AVITECH

Sequoia

Mouse Keyboard Controller

User's Manual 2x2V

Revision 1.3.4
(May, 2012)

WARNING

Do not attempt to disassemble your Sequoia device. Doing so may void your warranty. There are no serviceable parts inside. Please refer all servicing to qualified personnel.

TRADEMARKS

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TECHNICAL SUPPORT

If you have any questions regarding the information provided in this guide, call our technical support help line at 425-885-3863, or our toll free help line at 1-877-AVI-TECH. You can also email us at support@avitechvideo.com

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Warranty

Avitech International Corporation (herein after referred to as “Avitech”) warrants to the original purchaser of the products manufactured in its facility (the “Product”), that these products will be free from defects in material and workmanship for a period of one (1) year or fifteen (15) months from the date of shipment of the Product to the purchaser. There is a three (3) month grace period between shipping and installation.

If the Product proves to be defective during the one (1) year warranty period, the purchaser’s exclusive remedy and Avitech’s sole obligation under this warranty is expressly limited, at Avitech’s sole option, to:
(a) repairing the defective Product without charge for parts and labor; or
(b) providing a replacement in exchange for the defective Product; or
(c) if after a reasonable time is unable to correct the defect or provide a replacement Product in good working order, then the purchaser shall be entitled to recover damages subject to the limitation of liability set forth below.

LIMITATION OF LIABILITY: AVITECH’S LIABILITY UNDER THIS WARRANTY SHALL NOT EXCEED THE PURCHASE PRICE PAID FOR THE DEFECTIVE PRODUCT. IN NO EVENT SHALL AVITECH BE LIABLE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOSS OF PROFITS FOR ANY BREACH OF THIS WARRANTY.

If Avitech replaces the defective Product with a replacement Product as provided under the terms of this Warranty, in no event will the term of the warranty on the replacement Product exceed the number of months remaining on the warranty covering the defective Product. Equipment manufactured by other suppliers and supplied by Avitech carries the respective manufacturer’s warranty. Avitech assumes no warranty responsibility either expressed or implied for equipment manufactured by others and supplied by Avitech.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE EXPRESSLY DISCLAIMED.

This Hardware Warranty shall not apply to any defect, failure, or damage:
(a) caused by improper use of the Product or inadequate maintenance and care of the Product;
(b) resulting from attempts by other than Avitech representatives to install, repair, or service the Product;
(c) caused by installation of the Product in a hostile operating environment or connection of the Product to incompatible equipment; or
(d) caused by the modification of the Product or integration with other products when the effect of such modification or integration increases the time or difficulties of servicing the Product.

Any Product which fails under conditions other than those specifically covered by the Hardware Warranty, will be repaired at the price of parts and labor in effect at the time of repair. Such repairs are warranted for a period of ninety (90) days from date of reshipment to customer.

Extended Warranty Options

Avitech offers OPTIONAL Extended Warranty plans that provide continuous coverage for the Product after the expiration of the Warranty Period. Contact an Avitech sales representative for details on the options that are available for your Avitech equipment.

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Avitech make its best offer to repair a product that is outside the warranty period, provided the product has not reached its end of life (EOL). The minimum charge for such repair excluding shipping and handling is $200 (US dollars).

Regulatory Information

NOTE: Marking labels located on the exterior of your device indicate the regulations that your model complies with. Please check the marking labels on your device and refer to the corresponding statements in this chapter. Some notices apply to specific models only.

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Avitech is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

European Union CE Marking and Compliance Notices

Statements of Compliance

English
This product follows the provisions of the European Directive 1999/5/EC.

Dansk (Danish)
Dette produkt er i overensstemmelse med det europæiske direktiv 1999/5/EC.

Nederlands (Dutch)
Dit product is in navolging van de bepalingen van Europees Directief 1999/5/EC.

Suomi (Finnish)
Tämä tuote noudattaa EU-direktiivin 1999/5/EC määräyksiä.

Français (French)
Ce produit est conforme aux exigences de la Directive Européenne 1999/5/EC.

Deutsch (German)
Dieses Produkt entspricht den Bestimmungen der Europäischen Richtlinie 1999/5/EC.

Ελληνικά (Greek)
Το προϊόν αυτό πληροί τις προβλέψεις της Ευρωπαϊκής Οδηγίας 1999/5/EC.

Íslenska (Icelandic)
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Este produto cumpre com as normas da Diretiva Européia 1999/5/EC.

Español (Spanish)
Este producto cumple con las normas del Directivo Europeo 1999/5/EC.

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Statement of Compliance

This product complies with Australia and New Zealand's standards for radio interference.

Preface

Welcome

Congratulations on purchasing this Avitech Sequoia 2x2V (Mouse Keyboard Controller).

The Avitech Mouse Keyboard Controller (Sequoia 2x2V) is a highly innovative device, integrating the functions of a KVM, microphone / audio / speaker and multiviewer into one enclosure, providing solutions for individual and corporate users in an effective multiple system environment. With just a keyboard or mouse, you can easily control / switch between two computers; as well as convert your video images to full screen view, adjust to any size, or move to any position.

The Avitech Sequoia is compatible for controlling computers with the following operating systems:

- Windows OS: 98 Special Edition, 2000 Professional, XP, Vista, Server 2003, Server 2008, Windows 7

  NOTE: Windows NT is currently not supported.

- Linux OS: Fedora 10, Ubuntu 8.1, Scientific 5.2, RedHat, Mint 6.0, Debian 5.0, PC Linux OS 2009, SUSE 11.1, Mandriva 2009, CentOS 5.2
- Mac OS

About this Manual

This manual contains comprehensive information about your Avitech Sequoia 2x2V to help you operate the device.

Throughout the manual, the following conventions are used to distinguish elements of text.

> **NOTE:** provides additional hints or information that requires special attention.

> **CAUTION:** identifies important information which, if not followed, may result in loss of data or damage to your device.

Any name of a menu, command, icon or button that you can see on the screen is shown in a bold typeset. For example:

On the **Start** menu, select **Settings**.

1 Getting Started

This chapter introduces you to the features and specifications as well as the external components of your Avitech Sequoia 2x2V. It also guides you through the process of setting up your Sequoia for use.

> **NOTE:** Depending on the model you purchased, the cabinet color and the look of the accessories may be different from the ones shown in this manual.

1.1 Package Contents

After unpacking the shipping carton, you should find these standard items:

Avitech Sequoia 2x2V

12 V DC Power Adapter

USB-A to USB-B Cable

Sequoia All-in-One Cable

HDMI Cable

DVI-to-HDMI Adapter

Stand × 2 (optional)

Standard Power Cord (USA customers only)

1.2 Product Features

Feature	Model	
	Sequoia 2a2V	Sequoia 2U2V
DVI / VGA / YPbPr inputs	2	2
PAL / NTSC inputs	2	0
HD / SD SDI, PAL / NTSC inputs	0	2
Analog audio inputs	2	2
Maximum output resolution	1920×1200	1920×1200
Configuration and control interface	Ethernet	Ethernet
USB hub extend to remote computer	Available	Available
Extended microphone / audio / speakers	Available	Available

Feature	Model	
	Sequoia 2a2V	Sequoia 2U2V
Avitech Hook software support	Available	Available
Avitech ASCII Protocol (AAP) support	Available	Available

Hardware

- Simultaneous support for VGA and DVI computer output
- Provides LED indicators for the status of the computer on-line (Active and Standby state), Mode (Host and Remote), and power
- Control up to two computers
- Automatic detection of PS-2 / USB interface when connected with computer
- Hot-pluggable (add / remove computers without powering down the devices)
- Two embedded speakers
- Firmware upgradeable
- Accepts analog stereo audio input on each video window
- HDCP-compliant
- The tested compatible keyboards are as follows (via USB connection):

> **CAUTION:** Non-standard keyboards (e.g., keyboard with USB hub feature, keyboard that needs driver installation, programmable keyboard, etc.) are not supported.

Brand	Model	Standard Keys	Multimedia Keys
DELL	SK-8115 (TW)	104 keys	0
DELL	SK-8115 (US)	104 keys	0
DELL	SK-8175 (TW)	104 keys	0
DELL	L30U (TW)	104 keys	0
Logitech	Y-UR83	104 keys	0
Logitech	EX90		0
Logitech Cordless Desktop EX100	Y-RBH94 (Chinese)	102 keys	0

Brand	Model	Standard Keys	Multimedia Keys
Logitech Cordless Desktop EX100	Y-RBH94 (Korean)	104 keys	0
Logitech MK250	Y-R0008 (wireless)		0
Logitech Compact K300	Y-U0004 (French / German)	105 keys	0
Logitech K120	Y-U0009 (Korean)	104 keys	0
KINYO	KBX66	87 keys	0
iCooby	SK020	88 keys	6 keys
Microsoft Wired Desktop 600	1366	104 keys	0
Microsoft Media Desktop 1000	1356 (wireless)	104 keys	19 keys
Microsoft Comfort Curve 2000	1047	104 keys	9 keys
TC-Star (mouse and keyboard)	TCK965 3rd ed. 2.4G (wireless)		0
TC-Star	TCK970 (wireless)	104 keys	22 keys
i-rocks	SP-6000 Super Slim Keyboard	104 keys	10 keys
Apple (with numeric keypad and two hubs)	A1243	109 keys	0
Genius Slim Star Pro USB (with two hubs)	KKB-2050HS	104 keys	12 keys + wheel
IOGear	GKM551RC (wireless)		
Adesso EasyTouch Mini	AKB-110B	87 keys	

- The tested compatible mouse are as follows (via USB connection):

Brand	Model	No. of Buttons	Tracking Method
DELL	M-UAR DEL7	3 buttons	Optical
DELL	MOA8BO	5 buttons	Optical
DELL	MOCZUL	7 buttons	Laser stream
DELL	M-UK DEL3	3 buttons	Wheel
Logitech	M-BT83	3 buttons	Optical
Logitech	M-UV83	3 buttons	Optical
Logitech	EX 90 (wireless 2.4 GHz)	3 buttons	Optical
Logitech	LX3	3 buttons	Optical
Logitech	M-UAE96	3 buttons	Optical
Logitech	M-RCE95 (wireless)	3 buttons	Optical
Logitech	M-UB48	3 buttons	Wheel
Logitech	V450 (wireless)	3 buttons	Optical
Logitech	M-RBF111 (wireless)	3 buttons	Optical
Logitech	M-UAG96B	3 buttons	Optical
Logitech	BT969	3 buttons	Optical
Logitech MK250	M-R0011	3 buttons	Optical
Logitech M90	M-U0003	3 buttons	Optical
Atake		3 buttons	800 dpi 3D Optical
Hewlett-Packard	M-UAE96	3 buttons	Optical
Microsoft Wired 500	1113	3 buttons	Optical
Microsoft	X800898133	3 buttons	Optical
Microsoft	Basic 1.0A	3 buttons	Optical
Microsoft Media Desktop 1000	1067 (wireless)	3 buttons	Optical
i-driver	P002	3 buttons	Optical

Brand	Model	No. of Buttons	Tracking Method
i-rocks	SP-7000	5 buttons	Optical
INTOPIC	UFO-MS-032	3 buttons	Optical
TP-PARK		3 buttons	Optical
Generic		3 buttons	Optical
KINYO	KM-V2	3 buttons	Optical
Apple	A1152	3 buttons	Optical
IO-Gear	GKM551RC	3 buttons	Optical
TC-Star	TCK965 3rd ed. 2.4G (wireless – mouse and keyboard)	3 buttons	Optical
TC-Star	TCN970	8 buttons	Optical

- The tested compatible computer and mainboard are as follows:

Computer	Mainboard	USB Interface	PS2 Interface
DELL OptiPlex 745		Yes	Yes
DELL OptiPlex 755		Yes	Yes
ASUS D762		Yes	Yes
ASUS D772		Yes	Yes
HP Compaq DC7600		Yes	No
HP Vectra VL Series 4 5 /100		Yes	Yes
HP Vectra VL 400 DT		Yes	Yes
MacBook A1342		Yes	Not Applicable
Lenovo A21		Yes	Yes
Lenovo Think Centre A55		Yes	Yes
Lenovo X61 (Notebook)		Yes	Not Applicable
Acer Aspire 4520 (Notebook)		Yes	Not Applicable

Computer	Mainboard	USB Interface	PS2 Interface
Not Applicable	Gigabyte 8S661 FXMP-RZ (BIOS: 2M-bit flash ROM)	Yes	Yes
Not Applicable	Gigabyte 8IPE1000-G 4.0 (BIOS: 3M-bit flash ROM, Award BIOS)	Yes	Yes
Not Applicable	Gigabyte 8IPE775-G 1.0 (BIOS: 3M-bit flash ROM, Award BIOS)	Yes	Yes

NOTE: Compatibility between the computer and the Sequoia would depend on your computer's BIOS Setup. Therefore, PS2 compatibility would depend on the computer's BIOS Setup. If an incompatibility occurs, you need to refer to the computer's BIOS Setup.

- The tested compatible VGA cards are as follows:

Brand	Model
Nvidia GForce	8500
Nvidia GForce	8400
Nvidia GForce	9800
Nvidia GForce	7300
Nvidia GForce	7200
Nvidia GForce	5200
Nvidia FX	370
ATI Radeon HD	4850
ATI Radeon HD	2400
ATI Radeon	9550
Intel GMA	950
Intel GMA	950 with SDVO
Intel GMA	3100
Intel GMA	3000
Intel GMA	X3100

- The tested compatible touchscreen monitor displays are as follows:

Brand	Model
Elo TouchSystems	1939L
Elo TouchSystems	2020L
Elo TouchSystems	4220L
CyberTouch	1980U
CyberTouch	4680U

Limitations

- The tested incompatible keyboards are as follows (via USB connection):

Brand	Model	Standard Keys	Multimedia Keys
DELL (with smartcard reader)	SK-3106	104 keys	0
Samsung Pleomax Crystal (with two hubs)	PKB-7000X	104 keys	0
Logitech UltraX Media	Y-BL49A	104 keys	0
A4TECH	KL-5UP(B)	87 keys	7

> **CAUTION:** Aside from the above-mentioned keyboards, non-standard keyboards (e.g., keyboard with USB hub feature, keyboard that needs driver installation, programmable keyboard, etc.) are also not supported.

- The tested incompatible mouse are as follows (via USB connection):

Brand	Model	No. of Buttons	Tracking Method
Microsoft Mobile 4000	1384 (wireless 2.4 GHz)	4 buttons	Optical
A4TECH	OP-27D	4 buttons	Optical

Software

- Avitech Hook software (patent pending) to control the two computers connected to the Sequoia 2x2V

- Keyboard lock keys (**Caps Lock**, **Num Lock**, **Scroll Lock**) automatically saved and restored when switching computers
- Switching computer directly via hotkeys or using the Host cursor
- Plug-and-Play support (USB only)
- Automatic detection and selection of optimum display resolution
- Up to 26 presets can be saved and recalled from the Flash EEPROM
- Supports concurrent dual computer image display on one screen and mouse / keyboard switching
- Video control features:
  – automatic sensing of input signal
  – flexible window configuration (any size, any position)
  – Picture-in-Picture (PiP) overlap display
  – video loss detection
  – image / gain (can be adjusted manually or automatically)
  – crop / pan image

Specifications

Parts		Specifications
Input	Front panel	1 × USB-B (for remote computer's mouse, keyboard control) 1 × USB-A (for direct mouse control) 1 × USB-A (for direct keyboard control) 1 × analog audio (microphone)
	Rear panel	2 × DB-15 (for USB / PS-2 / audio inputs from computer) 2 × discrete audio (analog) 1 × RJ-45 (Ethernet) 2 × DVI / YPbPr 2 × HD-SDI / SD-SDI / CVBS HD-SDI (1080p / 1080i / 720p at 50 / 59.94 / 60 Hz) SD-SDI (NTSC/525i, PAL/625i, 525p/59.94, 625p/50) CVBS (NTSC, PAL) DVI-in (resolution up to 1920×1200) Automatic sensing of input signals HDCP-compliant
Output	Front panel	1 × analog audio (headphone) 2 × speakers (embedded)
	Rear panel	1 × HDMI (customer-configurable) Resolution up to 1920×1200 (WUXGA) at 50 / 60 Hz or 1600×1200 (UXGA) at 75 Hz

Parts		Specifications
Peripheral Sharing		2 × USB-A (for USB 2.0 hub)
Computer connections		Up to 2 units (maximum)
LED indicators	**PC1** / **PC2**	Indicates when computer 1 / 2 connection is in Active or Standby mode
	MODE	Indicates when Sequoia is in Host or Remote mode
	PWR	Indicates when Sequoia is powered-on
Operating System compatibility		Microsoft Windows 98 Special Edition / 2000 Professional / XP / Vista / Server 2003 / Server 2008 / Windows 7 / Mac (O/S X 10.5 or later version only) / Linux OS: Fedora 10, Ubuntu 8.1, Scientific 5.2, RedHat, Mint 6.0, Debian 5.0, PC Linux OS 2009, SUSE 11.1, Mandriva 2009, CentOS 5.2 **NOTE:** Windows NT is currently not supported.
Port switching method		Using keyboard hotkeys Using mouse combination keys Via OSD (pop-up menu)
Power supply		Input: 100 – 240 V, 50 / 60 Hz, Output: 12 V DC, 5 A, 60 watt
Power consumption		25 watt
Dimension (L×W×H)	Housing	267.94×175×56.6 mm (10.54×6.88×2.23 inch)
	Stand	267.94×118.81×12.2 mm (10.54×4.67×0.48 inch)
Weight	Housing	1.96 kg (4.32 lb)
	Stand (2 pieces)	70 g (0.154 lb)
Housing		Metal
Environment	Temperature	Operating: 0 °C (32 °F) to 40 °C (104 °F) Storage: –10 °C (–4 °F) to 50 °C (122 °F)
	Humidity	0 % to 80 % relative, non-condensing
Safety regulations		FCC / CE / C-Tick / Class A

Input Signal Format

Source Type	Resolution	Frequency
DVI video format	800×600	50 Hz / 60 Hz / 75 Hz
	1024×768	50 Hz / 60 Hz / 75 Hz
	1280×1024	50 Hz / 60 Hz / 75 Hz
	1280×768	50 Hz / 60 Hz / 75 Hz
	1280×720	50 Hz / 60 Hz / 75 Hz
	1366×768	50 Hz / 60 Hz / 75 Hz
	1400×1050	50 Hz / 60 Hz / 75 Hz
	1440×900	50 Hz / 60 Hz / 75 Hz
	1600×1200	50 Hz / 60 Hz / 75 Hz

Source Type	Resolution	Frequency
	1680×1050	50 Hz / 60 Hz
	1920×1080	50 Hz / 60 Hz
	1920×1200	50 Hz / 60 Hz

NOTE:
- Input resolution support up to UXGA at 75 Hz / WUXGA at 60 Hz.
- Automatic sensing of input signal.
- HDCP-compliant.

Output Resolution

Resolution	Frequency
800×600 (SVGA)	50 Hz / 60 Hz / 75 Hz
1024×768 (XGA)	50 Hz / 60 Hz / 75 Hz
1280×720 (HD 720)	50 Hz / 60 Hz / 75 Hz
1280×768 (WSGA)	50 Hz / 60 Hz / 75 Hz
1280×1024 (SXGA)	50 Hz / 60 Hz / 75 Hz
1360×768 (WXGA)	50 Hz / 60 Hz / 75 Hz
1400×1050 (SXGA+)	50 Hz / 60 Hz / 75 Hz
1440×900 (WSXGA, WXGA)	50 Hz / 60 Hz / 75 Hz
1600×1200 (UXGA)	50 Hz / 60 Hz / 75 Hz
1680×1050 (WSXGA+)	50 Hz / 60 Hz / 75 Hz
1920×1080 (HD 1080)	50 Hz / 60 Hz
1920×1200 (WUXGA)	50 Hz / 60 Hz

NOTE:
- Maximum output resolution is 1920 x 1200 / 1080p at 50 Hz / 60 Hz.
- Output timing is Normal or VESA.
- HDCP-compliant.

Operating Modes

Two operating modes are available for the Avitech Sequoia 2x2V:

- Host operation mode

- Remote operation mode

Host Operation Mode

When the Sequoia is in the Host operation mode, the mouse cursor is controlled using a local mouse device connected to the master Sequoia device. A Host cursor controls the positions and sizes of windows for up to two remote computers.

> **NOTE:** Upon re-connecting the keyboard or mouse, the cursor may disappear in Host operation mode (press the **Pause/Break** key to solve this problem).

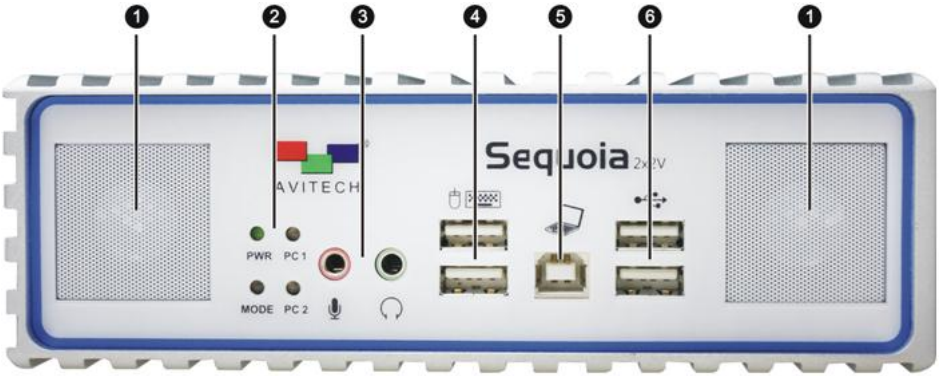
Remote Operation Mode

When the Sequoia is in the Remote operation mode, the mouse cursor and keyboard is used to control a specific computer connected to the Sequoia.

Special functions available in both Host and Remote operation modes include:

- When Host operation mode is active, use the mouse connected to the Sequoia to re-size and re-position any windows on the output display.
- When Remote operation mode is active, operate a single computer system displayed as a window on the screen using the mouse and keyboard connected to the computer.
- To switch operation to a remote computer move the Host cursor into a specific window on the screen and then click the “enter icon” or double-click the left button of mouse.
- To switch operation back to the Host use the keyboard hotkeys. The Host cursor will reappear.
- Up to two computers can connect to a single Sequoia. You can control the computers with two windows shown simultaneously on a single monitor display.
- When in Remote operation mode, the master Sequoia transfers the mouse / keyboard input signal to the specific computer automatically.

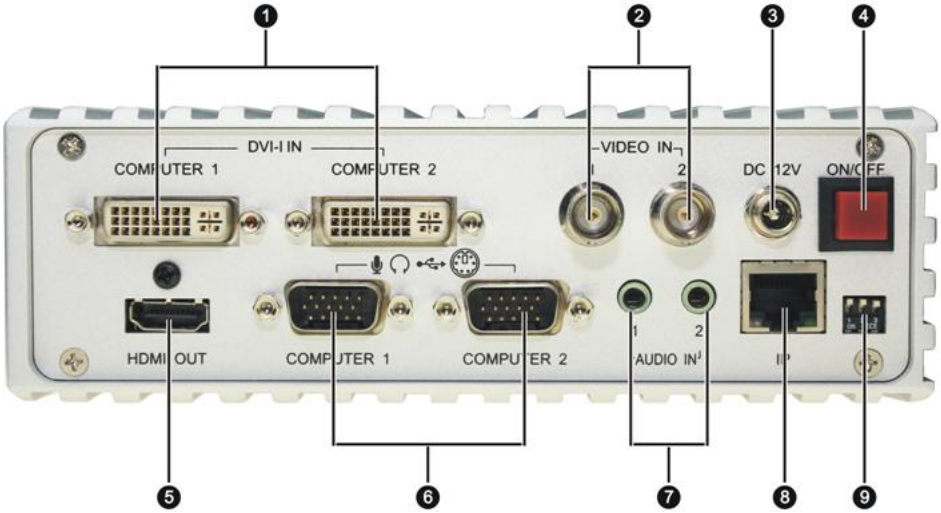
1.3 Identifying the Front Hardware Components



Ref	Component	Description
❶	Stereo Speaker Set	Produces sound for the Sequoia.
❷	Device Indicators	Shows the current status of the Sequoia devices.
	PWR	Glows green when the Sequoia is turned ON.
	MODE	Glows green when the Sequoia is on-line and control is via the connected keyboard and mouse.
		Glows amber when control is via the connected remote computer's keyboard and mouse while the Sequoia is in Standby state.
	PC 1 **PC 2**	Glows green on a particular computer operating in remote computer mode.
		Glows amber for the other computer not operating in remote computer mode but in Standby state.
		Blinks amber on a particular powered-off computer connected to the Sequoia or during the rebooting process.
❸	Audio Input / Output Connector	Connects to a headset.
		Connects to the green connector for headphone function.
		Connects to the red connector for microphone function.
❹	USB A-type Ports	Connects to a USB mouse and keyboard. Use these ports for control in Host mode.

Ref	Component	Description
❺	USB B-type Port	Connects to a remote computer for control via a USB mouse and keyboard.
❻	USB A-type Ports	These two ports can connect to a USB 2.0 hub, USB flash disk, etc.

1.4 Identifying the Rear Hardware Components



Ref	Component	Description
❶	VGA / DVI Input Connector 1 / 2	DVI-I connectors for VGA / DVI (YPbPr) inputs.
❷	Video Input Connector 1 / 2	BNC connectors for HD-SDI / SD-SDI / composite video inputs. **VIDEO IN 1** is used together with **AUDIO IN 1**, while **VIDEO IN 2** is used together with **AUDIO IN 2** for both video and audio input signals.
❸	Power Connector	Connects to the power adapter.
❹	Power Switch	Turns the Sequoia power ON and OFF.
❺	HDMI Output Connector	Connect the monitor display's DVI / HDMI signal cable (a DVI-to-HDMI converter may be required).

Ref	Component	Description
❻	All-in-One Input Connector 1 / 2	Connects to the remote computer's USB, PS-2, and audio connectors via the proprietary Sequoia all-in-one cable.
❼	Audio Input Connector 1 / 2	Audio jacks for audio inputs. **AUDIO IN 1** is used together with **VIDEO IN 1**, while **AUDIO IN 2** is used together with **VIDEO IN 2** for both audio and video input signals.
❽	IP Connector	Ethernet connector for IP control on up to two remote computers via router.
❾	Dip Switches	Updates the USB Host controller firmware; as well as resets the Sequoia to the factory-default setting.

1.5 Getting Your Sequoia Ready for Use

The Avitech Sequoia can be configured to connect to one or two computers. You can use the mouse and keyboard hotkeys directly to control two computers. Alternatively, you can use the remote computer's mouse / keyboard to control mouse and keyboard operation for up to two computers via the new Avitech Sequoia Hook software.

Setting-up the Phoenix-G Configuration Software

The Phoenix-G configuration software is designed for your Sequoia device as well as for all Avitech multiviewer modules. This program requires no installation, but should not be run from a "read-only" device such as an optical disc. This section introduces the Phoenix-G software for setting up your system.

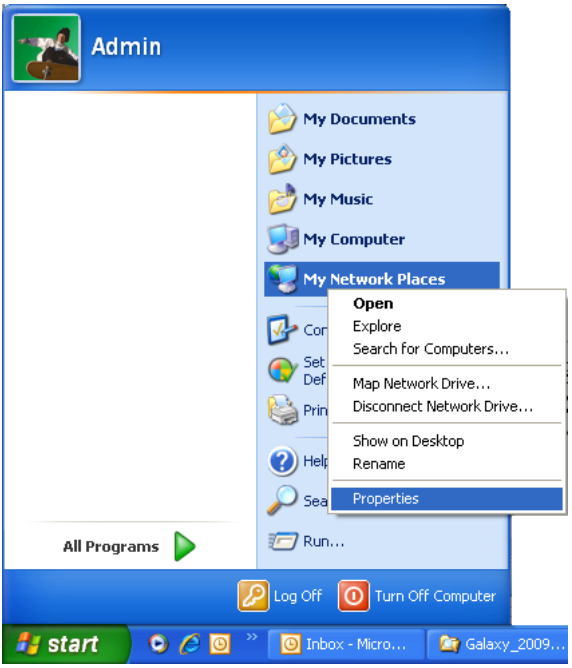
> **NOTE:** Make sure the Sequoia is powered on and connected properly to your computer (refer to a later section for details) before launching the Phoenix-G software.

Setting Up Static IP

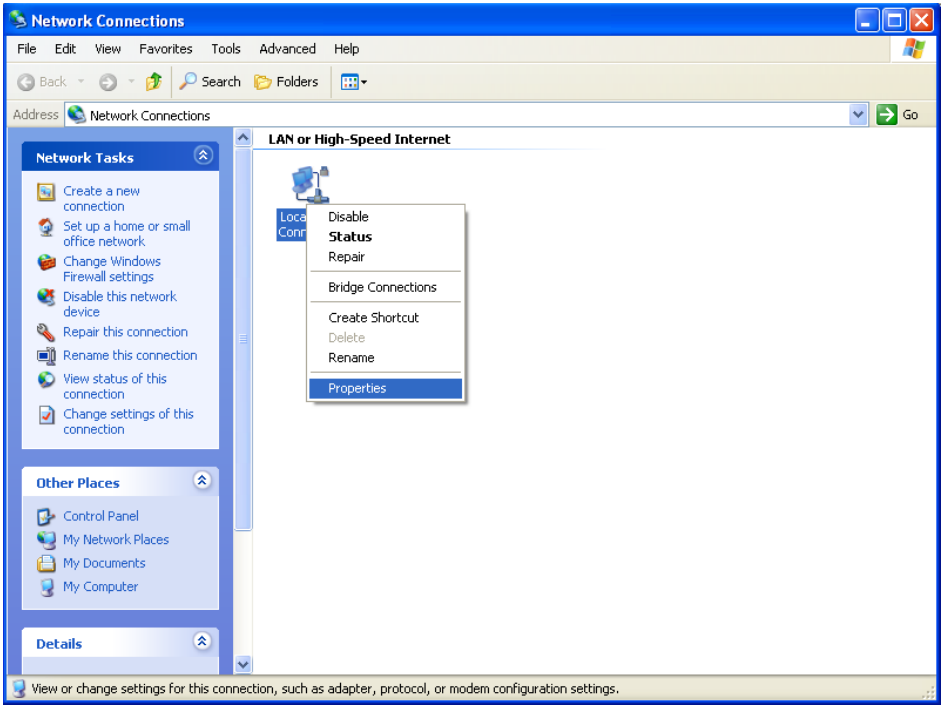
Before connecting the computers / controller network to the Sequoia, the computer with the DHCP LAN connection will need to be changed to a static IP with a similar range to the Sequoia's IP address (factory default setting: 210.100.100.151). Alternatively, change the IP address of the Sequoia so that it has a similar range to the controlling computer.

Method 1: Change the IP Address of the Controlling Computer

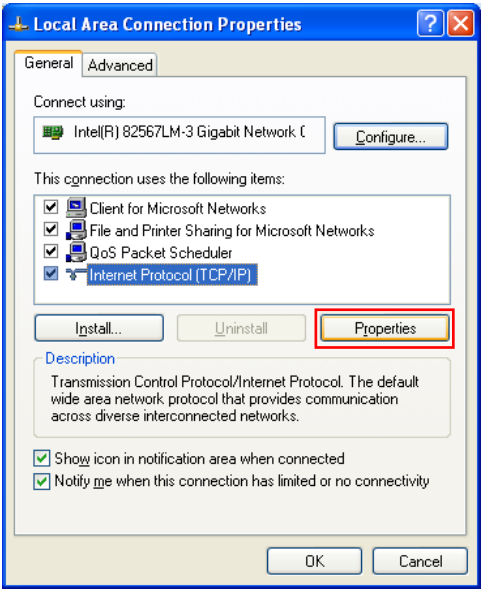
1. On your computer, click **Start**, and then right-click the mouse on **My Network Places**, and click **Properties**.



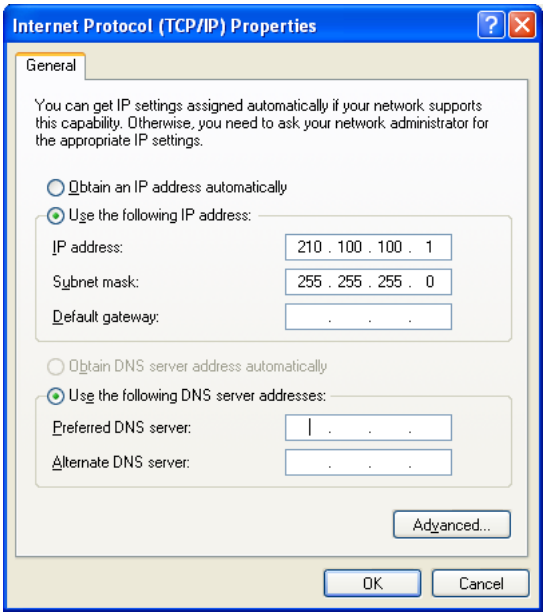
2. When the next screen appears, right-click the **Local Area Connection** icon, then click **Properties**.



3. When the next screen appears, click to highlight **Internet Protocol (TCP/IP)**, and then click **Properties**.



4. When the next screen appears, click the radio button to select **Use the following IP address:** and then enter the **IP address: 210 . 100 . 100 . x** (where **x** is any value from **1** – **253**), and **Subnet mask: 255 . 255 . 255 . 0**.

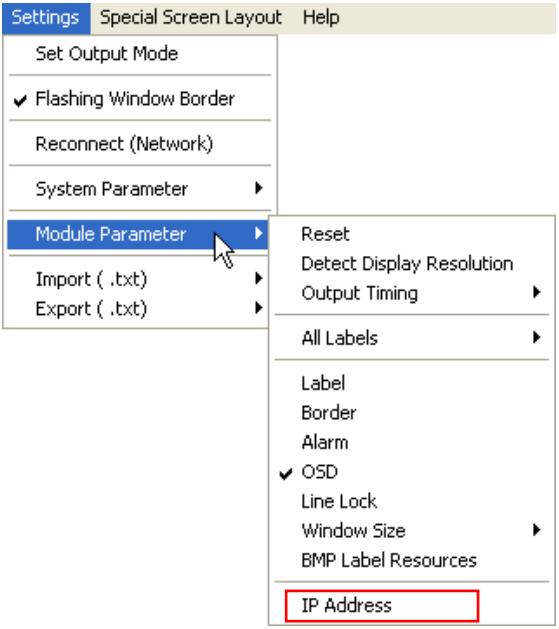


5. Click **OK** to exit.

Method 2: Change the IP Address of the Sequoia

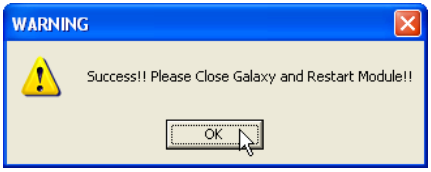
1. Run the Phoenix-G software (refer to the next section "Starting the Phoenix-G Configuration Software").

2. When the Phoenix-G software screen appears, click **Settings** then **Module Parameter**. Click **IP Address**.



3. When the following screen appears, enter the new **IP address**, **Subnet mask**, and **Gateway** to match the value of the controlling computer. Then, click **OK**.

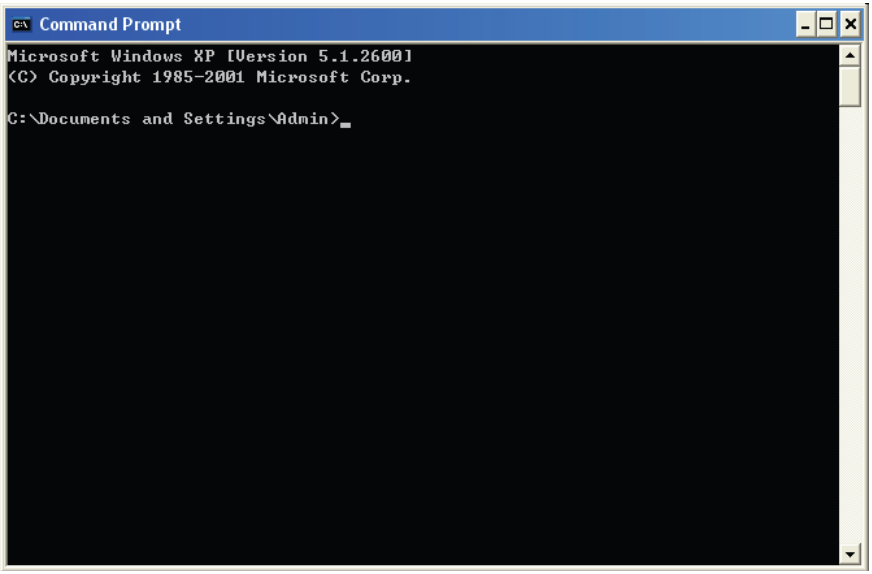
4. When the following screen appears, click **OK**. Close the Phoenix-G program and restart the Sequoia.



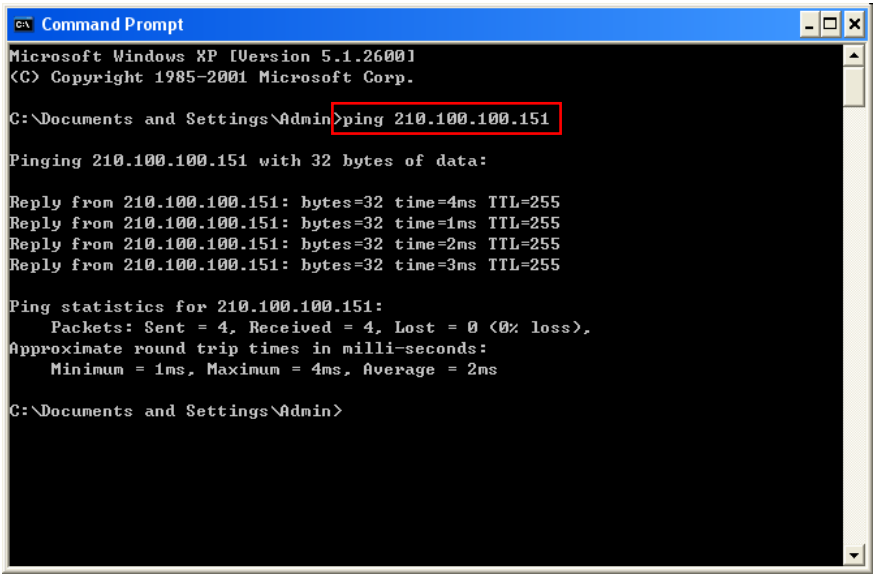
Pinging the Sequoia

Make sure you can ping the Sequoia at "210.100.100.151" (factory-default IP address), by performing the following steps:

1. Click **Start→All Programs→Accessories→Command Prompt**. The following screen appears.



2. Type “ping 210.100.100.151” and the following screen appears to signify a successful communication.



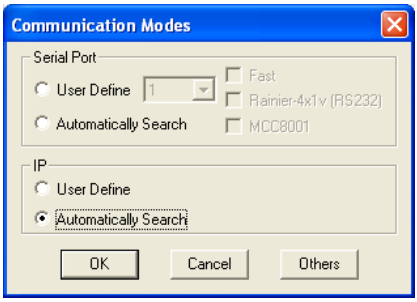
3. Type “exit” to exit the **Command Prompt** screen.

Starting the Phoenix-G Configuration Software

To start the Phoenix-G configuration software, perform the following steps:

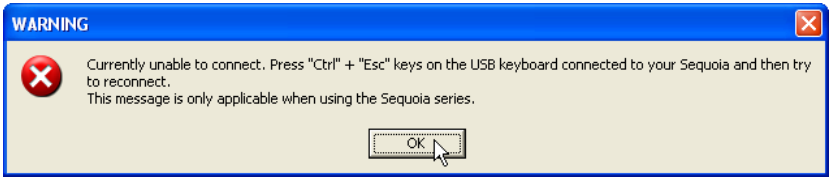
1. Copy the “Phoenix-G-V31x.exe” file to your designated computer.

2. Run the Phoenix-G software by double-clicking the "Phoenix-G-V31x.exe" file. When the following screen appears, under **IP** select **User Define** if you know the IP address assigned to your Sequoia or select **Automatically Search**.



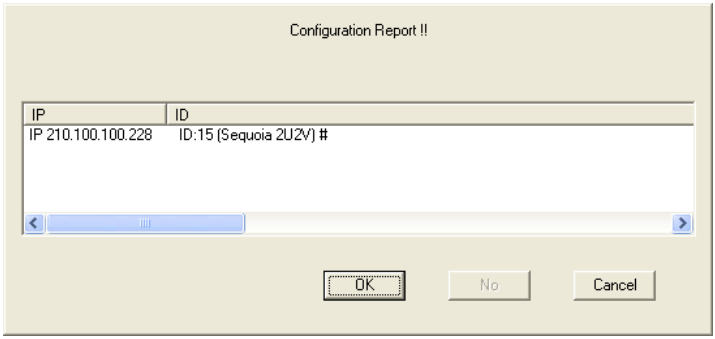
3. Before clicking **OK** (next step), press the **Ctrl** + **Esc** keys on your keyboard to make sure that you are not in host (MKC – mouse keyboard controller) mode.

> **NOTE:** The following warning message may appear in case you forgot to press the **Ctrl** + **Esc** keys.

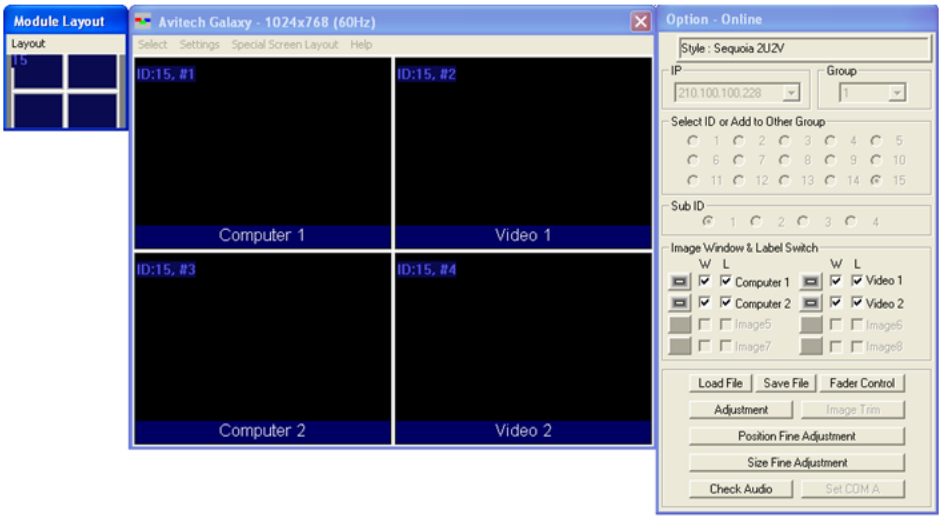


4. Click **OK**. Your computer will automatically start to search for your Sequoia.

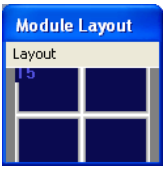
5. Upon detection of your device, the following screen will appear to confirm connection to your Sequoia.



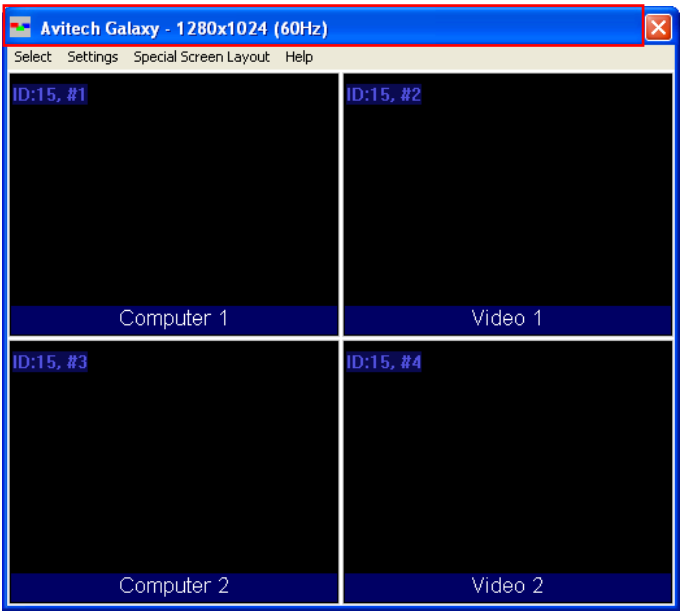
6. Click **OK** and the following screens appear: **Module Layout** window, **Phoenix-G** control window, and **Option** window.



- **Module Layout** window contains the bird's eye view of the window layout in the system.



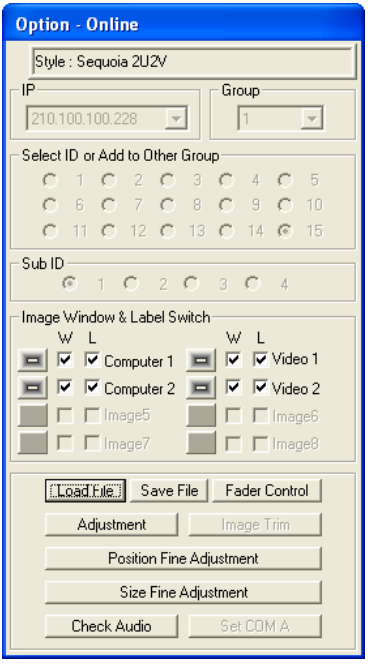
- **Phoenix-G** control window is for creating and configuring the layout.



The following items can be found on the title bar:

- *Logo icon* **Avitech Phoenix-G**: proprietary logo and the name of the software.
- **1280×1024 (60Hz)**: shows the optimal output resolution and frequency of your monitor display.

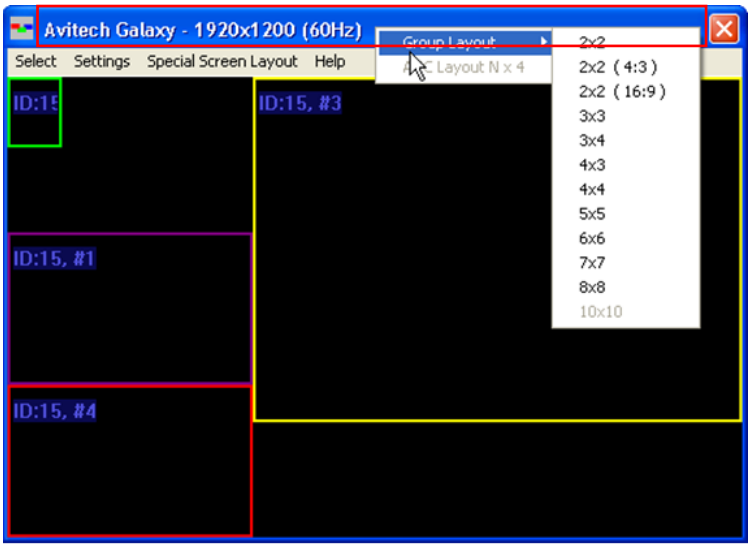
- The **Option** window is for group and video window / label setup; save / load file; fader control; adjust image; window size / position setting, and monitor audio.



7. Right-click the mouse on the title bar to access the **Group Layout** menu. Select from **2**×**2** up to **7**×**7** as possible grid positions on the monitor display.

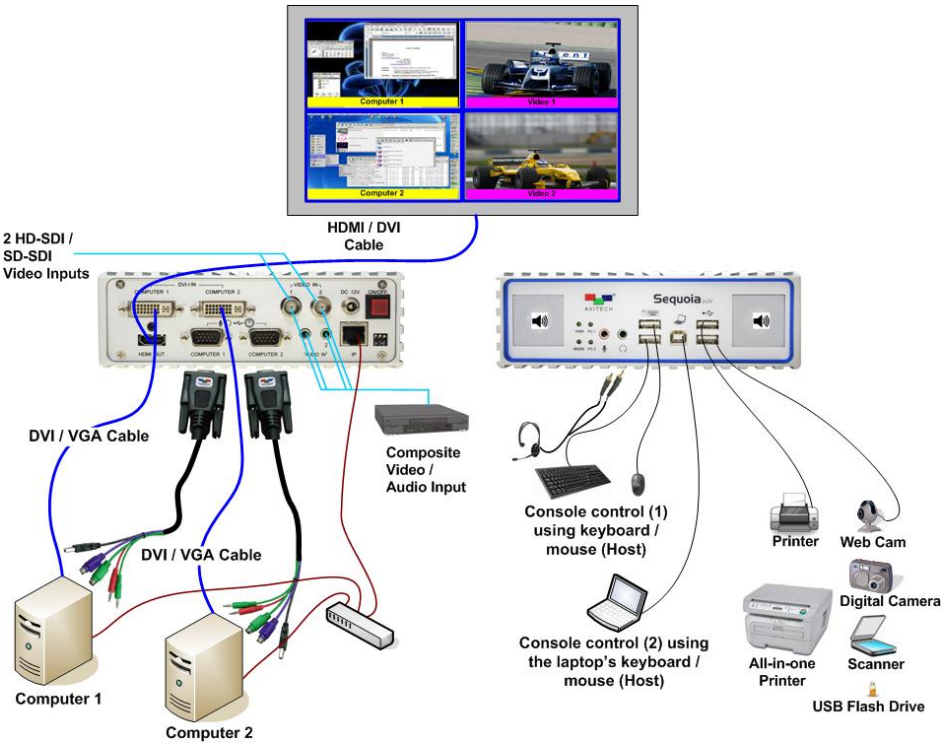
NOTE:

- The layout size available for your particular model will depend on the monitor display's resolution as well as the smallest window size limitation.
- An **8**×**8** grid position is possible when the OSD (on screen display) is turned off.



Making the Connections (Ordinary Monitor Display)

The following figure shows a typical setup with an Avitech Sequoia 2x2V module connected to two computer systems.



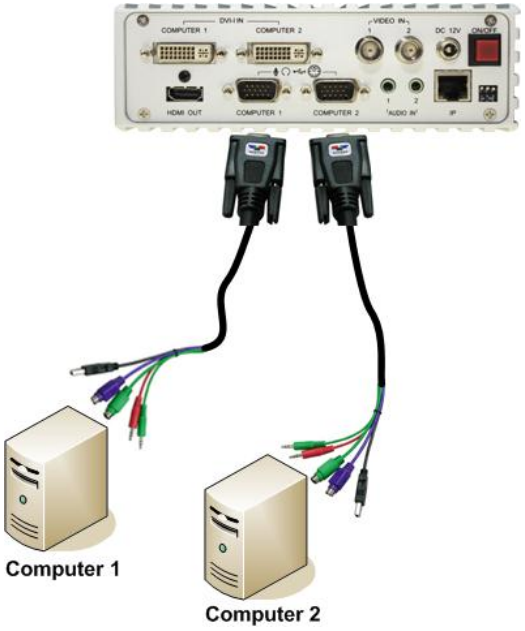
To set up the Avitech Sequoia with two computer systems, perform the following steps by referencing the previous figure:

1. The two optional stands allow you to save space when using the Sequoia. Carefully slide the stands onto the Sequoia, taking care to observe the correct orientation.

> **NOTE:** The Sequoia side with the smooth flat surface (without grooves) should fit into the stand.

> **WARNING:** DO NOT place any objects on the top or side panels of the Sequoia 2x2V to avoid affecting its internal components heat dissipation process.

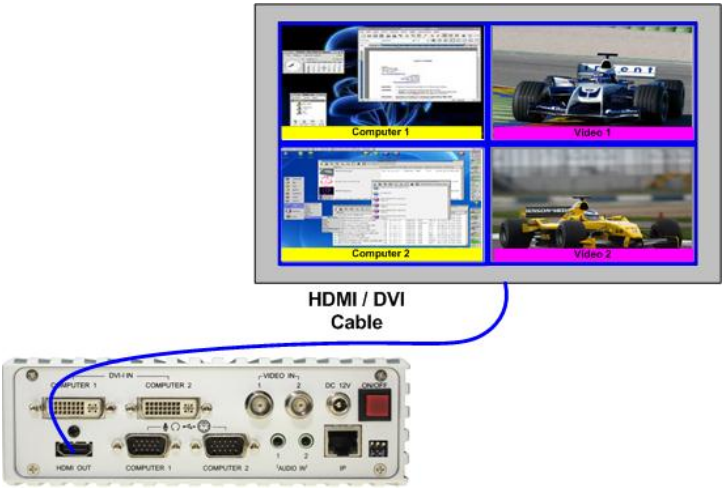
2. Connect one end of the Sequoia all-in-one cable to the **COMPUTER 1** connector on the rear panel. Connect the other end to the first computer system's USB / PS-2 and audio ports by matching the colors of the respective connectors. Connect another Sequoia all-in-one cable to the **COMPUTER 2** connector on the rear panel and the other end to the second computer system's USB / PS-2, and audio ports.



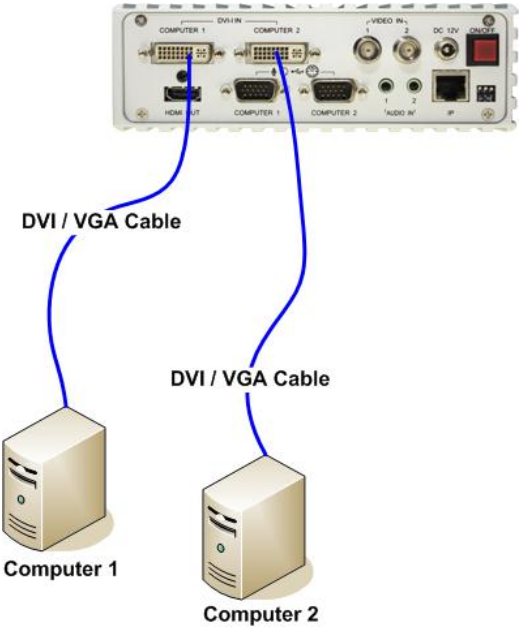
IMPORTANT:

- We highly recommend using a USB connection instead of a PS-2 connection when available. In case no USB connection is available and you must use a PS-2 connection, make sure to first power on your Sequoia (refer to a later step), then turn on your computer system afterwards.
- **(For Windows 2000 users)** Upon connecting the USB device for the first time on your computer system, you may be required to perform the on-screen steps to be able to use the USB device.

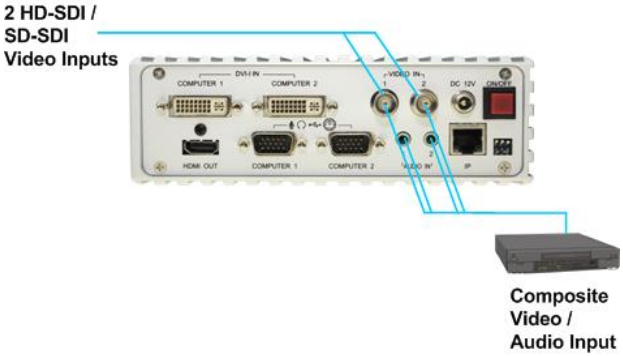
3. Connect the monitor display's DVI / HDMI signal cable (a DVI-to-HDMI converter may be required) to the Sequoia's **HDMI OUT** connector on the rear panel.



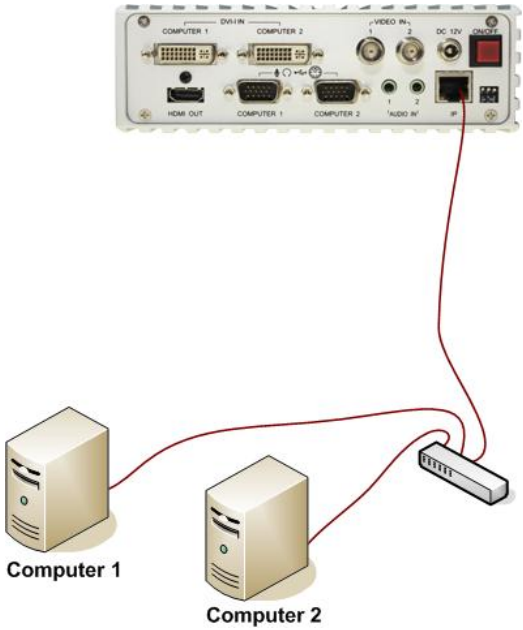
4. Connect one end of the DVI / VGA / YPbPr signal cable (a VGA-to-DVI converter may be required) to the **DVI-I IN COMPUTER 1** connector on the rear panel. Connect the other end to the first computer system's DVI / VGA port. Connect another DVI / VGA / YPbPr signal cable to the **DVI-I IN COMPUTER 2** connector on the rear panel and the other end to the second computer system's DVI / VGA port.



5. Connect the two HD-SDI / SD-SDI / composite signal cables to the **VIDEO IN 1** and **VIDEO IN 2** connectors; and the two audio signal cables to the respective **AUDIO IN 1** and **AUDIO IN 2** connectors on the rear panel.



6. Connect the Ethernet cable from the **IP** port on the Sequoia's rear panel to the router. Connect one Ethernet cable from the router to the first computer and another Ethernet cable from the router to the second computer.



7. Connect the mouse and keyboard devices to the mouse and keyboard USB ports located on the Sequoia's front panel.

> **CAUTION:** Non-standard keyboards (e.g., keyboard with USB hub feature, keyboard that needs driver installation, programmable keyboard, etc.) are not supported.

8. Connect one end of the 12 V DC power adapter to the Sequoia by turning the head to screw it on securely.

> **NOTE (for USA customers only):** Connect one end of the included AC power cord to the 12 V DC power adapter and the other end to a power outlet (make sure that power is available).

9. Press the power switch **On/Off** to the ON position. The image will be displayed on the monitor display.

10. Turn on the power or re-boot the connected first / second computer systems at this time if you are using the PS-2 connection instead of the USB connection (refer to Step 2).

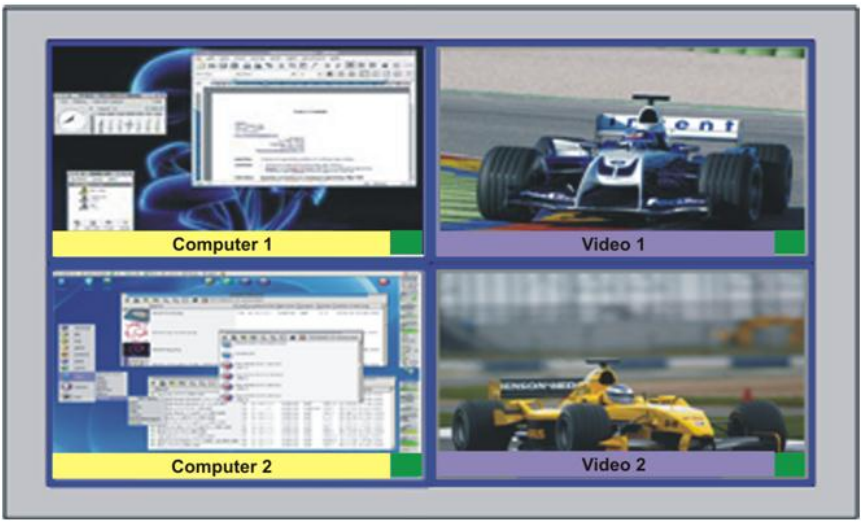
> **NOTE:** There is no need to re-boot the computer system(s) if you are using the USB connection (Plug-and-Play feature).

11. Move the mouse or press **Pause**/**Break** key and you will see the mouse pointer on the monitor display.

12. Move the mouse pointer to the window's top right portion of the particular computer. When the pop-up menu S ↵ ⛶ appears click the "↵" symbol.

You can now use the mouse or keyboard hotkeys to perform various tasks (refer to the next chapter for a description of the hotkeys functions). The default mouse and keyboard are located on the Sequoia (Host) end.

13. To enable audio output on any window, double-click the audio tally and it will turn to to signify that audio output is coming from a window.



NOTE: By default, the audio output would correspond to the active window. To enable audio output other than the active window, disable the item **Audio Output from Active Window** (remove checkmark) under **Settings→System Parameter→Sequoia Properties** in the Phoenix-G program (refer to chapter 3 for details).

Use the "**Ctrl** + **O**" (mute) and "←" (decrease volume level) / "→" (increase volume level) hotkeys for audio control.

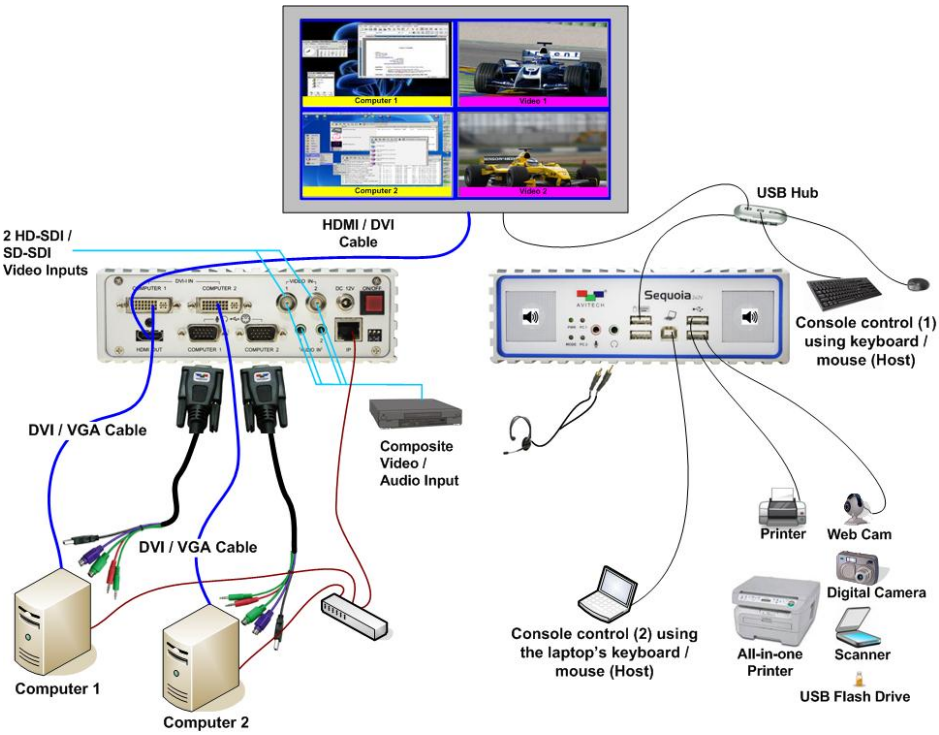
IMPORTANT (when using the Sequoia with Mac O/S):

- Before using the Sequoia you need to enable the following – **System Preference→(System) Universal Access→Enable access for assistive devices**. Otherwise, only the mouse will function properly; the keyboard may not work.
- We also recommend that you enable the following: **System Preference→(Hardware) Keyboard→Use all F1, F2, etc. keys as standard function keys**. So that the function of **F1**, **F2** ... **F12** will have their intended function. If not enabled, then pressing these keys will have no effect. Another solution will be to press the **Fn** key first before pressing **F1**, **F2** ... **F12**.

Making the Connections (Touchscreen Monitor Display)

> **IMPORTANT:** If you were using the cascade function and now want to switch to using the touchscreen monitor display (touchscreen and cascade function cannot co-exist on your Sequoia), then you need to perform the steps to upgrade the USB Host controller firmware that supports the touchscreen function. Refer to Appendix A "USB Host Controller Firmware" section for details.

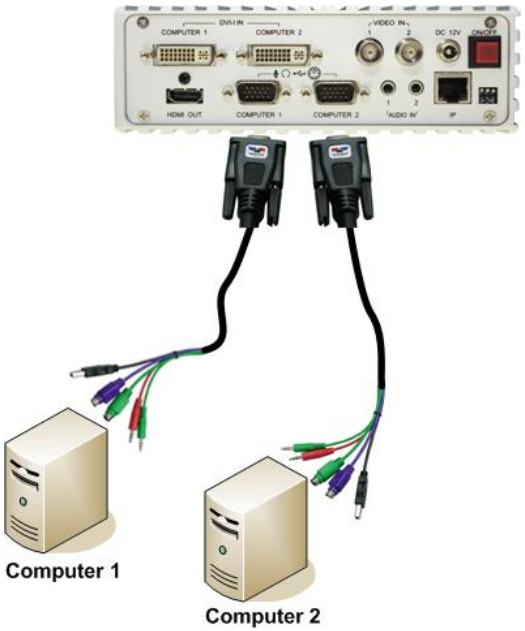
The following figure shows a typical setup with an Avitech Sequoia 2x2V module connected to two computer systems and a touchscreen monitor display via a USB hub.



To set up the Avitech Sequoia with two computer systems, perform the following steps by referencing the previous figure:

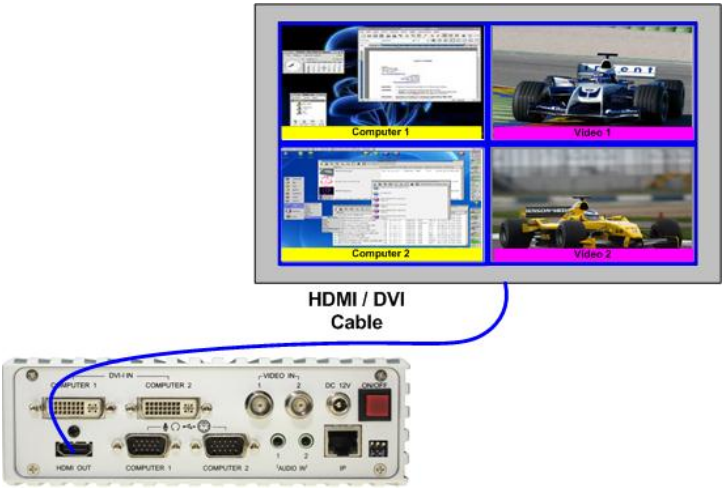
> **WARNING:** DO NOT place any objects on the top or side panels of the Sequoia 2x2V to avoid affecting its internal components heat dissipation process.

1. Connect one end of the Sequoia all-in-one cable to the **COMPUTER 1** connector on the rear panel. Connect the other end to the first computer system's USB / PS-2 and audio ports by matching the colors of the respective connectors. Connect another Sequoia all-in-one cable to the **COMPUTER 2** connector on the rear panel and the other end to the second computer system's USB / PS-2, and audio ports.

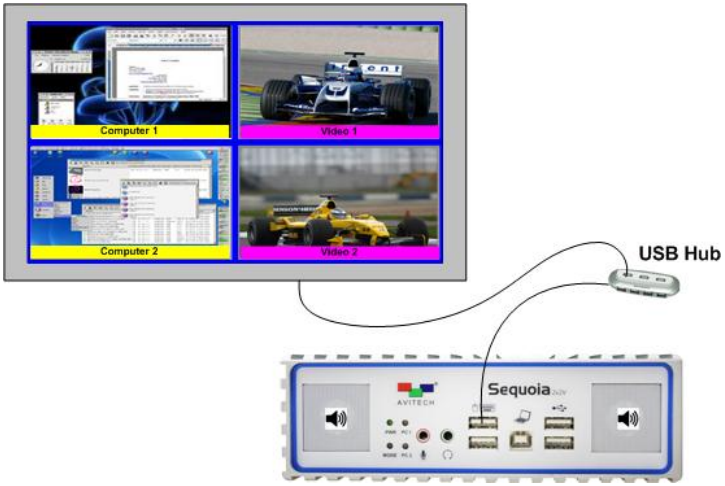


> **IMPORTANT:**
> - We highly recommend using a USB connection instead of a PS-2 connection when available. In case no USB connection is available and you must use a PS-2 connection, make sure to first power on your Sequoia (refer to a later step), then turn on your computer system afterwards.
> - **(For Windows 2000 users)** Upon connecting the USB device for the first time on your computer system, you may be required to perform the on-screen steps to be able to use the USB device.

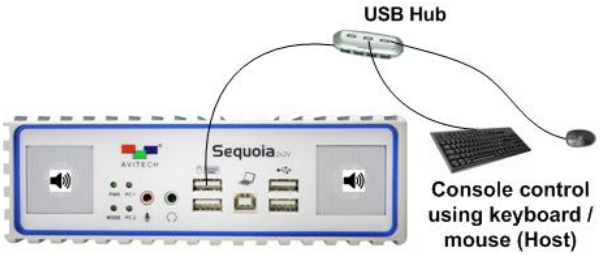
2. Connect the touchscreen monitor display's DVI / HDMI signal cable (a DVI-to-HDMI converter may be required) to the Sequoia's **HDMI OUT** connector on the rear panel.



3. Connect a USB hub to the mouse or keyboard USB ports located on the Sequoia's front panel. Then connect the touchscreen monitor display to the USB hub.

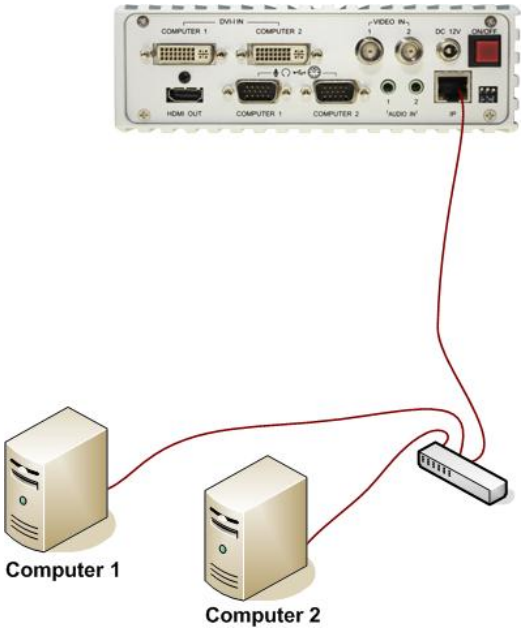


4. Connect the mouse and keyboard devices to the USB hub.

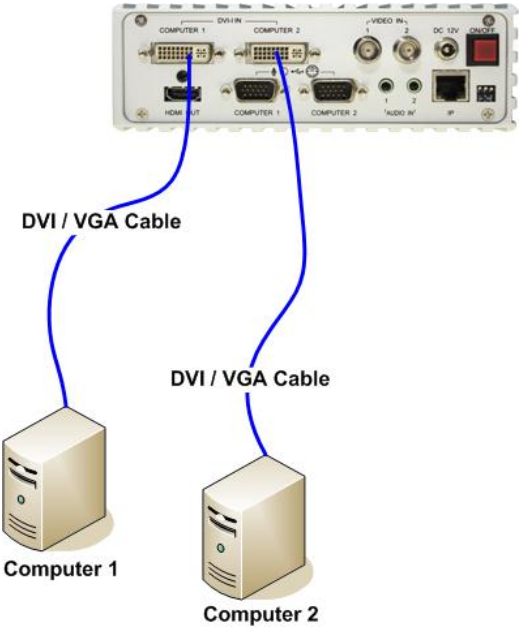


CAUTION: Non-standard keyboards (e.g., keyboard with USB hub feature, keyboard that needs driver installation, programmable keyboard, etc.) are not supported.

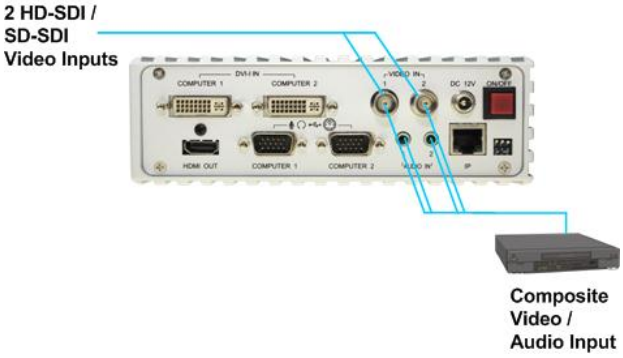
5. Connect the Ethernet cable from the **IP** port on the Sequoia's rear panel to the router. Connect one Ethernet cable from the router to the first computer and another Ethernet cable from the router to the second computer.



6. Connect one end of the DVI / VGA / YPbPr signal cable (a VGA-to-DVI converter may be required) to the **DVI-I IN COMPUTER 1** connector on the rear panel. Connect the other end to the first computer system's DVI / VGA port. Connect another DVI / VGA / YPbPr signal cable to the **DVI-I IN COMPUTER 2** connector on the rear panel and the other end to the second computer system's DVI / VGA port.



7. Connect the two HD-SDI / SD-SDI / composite signal cables to the **VIDEO IN 1** and **VIDEO IN 2** connectors; and the two audio signal cables to the respective **AUDIO IN 1** and **AUDIO IN 2** connectors on the rear panel.



8. Connect one end of the 12 V DC power adapter to the Sequoia by turning the head to screw it on securely.

   NOTE (for USA customers only): Connect one end of the included AC power cord to the 12 V DC power adapter and the other end to a power outlet (make sure that power is available).

9. Press the power switch **On/Off** to the ON position. The image will be displayed on the monitor display.

10. Turn on the power or re-boot the connected first / second computer systems at this time if you are using the PS-2 connection instead of the USB connection (refer to Step 1).

    NOTE: There is no need to re-boot the computer system(s) if you are using the USB connection (Plug-and-Play feature).

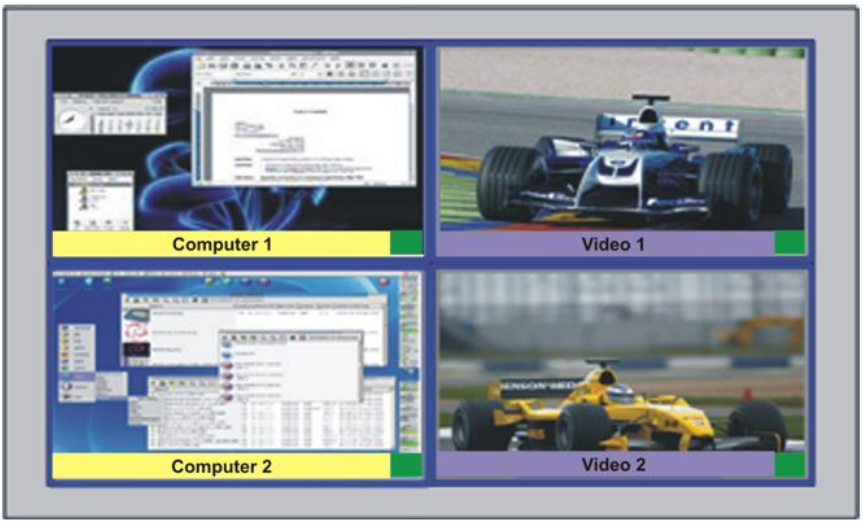
11. Press **Ctrl** + **T** on your keyboard to perform screen calibration (when using your touchscreen monitor with the Sequoia for the very first time, or upon resetting your Sequoia to the default state). Use your finger tip or a stylus to tap and continue pressing on the center of the ⛶ symbol that will appear on the top left portion for approximately five (5) seconds until the next ⛶ symbol appears on the top right portion. Perform the same step for this, as well as the ⛶ symbol that would appear on the lower left portion and lower right portion of your monitor display.

12. Upon completing screen calibration, the four windows will re-appear on screen. Move the mouse or press **Pause**/**Break** key and you will see the mouse pointer on the monitor display.

13. Move the mouse pointer to the window's top right portion of the particular computer. When the pop-up menu S ↵ ⛶ appears click the "↵" symbol.

    You can now use the mouse or keyboard hotkeys to perform various tasks (refer to the next chapter for a description of the hotkeys functions as well as the instructions on using the touchscreen). The default mouse and keyboard is located on the Sequoia (Host) end.

14. To enable audio output on any window, double-click the audio tally and it will turn to to signify that audio output is coming from a window.



> **NOTE:** By default, the audio output would correspond to the active window. To enable audio output other than the active window, disable the item **Audio Output from Active Window** (remove checkmark) under **Settings→System Parameter→Sequoia Properties** in the Phoenix-G program (refer to chapter 3 for details).

Use the "**Ctrl** + **O**" (mute) and "←" (decrease volume level) / "→" (increase volume level) hotkeys for audio control.

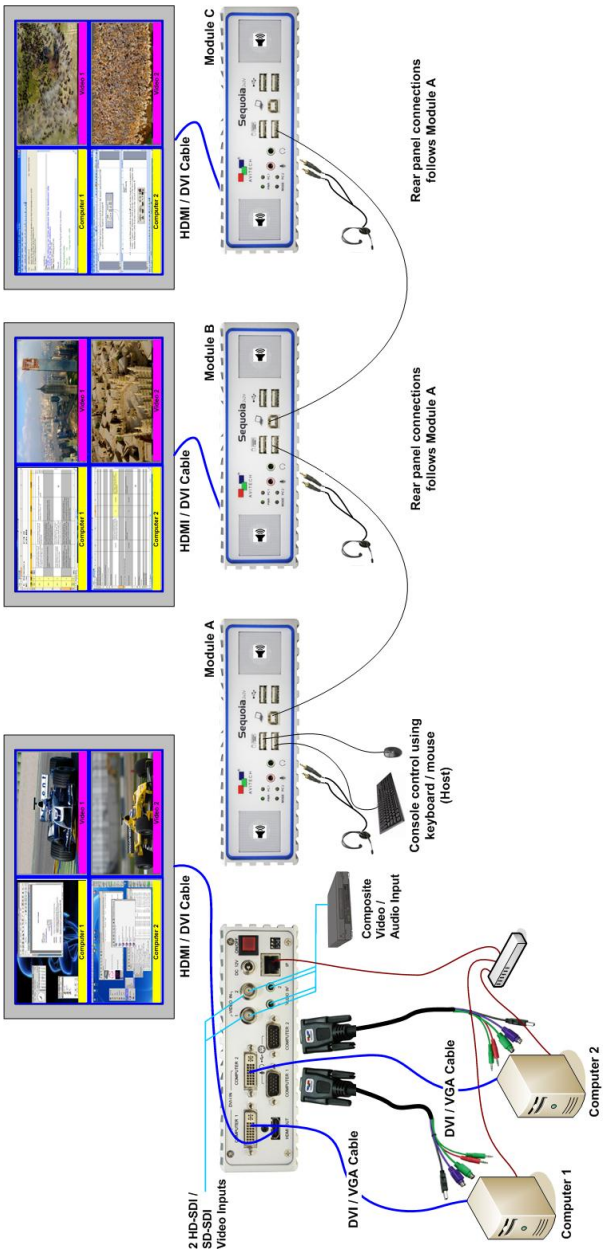
Cascading

> **IMPORTANT:** If you were using the touchscreen function and now want to cascade (maximum three modules) Sequoia 2x2V modules (cascade and touchscreen function cannot co-exist on your Sequoia), then you need to perform the steps to upgrade the USB Host controller firmware that supports the cascade function. Refer to Appendix A "USB Host Controller Firmware" section for details.

Cascading is the technique of "daisy-chaining" three modules through a USB-A to USB-B cable.

> **NOTE:** Only the keyboard and mouse device function is cascaded. Other functions (e.g., audio, video, and USB hub) would still depend on output from the individual computer connected to each module.

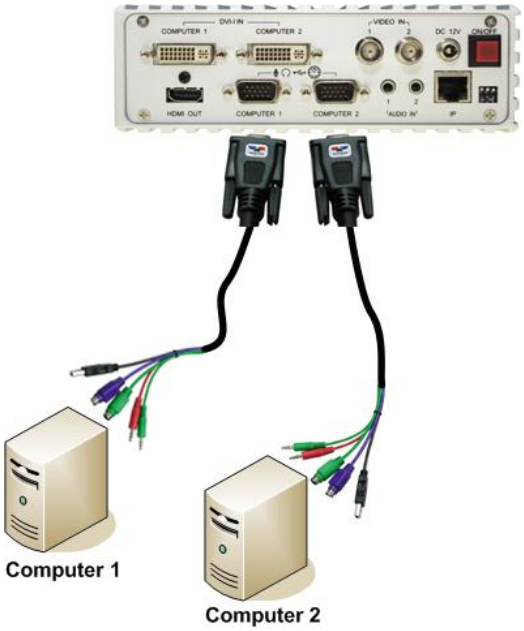
The following figure shows three Sequoia 2x2V modules cascaded together; with each module connected to two computer systems.



To cascade three Sequoia 2x2V modules, perform the following steps:

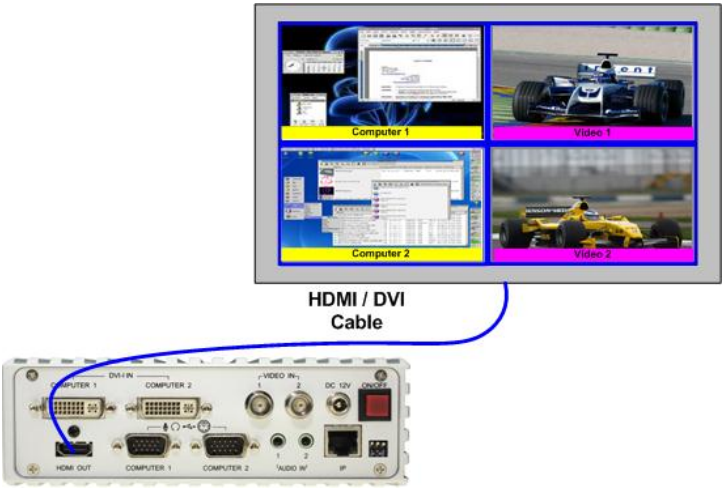
> **WARNING:** DO NOT place any objects on the top or side panels of the Sequoia 2x2V to avoid affecting its internal components heat dissipation process.

1. Connect one end of the Sequoia all-in-one cable to the **COMPUTER 1** connector on the rear panel of module A. Connect the other end to the first computer system's USB / PS-2 and audio ports by matching the colors of the respective connectors. Connect another Sequoia all-in-one cable to the **COMPUTER 2** connector on the rear panel and the other end to the second computer system's USB / PS-2, and audio ports.

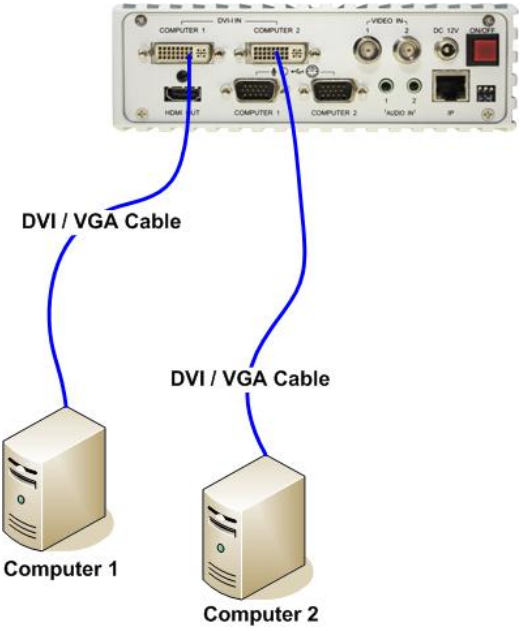


> **IMPORTANT:**
> - We highly recommend using a USB connection instead of a PS-2 connection when available. In case no USB connection is available and you must use a PS-2 connection, make sure to first power on your Sequoia (refer to a later step), then turn on your computer system afterwards.
> - **(For Windows 2000 users)** Upon connecting the USB device for the first time on your computer system, you may be required to perform the on-screen steps to be able to use the USB device.

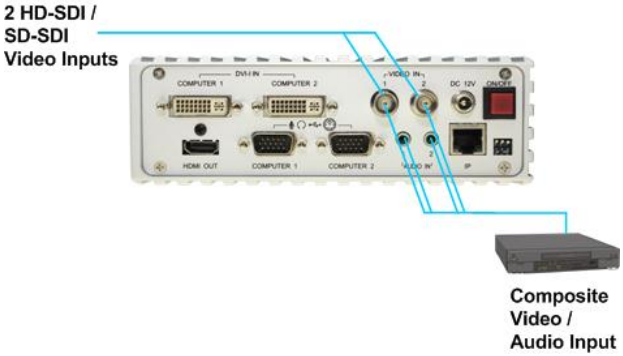
2. Connect the monitor display's DVI / HDMI signal cable (a DVI-to-HDMI converter may be required) to the Sequoia's **HDMI OUT** connector on the rear panel.



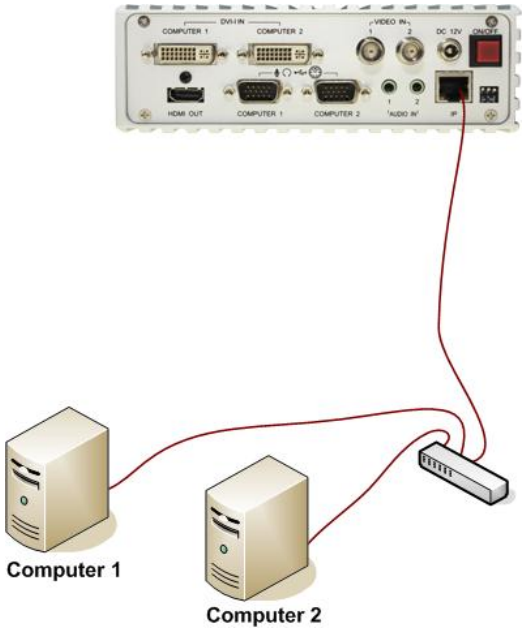
3. Connect one end of the DVI / VGA / YPbPr signal cable (a VGA-to-DVI converter may be required) to the **DVI-I IN COMPUTER 1** connector on the rear panel. Connect the other end to the first computer system's DVI / VGA port. Connect another DVI / VGA / YPbPr signal cable to the **DVI-I IN COMPUTER 2** connector on the rear panel and the other end to the second computer system's DVI / VGA port.



4. Connect the two HD-SDI / SD-SDI / composite signal cables to the **VIDEO IN 1** and **VIDEO IN 2** connectors; and the two audio signal cables to the respective **AUDIO IN 1** and **AUDIO IN 2** connectors on the rear panel.



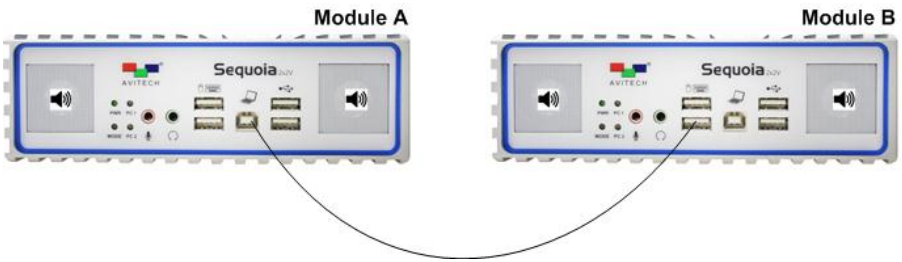
5. Connect the Ethernet cable from the **IP** port on the Sequoia's rear panel to the router. Connect one Ethernet cable from the router to the first computer and another Ethernet cable from the router to the second computer.



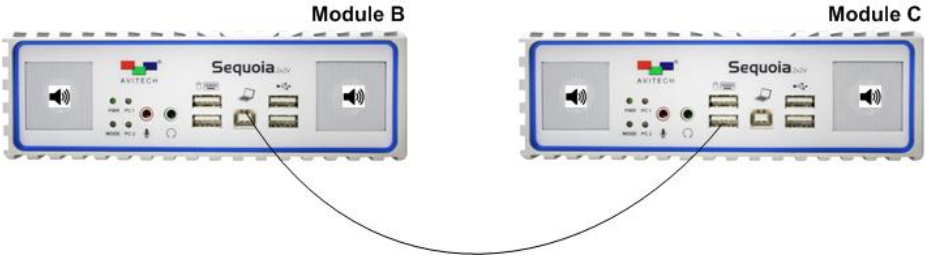
6. Perform steps 1 to 5 again for modules B and C.
7. Connect the mouse and keyboard devices to the mouse and keyboard USB ports located on Sequoia module A's front panel.

CAUTION: Non-standard keyboards (e.g., keyboard with USB hub feature, keyboard that needs driver installation, programmable keyboard, etc.) are not supported.

8. Use a USB-A to USB-B cable to connect one end to module A's USB B-type port and another end to module B's USB A-type port (upper or lower).



9. Use another USB-A to USB-B cable to connect one end to module B's USB B-type port and another end to module C's USB A-type port (upper or lower).



10. Connect one end of the 12 V DC power adapter to module A by turning the head to screw it on securely.

11. Connect the power adapters to modules B and C.

> **NOTE (for USA customers only):** Connect one end of the included AC power cord to the 12 V DC power adapter and the other end to a power outlet (make sure that power is available) for all three modules.

12. Press the power switch **On/Off** to the ON position on all three modules. The image will be displayed on the three monitor displays.

13. Turn on the power or re-boot the connected first / second computer systems connected to all three modules at this time if you are using the PS-2 connection instead of the USB connection (refer to Step 1).

> **NOTE:** There is no need to re-boot the computer system(s) if you are using the USB connection (Plug-and-Play feature).

14. Move the mouse or press **Pause**/**Break** key and you will see the mouse pointer on the monitor display.

15. Place the mouse pointer on the monitor display of the module (module A) with the mouse and keyboard connected to it, then perform the three cascaded module's system configuration reset by pressing **Ctrl** + **Shift** + **Alt** + **R** hotkeys (would take approximately four seconds for each module, total of approximately twelve seconds). During the process each module's **MODE** LED would be off, one turn at a time.

16. Afterwards, move the mouse pointer over all three monitor displays to allow system to complete USB device initialization.

NOTE: If in case the mouse pointer is unable to move over all three monitor displays, perform steps 15 and 16 again.

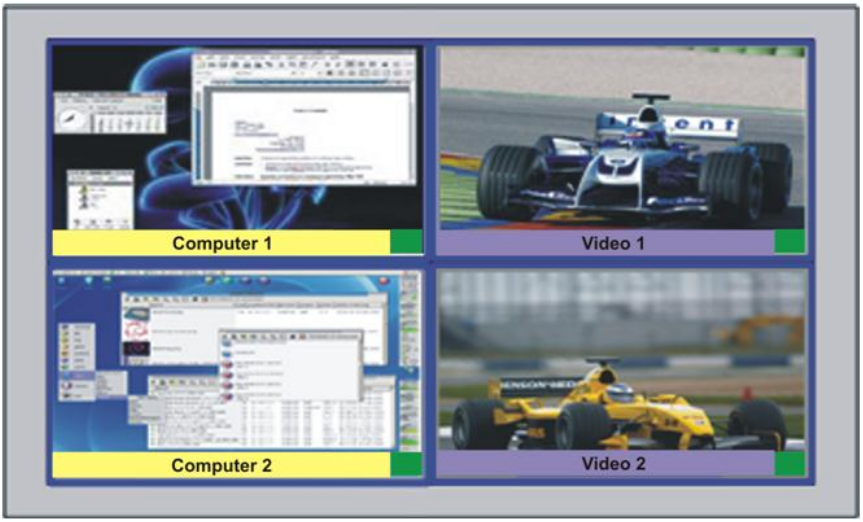
17. Move the mouse pointer to the window's top right portion of the particular computer. When the pop-up menu S ↵ appears click the "↵" symbol.

    You can now use the mouse or keyboard hotkeys to perform various tasks (refer to the next chapter for a description of the hotkeys functions). The default mouse and keyboard are located on module A's (Host) end.

18. To enable audio output on a particular window of a monitor display, double-click the audio tally (or) of a selected window.
    Scenario 1 –
    upon double-clicking the audio tally of a selected window, any audio tally appearing on any other windows will turn to to signify that all audio output will be terminated. Double-click the audio tally of the selected window again and it will turn to to signify that audio output is coming from the particular window.

    Scenario 2 –
    upon double-clicking the audio tally of a selected window, it will turn to as well as any other audio tally appearing on any other windows to signify that all audio output will be terminated. Double-click the audio tally of the selected window again and it will turn to to signify that audio output is coming from the particular window.

Scenario 3 –
when all the windows audio output is turned off (all tally appears), double-click the audio tally of the selected window and it will turn to to signify that audio output is coming from the particular window.



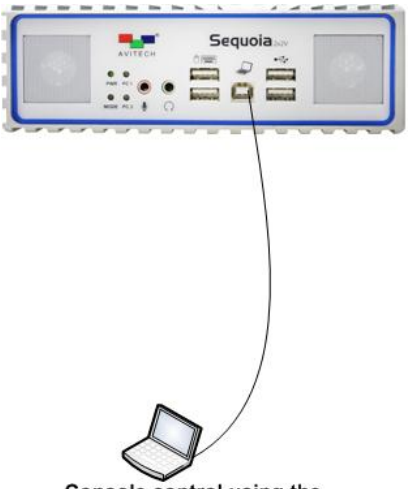
NOTE: By default, the audio output would correspond to the active window. To enable audio output other than the active window, disable the item **Audio Output from Active Window** (remove checkmark) under **Settings→System Parameter→Sequoia Properties** in the Phoenix-G program (refer to chapter 3 for details).

Use the "**Ctrl** + **O**" (mute) and "←" (decrease volume level) / "→" (increase volume level) hotkeys for audio control.

Installing the Avitech Hook Software

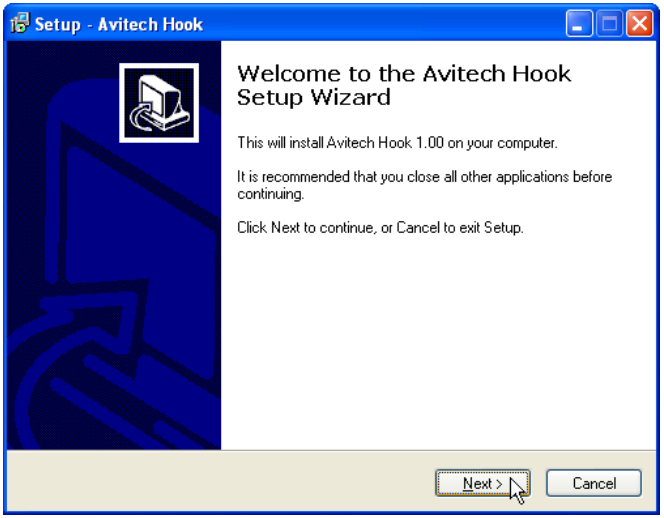
The Sequoia Hook software is designed for use on the remote computer to control the two computers connected to Sequoia 2x2V. This program requires a one time installation only. To install the Hook software, perform the following steps:

1. Connect the USB B-type connector end of the included USB-A to USB-B cable to the USB B-type connector on the Sequoia's front panel. Connect the cable's other USB A-type connector end to the remote computer's USB port (make sure that the mouse and keyboard devices are connected properly to the remote computer).

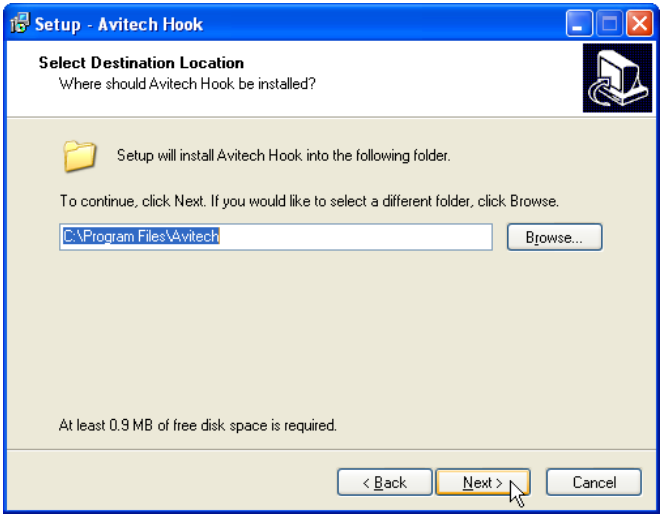


2. Copy the file "Avitech Hook-1.00 setup.exe" to your remote computer's local hard drive.

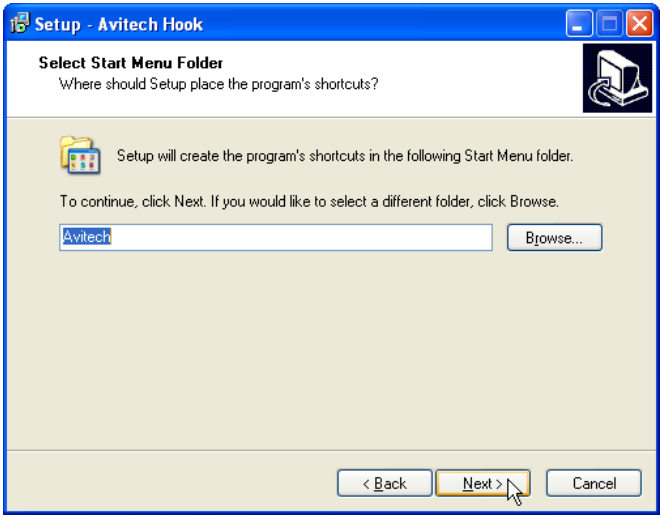
3. Double-click the file “Avitech Hook-1.00 setup.exe” and the **Avitech Hook Setup Wizard** screen will appear. Click **Next** to continue.



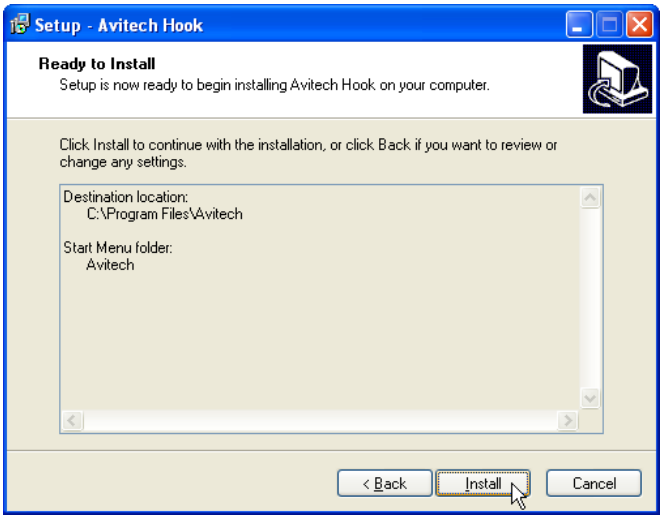
4. When the following screen appears, select the **Destination Location**. Then click **Next** to continue.



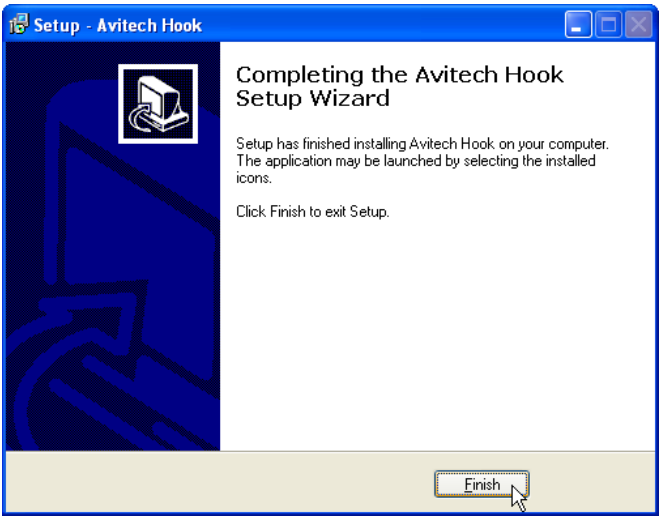
5. When the following screen appears, select the **Start Menu Folder**. Then click **Next** to continue.



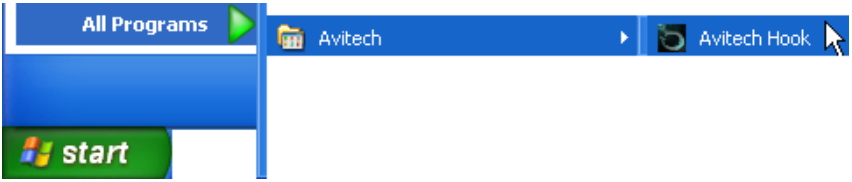
6. When the following screen appears, click **Install** to continue.



7. When the following screen appears, click **Finish** to complete the installation.



8. To activate the Hook software, click **Start➔All Programs➔Avitech➔ Avitech Hook**.

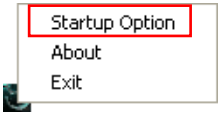


The 

icon will appear in your Microsoft® Windows® system tray and the **Avitech Hook** window will appear onscreen to signify that you can start the utility.

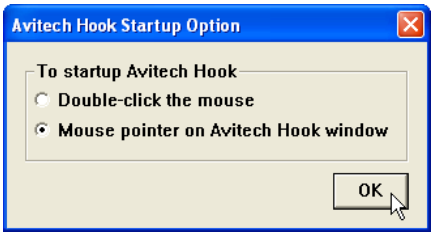
NOTE: You can enlarge or shrink the size of the **Avitech Hook** window by placing the mouse pointer on the side of the window and dragging correspondingly. You can also move the window's location.

9. Use the mouse to right-click the **Avitech Hook** icon and click **Startup Option**



to select the method of starting-up the Hook software.

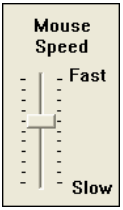
Alternatively, click **Option→Startup Option** in the **Avitech Hook** window and the following screen will appear.

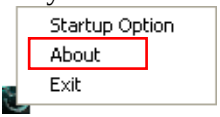


10. Select the startup method; and then click **OK**.

11. Use your preferred method (**Double-click the mouse** or place **Mouse pointer on Hook window**) of starting up the Hook software. The following screen will appear.

12. Left-click the **Avitech Hook** icon, or click **Mouse Speed** on the **Avitech Hook** window if you need to change the **Mouse** response **Speed** (**Slow** / **Fast**), by using the slider. The system will remember the setting the next time you reboot the computer.



13. To find out the version information of your Hook software, right-click the **Avitech Hook** icon and click **About** 

, or click **Option**→ **About** on the **Avitech Hook** window.

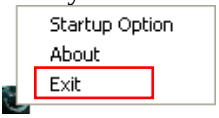
The following shows a sample version information screen.

14. Press the **Alt** + **Ctrl** + **Shift** + **F12** keys to leave the Avitech Hook software. Or, slide the mouse to the right portion of the small window and when the monitor display icon appears, double-click the mouse's right button.

> **NOTE:** If you do not quit the Hook software, then the controlling computer will retain the Hook software interface. Also, without exiting this program, all commands to the computer will not have any effect, except for those sent to the Sequoia.

15. To exit the Avitech Hook software you can perform any of the following:

– right-click the **Avitech Hook** icon and click **Exit**



– click **Option→Exit** on the **Avitech Hook** window, or
– click the **Close** symbol on the right upper portion of the **Avitech Hook** window.

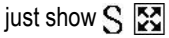
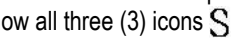
2 Basic Skills

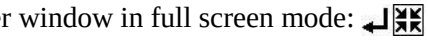
This chapter familiarizes you with using the mouse and keyboard hotkeys to perform the basic operations as well as using the touchscreen monitor display with your Avitech Sequoia.

2.1 Pop-up Selections

Upon moving the host cursor to the top right corner of a particular window, the following pop-up selections may appear.

- On a computer window: 

  NOTE: When system has detected that both the USB / PS-2 ends of the Sequoia all-in-one cable are not connected to the computer system's USB / PS-2 ports, then the above pop-up selection would just show  . Either the USB / PS-2 end of the Sequoia all-in-one cable must be connected to the computer system's USB / PS-2 ports in order for the pop-up selection to show all three (3) icons  .

- On a video window: 
- On a computer window in full screen mode: 
- On a video window in full screen mode: 

   : denotes swap window

   : denotes enter a computer window

   : denotes full screen

   : denotes return from full screen

2.2 Using the Mouse

> **NOTE:** If you are a left-handed user, you may want to configure the mouse to suit your needs. You can swap the two buttons so that you can use the right button as the left button and vice versa (refer to "Sequoia Properties" in Chapter 3 for details).

You can double-click the window of the particular computer you want to control. The next table lists the basic operations you can perform using the mouse.

Function	Action
Window resizing	Drag the border of a window to a desired size.
Window repositioning	Drag a window to a new position.
Window position swapping	Move the host cursor to the top right corner of a window, select the capital letter **S**, and then click the left button. Move the host cursor (still a capital letter **S**) to the destination window and click the left button.
Full screen window	Move the host cursor to the top right corner of a window, select ⛶ then click the left button and the window will maximize to full screen mode. Again move the host cursor to the top right corner of a window, select ⛶ to return back from full screen mode.
Access a remote computer	Method 1: Move the host cursor to the top right corner of a remote computer window, select ↵ then click the left button. The newly accessed remote system will be displayed on the editing window. Method 2: Double-click the mouse when the host cursor is on a remote computer window. The newly accessed remote system will be displayed on the editing window. The remote system that was just exited will be displayed in the window previously occupied by the newly switched remote system. From then on all the mouse and keyboard inputs will be directed to that particular remote computer.
Lock / unlock window layout	Move the host cursor to the top left corner of the display until the mouse pointer becomes a capital letter **L**, then click the left button and the window layout will be locked. Repeat the steps to return from window layout locked mode.

Function	Action
Enable / disable audio output	Double-click the audio tally and it will turn to to signify that audio output is coming from a window. For cascaded system – Double-click the audio tally (or) the first time to cause any other tally to turn . Then, double-click the same audio tally again and it will turn to to signify that audio output is coming from the selected window. **NOTE:** By default, the audio output would correspond to the active window. To enable audio output other than the active window, disable the item **Audio Output from Active Window** (remove checkmark) under **Settings→System Parameter→Sequoia Properties** in the Phoenix-G program (refer to chapter 3 for details).

2.3 Using the Keyboard

The next three tables list the operations you can perform using the keyboard.

Use the following hotkeys in the Host operation mode only. Input letter is not case sensitive.

Keys	Function
Alt + **F#**	Load the user-created preset file (where **F#** is the function key and can be **F1** up to **F12** – maximum up to 12 via Phoenix-G software **Option** menu's **Save File** button).
Alt + **F**	Toggle a particular window's full screen mode on / off where the host cursor is currently residing.
Alt + **L**	Toggle lock / unlock window layout.
Ctrl + **Esc**	Exit the Sequoia operation for user to perform setup using the Phoenix-G software.
Ctrl + **J**	Perform automatic video adjustment on the window where the Host cursor is presently residing. Once in the Automatic Video Adjustment mode the following are two valid inputs:
I	Automatic image adjustment.
G	Automatic image gain adjustment.
	NOTE: This function is only available for the VGA signal input source. For DVI signal input source, use the manual adjustment method via the Phoenix-G

Keys	Function
	program.
Ctrl + **L**	Toggle lock / unlock keyboard and mouse while user is away. The keyboard and mouse will become inoperable when locked.
Ctrl + **O**	Toggle muting the audio output on / off (mute).
Ctrl + **P**	Toggle a window on and off. Where **P** is the processor (window) number (e.g., **Ctrl** + **1** will turn on / off **Computer 1** window; **Ctrl** + **2** will turn on / off the **Video 1** window; **Ctrl** + **3** will turn on / off the **Computer 2** window; **Ctrl** + **4** will turn on / off the **Video 2** window).
Ctrl + **R**	Toggle the lock window aspect ratio of 4:3, 16:9, and no lock for the window where the Host cursor is currently located.
Ctrl + **S**	Save the latest preset to flash memory so that on the next boot-up the latest preset will be loaded. Will also simultaneously save the latest preset to flash memory for cascaded modules.
Ctrl + **Y**	Redo up to ten previous "undone" actions.
Ctrl + **Z**	Undo up to ten previous actions.
F#	Access a remote system (where **F#** is the function key and can be **F1** or **F2**). **F1** will correspond to the **Computer 1** window, while **F2** will correspond to the **Computer 2** window. The newly switched remote system will be displayed on the editing window. The remote system that was just exited will be displayed in the window previously occupied by the newly switched remote system. You can only access a remote system from the screen where it is displayed. **NOTE:** You can also double-click the mouse for the same effect. **IMPORTANT:** When the item **Swap with Active Window** in **Sequoia Properties** window inside the Phoenix-G program is disabled (without checkmark) – pressing this hotkey will not cause both active and newly entered windows to swap position.
Home	When already in full screen mode, toggle between full screen in foreground and full screen in background mode.
Page Up / Page Down	Switch between the three factory-default presets.

Keys	Function
Shift + **F#**	Access a remote system (where **F#** is the function key and can be **F1** or **F2**). **F1** will correspond to the **Computer 1** window, while **F2** will correspond to the **Computer 2** window. You can only access a remote system from the screen where it is displayed. **NOTE:** You can also hold **Shift** and double-click the mouse for the same effect. **IMPORTANT:** When the item **Swap with Active Window** in **Sequoia Properties** window inside the Phoenix-G program is disabled (without checkmark) – pressing this hotkey will cause both active and newly entered windows to swap position.
Shift + **O**	Switch the audio output between the Sequoia's speakers and the **HDMI OUT** port to monitor display's speakers. **NOTE:** This function is not available when connecting the Sequoia's **HDMI OUT** connector to the monitor display via a DVI-to-HDMI converter.
Shift + ← / **Shift** + →	Due to video / image processing delays one could achieve audio / video sync by adjusting audio delay. The Sequoia provides up to 170 milliseconds audio delay adjustment by using Shift and left (decrease) and right (increase) arrow keys.  **NOTE:** This function is only available for audio signal outputted from the Sequoia's **HDMI OUT** connector.
Tab	Move the host cursor from one screen to the other**.**
←	Decrease the volume level (10 levels including mute).  **NOTE:** This function is not available for controlling the audio signal from the **HDMI OUT** port of your Sequoia to the monitor display's speakers.
→	Increase the volume level (10 levels including mute). **NOTE:** This function is not available for controlling the audio signal from the **HDMI OUT** port of your Sequoia to the monitor display's speakers.
↑	Load the previous user-created (via Phoenix-G software **Option** menu's **Save File** button) preset file.
↓	Load the next user-created (via Phoenix-G software **Option** menu's **Save File** button) preset file.

NOTE: Pressing **Ctrl** + **Esc** hotkeys as well as the "Load Preset" action will clear the undo (**Ctrl** + **Z**) / redo (**Ctrl** + **Y**) list in memory.

Use the following hotkeys in the Host operation mode but for three cascaded modules only. Input letter is not case sensitive.

Keys	Function
Ctrl + **Shift** + **Alt** + **R**	Reset the three cascaded module's system configuration.

You can use the following hotkeys in the Remote operation mode.

Keys	Function
Pause Break	To exit from the Remote operation mode to the Host operation mode.
Ctrl + **Esc**	To exit the Sequoia operation for user to perform setup using the Phoenix-G software.
Ctrl + **Shift** + **Alt** + **V**	Run the Microsoft® Notepad program, and then press **Ctrl** + **Shift** + **Alt** + **V** to read the Sequoia firmware version. **NOTE:** This function is available only if the computer and Sequoia is connected via the all-in-one cable's USB port.
Ctrl + **Pause Break** or **Shift** + **Pause Break**	Switch control (cycle) from Computer 1→Computer 2→Computer 1, and so forth. **NOTE:** The controlling function is available only if the computer and Sequoia is connected via the all-in-one cable. **Example 1:** If the Sequoia is connected to two (2) computers via the all-in-one cables, then hotkey switching would be from Computer 1→Computer 2→ Computer 1, and so forth. **Example 2:** If the Sequoia is connected to a computer via the all-in-one cable and Computer 2 connector has no connection, then no hotkey switching would occur. **CAUTION:** Make sure to press **Ctrl** or **Shift** key first because **Pause/Break** key would cause system exit from Remote operation mode to Host operation mode.

> **NOTE:** When using Apple's MacBook computer, use "**control** + **option (Alt)** + **shift** + **k**" to perform Host / Remote mode switch because there is no "**Pause/Break**" key.

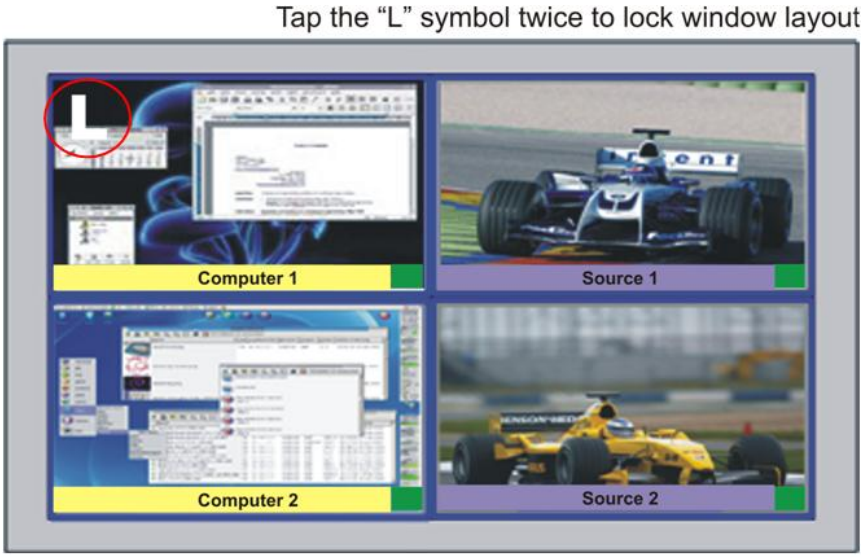
2.4 Using the Touchscreen (Optional)

This section illustrates the correct method to perform various operations when using the touchscreen monitor display.

IMPORTANT: Make sure to perform screen calibration when using your touchscreen monitor with the Sequoia for the very first time, or upon resetting your Sequoia to the default state (refer to "Making the Connections (Touchscreen Monitor Display)" step 12 in chapter 1 for details).

Lock / Unlock Window Layout

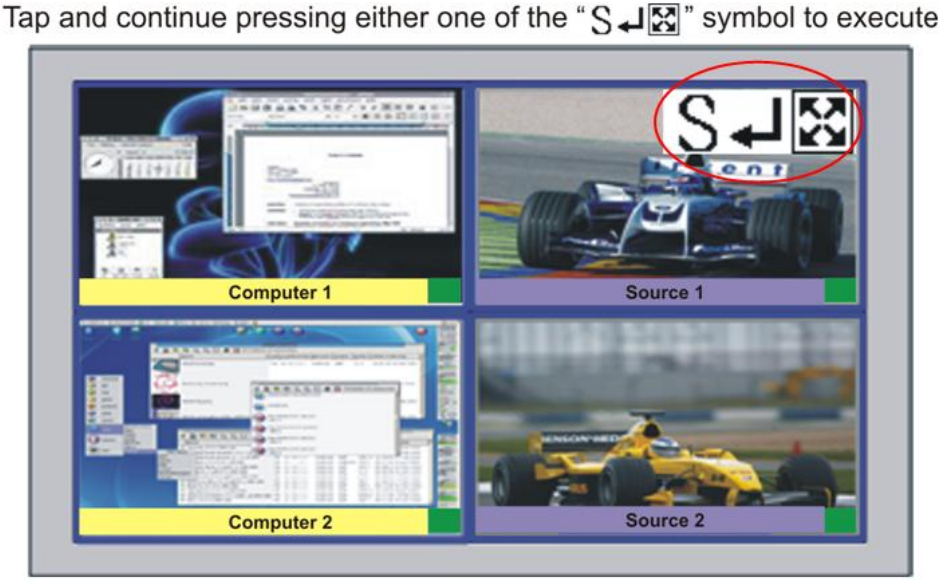
Use your finger (or stylus) to tap the top left corner of the monitor display until the pointer becomes a capital letter "**L**," then tap the "**L**" symbol twice and the monitor display's window layout will be locked. Repeat the steps to return from window layout locked mode.



Pop-up Selection

Use your finger (or stylus) to tap the top right corner of a particular window and when the pop-up selection icons (/ /) appear, tap and continue pressing the desired icon (approximately 0.5 – 1 second) to execute the desired action.

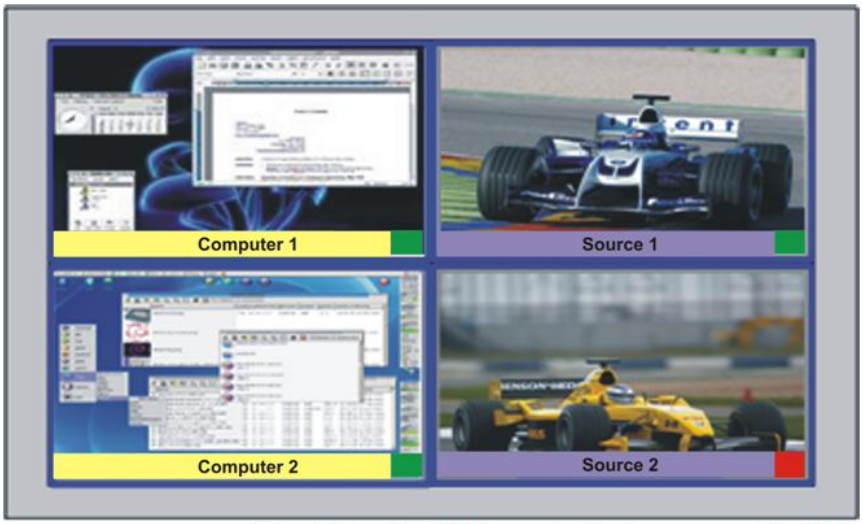
For the “swap” pop-up selection icon ( ), tap and continue pressing the icon (approximately 0.5 – 1 second). Select the destination window and tap twice on the window.



Audio Tally

To enable audio output on any window, tap twice on the audio tally and it will turn to to signify that audio output is coming from the window.

For cascaded system –
Double-click the audio tally (or) the first time to cause any other tally to turn . Then, double-click the same audio tally again and it will turn to to signify that audio output is coming from the selected window.



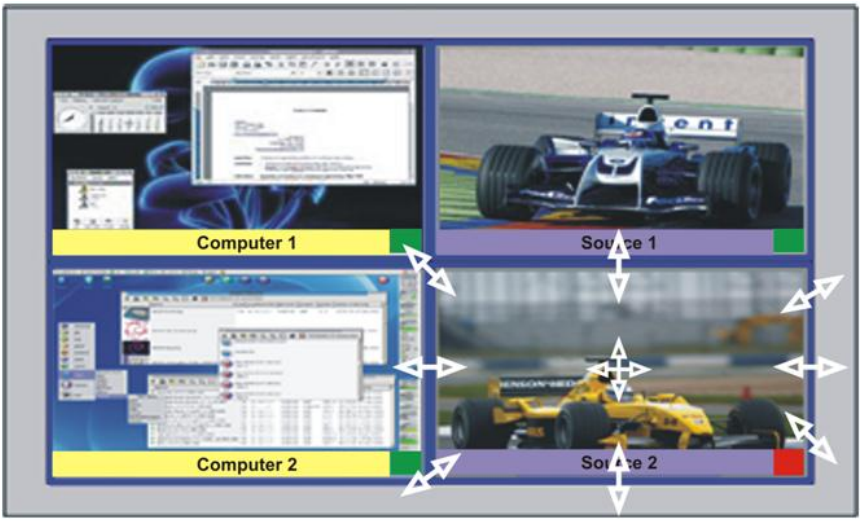
Tap twice the " " symbol to turn on audio " "

NOTE: By default, the audio output would correspond to the active window. To enable audio output other than the active window, disable the item **Audio Output from Active Window** (remove checkmark) under **Settings→System Parameter→Sequoia Properties** in the Phoenix-G program (refer to chapter 3 for details).

Move / Resize Window

To move a window, tap anywhere near the center of a particular window and when the  symbol appears, drag the window to a new position.

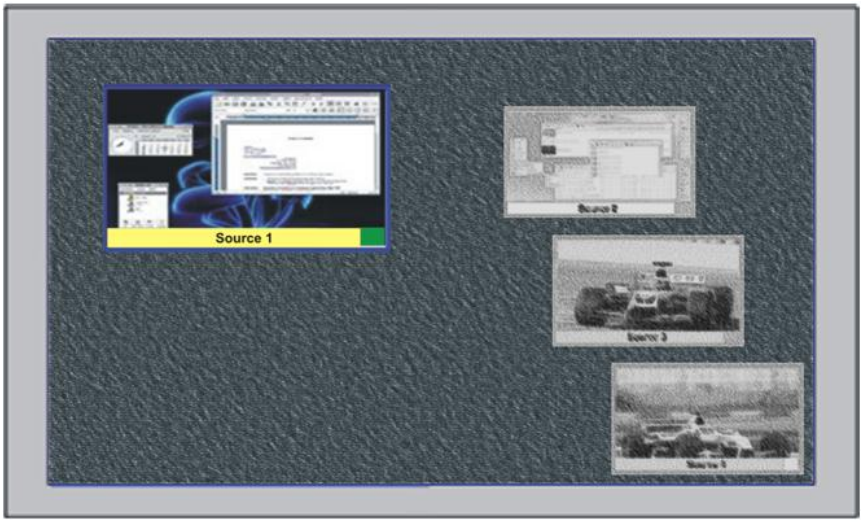
To resize a window, tap anywhere near the edge of a particular window and when the desired directional arrow appears, drag the border of a window to a desired size.



Tap and drag to resize / move window

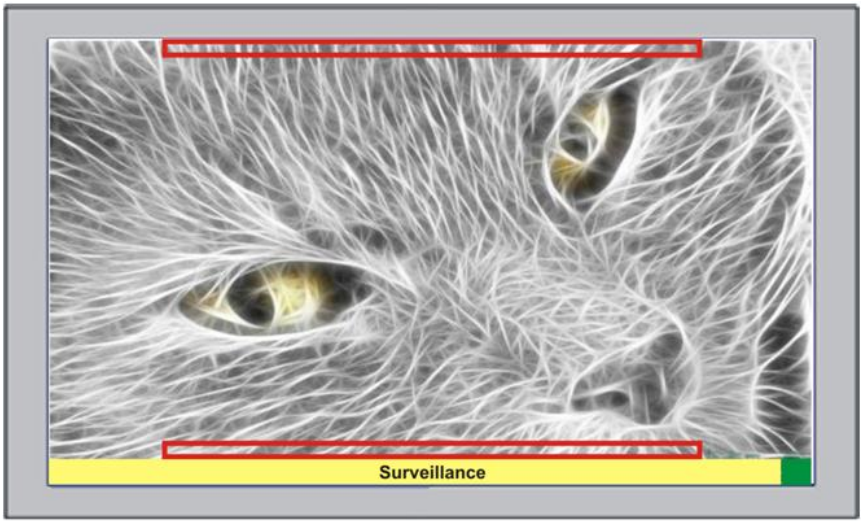
Exit From Remote Operation Mode to Host Operation Mode

For example, to exit from the Remote operation mode (**Source 1** is the active window) to the Host operation mode, tap twice anywhere outside the active Remote window (includes tapping twice any other Remote window).



Tap twice anywhere outside Source 1 window

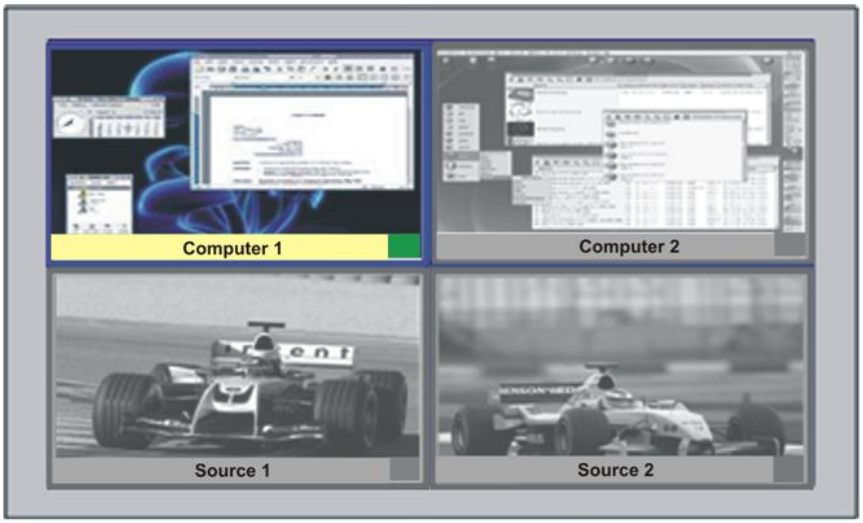
To exit from the Remote operation mode (when in full screen mode) to the Host operation mode, tap and continue pressing (approximately 1.5 seconds) the upper or lower areas indicated by the red rectangles below.



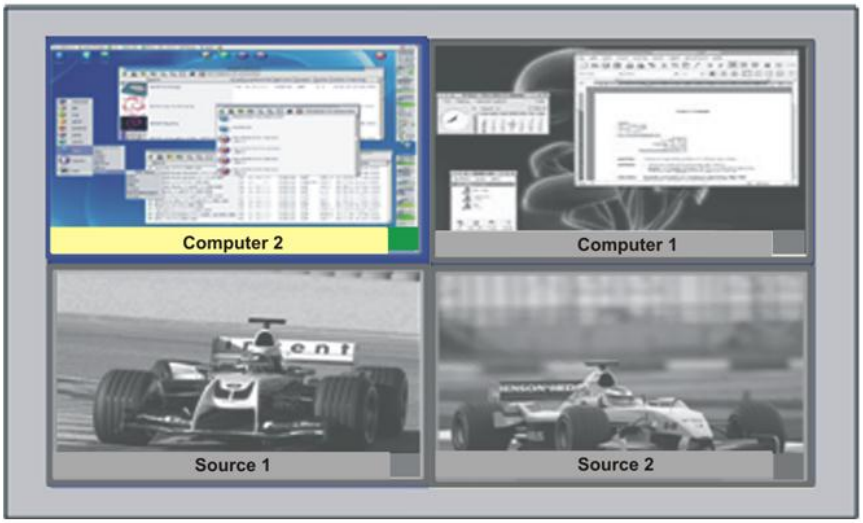
Tap and continue pressing on the upper or lower areas indicated by the red rectangles

Switch Control (Cycle) Between Windows

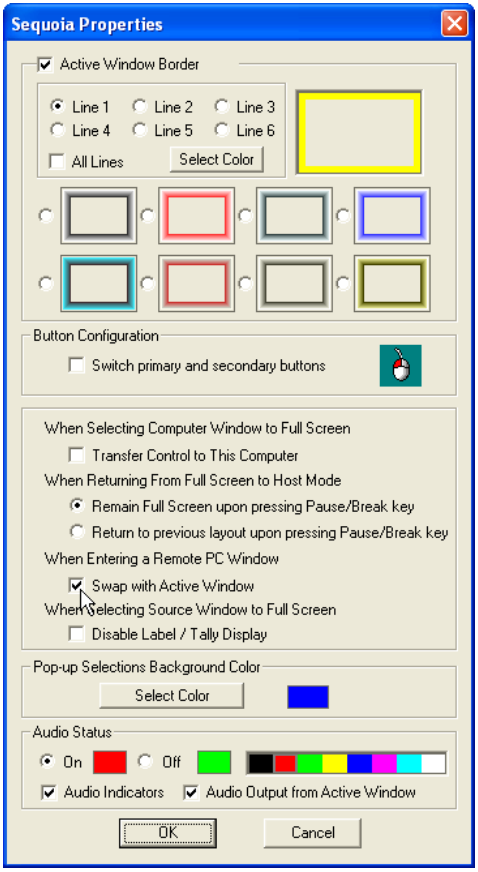
For example, to switch control from window 1→window 2 (equivalent to pressing the **F2** key or **Shift** + **F2** key when using the keyboard for control), tap and continue pressing (approximately 0.5 second) anywhere on window 2.



Tap and continue pressing on the Computer 2 window



NOTE: Window swapping when switching control between windows is only possible when the item **Swap with Active Window** is enabled (with checkmark – default setting).



To switch control (cycle – when in full screen mode) from window 1→window 2→window 3→window 4→window 1 (equivalent to pressing the **Ctrl** + **Pause/Break** keys when using the keyboard for control), or switching control backward (cycle) from window 1→window 4→window 3→window 2→ window 1 (equivalent to pressing the **Shift** + **Pause/Break** keys when using the keyboard for control), tap and continue pressing (approximately 1.5 seconds) the left or right areas indicated by the red rectangles below.

Tap and continue pressing on the left or right areas indicated by the red rectangles

3 Using the Phoenix-G Software

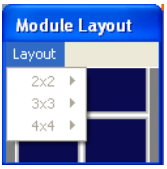
This chapter introduces you to the Phoenix-G software for configuring the features of the Sequoia.

The Phoenix-G configuration software contains the following three main windows: **Module Layout** window, **Phoenix-G** control window, and **Option** window. This chapter familiarizes you with the menus appearing on the Phoenix-G software.

> **NOTE:** Some menus on the Phoenix-G software may not be available (grayed-out).

Module Layout Window

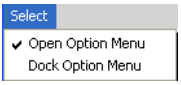
Layout Menu



Select from **2×2** up to **4×4** (left to right or top to bottom) as possible grid positions on the **Module Layout** window (when available).

Phoenix-G Control Window

Select Menu



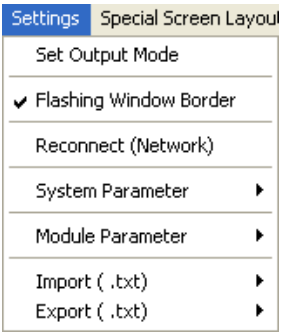
Open Option Menu

This toggles the **Option** window display on / off.

Dock Option Menu

This returns the **Option** window display to its default position on the right side of the Phoenix-G control window. This option is not available (grayed-out) if the previous item **Open Option Menu** is disabled.

Settings Menu

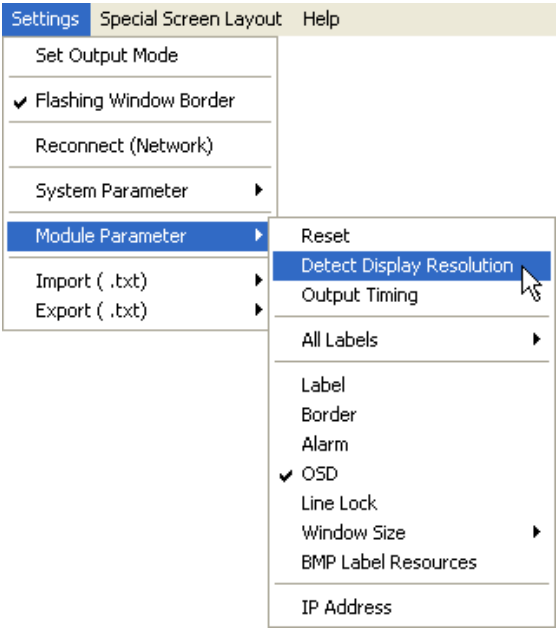


Set Output Mode

By default, the Sequoia will automatically detect the optimum display resolution so this item will be grayed-out (disabled). When using the Sequoia for the first time or upon setting the device to its factory-default setting, automatic detection of optimum display resolution will occur. Use the Phoenix-G software to disable this feature by performing the following steps (the Sequoia series default output resolution is 1024×768 / 60 Hz):

1. Click **Settings** then **Module Parameter**.

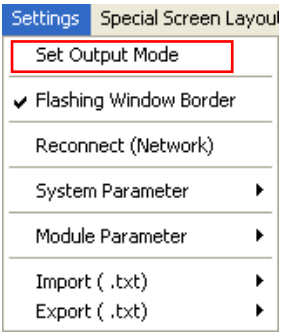
2. Click to unselect (remove the checkmark) the **Detect Display Resolution** option.



NOTE:

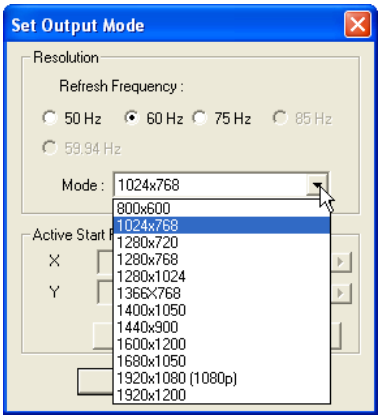
- When the monitor display is unable to provide the EDID signal, it will display at 1024×768 / 60 Hz. The extended display identification data (EDID) is a data structure provided by a computer display to describe its capabilities to a graphics card.
- When the **Detect Display Resolution** option is selected (with checkmark), all the presets will be displayed in the optimum resolution.
- When the **Detect Display Resolution** option is unselected (without checkmark) and you have set the desired resolution using the **Set Output Mode**, all the presets will be displayed in the desired resolution that you have set.

3. Click **Settings**, and then click **Set Output Mode**.



> **NOTE:** When the **Detect Display Resolution** option is on, the **Set Output Mode** function is not available (grayed-out).

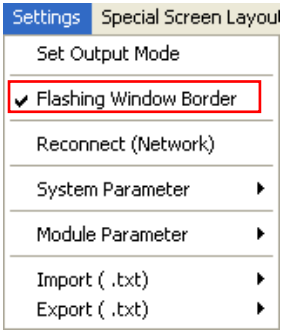
4. When the following screen appears, set the output resolution to match the monitor display's resolution. Select the **Refresh Frequency**, select the **Mode** from the drop-down menu, and then click **OK**. You will notice that the selected resolution is displayed on the title bar of your Phoenix-G software.



> **NOTE:** Upon changing the output resolution, the output windows appearing on the monitor display may overlap or in the case of fixed window layout (e.g., 2×2, 3×3, 4×4, etc.) misalignment may occur. Choose a new window layout to fix this.

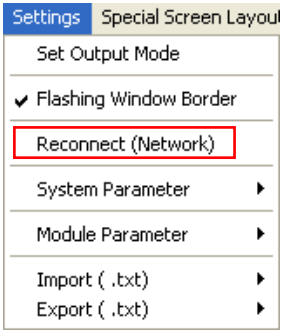
Flashing Window Border

When the **Flashing Window Border** option is enabled (with checkmark), the border of the window where the mouse cursor just resided will blink twice to notify you of its location.



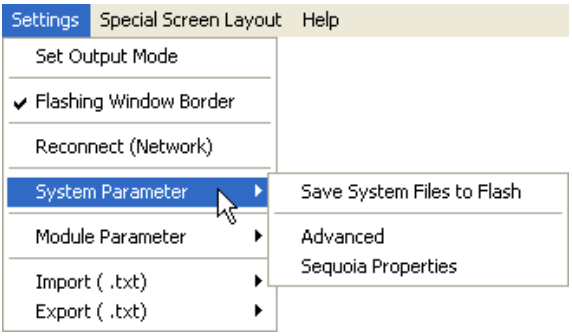
Reconnect (Network)

When you have unplugged the IP cable and re-connected it, click **Reconnect (Network)** to continue the configuration process.



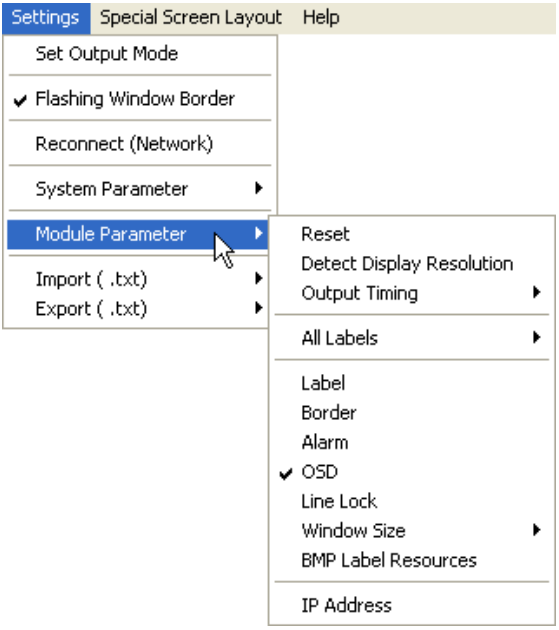
System Parameter

Upon clicking **System Parameter**, the menu appears as shown below (refer to the later section for the description of the items appearing on **System Parameter**).



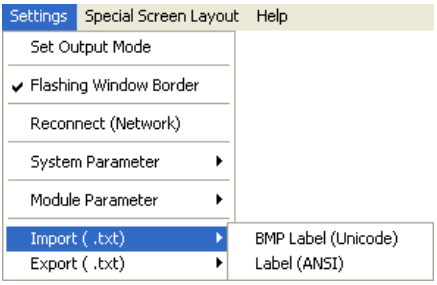
Module Parameter

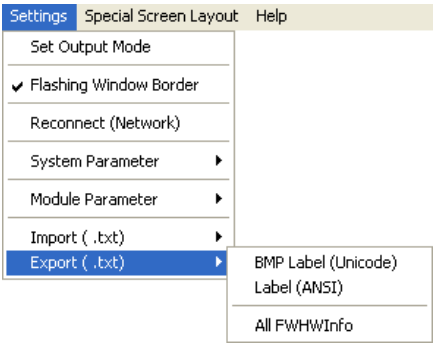
Upon clicking **Module Parameter**, the menu appears as shown next (refer to the later section for the description of the items appearing on **Module Parameter**).



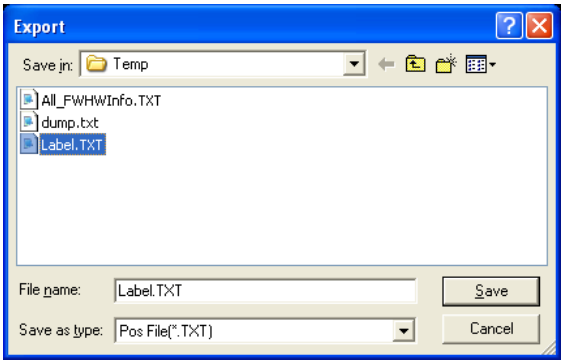
Importing / Exporting Label

This allows you to import a label from / export label to Microsoft® Office Excel or Notepad to be edited externally.

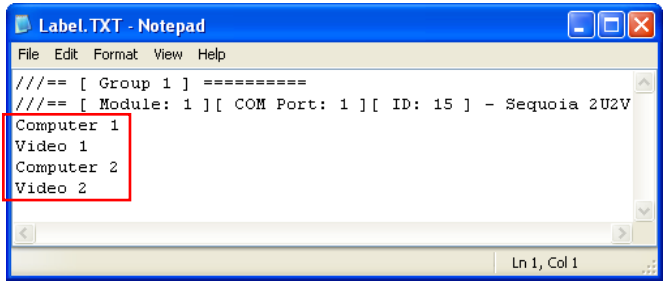




The most convenient way is to export the file (label) as a **BMP Label (Unicode)** or **Label (ANSI)** "txt" file by assigning a filename when the next screen appears.



Using Microsoft® Notepad, edit the text in the file. When you are done editing the label (highlighted in red as shown below), save the "txt" file and import it. The on screen labels will be updated.

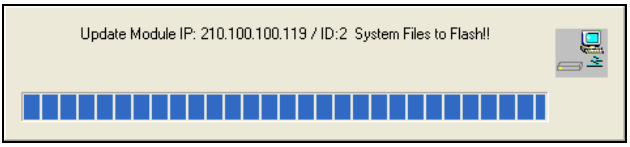


System Parameter

The following are the items which appear under **System Parameter**.

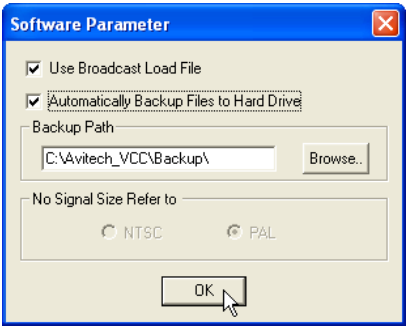
Save System Files to Flash

This allows you to save all configuration settings to flash memory. If the system configuration has been changed, save the changes first before continuing the other configuration settings. The progress of saving to flash memory will be displayed.



Advanced

Upon clicking **Advanced**, the following screen appears:



- **Use Broadcast Load File**
  For loading presets / switching resolution / group reset. When this option is enabled (with checkmark), the Phoenix-G software will broadcast the command, allowing for simultaneous execution of the command.

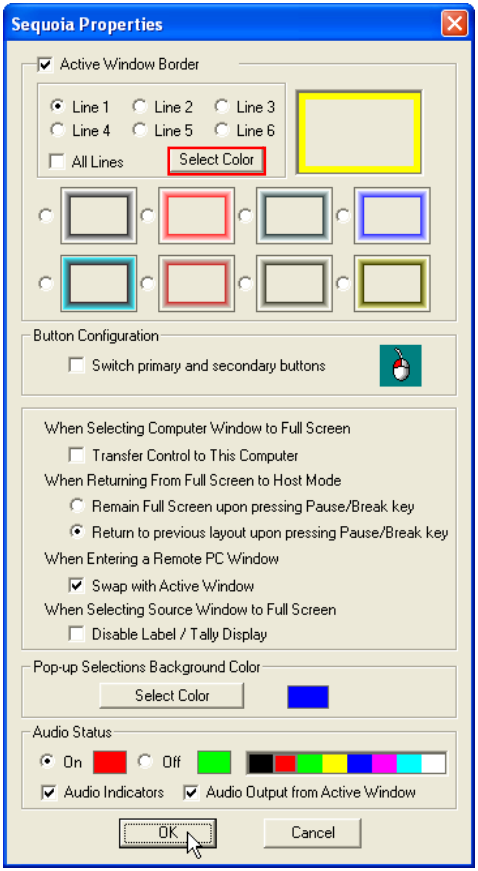
NOTE: This feature should always be enabled.

- **Automatically Backup Files to Hard Drive**
  When enabled (with checkmark), the Phoenix-G software will save all backup files to the computer hard drive's "c:\Avitech_VCC\Backup\" folder. You may change this by clicking **Browse** to select a different location to save the backup information.

- **No Signal Size Refer to**
  When the window is unable to detect a signal, this setting will serve as the basis for the Phoenix-G software to adjust the window size. **NTSC**: maximum window size is 816×465. **PAL**: maximum window size is 816×560.

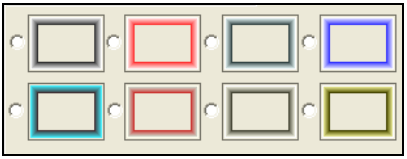
Sequoia Properties

Upon clicking **Sequoia Properties**, the following screen appears:

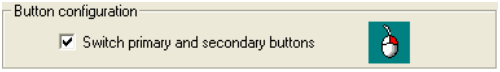


1. The **Active Window Border** feature allows you to set the border color of the active window. Each pixel / line can be a different color; all lines can be the same color (**All Lines**) by clicking the radio button to select the **Line #**. Then click **Select Color** to choose the color.

There are eight options for choosing the 3D border. Click the radio button for one of the 3D borders to select it.



2. To swap the two mouse buttons so that you can use the right button as the left button, click the checkbox to enable **Switch primary and secondary buttons**.



3. If the item **Transfer control to This Computer** is enabled (with checkmark), keyboard / mouse control will transfer to the particular window (computer) that has just entered full screen mode.

NOTE: Default setting is disabled (keyboard / mouse control does not transfer to a particular computer that enters full screen mode).

4. Click the radio button for **Remain Full Screen when pressing Pause/Break key** under the item **When Returning From Full Screen to Host Mode** if you wish to remain in full screen mode upon pressing the **Pause**/**Break** key.

NOTE: Default setting is **Return to previous layout when pressing Pause/ Break key**.

5. When the item **Swap with Active Window** is enabled (with checkmark) – the action of entering a computer window (other than the current active window) will cause both active and newly entered windows to swap position.

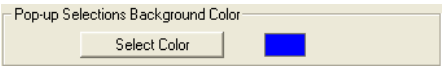
NOTE: Default setting is enabled for this item.

IMPORTANT: When this item is disabled, pressing the **F#** hotkey (or double-click) will not cause both active and newly entered windows to swap position.
Likewise, pressing **Shift** + **F#** hotkey (or **Shift** + double-click) will cause both active and newly entered windows to swap position.

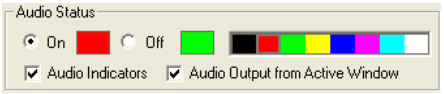
6. When the item **Disable Label / Tally Display** is enabled (with checkmark) – label and tally will be turned off to the particular window that has just entered full screen mode.

NOTE: Default setting is disabled for this item.

7. Click **Select Color** to change the background color of the pop-up selections (default color is dark blue).



8. The **Audio Status** feature allows you to set the color indicator showing whether audio is turned **On** / **Off** for a window (only one window can output audio at a time). There are eight colors for choosing the audio status. Click the **On** radio button, and then click one of the color boxes to select. Do the same for the **Off** radio button. You can also turn on (with checkmark) / off the **Audio Indicators**. To enable audio output other than the active window, disable the item **Audio Output from Active Window** (remove checkmark).



9. Then click **OK** when finished and exit the **Sequoia Properties** window. The Phoenix-G software still retains the settings until the next time you change the settings in the **Sequoia Properties** window, or you return the system to the factory-default state.

Module Parameter

The following are the items appearing on **Module Parameter**.

Reset

This allows you to refresh the module (the current settings on the Phoenix-G software will be the same for the module).

Detect Display Resolution

The Sequoia can automatically detect the display's optimum resolution. To enable or disable this feature, click **Detect Display Resolution** to toggle between on (with checkmark) or off (without checkmark).

NOTE: When the **Detect Display Resolution** option is set to **On**, all the presets will be displayed in the optimum resolution.

Output Timing

There are two output timings: **Normal** and **VESA**. **Normal** output timing is designed for some brands of monitor displays that do not support the **VESA** standard. The default setting for output timing is **Normal**.

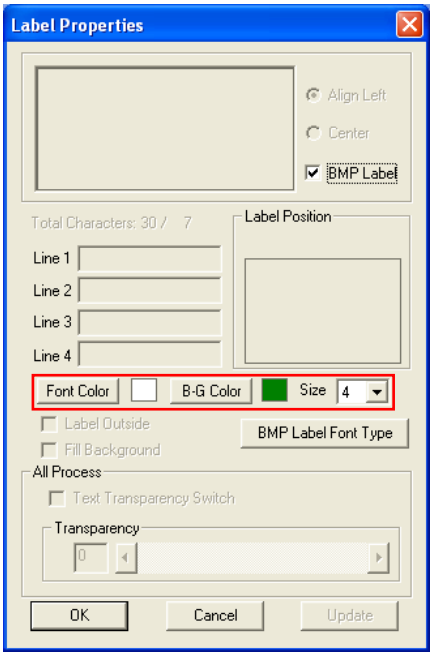
Turning On / Off All Labels

To turn on / off all labels for all the windows, click **ON** / **OFF**.

Label

NOTE: Make sure to turn on all labels (see previous item) before setting the label properties.

This allows you to adjust the **Font Color**, **B-G** (background) **Color**, and font **Size** for all labels in the group.

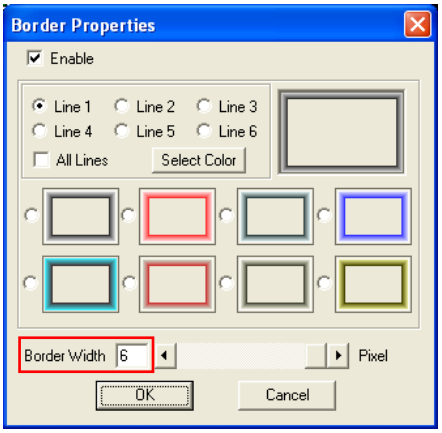


NOTE: Keep in mind that each window supports one line of text (up to 30 characters).

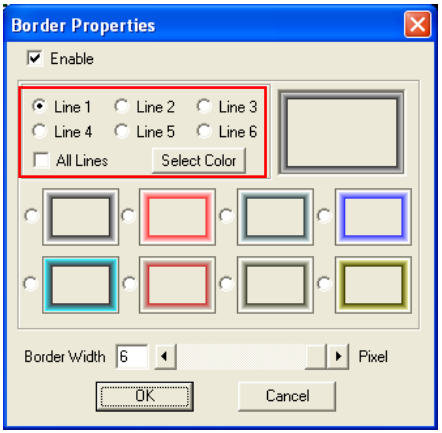
Setting Border Properties

Borders are turned on by default. To turn off the border perform the following steps:

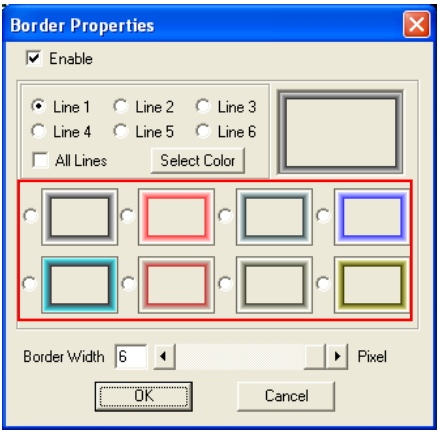
1. Upon clicking **Border** the following screen appears. Change the **Border Width** to **0**.



2. You can also change the border color.
   - Each pixel / line can be a different color

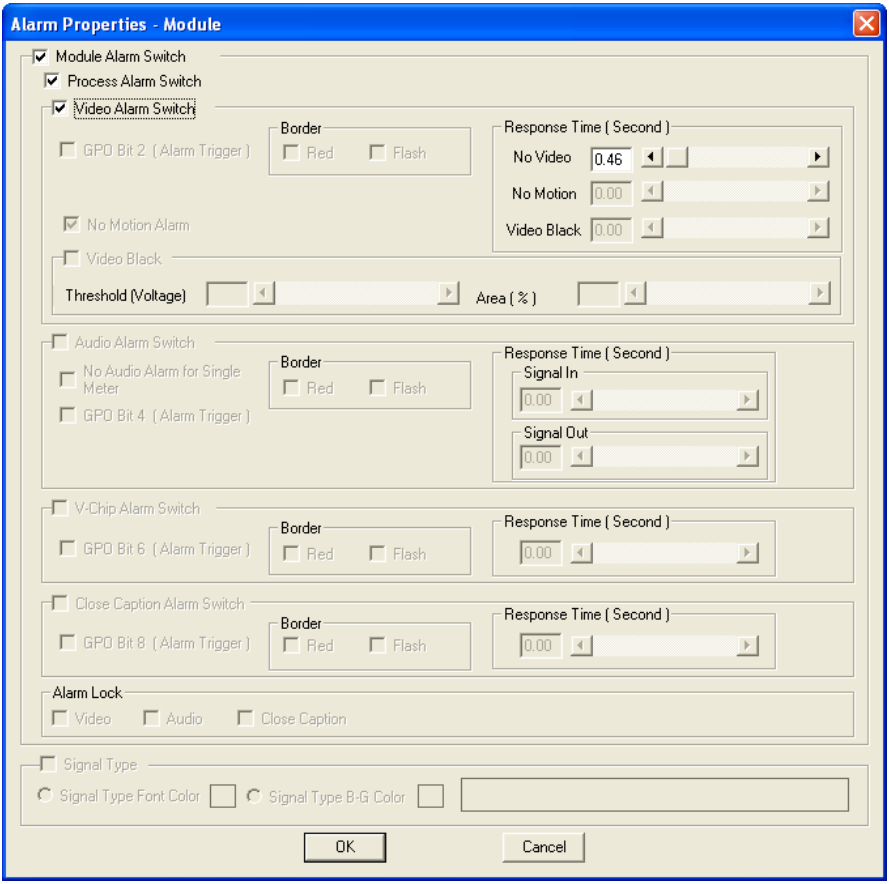


- 3D border


Border Properties
Enable
Line 1
Line 2
Line 3
Line 4
Line 5
Line 6
All Lines
Select Color
Border Width
6
Pixel
OK
Cancel

Setting Alarm Properties

This allows you to setup the notification when a signal is missing. To set the alarm properties, click **Alarm** and the following screen appears. By clicking **Module Alarm Switch**, you will set the **Process** / **Video Alarm Switch** and adjust the **No Video**'s **Response Time**.

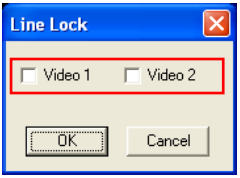


OSD

This allows you to turn on (with checkmark) or off your Sequoia's OSD (on screen display) feature. Click on the item to toggle between on / off.

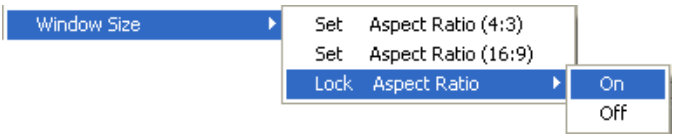
Line Lock

This feature was designed for the PELCO video camera CCC1380UH-6 and it only supports the composite (PAL / NTSC) video source. This feature allows you to minimize (**True**) picture "roll" when a video monitor is switched between cameras (common in CCTV security installations). When the cameras are all synchronized in this manner, a monitor does not have to significantly resynchronize its display for each camera as it is switched between them, thereby avoiding objectionable picture "roll." **Video 1** corresponds to the **VIDEO IN 1** connector, while **Video 2** corresponds to the **VIDEO IN 2** connector on the rear of the Sequoia.



Window Size

There are three sizes that can display all the windows in a group: **4:3**, **16:9**, or **Lock Aspect Ratio**.



When changing the width of the window, the height will automatically adjust to match the aspect ratio. When **Lock Aspect Ratio** is set to **On**, the aspect ratio of the video display will be maintained, even if the window is stretched. If the image is **4:3** and it is stretched to **16:9**, the results are two vertical black bars appearing on either side of the display. If the image is **16:9** and it is scaled down to **4:3**, then it will have a letterbox effect.

BMP Label Resources

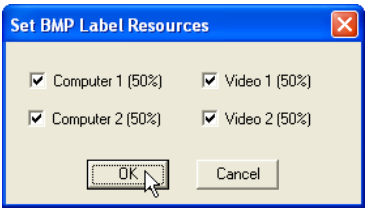
This allows you to allocate the **BMP Label Resources** for the four windows.

Computer 1 window and **Video 1** window are both processed by the first 1601 IC (integrated circuit) chip. **Computer 2** window and **Video 2** window are both processed by the second 1601 IC chip.

When a window (e.g., **Computer 1**) is enabled (with checkmark) and the other window (e.g., **Video 1**) is disabled (no checkmark), the resource allocation for the first window will be 100 % and for the other window is 0 %.

When both windows (e.g., **Computer 1** and **Video 1**, or **Computer 2** and **Video 2**) are enabled (with checkmark), the resource will be evenly allocated (50 %).

When both windows (e.g., **Computer 1** and **Video 1**, or **Computer 2** and **Video 2**) are disabled (no checkmark), the resource will still be evenly allocated (50 %). No simultaneous zero resource allocation (0 %) for both windows can occur.



NOTE:

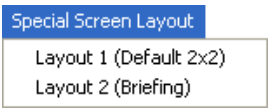
- When a particular Window's BMP Label Resource is zero (0 %), the checkbox will be disabled (grayed-out).
- The hardware supported version is R6 (CF).

IP Address

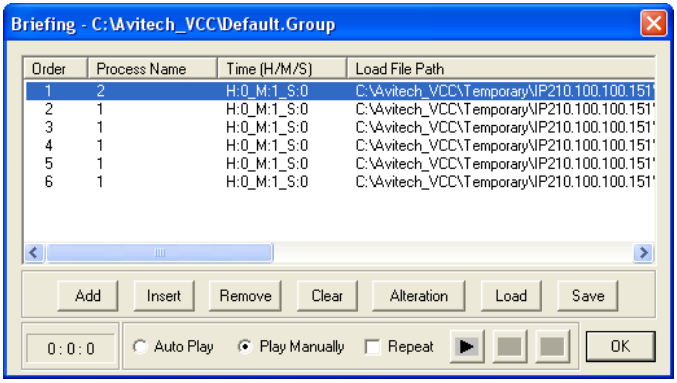
This allows you to change to an IP address different from the default one.

Special Screen Layout Menu

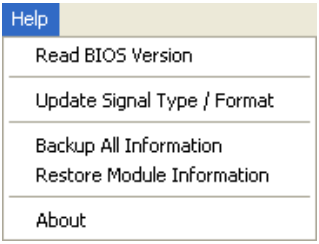
Some special screen layouts are available for the Sequoia:



- **Layout 1 (Default 2×2)** – quad split mode
- **Layout 2 (Briefing)** – cycle between presets for a slideshow effect



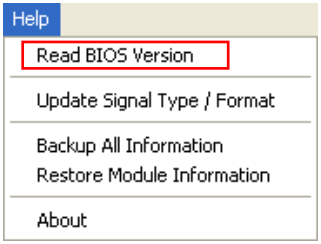
Help Menu



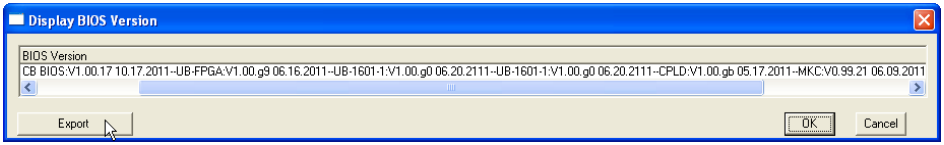
Read BIOS Version

To find out the Avitech Sequoia's firmware version, perform the following steps:

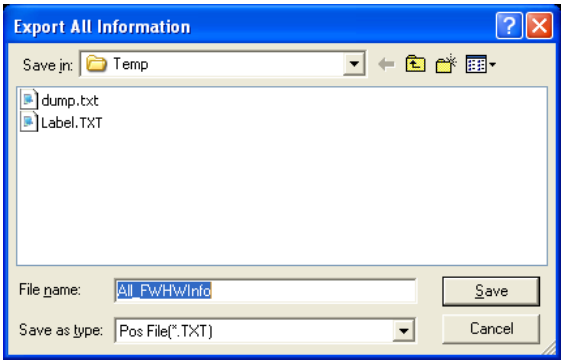
1. Click **Help**, and then click **Read BIOS Version**.



2. When the following screen appears, click **Export**.

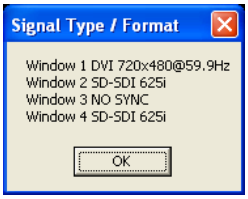


3. Assign a filename and click **Save** to save the data.



Update Signal Type / Format

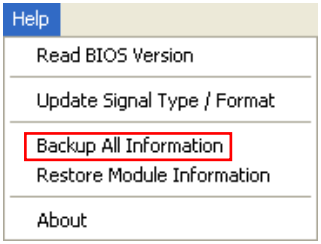
To update signal type / format, click **Update Signal Type / Format** and the next sample screen shows the entire image's signal type / format.



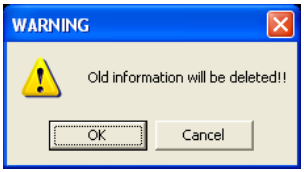
Backing Up Presets

To backup a preset, perform the following steps:

1. Click **Help**, and then click **Backup All Information**.



2. The following warning message will appear. Click **OK** to continue.



3. The following warning message will appear when back-up is successful. Click **OK** to continue.

This will backup all saved presets and system configuration files to your computer hard drive's "c:\Avitech_VCC\Backup\IPxxx.xxx.xxx.xxx\xxxx#_#".

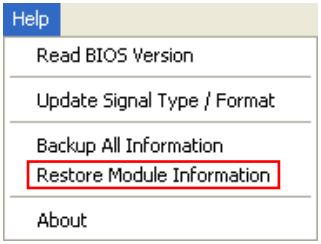
> **WARNING:** Everything in the **Backup** folder will be erased. If you have previously backed up presets, they will all be written over when you backup presets again. If you want to keep the old presets, move the entire **Backup** folder to a temporary directory (e.g., **`c:\temp`**).

This will create the following directories:
– "c:Avitech_VCC\Backup\"
– "c:Avitech_VCC\Temporary\"

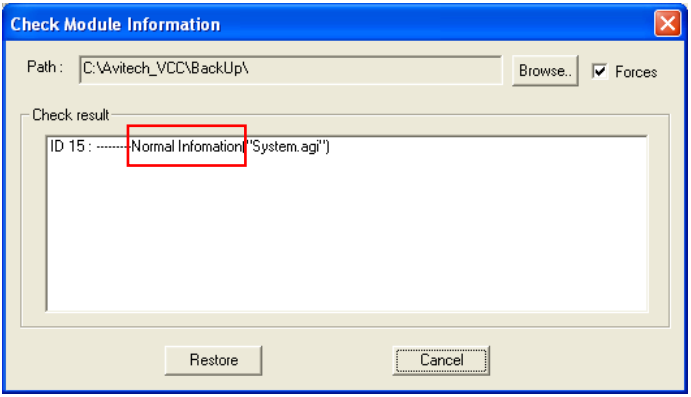
Restoring Presets

To manually restore a preset, perform the following steps:

1. Set the Sequoia to the factory-default value (refer to Appendix A **Resetting to the Factory-Default State** for details).
2. If the backup content is somewhere else other than at the "c:\Avitech_VCC\Backup\IPxxx.xxx.xxx.xxx\xxxx#_#", copy the backup data "xxxx#_#" into the "c:\Avitech_VCC\Backup\IPxxx.xxx.xxx.xxx\" location.
3. Run the Phoenix-G software and select **Yes** when prompted whether to restore the Sequoia using the backup data.
4. Click **Help**, and then click **Restore Module Information**. You should see a progress bar showing the preset being loaded into the Sequoia.



5. When the following screen appears, the checking result confirms that everything is normal. If that is the case, click **Cancel** to exit the restoring of preset(s). You may skip steps 6 and 7.

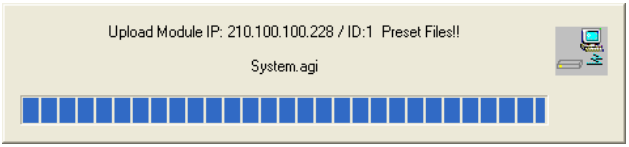


> **NOTE:** You can click to enable the **Forces** checkbox (located on the upper right corner) that allows the backup information to be written to all the module(s) flash memory. The **Restore** button will then be enabled so you can click on it.

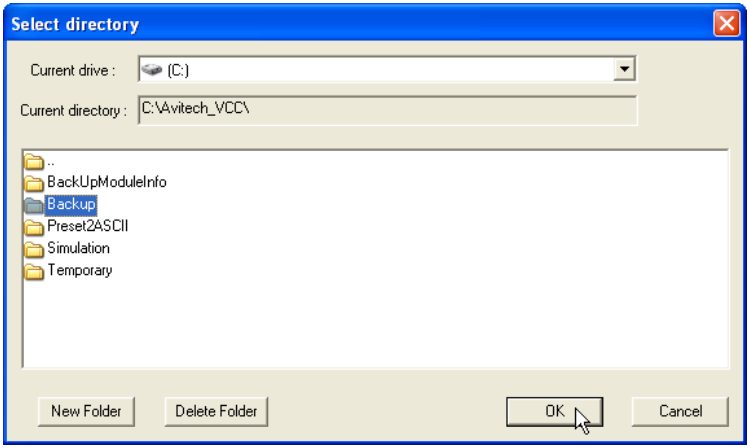
If the checking result shows an **Abnormal** report, confirm if the backup **Path** is correct. Then click **Restore.**

> **NOTE:** You can click to enable the **Forces** checkbox (located on the upper right corner) that allows the backup information to be written to all the module(s) flash memory.

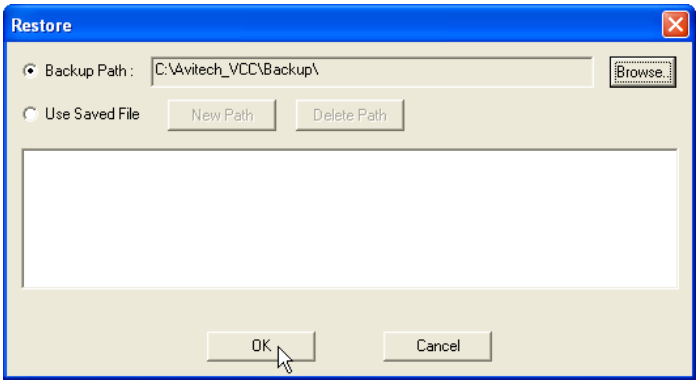
The progress of the restore process will be shown.



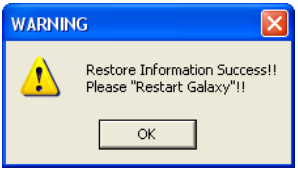
If the backup **Path** is incorrect, click **Browse** on the previous screen to select the correct location. Then click **OK** on the next screen to continue.



6. Click **OK** to continue when the next screen appears.

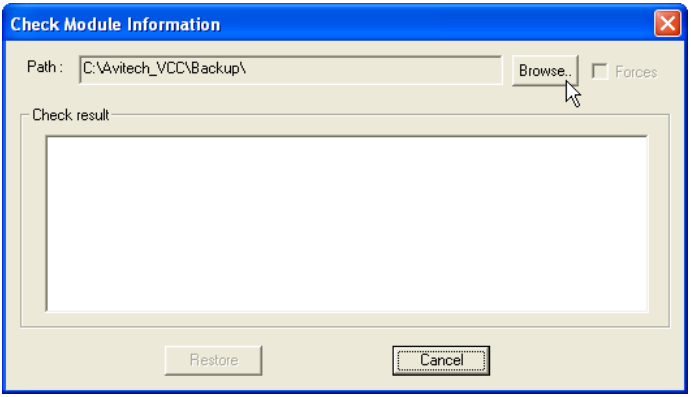


7. Click **OK** when the next screen appears to restart the Phoenix-G software.

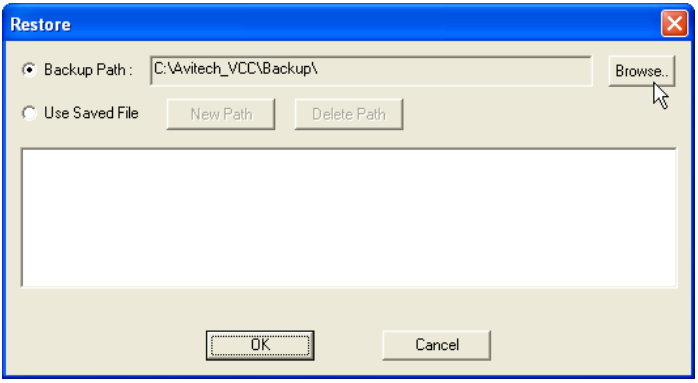


NOTE: If upon clicking **Restore Module Information** on the **Help** menu and the following error message appears, click **OK**.

On the next screen, click **Browse**.

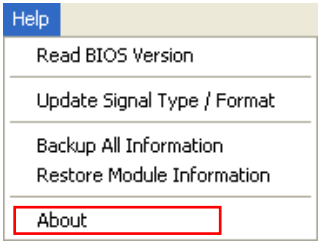


On the next screen, click **Browse** again to specify the correct backup **Path**.



Read Phoenix-G Information

1. Click **Help**, and then click **About**.



2. You should see a pop-up box showing the Phoenix-G software information.

Quick Keys – Change Window to / from Full Screen Mode; Swap Window Contents

Two quick keys are available that allow you to quickly bring a window to / from full screen mode as well as swap the contents from one window to another by performing the following steps:

1. To change to full screen mode, double-click the mouse on a window. Double-click again to return from full screen mode.

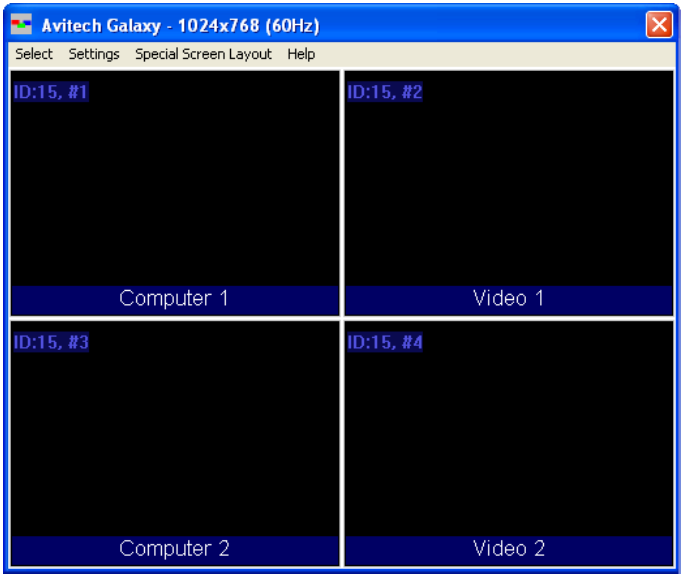
2. To access the swap window quick key, move your cursor to the bottom left hand corner of a window until a capital letter **S** appears.

3. Click on the capital letter **S** to select the source window and then click again at a destination window where you want to swap the contents from the source. This will swap all the contents and properties of the source window to the destination window.

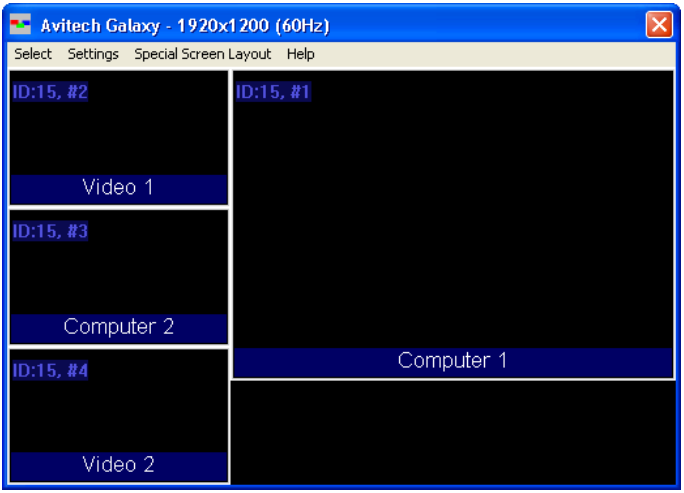
Window Layout

Using the Default Window Layouts

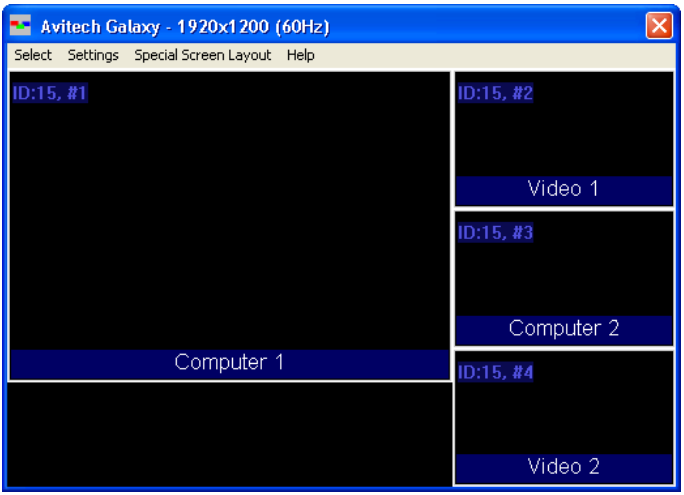
Three default window layouts are available:



layout1.GP1



layout2.GP1



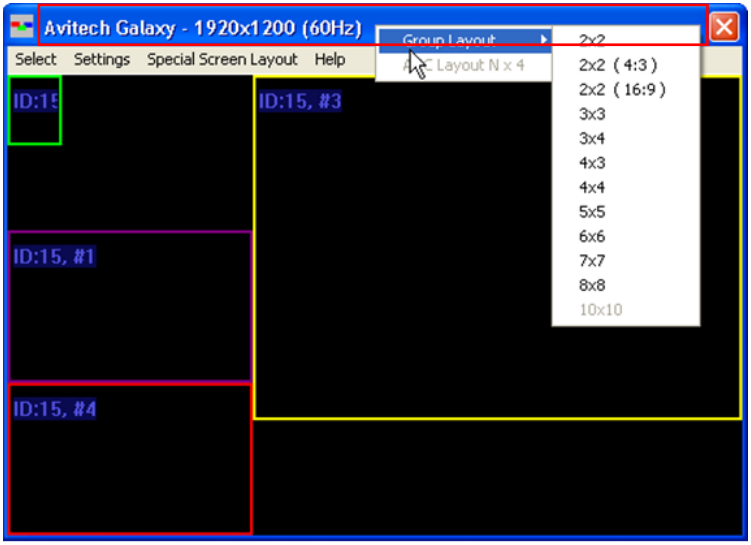
layout3.GP1

NOTE: To switch between the three factory-default presets, use the **Page Up** / **Page Down** keys. Refer to Chapter 2 on “Using the Keyboard” for more details.

Arranging Windows

To quickly setup the layout for your video windows, right-click the mouse on the title bar to access the **Group Layout** menu. Select from **2×2** up to **7×7** as possible grid positions on the monitor display.

> **NOTE:**
> - The layout size available for your particular model will depend on the monitor display's resolution as well as the smallest window size limitation.
> - An **8×8** grid position is possible when the OSD (on screen display) is turned off.



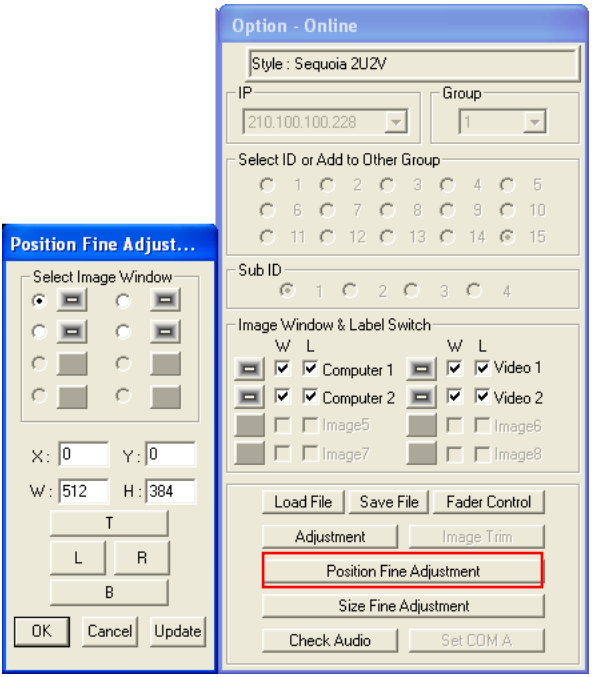
Repositioning an Individual Window

To reposition a window, perform the following steps:

1. Drag the center of a window and drop to a new position and it will update on the monitor display. Or,

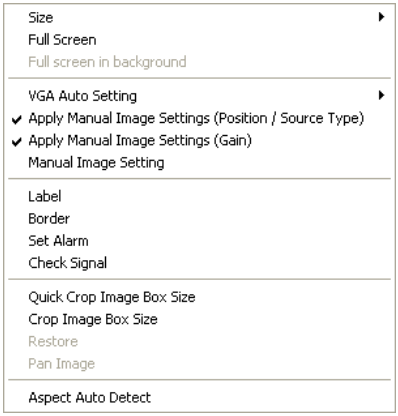
Option Window

2. Use the **Position Fine Adjustment** menu to adjust the position of any window on a pixel by pixel basis. Keep in mind that the width increases in 16 pixel increments and the height in 1 pixel increments.

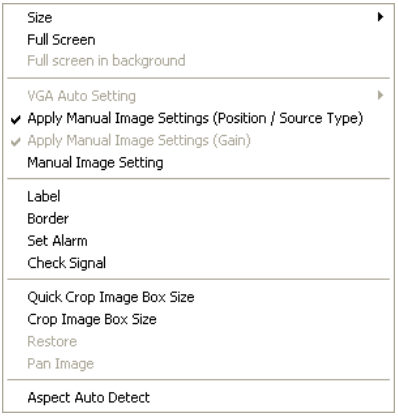


Mouse Right-click Menu

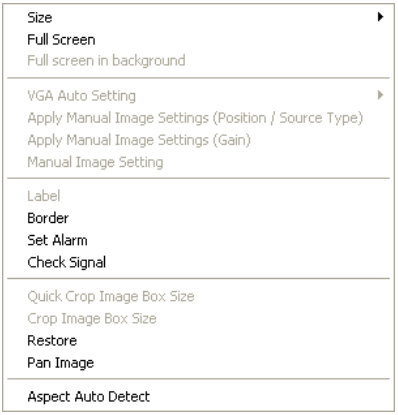
To change the properties of an individual window, right-click the mouse on the particular window to access the window's menu.



Computer window – VGA input



Computer window – DVI input

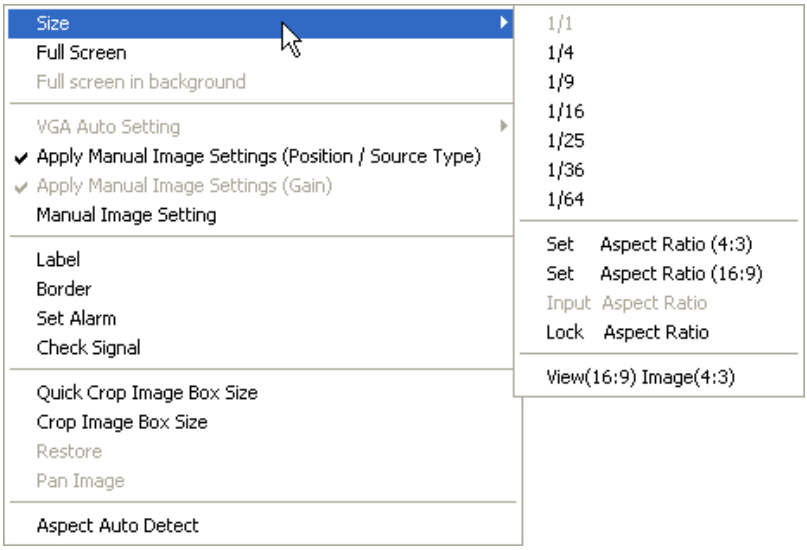


Video window

Resizing Window

To resize a single window to one of the preset sizes, perform the following steps:

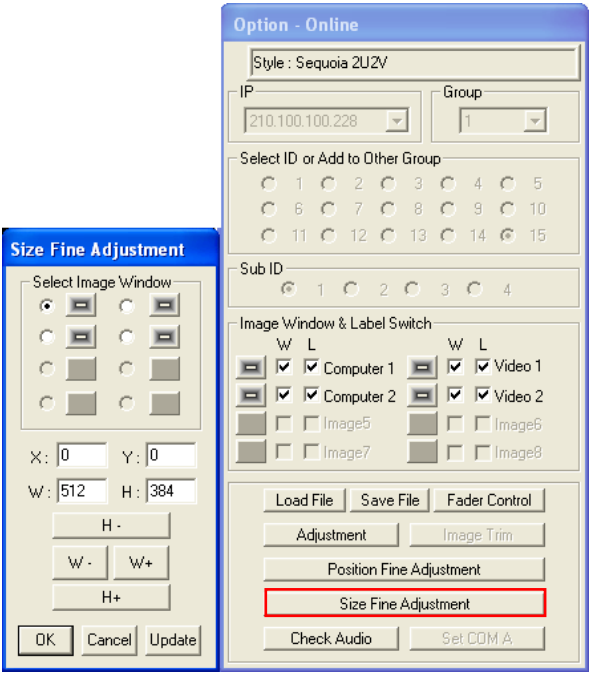
1. Right-click the mouse on a particular window and select **Size**, followed by the desired preset size selection.



NOTE: This option is not available for the scaleable DVI input.

2. Alternatively, resize a window by dragging the border of a window to the desired size. Keep in mind that there is a scaling limitation for each window that limits the maximum scaleable size to 816×465 pixels for NTSC video and 816×560 for PAL video.

3. Another option is to use the **Size Fine Adjustment** menu to adjust each window on a pixel by pixel basis. Keep in mind that the width increases in 16 pixel increments and the height in 1 pixel increments.



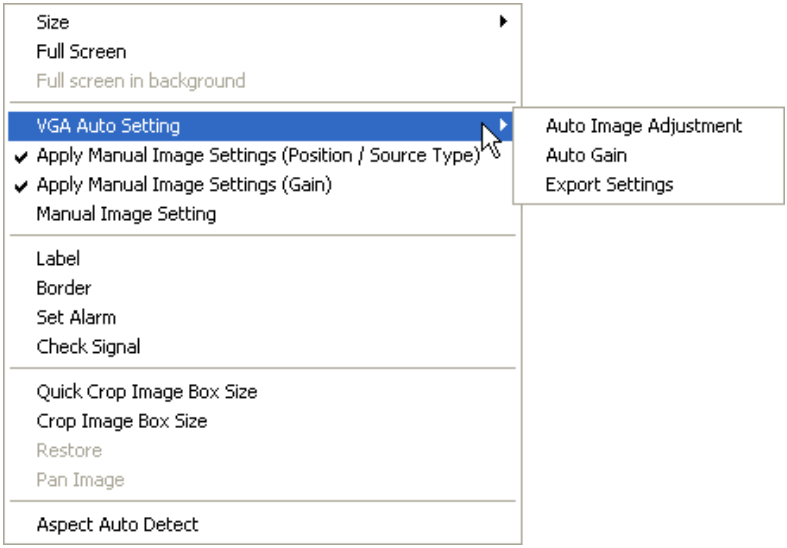
4. On a particular window select **Full Screen** to maximize the image and fill up the whole screen.

5. If so desired, select **Full screen in background** (with checkmark) to allow the window (image) in full screen mode to appear in the background. Select **Full screen in background** (without checkmark) to allow the window (image) in full screen mode to reappear in the foreground (fill up the whole screen).

Automatic VGA Signal Adjustment

When using a VGA signal with the **DVI-I Cascade** on the Sequoia, there will be times when the image is not aligned in the window or the color is off, the **VGA Auto Setting** feature was designed to overcome these issues.

Right-click the mouse on the DVI-I cascade window, click **VGA Auto Setting**, and then select **Auto Image Adjustment** to align the VGA image inside the window, **Auto Gain** to correct the color values, or **Export Settings** to export the configuration settings as **INI** files.



NOTE: Some VGA-to-DVI cables may not work with the **DVI-I Cascade** / **DVI-I Out** ports of the Sequoia, use the proprietary VGA-to-DVI adapter instead.

Apply Manual Image Settings (Position / Source Type and Gain)

This allows you to turn on (with checkmark) or off your Sequoia correction of DVI / VGA input signal. Based on your settings stored in EEPROM or in the next item **Manual Image Setting** (if any), it will adjust the position and size, set DVI signal source type, and adjust the coloring of VGA image (intensity). This feature is most useful when restarting the Sequoia or when unplugging and plugging the DVI / VGA cable. Click the items to toggle between on / off.

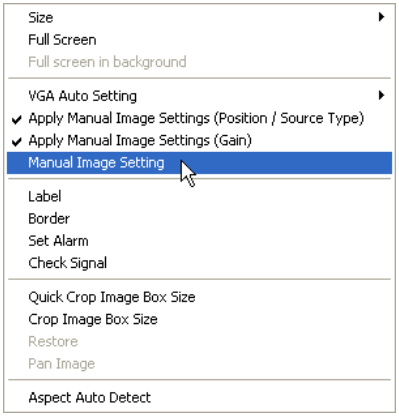
Manual Image Setting

After plugging in the VGA / DVI cable to the **Computer/YPbPr 1** / **2** / **3** / **4** port (you need to use the DVI-to-VGA adapter when connecting the VGA cable), Sequoia will automatically perform **Auto Image Adjustment** and **Auto Gain**. The sample display below shows the image is still off-centered (does not completely fill the upper and left portion).

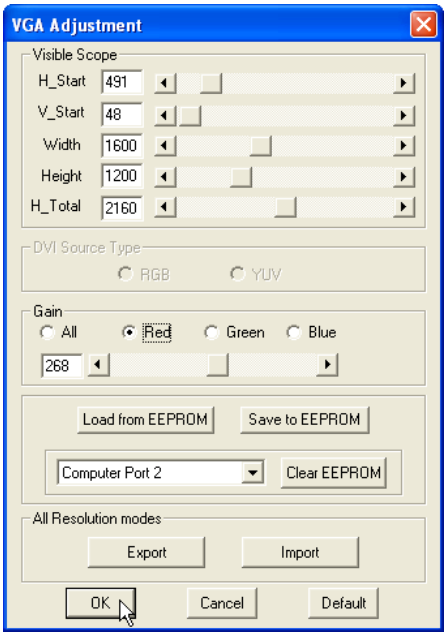
To use the **Manual Image Setting** feature to correct this problem, perform the following steps:

1. Make sure that the previous two items **Apply Manual Image Settings (Position / Source Type** and **Gain)** are enabled (with checkmark).

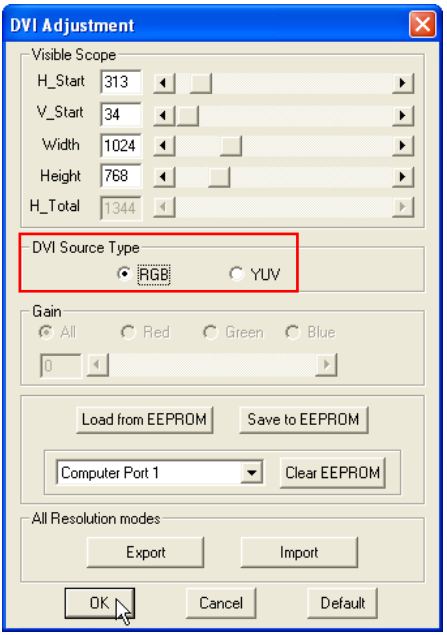
2. Use the mouse to right-click the VGA / DVI input source window and the following menu appears.



3. Click **Manual Image Setting** and the following screen will appear.



VGA Signal Input Source



DVI Signal Input Source

4. (For DVI signal input source only)
   Specify if the **DVI** signal **Source Type** is **RGB** or **YUV**.

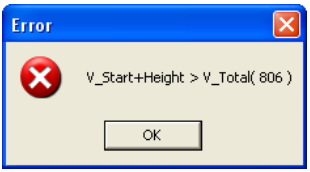
5. Use the slider to adjust the value of **H_Start**, **V_Start**, and **H_Total**. Continue the adjustment until the image has completely filled up the entire window.

   H_Start: use the slider to increase the value. The window will start moving towards the left, the dark portion will be reduced. Continue the adjustment until the image is aligned horizontally.

   V_Start: use the slider to increase the value. The window will start moving upwards, the dark portion will be reduced. Continue the adjustment until the image is aligned vertically.

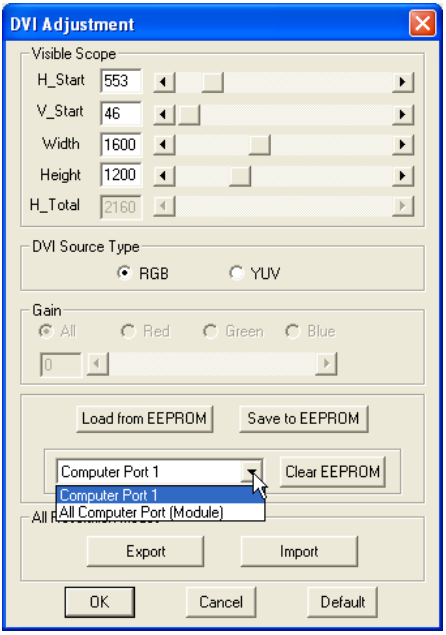
IMPORTANT:

- Make sure that the values of **H_Start** plus **Width** must not exceed **H_Total**.
- The value of V_Total based on the values of **V_Start** plus **Height** must not exceed the value automatically computed (by the software) based on the input signal's pre-determined value for V_Total. If not, the following error message will appear.



6. (For VGA signal input source only)
   Change the **Gain**'s value if necessary. The next sample figure shows the window that has been adjusted properly.

7. Select if the adjustments are to be applied to the particular window only **Computer Port #1** or **All Computer Port (Module)**.

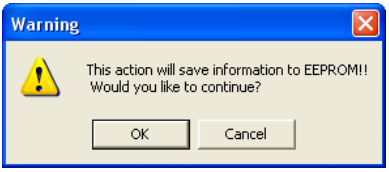


8. Click **Save to EEPROM** to save the new adjustments in EEPROM.

NOTE:

- EEPROM can store up to 56 sets of the DVI / VGA signal's **Visible Scope** and VGA signal's **Gain** parameters.
- When using the Phoenix-G software to command "gm1601" to perform **Auto Image Adjustment** or **Auto Gain**, "gm1601" will not use the parameters stored in EEPROM. The purpose of this is so that when the user makes the wrong settings, you can use **Auto Image Adjustment** or **Auto Gain** to cause the DVI / VGA setting values to attain the nearest correct value, then use the Phoenix-G software's **Manual Image Setting** function to do minor adjustments to attain the correct values. This will allow the user to adjust the DVI / VGA parameters quickly.
- "gm1601" will not automatically save the DVI / VGA parameters to EEPROM. You must use the Phoenix-G software's **Manual Image Setting** dialog box's **Save to EEPROM** function.
- Click **Load from EEPROM** to use the **Manual Image Setting** values and make sure that the **Auto Image Adjustment** and **Auto Gain** options are enabled. This will allow the firmware to automatically use the saved parameters.
- When using the DVI / VGA input source with the same resolution but with a different display card, or when using the same display card but with a different resolution, the image displayed on the screen may be off-center (misaligned). In case this happens, perform the necessary settings and save the configurations to EEPROM.

9. When the following screen appears, click **OK** to continue.



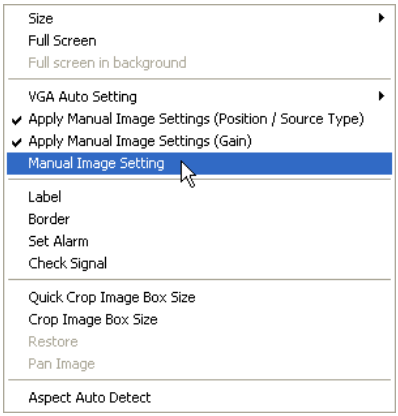
10. Click **OK** when the next screen appears.

NOTE:

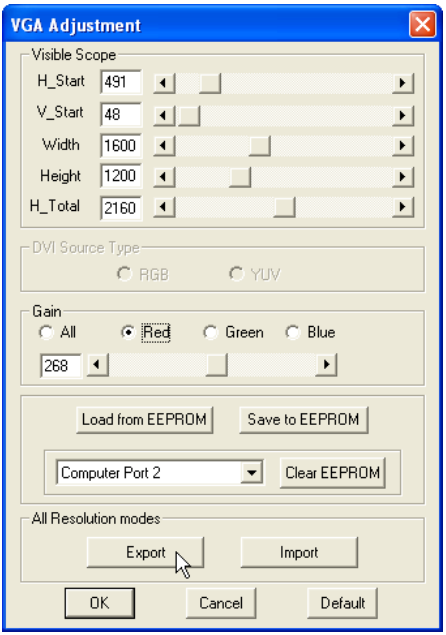
- When the **Auto Image Adjustment** function is enabled, and upon restarting the Sequoia, or unplugging / plugging the DVI / VGA cable, or change in DVI / VGA signal, “gm1601” will perform **Auto Image Adjustment**, and then look up the **Visible Scope** values stored in EEPROM. The values of the **Visible Scope** stored in “gm1601” will be used to adjust the DVI / VGA image. This function is used to fix the inability of the DVI / VGA image to fill up the entire window.
- When the **Auto Gain** function is enabled, upon restarting the Sequoia, or unplugging / plugging the VGA cable, or change in VGA signal, “gm1601” will look up the **Gain** value stored in EEPROM. If the **Gain** value is found in “gm1601,” it will then adjust the ADC based on the **Gain** value found in EEPROM. If the **Gain** value is not found in EEPROM then “gm1601” will perform **Auto Gain**. This function can fix the image coloring problem (intensity) of the VGA signal coming from the computer.

To extract the VGA / DVI modes stored in the EEPROM and burn-in these modes to all the new modules, perform the following steps:

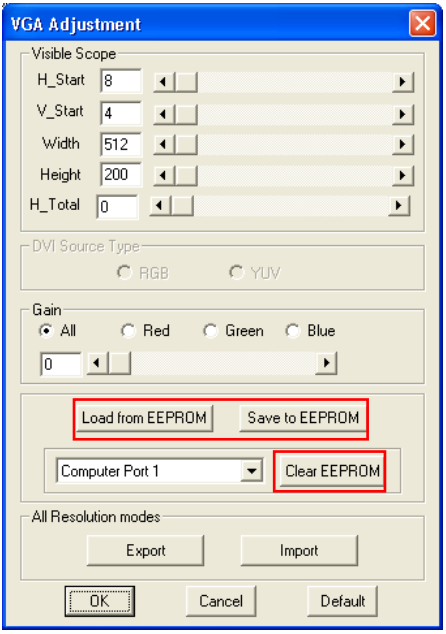
1. Use the mouse to right-click the VGA / DVI input source window and the following menu appears.



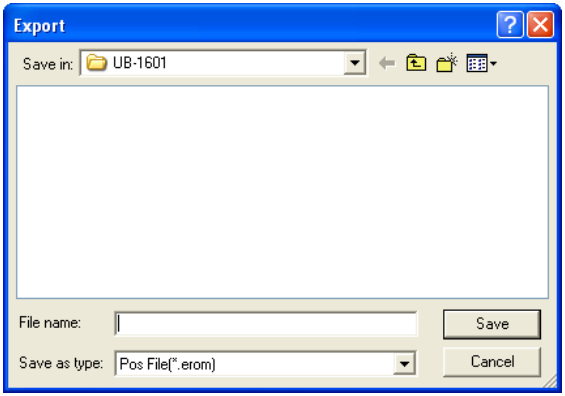
2. Click **Manual Image Setting** and the following screen will appear.



3. Click **Save to EEPROM** to save the new DVI / VGA / YPbPr input adjustment values and click **Load from EEPROM** to use the restore function (changes the VGA / DVI adjustment values to the previously saved values in EEPROM). Or click **Clear EEPROM** to return to the factory-default values.

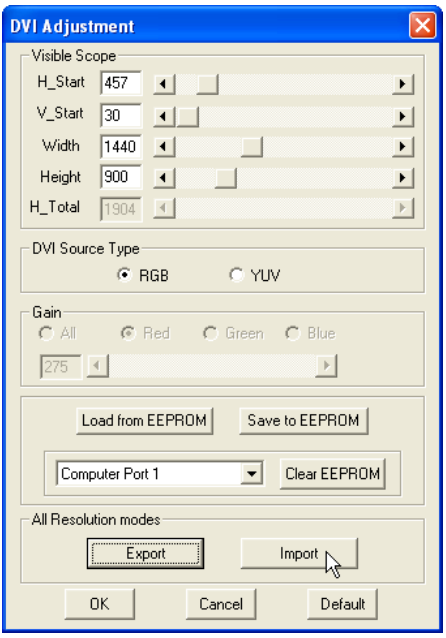


4. Click **Export** to extract the VGA / DVI modes stored in the EEPROM. The following sample screen may appear.

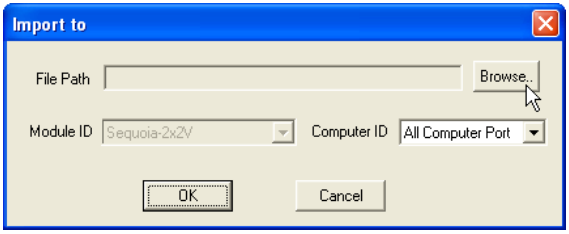


NOTE: Before exporting make sure to save to EEPROM first. If not, an error message will appear to remind you to save to EEPROM.

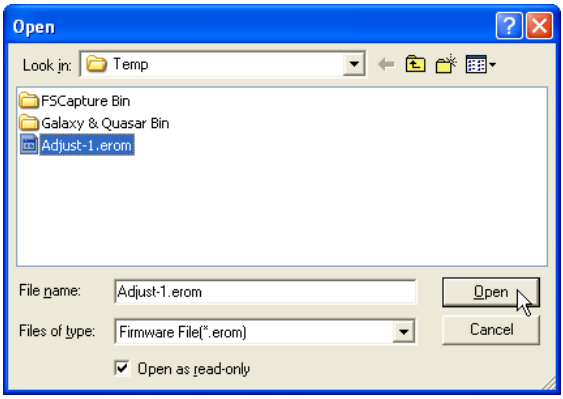
5. Assign a filename and click **Save** to save the data.
6. To apply a previously saved VGA / DVI mode later, click **Import**.



7. When the following screen appears, click **Browse** to locate the previously saved VGA / DVI mode setting.



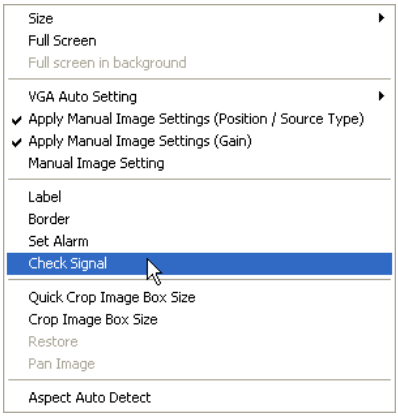
8. Select the previously saved file and then click **Open**.



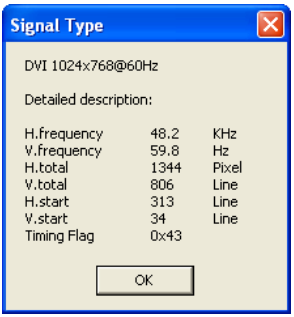
9. Select the destination computer to import the display settings. Then click **OK**.

To check the input source timing of a window, perform the following steps:

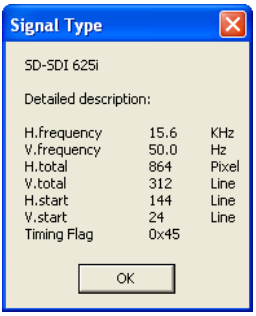
1. Use the mouse to right-click the process window. The following menu will appear.



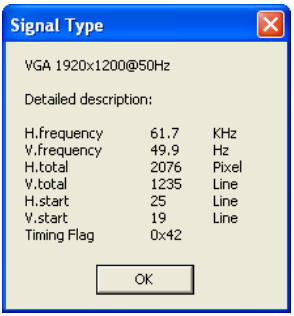
2. Click **Check Signal**. The image below shows a sample **Signal Type** window for a DVI input source.



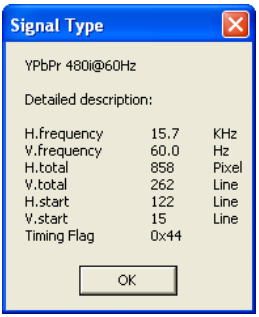
The following shows a sample **Signal Type** window for a SDI input source.



The following shows a sample **Signal Type** window for a VGA input source.

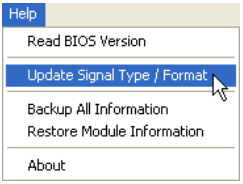


The following shows a sample **Signal Type** window for an YPbPr input source.

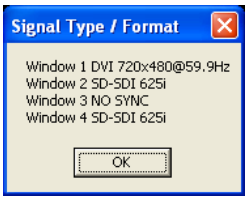


To check all input sources, perform the following steps:

1. Click **Help**, and then click **Update Signal Type / Format**.

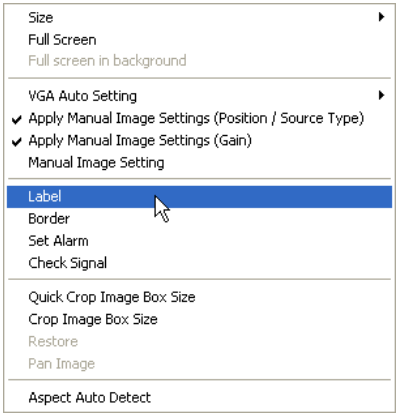


2. A window similar to the following sample window will appear.



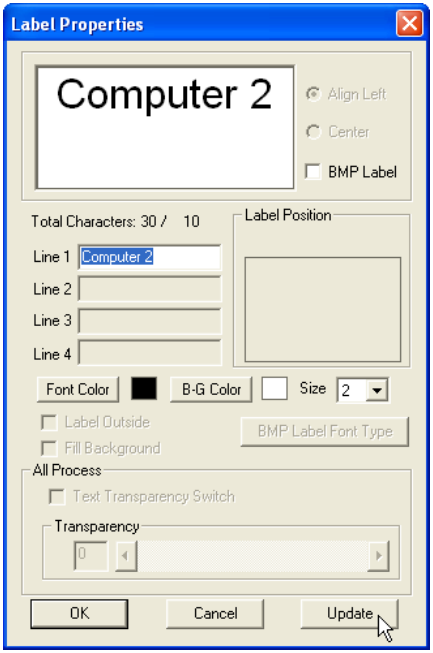
Setting Label Properties

1. Right-click the mouse on a window and select **Label** to enter text.

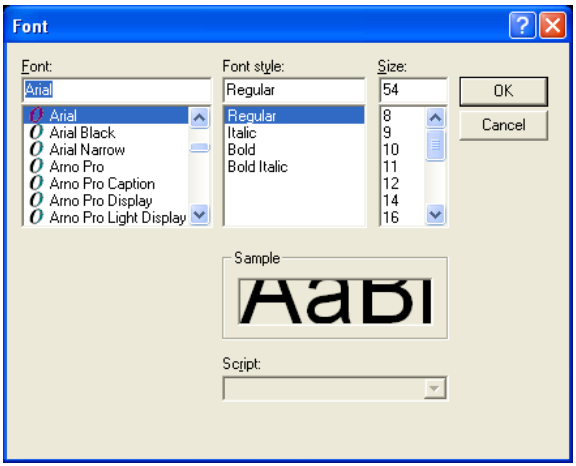


NOTE: DVI input does not display a label.

2. Keep in mind that each window supports one line of text (up to 30 characters).



- **BMP Label**: allows you to activate the Universal fonts for labels by performing the following steps:
  1. Click to enable the **BMP Label** checkbox (with checkmark).
  2. Click the **BMP Label Font Type** button.
  3. When the Font window appears, set the **Font**, **Font style**, and **Size**. Then click **OK**.



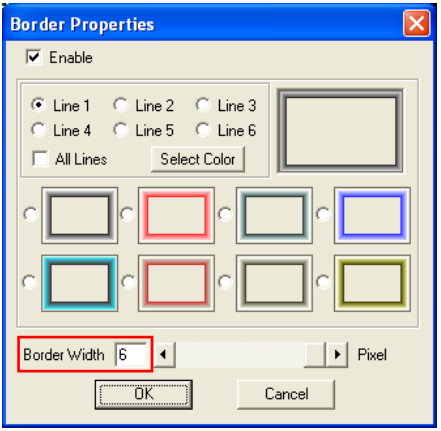
  4. On the **Line 1** window enter a label in the desired language by first selecting the language on the Windows taskbar.

  5. Repeat the above steps for all the other windows.

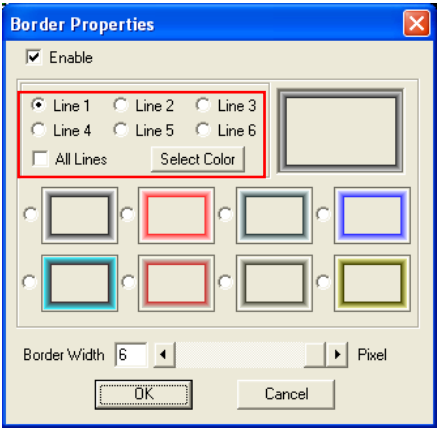
Setting Border Properties

Borders are turned on by default, to turn off the border perform the following steps:

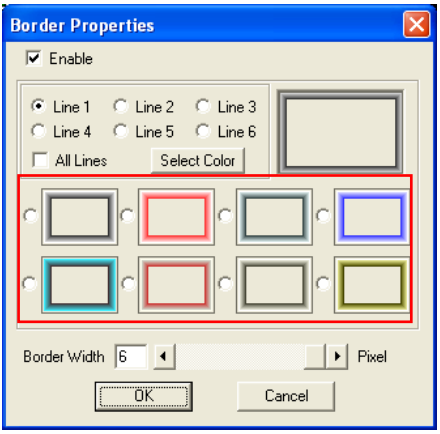
1. Upon clicking **Border**, the following screen appears.



2. Change the **Border Width** to **0**.
3. You can also change the border color.
   - Each pixel / line can be a different color

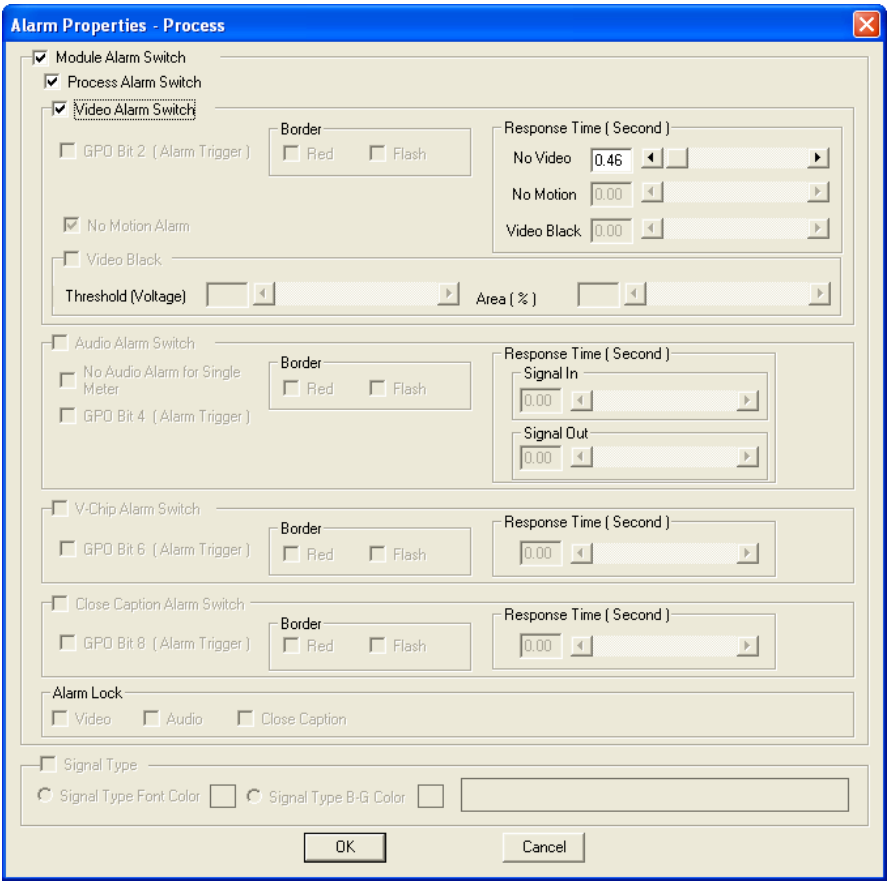


- 3D border


Border Properties
Enable
Line 1
Line 2
Line 3
Line 4
Line 5
Line 6
All Lines
Select Color
Border Width
6
Pixel
OK
Cancel

Set Alarm

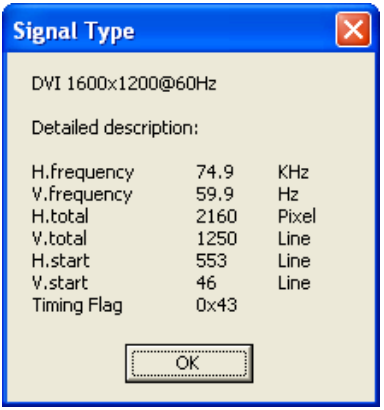
Upon right-clicking a particular window, select **Set Alarm**, and the following screen will appear.



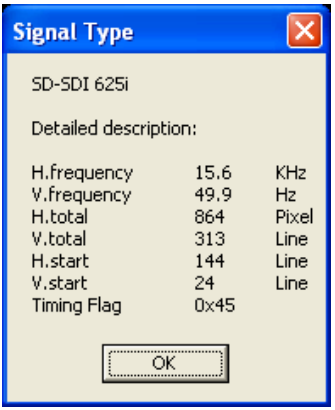
- **Module / Process Alarm Switch**: to turn on the alarm setting, make sure that both options are enabled (with checkmark).
- **Video Alarm Switch**: to turn on / off the "no video" signal.
- **Response Time (Second)**: to set the "no video" alarm response time from **0** to **23** seconds.

Check Signal

To determine if the video signal is being fed into the selected window, right-click the mouse on a particular window and click **Check Signal**. The following screens may appear.



Sample DVI-I IN COMPUTER 1/2 Input



Sample VIDEO IN 1/2 Input

Quick Cropping an Image on a Window

This allows you to crop (cut-out) an image on a particular window. Upon clicking **Quick Crop Image Box Size**, press the left mouse button to create a starting point and then drag to the desired location. Release the left mouse button to set the end point. A cropped out image of the former window will be created.

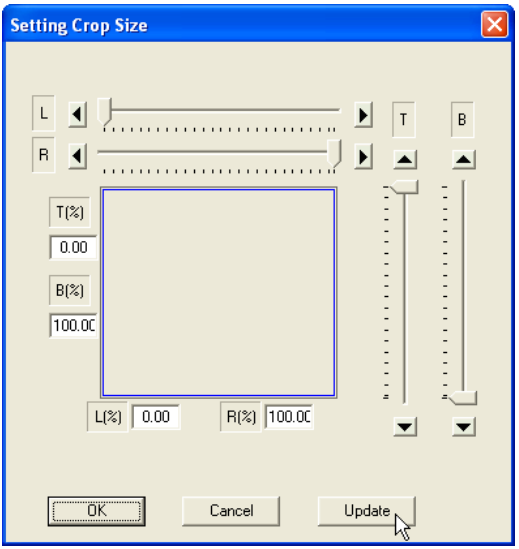
> **NOTE:** The smallest allowed size of crop area is 96×80 pixels, based on the Sequoia's output resolution (not based on the "source" resolution).

Specifying the Size of a Cropped Image

This allows you to set the specific size of the crop (cut-out) image on a particular window. Freely adjust the horizontal (**L**eft and **R**ight) and vertical (**T**op and **B**ottom) markers, or enter the numerical value to set the size of the cropped image.

You can also click the  buttons to make smaller adjustments to the markers. Example 1: if the Sequoia's output resolution is set at 1920×1200 but the input source resolution is 1920×1080, then pressing any of the four (4) buttons on a 25 % magnification would effect a proportionally four (4) pixel horizontal adjustment, while a 50 % or 100 % magnification would effect a proportionally two (2) pixel horizontal adjustment.
Example 2: if the Sequoia's output resolution is set at 1024×768 but the input source resolution is 1920×1080, then pressing any of the four (4) buttons on a 25 % magnification would effect a proportionally six (6) pixel horizontal adjustment, while a 50 % or 100 % magnification would effect a proportionally two (2) pixel horizontal adjustment.

Then click the **Update** button. A cropped-out image of the former window will be created.

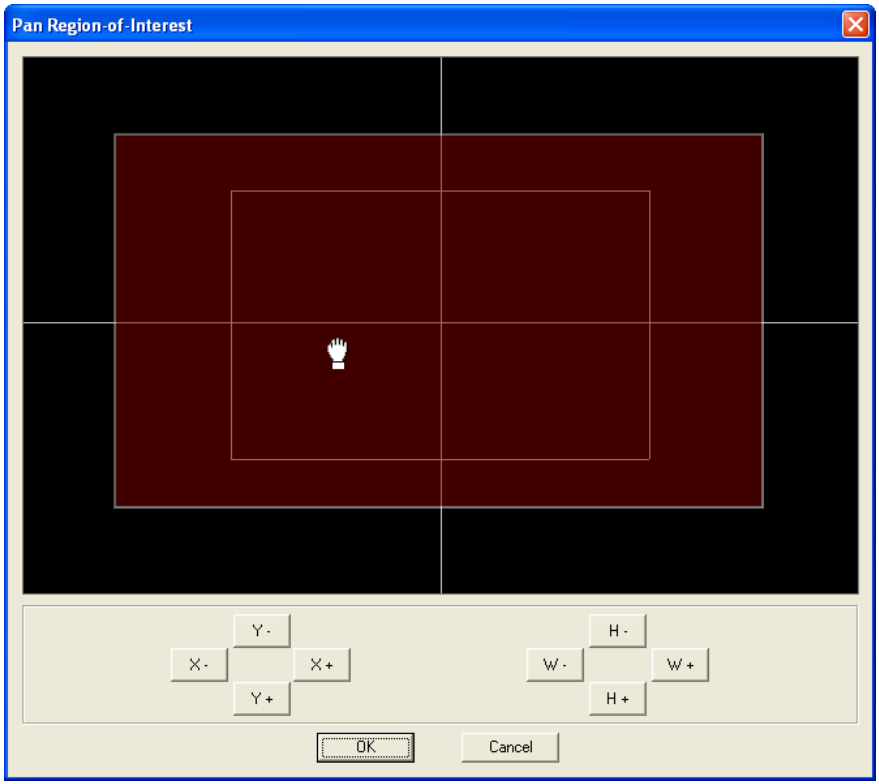


Restore

This allows you to undo the previous cropping action and restore the image prior to cropping (1:1). Then adjust (enlarge) the window size manually by dragging on the sides / corners.

Pan Image

Upon clicking the **Pan Image** item, the following screen appears. This allows you to use the mouse (drag by using the symbol) to pan (see the **NOTE** below for description of pan) the cropped image window (zoom in area). You can also click the **X–** / **X+** / **Y–** / **Y+** (x / y-axis coordinates, plus or minus) or **H–** / **H+** / **W–** / **W+** (height / width, plus or minus) buttons to make smaller adjustments.

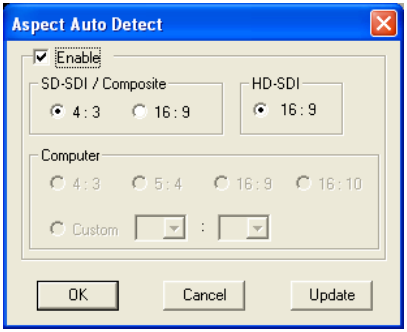


NOTE: To pan is to move the image around in the image window, usually when the image is larger than its window. Panning changes the image view in the same way that scrolling moves the image up, down, to the left, or to the right in the image window. When the entire image is not displayed, you can quickly pan to see parts of the image that were previously hidden.

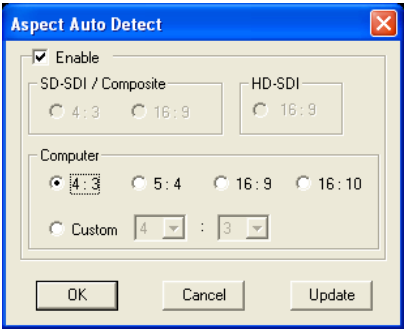
Aspect Auto Detect

This allows you to set the input signal's aspect ratio for a particular window. If the input signal is a different aspect ratio than the monitor in which it is displayed, you may change the monitor's aspect ratio to display the signal, without deformation.

1. Right-click the mouse on a particular window and click **Aspect Auto Detect**. When the next screen appears, click the mouse to select **Enable**, and then select the desired aspect ratio.



Sample VIDEO IN 1/2 Input

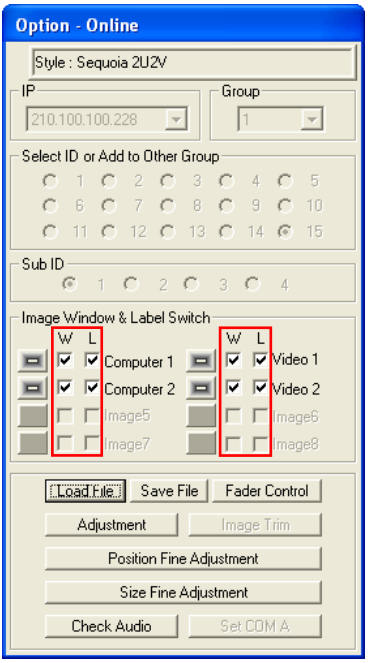


Sample DVI-I IN COMPUTER 1/2 Input

2. Click **Update**, and then click **OK**.

Turning On / Off the Window / Label

1. The **Option** window has two checkboxes that can be used to close an image window (**W**) or turn off the label (**L**) for each window.



2. To turn off a window or label, find the checkbox that represents the selected window and un-check to disable the **W**indow or **L**abel.

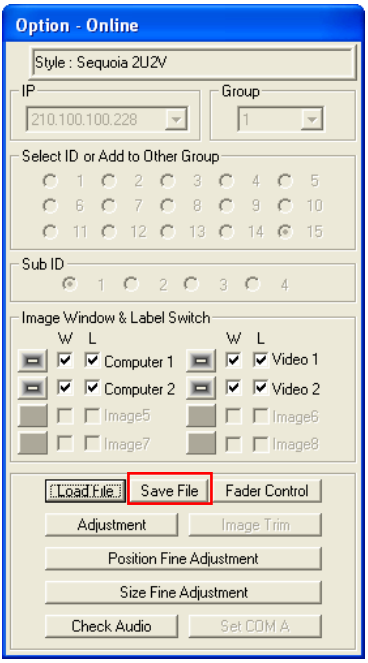
Saving to a Flash File

There are two instances for which you will need to use the save to flash feature:

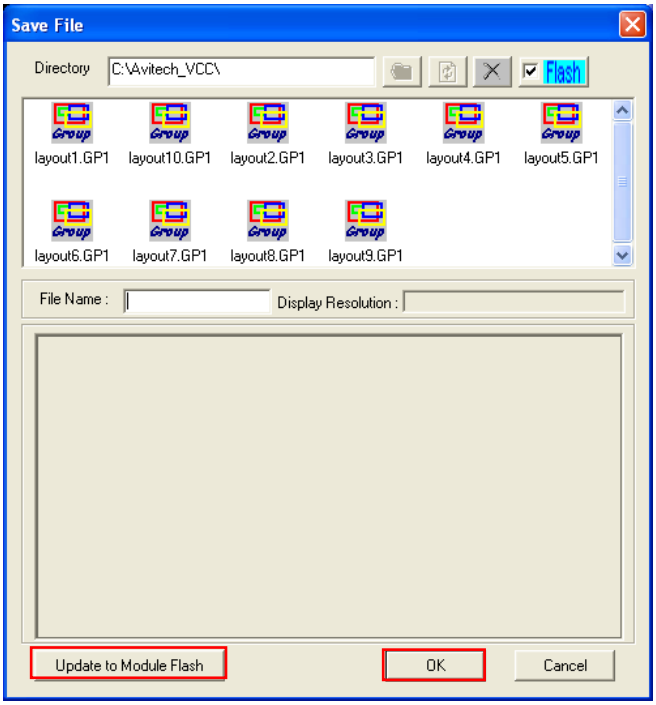
- After creating the master layout and you want the Sequoia to load it again when the unit is power cycled (shutdown and restart).
- After you are done saving presets and you want to save all the presets that were created (up to 22) into the internal flash memory of the Sequoia. If this action is skipped, the Sequoia will lose all the presets that were created.

To save to flash, perform the following steps:

1. Click **Save File** in the **Option** window.



2. Click **Update to Module Flash**, and then click **OK**.



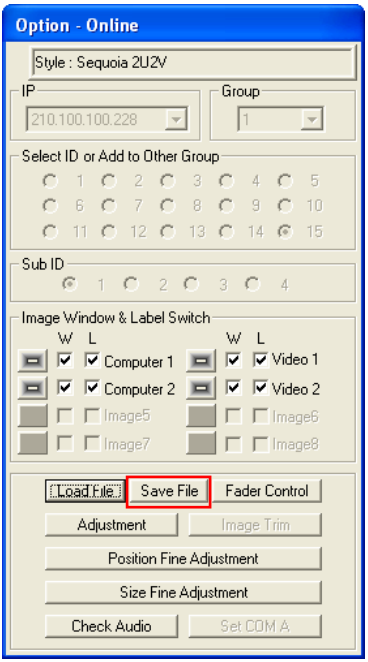
Alternatively, close the Phoenix-G software and select **Yes** when prompted to save.

Saving a Preset

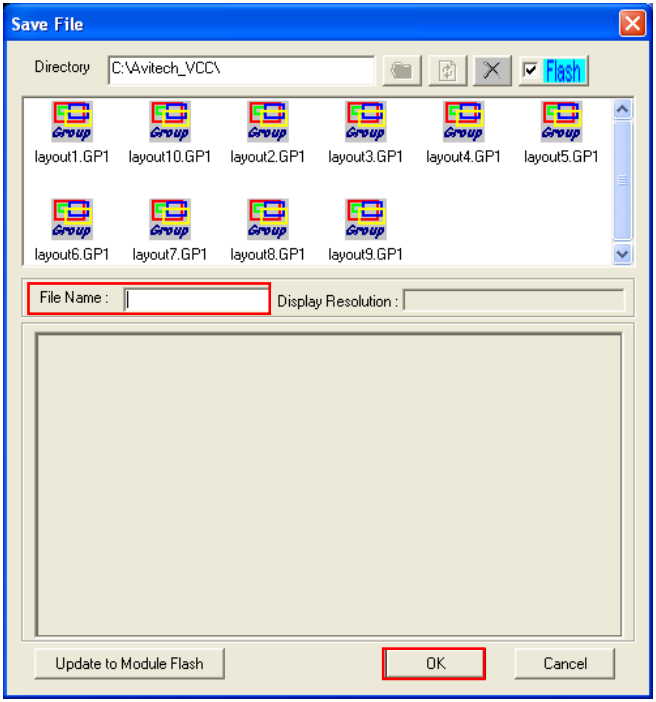
All the presets you create (up to 22) are stored in the Sequoia itself, not in the computer that is running the Phoenix-G software. In order to write all the presets into the internal flash memory of the Sequoia after creating it, you will need to save to flash. To save a preset, perform the following steps:

1. Configure the layout you want the Sequoia to display.

2. Click **Save File** on the **Option** window.



3. When the next screen appears, enter a unique filename for the preset, and select **OK** to save.

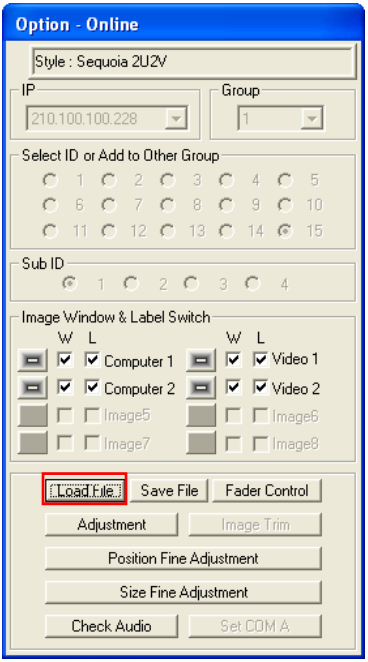


The file extension "GP#" will be automatically added to the file name.

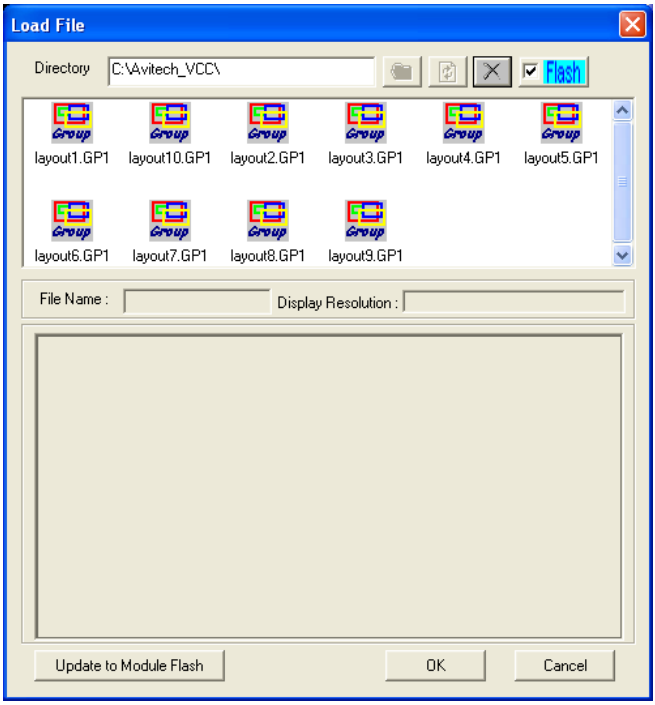
4. Repeat the above steps for each additional preset.
5. After you are done creating presets, load the file that you want to be the master layout, which gets loaded when the module is powered on.
6. Close the Phoenix-G software and select **Yes** when prompted to save to flash.

Loading File

1. In the **Option** menu, click **Load File**.



2. Select a saved file, and then click **OK** to load the preset.

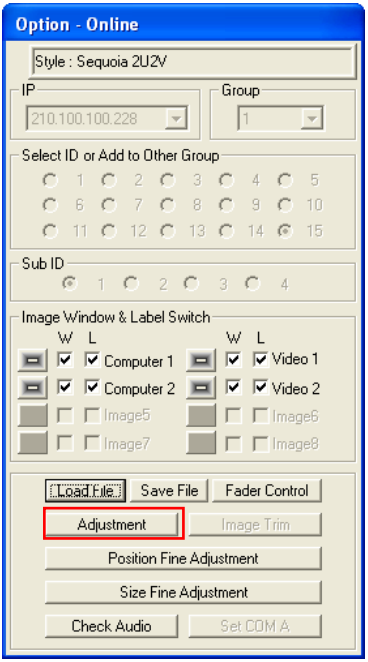


NOTE:

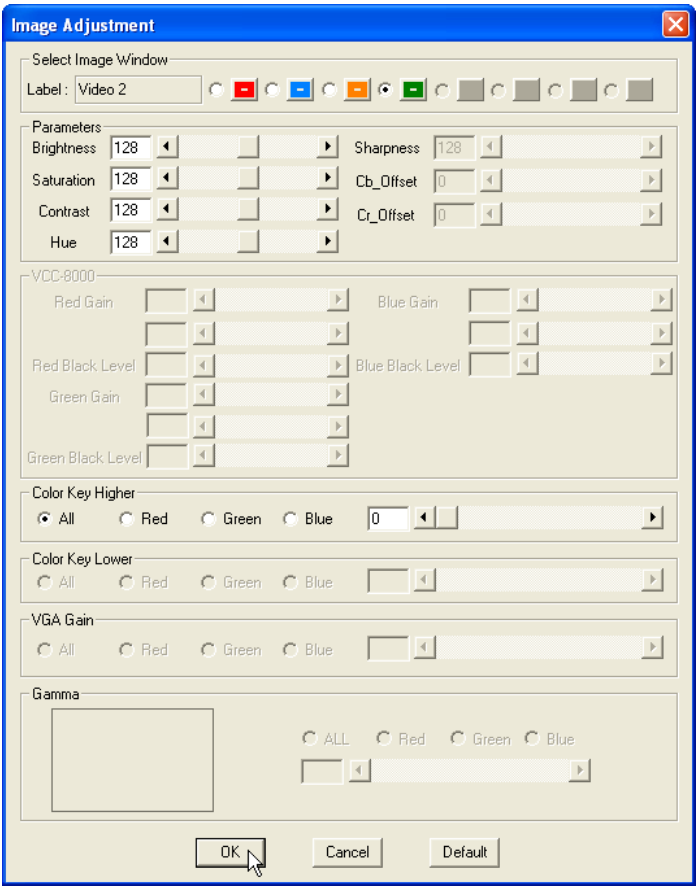
- When saving your preset do not use the same filename as the system's default preset filename (e.g., **`layout1.GP1`** / **`layout2.GP1`** / **`layout3.GP1`**).
- The sequence for loading the preset file when using the hotkeys (↑ / ↓ arrow keys) is based on the time when the preset file was first created and saved. Subsequent modification and saves will not affect this sequence (order).
- The hotkey **Ctrl** + **S** can save the latest preset to flash memory so that on the next boot-up the preset will be loaded.

Making Adjustments

1. In the **Option** menu, click **Adjustment**.



2. The following screen appears.



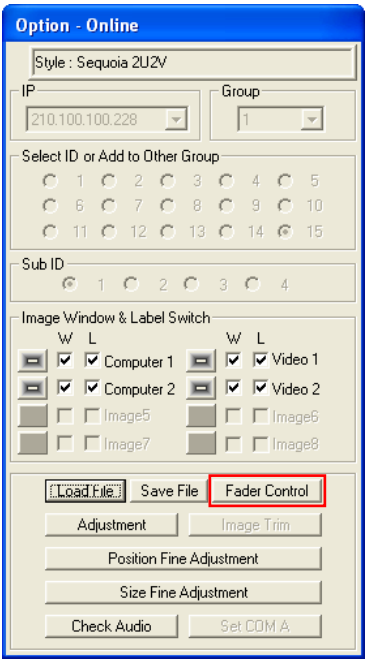
3. **Select** the **Image Window**, then you can adjust the input signal such as, **Brightness** (**0** – **255**), **Saturation** (**0** – **255**), **Contrast** (**0** – **255**), **Hue** (**0** – **255**), and **Color Key Higher** (**All** / **Red** / **Green** / **Blue**, **0** – **255**) parameters directly by using the sliders or clicking the radio button. Click the **Default** button on the lower right portion of the screen to reset the values to the factory-default.

Control Video Fade

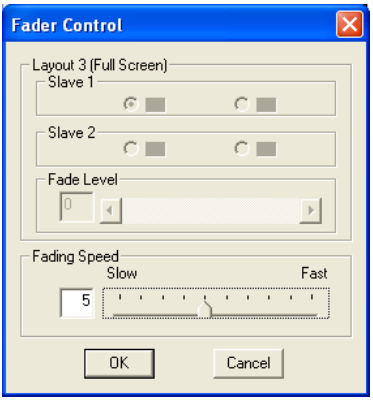
This allows you to set the speed by which an overlapping **Computer 1** window and **Video 1** window will fade into the background when the **Computer 2** window and the **Video 2** window become the active windows and vice versa.

> **NOTE:** **Computer 1** window and **Video 1** window or **Computer 2** window and **Video 2** window will fade simultaneously. This is because **Computer 1** window and **Video 1** window are both processed by the first 1601 IC (integrated circuit) chip, while **Computer 2** window and **Video 2** window are both processed by the second 1601 IC chip.

1. In the **Option** menu, click **Fader Control**.



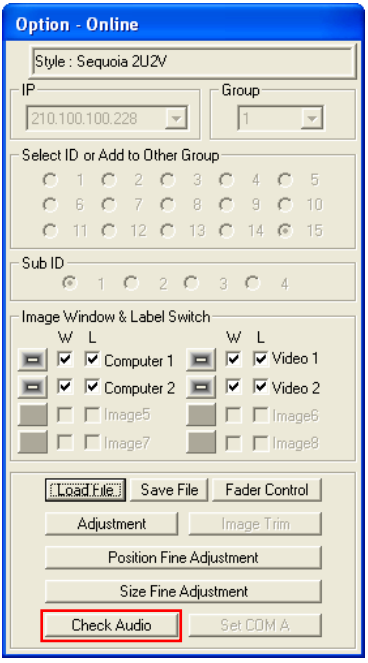
2. The following screen will appear.



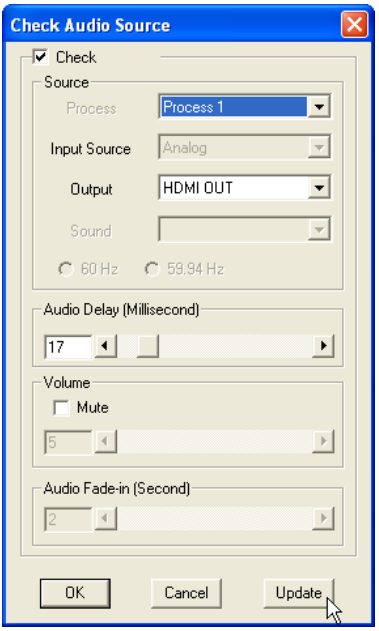
3. Adjust the **Fading Speed** directly by using the slider to select **Slow** (**1**) – **Fast** (**10**). Then click **OK**.

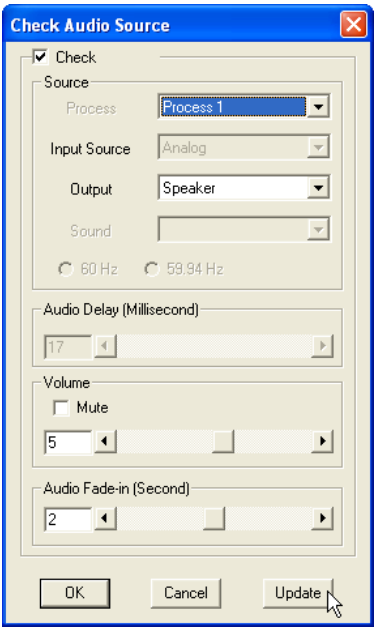
Audio Delay

1. In the **Option** menu, click **Check Audio**.



2. When the following screen appears, click the audio **Check** option.





3. Select the **Process** window on the drop-down menu.
4. Select the type of **Output** (**HDMI OUT** or **Speaker**).
5. Use the slider to set the **Audio Delay** time **(Millisecond)**. This is available only when selecting **HDMI OUT** as the **Output** type.
6. Use the slider to set the **Volume** level (**0** to **9**). This is available only when selecting **Speaker** as the **Output** type.

   Click the **Mute** checkbox to quickly turn off the volume.
7. Use the slider to set the **Audio Fade-in** time **(Second)**. This is available only when selecting **Speaker** as the **Output** type.

4 Avitech ASCII Protocol

The Sequoia 2x2V series supports the ASCII command prompt interface. You can use HyperTerminal to control your Sequoia 2x2V series. The RJ-45 port (**IP**) on the Sequoia 2x2V series can also be used to interface with a third-party controller for control over IP. This chapter familiarizes you with using the Avitech ASCII Protocol (AAP) of the Sequoia 2x2V series via Microsoft® Windows HyperTerminal function as an example.

4.1 Entering the ASCII Z Command Interface

To startup the ASCII Z command interface, perform the following steps:

1. Make sure you have a binary file editing program installed in your computer.
2. Run the binary file editing program and use the following command syntax to create and save the sample binary file–

```
unsigned char 0x55,0xAA;                              //command head
unsigned char 0xF8,~0xF8;                             //command ID
unsigned char strlen(prompt$)+2,~(strlen(prompt$)+2); //command length
unsigned char FunctionID;                             //must be 0x07
unsigned char prompt$[];                              //must end by 0x00 !!!
unsigned char 0x00;                                   //command tail
```

Using the below binary text string as an example–

0x55 0xAA 0xF8 0x07 0x0B 0xF4 0x07 “ZA 000000” 0x00

Execute “ZA 000000” = arranges all windows to its proper size and position

> **NOTE:** The double-quote “” of sample string “ZA 000000” is just for string expression, there are no quote characters (0x22) in the command contents (actual memory dump of command).

Going back to our sample binary text string listed above–

0x55 0xAA 0xF8 0x07 0x0B 0xF4 0x07 "ZA 000000" 0x00

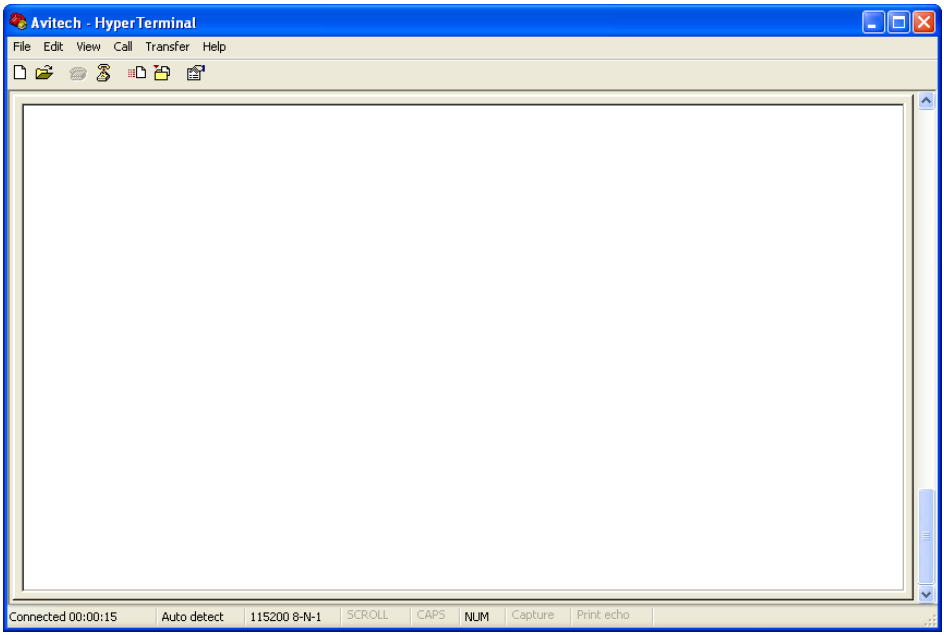
It is therefore composed of the following parts (follow the color coding)–

0x55 0xAA 0xF8 0x07 0x0B 0xF4 0x07

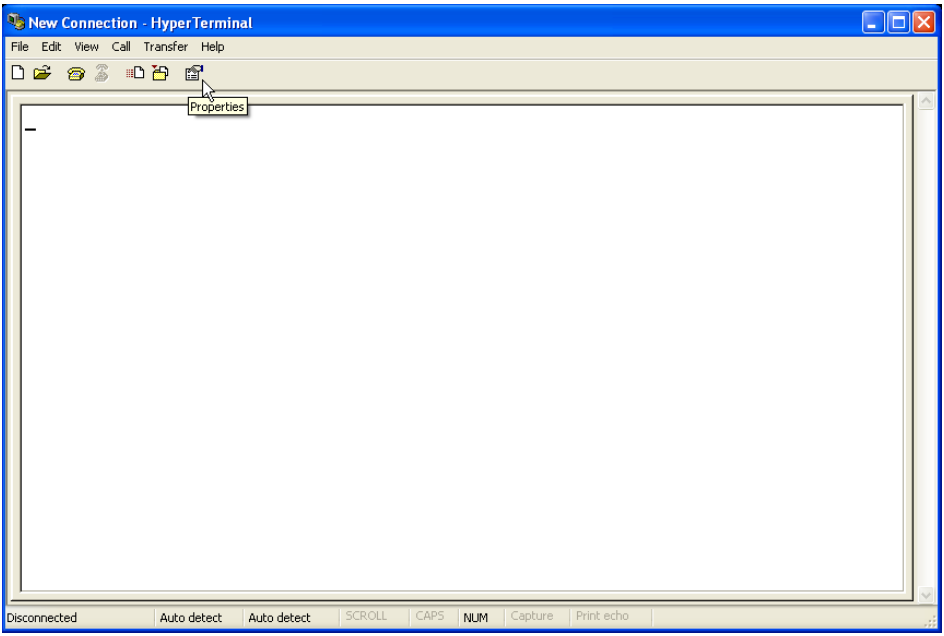
0x5A 0x41 0x20 0x30 0x30 0x30 0x30 0x30 0x30 0x00(end of string)

0x00(command tail)

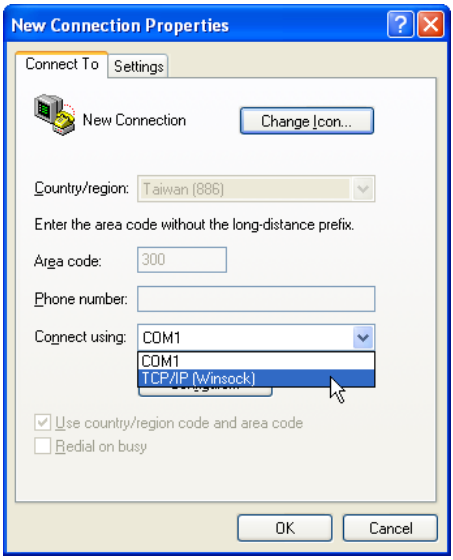
3. Connect the HyperTerminal's RJ-45 port (computer) to the Sequoia 2x2V series **IP** port.
4. On your computer, click **Start→All Programs→Accessories→ Communications→HyperTerminal**. The following screen will appear.



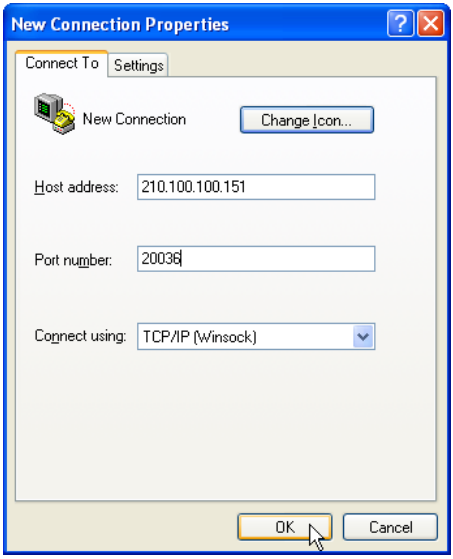
5. Click the **Properties** icon.



6. The following screen will appear. Select **TCP/IP (Winsock)**.

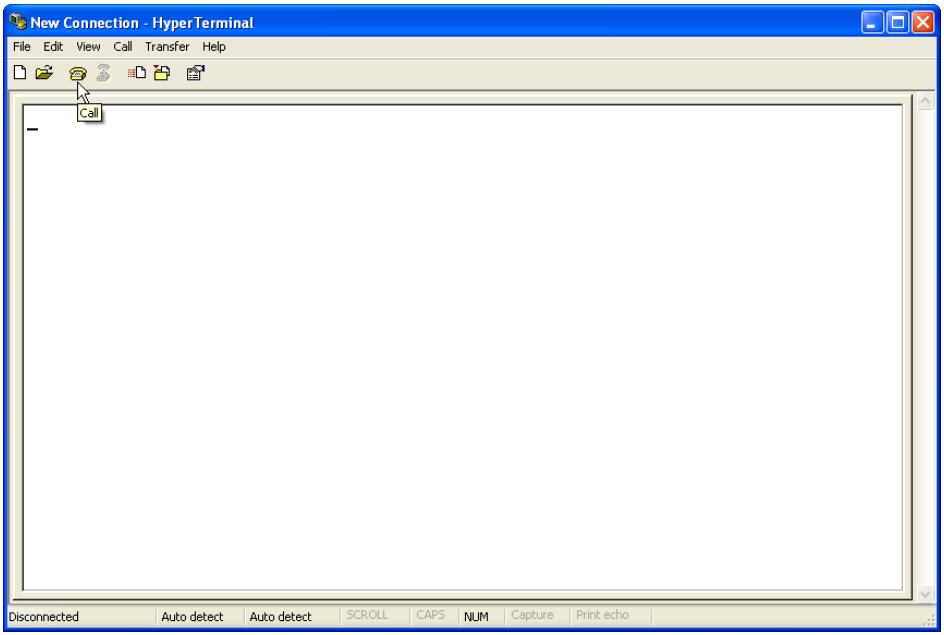


7. Enter “210.100.100.151” for **Host address** and “20036” for **Port number**. Then click **OK** to continue.



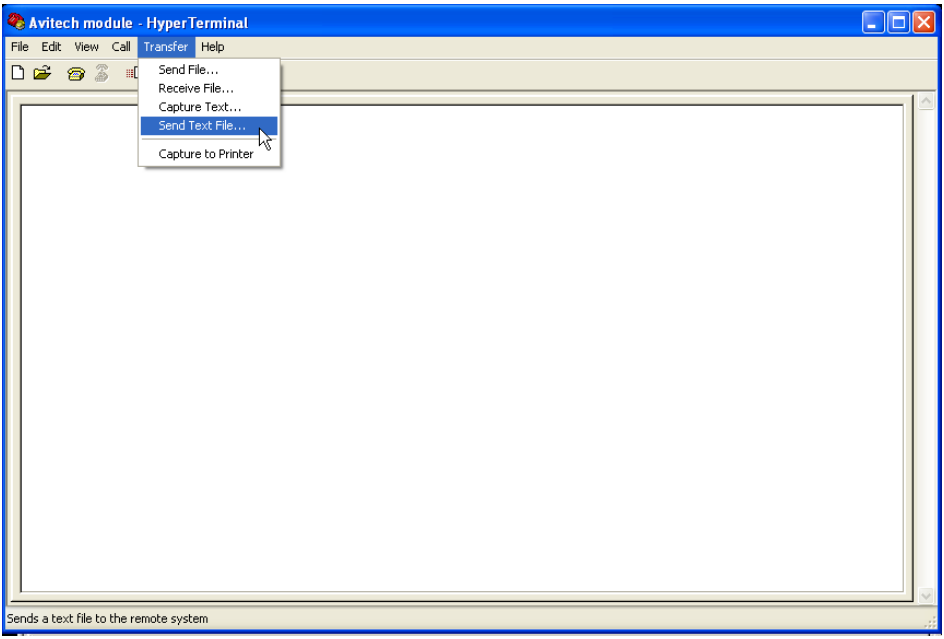
8. Make sure to press **Ctrl** + **Esc** hotkeys first in order to exit the MKC (mouse keyboard controller) mode.

9. Click the **Call** icon.

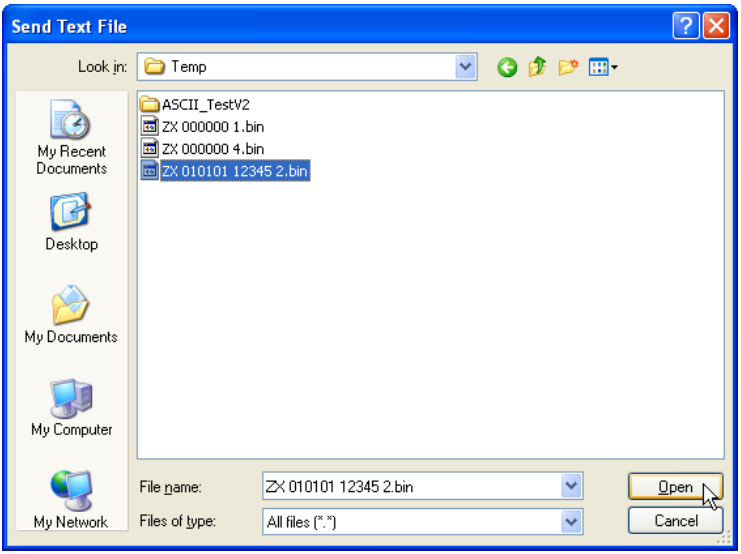


10. When the next screen appears, assign a **Name** to the connection. Then click **OK**.

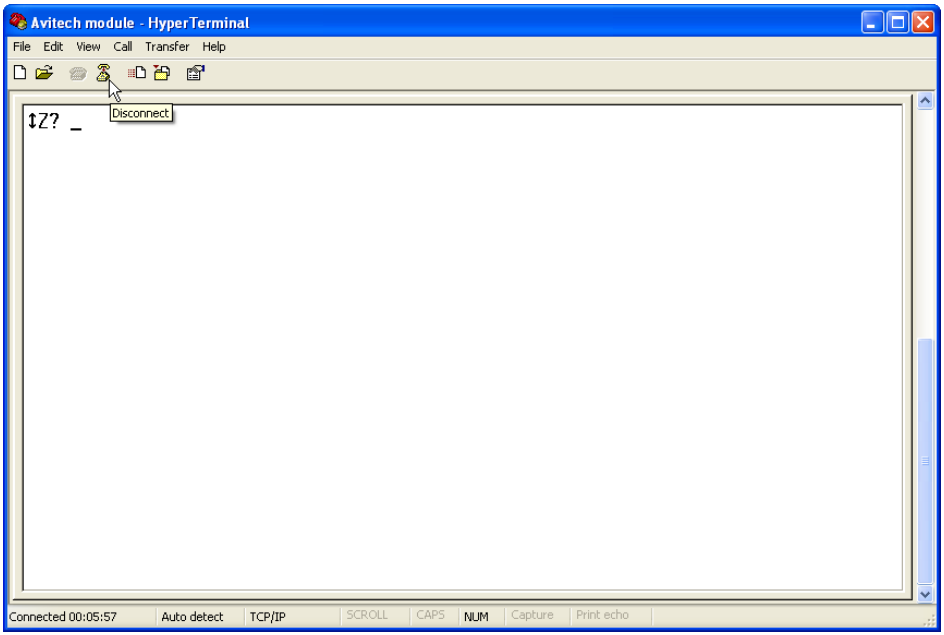
11. Click **Transfer→Send Text File**.



12. When the next screen appears select the binary file and then click **Open**.



13. After sending the text file, click the **Disconnect** button to end the call.



Release the IP from Avitech Module

In case the third-party device that is currently connected (via IP) to the Sequoia module wants to effect a disconnection (e.g., to be able to use the Phoenix-G program to connect the third-party device to the Sequoia module), use the below binary text string–

0x55 0xAA 0xF8 0x07 0x06 0xF9 0x07 “exit” 0x00

Execute “exit” = release the IP from Avitech module

> **NOTE:** The double-quote symbol “” of sample string “exit” is just for string expression, there are no quote characters (0x22) in the command contents (actual memory dump of command).

Going back to the binary text string listed above–

0x55 0xAA 0xF8 0x07 0x06 0xF9 0x07 “exit” 0x00

It is therefore composed of the following parts (follow the color coding)–

0x55 0xAA 0xF8 0x07 0x06 0xF9 0x07

0x65 0x78 0x69 0x74 0x00(end of string)

0x00(command tail)

4.2 ASCII Z Command Format

The ASCII Z command is comprised of the following parts:

Header	Group/Module/Window Assignment	Parameter 1	Parameter 2	. . .

The following is a list of rules to follow when entering the ASCII Z command:

- It is acceptable to enter commands in small or capital letters, and the five columns are separated by a space.
- **Header** = **z** + command character
- **Group/Module/Window Assignment (GGMMPP)** = is comprised of six Arabic numerals. This is used in designating the device's Group/Module/Window Assignment.

  Group = is comprised of the first two numbers, "00" is the fixed value.

  Module = is comprised of the middle two numbers, "00" is the fixed value.

  Window Assignment = is comprised of the last two numbers (**01** – **04**), "00" is used to pertain to all window assignments.
- **Parameter 1** of color assignment (**RRRGGGBBB**) = is comprised of nine Arabic numerals, this is used to designate the color.
- **Parameter 2** of on / off switch = "1" signifies ON while "0" signifies OFF.

The following is a list of available ASCII Z commands:

ZA

Format: **ZA GGMMPP** [NByN(**2**,**3**,……)] [Nth(**1**,**2**,……)]

Function: to set the automatic arrangement of windows.

Examples: **ZA 000000 2 1**
Set all windows to a 2×2 map position 1,2,3,4 (quad).
ZA 000002 3 2
Place window 2 to a 3×3 map position 2.
ZA 000000 6 13
Place all windows to a 6×6 map position 13,14,15,16.
ZA 000000
Automatically arrange all windows to the optimum size and position.

ZC

Format: **ZC GGMMPP B**[order]/**L**[abel] **RRRGGGBBB** (red ratio **000** – **255**, green ratio **000** – **255**, blue ratio **000** – **255**) (**N**o**D**im**C**olor)

Function: to set the border of the window (with / without dimming effect) and label's background color.

Description: **B**[order] to signify the border of the window.
L[abel] to signify the label's background color.
[**N**o**D**im**C**olor] to signify the border's dimming effect. You can add [**N**o**D**im**C**olor] to remove the border's dimming effect. Just enter **NDC** to signify **N**o**D**im**C**olor.

Examples: **ZC 000001 B 000255000**
sets the border color of window 1 as dim green.
ZC 000002 B 255000000 ndc
sets the border color of window 2 as pure red.
ZC 000003 L 000000255
sets the label's background color of window 3 as dim blue.

ZF

Format: **ZF GGMMPP** [full screen mode **1** (on) / **0** (off)] [background **1** (on) / **0** (off)]

Function: to turn on / off the video window's full screen mode and set to background.

Examples: **ZF 000004 1**
sets window 4 to full screen mode display.
ZF 000004 0
disables full screen mode for window 4 and reverts it back to its former display size.
ZF GGMMPP 1 1
sets GGMMPP full screen to background.

ZJ

Format: **ZJ GGMMPP I**[mage] / **G**[ain]

Function: to automatically adjust the analog VGA signal entering the **DVI-I Input** port.

Description: **I**[mage] will automatically adjust the image's position and size.
G[ain] will automatically adjust the image gain.

Examples: **ZJ 000000 I**
automatically adjust the image's position and size on all the windows.
ZJ 000000 G
automatically adjust the image gain on all the windows.

ZL

Format: **ZL GGMMPP 000000000** (text color RRRGGGBBB) **000000000** (label color RRRGGGBBB) "**TEXT**" (always center-aligned, label text string 32 ASCII characters maximum but it will depend on the font size. For example, upon entering label text "0123456789" at font size 3, Sequoia 2x2V will just show "012345678").

NOTE: Sequoia 2x2V series do not support transparency.

Function: to set the label's text and color.

Examples: **ZL GGMMPP 0 255000000 000000255 "CNN News Station"**
sets GGMMPP text color red, label color blue, with text "CNN News Station."

ZM

Format: **ZM GGMMPP ##** (resolution number) **N**o**A**uto arrangement

Function: to change the output resolution, the resolution number refers to the list of resolutions that Sequoia 2x2V series supports.

Description:

Resolution	Vertical Frequency		
	50 Hz	60 Hz	75 Hz
800 × 600	42	1	47
1024 × 768	31	2	11
1280 × 720	30	15	48
1280 × 768	32	22	49
1280 × 1024	29	9	12
1360 × 768	38	20	21
1400 × 1050	34	35	50
1440 × 900	46	45	51
1600 × 1200	39	10	52
1680 × 1050	41	40	53
1920 × 1080	28	26	N/A
1920 × 1200	37	36	N/A

252: VESA timing
255: normal timing

Examples: **ZM 000000 10**
set to display at 1600×1200 resolution at 60 Hz vertical frequency, and automatically arrange all windows to the proper size and position.
ZM 000000 9 NA
sets all the windows to have a 1280×1024 resolution at 60 Hz vertical frequency with no automatic arrangement.

ZN

Format: **ZN GGMMPP** option (**O**[SD]/**B**[order]/**L**[abel]/**T**[ally]/**I**[mage]/**G**[ain]/**W**[indow]) **1** (on) / **0** (off)

Function: to turn on / off various options.

Examples: **ZN 000000 O 0**
turns off the OSD (on screen display) of all windows.
ZN 000001 O 1
turns on the OSD of window 1.
ZN 000002 B 0
turns off the border of window 2.
ZN 000003 L 1
turns on the label of window 3.
ZN 000004 I 1
turns on automatic image adjustment function of VGA window 4.
ZN 000002 G 0
turns off automatic gain function of VGA window 2.
ZN 000004 T 0
turns off the tally of window 4.
ZN 000000 W 0
turns off all the windows.

NOTE:
- Turning on automatic adjust and automatic gain only affects the VGA window.
- The image window will be positioned at (0,0) and be 1/16 of display size upon turning on a closed image window.

ZO

Format: **ZO GGMMPP** [**1** (on) / **0** (off)] [**0** ~ **9** volume, **0** is mute] [**0** ~ **9** audio delay for **HDMI OUT** port only, **0** is no audio delay]

Function: set the audio output.

Description: Volume control is not available for audio signal from the **HDMI OUT** port of your Sequoia to the monitor display's speakers.
Due to video / image processing delays one could achieve audio / video sync by adjusting audio delay.

Examples:
ZO 000001 1
turn on audio of window 1.
ZO 000002 1 5 9
turn on audio of window 2, volume is set at level 5, and audio delay is set at level 9.
ZO 000002 0
turn off audio of window 2.

ZP

Format: **ZP GGMMPP L**[oad] / **S**[ave] "filename**.GP#**"
ZP GGMM (for listing presets)

Function: load a previously saved preset or save current layout to a preset, as well as list presets.

Description: If the filename includes space(s), use double quotation marks to signify the complete filename.
If the filename is not specified when saving the file, system will backup the file into flash memory.

Examples:
ZP 010000 L "Group 1.GP1"
sets all the windows in group 1 to load the previously saved **`Group 1.GP1`** preset file
ZP 010000 S "Group 2.GP1"
saves the current layout of all windows in group 1 to a preset file **`Group 2.GP1`**
ZP 000000 S
saves the file of all the windows into flash memory.

ZR

Format: **ZR GGMMPP SD** (width rate) **SD** (height rate) **HD** (width ratio) **HD** (height ratio)

Function: to lock and adjust the video ratio.

Examples: **ZR GGMM01 4 3 16 9**
sets GGMM window 1's SD video ratio as 4:3, HD video as 16:9.
ZR 000000 16 9 4 3
sets all windows' SD video ratio as 16:9, HD video as 4:3.
ZR GGMMPP 7 12 7 12
sets GGMMPP's SD and HD video ratio as 7:12.
ZR GGMMPP 0 0 0 0
disables the function by setting the width rate or height rate = 0.

ZW

Format: **ZW GGMMPP X** position **Y** position **W**(idth) **H**(eight)
ZW GGMMPP C[rop] **1** (on) / **0** (off) **X** position **Y** position **W**(idth) **H**(eight)

Function: to set the window's position and size, appear as the topmost window, and crop.

When cropping, the width and height are calculated using the output display size. For example, if the output display timing is 1280×1024 at 60 Hz, and you just want to display the right bottom quarter of the input image:

Crop X = 1280 / 2 = 640 (crop width = 1280 / 2 = 640)

Crop Y = 1024 / 2 = 512 (crop height = 1024 / 2 = 512)

There is no need to take into consideration the input image size and position, or the size of the window. When cropping it is always assumed that the input image size is equal to the output display size.

Examples: **ZW 000001**
sets window 1 as the top window.
ZW 000001 100 200 300 400
sets window 1 at (100,200) top-left position and (300,400) bottom-right position.
ZW 000001 0 0 0 0
turns window 1 off by setting the width or height to be 0.
ZW 000002 C 1 100 100 320 240
crop window 2 from (100,100) top-left position up to (320,240) bottom-right position.
ZW 000004 C 0
disables crop on window 4.

ZX

Format: **ZX GGMMPP** "label text" (supports ASCII characters only – include the quotation marks) **#** (font size **1** – **4**)

Function: to change the label text and font size.

Description: Include the quotation marks when entering the label text.
The label will appear center-aligned on the window, maximum of 32 characters for each label.
The width of the label's background is fixed (follow the window's width).

Examples: **ZX 000000 "Input 1"**
Input 1 will appear as the label for all the windows.
ZX 000000 3
sets all windows label font size to 3.

A Firmware Upgrade

This chapter familiarizes you with updating the firmware of your Avitech Sequoia 2x2V as well as resetting it to its factory-default value.

Firmware update is divided into two main processes:

- Firmware update process
- Device driver installation (the first time you use the particular computer to update the firmware)

> **NOTE:** In order to have a visual display of the firmware update process, connect the monitor display directly to the computer instead of the Sequoia 2x2V's **HDMI OUT** port.

A.1 Updating the Firmware

The firmware for Sequoia is divided into:

- Control board firmware
- CPLD firmware
- FPGA UB (upper board) firmware
- 1601 firmware

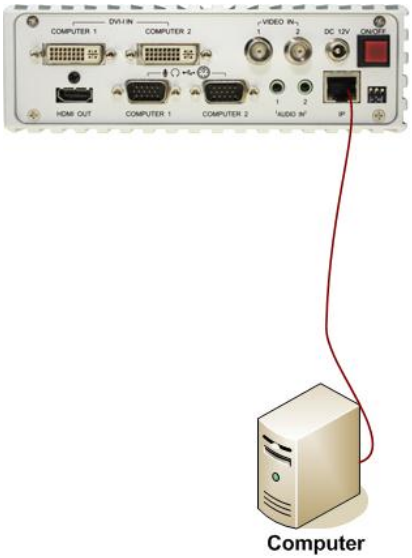
> **NOTE:** The CPLD / FPGA UB / 1601 firmware can be updated at the same time or individually.

- USB Host controller firmware
- USB device controller 1 / 2 firmware

Control Board Firmware

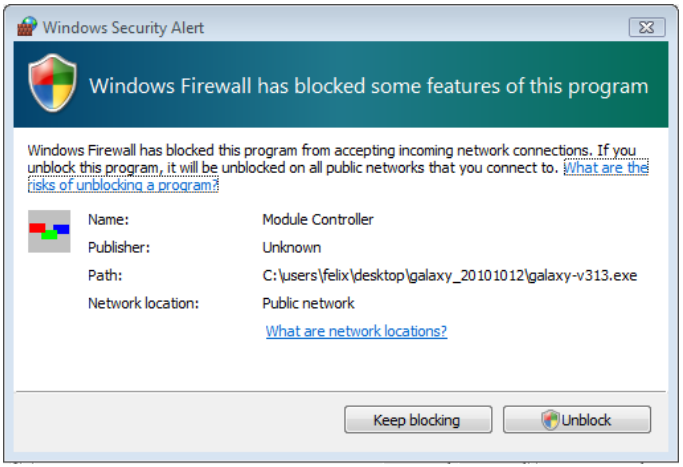
To update the control board firmware, perform the following steps:

1. Power-on the Sequoia by pressing the power switch to the ON position.
2. Use an Ethernet cable and connect one end to the Sequoia rear panel's **IP** port and the other end to the computer's RJ-45 port (a point-to-point connection is required).



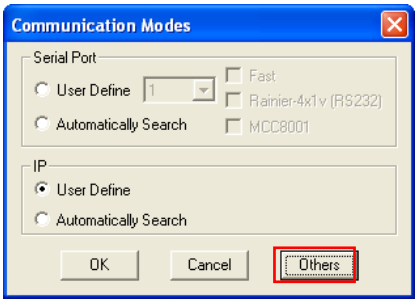
3. Run the Phoenix-G software by double-clicking the “Phoenix-G-V31x.exe” file. If in case the following screen appears, click **Unblock** to continue.

For Windows XP

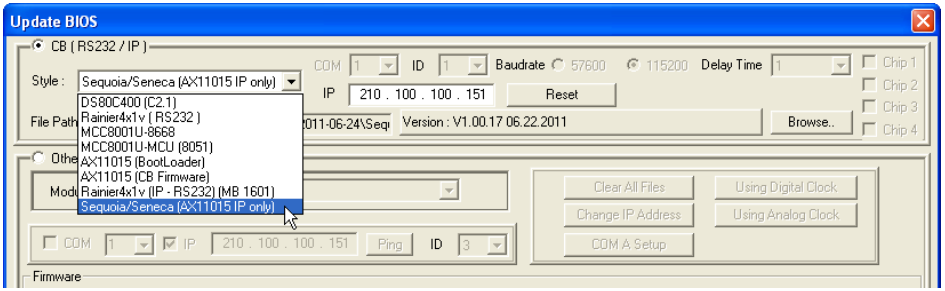


For Windows Vista
(on the next screen, click **Continue**)

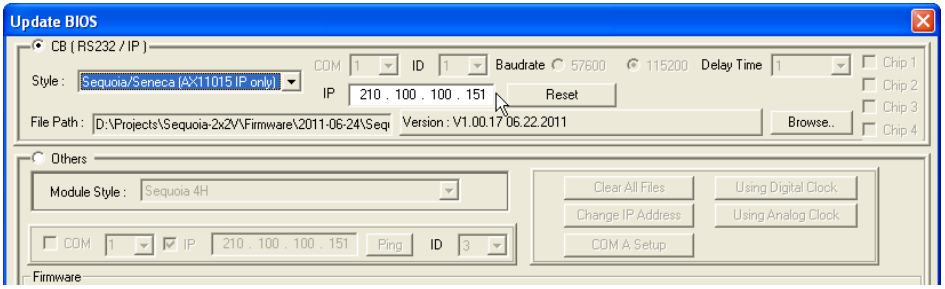
4. Click **Others** when the following screen appears.



5. When the following screen appears, select **CB (RS232 / IP)**. On the **Style** drop-down menu, select **Sequoia (AX11015 IP only)**.



> **NOTE:** Make sure that the **IP** value (e.g., **210.100.100.151**) is the same as the IP address of your Sequoia.

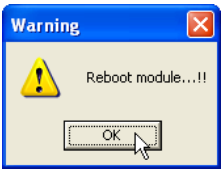


6. Click the **Browse** button to specify the location of the firmware file and select "AT-Sequoia-CB.bin."

> **IMPORTANT:** To be able to use the cascade function, make sure the firmware file is dated August 11, 2011 or later.

7. Click the **Update** button located on the lower left portion of the screen. The progress of updating the firmware would be shown onscreen.

8. When the next screen appears, reboot (power off and power on) the Sequoia.



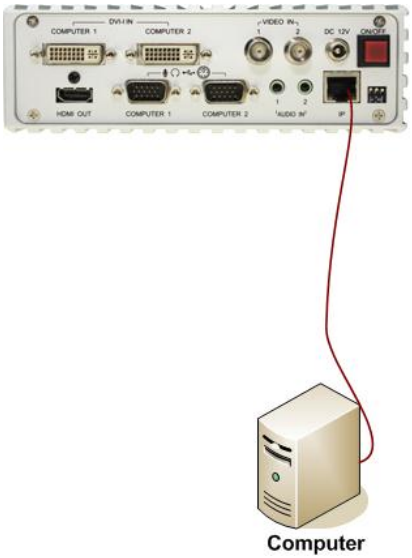
> **NOTE:** In case of update control board firmware failure (e.g., Ethernet connection was terminated or power supply was disrupted before firmware upgrade is complete), refer to Appendix B Troubleshooting portion for details on fixing this problem.

CPLD Firmware

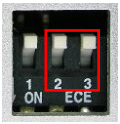
To update the CPLD firmware, perform the following steps:

1. Power-on the Sequoia by pressing the power switch to the ON position.

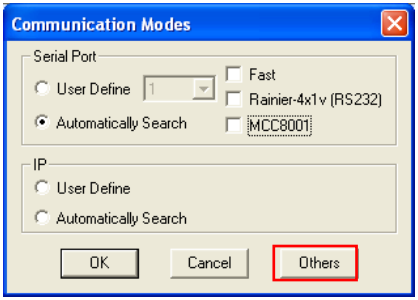
2. Use an Ethernet cable and connect one end to the Sequoia rear panel's **IP** port and the other end to the computer's RJ-45 port (a point-to-point connection is required).



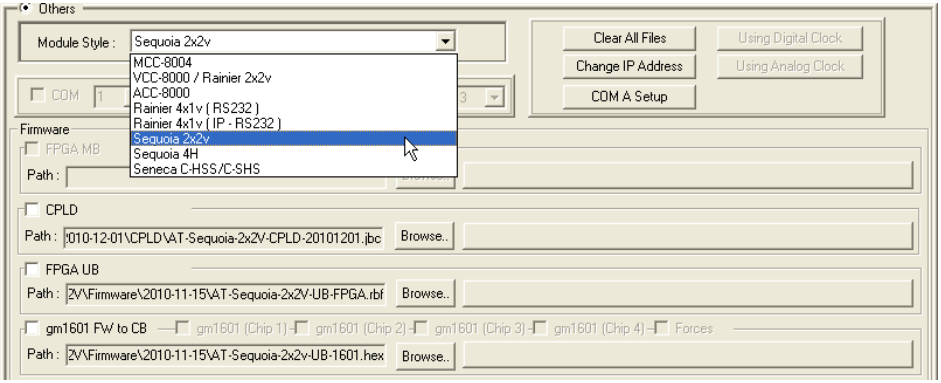
3. Push the number **2** and **3** dip switches located on the Sequoia's rear panel downward to the **ON** position.



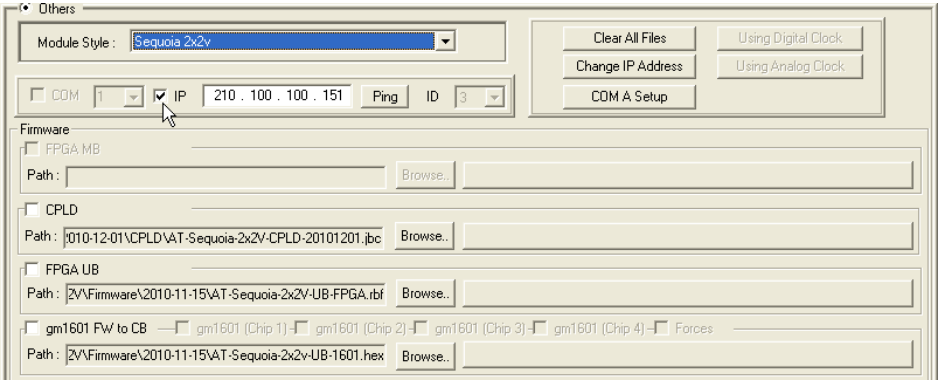
4. Run the Phoenix-G software by double-clicking the "Phoenix-G-V31x.exe" file. Click **Others** when the following screen appears.



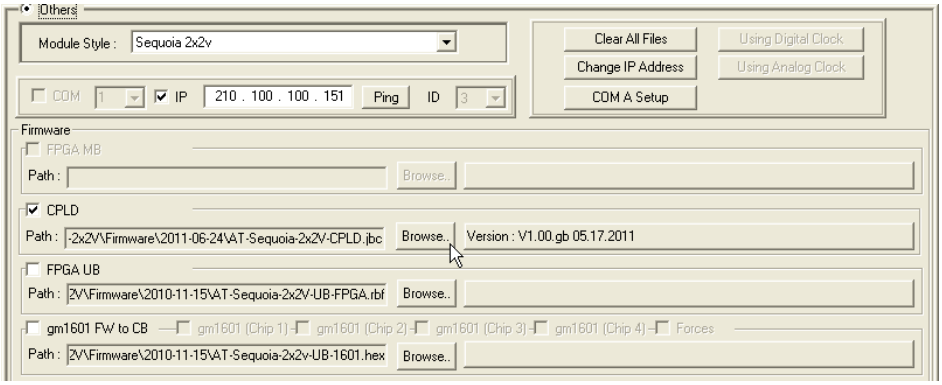
5. When the following screen appears, select **Others** and on the **Module Style** drop-down menu, select **Sequoia 2x2V**.



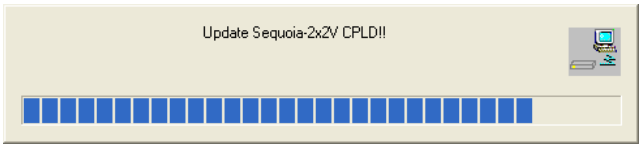
6. Click to select the **IP** checkbox with the factory-default **210.100.100.151** value. In case you have changed the IP address of your Sequoia, make sure to enter the correct IP address.



7. Click to select the **CPLD** checkbox, and then click the **Browse** button to specify the location of the firmware file and select "AT-Sequoia-2x2V-CPLD.jbc."

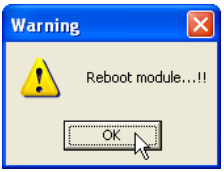


8. Click the **Update** button located on the lower left portion of the screen. The progress of updating the firmware would be shown onscreen.



9. Upon finishing the update firmware process, push back the number **2** and **3** dip switches upward to the default position.

10. When the next screen appears, reboot (power off and power on) the Sequoia.

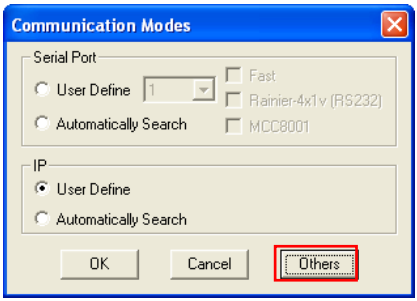


NOTE: Shutdown and startup of Sequoia needs to be done to completely update the CPLD firmware.

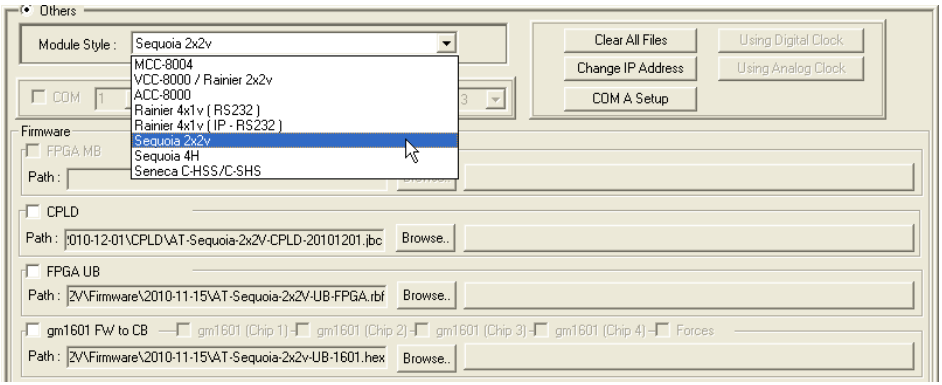
1601 Firmware

To update the 1601 firmware, perform the following steps:

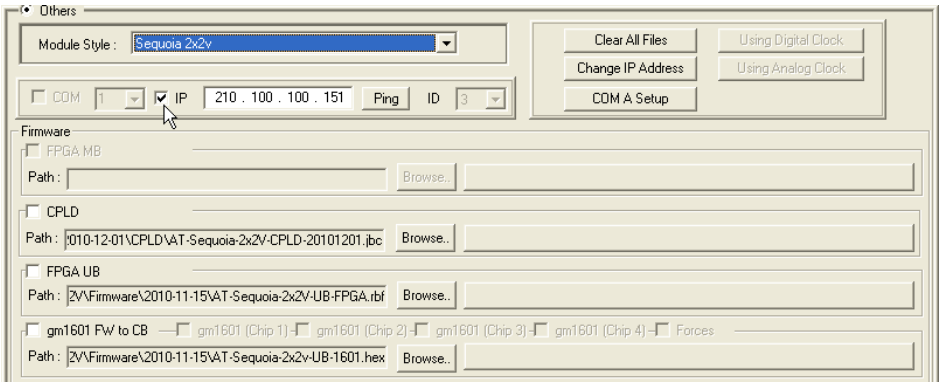
1. Run the Phoenix-G software by double-clicking the "Phoenix-G-V31x.exe" file. Click **Others** when the following screen appears.



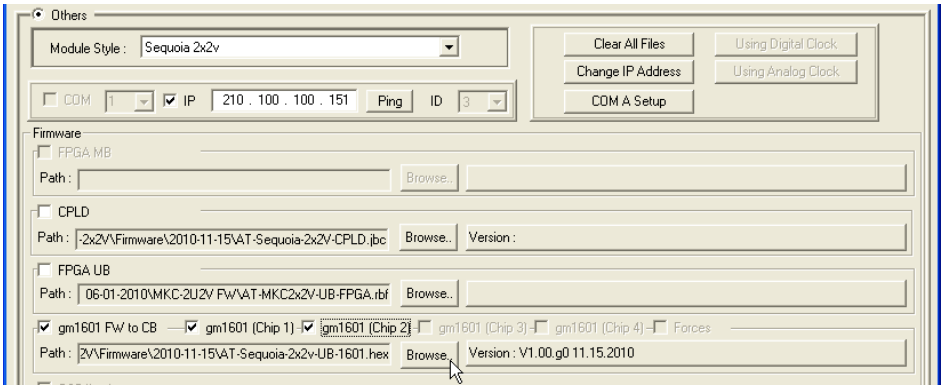
2. When the following screen appears, select **Others**. On the **Module Style** drop-down menu, select **Sequoia 2x2V**.



3. Click to select the **IP** checkbox with the factory-default **210.100.100.151** value. In case you have changed the IP address of your Sequoia, make sure to enter the correct IP address.

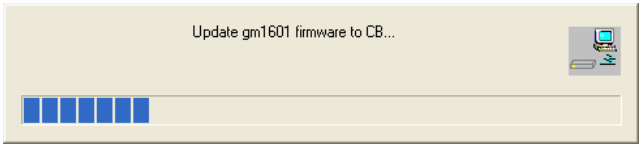


4. Click to select **gm1601 FW to CB**, **gm1601 (Chip 1)**, and **gm1601 (Chip 2)**.

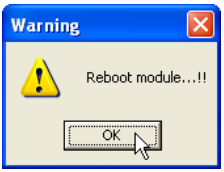


5. Click the **Browse** button to specify the location of the firmware file and select “AT-Sequoia-2x2v-UB-1601.hex”.

6. Click the **Update** button located on the lower left portion of the screen. The progress of updating the firmware would be shown onscreen.



7. When the next screen appears, reboot (power off and power on) the Sequoia.

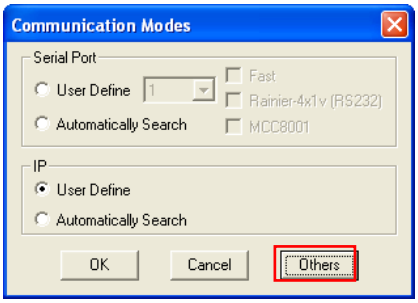


> **NOTE:** Shutdown and startup of Sequoia needs to be done to completely update the 1601 firmware.

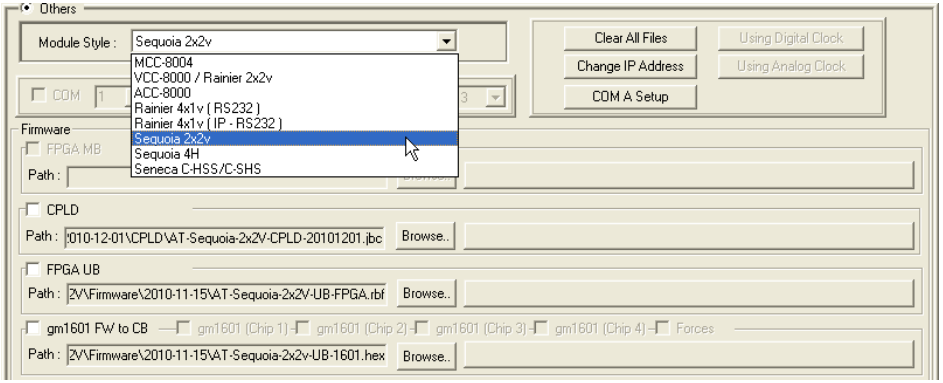
FPGA UB Firmware

To update the FPGA UB (upper board) firmware, perform the following steps:

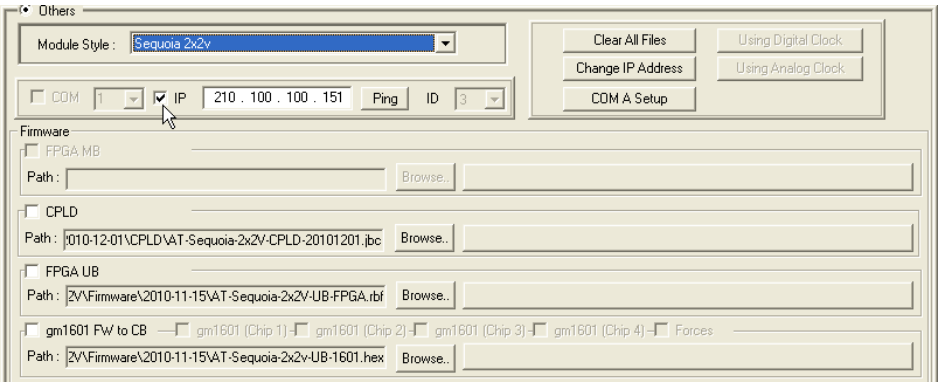
1. Run the Phoenix-G software by double-clicking the "Phoenix-G-V31x.exe" file. Click **Others** when the following screen appears.



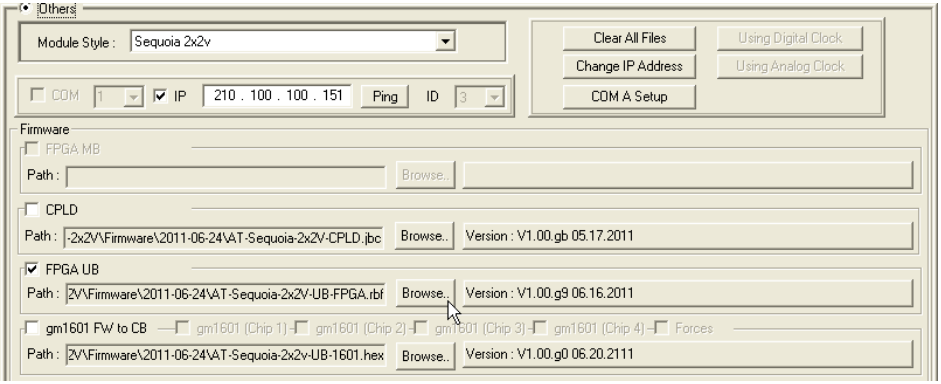
2. Select **Others** and on the **Module Style** drop-down menu, select **Sequoia 2x2V**.



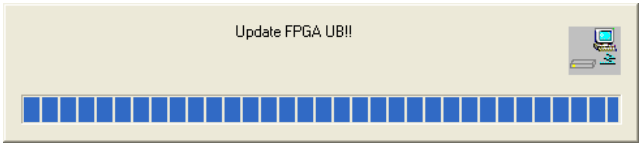
3. Click to select the **IP** checkbox with the factory-default **210.100.100.151** value. In case you have changed the IP address of your Sequoia, make sure to enter the correct IP address.



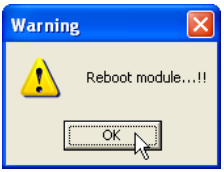
4. Click to select the **FPGA UB** checkbox, and then click the **Browse** button to specify the location of the firmware file and select "AT-Sequoia-2x2V-UB-FPGA.rbf."



5. Click the **Update** button located on the lower left portion of the screen. The progress of updating the firmware would be shown onscreen.



6. When the next screen appears, reboot (power off and power on) the Sequoia.



> **NOTE:** Shutdown and startup of Sequoia needs to be done to completely update the FPGA UB firmware.

USB Host Controller Firmware

Updating the USB Host Controller Firmware

To update the USB Host controller firmware, perform the following steps:

1. Use the included USB-A to USB-B cable to connect one end to the Sequoia front panel's USB B-type port and the other end to the computer's USB port.

   > **NOTE:** Do not connect to the other USB ports. They cannot be used to update the firmware.

2. Use a small sharp-pointed object and push down all three dip switches to the **ON** position.

3. Reboot (power off and power on) the Sequoia (upon rebooting, the **Safely Remove Hardware** icon may appear on the Windows taskbar).

   > **NOTE:**
   > - If at this moment the message "computer has detected an unknown device" appears onscreen, you need to install the device driver (refer to the next section "Installing the Device Driver").
   > - After installing the device driver, repeat the USB Host controller firmware upgrade steps again from the beginning.

4. Use the small sharp-pointed object and push up all three dip switches.

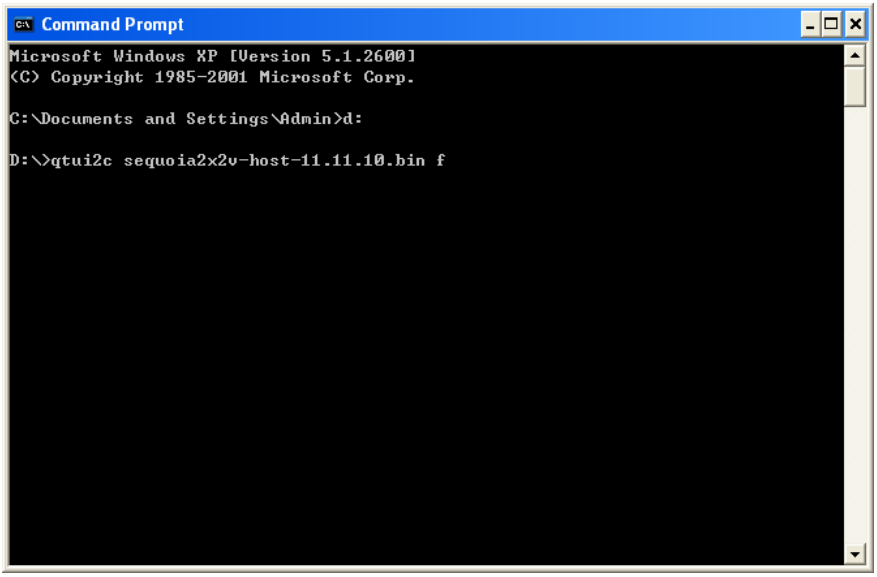
NOTE: If you do not return the dip switches to the upward position, firmware update will not be successful.

5. Add a delay of approximately 10 seconds, then click **Start→Programs→Accessories→Command Prompt** to enter DOS mode.

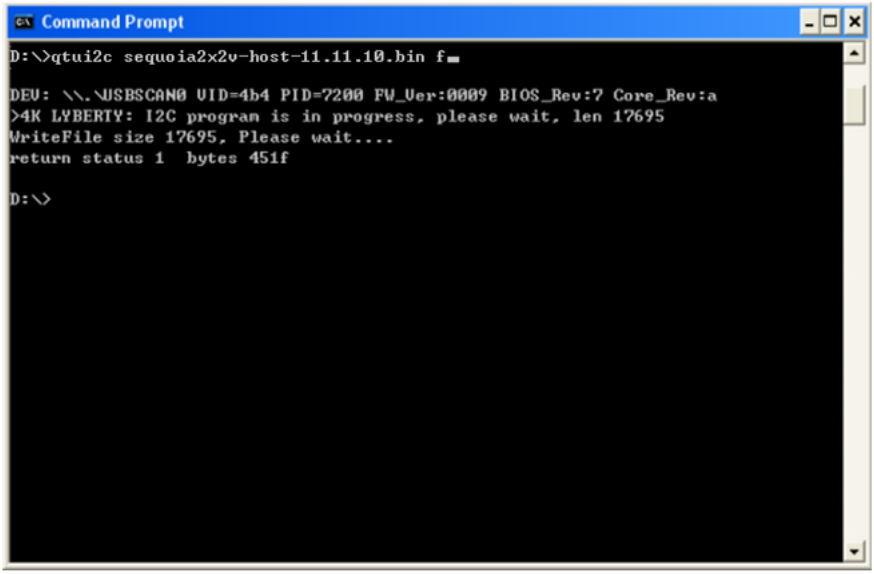
6. For using the touchscreen or ordinary monitor display–
   Type "qtui2c sequoia2x2v-host-xx.xx.xx.bin f" (where "xx.xx.xx" is the firmware version's release date). The software will start the update process. (In the future this may be integrated into the Phoenix-G software; the firmware update method will then be the same as the other Avitech product lines.)

   For using the cascade function–
   Type "qtui2c sequoia2x2v-host-C-xx.xx.xx.bin f" (where "xx.xx.xx" is the firmware version's release date). The software will start the update process.

IMPORTANT: Make sure the Sequoia Host firmware file ("**sequoia2x2v-host-xx.xx.xx.bin**" for touchscreen and ordinary monitor display; or "**sequoia2x2v-host-C-xx.xx.xx.bin**" for cascade function) is located on the same drive and directory as the "**qtui2c.exe**" software file (not inside a file folder) or Windows desktop.



7. The update firmware process takes approximately 110 seconds.



8. Type "Exit" to quit the **Command Prompt** screen.
9. Reboot (power off and power on) the Sequoia again.

> **NOTE:** Shutdown and startup of Sequoia needs to be performed to completely update the USB Host controller firmware.

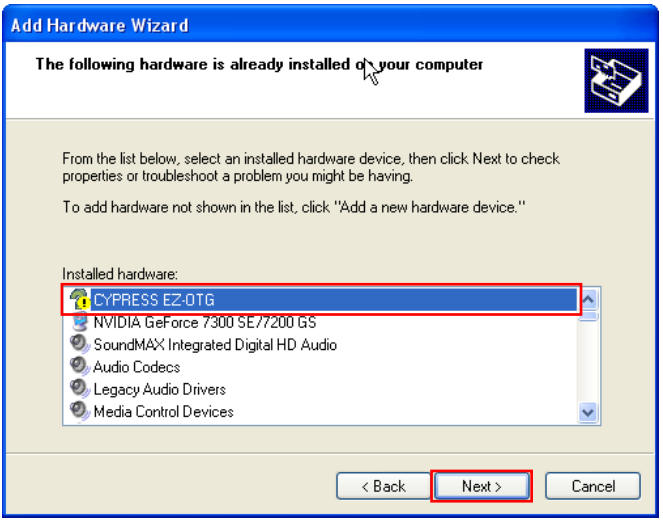
You can start using the Sequoia by making sure that the remote computer, USB keyboard and mouse has been connected to the Sequoia.

Installing the Device Driver

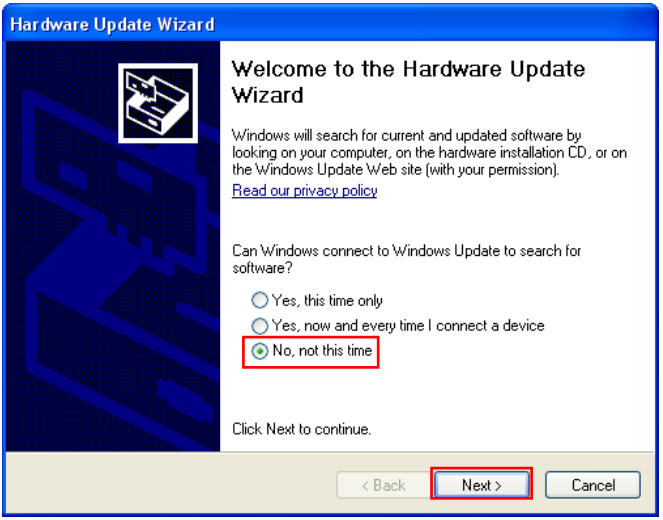
> **NOTE:** You need to install the device driver only in the following conditions –
> - When updating the firmware using a particular computer for the first time.
> - When you change the operating system of the computer.

To install the device driver, perform the following steps:

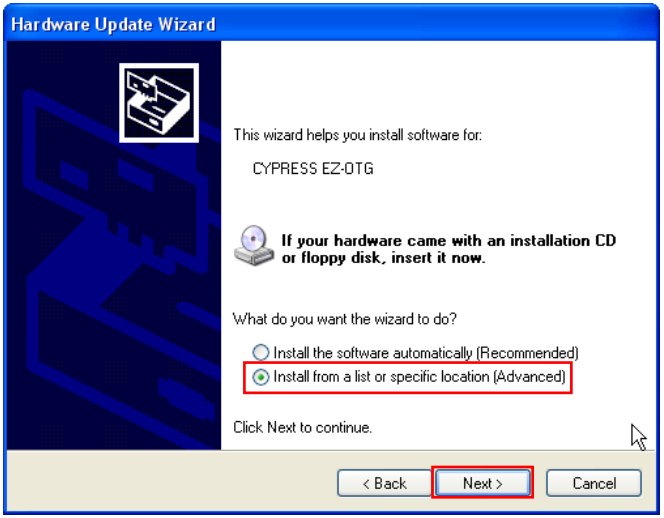
1. Go to your Windows' **Control Panel**, and then select **Add Hardware**. The **Add Hardware Wizard** screen will appear. Click **CYPRESS EZ-0TG** to highlight it, and then click **Next**.



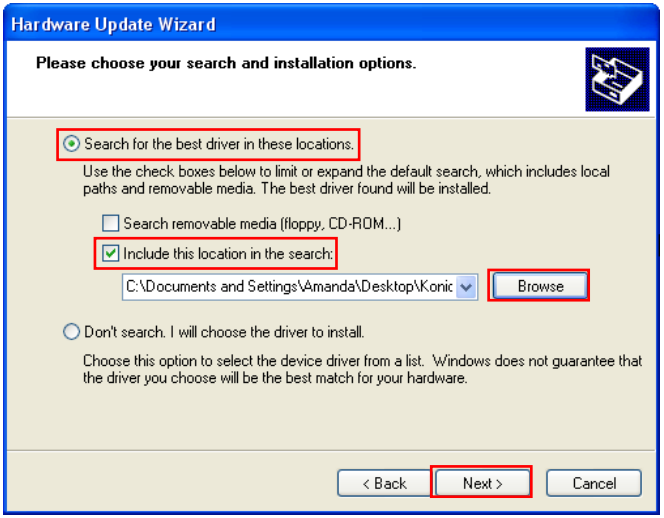
2. The **Hardware Update Wizard** screen will appear. Select the radio button for **No, not this time** and then click **Next**.



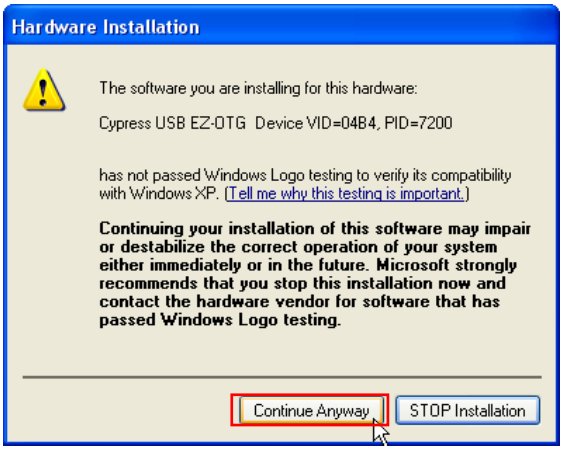
3. When the next screen appears, click the radio button for **Install from a list or specific location (Advanced)** to select it and then click **Next**.



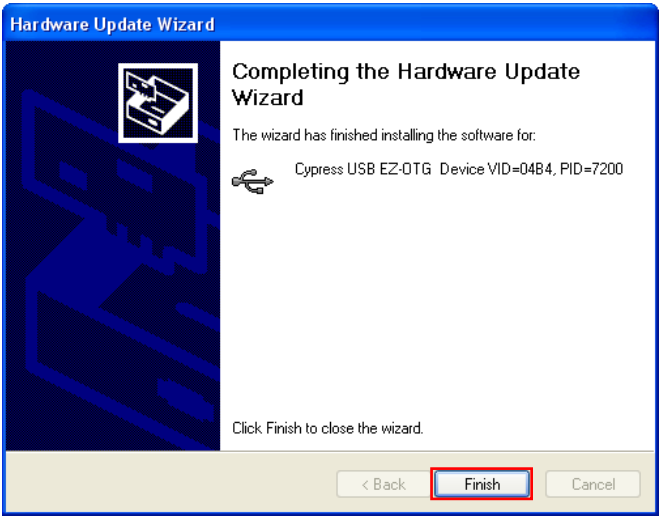
4. When the next screen appears, click on the radio button for **Search for the best driver in these locations** to select it, and then click on the checkbox for **Include this location in the search** to select it. Click **Browse** to specify the location of the device driver file, and then click **Next**.



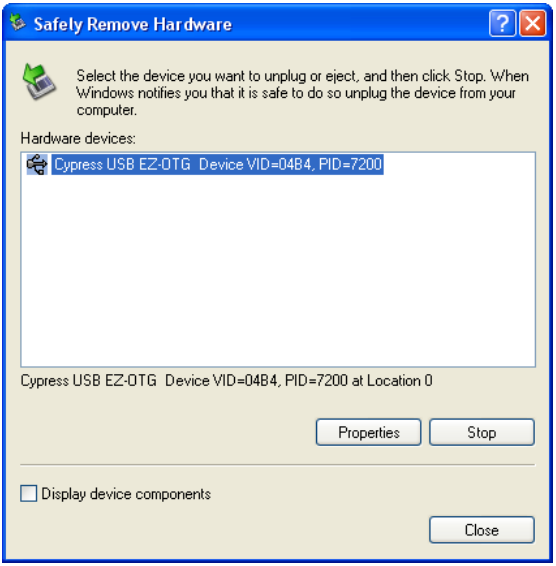
5. When the next screen appears, click **Continue Anyway**.



6. When the next screen appears, click **Finish** to exit device driver installation.



7. After successfully installing the device driver, your computer can now detect the Sequoia device name. To check, double-click the **Safely Remove Hardware** icon found on the Windows taskbar and the following screen will appear.



USB Device Controller Firmware

Prepare the following items:

- Avitech special proprietary cable for connecting the Cypress PSoC MiniProg cable with the Sequoia.

- Cypress PSoC MiniProg / Retractable USB2 cable (CY3217).

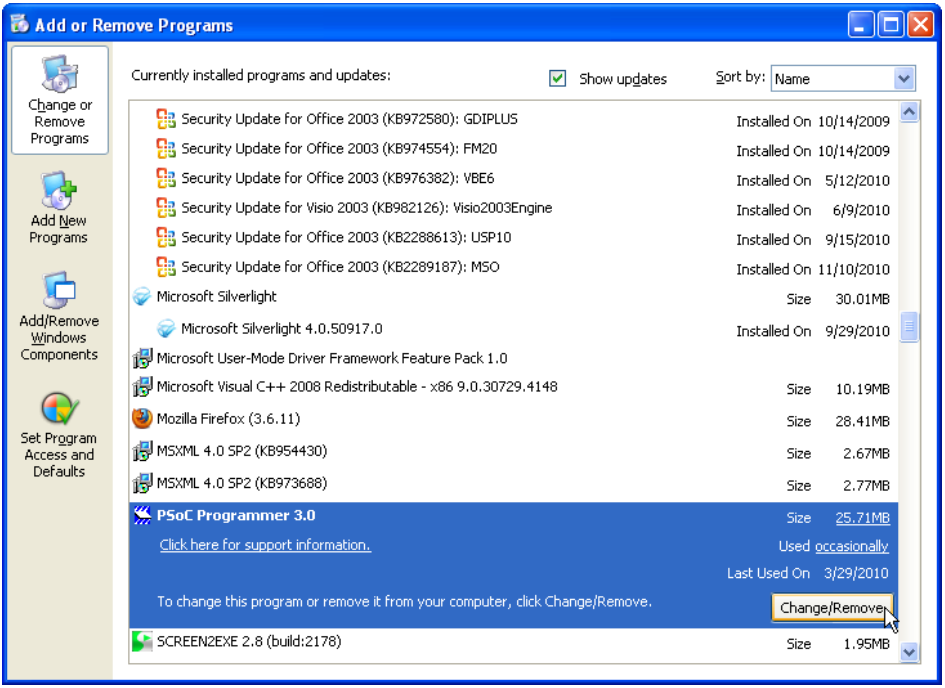
Installing the Device Driver (PsoC™ MiniProg)

NOTE: You need to install the device driver only under the following conditions –

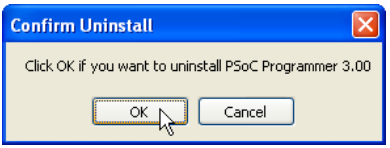
- When updating the firmware using a particular computer for the first time.
- When you change the operating system of the computer.

To install the device driver, perform the following steps:

1. Remove the previous PSoC Programmer (version 3.0) by clicking **Start→ Control Panel→Add or Remove Programs**. Select **PSoC Programmer 3.0** and then click the **Change/Remove** button.



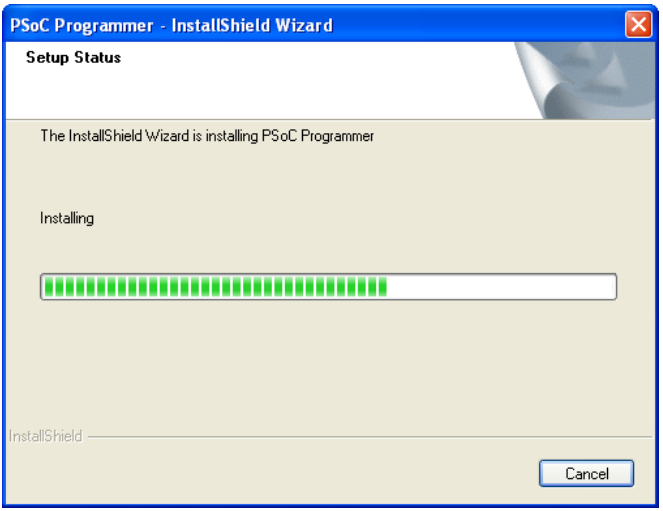
2. When the next screen appears, click **OK** to confirm.



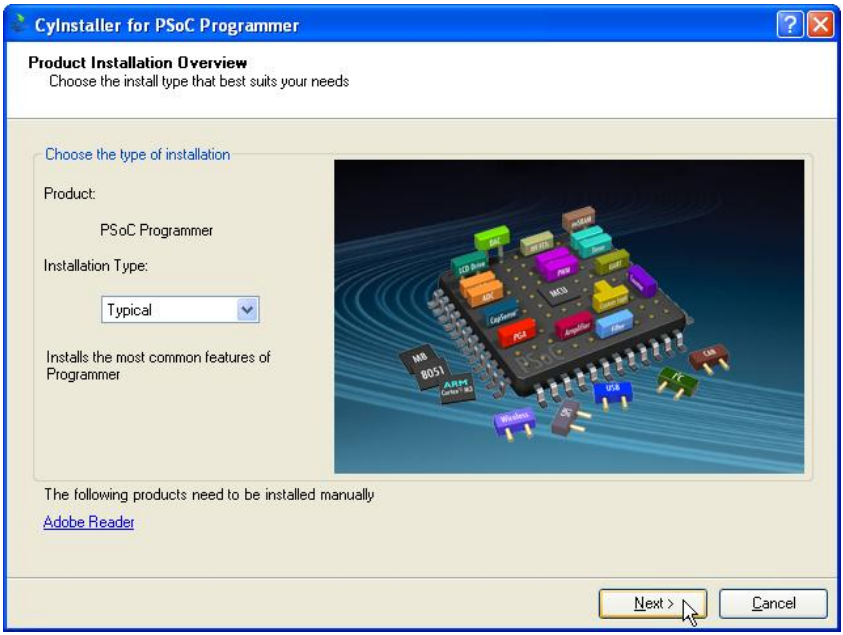
3. Save the file "63813-programmer (ver 3.12).rar" into your computer and decompress it.

4. Install the “PSoC Programmer (ver 3.12)” by double-clicking the installer file. The **PSoC Programmer Installer** screen will appear. Click **Next** to continue.

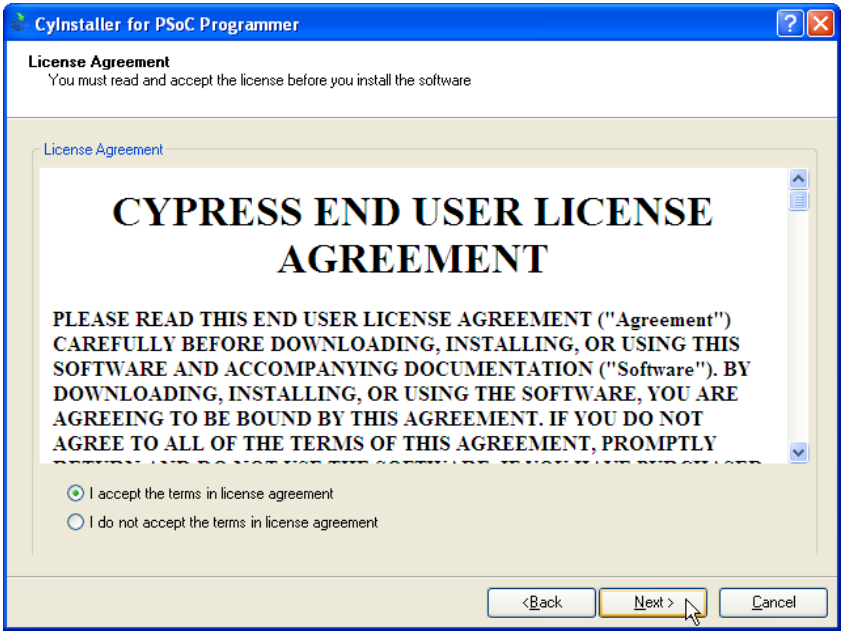
5. The installation progress will appear onscreen.



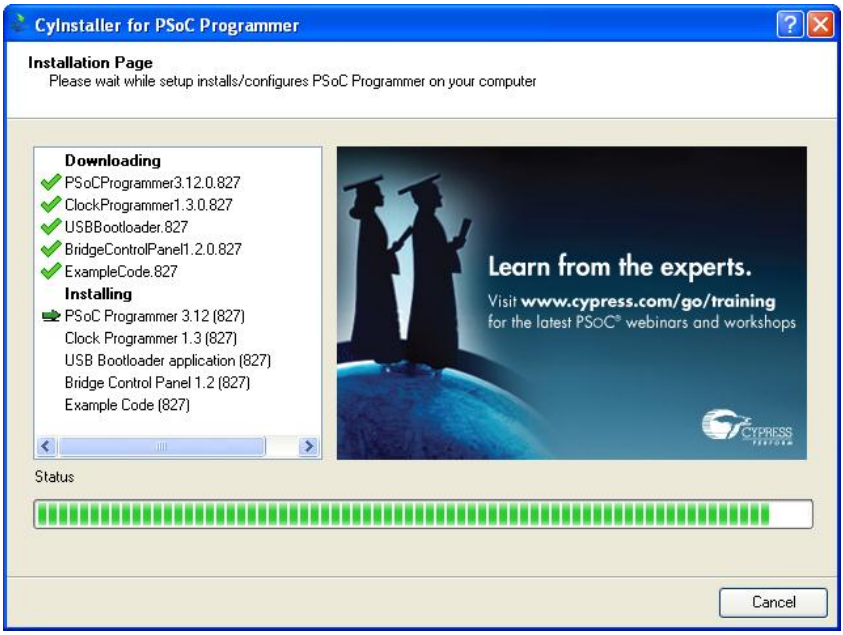
6. When the next screen appears, click **Next** to continue.



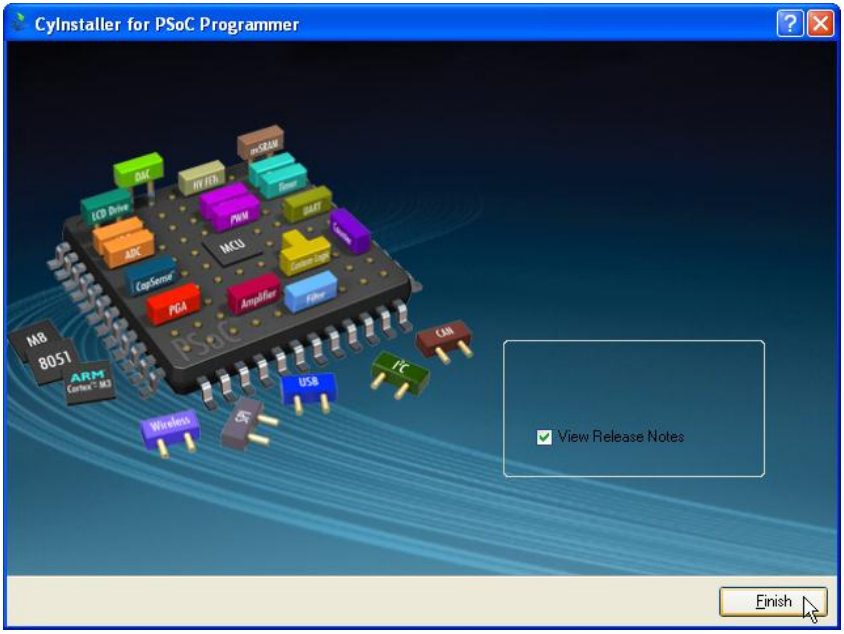
7. When the next screen appears, click the radio button for **I accept the terms in license agreement**, then click **Next** to continue.



8. The installation progress will appear onscreen.



9. Click **Finish** when the next screen appears. You are now ready to use the PSoC™ MiniProg device and PSoC Programmer utility on your computer.



10. Connect one end of the PSoC MiniProg cable to the USB port of the computer that contains the **PSoC Programmer** software.

The **Found New Hardware** notification will appear on your Windows system tray.

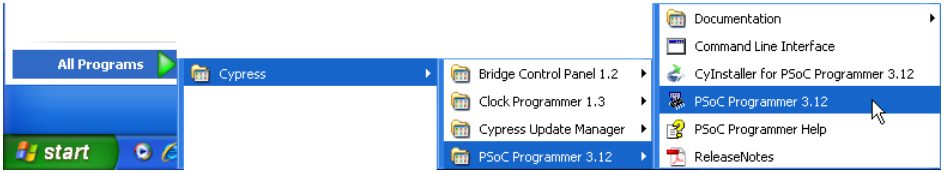
Installing the USB Device Controller Firmware

IMPORTANT:

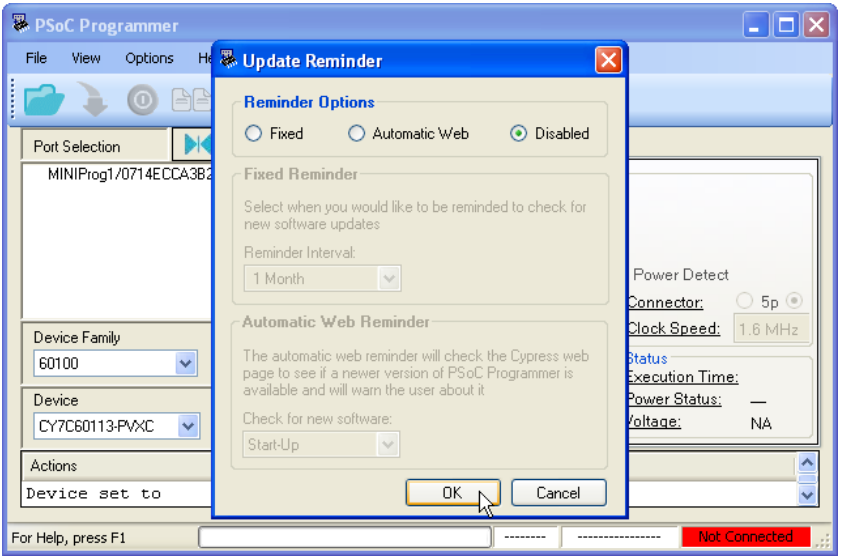
- Make sure to update the USB device controller 1 firmware first before updating the USB device controller 2 firmware (in their proper order).
- Make sure that the Sequoia is turned OFF during the USB device controller update firmware process.

To update the USB device controller firmware, perform the following steps:

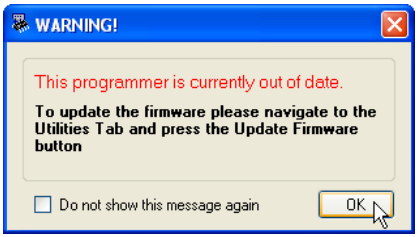
1. Click **Start→All Programs→Cypress→PSoC Programmer 3.12→PSoC Programmer 3.12**.



2. When the following screen appears, click **OK** to continue.

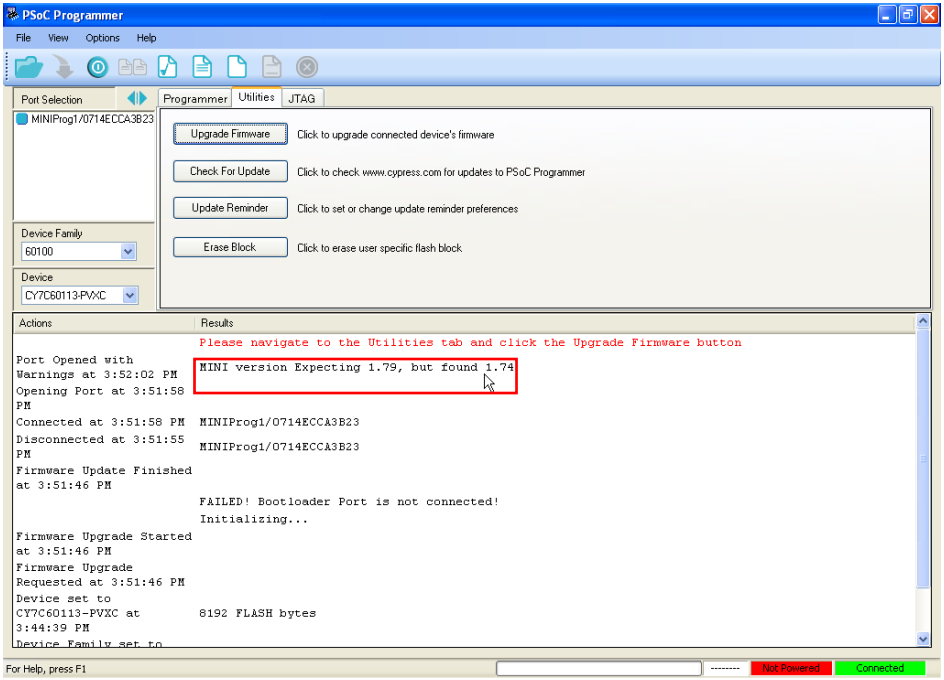


3. When the following warning notification appears, click **OK** to continue.

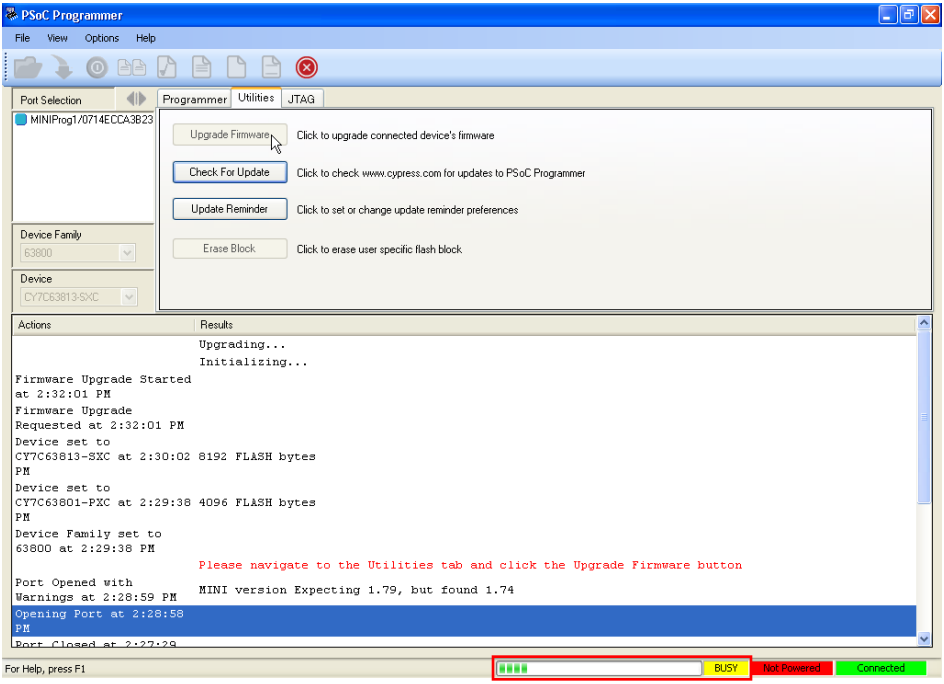


> **NOTE:** In case the above warning message does not appear, unplug and reconnect the PSoC MiniProg cable to the computer.

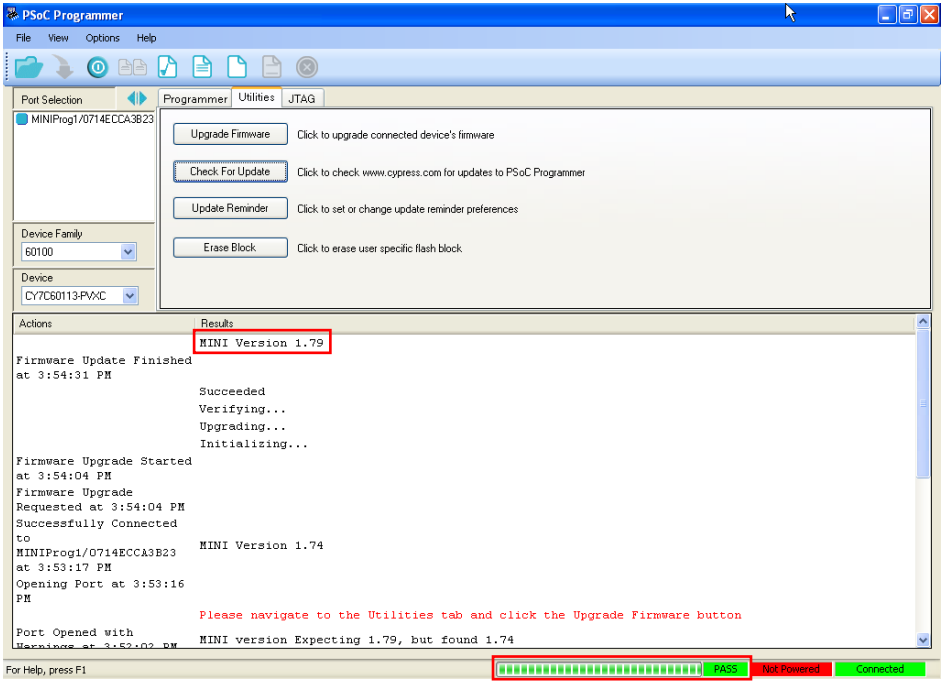
4. Click to select the **Utilities** tab. Take note that the **MINI version expecting 1.79, but found 1.74** notification is shown onscreen.



5. Click the **Upgrade Firmware** button, the progress and status of upgrade will be shown on the lower right portion of the screen.

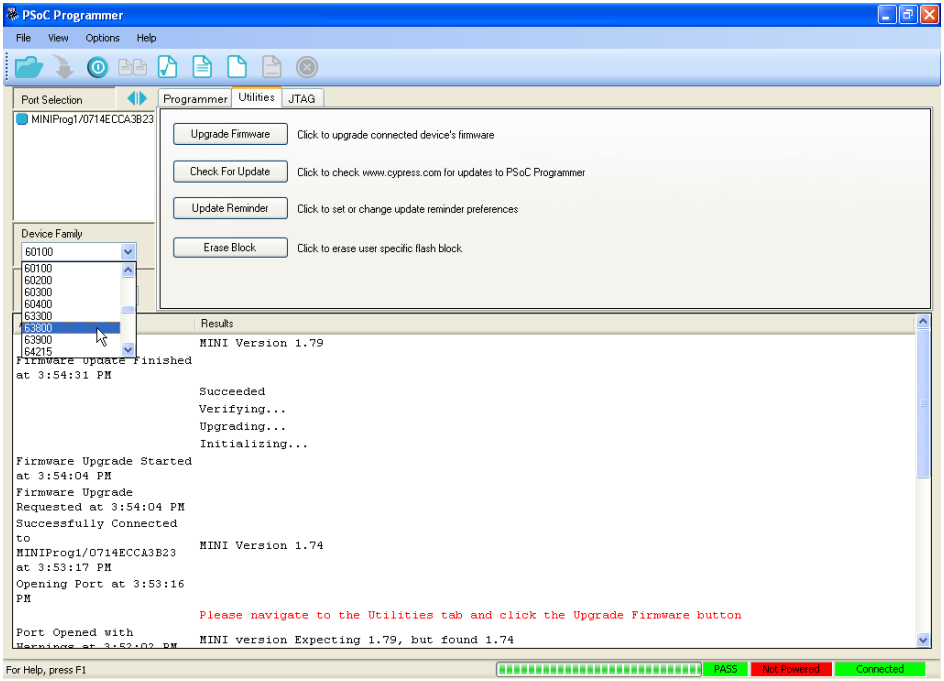


6. Upon completing the firmware upgrade (status is **PASS**), **MINI Version 1.79** notification will be shown onscreen.

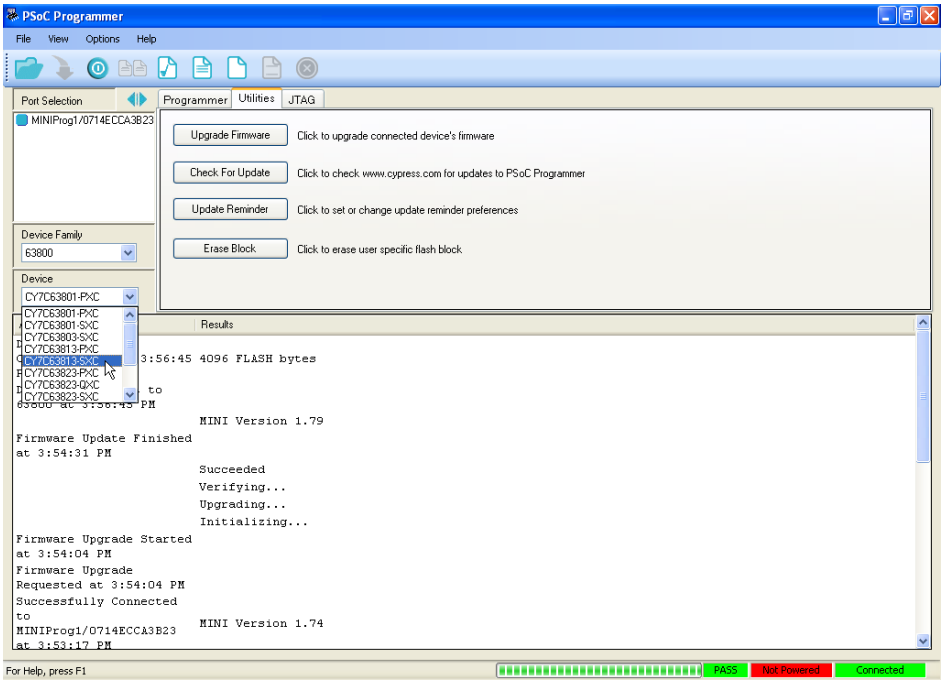


7. Connect one end of the special cable to the Cypress PSoC MiniProg cable. Connect the other end of the special cable to the **COMPUTER 1** connector on the Sequoia's rear panel.

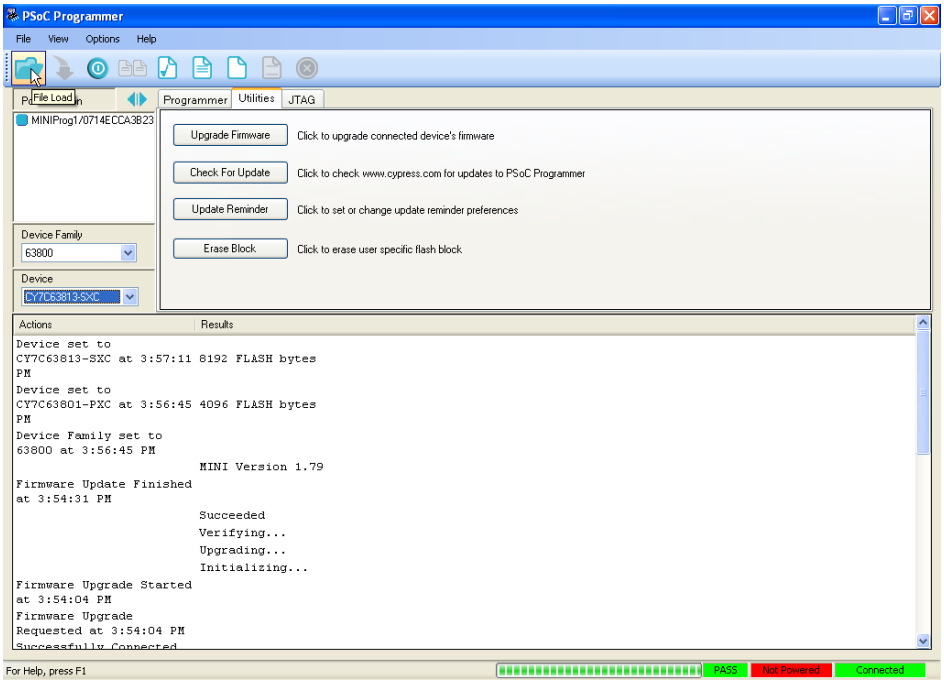
8. On the **PSoC Programmer** software, select **63800** from the **Device Family** drop-down menu.



9. Select **CY7C63813-SXC** from the **Device** drop-down menu.

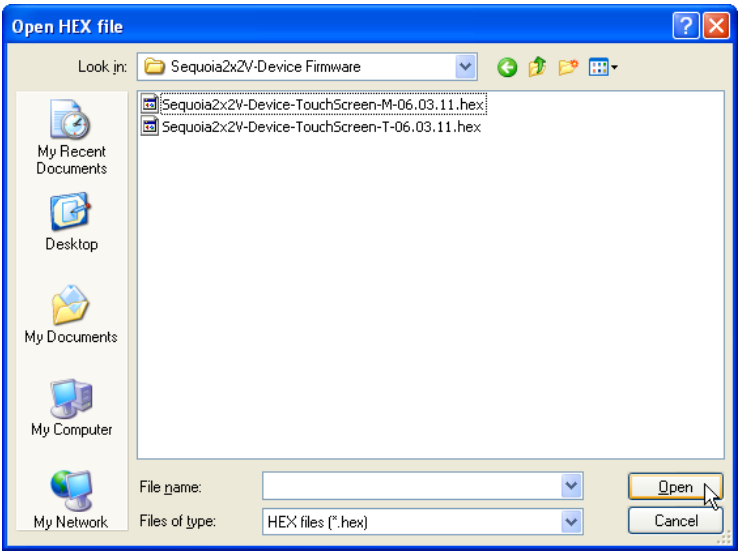


10. Click the **File Load** button.

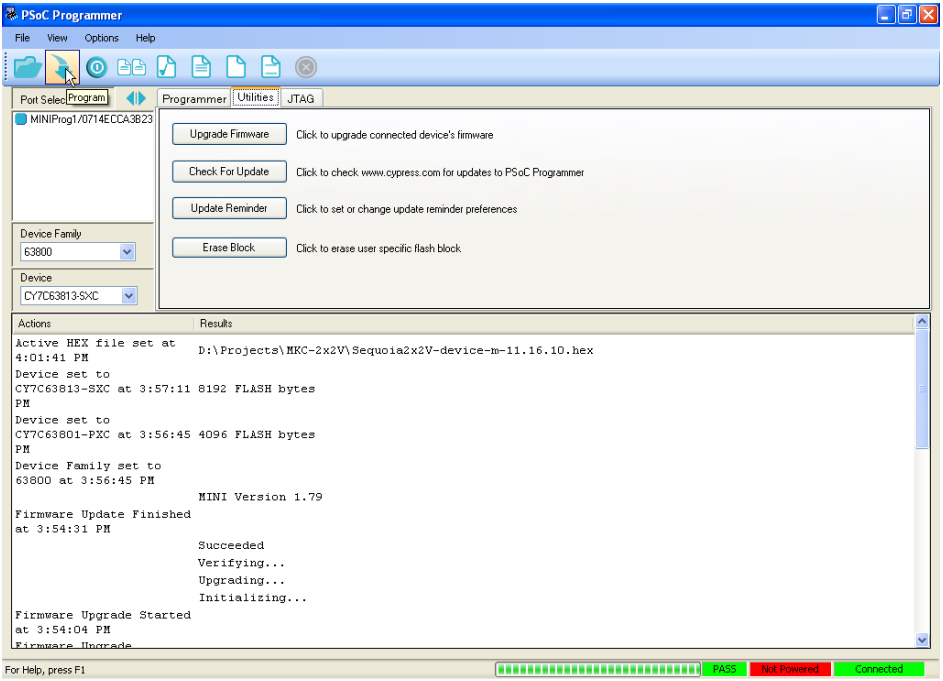


11. **For ordinary monitor display** –
Select the firmware file “sequoia2x2v-device-m-xx.xx.xx.hex”
(when connecting to a multimedia keyboard, where “xx.xx.xx” is the date of the firmware) or
select the firmware file “sequoia2x2v-device-t-xx.xx.xx.hex”
(when connecting to a traditional keyboard, where “xx.xx.xx” is the date of the firmware).
For touchscreen monitor display –
select the firmware file “sequoia2x2v-device-touchscreen-m-xx.xx.xx.hex”
(when connecting to a multimedia keyboard, where “xx.xx.xx” is the date of the firmware) or
select the firmware file “sequoia2x2v-device-touchscreen-t-xx.xx.xx.hex”
(when connecting to a traditional keyboard, where “xx.xx.xx” is the date of the firmware).

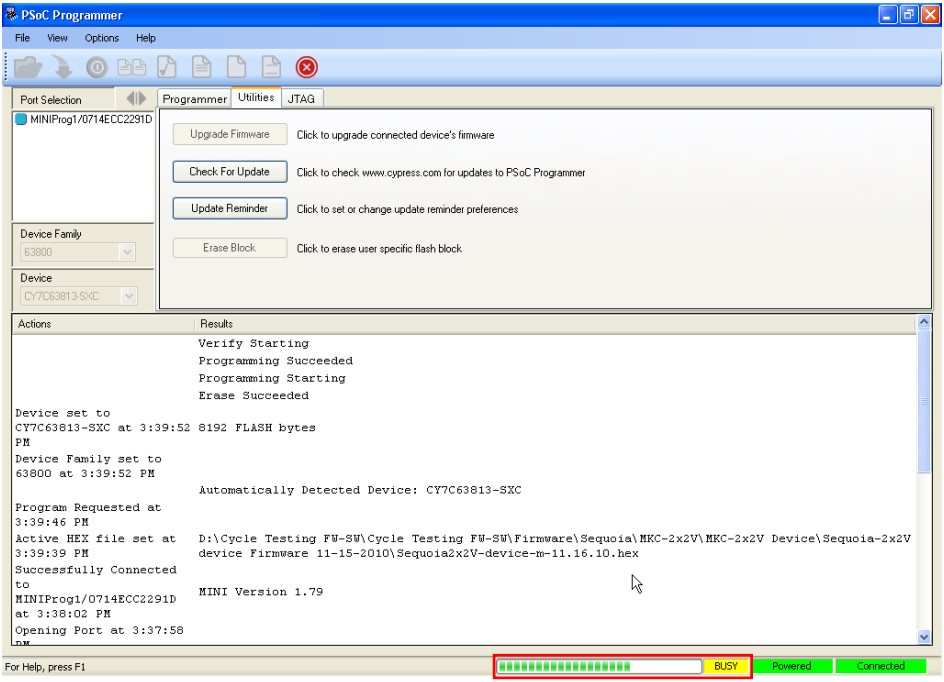
Then click **Open**.



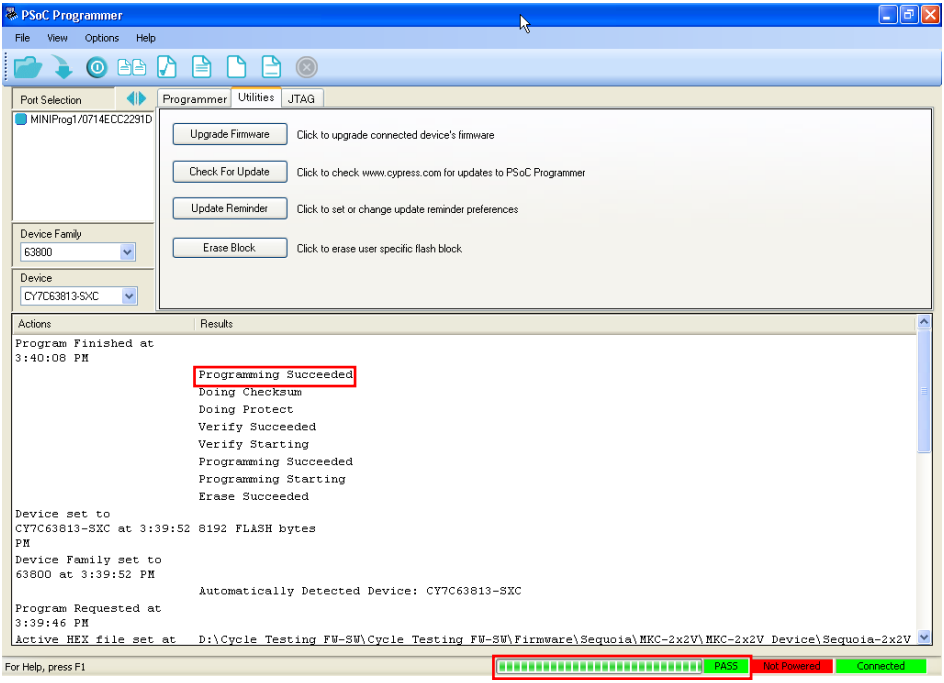
12. Click the **Program** button.



13. The progress of programming can be seen on the lower right portion of the screen.

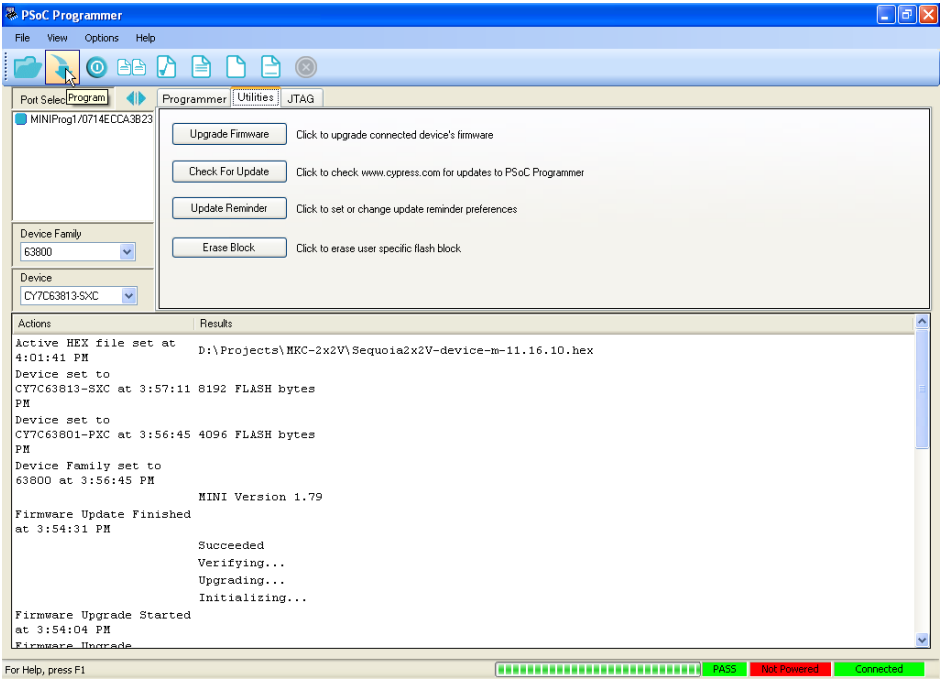


14. After successfully updating the USB device controller 1 firmware, **Programming Succeeded** and **Pass** will be displayed.

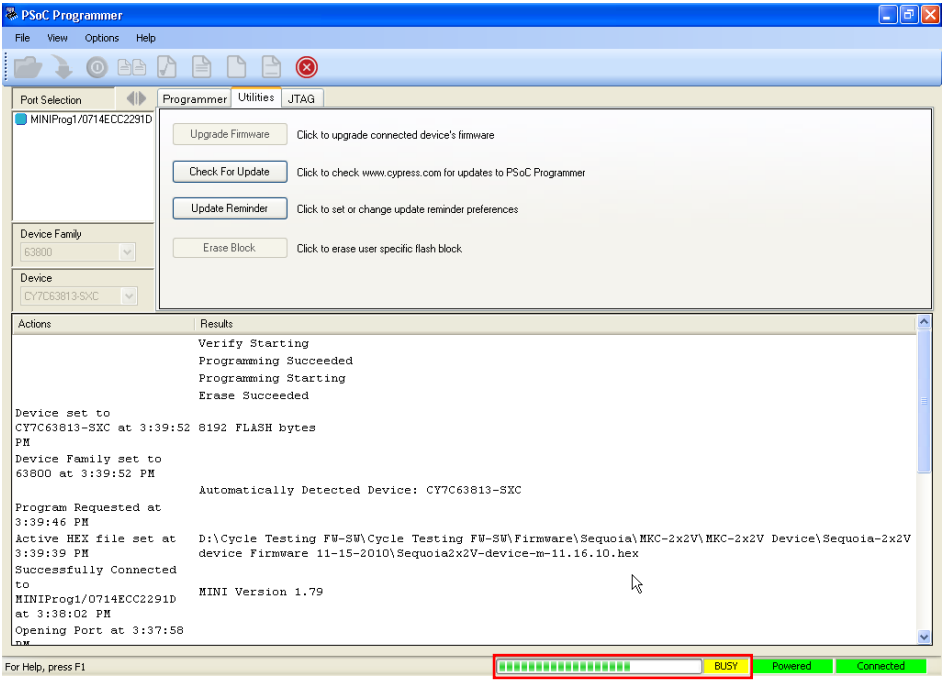


15. Unplug and connect the special cable to the **COMPUTER 2** connector on the Sequoia's rear panel to start updating the USB device controller 2 firmware.

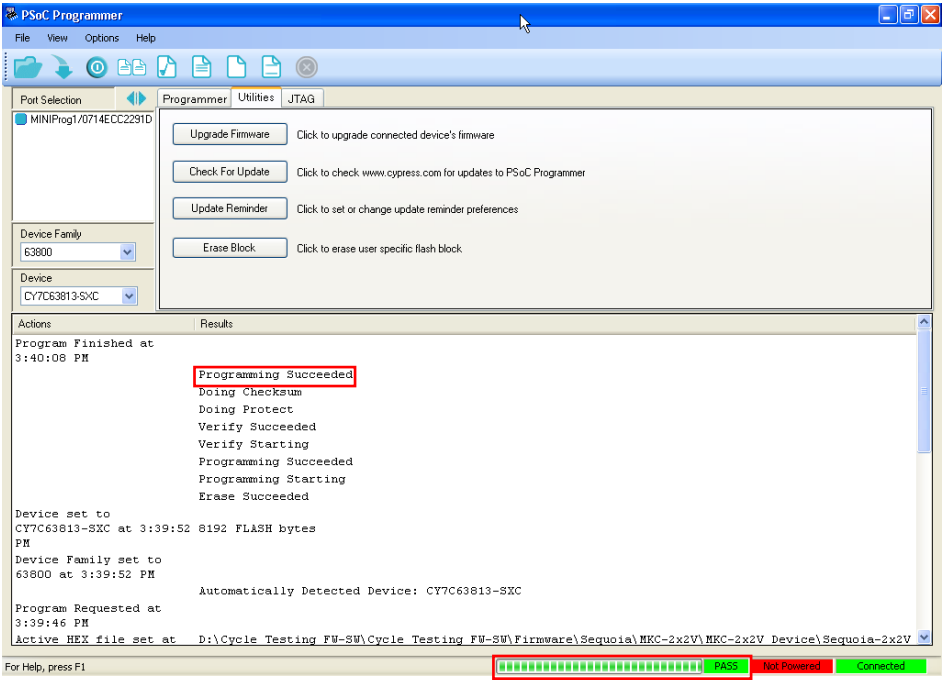
16. Click the **Program** button again.



17. The progress of programming can be seen on the lower right portion of the screen.



18. After successfully updating the USB device controller 2 firmware, **Programming Succeeded** and **Pass** will be displayed.



The **Device Port (63813)** firmware update is now complete.

A.2 Resetting to the Factory-Default State

To reset your Sequoia to its factory-default state, perform the following steps:

1. Power-off the Sequoia by pressing the power switch.
2. Push the number **2** (middle) dip switch located on the Sequoia's rear panel downward to the **ON** position.

3. Power-on the Sequoia by pressing the power switch.
4. Push the number **2** (middle) dip switch upward to the default position.

> **NOTE:** Upon resetting your device to the factory-default state, your previously saved preset files will be automatically removed. You need to use the Phoenix-G software to set the output resolution and create the preset file(s) again.

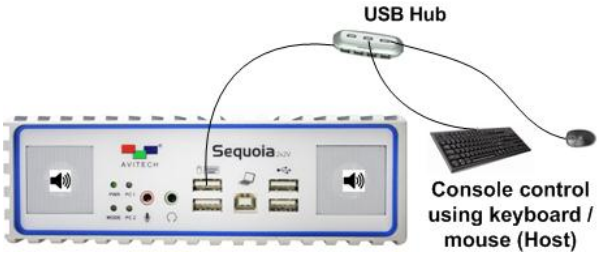
B Troubleshooting

This chapter lists the steps that you can take when the Avitech Sequoia encounters any of the following problems:

B.1 Problem Recognizing Mouse / Keyboard Devices, or PC 1 / 2 Device Indicator Does Not Glow

> **CAUTION:** Non-standard keyboards (e.g., keyboard with USB hub feature, keyboard that needs driver installation, programmable keyboard, etc.) are not supported.

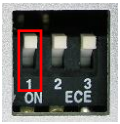
- Trouble recognizing the mouse / keyboard devices connected to the USB hub (touchscreen monitor display setup).



> **IMPORTANT:** Ordinary monitor display setup is not applicable.

- Device indicator **PC 1** / **2** does not glow green when the respective connected computer is operating in remote mode or; does not glow amber when the respective connected computer is in standby mode.

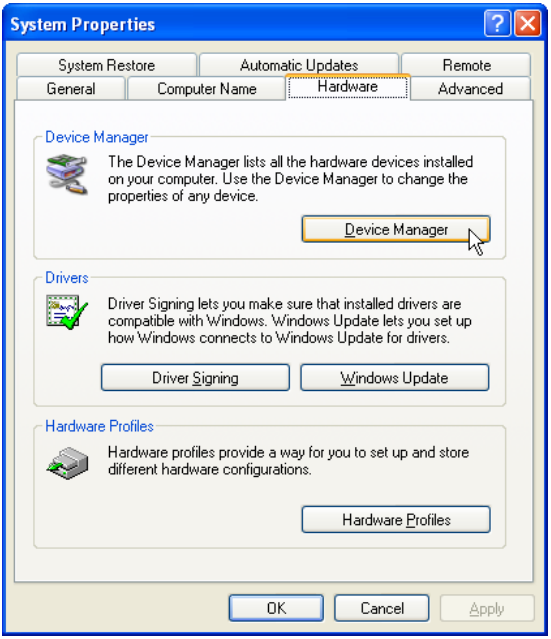
IMPORTANT: Before continuing, make sure that the number **1** dip switch located on the Sequoia rear panel is not in the downward (**ON**) position.



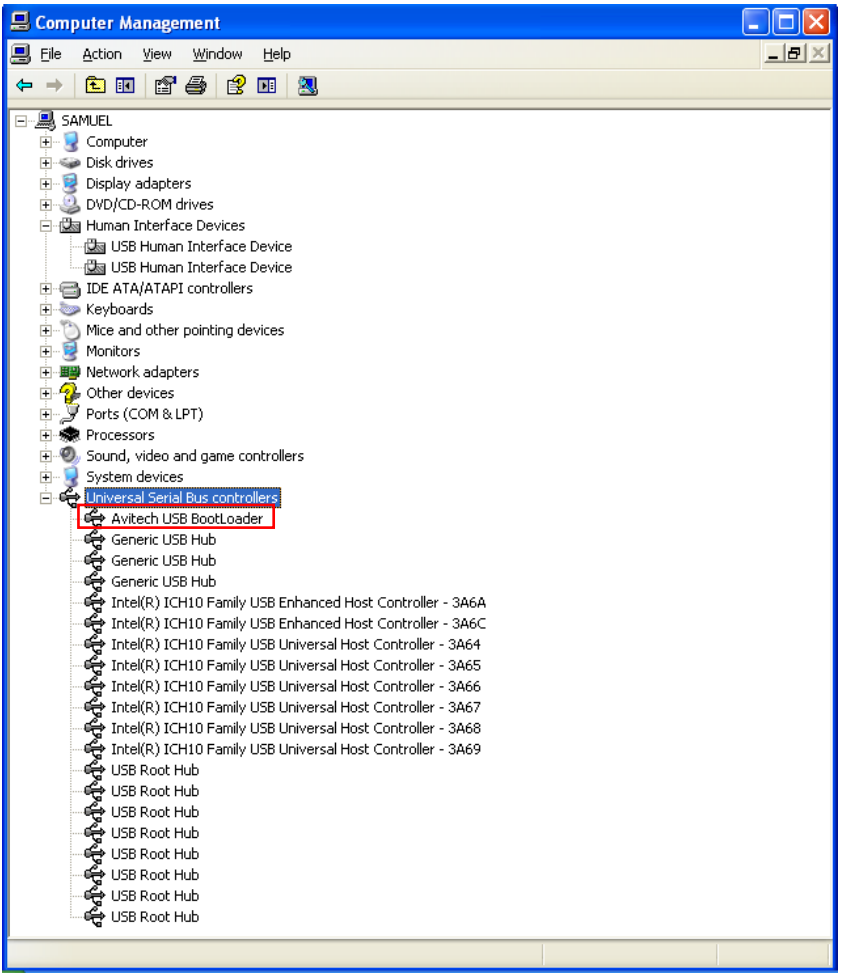
Perform the following steps to try to solve the above-mentioned problems:

1. On the controlling computer, click **Start→All Programs→Control Panel**.
2. In the **Control Panel** window, double-click the **System** icon.

3. In the **System Properties** window, click the **Hardware** tab and then click the **Device Manager** button.



4. When the **Computer Management** window appears, click the **Universal Serial Bus controllers** item. The **Avitech USB BootLoader** entry must not appear here.

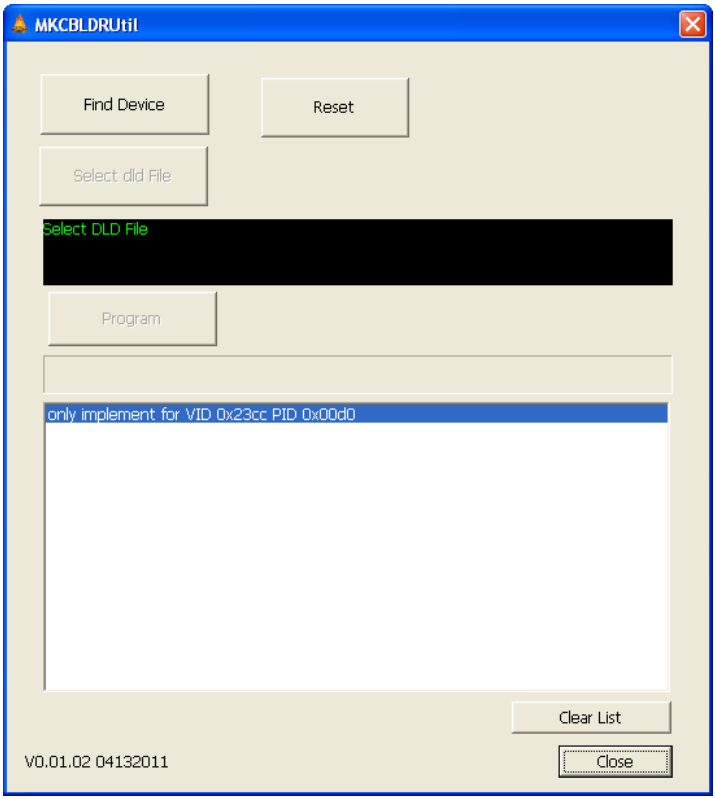


IMPORTANT: Proceed to step 5 only if the above **Avitech USB BootLoader** appears under the **Universal Serial Bus controllers** item. Otherwise, the preceding steps are not applicable.

5. Make sure to power-off the Sequoia by pressing the power switch to **OFF**.

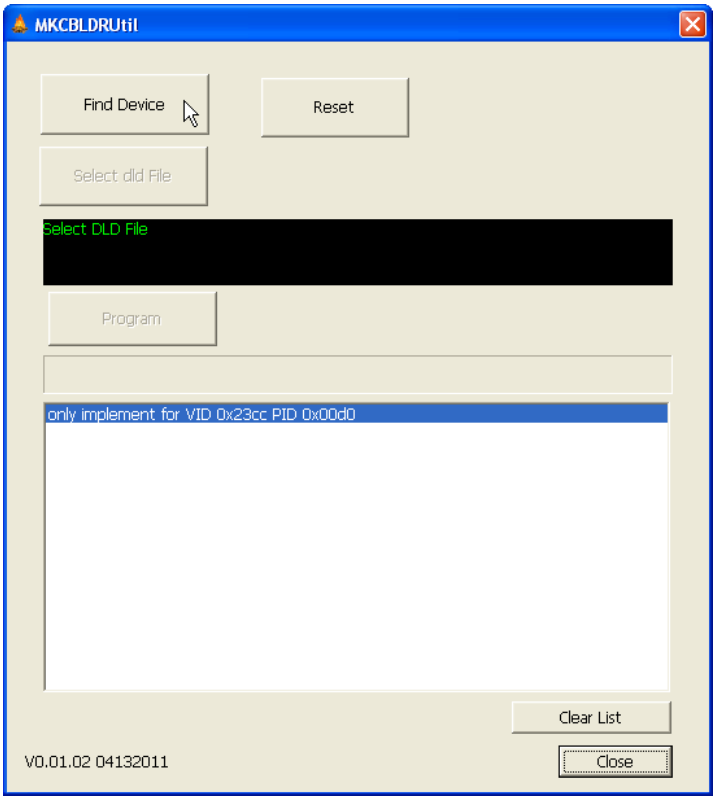
6. Connect the Sequoia's all-in-one cable's USB connector to the computer running the "Downloader" program, and connect the other end to the Sequoia's **COMPUTER 1** / **2** port (to upgrade the corresponding CY7C64356 chip's firmware).

7. Run the file **MKCBLDRUtil.exe** (previously saved on your hard drive's root directory or Windows desktop) by double-clicking it and the following screen will appear.

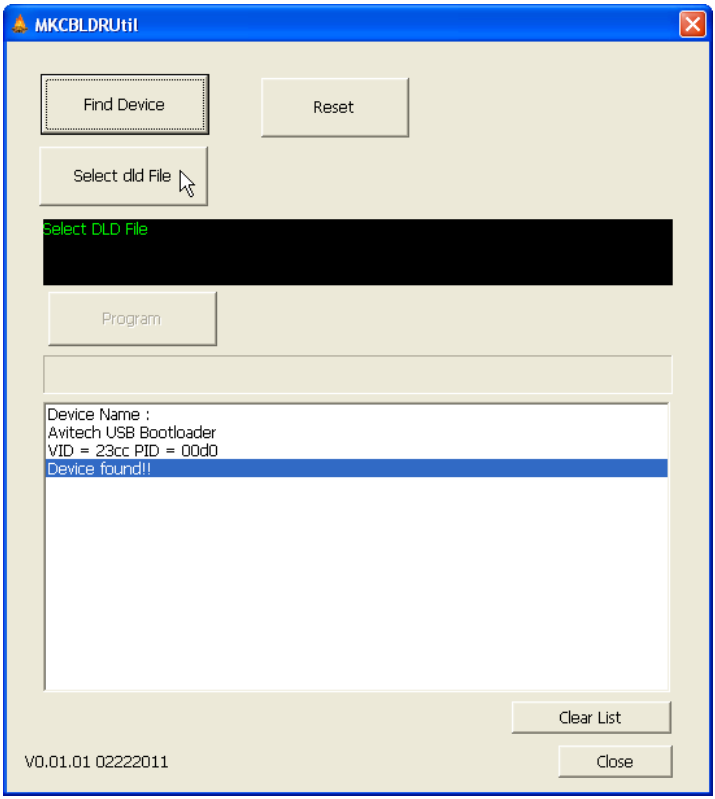


8. Power on the Sequoia by pressing the power button.

9. Click **Find Device** on the **MKCBLDRUtil** window.

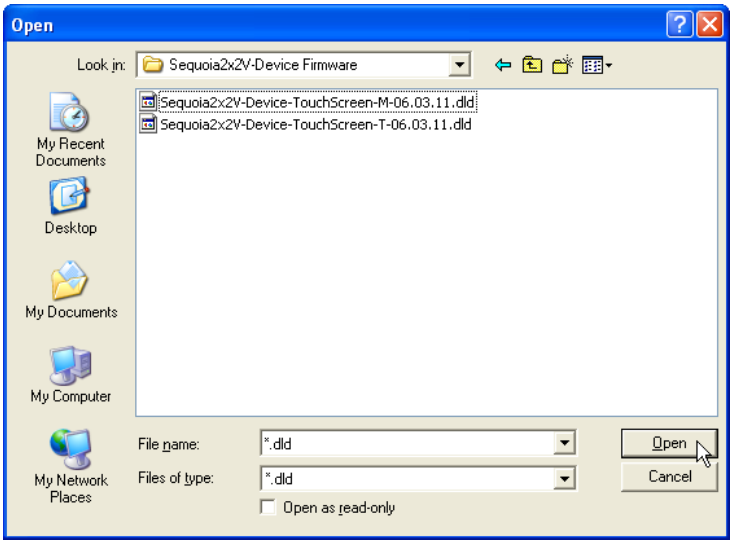


10. When the message **Device found!!** appears, click **Select dld File** to continue.

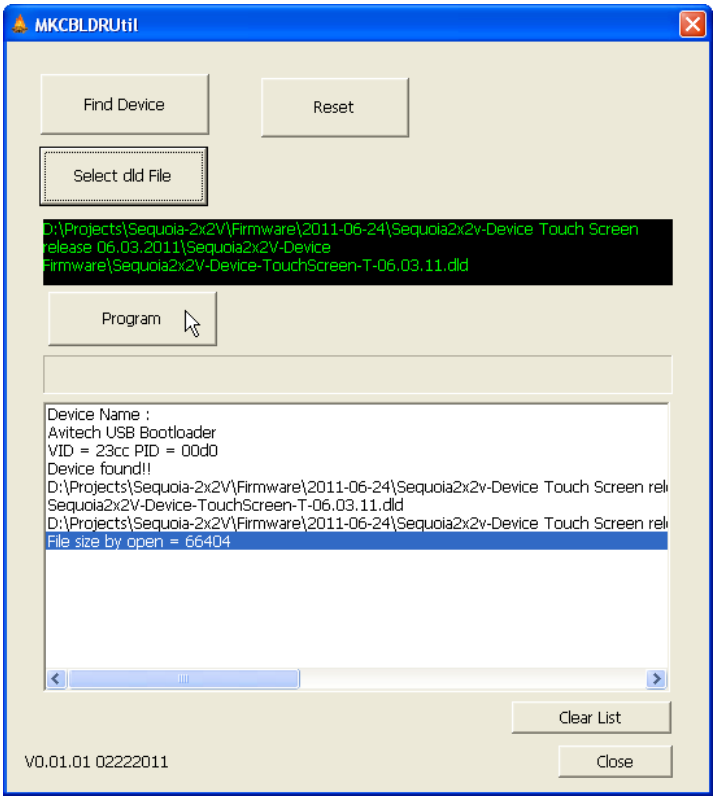


11. **For ordinary monitor display** –
Select the firmware file “sequoia2x2v-device-m-xx.xx.xx.dld”
(when connecting to a multimedia keyboard, where “xxxxxx” is the date of the firmware) or
select the firmware file “sequoia2x2v-device-t-xx.xx.xx.dld”
(when connecting to a traditional keyboard, where “xxxxxx” is the date of the firmware).
For touchscreen monitor display –
Select the firmware file “sequoia2x2v-device-touchscreen-m-xx.xx.xx.dld”
(when connecting to a multimedia keyboard, where “xxxxxx” is the date of the firmware) or
select the firmware file “sequoia2x2v-device-touchscreen-t-xx.xx.xx.dld”
(when connecting to a traditional keyboard, where “xxxxxx” is the date of the firmware).

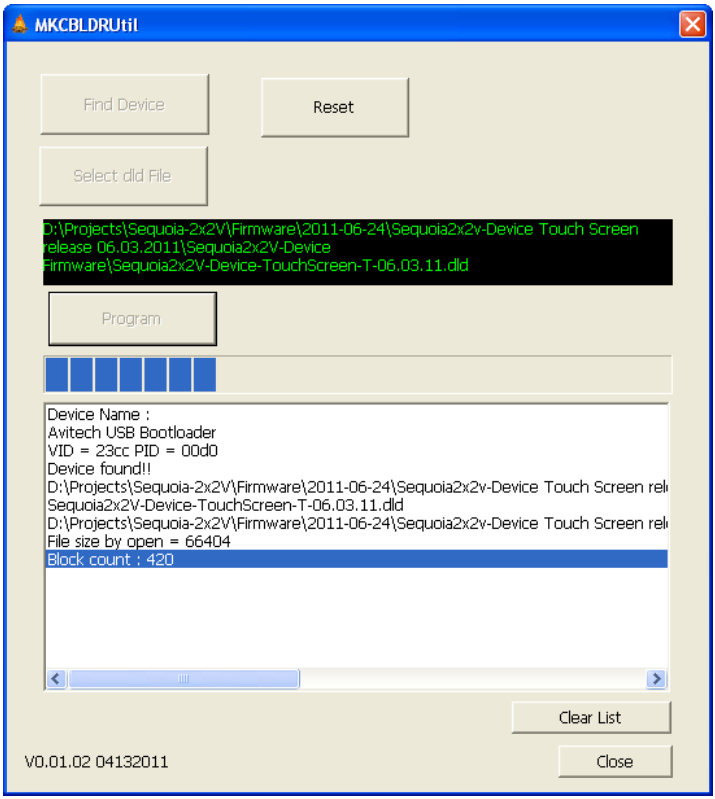
Then click **Open**.



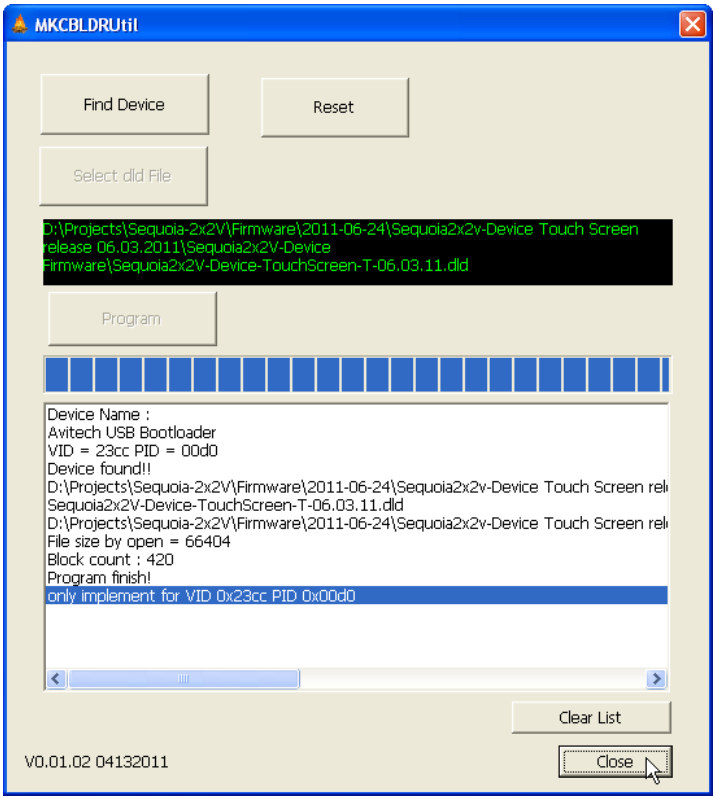
12. On the next screen, click **Program** to continue.



13. The progress of programming will be shown onscreen.

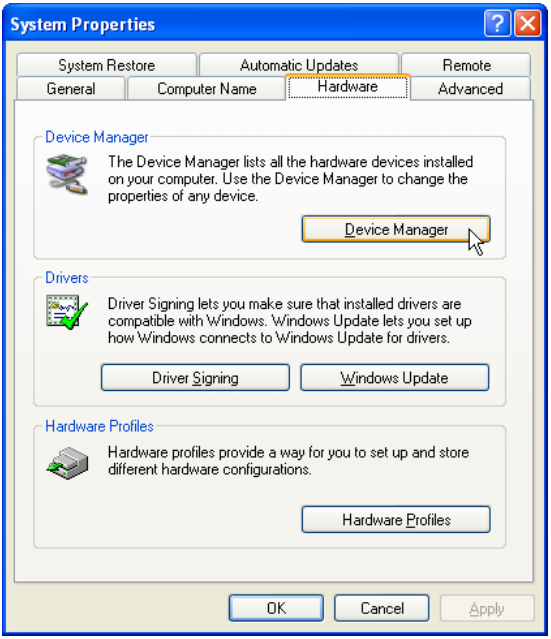


14. When the message **Program finish!** is displayed, click **Close** to exit.

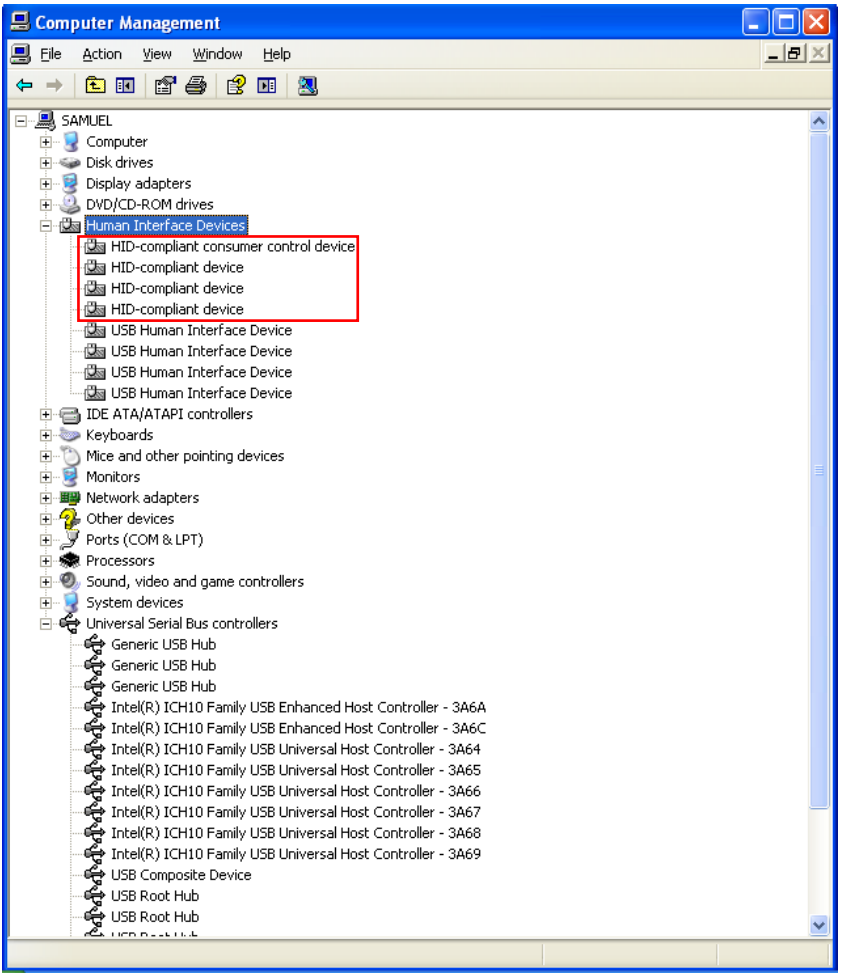


15. On the controlling computer, click **Start→All Programs→Control Panel**.
16. In the **Control Panel** window, double-click the **System** icon.

17. In the **System Properties** window, click the **Hardware** tab and then click the **Device Manager** button.



18. When the **Computer Management** window appears, click the **Human Interface Devices** item. The **HID-compliant consumer control device** entries appearing here show a successful restore.

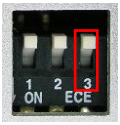


NOTE: The previous **Avitech USB BootLoader** entry does not appear anymore under the **Universal Serial Bus controllers** item.

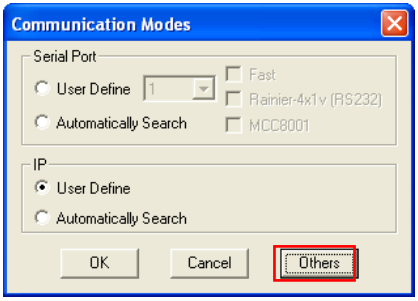
B.2 Control Board Firmware Upgrade Failure

To update the control board firmware again in case of failure (e.g., Ethernet connection is interrupted before update is complete), perform the following steps:

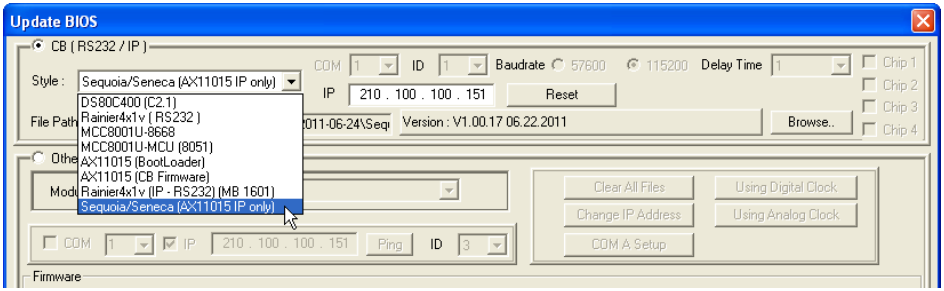
1. Power-off the Sequoia by pressing the power switch to the **OFF** position.
2. Use a small sharp-pointed object and push the number **3** dip switch located on the Sequoia rear panel downward to the **ON** position.



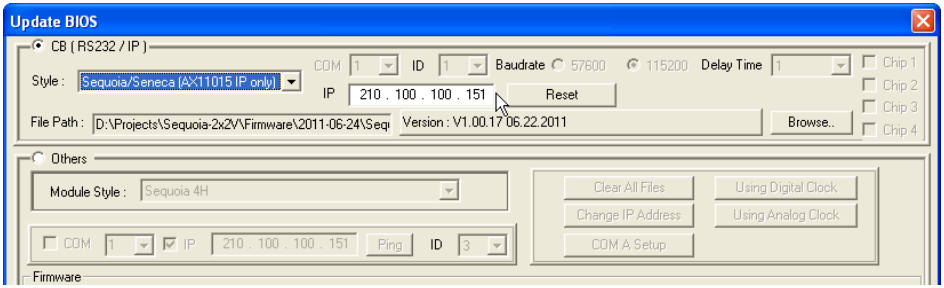
3. Power-on the Sequoia by pressing the power switch to the **ON** position.
4. Run the Phoenix-G software by double-clicking the "Phoenix-G-V31x.exe" file.
5. Click **Others** when the following screen appears.



6. When the following screen appears, select **CB (RS232 / IP)**. On the **Style** drop-down menu, select **Sequoia (AX11015 IP only)**.

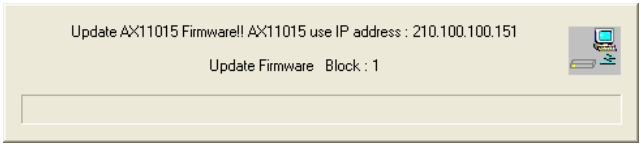


> **NOTE:** Make sure that the **IP** value (e.g., **210.100.100.151**) is the same as the IP address of your Sequoia.



7. Click the **Browse** button to specify the location of the firmware file and select "AT-Sequoia-CB.bin."

8. Click the **Update** button located on the lower left portion of the screen. The progress of updating the firmware would be shown onscreen.



9. Upon finishing the update firmware process, push the number **3** dip switch upward to the default position.

10. When the next screen appears, reboot (power off and power on) the Sequoia.