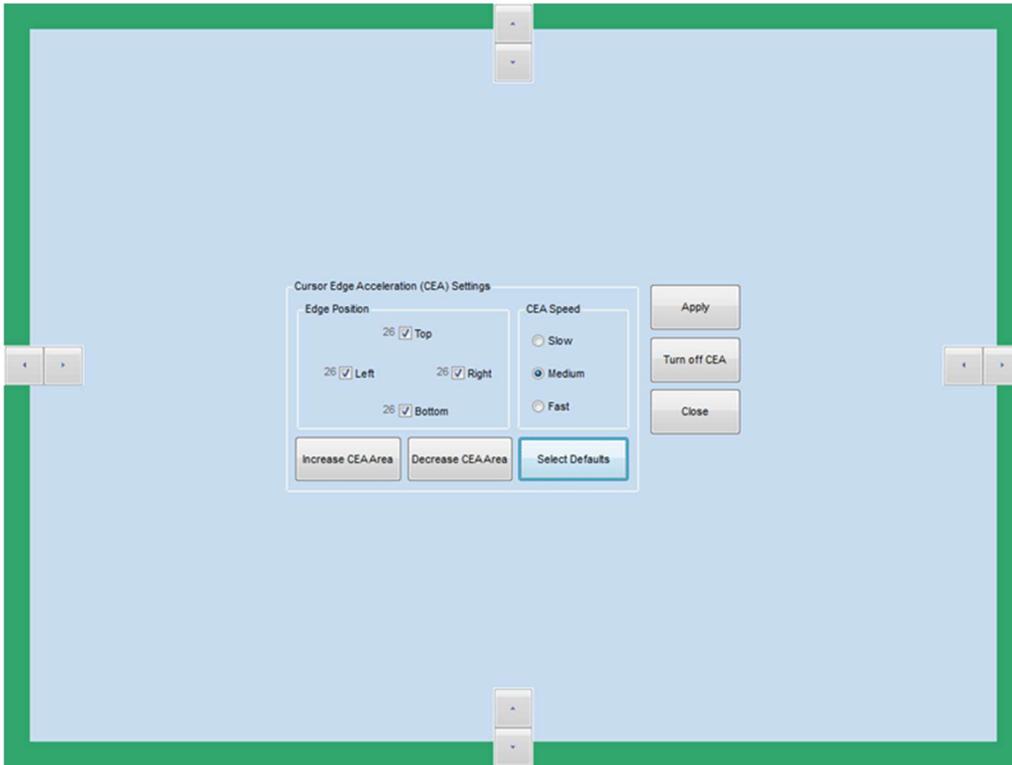
Fig 10. CEA adjustments

The *Identify Monitor* button will display a number on the monitor corresponding to the Touch Screen Properties tab that is open. The *Re-Align* button will force an alignment process (calibration) of the screen corresponding to the Touch Screen Properties tab that is open.

The *IR Beam Monitor* button allows configuration of the periodic monitor of the IR beam health, including cases of blocked beams cause by materials stuck on the screen. Clicking on this button will bring up the screen shown in Figure 11. By default (unless the EloOptions have been set differently), the options will not be checked as shown in the left hand image of Figure 11. To enable the monitoring, click on the Enable buttons as desired (right hand image of Figure 11), adjust the interval for testing the beams, click *Apply* and then *Close*.

When enabled and there is a beam issue, it will be indicated as shown in Figure 12, showing the horizontal and vertical beams affected. The intersection of the beams indicates the problem location. Until the condition is corrected (such as removing the material on the screen that is blocking the beams), the touch will not respond in the area where the marked beams cross each other; all other areas will be active. If the logging option is enabled, the event will be logged in the *Event Viewer's Windows Application Log* of the operating system as shown in Figure 13.

The *IR Beam Monitor* button will only appear for supported IR touch screens, such as the SurePoint monitor and the SurePOS 500 all-in-one.
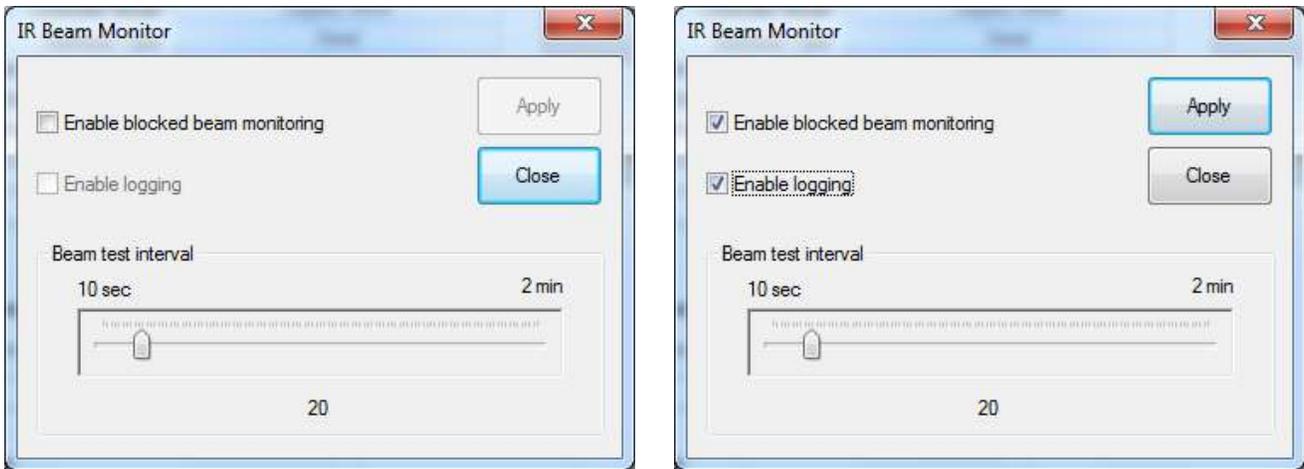
Fig 11. IR Beam Monitor configuration screen (disabled on left; enabled and logging enabled on right)
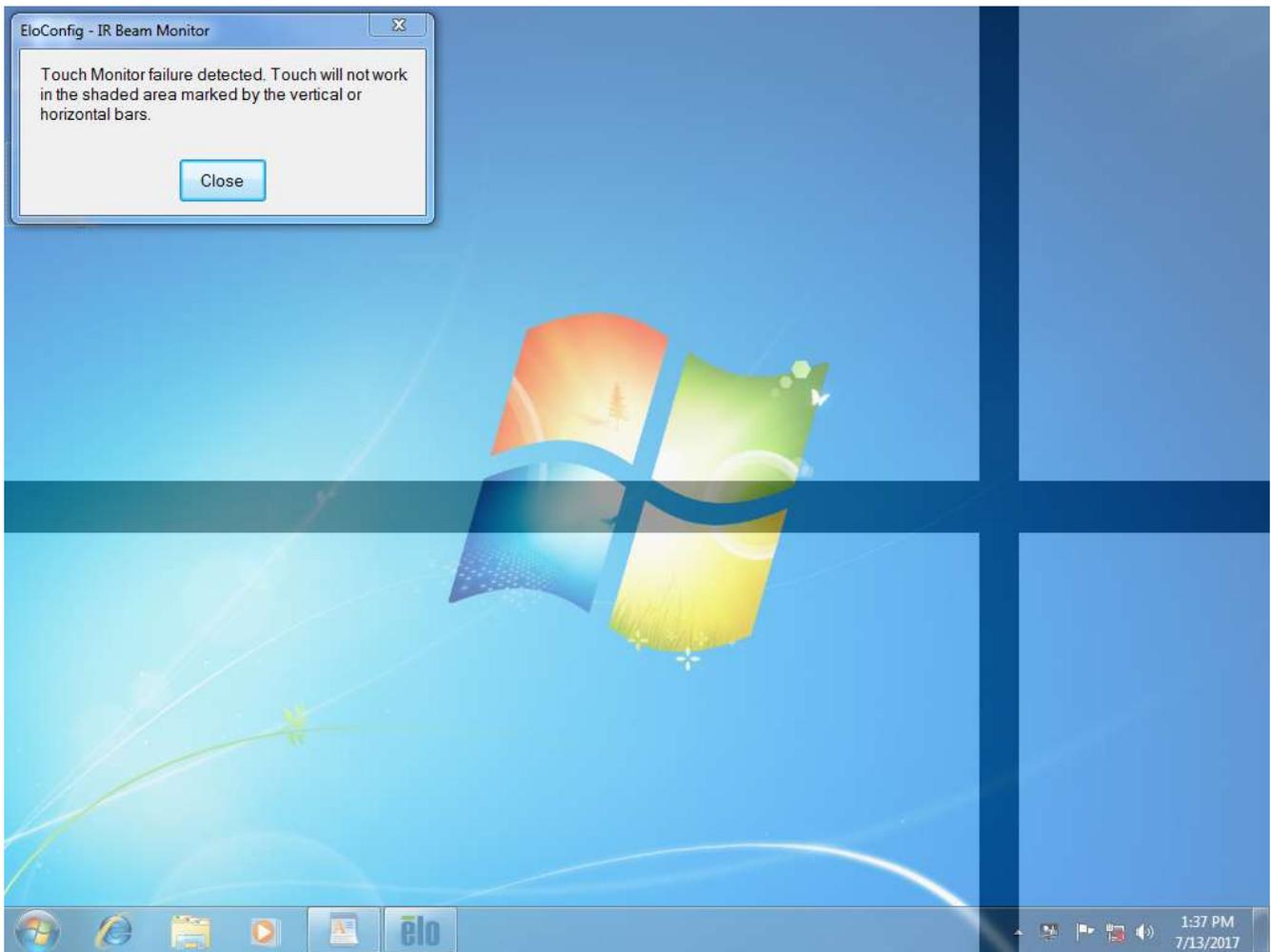
Fig 12. Failed beam indication (cross area highlighted by circle is inactive)

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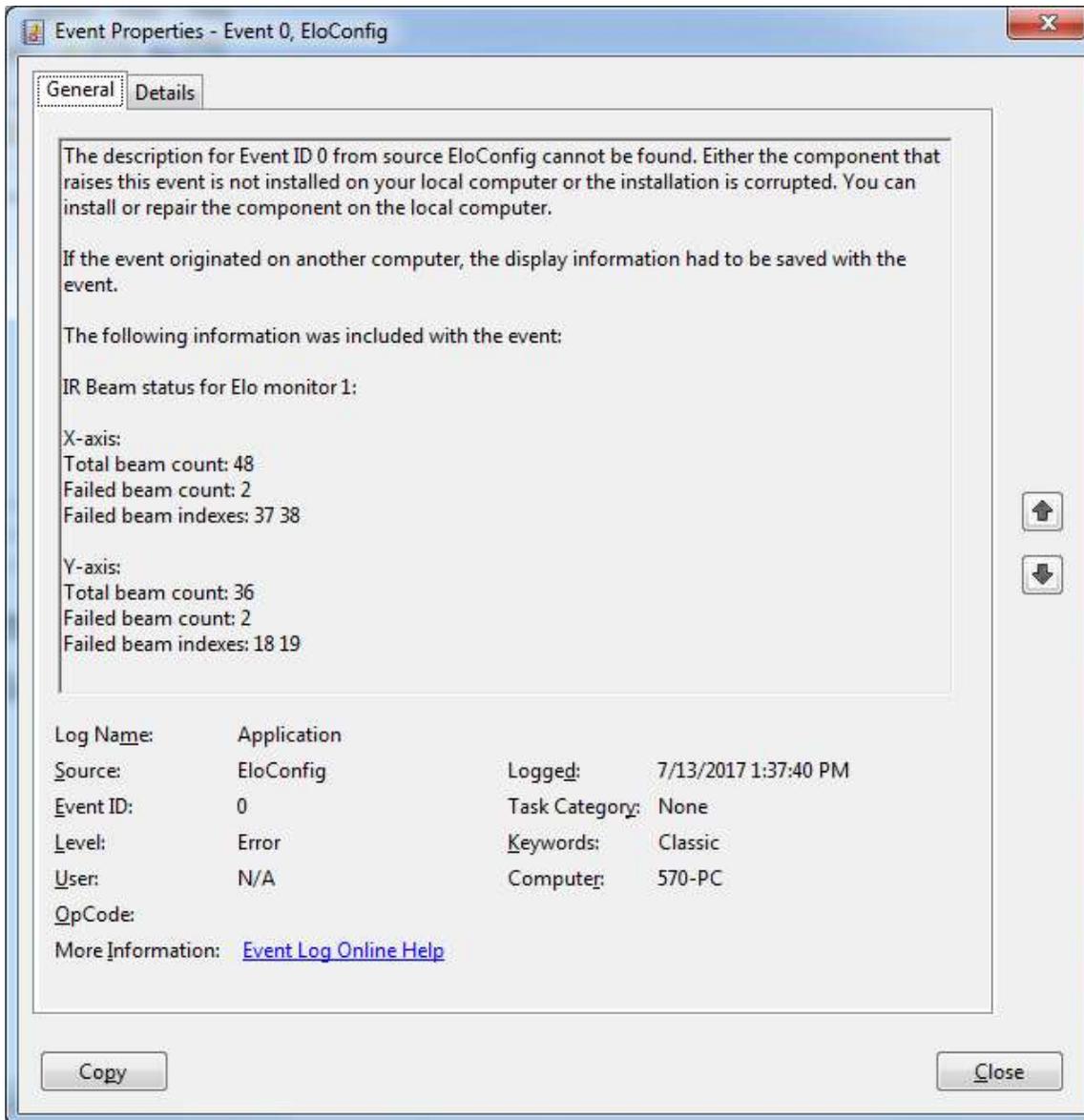
Fig 13. Failed beam log example (found on event viewer under Windows/Applications)

Notes:
1. When the IR Beam Monitor is enabled, an Elo icon will appear in the Windows task bar indicating it is active. If there is a second IR monitor attached, there will be a corresponding Elo icon superimposed on the first.
2. The IR Beam Monitor must be enabled individually for each IR touch screen attached. When enabling one, it will appear that the 2nd one is also enabled, but you need to disable the 2nd one and re-enable it to be effective. To do that, select the **IR Beam Monitoring** option for the 2nd monitor (Figure 11) and first click off the "Enable block beam monitoring" option and then click it back on *without* clicking the **Apply** button. Select whether you want logging or not and then click **Apply** and then **Close**.
3. After disabling all beam monitoring and closing out of the Elo Config panel, an Elo icon may remain in the Windows task bar. To remove it, right click on the icon and select "Close all windows."

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Common Settings

The **Common Settings…** button from the main menu will bring up the control panel shown in Figure C14. This is where you may modify the double click area and speed. You may also opt to hide the mouse arrow if desired. The "Spanned display mode" option is grayed out, as this is not supported on TGCS systems. When the desired settings are entered, click on **Apply** to make them effective.
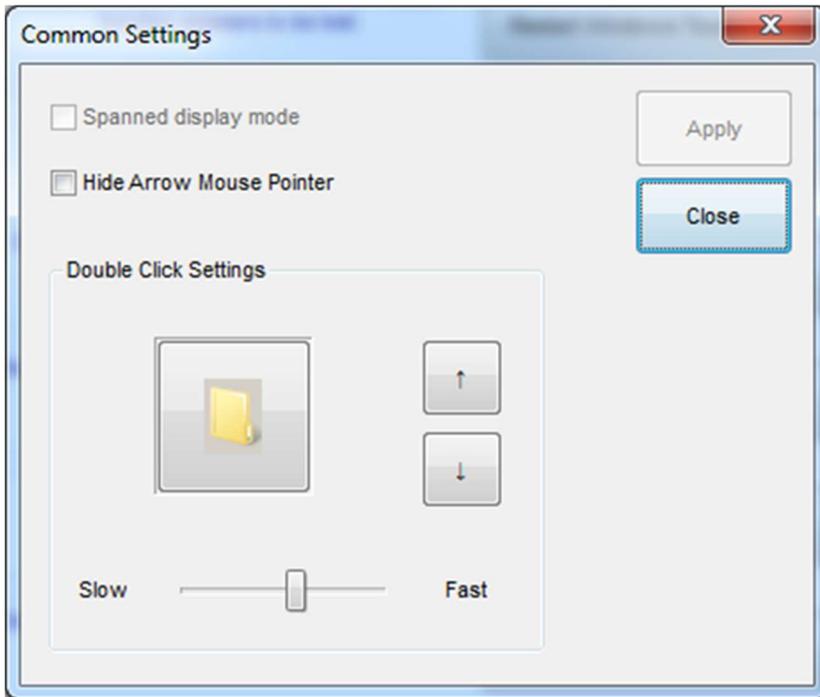
Fig 14. Common settings panel

Define Touch Zones

The **Define Touch Zones** button from the main menu is an advanced Elo feature that will allow the mapping of touch to specific parts of the screen instead of the entire screen (default case). Please refer to the Elo manual for details.

About

The **About** button will bring up a panel that shows the driver version and has buttons for additional help:

> **Online Support** links to an Elo on line support site
> **User Manual** accesses the UserManual.pdf file (a PDF reader is required)
> **Component Versions** gives individual driver module versions

Note that the driver version shown typically has four digits, the first three being the kernel version and fourth digit refers to revisions to the setup or utilities associated with the drive package. The version number shown in Device Manager is only the kernel version, such that the fourth digit is typically a zero.

Dual-Monitor Scenarios

There are multiple combinations with more than one monitor on a single system. The issue is to associate a specific touch screen to the appropriate monitor. When a solitary touch screen unit is used or two monitors in the "clone" mode, the setup is straight forward. If more than one touch screen unit is installed on the same system in the extended monitor mode, then there is the need to associate the touch screen to the correct video unit. The ambiguity is caused by the video and touch interfaces being physically independent of each other. In the case of two touch screen units installed, the system will see two video ports and two touch ports with no logical tie between them. So, without some help, the system does not know which goes with which (see Figure 15). If the displays are cloned, then the coordinates of the two are the same and it does not matter what the association is between the videos and touch screens. But if the second display is an extension of the desktop, then the coordinates of the desktop image is extended onto the second display. In this case, the touch coordinates of the corresponding touch screen needs to be extended as well, but which touch screen? This is resolved through an association process.

With the touch screen driver installed, the association is initiated by clicking on the **Calibrate** button in the touch screen configuration utility. The **Calibrate** button will bring up a touch target image on the principal screen (see Figure 16) and after touching or waiting 10 seconds the image will move to the second screen to be touched. In the event one of the screens is not of the same touch controller family, a touch will not have any effect and you will need to either press "Tab" on a keyboard or wait for the 10 second time out to move to the next step.

If the **Re-Align** button is used, then the touch target image will appear only on the screen selected. To fully associate the touch screens with the LCD's with the **Re-align** button, it will be necessary to do it with each monitor separately.

Any time the screen resolution is changed (on either screen), a re-association will be necessary if the touch OEM driver is installed (click on the **Calibrate** or **Re-Align** button).
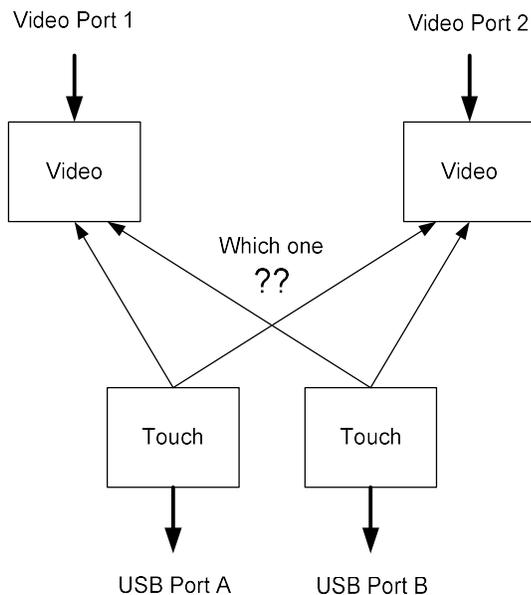
Fig 15. Ambiguous association between touch screens and video screens
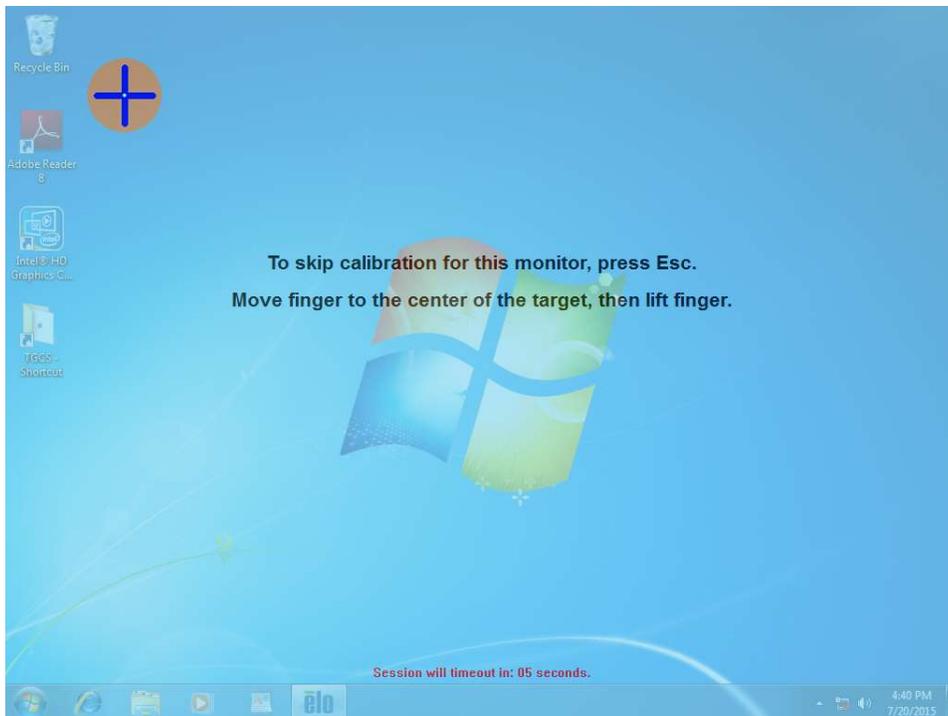
Fig 16. Calibrate/Re-Align screen

The following scenarios may be encountered when using more than one touch display:

- **Single touch display:** Driver applies calibration values automatically, no interaction required
- **Dual displays in clone mode:** Driver applies calibration values automatically, no interaction required
- **Dual touch displays in extended mode:** Driver pops up screen with bulls-eye target for customer to touch each screen. The driver does this so that touch can be mapped to each display correctly.
    - If customer touches each screen as expected, calibration values are applied to each display and touch maps to each screen correctly
    - If customer does not touch either display within timeout of 10 s, calibration values are applied for each display however touch is mapped to the primary display only
- **Dual displays in extended mode: 1 touch, 1 non-touch:** Driver pops up screen with bulls-eye target for customer to touch each screen.
    - If customer touches each screen, calibration values are applied to the touch display and touch maps correctly to the touch display
    - If customer does not touch the touch display, calibration values are still applied however the touch display must also be the primary for touch to map correctly
- **Dual touch displays in extended mode: 1 PCAP, 1 IR**:
    - If special setting in EloOptions.ini is set to 1, driver assumes that the PCAP display is the primary and the IR display is the secondary. With this set-up, driver can map the touch to each display automatically and will not ask customer to touch either display.
    - If special setting in EloOptions.ini is set to 0, this configuration will act the same as dual touch displays in extended mode above and the driver will ask customer to touch each screen.

Note: When attached to a TCxWave, the TCxWave should be configured as the primary screen. Using the TCxWave as the secondary screen is not supported.

Touch Mode Settings

The OEM drivers have settings to define when the equivalent mouse button actions will occur. By default the setting is for Click-on-Release, where "click" means a button down, followed immediately by a button up action. The "Click-on-Release" means that when one touches the screen, one may move the cursor, but no button action occurs until the finger is released from the screen, and at that very moment a button-down followed by an immediate button-up action occurs (that is, a "click").

The "Click-on-Release" permits the user to correct for any finger location before any button action takes place. This is convenient for getting the finger on the correct button before committing any action. Generally this is considered the most secure use of the touch screen for icon touch actions.

However, for rapid touch inputs, the "Click-on-Touch" option may be considered. When making rapid entries, one's finger may slip off the icon before lifting, which means a "Click-on-Release" would miss that attempted touch. To correct for that scenario, the "Click-on-Touch" option may be selected. In this case the button-down followed by an immediate button-up (click) would occur at the very first contact point. Any movement after the first contact point and before release will be ignored.

Of course, if the icon is not touched on first contact, the entry will be missed for the "Click-on-Touch" option, just as the sliding off case with "Click-on-Release". So, it will be up to the user to decide on the preferred click option.

For those applications that require dragging of objects, the "Mouse/Drag" option is required. In this case, the mouse button will be down while touching the screen, allowing the drag of objects. The button will go to an up position when the touch is released.

Manual Calibration

IR touch screens have fixed electrodes/beams which do not drift. So, normally the inherent accuracy of the alignment is good for most applications, and no specific re-alignment is required. Normally the *calibrate/re-align* function is only used to associate touch screens with the monitor. But in those rare cases where a more refined or adjusted calibration is required, then there is a manual three point calibration utility to do that very thing.   But to use it, the *DriverCalibration* must be enabled.

First edit the *EloOptions.ini* file to change the *DriverCalibration* in the *[Calibration]* section from 0 to 1, and then copy the file to the "Elo Touch Solutions" folder in the "/Program Files" folder using administrative privileges. Now when the Calibration/Re-Align commands are invoked, the three point calibration method will be applied instead of applying the pre-determined alignment values in the *EloOptions* file. First a target will appear in the upper left hand corner, followed by one in the lower right hand corner and finally one in the upper right hand corner. You have 10 seconds to touch target before the next target appears. The point of accuracy is where you lift the finger, not where you first touch. See the Elo User Manual for more details.

Command Line Options

In addition to command line options to install and uninstall the driver, there are options to change the configuration or re-associated the touch screens via command line options. To re-associate the touch screens via a remote command, the command "EloConfig.exe /align" may be executed from the "Elo Touch Systems" folder under the "Program Files" system folder.

Other command line options apply to changing the touch configuration using the utility "EloDriverDefaults.exe" from the "Elo Touch Systems" folder. Command line options include:

- "-r"   load setup parameters to EloOptions.ini file (useful for populating the setup parameters for cloning purposes)
- "-w"   apply the [Device Default] values from the "EloOptions.ini" file
- "-m"   apply the [Monitor] values from the "EloOptions.ini" file
- "-i"   apply the IR beam monitoring setup parameters in the "EloOptions.ini" file (run twice to apply to two attached touch screens)

The "EloDriverDefaults" must have administrative privileges to run.

More detail may be found in the "EloOptions_v6.9.10_TGCS_UG" doc, or in the Elo User Manual.

Unintentional Touch Configuration

In some customer environments, the infrared touch may detect unintended touches to the screen due to various things from loose clothing items to large insects. To avoid these unintended touch events, TGCS has incorporated a very unique solution using both hardware and software components to assist with detecting only a valid touch. In a standard configuration, to register a touch event one only needs to break the infrared beams which are being transmitted across the screen. The Unintentional Touch feature also detects physical impact/vibration such that when there are broken beam(s), and a simultaneous impact, it is considered a valid touch. If only the impact or the broken beam(s) occur, no touch is registered.

Configuration Settings
By default, this feature is set to Disabled. In this mode, the infrared touch screen will register a touch anytime the infrared beams are broken, regardless of whether impact has been detected or not. This is the normal mode of operation for IR touch screens which gives the "soft" touch effect typical of IR touch screens. The utility allows you to optionally select a concurrent impact detection with the appropriate sensitivity for the touch panel for those problematical cases where unintentional touches occur. *IrUTR* may also be configured in *EloOptions.ini* so that it is configured automatically when the driver is installed. These default settings may be predefined via the "EloOptions.ini" file (see separate document on EloOptions).

Language Support

The driver supports the following languages for the control panel messages:

- Chinese Simplified
- Chinese Traditional
- English
- French
- German
- Italian

- Japanese
- Portuguese
- Spanish

The language will agree with that set in the Windows control panel for **Region and Language**, under the **Administrative** tab by clicking on the **Changing system locale…** button as shown in Figure 18. That will bring up a control panel that will allow selection of another language as shown in Figure 19. Scroll down to the language desired and click **OK**. The system will need a restart for the new language to take effect. Not only will many of the Microsoft control panels change to the new language selected, but the Elo control panels will switch also, as long as one the languages above is selected.
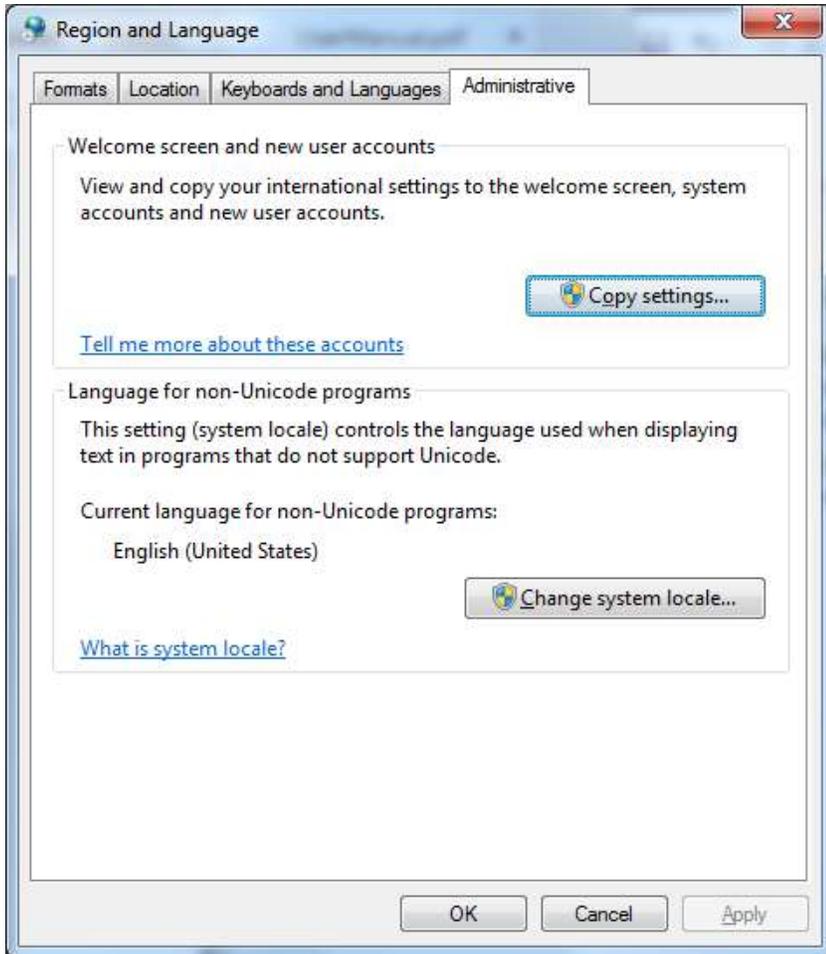
Fig 18. Region and Language control panel
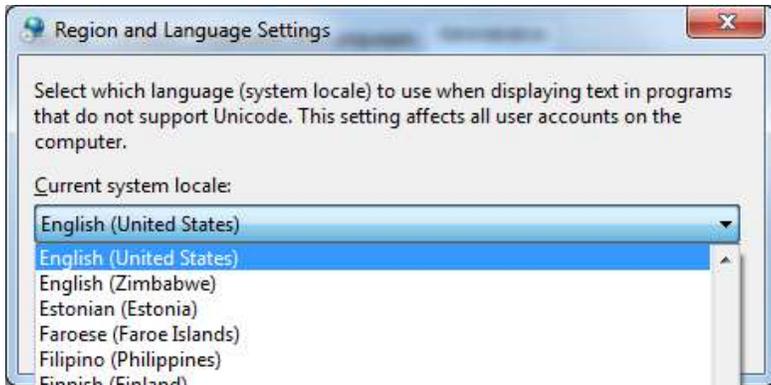
Fig 19. Locale selection control panel

Known Limitations

Right Button Icon in Fixed Location

When the Right Button icon is activated, it is fixed in the upper left hand corner of the screen. It cannot be moved.

Wake on Touch Not Turned Off by Elo Driver

When the **Disable Touch** option is applied in the Properties tab of the **EloConfig** control panel, the normal touch will be disabled, but touching the screen when in standby will still wake the system; that is, wake-on-touch is still active. In some cases there is a work around, in others no.

SurePOS 500: wake on touch is hardwired; so, there is no way to turn this off

SurePoint 2xx/5xx RS232: does not even have wake on touch capability

SurePoint 2xx/5xx HID USB: in this case it depends on what it is attached to and the OS:

SurePOS 500: no wake on touch supported for attached monitors

TCx 300/700 or SurePOS 300/700: if attached to the wake-on-touch supported USB port with either Windows 7/8.1/10, then it may be turned off via **Device Manager** settings. Open **Mice and other pointing devices** under **Device Manager** and select **Elo Touch Solutions HID mouse.** Open the **Power Management** tab and click off the option to **Allow this device to wake the computer**.

TCxWave-x3x/x4x/x5x: see document on TCxWave-x3x/x4x/x5x Touch Screen

TCx Display: see document on TCx Display Touch Screen

Windows 8.1 Start Button

Click Start Button to Get Metro Function

Normally in a tablet type operation, the **Metro** function may be called by touching and releasing the Start button. However, if the Elo driver is installed it may require two touches to call the **Metro** function. This has been observed to be more prevalent if the touch mode is set to **click on touch** or **mouse emulation**, and the control bar is in the default location at the lower part of the screen. If the control bar is moved to any of the other three sides, the **Metro** function is called with a single touch as normal.

Right Click Start Button for Access of Options
Normally a right button click on the *Start* button will bring up a menu of items to access. When the *Right Mouse Button Tool* is applied from the *EloConfig Touch Screen Properties* control panel, no such menu list can be accessed, unless the control bar is placed on the right hand side. In principle it should work if the control bar is placed on the left hand or top side, but the *Right Mouse Button Tool* icon covers up the *Start* button

Installation of SurePoint 2xx/5xx on a TCxWave-0x0/x1x/x2x (18.5")
When installing the Elo driver for a SurePoint 2xx/5xx monitor attached to a TCxWave-0x0/x1x/x2x (18.5") as an extended display, a little extra work may be required for proper association. A keyboard will be required.

After installing the Elo driver, the calibration routine will start and the first target may be on the TCxWave-1xx0x0/x1x/x2x. There will be no response to touch on that screen. With an attached keyboard, click *ESC* for the target to move to the attached monitor and touch the target there and then touch the *Accept* button. This will complete the association and alignment.

Note: the TCxWave is only supported as the primary touch screen, not as a secondary touch screen. That is, if an attached SurePoint 2xx/5xx is set up as the primary video, the touch on the TCxWave will not associate properly; the TCxWave must be the primary video.

AIO Always Primary Monitor
When a touch monitor is attached to an All-in-One (AIO), such as a TCxWave or SurePOS 500, the AIO should always be treated as the primary monitor. Using the attached monitor as the primary monitor is not supported and may not associate properly.

Clicking on Small Icons
When touching small icons, any slight movement may be interpreted as a drag. This is particularly an issue if in a mouse/drag operating mode. The default Registry values for detecting a drag is a movement of only 4 pixels (1 mm), which is OK for a mouse, but often too sensitive for finger touches. The Registry settings may be found under:

    \ HKEY_CURRENT_USER\Control Panel\Desktop

as the parameters DragHeight and DragWidth.   The default values are 4, but may be set to something like 20 to 50 (5 to 13 mm) for a less sensitive detection of a drag action. This should improve the touch and click operation.   To effectively turn drag off, make the value somewhat large, such as 1000.

Example CMD line strings:

REG.exe ADD "HKCU\Control Panel\Desktop" /v DragHeight /t REG_SZ /d 20 /f

REG.exe ADD "HKCU\Control Panel\Desktop" /v DragWidth /t REG_SZ /d 20 /f

Example Drag20.reg file contents that may be executed by double clicking on it:

Windows Registry Editor Version 5.00

[HKEY_CURRENT_USER\Control Panel\Desktop]

"DragHeight"="20"
"DragWidth"="20"

IR Beam Monitor on Multiple Attached IR Screens

When two IR touch screens are attached, enabling the IR Beam Monitor in one will appear to enable the other when viewing the settings in the Touch Screen Properties control panel. But to fully enable the 2nd screen for IR Beam Monitoring, one needs to disable it and then re-enable it *without* clicking **Apply** until after re-enablement.

To disable both IR Beam monitors, use the same sequence.

After disabling all IR Beam monitors, an Elo icon may remain in the Windows task bar. To remove it, right click on the icon and select "Close all windows."