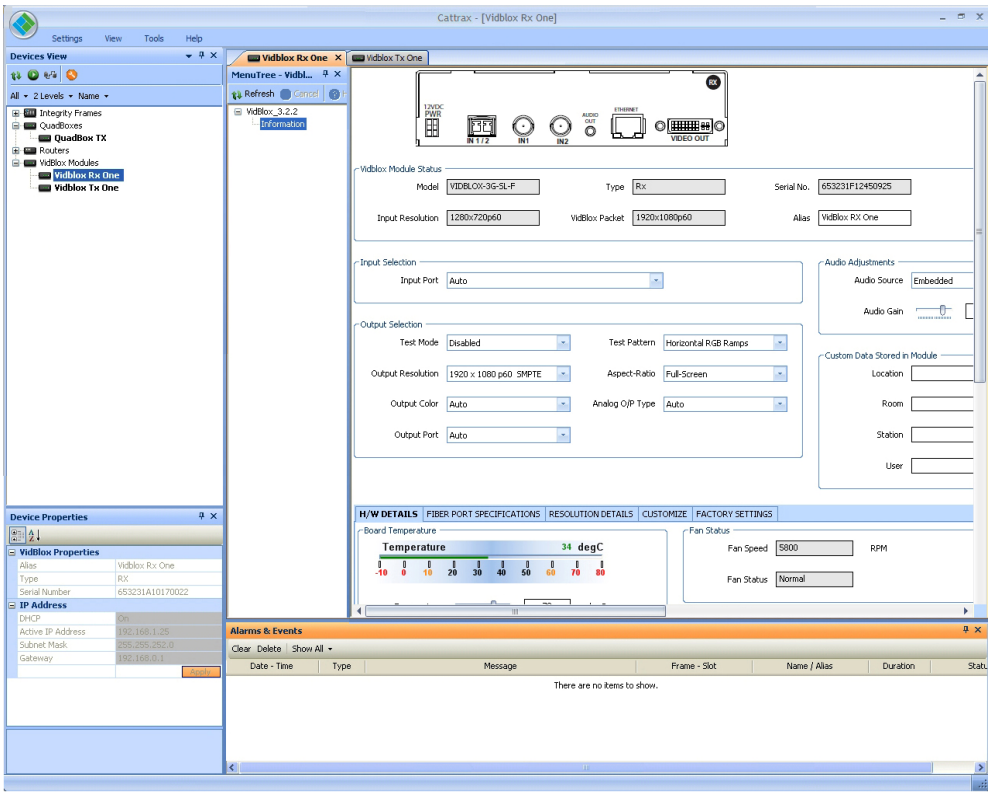
USER GUIDE

NETWORK CONTROL APPLICATION FOR THE WINDOWS® OPERATING SYSTEM



Publication: 81-9059-0677-0, Rev. G
March 2017

www.pesa.com
Phone: 256.726.9200

Thank You !! for purchasing your new Software Control Application from PESA. We appreciate your confidence in our products. PESA produces quality, state-of-the-art equipment designed to deliver our users the highest degree of performance, dependability and versatility available anywhere. We want you to know that if you ever have a concern or problem with a PESA product, we have a team of engineers, technicians and customer service professionals available 24/7/365 to help resolve the issue.

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.

SERVICE AND ORDERING ASSISTANCE
PESA
103 Quality Circle, Suite 210
Huntsville AL 35806 USA
www.PESA.com

MAIN OFFICE
Tel: 256.726.9200
Fax: 256.726.9271

SERVICE DEPARTMENT
Tel: 256.726.9222 (24/7)
Toll Free: 800.323.7372
Fax: 256.726.9268
Email: service@PESA.com

Printed in the United States of America.

March 2017 – Rev G

August 2016 – Rev F

August 2013 – Rev E

December 2012 – Rev D

January 2012 – Rev C

May 2011 – Rev B

July 2010 – Rev A

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

LIST OF FIGURES

LIST OF FIGURES (CONT.)

Chapter 1 About This Manual

1.1 Documentation and Safety Overview

This manual provides instructions for installation and operation of the Cattrax 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 in which they will be working. ***Under no circumstances should any person perform any procedure or sequence in this manual if the procedural sequence will directly conflict with local Safety Practices. Local Safety Practices shall remain as the sole determining factor for performing any procedure or sequence outlined in this document.***

1.2 Cautions and Notes

Cautions and Notes are addendum statements used in this guide that supply necessary information pertaining to the text or topic they address. Caution statements typically notify you of steps or procedures that could impede installation or operation; and/or cause damage to the equipment. Notes are additional statements that typically provide added information that can simplify and/or enhance the use or operating characteristics of the equipment. Examples of the graphic symbol used to identify each type of statement and the nature of the statement content are shown below:

	**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.**

	**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 is a software application, for use on a compatible host PC running the Microsoft Windows® XP, Windows 7, Windows 8.1 or Windows 10 operating system, to monitor and control a variety of PESA products. It allows users to configure, retrieve real-time information and monitor the operational status of controlled devices such as QFX Series modules (Vidblox, Quadbox), PESA routers, control panels and processing frames within the facility network.

Cattrax communicates with managed devices over an Ethernet network through the host PC and can also communicate with compatible PESA devices, one at a time, using a USB port of the host PC. Network and USB connectivity may be used simultaneously.

The versatile Cattrax software application greatly enhances system integration possibilities for any PESA installation. Virtually any PC within your local area network (LAN) becomes a feature rich control panel for your PESA devices. Users familiar with menu-driven and graphical user interface (GUI) based software control applications will feel right at home with Cattrax. Figure 2-1 illustrates a typical screen layout of the Cattrax application. We have used a PESA Vidblox device for example illustrations throughout this User Guide.

2.2 CATTRAX DOCUMENTATION

A wide variety of PESA products may be controlled through menus and display pages of the Cattrax application. Each product controlled by Cattrax, such as Vidblox, Quadbox, PERC System Controllers, etc. requires a unique set of operating controls and displays within the Cattrax platform for implementation of its specific configuration, control or monitoring requirements.

Due to the extreme diversity of the software application and specific requirements for each controlled device, a single User Guide covering all operations of the Cattrax product would not be practical, or user-friendly. For this reason, the Cattrax documentation suite consists of a generic User Guide (this document) that provides an introduction to Cattrax, procedures to install the application on a Windows based PC, and instructions pertinent to set-up and operation of the Cattrax software application.

This User Guide DOES NOT contain configuration, control or monitoring procedures for any of the PESA products or devices that can be controlled using the Cattrax application. Device-specific procedures for using Cattrax to control any compatible PESA product may be found in the User Guide or Technical Manual for the device or product.

A complete documentation suite for Cattrax would then consist of the latest revision of this User Guide and the User Guides for all PESA products or devices you are controlling with Cattrax.

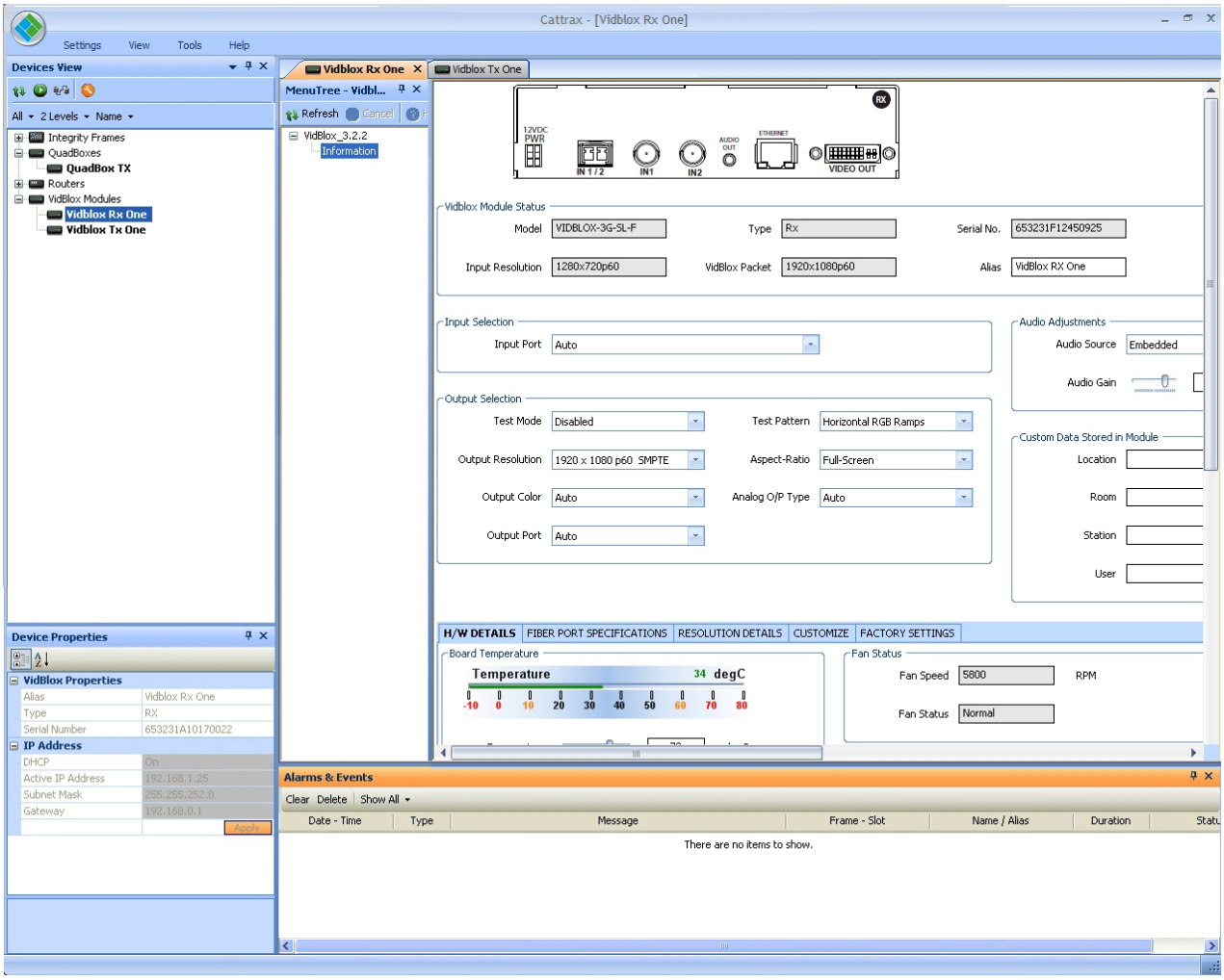


Figure 2-1 Cattrax Screen Layout

2.3 CATTRAX CONTROLLER FEATURES

- **Automatic Device Discovery and Display** - Automatically "discovers" PESA devices and control panels operating over the facility's internal network or connected through a USB port of the host PC and displays located devices in a hierarchical tree structure to provide a global view of the system. The entry for a device "discovered" through the USB port is displayed in the device tree with a USB icon overlay to differentiate it from network devices.
- **Alarm Monitoring** – Monitors alarms and events from the discovered devices, 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** – Uses a standard Windows® operating system tree structure for quick access to menus. Current configuration of multiple devices may be displayed simultaneously, reconfigured and controlled in real-time to optimize device functions.
- **Configuration Management** – Helps users manage the configuration of their system more quickly and effectively. It allows configuration of individual devices; or the entire system configuration may be saved to a file, and then restored by the user when needed. Cattrax also supports automatic device configuration restoration.
- **Remote Access over VPN** – Network parameters can be configured to allow use of Cattrax over a VPN link.
- **Automated Batch Firmware Update** – Allows you to update software or firmware code on multiple PESA devices of the same type simultaneously.

2.4 DOCKABLE WINDOW PANELS

Various window panels displayed by Cattrax, such as Alarms & Events, Menu Tree, etc, are dockable, and may be moved and re-docked to any position preferred by the user. As an example, Figure 2-2, shows the Alarms & Events panel moved to the top part of the screen from the bottom, and the Menu Tree moved from the left side to the right. Any time the software is closed, Cattrax 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 "Vidblox Rx One," as shown in Figure 2-2, all new cards or 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.

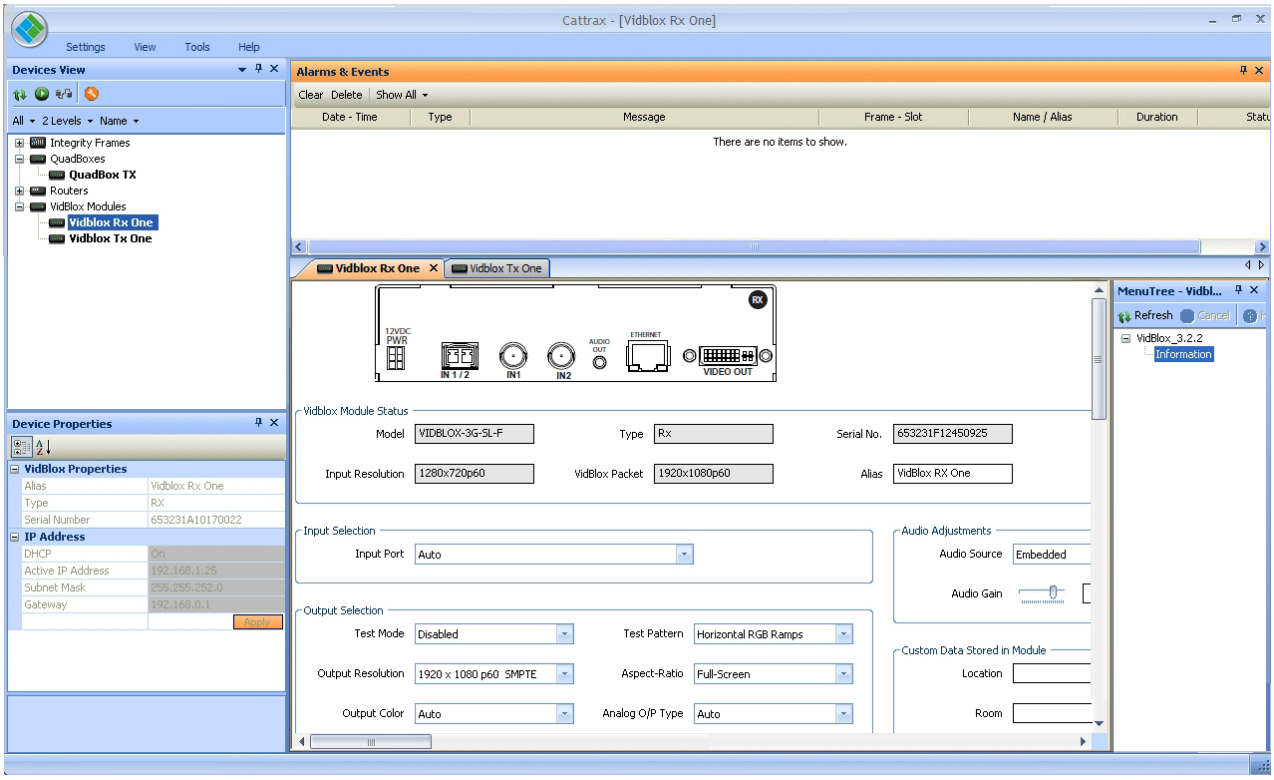


Figure 2-2 Cattrax with Reconfigured Window Positions

2.5 HARDWARE SYSTEM REQUIREMENTS

Cattrax requires a PC running the Microsoft Windows® XP, Windows 7, Windows 8.1 or Windows 10 operating system, with a minimum of 512 MB RAM. The entire application requires approximately 60 MB of disk space on a local drive.

Chapter 3 Installation

3.1 CATTRAX INSTALLATION

Cattrax is a graphical user interface (GUI) type software application for use on a standard PC running the Microsoft Windows® XP, Windows 7, Windows 8.1 or Windows 10 operating system. The PC must have a CD-ROM drive for installation of Cattrax and, in order to connect with PESA devices communicating over the facility network, must have wired or wireless access to the local area network (LAN). 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.

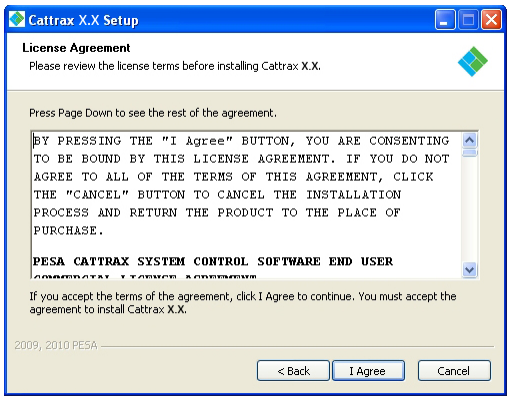
3.2 INSTALL CATTRAX PROGRAM AND DATA FILES (WINDOWS XP AND WINDOWS 7 SYSTEMS)

Your Cattrax 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. Notice the "X" used in place of actual values on each example screen presented here. During installation the release number of Cattrax software you are installing is displayed.

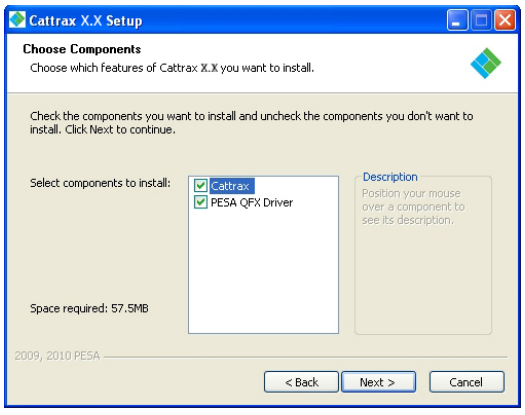
Install the Cattrax software application as follows:

1. Insert Cattrax CD into CD Drive of host PC.
2. Allow the disk to initiate the auto-run function. When initialization is complete, the banner, as shown at right, is displayed on the desktop. Click **Next** to begin installation of the Cattrax application.

3. If the auto-run function does not automatically launch, navigate to the directory of the disk drive containing the installation CD and double click the **Cattrax.exe** file. The banner shown at right should be displayed on the desktop. Click **Next** to begin installation.

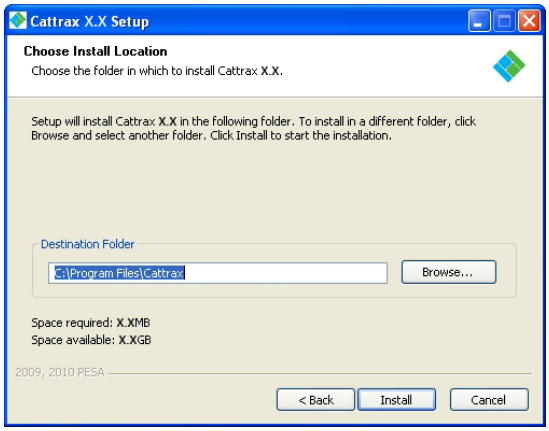


4. Read the license agreement and click **I Agree** to continue, as shown at left.

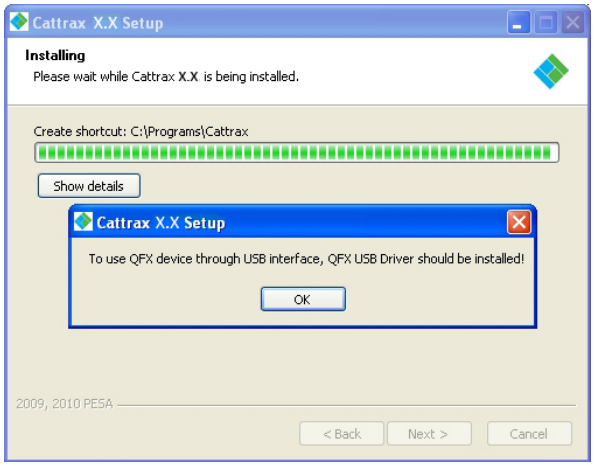


5. The Choose Components window allows you to select the software components you wish to install. During initial installation, the only option is to install the entire program. Ensure that the box next to "Cattrax" in the list box is checked.

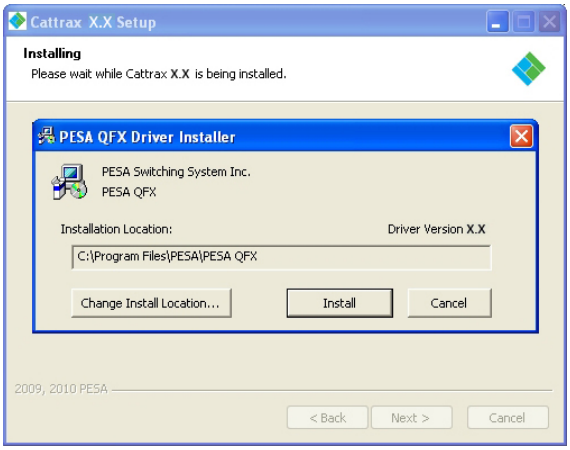
6. If you want to install the USB port driver, also check the "PESA QFX Driver" box
7. Click **Next** to continue installation.



8. By default auto-install creates the folder shown at left for the Cattrax application. If you wish to install the software in a directory or folder other than the default, click **Browse** and navigate to the destination. Click **Install** to continue installation.

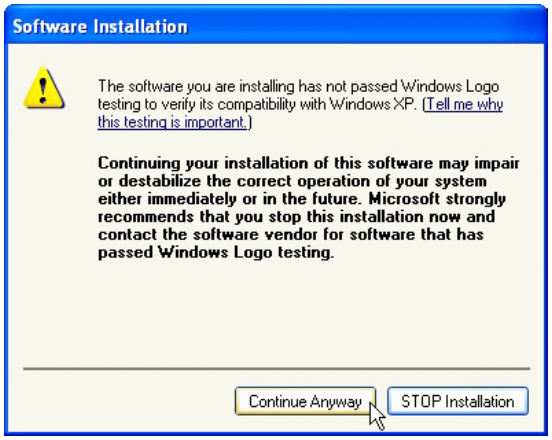


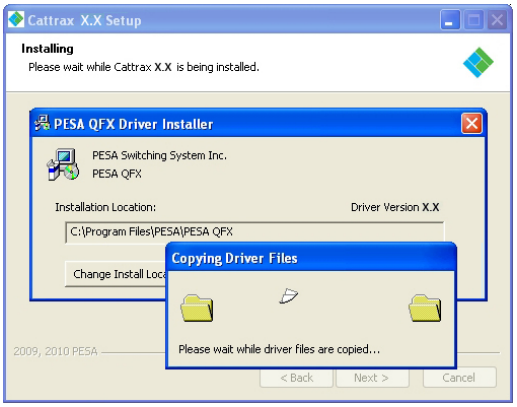
9. Once Cattrax is installed, you will receive the prompt to install the QFX USB driver. Click "OK" to install the driver. If the QFX USB driver is not present on the host PC, Cattrax will not be able to communicate with a connected device through the USB port.



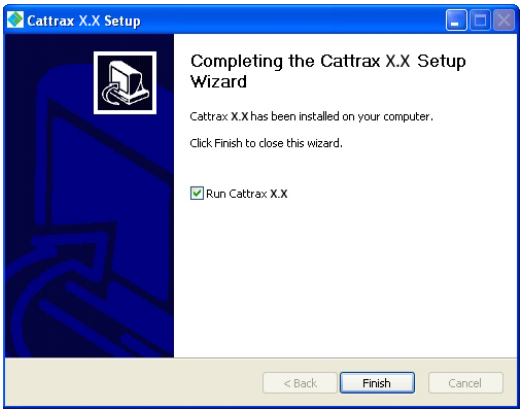
10. You may accept the default installation location, as shown at left, or browse to another folder in which you wish to install the QFX USB driver. When the destination folder is correct, click the Install button to proceed with driver installation.

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

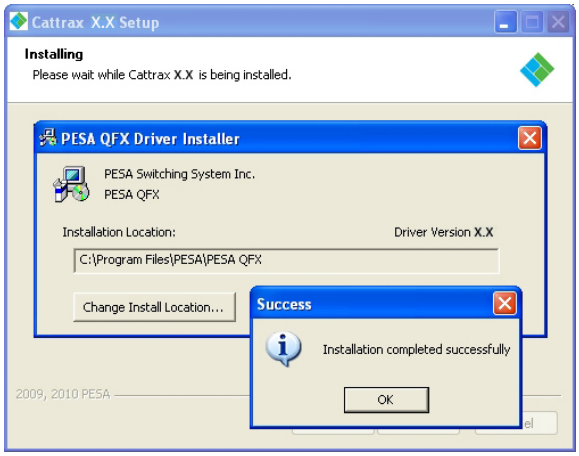




13. When driver installation is complete, you will receive a prompt indicating that the installation was successful, as shown at right. Click "OK" to continue to the "Installation Complete" prompt.



12. You will see the screen at left as installation continues.



14. Click **Finish** to exit the installation process. During installation a shortcut icon to launch Cattrax is automatically placed on the desktop. If the box next to "Run Cattrax Release X.X" is checked, the application will start immediately.

3.3 INSTALL CATTRAX PROGRAM AND DATA FILES (WINDOWS 8.1 AND WINDOWS 10 SYSTEMS)

The Cattrax application will install directly from the installation CD on Windows 8.1 and Windows 10 machines, however, the QFX driver that allows USB connection to a single, compatible PESA product will not. If you do not intend to use the USB port for control interface with a PESA device, it is not necessary that you install the QFX driver. The Cattrax application will discover and control devices on the facility network without the driver installed.

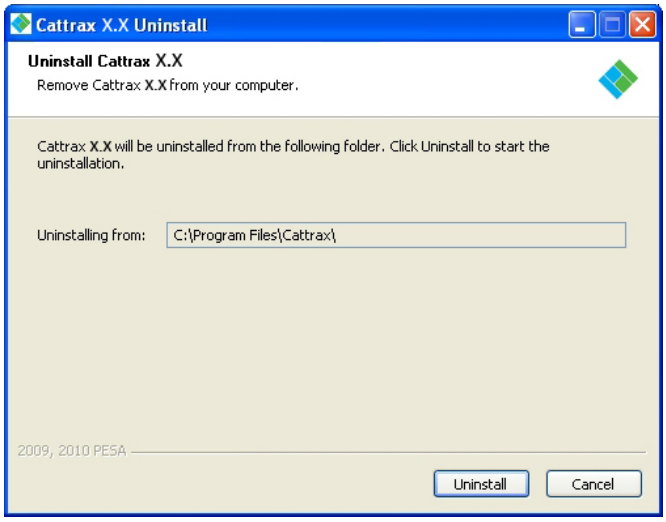
If you need to install the QFX driver to allow USB communication with Cattrax through Windows 8.1 or Windows 10, the following procedure must be performed **before** attempting to load the driver from the Cattrax installation disk. The following steps assume that this is an initial install and Cattrax is not currently loaded onto the host PC. However, if Cattrax is loaded and you simply want to add the QFX driver, it is not necessary to uninstall Cattrax prior to adding the QFX driver.

Install the PESA QFX driver as follows, with the exception of 3 and 4, the procedural steps are identical for either Windows 8.1 or Windows 10:

1. Click the Windows icon in the lower left corner of the Task bar
2. Select "Settings"
3. Click on "Change PC settings" (Windows 8.1 only), proceed to Step 4 (Windows 10)
4. Select "Update and Recovery" on Windows 8.1 machines, or "Update and Security" on Windows 10 machines
5. Select "Recovery"
6. Click "Restart Now"
7. When system restarts select "Troubleshoot"
8. Select "Advanced options"
9. Select "Startup Settings"
10. Click on "Restart". System will now reboot
11. Press 7 Disable driver signature enforcement
12. Login
13. Run the Cattrax setup program, refer to Paragraph 3.2
14. At the "Choose components" screen select both "Cattrax" and "PESA QFX Driver" for a full install, or check only the QFX driver option if Cattrax is already installed on the PC.
15. Take defaults at all prompts
16. At the Windows security prompt select "Install this driver software anyway"
17. Upon Cattrax setup completion uncheck "Run Cattrax x.x" and "Show Release Notes" and press Finish
18. Reboot machine and run as normal after restart.

3.4 REMOVING CATTRAX INSTALLATION

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



3.5 CONNECT PESA DEVICE TO HOST PC THROUGH USB PORT

If you wish to control a PESA device over a USB connection using Cattrax, 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.

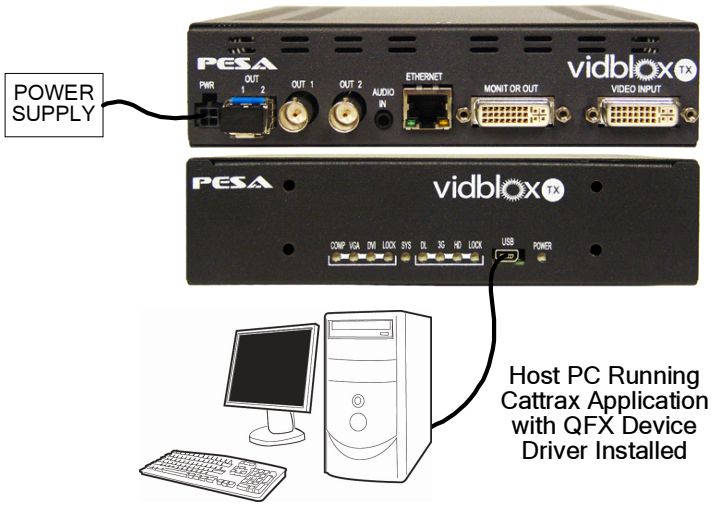
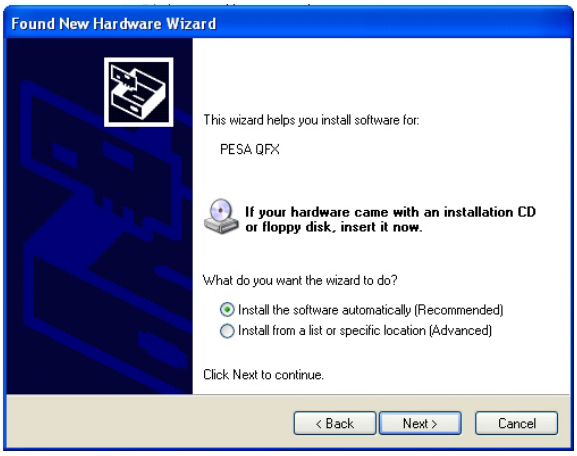


Figure 3-1 Connecting Vidblox Module to Host PC

1. Apply power to the device.
2. Connect the 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.

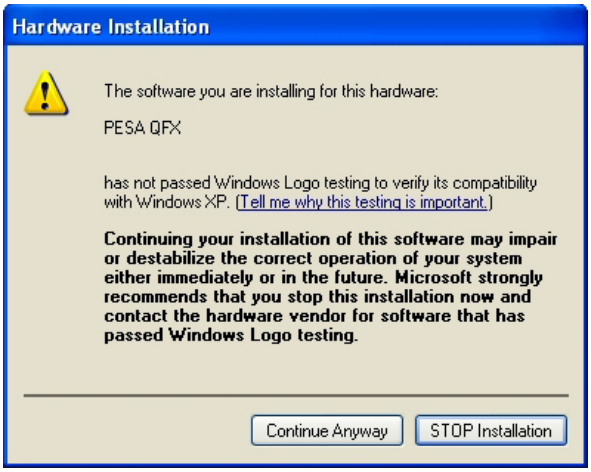
NOTE	**This window only appears if this is the first power-up after USB driver installation**

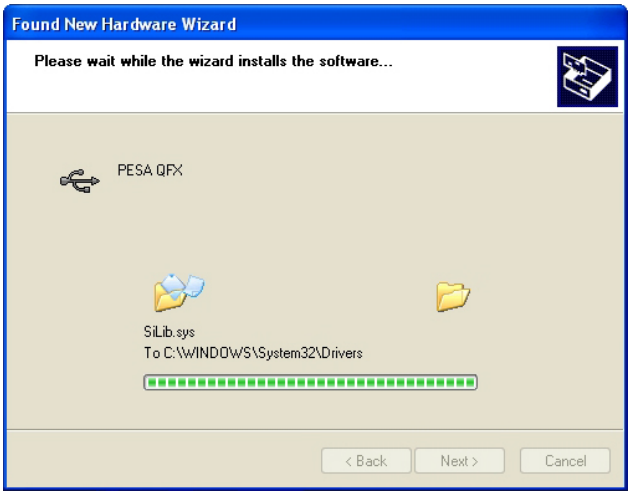
4. Select the "No, not this time" option button and then click Next to continue.



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.

3.6 Connecting Host PC to Managed Device Using Direct Ethernet Connection

Communication between the host PC running Cattrax and an external managed device is conducted over an Ethernet link. This link may be established directly between the host PC and a PESA device, such as a Vidblox module as shown in Figure 3-2; or each component of the managed system may communicate over the facility network.

It is permissible to run Cattrax from a PC already installed on the facility network; or it may be desirable, in certain installations, to have the host PC dedicated only to running Cattrax. When using a dedicated PC as a single control element, and a single controlled device, use a crossover CAT5E interconnecting cable, configured as shown in Figure 3-2. This illustration shows the rear panel of a Vidblox module as an example.

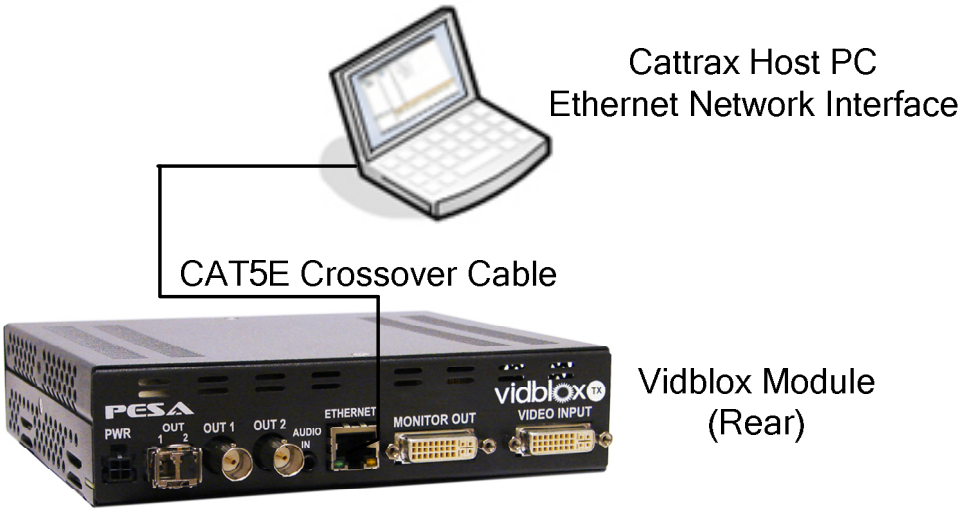


Figure 3-2 Direct Connection of Host PC to Managed Device

3.7 Networked Host PC and Chassis Frame

When multiple PESA devices are used together, an Ethernet switch is required and used with standard Ethernet patch cables. When using a switch, a **crossover cable should not be used**. Connect a port on the Ethernet switch to an Ethernet port on the host PC using an Ethernet patch cable. Connect a port on the Ethernet switch to the Ethernet port on each managed device in the system using an Ethernet patch cable. An example of a networked system with two host PCs is shown in Figure 3-3.

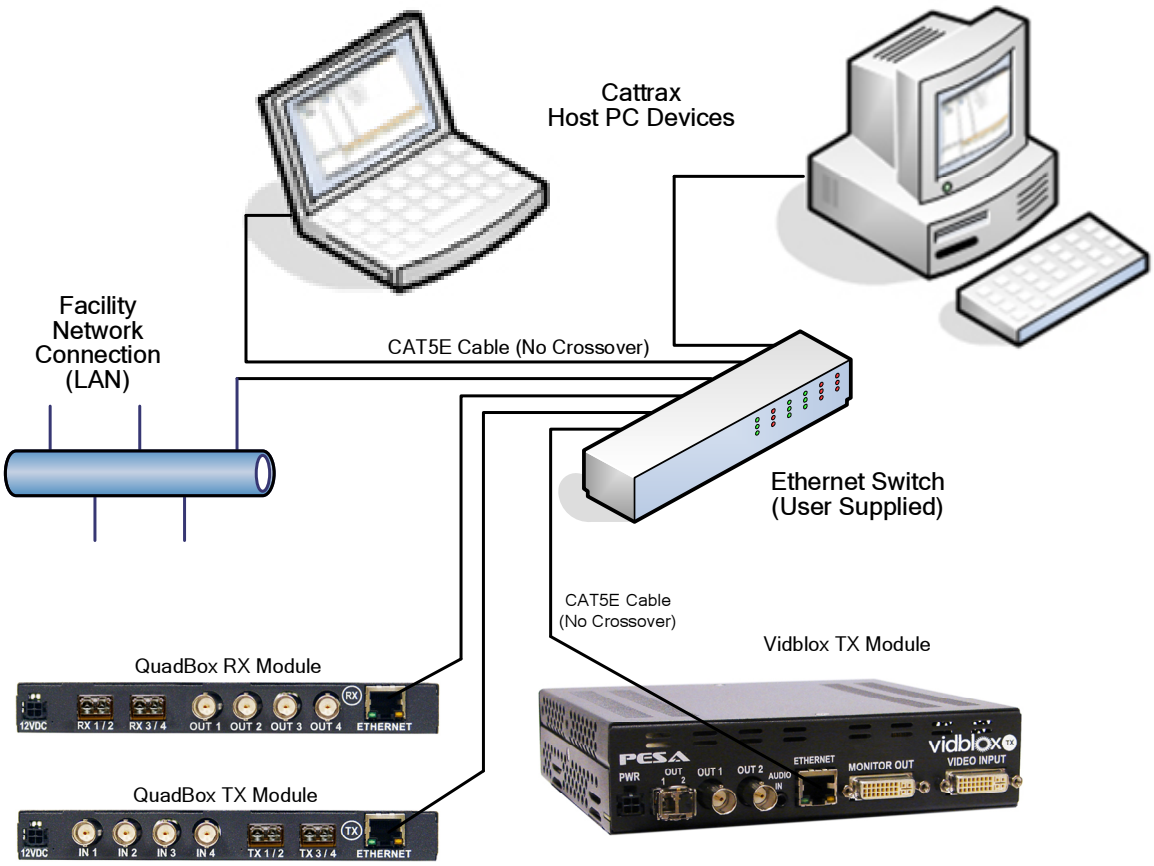


Figure 3-3 Connecting Multiple Host PCs and PESA Devices to a Local Area Network

Every host PC running Cattrax and every managed device must be assigned a unique network IP address. In many installations, you will need to consult your facility network administrator when adding hardware to the network or when the default IP address for any hardware must be changed.

Chapter 4 Operation

4.1 INTRODUCTION

With Cattrax running, the host PC appears as a component of PESA control hardware. As with many PESA devices, Cattrax communicates over a dedicated Ethernet link, or the facility LAN.

The first step in preparing Cattrax for operation is to configure all system components to communicate over the Ethernet network. This requires assigning and, if necessary, changing the IP address of system components.

When any Ethernet devices are connected to a network using an IP protocol, each device must have a unique IP address assigned. If your installation requires including PESA hardware devices into an existing facility LAN, you will need to consult your network administrator for the proper IP address to use for each device in the system.

4.2 NETWORK CONFIGURATION

In order for Cattrax to communicate with PESA equipment, the network interface device used by Cattrax must be actively connected to the subnet, or multiple subnets, containing equipment you wish to control. Figure 4-1 illustrates a typical single subnet network installation with the PC running Cattrax connected to an existing switch that connects control panels and devices.

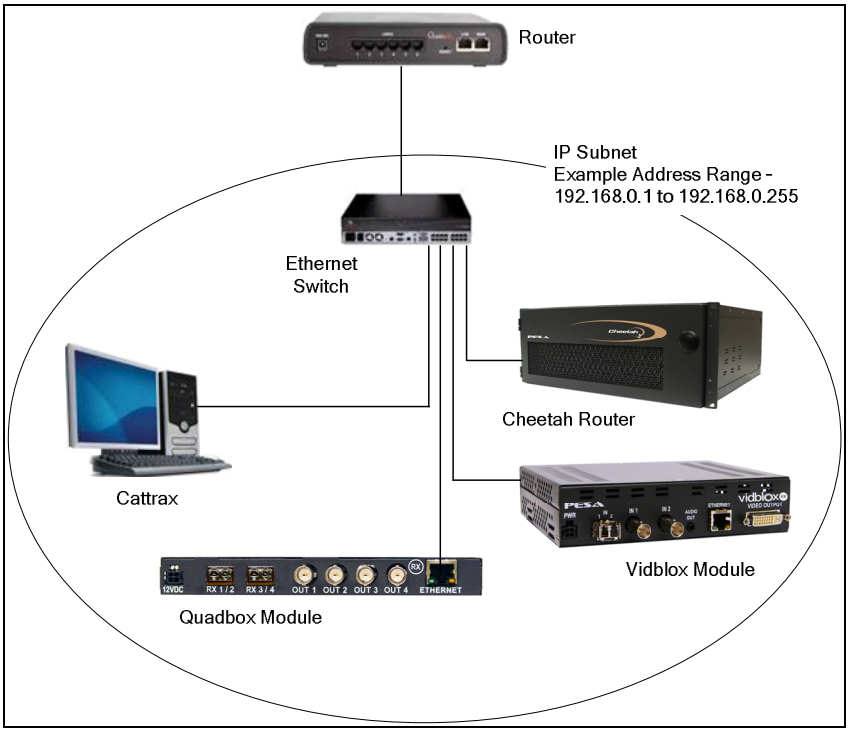


Figure 4-1 Cattrax Installation with Devices on Same Subnet

When communicating on a subnet containing PESA network controllable devices, Cattrax should immediately begin the discovery process of all devices configured for the same subnet. In some installations, PESA devices may reside on subnets different from one another within the network. Cattrax allows you to easily select both the network interface device it uses and the subnets on which it communicates. To view or modify current network communication parameters for Cattrax, click the *Network Settings* icon under the ***Setting*** menu in the Cattrax menu bar to open the Network Settings configuration menu as shown by Figure 4-2.

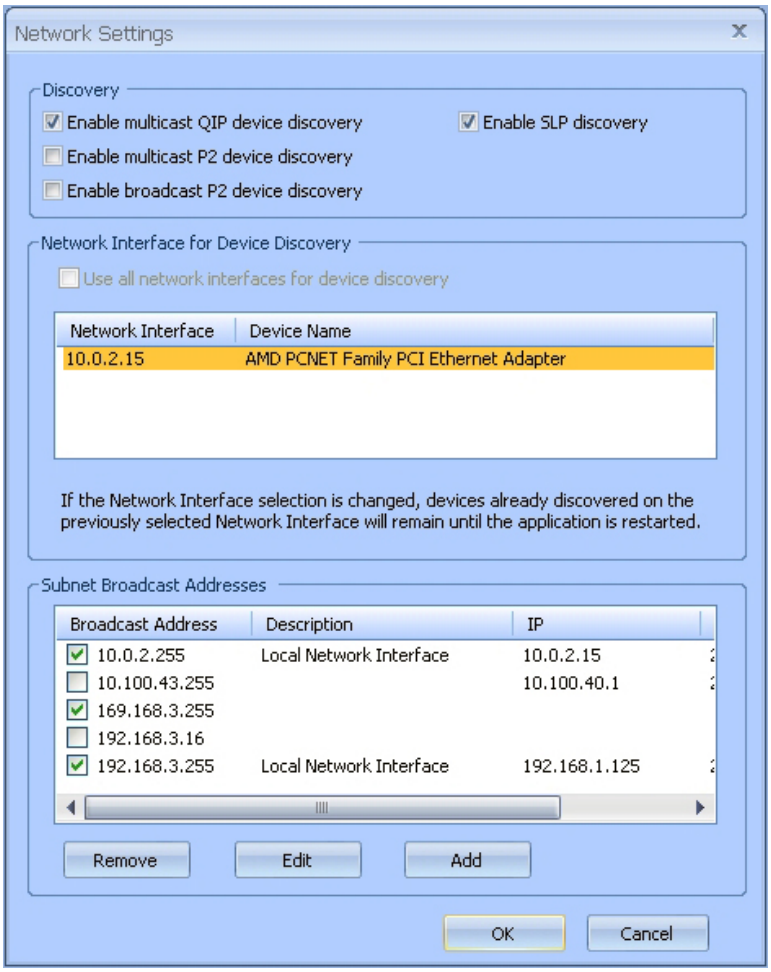
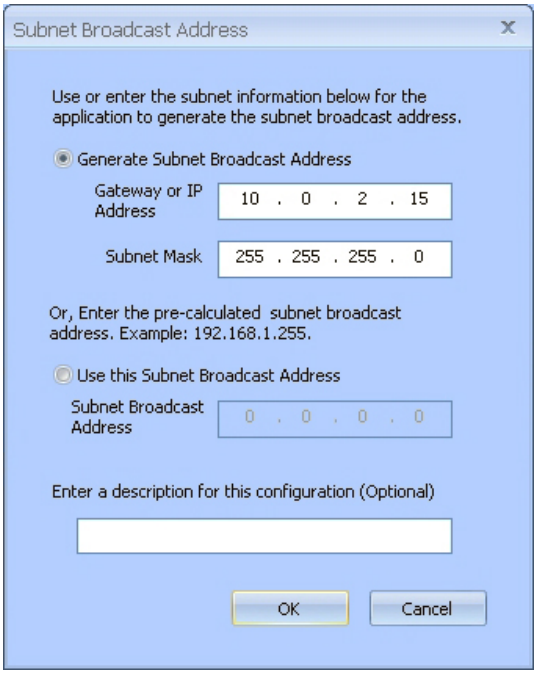


Figure 4-2 Network Settings Menu

The center area displays the network interface devices available to Cattrax by IP address and name. In many installations there will be only one entry in the window and by default this would be the device used by Cattrax. If there are multiple entries, as would be the case, for example, if the host PC contains both an Ethernet NIC and a wireless adapter, the device Cattrax is currently communicating through is shown highlighted. You may select the network interface device you wish Cattrax to use by double-clicking the entry in the listing. If you would like Cattrax to communicate over all of the listed network interface devices, place a checkmark in the box above the list. This option is only active if more than one device is listed. Be sure that the network interface device you select is communicating over the subnet(s) containing all PESA devices you wish to control.

Subnets currently available to Cattrax are listed in the lower area of the dialog box under the *Subnet Broadcast Addresses* column, Figure 4-2. A check in the box beside an entry indicates that Cattrax is actively communicating over that subnet and will automatically discover PESA devices on the subnet. If you wish to prevent Cattrax from communicating over a specific subnet, click the checkbox to remove the check. If you need to add additional subnets or modify address parameters of currently available subnets use the buttons beneath the display window as follows:

- **Add** – allows you to add subnets to the list of those available. Clicking the Add button opens the screen shown here.



  Enter the IP Address and Subnet Mask parameters for the subnet address you wish to add; or use the pre-calculated subnet broadcast address. You may use the text box at the bottom of the pop-up to enter a description of the subnet. Click **OK** to enter the settings. The new entry is added to the listing and the checkbox will be checked to activate the new subnet.

- **Edit** – allows you to modify address parameters of any entry in the listing. Highlight the entry you wish to modify and click the Edit button. The Subnet menu is displayed with current parameters for the entry listed. Make any changes you wish and enter OK to commit the changes.
- **Remove** – allows you to remove any subnet from the listing. Highlight the entry you wish to delete and click the Remove button. The entry is immediately removed from the listing.

When you have the network parameters properly configured, click the **OK** button to select the new configuration and exit the dialog box, or click **Cancel** to exit the box without making changes.

4.3 Enhanced Device Discovery Options

PESA network controllable devices incorporate one of two proprietary application layer protocols for communication with Cattrax over a network, these are called QIP and P2.

QIP protocol is used by devices in the PESA QFX family, such as Quadbox and Vidblox products; P2 is used by some system controller applications, such as PERC1500 and the R3232 internal controller.

When any PESA network compatible device is present on the same LAN subnet as the host PC running Cattrax, the device is discovered and listed in the Devices View tree. When devices are present on the LAN but configured with a different subnet than the host PC, it is necessary to select one or more of the Enhanced Device Discovery options to locate and discover these devices.

Four checkboxes in the upper area of the Network Settings dialog box enable or disable the Enhanced Device Discovery modes. To view or modify status of currently selected enhanced discovery options, click the *Network Settings* icon under the ***Setting*** menu in the Cattrax menu bar to open the Network Settings configuration page as shown by Figure 4-2.

Each enhanced discovery option is discussed in the following paragraphs.

4.3.1 ENABLE MULTICAST QIP DEVICE DISCOVERY

PESA QIP protocol devices connect to Cattrax using the UDP network protocol.

To reduce network traffic, Cattrax does not normally look outside of its own subnet for PESA devices. When the *Enable multicast QIP device discovery* option is selected, Cattrax issues a UDP multicast message over the LAN and lists any QIP devices that respond as an inactive (gray) entry in the Devices View tree.

In order for Cattrax to control the discovered device, its current IP network parameters must be changed to allow it to communicate on the same subnet as the host PC. This may be done directly from Cattrax as follows:

- Ensure that the Device Display Selector is set to *All*, see Paragraph 4.8.
- Double click the grayed entry of the device in the Devices View tree.
- Current network communication parameters are listed in the Device Properties box.
- Change the network parameters of the device to values that allow it to communicate on the same subnet as the host PC. Click in the cell for the value you wish to change, enter the new value, and click the Apply button.
- Cattrax will communicate the new address data to the device using UDP multicast and initiate the address change.
- Once the device is communicating with Cattrax on the same subnet, the Devices View tree entry becomes active (bold) and may be selected for Cattrax control.

You may select this option to search for QIP devices at any time. Once devices are found and listed, it is not necessary to keep the option active.

In order to reduce network traffic, if you are not running multiple subnets, or know that there are no devices on another subnet you wish to discover with Cattrax, this option should not be selected.

A check in the box indicates the multicast QIP discovery option is enabled. Click in the box to remove the check, and disable this discovery option.

4.3.2 ENHANCED P2 DEVICE DISCOVERY

PESA P2 protocol devices connect to Cattrax using the TCP network protocol. TCP communication requires that devices be on the same or an overlapping subnet for communication. There are two options for discovering P2 devices located on a different subnet from the Cattrax host PC. The current network address of the P2 device determines which of the enhanced discovery options is required to locate it and establish communication with Cattrax.

4.3.3 ENABLE MULTICAST P2 DEVICE DISCOVERY

This discovery option locates multicast compatible P2 devices that are not on the same subnet or an overlapping subnet. When the *Enable multicast P2 device discovery* option is enabled, Cattrax issues a UDP multicast message requesting all P2 devices on the LAN that are compatible with P2 multicast to respond with their current IP address. Firmware in multicast compatible P2 devices allow them to receive and respond to this UDP message from Cattrax, even though there can be no control communication established between devices using the UDP protocol.

When Cattrax receives a UDP response from a P2 device, it notifies the user using a pop-up dialog box that a P2 device has been located, but in order to control the device, its IP address must be changed to be on the same subnet as the Cattrax host PC.

From the pop-up box, the user may enter a new, compatible IP address for the P2 device. This new address is sent to that device over UDP and the device changes its IP address to the new address. Once the address change is effective, Cattrax will discover the device by TCP protocol and list it as a controllable device in the Devices View tree.

This option is particularly useful to search for new P2 devices, or for devices whose currently set IP address is unknown, that have been installed on the network but do not appear in the Cattrax Devices View tree. Once the network address of the P2 device has been changed, and the device discovered, it is not necessary to keep the multicast P2 discovery option enabled.

4.3.4 ENABLE BROADCAST P2 DEVICE DISCOVERY

The second P2 discovery option locates devices that are in overlapping subnets, such that TCP communication is still possible, but Cattrax will not directly discover the device through its discovery process. This can occur if the subnet mask of the device does not allow it to receive a discovery broadcast message from Cattrax, but its IP address is in the range of addresses for the subnet configured for Cattrax.

To reduce network traffic, Cattrax does not normally issue a network wide broadcast message looking for PESA devices. When the *Enable broadcast P2 device discovery* option is selected, Cattrax issues a TCP broadcast message over the LAN and connects to any P2 devices that respond with an IP address that falls within Cattrax' subnet. Discovered P2 devices are listed in the Device View tree and can be selected for Cattrax control just as any other device in the listing.

You may select this option to search for P2 devices at any time. Once a device is found, it is not necessary to keep the option active to retain communication with the device.

In order to reduce network traffic, if you are not running multiple subnets, or know that there are no devices on an overlapping subnet you wish to discover with Cattrax, this option should not be selected.

A check in the box indicates the broadcast P2 discovery option is enabled. Click in the box to remove the check, and disable this discovery option.

When you have enabled or disabled the enhanced discovery options as desired, click the **OK** button to accept the new selections and exit the dialog box, or click **Cancel** to exit the box without making changes.

4.3.5 ENABLE SLP DEVICE DISCOVERY

The SLP device discovery option locates openGear devices and other SLP compatible devices. This box must be checked in order for Cattrax to discover and establish communication with PESA's openGear compatible devices such as the C22-OG, Vidblox HTR-OG, an openGear frame internal frame controller, or the Cobalt openGear or stand-alone multiviewer devices.

4.4 GET ACQUAINTED WITH CATTRAX

Double click on the desktop shortcut icon to start the Cattrax application.

A typical screen display of Cattrax is shown in Figure 4-3. Note that the display is composed of a number of individual "panels" each of which displays various menus or operational data. Figure 4-3 illustrates a typical display set-up; however, Cattrax provides tools that allow you 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 screen placement. Each display panel is briefly introduced in the following text.

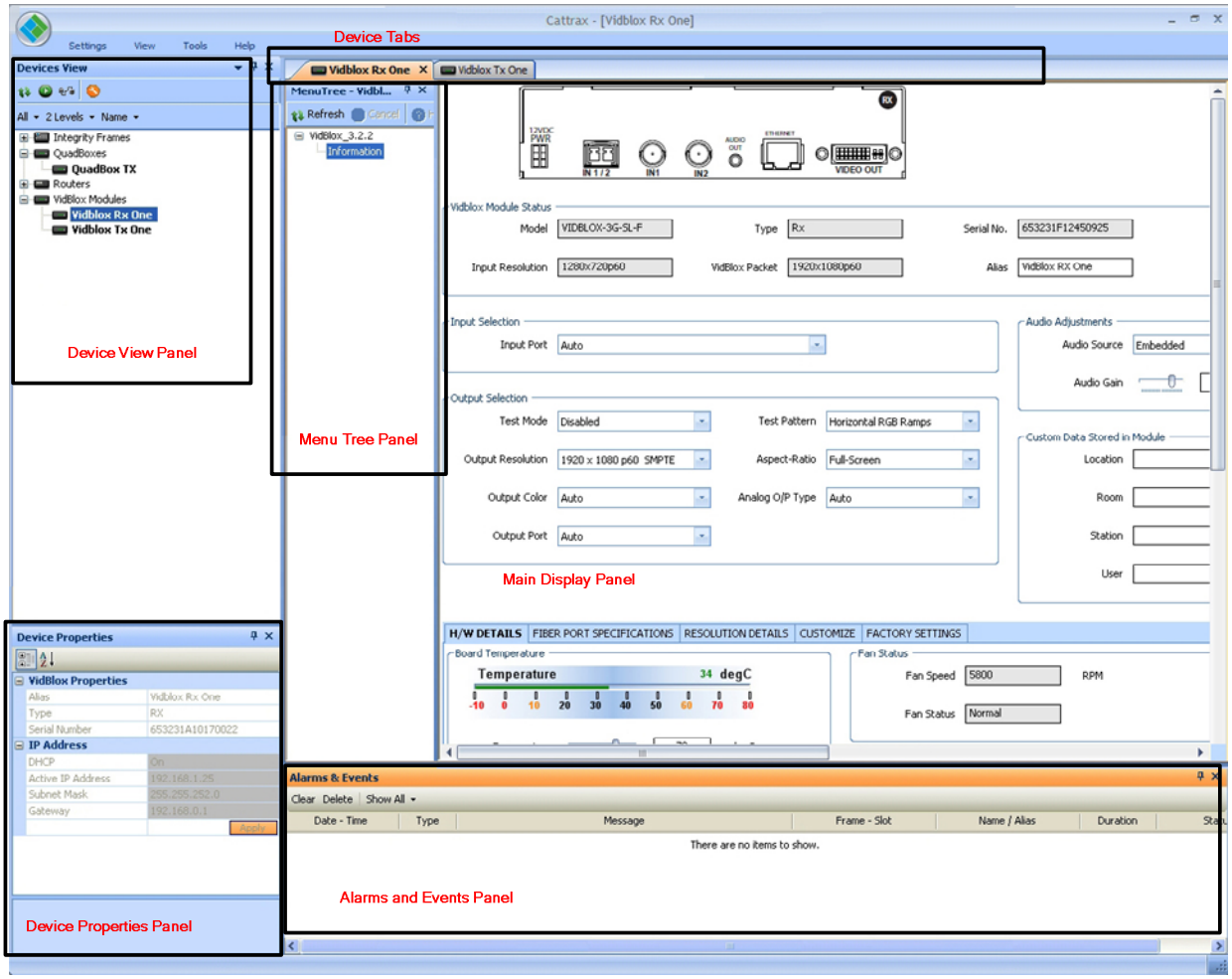


Figure 4-3 Cattrax Panel Layout

DEVICES VIEW PANEL

The **Devices View** panel contains a display of PESA devices "discovered" on the network, or any single device connected through the USB port of the host PC. Devices are grouped by device type, and may be sorted by IP address, device name, or both. The entry for a device connected through the USB port is displayed in the tree with a USB icon overlay to differentiate it from network devices. This listing is also used to select the device to be controlled by Cattrax.

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 boxes containing plus and minus signs in the listing, exactly as in a typical Windows® operating system based application.

MAIN DISPLAY PANEL

Operational characteristics, configuration, or controls 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.

DEVICE TABS

When a device from the Devices View panel is selected (by double clicking entry in device listing), a **Device Tab** is automatically displayed for it above the main display panel area. When a tab is displayed for a particular device, you may immediately select the device by simply clicking on the tab. The Menu Tree display changes to reflect the new device selection.

DEVICE PROPERTIES PANEL

Operational characteristics for the device selected in the Devices View panel are displayed in this panel. Properties such as IP address of the device and other data related to selected device are displayed.

ALARMS AND EVENTS PANEL

Cattrax monitors status of all **active** devices listed in the Devices View panel. Alarm conditions and other event flags are displayed in real-time. When an alarm condition occurs, a prompt identifying the condition appears in the listing and, if the notification function is selected, a flashing icon appears on the Devices View panel.

4.5 BOARD DEFINITION FILES

NOTE	**The information in this paragraph is provided in order to better acquaint you with the Cattrax 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 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 to control an external device such as a PESA router, QFX Series module, or signal processing card, the correct Board Definition File (BDX) for the device must be present in the **BDXFiles** folder under the Cattrax directory, as shown in Figure 4-4.

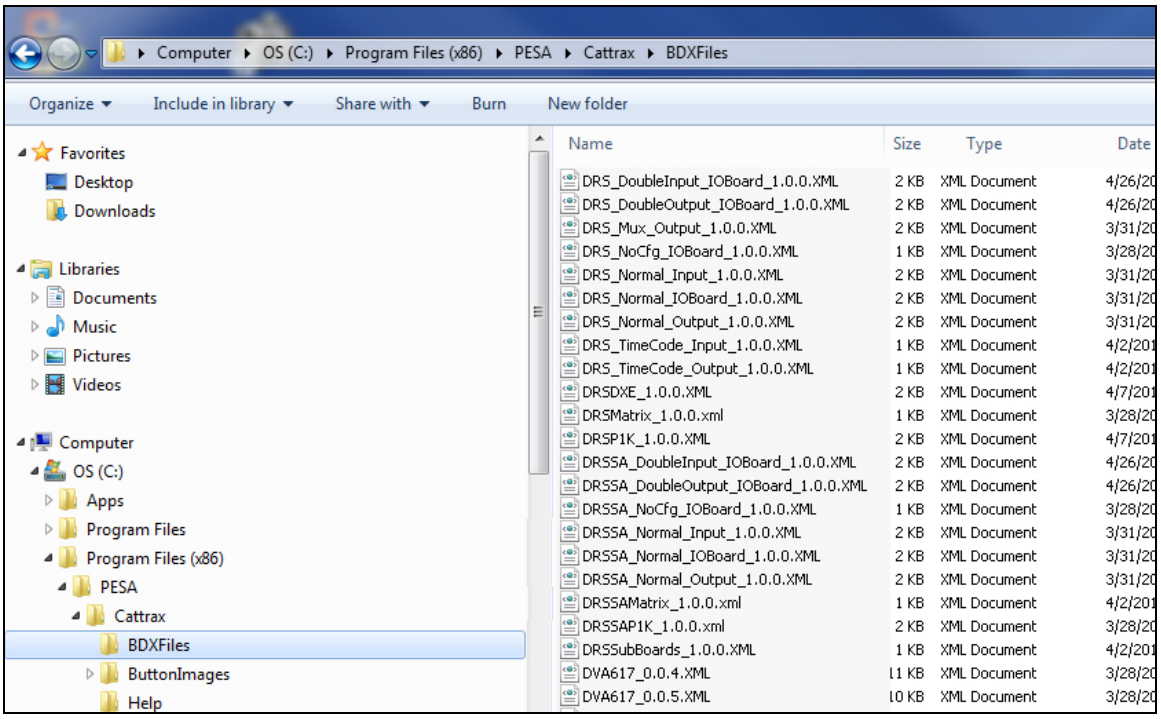


Figure 4-4 Directory Showing Location of BDX Files (shown on Windows 7 OS)

Each BDX file name is in two parts – a brief identifier of the device name and the version number of the software code loaded into flash memory of the device supported by the BDX file. For example, in order to control a DRS DXE frame loaded with software version 1.0.0.0 requires that BDX file DRSDXE_1.0.0.XML be present in the BDXFiles folder. Note that only the first three digits of the software version number are relevant. New BDX files are released as required to support device software revisions or updates, and are available from PESA Customer Service. The BDX file directory may store multiple BDX files to support devices of the same type that may be running with different software revisions; an example of this is shown in Figure 4-4 with multiple BDX listings for DVA617 signal processing cards with different software versions. Cattrax will automatically locate and use the correct BDX file for the selected device.

All PESA BDX files end with the .XML extension.

4.6 INITIALIZATION

When Cattrax is started, the software executes a discovery process as part of initialization to locate PESA devices on the network, or any single PESA device attached to the USB port, available for control. When the process is complete, discovered frames, devices and cards are displayed as a tree listing in the Devices View panel. You can expand the tree nodes to show all frames and panels discovered by Cattrax, as shown by Figure 4-5.

NOTE	**PESA Remote Control Panels, such as the RCP503, must have the correct software version installed in order to be discovered by Cattrax.**

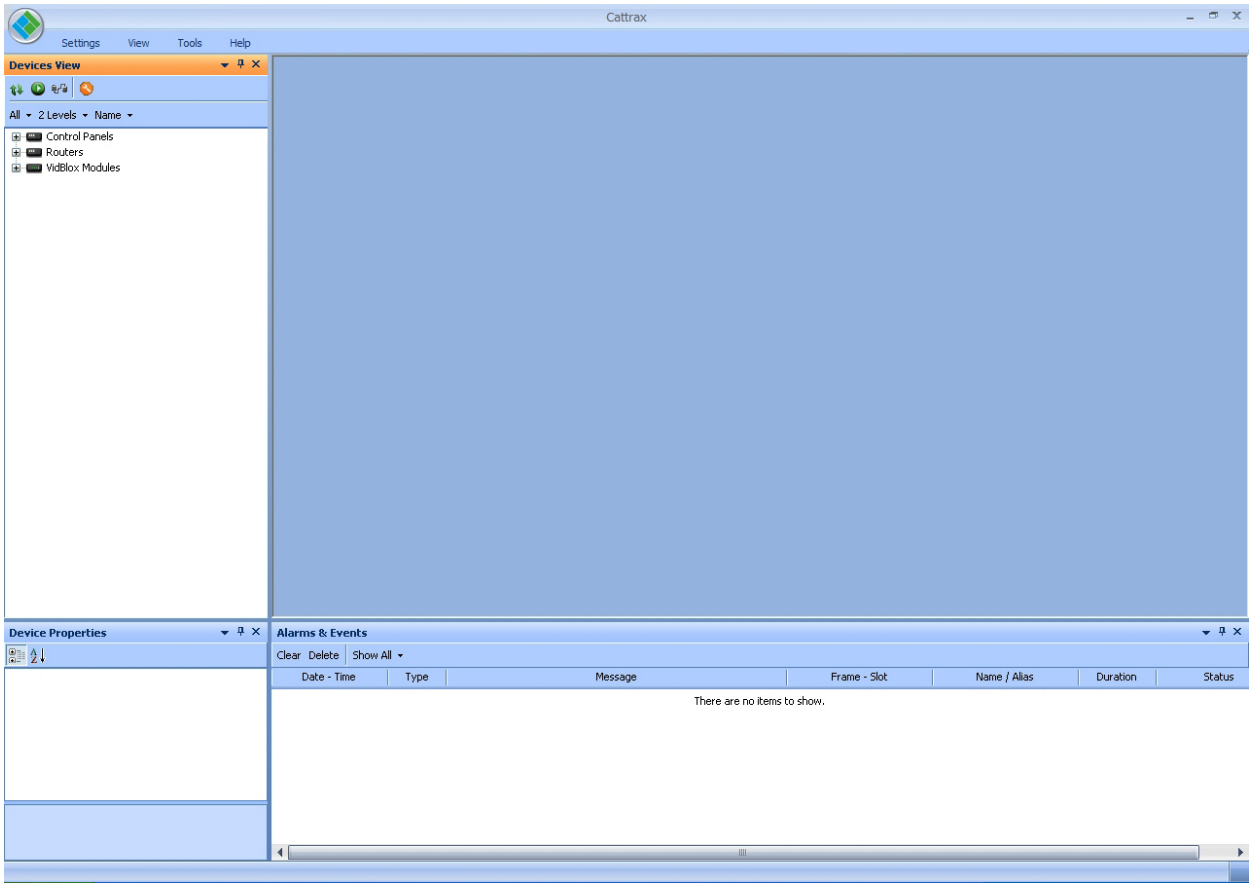


Figure 4-5 Example of Device Tree on Initial Startup.

The device tree shows both active and inactive devices, with active devices shown in bold. Inactive devices are devices that do not respond to a ping request from Cattrax after discovery. It is possible to delete inactive devices from the device tree using the right-click menu when the device is selected.

If Cattrax discovers more than one device with the same IP address, it shows all devices with that address as inactive. You can change the IP address of devices affected from the Device Properties panel to resolve the conflict. IP address conflicts are also displayed by an entry in the Alarms and Events panel. Once a conflict is resolved, click the **Refresh** button in the Devices View menu header to rediscover the devices. If a discovered device has an IP address with a network address different from Cattrax, it also shows that device as inactive.

Devices with major alarms reported in the Alarms and Events panel are shown in red.

4.7 CHANGING DEVICE IP ADDRESS

Cattrax allows users to change an IP address of both active and inactive devices from the Device Properties panel shown below in Figure 4-6. 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 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 Device Properties panel and click **Apply**.

Figure 4-6 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** **Specific PESA devices, such as Vidblox modules, may have other IP configuration methods in addition to using the Device Properties menu. If you have such devices in your system, the alternate network configuration methods are presented and discussed in the User Manual for the particular device.**

4.8 CONTROLLING DEVICE TREE DISPLAY

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

Clicking an icon shown in Figure 4-7 initiates the following action:

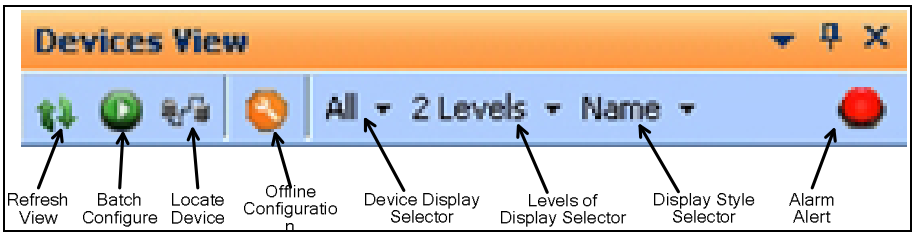


Figure 4-7 Devices View Controls

- **Refresh View** – Restarts discovery of network devices and updates the device tree.
- **Batch Configure** – Puts multiple devices of the same type in Batch Configuration mode, refer to Paragraph 4.16.
- **Locate Device** – Locates and highlights in the Devices View listing the device currently selected by the active Device Tab.
- **Offline Configuration** – Allows you to create or modify configuration files for PESA system controller devices without Cattrax having to be attached to the device.
- **Device Display Selector** - Is a drop-down menu that allows you to select whether the display lists only active devices, or both active and inactive devices.
- **Levels of Display Selector** – Opens a drop-down menu with options for 1 Level or 2 Level display. When 1 level display is chosen, discovered devices are listed in the Devices View listing in alphanumeric order under each equipment category header. Selecting 2 Level display adds a second header under each equipment category header to further sort discovered devices by equipment type within a specific category.
- **Display Style Selector –** Is a drop-down menu that allows you to select how devices are displayed in the device tree - by their name, by their IP address, both name and IP address or by device type. Selection of the same option, for example By IP, changes the display order from ascending to descending or vice-versa.
- **Alarm Alert** – Is a flashing display to indicate presence of an active alarm alert in the Alarms and Events panel. This visual alert function may be disabled, if desired.

4.9 DEVICE MENU DISPLAY

To display the configuration menu of a device listed in the device tree, double-click on the device name in the Devices View panel. Cattrax displays a menu tree of the device selected in the Menu Tree panel, and displays content of the first menu in the Main Display panel, as shown in Figure 4-8.

A device menu may also be opened from the Alarms and Events panel by double-clicking the entry for any device reporting an alarm condition.

NOTE	**A device must be active in order to be opened.**

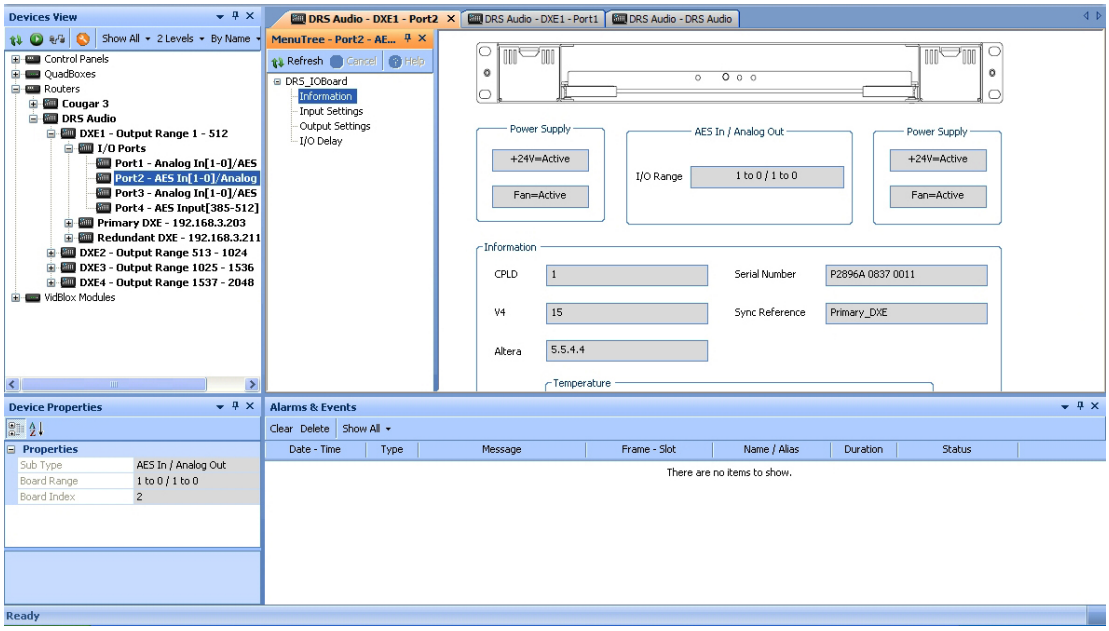


Figure 4-8 Display Of Device Opened In Device Menu Window

Menus and sub-menus are contained in the Menu Tree panel for a selected device. Double clicking on the menu expands it to show menus and sub-menus under it. Single clicking on a menu heading in the tree displays device parameters associated with the selected menu, and 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 are specific to the selected device, refer to Figure 4-9.

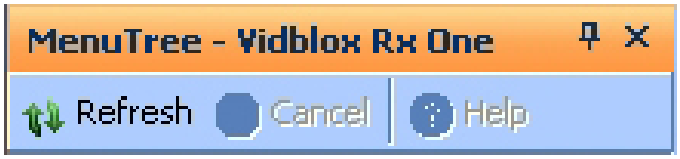


Figure 4-9 Menu Tree Header Content

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

Additional header entries may be displayed for specific controlled devices. These entries are discussed in the User Guide for the specific device.

4.10 CONFIGURATION AND CONTROL

When control pages appear in the main display panel, use the various controls, sliders, radio-buttons, etc. to change parameter values. Figure 4-10 is an example screen showing various types of controls you may see on a typical Cattrax menu page.

Tips:

To achieve finer changes to parameter values when using a slider control, point the mouse to the slider on the slider bar, and then use the mouse scroll wheel.

To reset individual controls right-click on the control and select **Reset**.

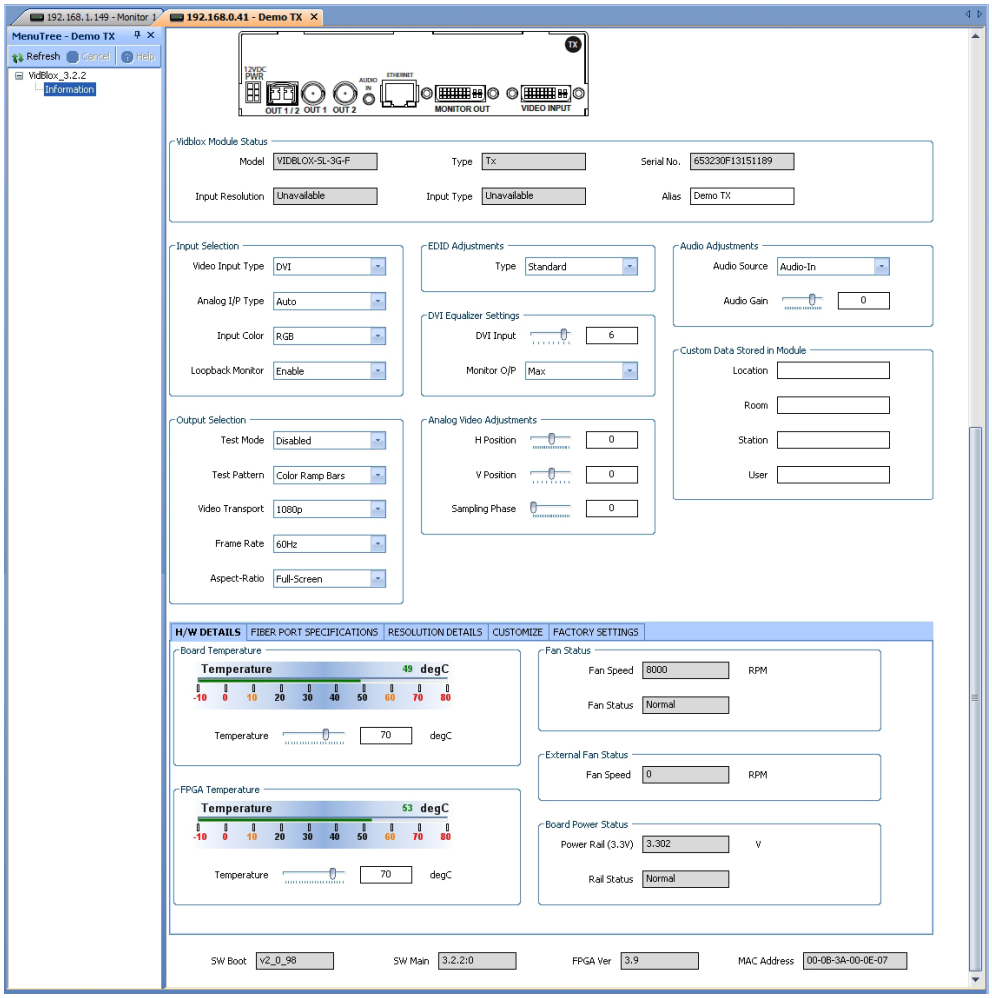


Figure 4-10 Example Control Display Screen

4.11 TILE DISPLAY OF MENUS

To facilitate faster configuration of devices, Cattrax allows simultaneous display of up to four menus in tile mode as shown in Figure 4-11. To display in tile mode, open up to four selected devices and select either *Tile Horizontally* or *Tile Vertically* from the ***View*** menu in the main menu bar. If menus for more than four devices are already open, close tabs of devices not required for tiling then select the tile display mode. Maximize any tile, or open another device from the device tree, to return to tabbed display.

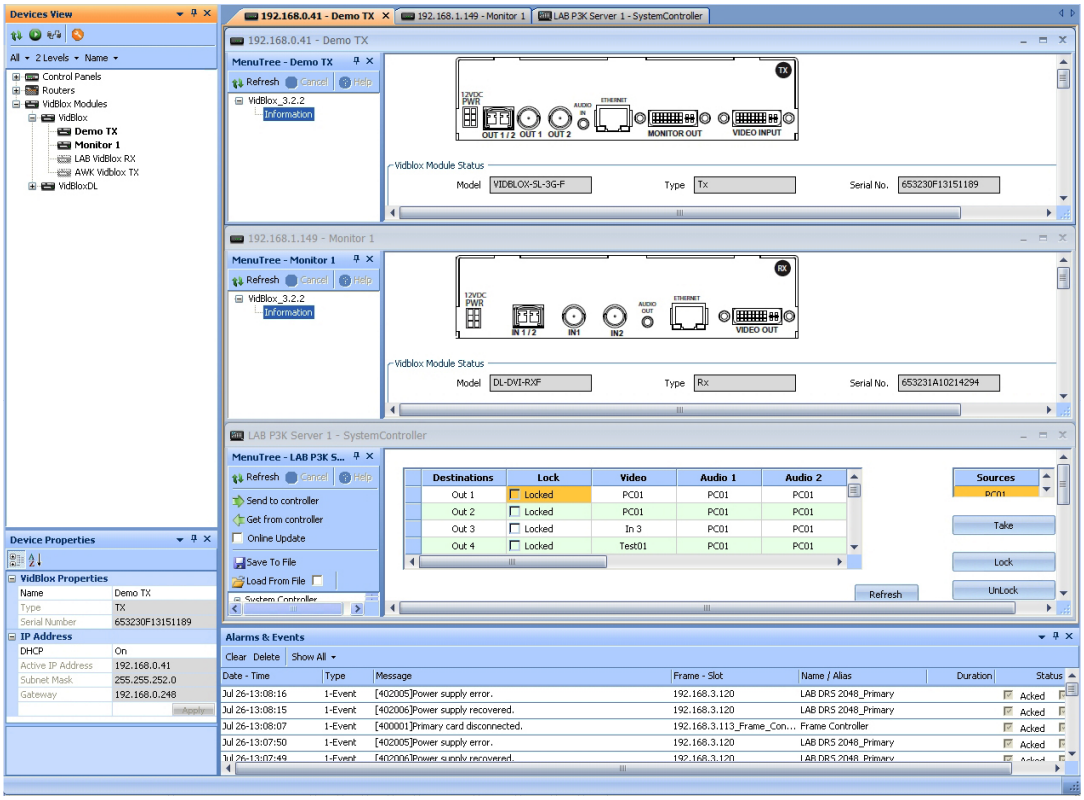


Figure 4-11 Example Tile Display of Device Menus

4.12 DISPLAY PANEL AUTO-HIDE

Cattrax 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 4-12. To disable auto-hide, restore display panel to the screen and click the auto-hide icon.

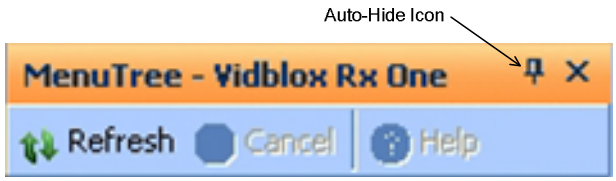


Figure 4-12 Auto-Hide Icon Location

4.13 ALARMS & EVENTS MANAGEMENT

All alarm and event (non-alarm) messages for devices in the managed system are displayed by the Alarms & Events panel as shown in Figure 4-13. There are two main types of alarms – System alarms and Device alarms. System alarms are generated by Cattrax, while Device alarms are generated by the devices managed by Cattrax.

4.13.1 ALERTS

When a major alarm is reported by any device in a managed system, Cattrax can display 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 be minimized, the Cattrax entry in the Windows® operating system taskbar is highlighted to alert the user. The flashing alarm alert may be disabled, if desired.

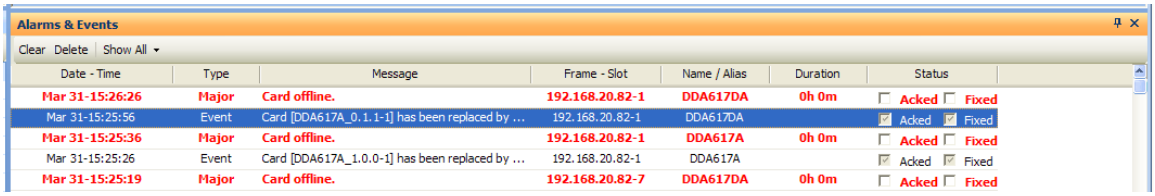


Figure 4-13 Cattrax Alarms and Events Panel Header Area

4.13.2 REPORTED ALARM DETAILS

Columns of the Alarms & Events panel display various properties of the messages:

- **Date & Time** – Displays when message was first reported
- **Type** – Identifies if 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 device that initiated the message
- **Name/Alias** – Displays the assigned device name or alias of initiating device
- **Duration** – Displays 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 check-boxes labeled Acknowledged (**Acked**) and **Fixed,** whereby the user indicates 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.

4.13.3 SYSTEM ALARMS

System Alarms refer to alarms and events generated by the Cattrax application, rather than those reported by a device. For example, a “Device Disconnected” message is displayed if for some reason Cattrax cannot access the network.

To configure the severity of system alarms, click on the **System Alarm Types** button in the *General Settings* menu under the ***Settings*** tab. You may configure each system alarm condition to report as a major or minor alarm; or you may select alarms to be reported as an event or turned off entirely.

4.13.4 DEVICE ALARMS

Device alarms are alarms and events reported by managed devices.

4.13.5 ALARM FILTERING & SORTING

Filtering and Sorting helps users quickly find an entry in the alarm list. For example, to find all alarms reported for a particular device, click on the column header for the Frame-Slot column to sort the alarm list by device IP Address; then scroll through the list to the frame IP of interest to find all alarms reported for that 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 alarm type – Major, Minor, or Events by clicking on the Type column in the Alarms & Events panel area.

4.13.6 BLOCKING ALARMS

To prevent unnecessary messages being generated from a device, alarms for a particular 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.

4.14 MENU BAR CONTROLS

Controls located on the menu bar header, Figure 4-14, allow you to configure the application and set preferences. There are four items in the menu: ***Settings, View, Tools*** 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.

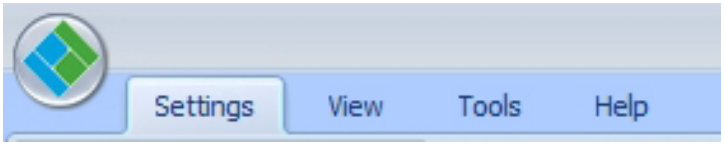


Figure 4-14 Cattrax Menu Bar

4.14.1 SETTINGS MENU

Functions available through the ***Settings*** menu, Figure 4-15, allow you to set internal configuration and other operational parameters of Cattrax.

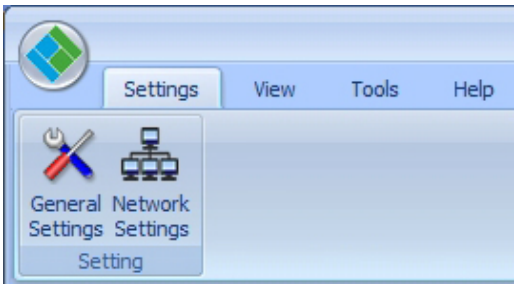


Figure 4-15 Cattrax Settings Menu

- **General Settings -** Clicking the *General Settings* entry of the ***Settings*** menu opens the **General Settings** box, Figure 4-16. The following functions are available through selections on the General Settings box:

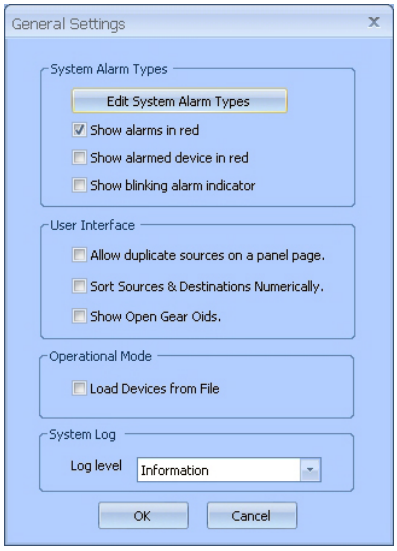


Figure 4-16 Cattrax General Settings Menu

- **System Alarm Types** – This dialog box contains three checkboxes that allow you to customize how alarm notifications are displayed.
  - *Show alarms in red* – Checking this box causes major alarm conditions to be displayed in red text in the *Alarms & Events* panel.
  - *Show alarmed device in red* – Checking this box causes the *Devices View* entry for a device issuing a major alarm condition to be displayed in red text.
  - *Show blinking alarm indicator* - The blinking alarm indicator is a red blinking icon that appears in the *Devices View* header when an alarm alert is activated.
  - *Edit System Alarm Types* – Clicking this button displays the *System Alarm Types* dialog box, as shown in Figure 4-17. 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.

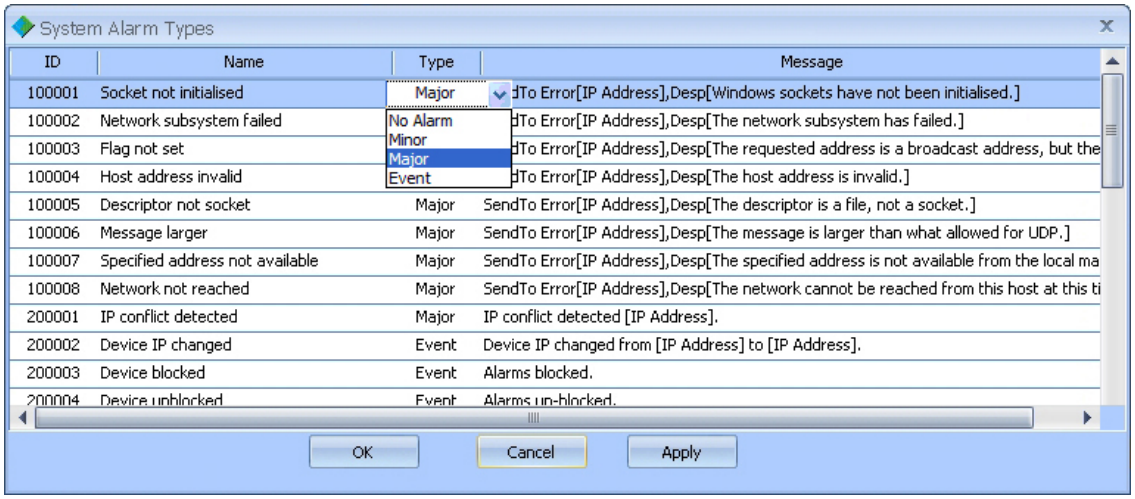


Figure 4-17 System Alarm Configuration

- **User Interface** – This dialog box contains three checkboxes that allow you to customize how alarm notifications are displayed.
  - *Allow duplicate sources on a panel page* – Checking this box allows duplicate sources on a control panel configuration page when creating or editing a PESA router configuration file. For further information, refer to the User Guide for the system controller device you are configuring.
  - *Sort Sources & Destinations Numerically* – By default router resource lists (sources, destinations, salvos, etc.) are displayed in ascending numerical order by the number assigned to the resource row entry, and displayed in the Number column. You may also sort list displays by double-clicking in the header of any of the name columns. If the *Sort Sources & Destinations Numerically* box is unchecked, the list is sorted alphabetically first, and any number in the name is sorted by the most significant (left most) digit (A1, A11, A12….A2, A21, A22, etc.) Checking this box will display the numbers in true numerical sequence and any alphabetic component of the name will be sorted alphabetically (A1, A2, A3….A11, A12…..A21, A22, etc.). For further information, refer to the User Guide for the system controller device you are configuring.

- *Show Open Gear Oids* – This checkbox is currently only applicable when using Cattrax to control a Cobalt multiviewer device – either an openGear compatible card or a stand-alone multiviewer device. When this box is checked, hovering the Cattrax page cursor over any multiviewer control command will open a display of the openGear Identifier (Oid) associated with the control function.

- **Operational Mode –** The checkbox ***Load Devices from File*** determines whether or not Cattrax opens with a display of the device tabs from the previous session. The default option is checked, meaning that Cattrax will open each session with a display of the device tabs that were open when the previous session was closed. If the box is not checked, Cattrax will always open with no devices selected and no device tabs displayed.

- **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, to help debug problems.

- **Network Settings -** Clicking *Network Settings* opens the **Network Settings** dialog box that allows you to view or modify network communication parameters for Cattrax. In many installations, PESA devices may reside on subnets different from one another within the network. It is also possible that the host PC might contain multiple network interface devices, as would be the case, for example, if it contains both an Ethernet cable NIC and a wireless adapter. Cattrax allows you to easily select both the network interface device it uses and the subnets on which it communicates through network preference settings. Refer to Paragraph 4.2 of this User Guide for network configuration options and capabilities.

4.14.2 VIEW MENU

Control options contained in the *View* Menu, Figure 4-18, allow the user to configure Cattrax display.

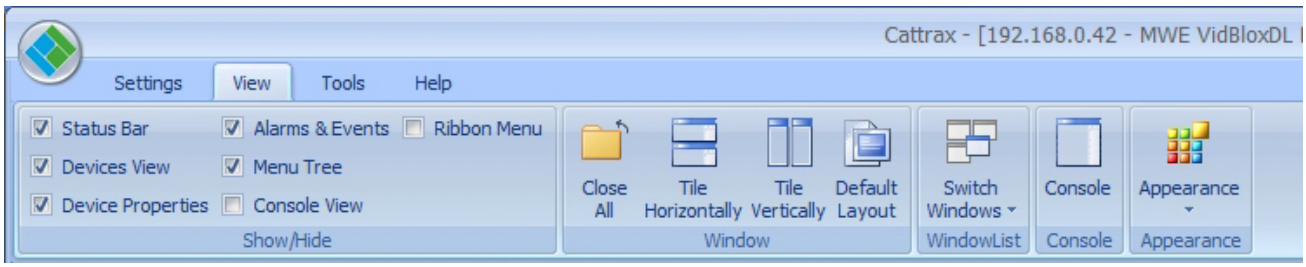


Figure 4-18 View Menu Controls

- **Show/Hide** - Disable or enable corresponding display windows. **Console View** is used only with a USB connected device; if no device is present on the USB port, this menu entry is inactive, as shown in Figure 4-18, and cannot be selected.

- **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

- **WindowList** - Allows you to switch to a display of the next open device in the Device Menu display window.

- **Console** – Opens the console window for a USB connected device. Clicking this button performs the same action as selecting the Console View checkbox from the Show/Hide menu.

- **Appearance** - Selects overall display style - blue is the default selection; options in this menu also allow changing the display orientation from right to left.

4.14.3 TOOLS MENU

Control options contained in the ***Tools*** Menu are shown by Figure 4-19.

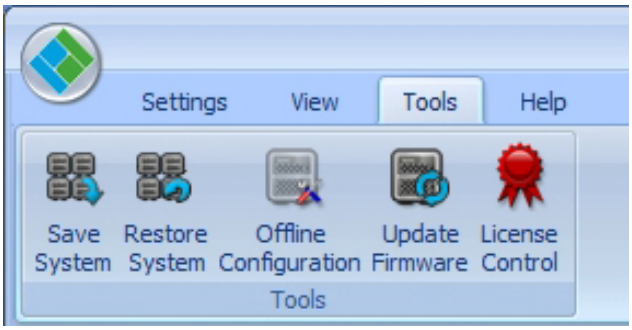


Figure 4-19 Tools Menu Controls

- **Save System & Restore System** - Allows you to save configuration data for the entire system and initiate restoration of a saved configuration to the system, refer to Paragraph 4-15.
- **Offline Configuration** – Allows you to create or modify configuration files for PESA system controller devices without Cattrax having to be attached to the device.

- **Update Firmware** - Clicking *Update Firmware* allows you to download firmware and/or software code updates to flash memory of many PESA devices. Refer to Paragraph 4.17.
- **License Control –** Opens menus for obtaining and installing license keys for certain PESA software applications such as Cattrax Web and PNet Soft Panels. Specific licensing procedures are provided in the User Guide for the particular software app.

4.14.4 HELP

Control options contained in the ***Help*** Menu are shown by Figure 4-20.

- **Diagnostic Information** - Initiates the Cattrax diagnostics file generation function. Refer to Paragraph 4.18 of this manual.
- **Cattrax Help –** Opens an on-screen Cattrax User Guide
- **Release Notes –** Opens the Release Notes for the Version of Cattrax Installed
- **About** - Displays current version data of the Cattrax software

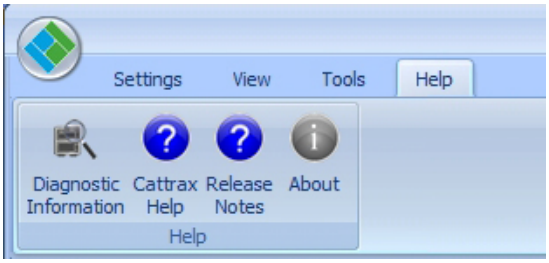


Figure 4-20 Help Menu Controls

4.15 DEVICE AND SYSTEM CONFIGURATION MANAGEMENT

Functions available through Cattrax save and restore system features allow you to save configuration of managed devices, either individually or as an entire system, and use the saved configuration file to restore configuration data at a later time - if needed. Save and restore functions may be accessed from either of two menus as shown in Figure 4-25. The menu bar *Save System* icon under the ***Tools*** menu, as shown on the left in Figure 4-25, allows you to save entire system configuration. You may use the right-click menu, as shown on the right in Figure 4-25, from the Devices View panel to save configuration of only the highlighted device or the entire system.

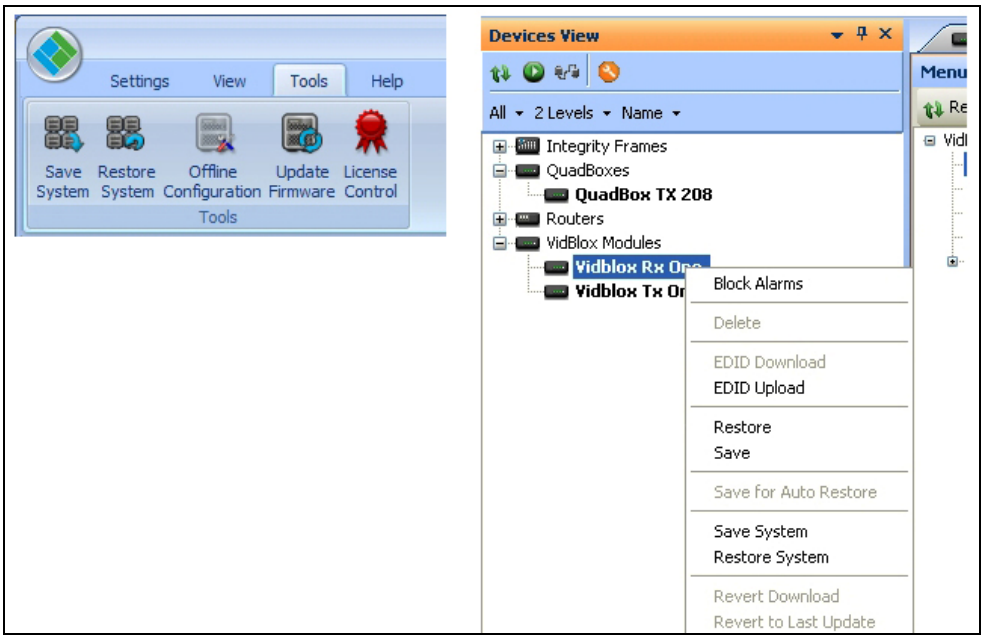


Figure 4-21 Save and Restore Menu Options

SAVING A CONFIGURATION FILE

To save configuration data for a device, locate and highlight it in the device tree listing. If you wish to save the configuration for a single device, highlight only that device from the tree listing. To save configuration data for multiple devices, click on the device entries while pressing the control (CTRL) key. 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 4-25. The **Save As** dialog box, Figure 4-26, is displayed and prompts you to enter a filename for the saved configuration. Cattrax 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 or system. Enter the desired filename and click on the **Save** button.

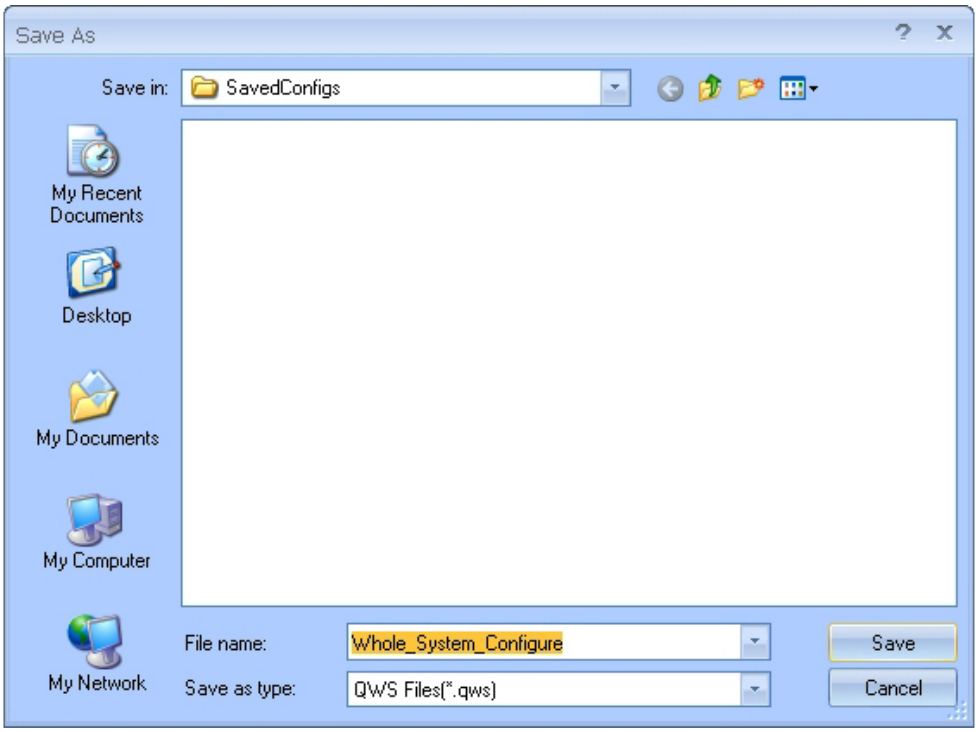


Figure 4-22 Save Configuration File Selection

When you have entered the desired filename and location, the **Save Configuration** dialog box is displayed. An example box is shown by Figure 4-27, however the actual parameters displayed will vary by device. This dialog box allows you to select which configuration parameters of the device(s) you wish to save in the configuration file. You may uncheck parameters that are not required to be saved. Cattrax selects all parameters by default. Click the **Save** button on the dialog box to save the configuration file for the device(s).

To save configuration data for an entire system, select any device in the device tree, and then select the **Save System** option from the right-click menu; or select the *Save System* icon under the ***Tools*** menu, as shown on the left in Figure 4-25. The remainder of the procedure is the same as save configuration for individual devices, explained above, except that the save list contains all devices in the system.

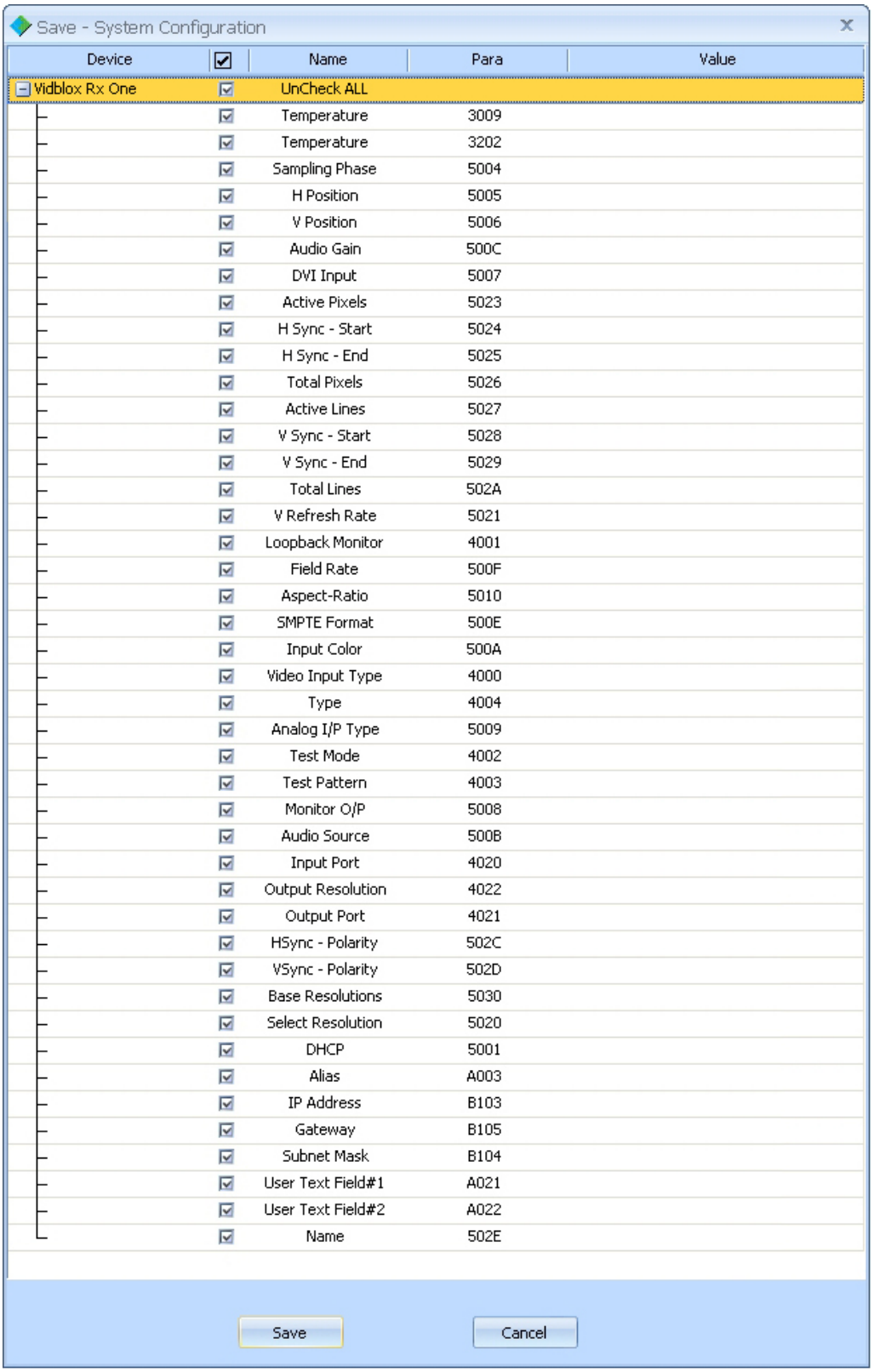


Figure 4-23 Save Configuration Dialog Box

RESTORING A CONFIGURATION FILE

To restore configuration of a device from a saved configuration file, select the device on the device tree in the Devices View panel, right-click to open the menu box and select the **Restore** menu option. The **Open** dialog box, Figure 4-28, is displayed and prompts you to select or enter the filename of the saved configuration file. Enter or select the desired filename and click **Open**.

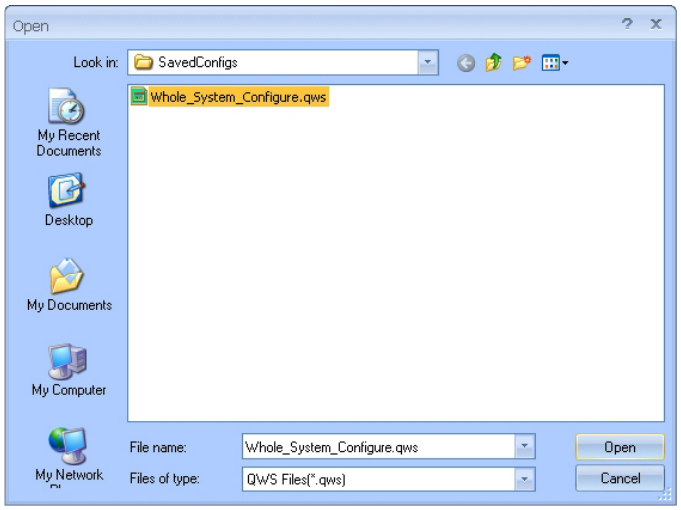


Figure 4-24 Selection of Configuration File

When a file is selected and the **Open** button is clicked, Cattrax automatically checks for hardware compatibility between the saved file and the device to be restored and displays the result in the **Restore Configuration** dialog box, Figure 4-29. You may use the checkboxes to select or de-select any of the values you do not wish to be written into the restored configuration file. If the Source and Destination are compatible, click **Restore** to reload configuration data to the device. Click **Cancel** to exit the restore procedure.

To restore configuration data to an entire system, select any active device in the menu tree, right-click and select **Restore System** from the menu; or select the *Restore System* icon under the ***Tools*** menu, as shown on the left in Figure 4-25. The remainder of the procedure is identical to the device restore operation except the restore list contains all system devices.

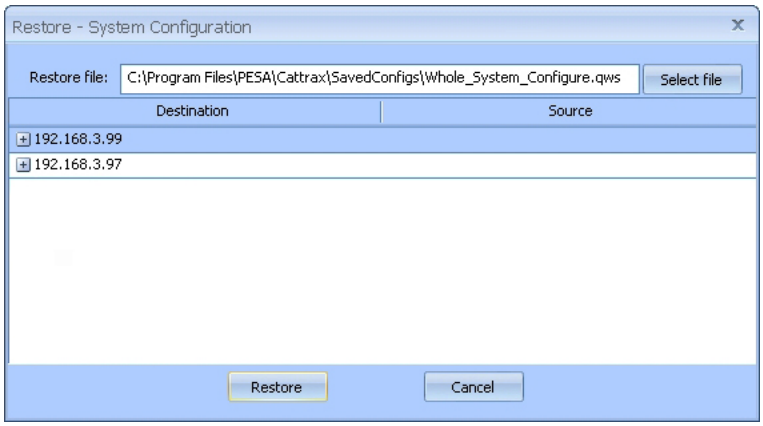


Figure 4-25 Restore Configuration Dialog Box

4.16 BATCH CONFIGURATION

The Batch Configuration feature of Cattrax allows you to simultaneously send commands and operational parameters entered or selected on any of the various interactive menu or control screens for a particular device type to multiple devices of the same type within the network. To perform batch configuration, select multiple devices of the same type from the device tree by holding the **CTRL** key down while clicking on device entries. Then click on the **Batch Configure** button in the device tree panel header area, as shown in Figure 4-30. The selected device menu will open in the menu tree panel. Use the control and configuration menus to configure selected devices simultaneously. Exit batch configuration mode by clicking any device entry in the Devices View listing or by clicking the batch configuration icon in the Devices View menu.

Figure 4-26 Batch Configuration Selection

4.17 DEVICE SOFTWARE UPDATE CAPABILITY

Many PESA devices that you will control through Cattrax contain board-resident software or device code, stored in flash memory, which from time-to-time may need to be updated. Cattrax makes the entire firmware update process simple and straight-forward using the **Update Firmware** function available through the ***Tools*** 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. It makes no difference to the update 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 firmware update process.

The following procedure outlines the steps for updating firmware of PESA devices. For this example, we have created a directory on the host PC named "SavedConfigs" 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 ***Tools*** menu on Cattrax and select the **Update Firmware** function as shown by Figure 4-31.

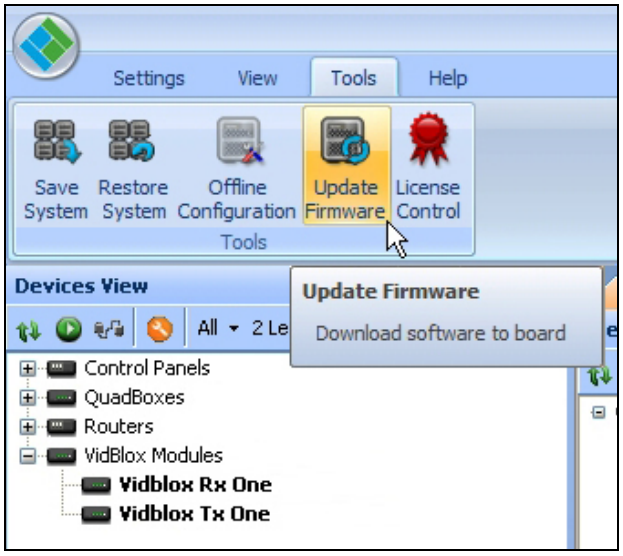


Figure 4-27 Update Firmware Icon

3. Selecting Update Firmware opens the **Open Flash Update File** dialog box as shown by Figure 4-32.

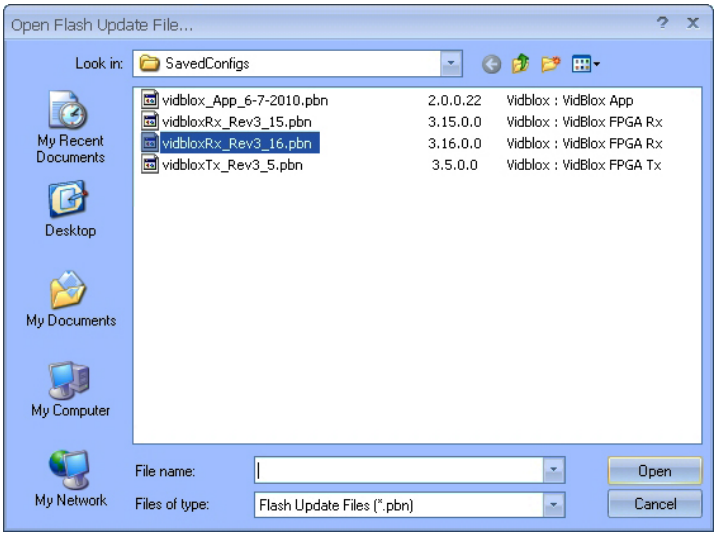


Figure 4-28 Flash Update Dialog Box

4. Navigate to the hard drive directory containing the .PBN update file 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. The Download Flash File dialog box, shown in Figure 4-33, opens with a display of all devices under control of Cattrax that use the selected .PBN file. On the example screen, note that only Vidblox receiver modules on the network are displayed as candidates for installing the update file.

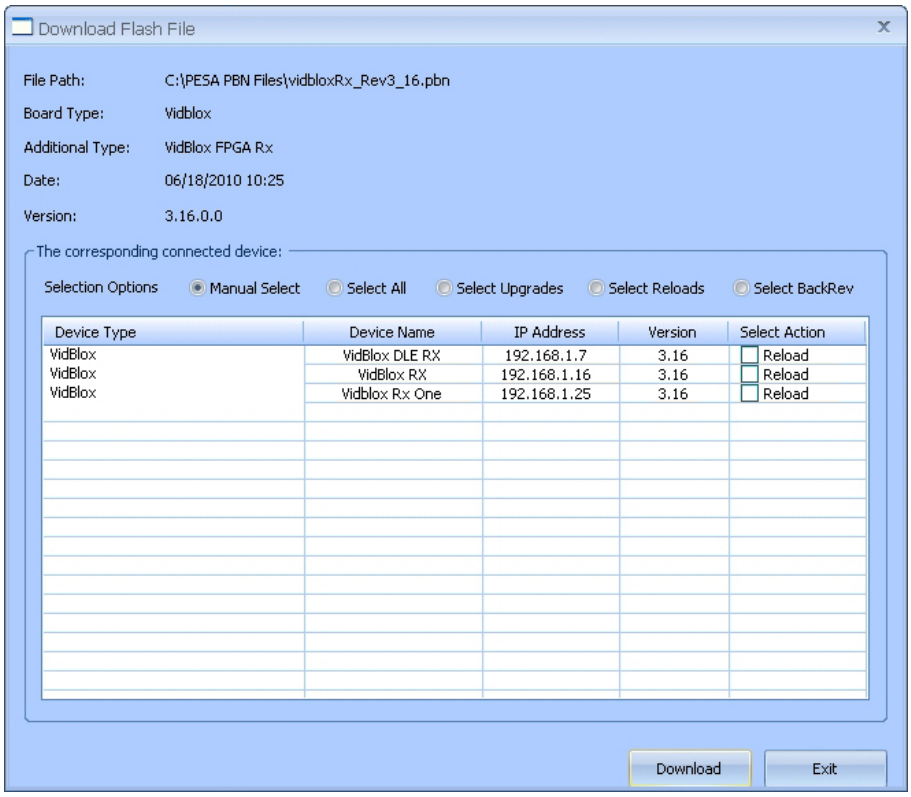


Figure 4-29 Download Flash Selection Box

6. Each candidate device is identified by type, its alias name on the network and its IP address. The Version column identifies, by individual module, the version of the code currently installed on that particular device; and the right-most column, labeled *Select Action*, displays the action the selected .PBN file would have on each device if downloaded, and allows you to select for each individual device whether or not you want to download and install the selected file. For each device you will be prompted whether installing the update would take the device to an earlier code version (Backrev), re-install a new load of the current code version (Reload) or Upgrade the device to a newer code version (Upgrade).

7. Place a check in the box beside the indicated action for the devices you wish to receive the file download and installation, or use the *Selection Options* radio buttons to select multiple devices as a batch. Click the **Download** button to initiate software update or click the **Exit** button to leave the screen with no changes.

	**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.**

8. Download and installation is automated and a progress bar 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.

4.18 CATTRAX DIAGNOSTICS TOOLS

Cattrax 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 application. The following procedure outlines the steps for generating a diagnostics .ZIP file:

1. Select the *Diagnostic Information* function from the ***Help*** menu as shown by Figure 4-34 to open the **Save As** dialog box, Figure 4-35.

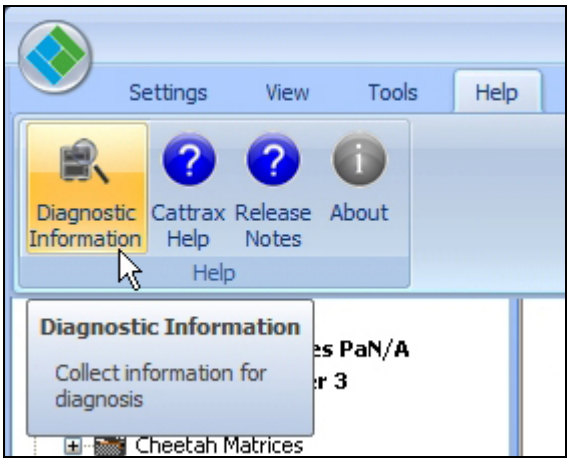


Figure 4-30 Diagnostic Information Menu Icon

2. Enter or navigate to the directory where you want to store the diagnostics file. Cattrax 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.

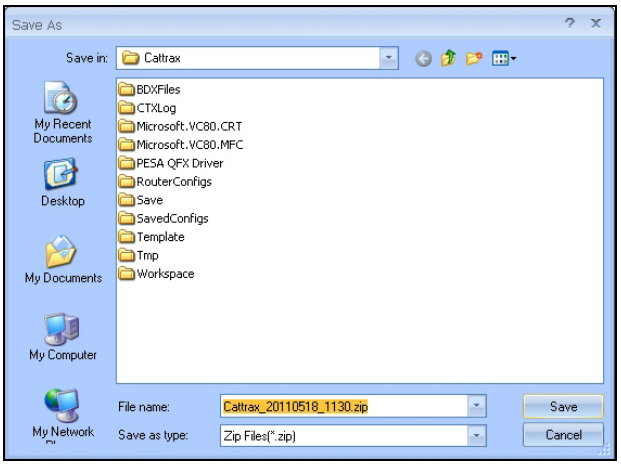


Figure 4-31 Diagnostics File Dialog Box

.

Chapter 5 In the Event of Difficulty

5.1 PESA Customer Service

If you have questions about, or are experiencing any difficulty with, your Cattrax software control application, contact PESA's Customer Service Department.

By E-Mail – service@pesa.com

By Phone – 256-726-9222 (24/7)

Technicians are available to assist you 24 hours a day, seven days a week.

5.2 Periodic Maintenance

No periodic maintenance is required.