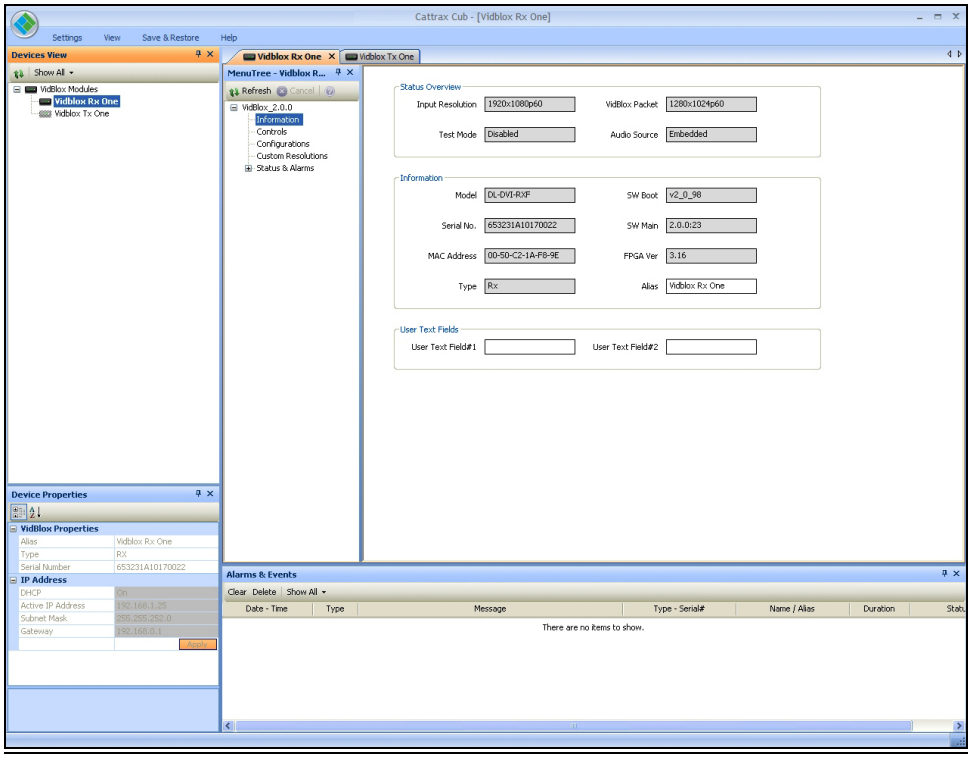
USER GUIDE

USB CONTROL APPLICATION FOR THE WINDOWS® OPERATING SYSTEM



Publication: 81-9059-0678-0, Rev. A
July, 2010

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Our commitment is to continue earning the trust and confidence of our customers throughout the industry by incorporating cutting-edge technology into the highest quality, most cost effective products on the market. And we would like to invite you to tell us how we're doing. If you have any comments or suggestions concerning your PESA equipment, please contact our Customer Service Department.

Again thank you for choosing a PESA product and we look forward to a long-term partnership with you and your facility.

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Notice of Product Nomenclature Change

NOTE	**With revision A of this User Guide the control software product nomenclature is changed from QuView-SA to Cattrax Cub. The name change is the only difference between revision A of this guide and revision B of the QuView-SA User Manual, PESA document number 81905906640. If you are currently using an installation of QuView-SA, Version 2.1.1 then revision A of this document, with the Cattrax Cub nomenclature, is still functionally compatible with your product.**

July, 2010

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Chapter 1 About This Manual

1.1 DOCUMENTATION AND SAFETY OVERVIEW

This manual provides instructions for installation and operation of the Cattrax Cub USB System Control Application for the Windows® operating system, designed and produced by PESA.

It is the responsibility of all personnel involved in the installation, operation, and maintenance of the equipment to know all the applicable safety regulations for the areas they will be working in. ***Under no circumstances should any person perform any procedure or sequence in this manual if the procedural sequence will directly conflict with local Safe Practices. Local Safe Practices shall remain as the sole determining factor for performing any procedure or sequence outlined in this document.***

1.2 CAUTIONS, AND NOTES

Throughout this document, you should notice various Cautions and Notes. These addendum statements supply necessary information pertaining to the text or topic they address. It is imperative that audiences read and understand the statements to avoid possible loss of life, personal injury, and/or destruction/damage to the equipment. These additional statements may also provide added information that could enhance the operating characteristics of the equipment (i.e., Notes). Examples of the graphic symbol used to identify each type of statement and the nature of the statement content are shown in the following paragraphs:

1.2.1 CAUTION

	**Caution statements identify conditions or practices that can result in personal injury and/or damage to equipment if the instructions contained in the statement are not complied with.**

1.2.2 NOTE

	**Notes are for information purposes only. However, they may contain invaluable information important to the correct installation, operation, and/or maintenance of the equipment.**

Chapter 2 Introduction

2.1 DESCRIPTION

PESA's Cattrax Cub is a software application for use on a compatible PC running the Microsoft Windows® 2000, XP, Vista or Windows 7 Operating System, to monitor and control a variety of PESA products equipped with USB connectivity. Normally the application is supplied on a CD with compatible PESA devices shipped from the factory; however, the latest release is also available from the PESA website at www.pesa.com. Cattrax Cub communicates with compatible PESA devices, one at a time, using a USB port of the host PC. Through Cattrax Cub, the user can monitor and modify many functional attributes of a controlled device and review device identification data. Users familiar with menu-driven and graphical user interface (GUI) based software control applications will feel right at home with Cattrax Cub. Figure 2-1 illustrates a typical screen layout of the Cattrax Cub application.

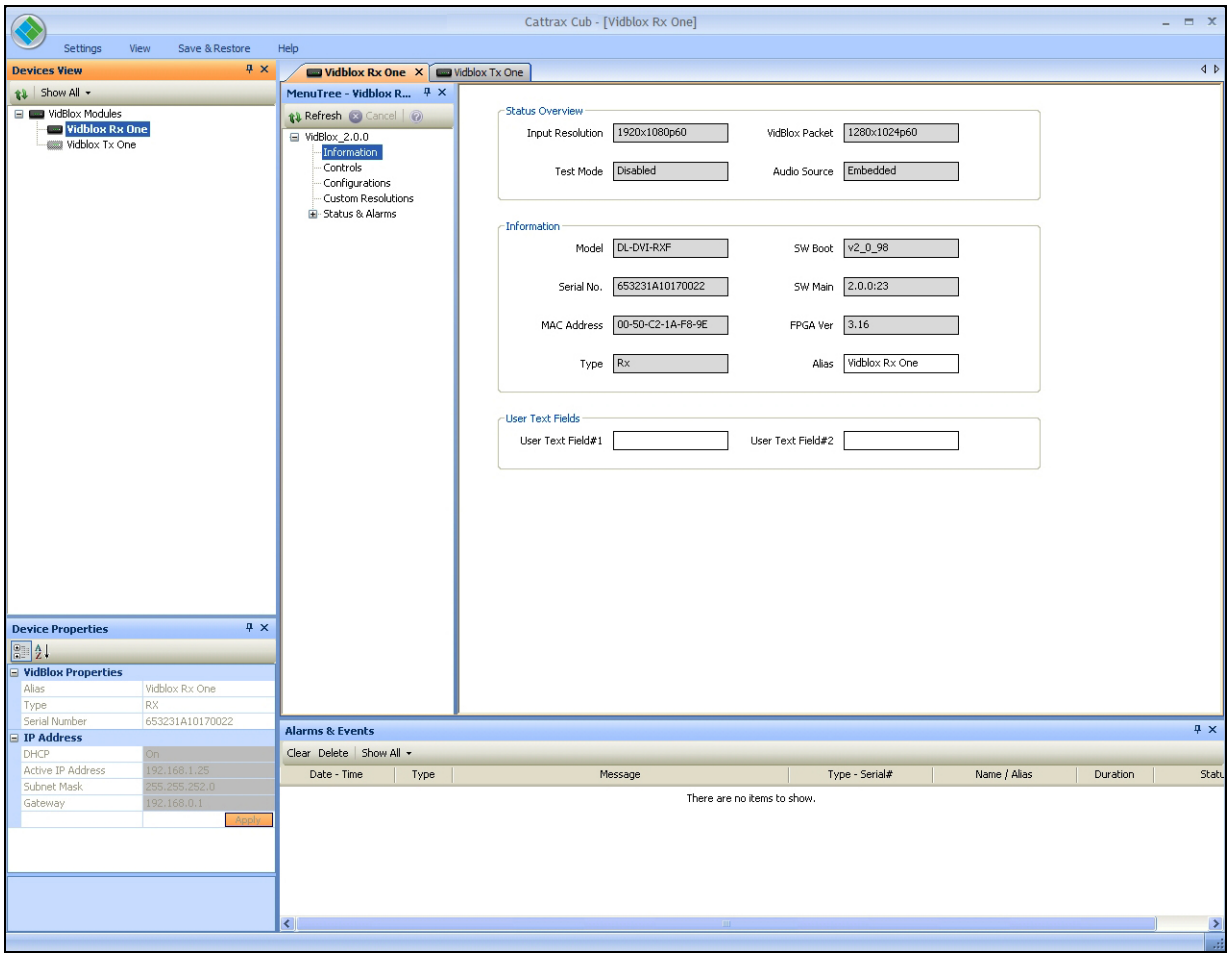


Figure 2-1 Cattrax Cub Screen Layout

2.2 CATTRAX CUB CONTROLLER FEATURES

- **Automatic Device Discovery and Display** - Cattrax Cub automatically "discovers" PESA devices connected to the USB port of the host PC, and displays located devices in a hierarchical tree structure. Once a device is discovered, its identity will remain in the menu tree even if the device is disconnected from the USB port – until the entry is manually deleted by the user. This allows quick access to a particular device if it is again connected to the USB port.

- **Alarm Monitoring** automatically monitors alarms and events occurring with the connected device, and displays them in a table format. Table columns may be sorted to make search and diagnosis of reported alarms and events faster and more convenient.

- **Menu Driven Configuration and Control** using a standard Windows® operating system tree structure for quick access to menus for a connected device.

- **Configuration Management** functions allow configuration data for individual devices to be saved to a file, and then restored to the device if ever needed.

- **Password Control** requires users to login in order to change controls and operational parameters contained in system configuration menus. Cattrax Cub may be used in no-password or password control mode.

2.3 DOCKABLE WINDOW PANELS

Various window panels displayed by Cattrax Cub, such as Alarms & Events, Menu Tree, etc, are dockable, and may be moved and re-docked to any position preferred by the user. As shown in Figure 2-2, the Alarms & Events panel is moved to the top part of the screen from the bottom, and the Menu Tree is moved from the left side to the right. Any time the software is closed, Cattrax Cub saves the current screen layout and displays the same layout when restarted.

Screen position of the Menu Tree selection is global across all devices. For example, if the menu tree is moved from left to right for the device named "Quadbox RX-1," as shown in Figure 2-2, all new devices opened after the change will display their menu tree on the right.

You may restore the screen layout to the default appearance at any time by clicking on the **Default Layout** selection in the View menu.

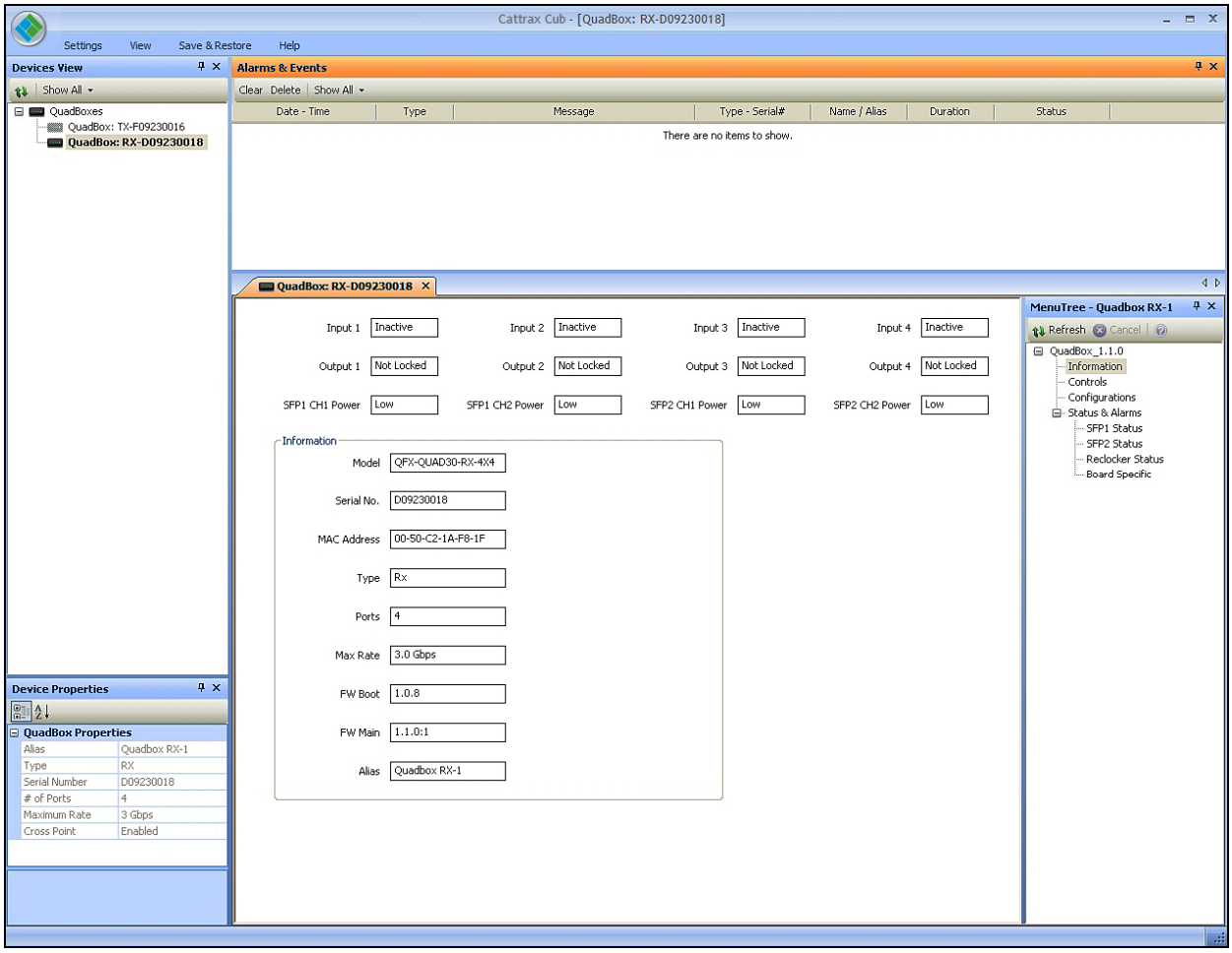


Figure 2-2 Cattrax Cub with Reconfigured Window Positions

2.4 HARDWARE SYSTEM REQUIREMENTS

Cattrax Cub requires a PC running the Microsoft Windows® 2000, XP, Vista or Windows 7 Operating System, with a minimum of 512 Mb RAM. The entire application requires approximately 25 Mb of disk space on a local drive.

Chapter 3 Installation

3.1 CATTRAX CUB INSTALLATION

Cattrax Cub is a graphical user interface (GUI) type software application for use on a standard PC running the Microsoft Windows® 2000, XP, Vista or Windows 7 Operating System. The PC must have a CD-ROM drive for installation of the software. A mouse with scroll-wheel is recommended for precise control of device parameter values using slider controls, and a monitor size of 19 inches or larger is also recommended.

3.2 INSTALL CATTRAX CUB PROGRAM AND DATA FILES

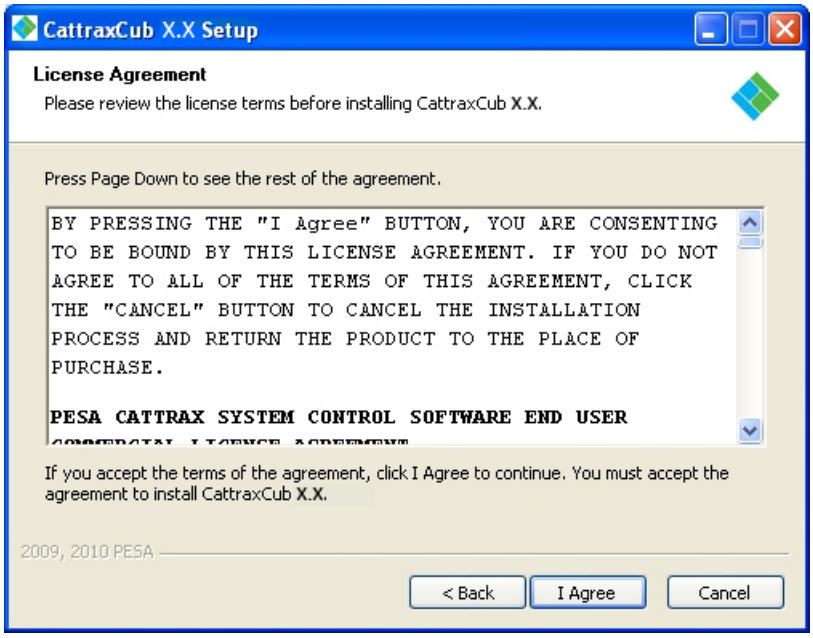
Your Cattrax Cub installation disk contains an auto-run file that guides you through the installation process. Examples of the pop-up screens you will see are shown below with the appropriate step. If you have other USB compatible PESA equipment and already have Cattrax Cub running on a host PC, run the supplied CD to verify you have the most current revision of the application. Once the software is installed and running, simply connect the device you wish to control to a USB port on the host PC and allow Cattrax Cub to "discover" the module. Notice the "X" used in place of actual values on each example screen presented here. During installation the release number of Cattrax Cub software you are installing is displayed.

Install Cattrax Cub as follows:

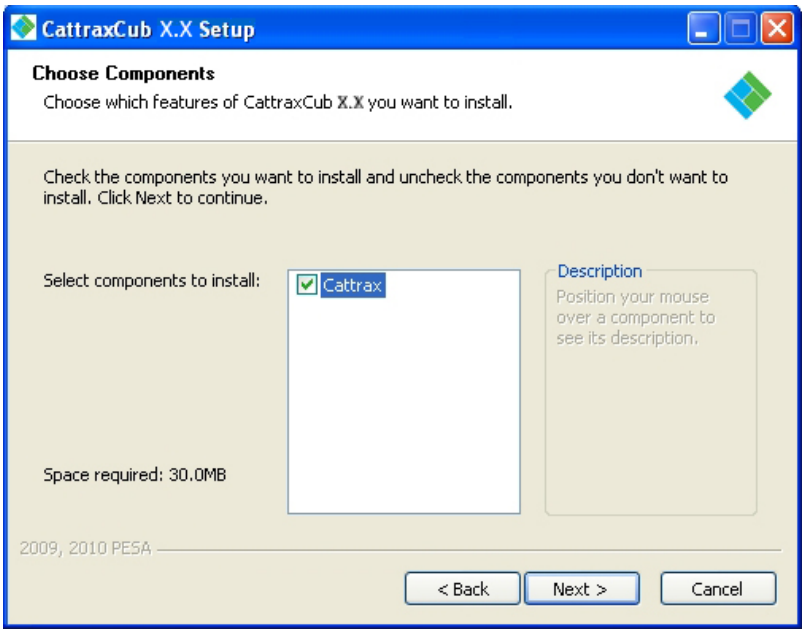
1. Locate the installation CD included with your shipment, and place it in the drive of the host PC.
2. If the installation program does not automatically start, navigate to the directory of the install CD and double-click Setup.exe. The following screen is displayed on the monitor.

3. If you have downloaded the application software from our website, or for some other reason are not using a CD for installation, load the software to a convenient location on the PC hard drive. Navigate to the folder containing the software application and double-click the Setup.exe file.

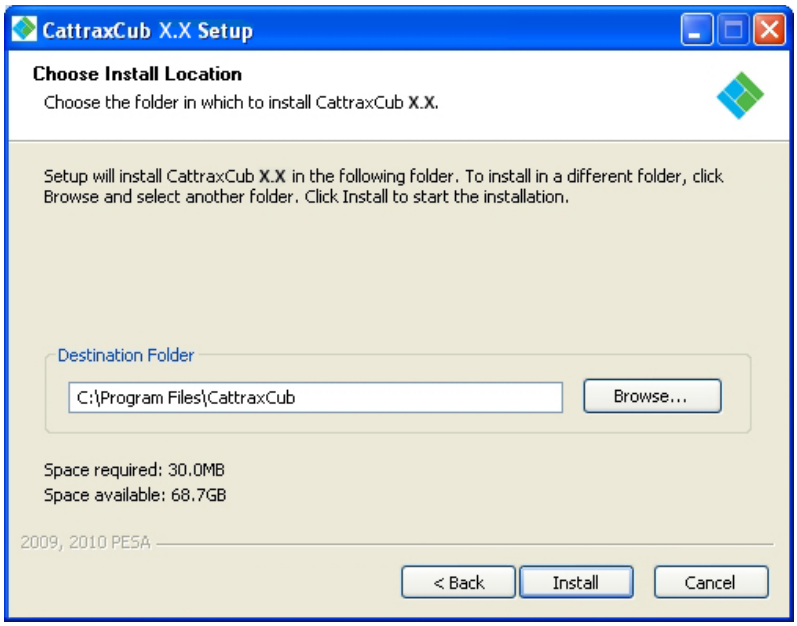
4. Read the displayed terms of the License Agreement, and click “I Agree” to continue installation.



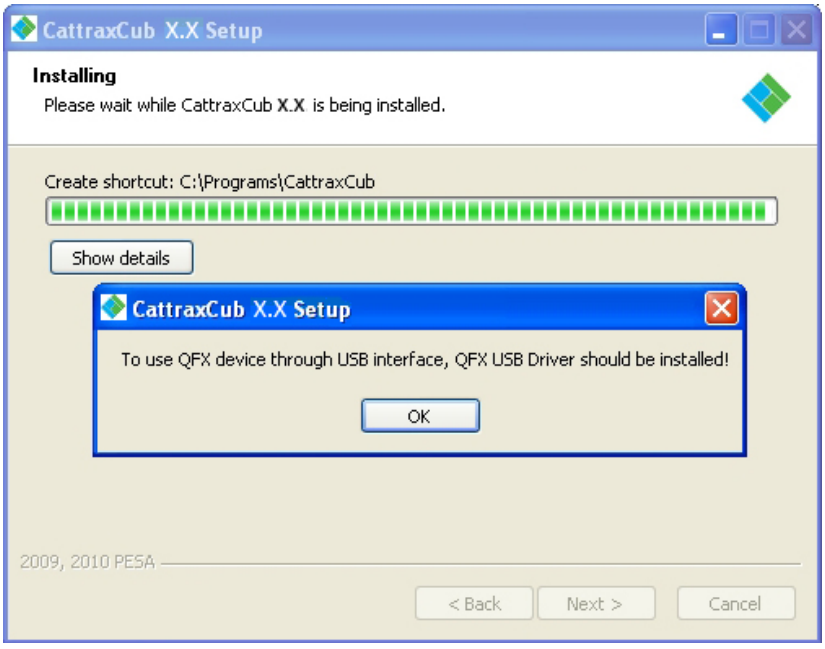
5. Verify that Cattrax is checked as the component to install from the list and click “Next” to continue installation.



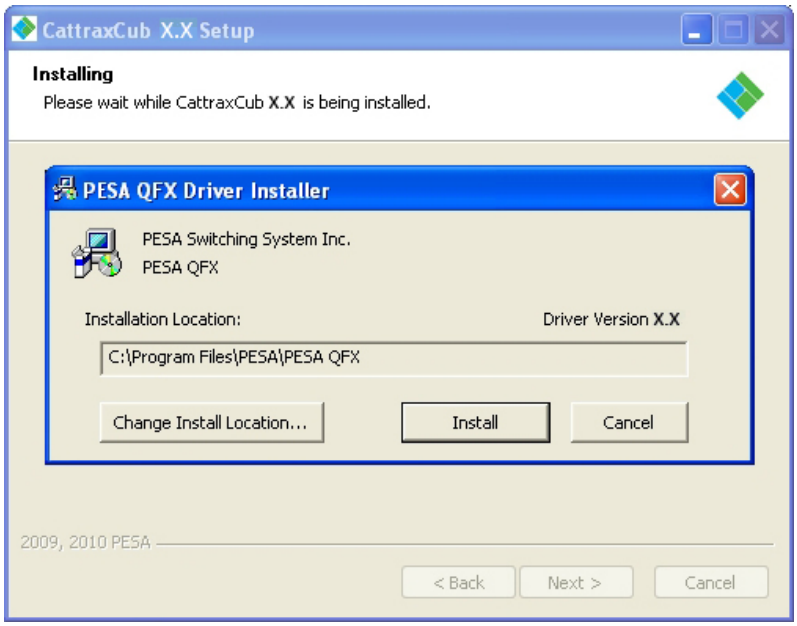
6. Modify the default Destination Folder, if you wish, by using the Browse function to select the desired directory for software installation. When the destination folder is correct, click the Next button to proceed with installation.



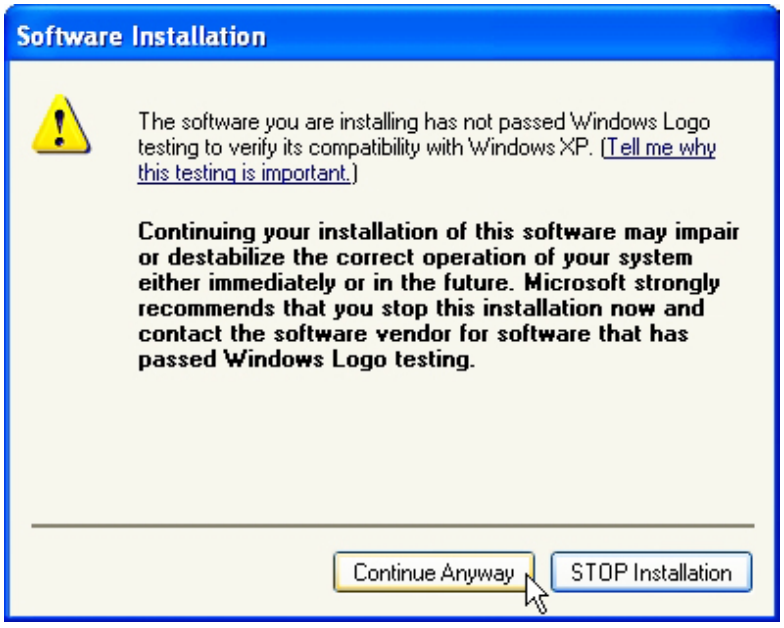
7. Once Cattrax Cub is installed, you will receive the prompt to install the QFX USB driver. Click "OK" to install the driver. If the QFX USB driver is not present on the host PC, Cattrax Cub will not be able to communicate with a connected device.



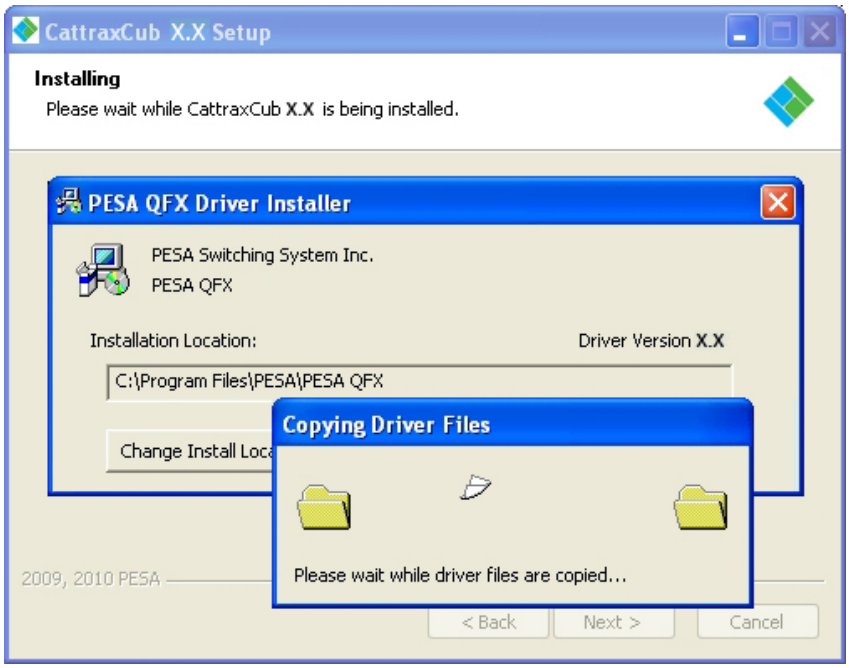
8. You may accept the default installation location or browse to another folder in which you wish to install the QFX USB driver. When the destination folder is correct, click the Install button to proceed with driver installation.



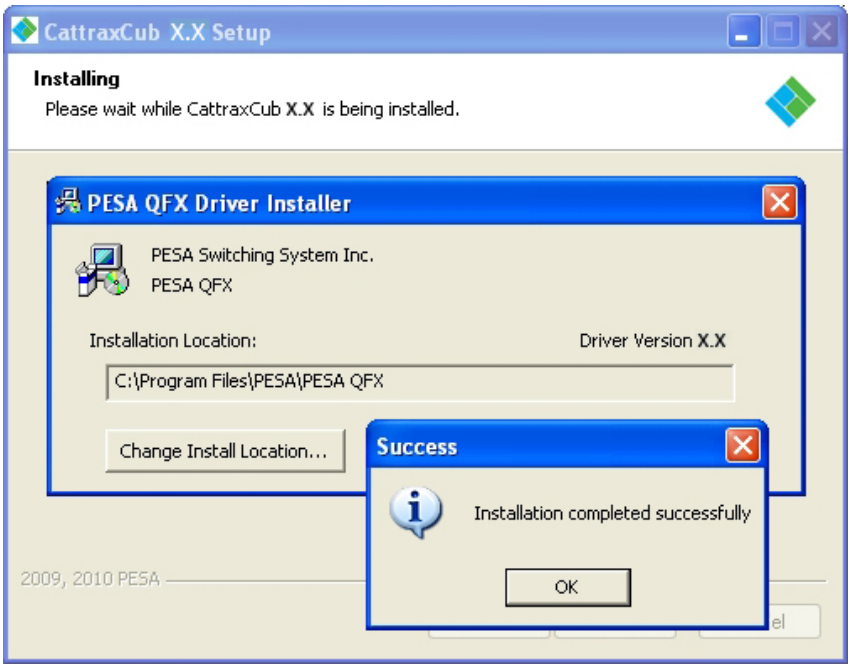
9. You will receive a message indicating that the software has not passed Windows Logo testing, as shown below. The USB driver files have been thoroughly validated. Click "Continue Anyway" to continue.



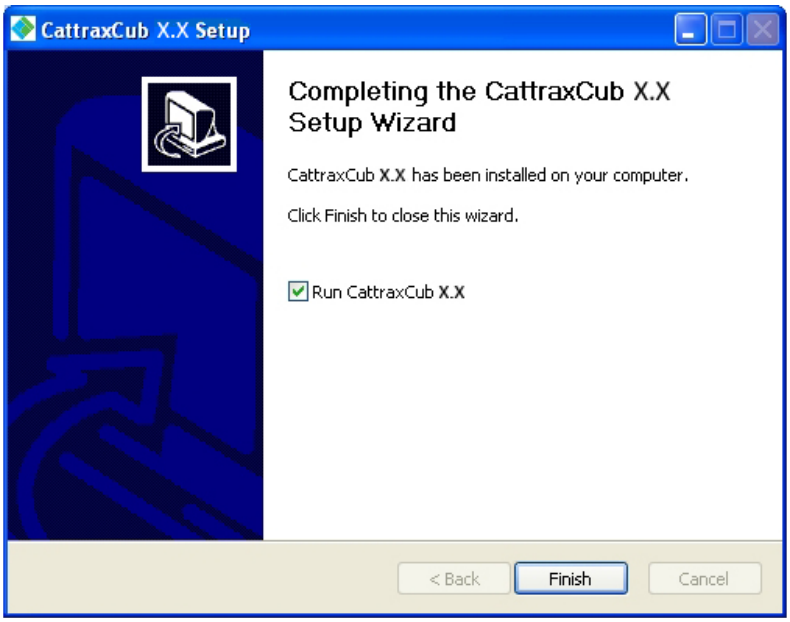
10. You will see the following screen as installation continues.



11. When driver installation is complete, you will receive a prompt indicating that you must restart your PC. Click "Yes" if you wish to reboot now. You will not be able to communicate with a device through the USB port until a restart is performed.

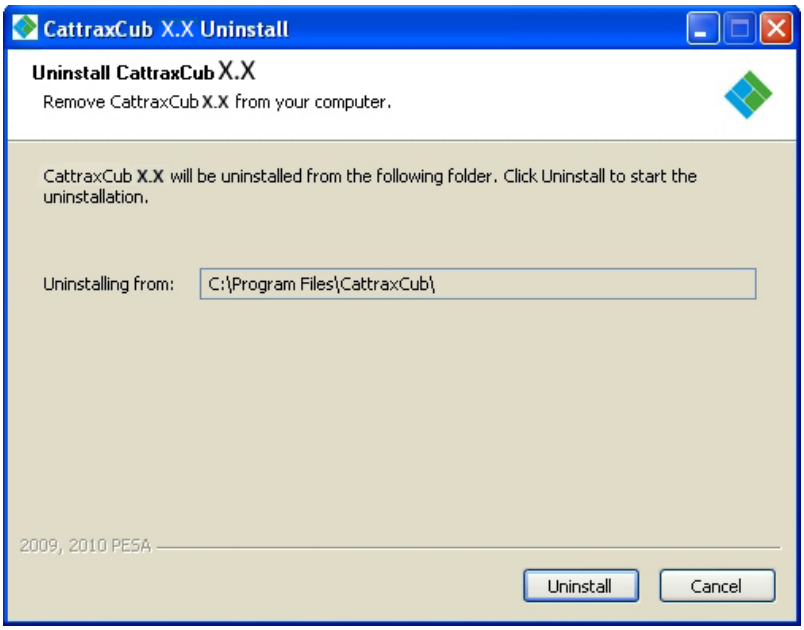


12. If you have chosen to restart the computer at a later time or have not installed the QFX USB driver, the Completing Cattrax Cub Setup Wizard prompt is displayed. Click the Finish button to exit the installer program.



3.3 REMOVING CATTRAX CUB INSTALLATION

Should it ever be necessary to remove Cattrax Cub from the PC, the uninstall command is available through the Start menu of the Windows® operating system. A prompt window as shown below is displayed on the desktop. Click **Uninstall** to complete the command.



3.4 CONNECT A PESA DEVICE TO THE HOST PC THROUGH A USB PORT

If you wish to control a PESA device over a USB connection using Cattrax Cub, perform the following steps to allow "Plug and Play" capability of the Windows® operating system to interface device hardware to host PC. Typical USB connection is shown in Figure 3-1 using a Vidblox module as an example.

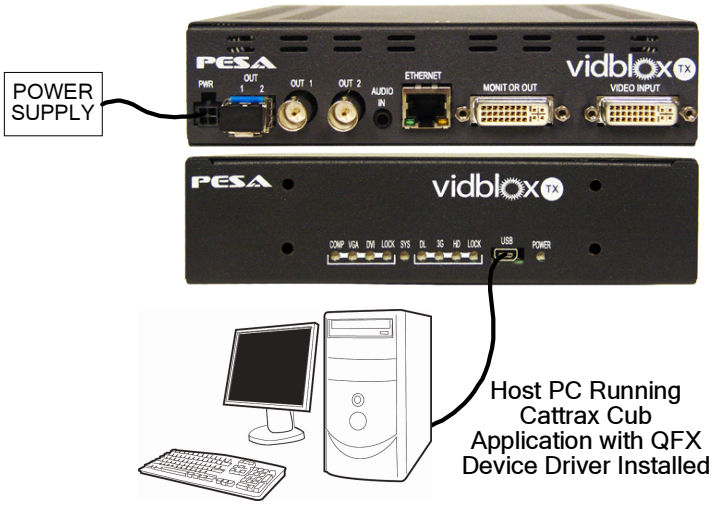
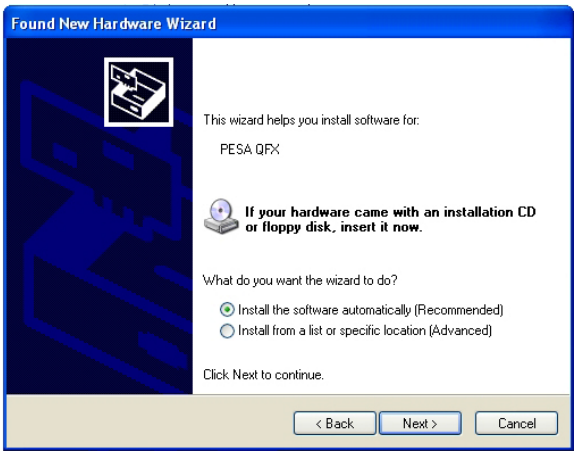


Figure 3-1 Connecting Vidblox Module to Host PC

1. Apply power to the device.
2. Connect the supplied USB cable first to the device and then into an open USB port on the host PC, as shown by the illustration to the left.
3. After a brief pop-up from the taskbar, the "Found New Hardware" window, as shown below, **may** appear on the monitor.

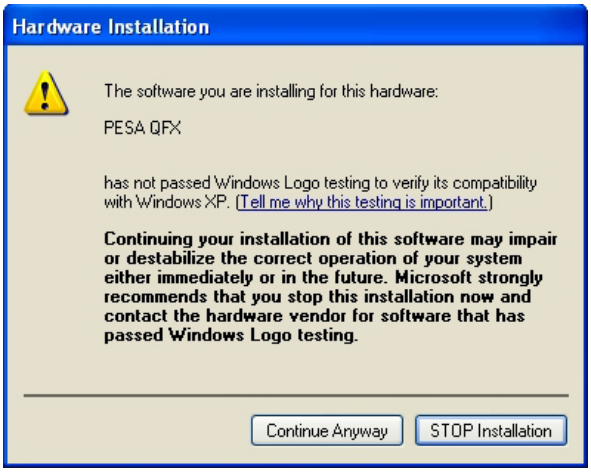
NOTE	**This window only appears if this is the first power-up after USB driver installation**

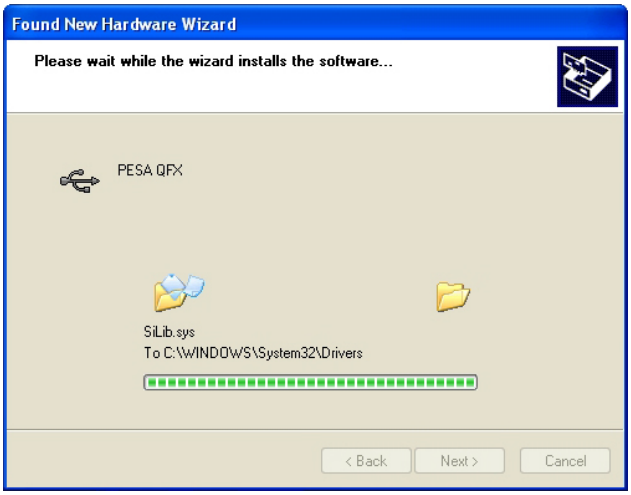
4. Select the "No, not this time" option button and then click Next to continue.



5. The Driver Installation screen, as shown to the left, prompts you for your choice of how to locate and install the hardware driver.
6. Select the first option, "Install the software automatically (recommended)," and click on the "next" button to continue.

7. You will receive a message indicating that the software has not passed Windows Logo testing, as shown to the right. The USB driver files have been thoroughly validated. Click "Continue Anyway" to continue.





8. During driver software installation, the prompt screen shown to the left is displayed. The progress bar monitors the installation procedure.

9. When hardware installation is complete, the completion screen, as shown to the right is displayed. Click the "Finish" button to exit the hardware installation wizard.

10. The Vidblox module should now be communicating with the host PC.

Chapter 4 Operation

4.1 INTRODUCTION

Double click on the Cattrax Cub desktop shortcut icon to start the application. Cattrax Cub automatically searches for PESA equipment through a process called "discovery." When a piece of equipment is detected on the USB port of the host PC, the application establishes communication with the equipment and lists it as an active device in the Devices View window. With Cattrax Cub only one module may be connected at a time.

A typical screen display of Cattrax Cub is shown in Figure 4-1. Note that the display is composed of a number of individual "panels" each of which displays various menus or operational data. It should be noted that Figure 4-1 illustrates a typical display set-up. However, Cattrax Cub provides tools that allow users to customize the display to individual preferences. For this reason your display may not appear exactly as the example screen shown here. However, the function of each display panel is the same regardless of placement on the screen. Each display panel is briefly introduced in the following text.

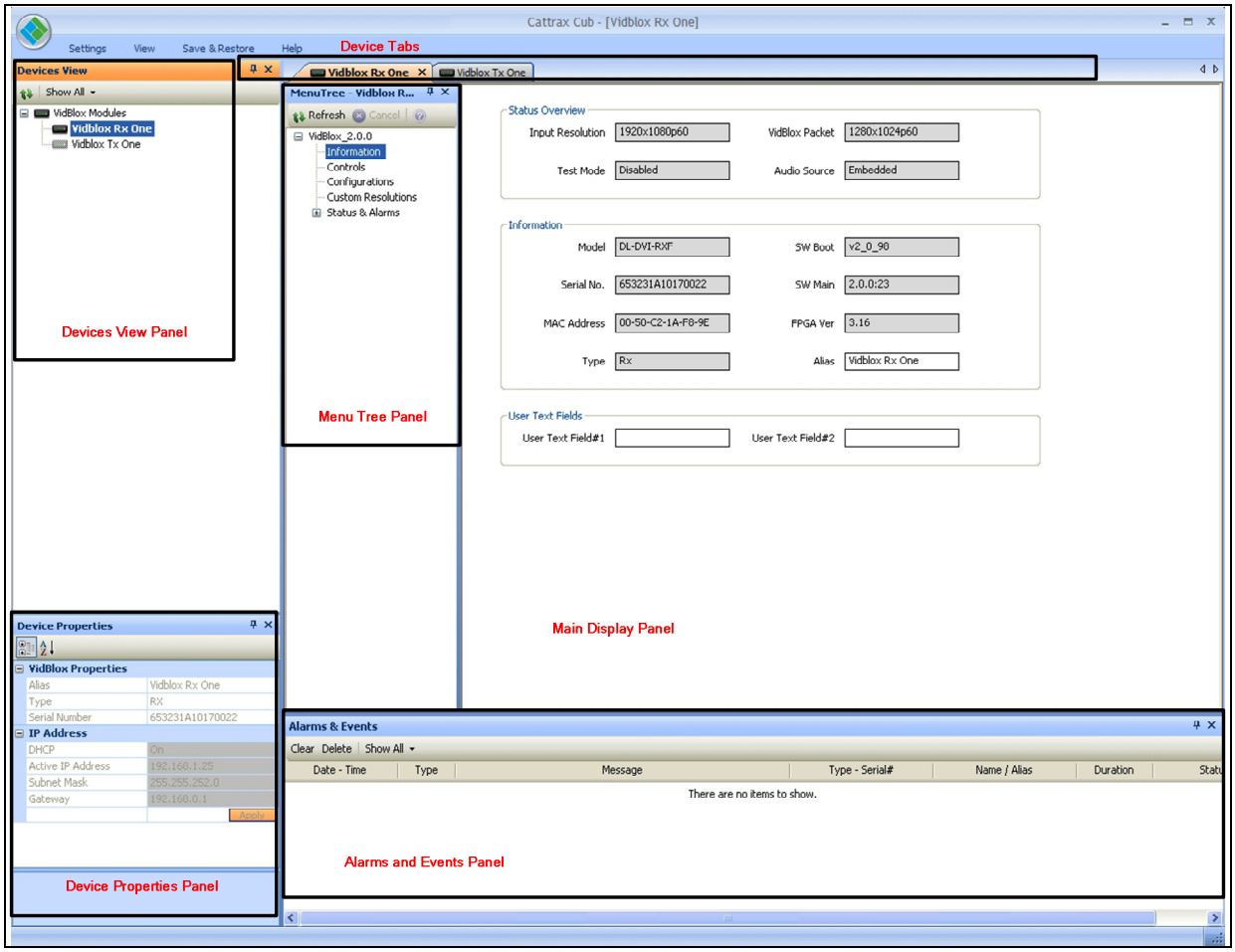


Figure 4-1 Cattrax Cub Panel – Typical Layout

4.1.1 DEVICES VIEW PANEL

The **Devices View** panel identifies the device currently under active control of Cattrax Cub and also lists devices that have been previously connected to the application. Whenever a PESA device is connected to the host PC, and USB communication is established, the device identity is displayed as a branch of the tree structure in the Devices View panel in bold letters. Remember that Cattrax Cub can only control one device at a time over a USB port, therefore only one menu entry will be highlighted. If a device has been "discovered" previously but is not currently connected to the host PC, the device name appears dimly in the menu tree. Depending on the view mode selected only the currently active device or previously discovered devices and the currently active device may be displayed. Notice that the heading *Quadboxes* appears in the menu tree with branches to individual modules, identified by type and serial number that have been previously discovered or controlled by Cattrax Cub.

4.1.2 MENU TREE PANEL

Menu Tree displays a listing of menus and sub-menus for the device selected from the Devices View panel. Tree branching is controlled by clicking on the boxes containing plus and minus signs in the listing, exactly as in a typical Windows® operating system based application.

4.1.3 MAIN DISPLAY PANEL

Operational characteristics, configuration, or parameter control icons for the menu item selected in the Menu Tree listing are displayed in the **Main Display** panel. Control and display functions used in this panel follow standard Windows® operating system protocol.

4.1.4 DEVICE TABS

When a device is selected from the Devices View panel, a **Device Tab** is automatically displayed for it above the Main Display panel area. When a device is disconnected from the USB port, the device tab will remain – but will be displayed dimly to indicate the device is currently inactive. If any device with a device tab present is re-connected to the host PC, its device tab will once again become active. Inactive device tabs may be deleted from the display by right-clicking the device entry in the Devices View panel and selecting the Delete function.

4.1.5 DEVICE PROPERTIES PANEL

Operational characteristics for the connected device are displayed in this panel.

4.1.6 ALARMS AND EVENTS PANEL

Cattrax Cub automatically monitors alarms and events occurring with the connected device, and displays them in a table format. Table columns may be sorted to make search and diagnosis of reported alarms and events faster and more convenient. Alarm conditions and other event flags are displayed in real-time. When an alarm condition is detected from the connected device, a prompt identifying the condition appears in the listing.

4.2 BOARD DEFINITION FILES

NOTE	**The information in this paragraph is provided in order to better acquaint you with the Cattrax Cub application. On initial installation, it should not be necessary to make any changes or additions to board definition files, known as BDX files, since Cattrax Cub is shipped from the factory with all current BDX files installed. You should only have to verify presence of a BDX file if you receive an error message during operation stating that a configuration file is not present for a managed device. If you change a managed device in the future, it may be necessary to install a new or updated BDX file. If you ever need BDX files, they are available from PESA Customer Service.**

In order for Cattrax Cub to control an external device such as a QFX Extender Series module, the correct Board Definition File (BDX) for the module must be present in the **BDXFiles** folder under the Cattrax Cub directory, as shown in Figure 4-2.

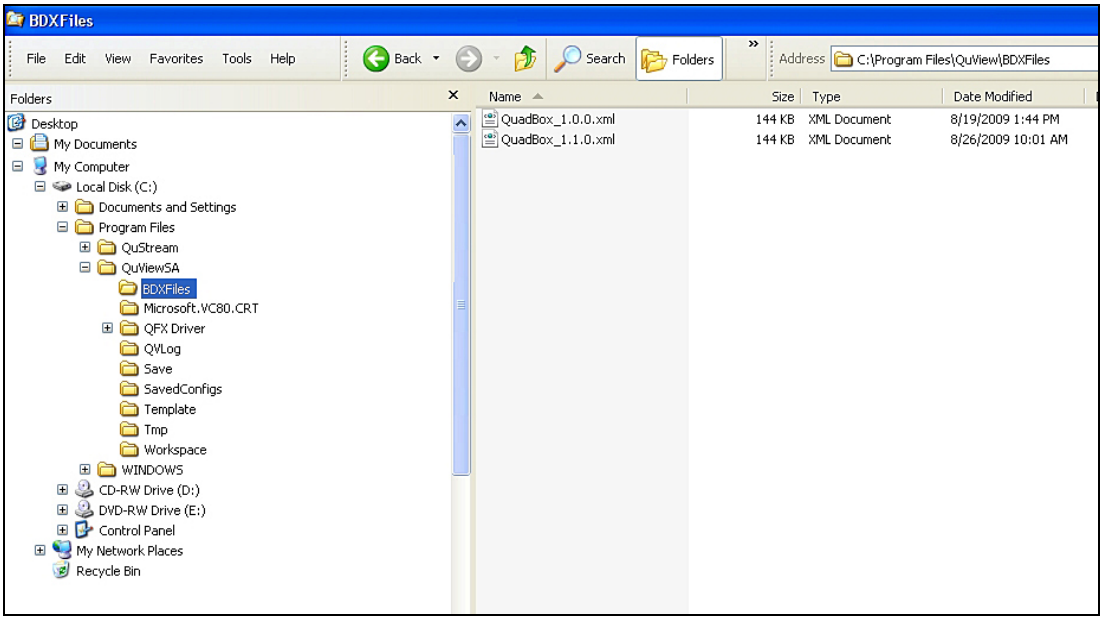


Figure 4-2 Directory Showing Location of BDX Files

Each BDX file name is in two parts - the device name and the version number of the device software it supports. For example, software version 1.0.0.0 for a Quadbox requires BDX file Quadbox_1.0.0.XML. Note only the first three digits of the software version number are relevant. New BDX files are released concurrent with new device software and are available from PESA product support. The BDX file directory may store multiple versions of the same device, for example Quadbox_1.0.0 and Quadbox_1.1.0, as shown. Cattrax Cub automatically locates and uses the correct BDX file.

4.3 CONTROLLING THE DEVICES VIEW TREE DISPLAY

The header area in the Devices View panel provides a number of controls related to the display of devices in the device tree.

Clicking an icon shown in Figure 4-3 initiates the following action:

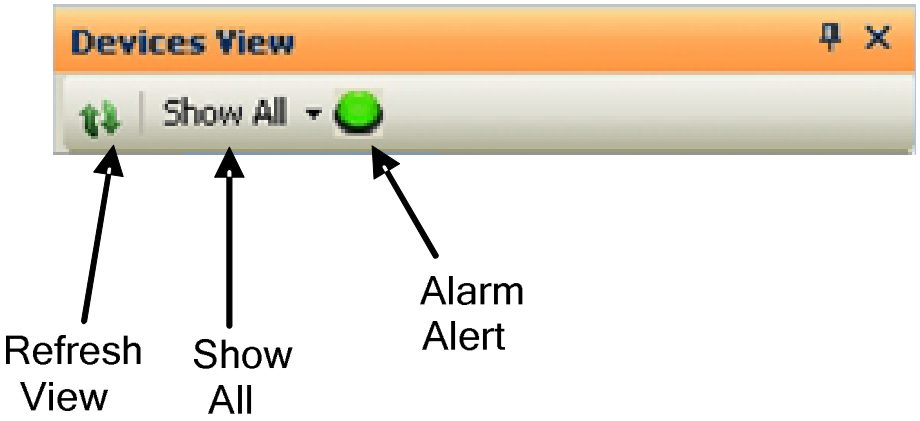


Figure 4-3 - Devices View Controls

- **Refresh View** – restarts the discovery process for a device connected to the USB port and updates the device tree.
- **Show All** - is a drop-down menu that allows you to select whether the display lists only the currently connected device, or both active and inactive devices.
- **Alarm Alert** – is a flashing display to indicate the presence of a major alarm in the Alarm Panel.

4.4 DEVICE MENU DISPLAY

To display the configuration menu of the currently connected device, double-click on the bold entry in the Devices View panel. Cattrax Cub displays the menu tree of the active device in the Menu Tree panel, and the content of the first menu is displayed in the Main Display panel, as shown in Figure 4-4.

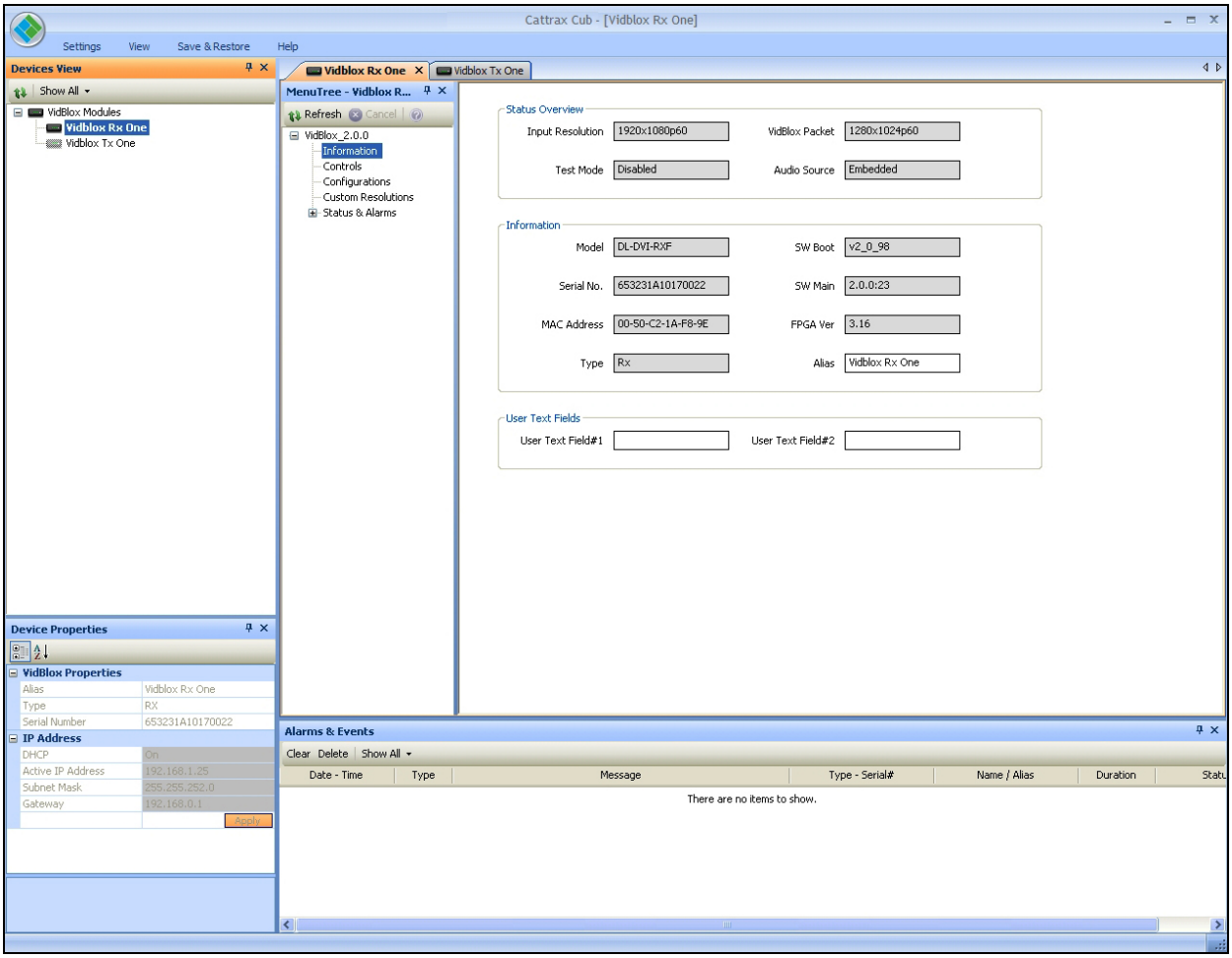


Figure 4-4 Display Of Device Opened In Device Menu Window

Menus and sub-menus are contained in the Menu Tree panel for the selected device. Double clicking on the menu expands it to show the menus and sub-menus under it. Single clicking on a menu heading in the tree displays the device parameters associated with the selected menu, and the current values and status obtained in real-time from the device.

Functions performed by icons located in the header area of the Menu Tree panel, Figure 4-5, are specific to the connected device.

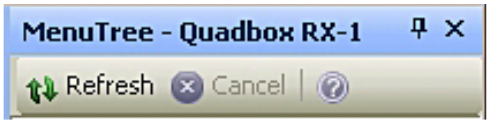


Figure 4-5 Menu Tree Header Content

- **Refresh** – Allows retrieval of control parameters associated with the selected menu in the menu tree and updates the display.
- **Cancel** – Allows you to cancel retrieval of data for the currently selected menu. This could be used if Cattrax Cub is experiencing problems communicating with the device.
- **Help (?)** – Displays information about the selected device. If the help icon is grayed out, it indicates that no information is currently available for the device.

4.5 CONFIGURATION AND CONTROL

When menu items are displayed in the Main Display panel, use the various controls, sliders, radio-buttons, etc. to change parameter values. Figure 4-6 shows an example screen of the various types of controls you may see in a typical Cattrax Cub menu screen.

Tips:

- When using a slider control, you may achieve finer changes to the parameter values by pointing the mouse to the slider on the slider bar, and then using the mouse scroll wheel to choose the desired value.
- To reset individual controls right-click on the control and select **Reset**.

4.6 TILE DISPLAY OF MENUS

To facilitate faster access to devices menus, Cattrax Cub allows simultaneous display of up to four device menus in tile mode, Figure 4-7. To display in tile mode select either **Tile Horizontally** or **Tile Vertically** from the *View* menu in the main menu bar. Tile mode displays device menus associated with device tabs – whether the menu is active or inactive. If more than four device tabs are shown at the top of the Main Display panel, tile mode may not be selected. Close tabs of devices not required for tiling then select the tile display mode. Maximize any of the tiles to return to tabbed display.

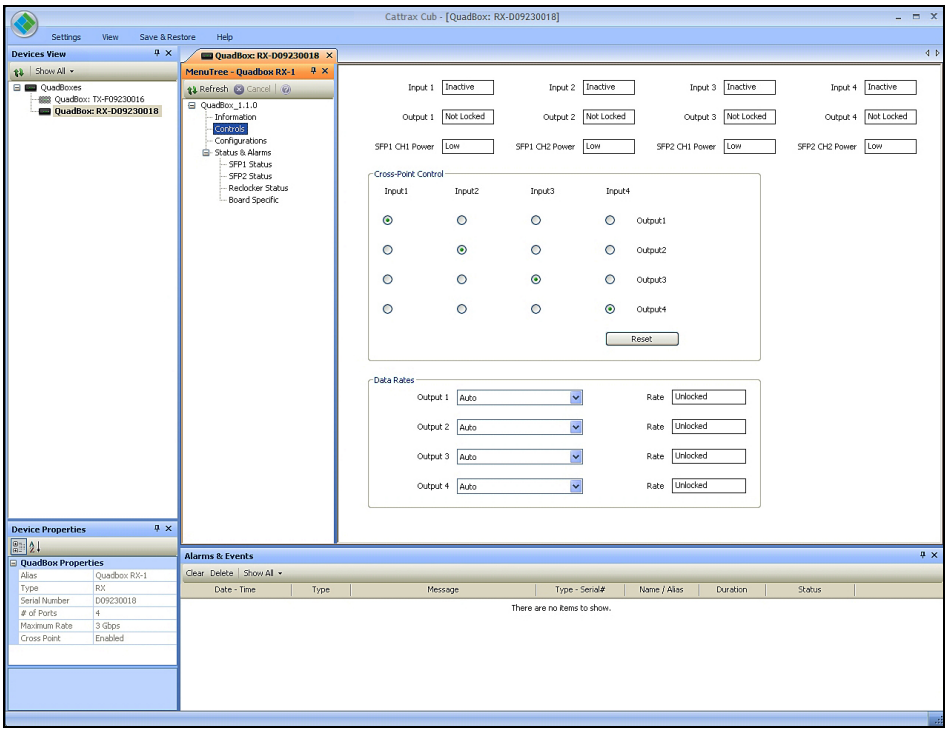


Figure 4-6 Example Control Display Screen

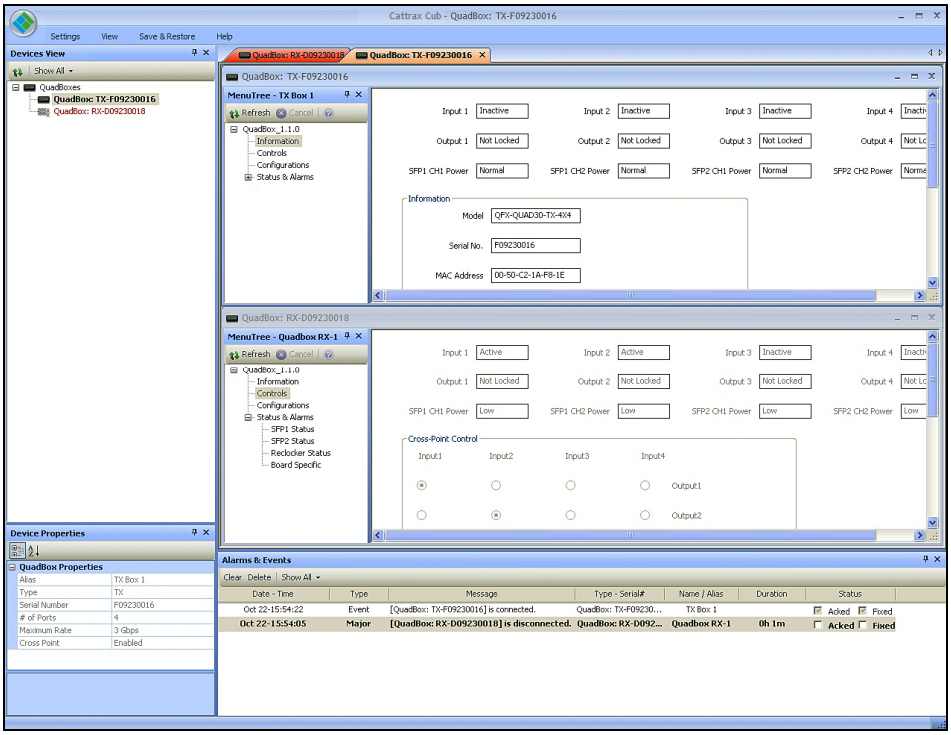


Figure 4-7 Example Tile Display of Device Menus

4.7 DISPLAY PANEL AUTO-HIDE

Cattrax Cub allows you to create a larger work space by using the auto-hide feature available on the Devices View, Device Properties, Menu Tree and Alarms & Events display panels. With auto-hide active, the display panel is hidden and replaced by a tab attached to the side of the main display panel. Moving the cursor over the tab returns the menu to the screen and removing the cursor causes the display to once again hide from view. Clicking on the tab of a hidden display panel returns it to the screen and selects it as the active menu as indicated by the orange highlight in the header bar. The screen remains visible until another display panel is selected as the active menu. You may activate this feature for any desired display panel by clicking on the Auto-Hide Icon, as shown by Figure 4-8. To disable auto-hide, restore the display panel to screen and click the auto-hide icon.

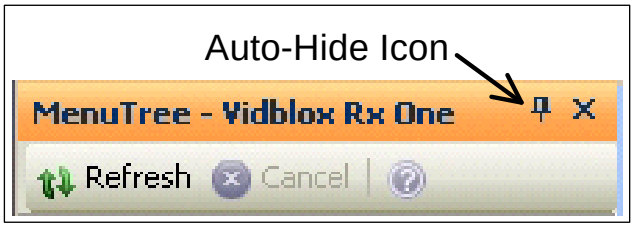


Figure 4-8 Auto-Hide Icon Location

4.8 ALARMS & EVENTS MANAGEMENT

Alarm and event (non-alarm) messages for devices in the managed system are displayed by the Alarms & Events panel, Figure 4-9. There are two main types of alarms – system alarms and device alarms. System alarms are generated by Cattrax Cub, while device alarms are generated by the device connected to Cattrax Cub.

4.8.1 ALERTS

When a major alarm is reported by any device in the managed system, Cattrax Cub displays an alert in the form of a flashing red dot in the Devices View panel header area. This ensures that even if the Alarms and Events panel is closed, the user is notified of the occurrence of a major alarm. Should Cattrax Cub be minimized, the Cattrax Cub entry in the Windows® operating system taskbar is highlighted to alert the user.

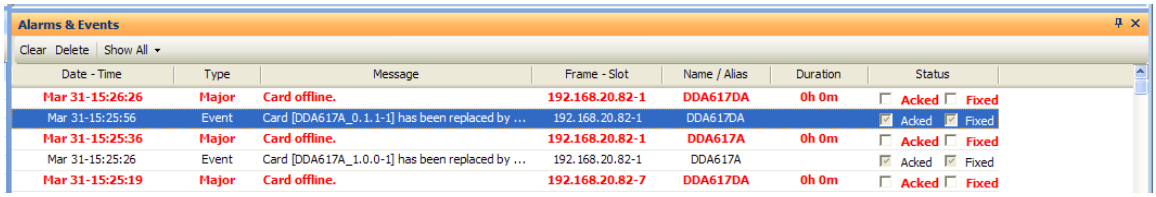


Figure 4-9 Cattrax Cub Alarms and Events Panel Header Area

4.8.2 REPORTED ALARM DETAILS

Columns of the Alarms & Events panel display various properties of reported alarm conditions:

- **Date & Time -** displays when the message was first reported
- **Type** – identifies if the notification is an alarm or an event, and the severity if it is an alarm.
- **Message** – provides a description of the alarm or event
- **Frame-Slot** – identifies the device that initiated the message
- **Name/Alias** – displays the name of the frame or the card alias of the initiating device
- **Duration** – displays the elapsed time since the alarm was reported. This entry does not apply to event messages. The duration display increments once each minute until the **Fixed** check-box in the Status column is checked.
- **Status** – contains the Acknowledged (**Acked**) and **Fixed** check-boxes whereby the user indicates the current status of the alarm condition. This column does not apply to event messages. Entering a check in the Acked check box indicates the problem is acknowledged and is currently being worked. Entering a check in the Fixed checkbox indicates that the problem is resolved. Note that devices reporting major alarm conditions that have not been resolved are highlighted in red in the device tree.

4.8.3 ALARM FILTERING & SORTING

Filtering and Sorting helps users quickly find an entry in the alarm list. For example, to find all the alarms reported for a connected device, click on the column header and then scroll through the list to find all alarms reported for the device. Sorting is available for all columns in ascending or descending order. Click on the same column header to toggle between ascending and descending order.

NOTE	**In order to view most recent reported errors, the alarm list must be sorted in Date-Time order.**

The alarms list may also be filtered by the alarm type – Major, Minor, or Events by clicking on the Filter menu in the Alarms & Events panel area.

4.8.4 BLOCKING ALARMS

To prevent unnecessary messages being generated from a device, alarms for the connected device may be blocked by right-clicking on the device entry in the device tree and selecting the **Block Alarms** option. This option is useful when a device is being installed, configured or reconfigured for use.

4.9 CHANGING DEVICE IP ADDRESS

Although Cattrax Cub does not communicate with devices over a network, it does allow you to change the currently stored IP address of the USB connected device from the Device Properties panel shown below in Figure 4-10. This feature is particularly useful for devices that are inactive due to an IP address conflict with other devices, or having a different network address. Cattrax Cub allows you to correctly set the IP address of such devices directly without having to isolate the device from the network.

To change networking parameters for the selected device, simply enter the desired IP address, Subnet Mask or Gateway address in the boxes contained under the **IP Address** panel on the Devices Properties panel and click **Apply**.

Figure 4-10 Changing IP Address from Device Properties Panel

NOTE	**Operation of the change IP address feature requires support from software in the target device. If not supported by the device, the feature is automatically disabled by Cattrax Cub**

4.10 DEVICE CONFIGURATION MANAGEMENT

Cattrax Cub's *Save & Restore* functions allow you to save the configuration of individual managed devices, and use its saved configuration file to configure the same device at a later time - if needed. Since Cattrax Cub can only connect to one device at a time – each device must be saved as a separate configuration file. Cattrax Cub's save and restore functions may be accessed from either of two menus as shown in Figure 4-11. If you choose to use the right-click menu from the devices view panel, the active device entry must be highlighted.

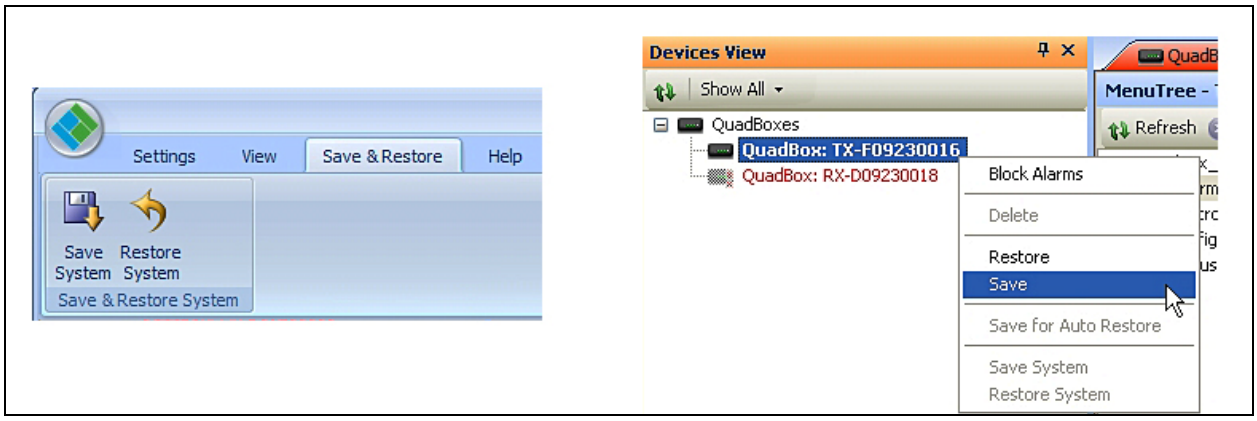


Figure 4-11 Save and Restore Menu Options

4.10.1 SAVING A CONFIGURATION FILE

To save the configuration of a particular device, it must be actively connected to the USB port of the host PC and be the active device in the Devices View panel, and also active in the Main Display panel. Click on the **Save System** icon in the *Save & Restore* menu as shown on the left of Figure 4-11, or right-click to open the menu box and select the **Save** menu option as shown in the example screen on the right side of Figure 4-11. The **Save As** dialog box, Figure 4-12, is displayed and prompts you to enter a filename for the saved configuration. Since the file you save contains configuration data for only the active device, it is prudent to assign a filename that easily identifies the particular device. Cattrax Cub will recommend a default filename and location for storing the file; however, you may enter any filename or directory location of your choice to easily locate and identify the file by its associated device. Enter the desired filename and click on the **Save** button.

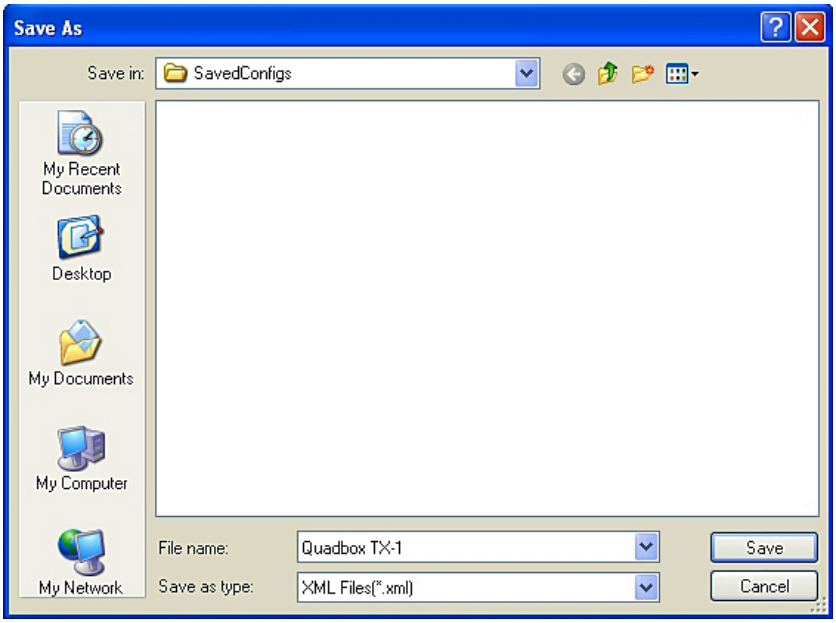


Figure 4-12 Save Configuration Dialog Box

When you have entered the desired filename and location, the **Save – System Configuration** dialog box, Figure 4-13, is displayed. This dialog box allows you to select which configuration parameters of the device you wish to save in the configuration file. You may uncheck parameters that are not required to be saved. Cattrax Cub selects all parameters for saving by default. Click the **Save** button on the dialog box to save the configuration file for the device.

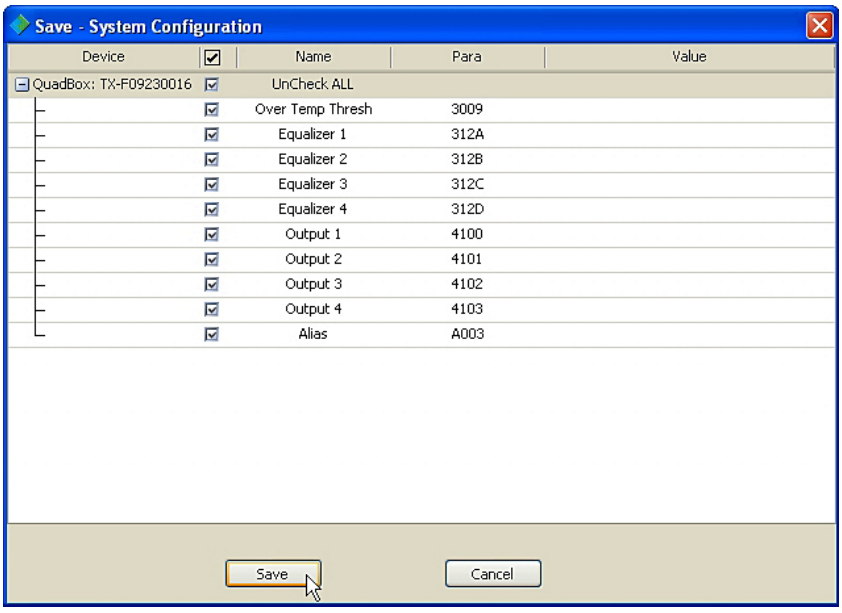


Figure 4-13 Save Configuration Dialog Box

4.10.2 RESTORING A CONFIGURATION FILE

To restore configuration of a particular device, it must be actively connected to the USB port of the host PC and be the active device in the Devices View panel, and also active in the Main Display window. Click on the **Restore System** icon in the *Save & Restore* menu as shown on the left of Figure 4-11, or right-click to open the menu box and select the **Restore** menu option. The **Open** dialog box, Figure 4-14, is displayed and prompts you to select or enter the filename of the saved configuration for the connected device. Enter or select the desired filename and click **Open**.

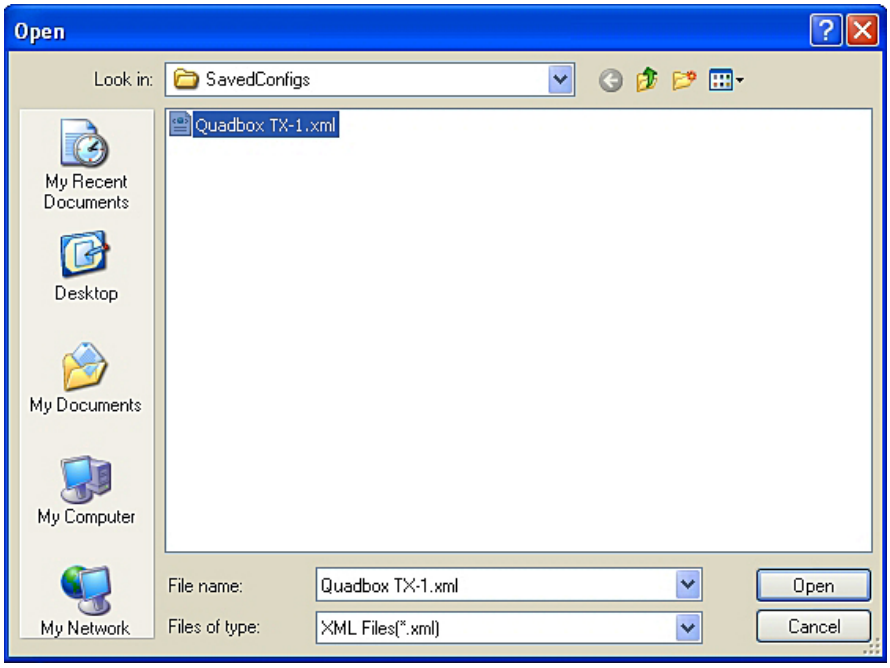


Figure 4-14 Selection of Configuration File

When a file is selected and the **Open** button on the dialog box is pressed, Cattrax Cub automatically checks for hardware compatibility of the saved file and the device to be restored and displays the result in the **Restore – System Configuration** dialog box, Figure 4-15. If the Source and Destination are compatible, click **Restore** to reload configuration data to the device. If the source and destination are not compatible, the entry will be highlighted in red as an indication to not continue the restore operation. Click **Cancel** to exit the restore procedure.

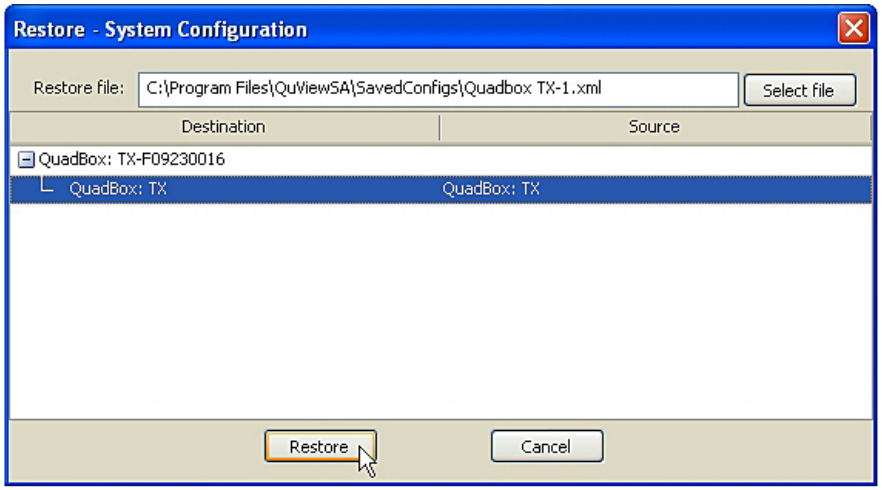


Figure 4-15 Restore Configuration Dialog Box

4.11 DEVICE SOFTWARE UPDATE CAPABILITY

Many PESA devices that you will control through Cattrax Cub contain board-resident software or device code, stored in flash memory, which from time-to-time may need to be updated. Cattrax Cub makes the entire process of downloading firmware updates simple and straight-forward using the **Download** function available through the *Settings* menu.

As new software updates for PESA products are released, they are available through PESA Customer Service or from the website at www.pesa.com. When you receive an update for a PESA device, the code is delivered to you as a single file with a filename descriptive of the update and ending with a **.PBN** extension; you must copy the file to the hard drive of the computer running Cattrax Cub. It makes no difference to the download operation where the file is stored, and you may use any directory structure you like. For convenience, PESA recommends that you make a specific directory on your hard drive to store only .PBN files. Whatever directory structure you use, you will have to access this directory as part of the download process.

The following procedure outlines the steps for downloading firmware to PESA devices. For this example, we have created a directory on the host PC named "PESA PBN Files" to store the update files; and we will use a Vidblox device in the sample screens, but the procedure is the same for any device.

1. Copy the .PBN update file to the desired directory on the host PC hard drive.
2. Open the *Settings* menu on Cattrax Cub and select the **Download** function as shown by Figure 4-16.

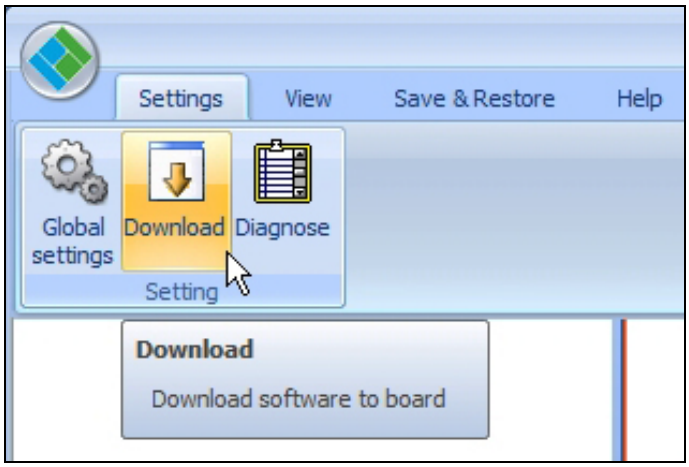


Figure 4-16 Download Icon

1. You will receive a warning, Figure 4-17, that the device you are updating will be taken offline during the process. If you want to continue with the update procedure, click **OK**, otherwise click **Cancel** to exit the update function.

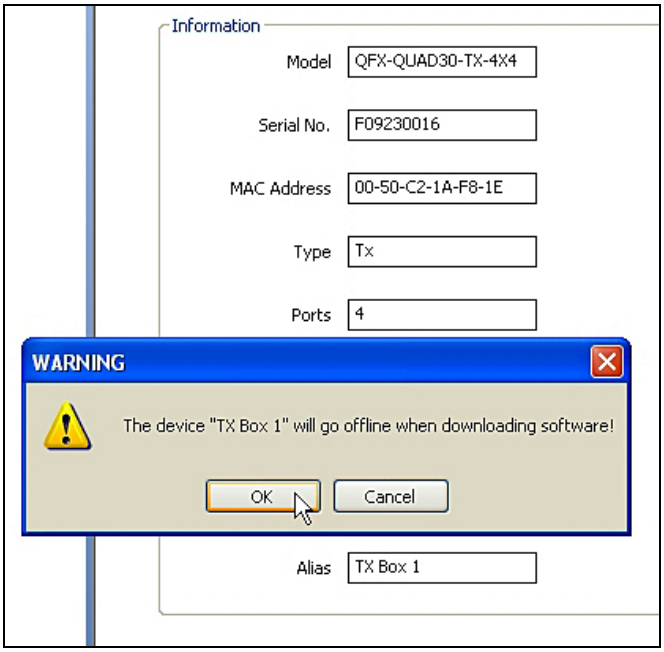


Figure 4-17 Flash Update Warning Prompt

3. Selecting **OK** opens the **Open Flash Update File** dialog box as shown by Figure 4-18.

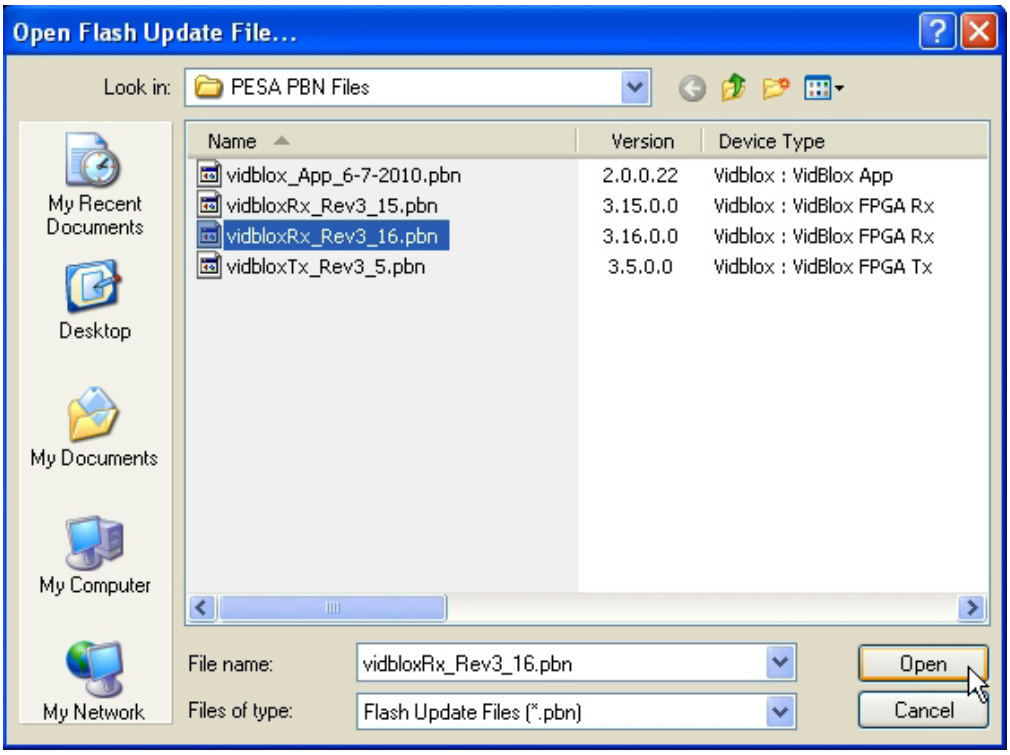


Figure 4-18 Flash Update Dialog Box

4. Navigate to the hard drive directory containing the .PBN update file you wish to download and select it from the listing. Ensure that the proper file is selected and that the correct filename is shown in the *File Name:* box and click *Open* to continue. For this example we have selected the .PBN file that updates FPGA code in a Vidblox Receiver module to version 3.16.
5. Cattrax Cub compares the file to the device type and if it is appropriate for the device, the message box **This File is OK for flashing**, Figure 4-19 is displayed.

Figure 4-19 Download Flash Box

6. Click the **Yes** button to initiate software update or click the **No** button to leave the screen with no changes.

CAUTION	**Downloading software code to most PESA devices will take the device off-line for the duration of the download and will re-boot the device after installation.**

7. Download and installation is automated and a progress bar, Figure 4-20, is displayed as the procedure is performed. With many devices a re-boot of the device is required and is automatically initiated after installation of the new code.

Figure 4-20 Update Progress Bar

4.12 CATTRAX CUB DIAGNOSTICS TOOLS

Cattrax Cub provides built-in diagnostics capabilities that allow program folders containing system data to be combined into a single .ZIP file for easy communication with PESA Customer Service, should it ever be necessary. This automated process makes it much easier for PESA technicians to acquire the data necessary for analysis to assist you if you have a problem with installation or operation of the Cattrax Cub application. The following procedure outlines the steps for generating a diagnostics .ZIP file:

1. Select the **Diagnose** function from the *Settings* menu as shown by Figure 4-21 to open the **Save As** dialog box, Figure 4-22.

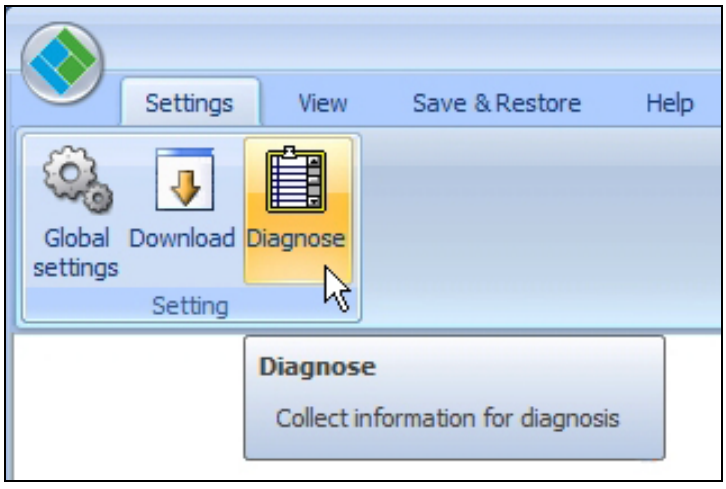


Figure 4-21 Diagnostics Menu Icon

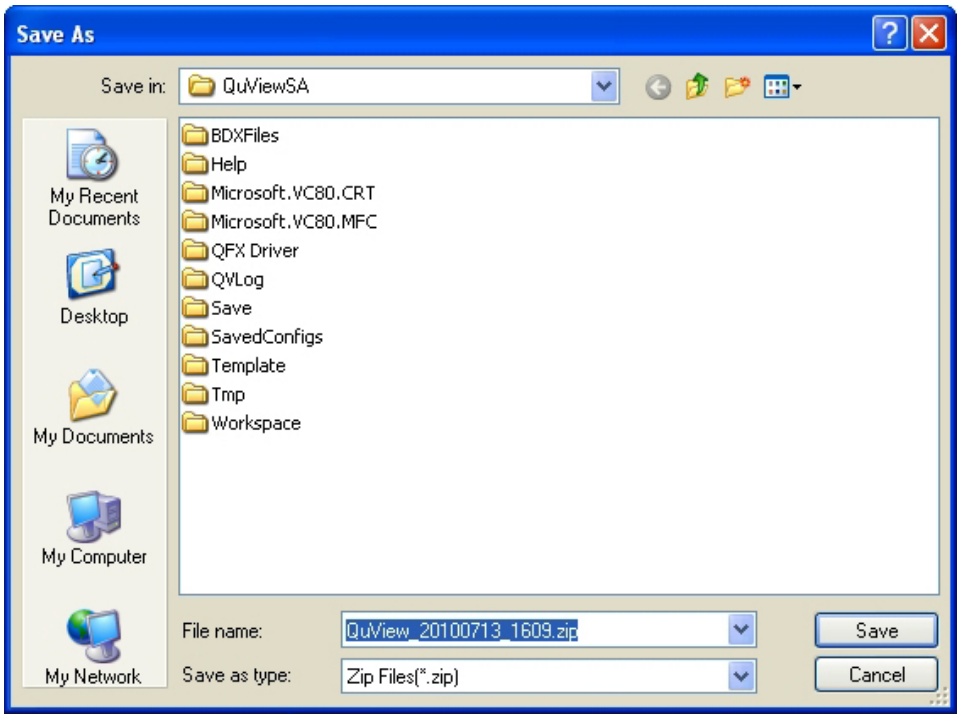


Figure 4-22 Diagnostics File Dialog Box

2. Enter or navigate to the directory where you want to store the diagnostics file. Cattrax Cub will insert a default filename for the .ZIP file; you may enter another filename if desired. When the directory location and filename are entered, click the **Save** button to write the data file. Click **Cancel** to abort the diagnostics operation.

4.13 MAIN MENU HEADER CONTROLS

Controls located in the menu bar header, Figure 4-23, allow the user to configure the application and set preferences. There are four items in the menu: *Settings*, *View*, *Save & Restore* and *Help*.

To display one of the submenus, single-click to open it temporarily, or double-click to keep the submenu display open. The open display may be toggled by double-clicking on the menus.

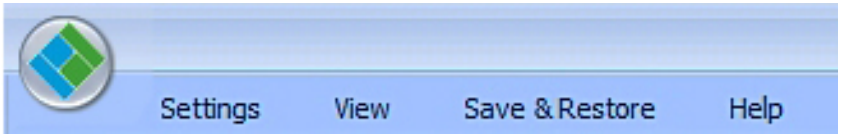


Figure 4-23 Cattrax Cub Menu Bar

4.13.1 SETTINGS MENU

Functions available through the *Settings* menu, Figure 4-24, allow you to set operating parameters of Cattrax Cub or to update firmware on the connected device.

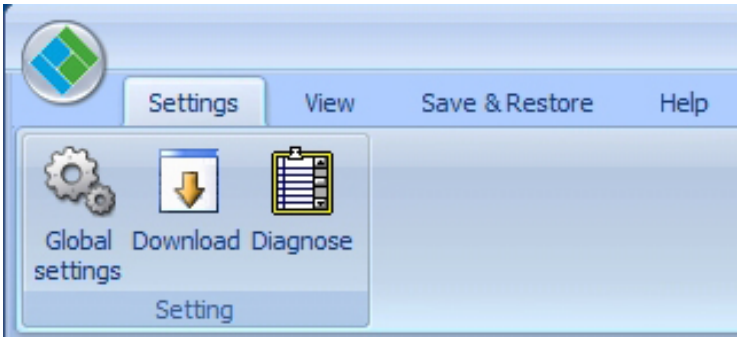


Figure 4-24 Settings Menu

- **Global Settings -** Clicking the **Global Settings** entry of the *Settings* menu opens the **Global Setting** box, Figure 4-25. The following functions are available through selections on the Global Settings box:

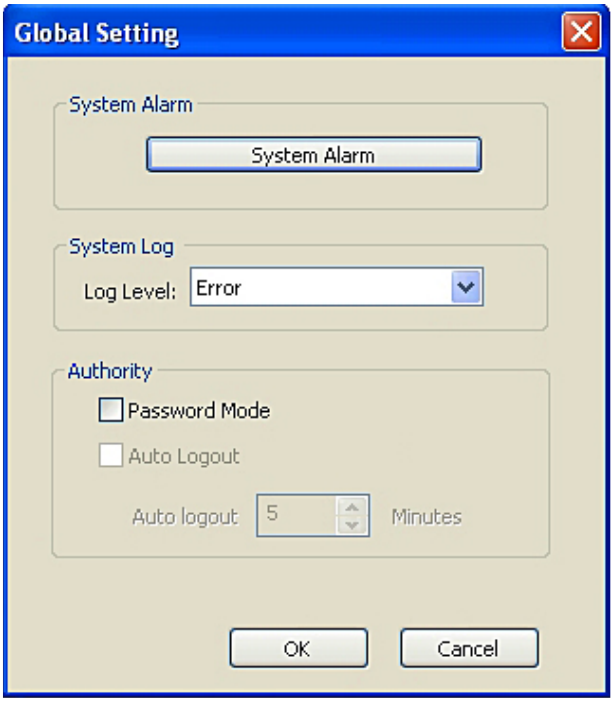


Figure 4-25 Cattrax Cub Global Settings Box

- **System Alarm** – Clicking the ***System Alarm*** button displays the **System Alarm Define** dialog box. To change current setting of an alarm type, select the box in the Type column and use the drop-down to select between available options, as shown in Figure 4-26.

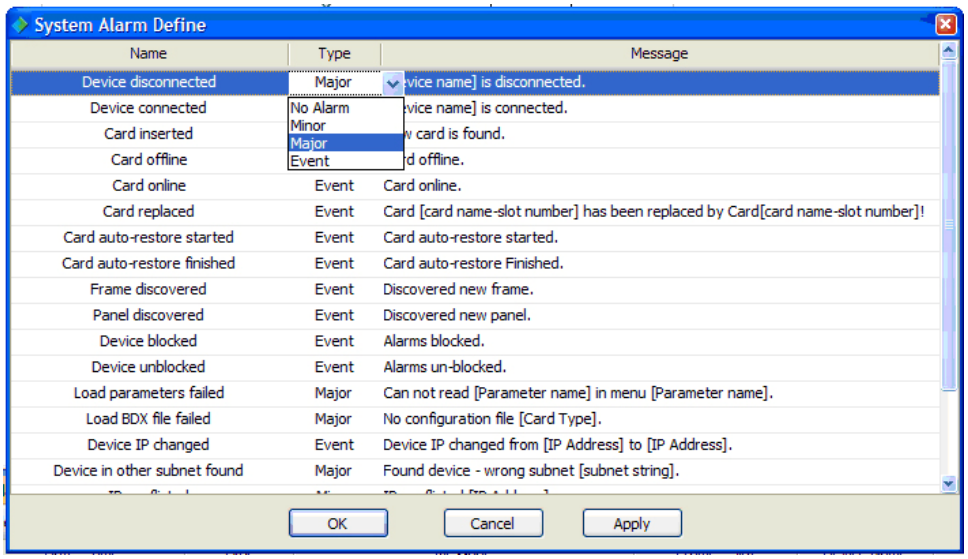


Figure 4-26 System Alarm Configuration

- **System Log** – Choices available through the ***Log level*** pull-down menu define how much information is presented by the log file. The log file records the operation of Cattrax Cub, to help debug problems.
- **Authority** – Cattrax Cub can operate in a password protected mode to limit user capabilities unless a valid password is entered. Selecting ***Password Mode*** from the Global Settings box activates password protection. The procedure for using password mode is discussed in Paragraph 4-14.

- **Download -** Clicking ***Download*** allows you to download firmware and/or software code updates to flash memory of many PESA devices. Refer to Paragraph 4.11 of this manual for a complete discussion and procedure of device upgrade capabilities through Cattrax Cub.

- **Diagnose -** Clicking the ***Diagnose*** option initiates Cattrax Cub's diagnostics file generation function. Refer to Paragraph 4.12 of this manual.

4.13.2 VIEW MENU

Control options contained in the *View* Menu, Figure 4-27, allow the user to configure the Cattrax Cub display.

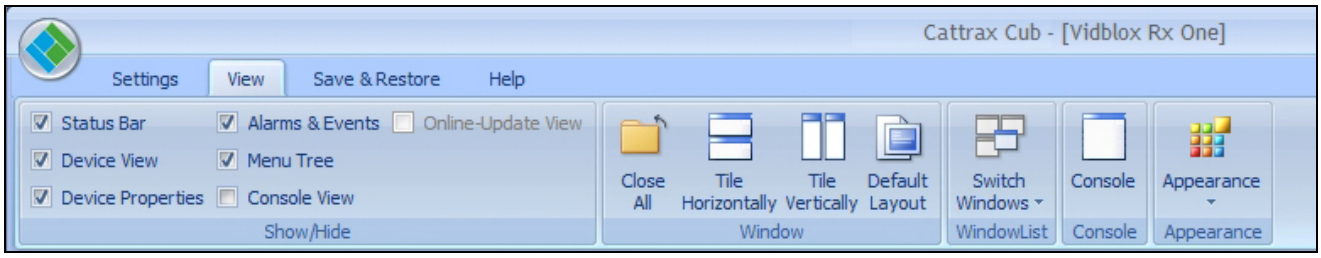


Figure 4-27 View Menu Controls

- **Show/Hide -** Disable or enable the corresponding display windows. **Online-Update View** is used only when a PESA Cheetah System Controller device is selected as active in the Devices View listing. When any other device type is selected, this menu entry is inactive, as shown in Figure 4-27, and cannot be selected. Operation of this option is discussed in the User Manual for the Cheetah System Controller.

- **Window** - Is a group of controls to select window layouts as follows:

  - **Tile Horizontally** and **Tile Vertically** - Control tiling of device menus within the display area

  - **Default Layout** - Restores layout of all display panels to default setting

  - **Close All** - Closes all the opened devices in the device menu display area

- **Switch Windows** - Provides a listing of devices with an open device tab. You may select an item from the list to open the menu screen for the indicated device. Any device with a device tab in the main display panel may be opened – whether it is the connected device or not. However, the displayed menu screens are only active if the device is currently connected to the USB port. If you select an entry for a device that is not connected to the host PC, you may display the menu screen for the device – but you can not make any changes to the menu settings.

- **Console** – Opens the console window for the connected device. Clicking this button performs the same action as selecting the Console View checkbox from the Show/Hide menu. Either button may be used to access the console window.

- **Appearance** gives you the option to change the overall display style from the current selection. The default selection is Blue. Options in this menu also allow changing the display orientation from right to left.

4.13.3 SAVE & RESTORE

Save & Restore allows the user to save the configuration of a connected device and initiate restoration of a saved configuration to a connected device. Refer to Paragraph 4.10.

4.13.4 HELP

The *Help* menu allows the user to open the Cattrax Cub User Manual, and also display the current version number of the Cattrax Cub software.

4.14 PASSWORD PROTECTED OPERATION

By default Cattrax Cub operates in non-password mode where all functions are accessible to all users. It is possible to configure Cattrax Cub to operate in password mode, which restricts Configuration menus in the menu tree to read-only mode unless a valid password is entered. Activate password mode as follows:

1. Open the *Settings* menu and click on the **Settings** entry to open the Global Settings box
2. Select **Password Mode** option as shown in Figure 4-28. The pop-up Warning box prompts you to confirm the mode change. Click **Yes** to activate password mode.

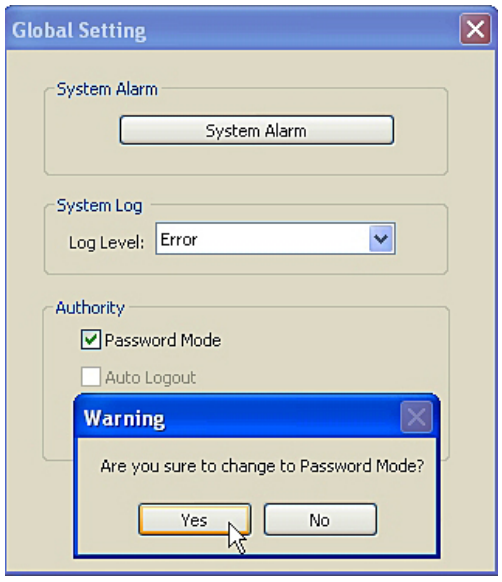


Figure 4-28 Password Mode Confirmation Box

3. When Password Mode is active, a password login prompt appears on the right edge of the main menu header as shown in Figure 4-29.

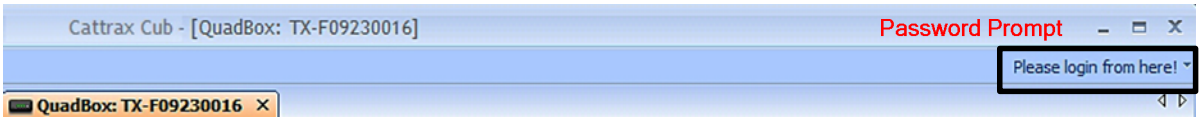


Figure 4-29 Password Prompt

4. In order to login to Cattrax Cub with password protection active, click on the password prompt and click again on the **Login** button as shown in Figure 4-30. Enter the Username ***"Engineering"*** (case sensitive) and Password ***9-9-9*** in the spaces provided on the **Login** dialog box as shown in Figure 4-31. Click **OK** to open full access to the application.

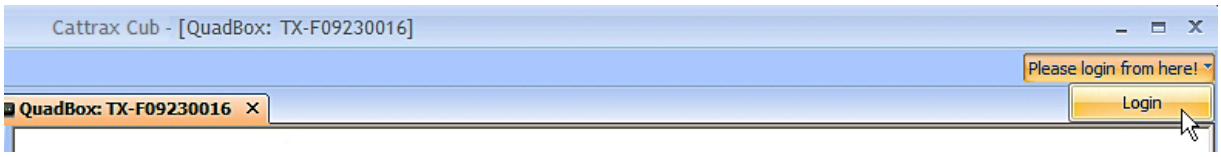


Figure 4-30 Password Login Button

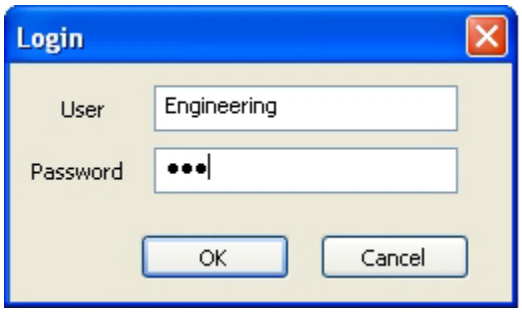


Figure 4-31 Password Dialog Box

When Cattrax Cub is operating in password mode, the message *"Welcome: Engineering"* appears in place of the login prompt on the menu bar header. In order to cancel password mode, you must be logged in as "Engineering." Open the **Settings** menu and unclick the **Password Mode** option.

Password mode allows you to select an Auto Logout, if desired. To activate this feature, click the **Auto Logout** box in the Authority panel. Auto logout after 5 minutes is the default value; however, you may enter any desired time out from 1 minute to 999 minutes.

If a user has not logged in as "Engineering" when password mode is active, the following restrictions are enforced:

- All controls in the Configuration menu(s) are grayed out, allowing the user to see current settings but not make any changes.
- The Save & Restore function is disabled to prevent unauthorized or unintended changes to the saved system configuration.
- The Save for Auto-Restore function is disabled to prevent unauthorized or unintended changes to the saved configuration for automatic restoration. The user is still allowed to enable or disable the auto-restoration mode.
- It is not possible to switch back to non-password mode
- It is not possible to use Auto-Logout setting, which controls the inactivity logout timer for "Engineering" user sessions.