

# **User's Manual**

## VCC-8000 series

Revision 1.0  
(July 2009)

## **WARNING**

Do not attempt to disassemble your VCC-8000 series 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 to [support@avitechvideo.com](mailto:support@avitechvideo.com)



# Table of Contents

<b>Warranty</b>	<b>iii</b>
Extended Warranty Options	iv
Services and Repairs Outside the Warranty Period	iv
<b>Regulatory Information</b>	<b>v</b>
Federal Communications Commission (FCC) Statement	v
European Union CE Marking and Compliance Notices	vi
Statements of Compliance	vi
Australia and New Zealand C-Tick Marking and Compliance Notice	vii
Statement of Compliance	vii
<b>Preface</b>	<b>viii</b>
Welcome	viii
About this Manual	viii
<b>1 Getting Started</b>	<b>1</b>
1.1 Package Contents	1
1.2 Product Features	2
Specifications	3
Operating Features	4
1.3 Identifying the Front Hardware Component	5
1.4 Identifying the Rear Hardware Components	5
1.5 Getting Your VCC-8000 Series Ready for Use	6
Basic Hardware Connections	6
Cascading	7
1.6 Using the Galaxy Program	14
Module Layout Window	21
Galaxy Control Window	22
Quick Keys – Change Window to/from Full Screen Mode;	
Swap Window Contents	61
Window Layout	62

Option Window .....	64
Mouse Right-click Menu .....	65
<b>2 Simplified Control Panel .....</b>	<b>83</b>
2.1 Using the Simplified Control Panel (Optional) .....	83
Preparing the VCC-8000 Series For Use With the SCP Keypad .....	83
Recalling Presets .....	84
<b>3 Avitech ASCII Protocol .....</b>	<b>86</b>
3.1 Setting the RS-232 Port .....	86
3.2 Setting the HyperTerminal's COM Port .....	87
3.3 Entering the ASCII Z Command Interface .....	87
3.4 ASCII Z Command Format .....	90
<b>ZA</b> .....	91
<b>ZC</b> .....	91
<b>ZE</b> .....	92
<b>ZF</b> .....	92
<b>ZI</b> .....	92
<b>ZJ</b> .....	93
<b>ZK</b> .....	93
<b>ZL</b> .....	94
<b>ZM</b> .....	94
<b>ZN</b> .....	95
<b>ZP</b> .....	96
<b>ZT</b> .....	97
<b>ZW</b> .....	98
<b>ZX</b> .....	99
<b>4 Firmware Upgrade .....</b>	<b>100</b>
4.1 Updating the Firmware .....	100
DS80C400 Firmware .....	100
FPGA MB Firmware .....	102
FPGA UB Firmware .....	104
1601 Firmware .....	106
OSD Firmware .....	108



# 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 twelve (12) months from the date of shipment of the Product to the purchaser.

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 next.

**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:

- caused by improper use of the Product or inadequate maintenance and care of the Product;
- resulting from attempts by other than Avitech representatives to install, repair, or service the Product;
- caused by installation of the Product in a hostile operating environment or connection of the Product to incompatible equipment; or
- 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 or details on the options that are available for your Avitech equipment.

## Services and Repairs Outside the Warranty Period

Avitech make its best offer to repair products 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 A 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.

### **Danish**

Dette produkt er i overensstemmelse med det europæiske direktiv 1999/5/EC.

### **Dutch**

Dit product is in navolging van de bepalingen van Europees Directief 1999/5/EC.

### **Finnish**

Tämä tuote noudattaa EU-direktiivin 1999/5/EC määräyksiä.

### **French**

Ce produit est conforme aux exigences de la Directive Européenne 1999/5/EC.

### **German**

Dieses Produkt entspricht den Bestimmungen der Europäischen Richtlinie 1999/5/EC.

### **Greek**

Το προϊόν αυτό πληροί τις προβλέψεις της Ευρωπαϊκής Οδηγίας 1999/5/EC.

### **Icelandic**

Þessi vara stendst reglugerð Evrópska Efnahags Bandalagsins númer 1999/5/EC.

### **Italian**

Questo prodotto è conforme alla Direttiva Europea 1999/5/EC.

### **Norwegian**

Dette produktet er i henhold til bestemmelsene i det europeiske direktivet 1999/5/EC.

### **Portuguese**

Este produto cumpre com as normas da Diretiva Europeia 1999/5/EC.

### **Spanish**

Este producto cumple con las normas del Directivo Europeo 1999/5/EC.

### **Swedish**

Denna produkt har tillverkats i enlighet med EG-direktiv 1999/5/EC.



# Australia and New Zealand C-Tick Marking and Compliance Notice

## Statement of Compliance

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



# Preface

## Welcome

Congratulations on purchasing this Avitech VCC-8000 series.

The VCC-8000 series of Multiviewers is suitable for monitoring multi-images on the computer and video processing, providing multi-format computer (DVI / VGA) and video processing. With the VCC-8000 series of modules, computer and video inputs can be displayed in high resolution from 800×600 up to 1920×1200. An integrated on-screen display (OSD) offers alarm reporting, labels, and borders.

Your VCC-8000 can be used as a standalone unit, or cascaded (daisy-chained) with MCC-8004 and ACC-8000 modules to provide facility-wide computer and video monitoring capabilities (up to 15 modules).

## About this Manual

This manual contains comprehensive information of your Avitech VCC-8000 series 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 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 VCC-8000 series. It also guides you through the process of setting up your VCC-8000 series for use.

**NOTE:**

- VCC stands for Visual Command Center.
- 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 VCC-8000 series



DVI-to-VGA Adapter



RS-485 Cascading Cable  
(optional – when purchasing 2 or more VCC-8000 series) (optional – when purchasing 2 or more VCC-8000 series)



DVI Cascading Cable



RJ-50 GPI Terminal Block



Standard Power Cord (US customers only)



DVI-to-YPbPr Adapter



Utility Disc (contains software and user's manual)



Ear (already installed on VCC-8000 series upon order for assembly on to rack mount)



Keypad (optional)



Set of screws (optional)

## 1.2 Product Features

- Automatic sensing of HD-SDI / SD-SDI and composite analog input.
- Computer graphic input: DVI-I input resolution up to 1920×1200 (WUXGA).
- Up to 26 internal configuration presets.
- On-screen display of labels, borders, and video alarms.
- Communication control via IP or RS-232.
- Compatibility with Galaxy software for configuration, monitor layout, and multiple-system control.
- Avitech ASCII Protocol (AAP) support.

# Specifications

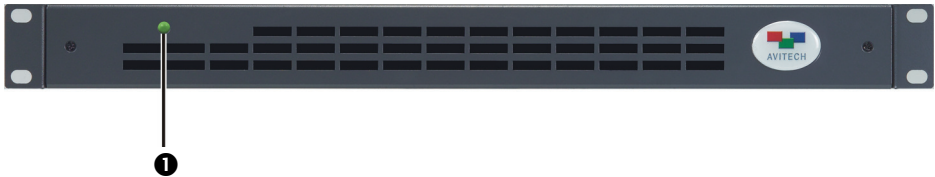
Parts		Specifications
Inputs	Video	<p>Automatic sensing via BNC</p> <p>HD-SDI (1080i/59.94, 1080i/60, 1080i/50, 720p/59.94, 720p/60, 720p/50)</p> <p>SD-SDI (NTSC/525i, PAL/625i, 525p/59.94, 625p/50)</p> <p>Composite analog (NTSC, PAL)</p> <p>Number of inputs:</p> <p>(for VCC-8002V) 2 automatic detection VGA / DVI (YPbPr)</p> <p>(for VCC-8004V) 4 automatic detection VGA / DVI (YPbPr)</p> <p>(for VCC-8004C) total is 4</p> <p>2 automatic detection VGA / DVI (YPbPr) 480P 60 Hz, 720P 50/60 Hz, 1080i 50/60 Hz, 576P 50 Hz, plus 2 automatic detection composite video (PAL/NTSC)</p> <p>(for VCC-8008C) total is 8</p> <p>4 automatic detection VGA / DVI (YPbPr) 480P 60 Hz, 720P 50/60 Hz, 1080i 50/60 Hz, 576P 50 Hz, plus 4 automatic detection composite video (PAL/NTSC)</p> <p>(for VCC-8004U) total is 4</p> <p>2 automatic detection VGA / DVI (YPbPr) 480P 60 Hz, 720P 50/60 Hz, 1080i 50/60 Hz, 576P 50 Hz, plus 2 automatic detection HD / SD-SDI / composite video (PAL/NTSC)</p> <p>(for VCC-8008U) total is 8</p> <p>4 automatic detection VGA / DVI (YPbPr) 480P 60 Hz, 720P 50/60 Hz, 1080i 50/60 Hz, 576P 50 Hz, plus 4 automatic detection HD / SD-SDI / composite.</p>
	DVI-I	<p>Automatic detection</p> <p>Input resolution: up to 1920×1200 (WUXGA)</p> <p>For background display or for cascading multiple modules together</p> <p>Number of input: 1</p>
Output		<p>Resolution from 800×600 up to 1920×1200 (WUXGA) via DVI-I connector, simultaneous DVI and RGB</p> <p>Number of output: 1</p>
GPI		8 inputs

Parts		Specifications
Data input/ output	Serial port	Number of port: 1 Baud rate: up to 1 Mbaud RS-232 / 422
	Ethernet	Network Type: 100Base-T Number of port: 1 RJ-45
	RS-485	Number of ports: 2
Power supply		Consumption less than 30 watts 100 ~ 250 V, 50/60 Hz (external) 12 V DC
Housing		Metal
Dimension (W×D)	1 RU	483×254 mm (19×10 inch)
Weight		3.6 kg (8 lbs)
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

## Operating Features

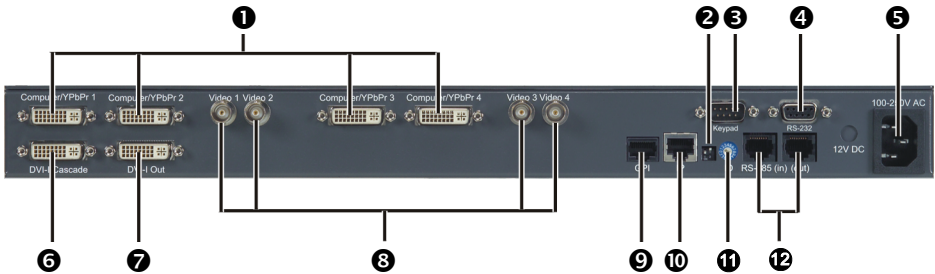
- Standalone operation (single VCC-8000 series) with control via RS-232 cable / IP or; multiple operations (up to 15 VCC-8000 series – 14 DVI cascade maximum).
- One VCC-8000 series can fit in a single rack unit space for a maximum of eight video inputs and one multimedia input.
- Single scaleable DVI input for use with VGA/DVI/composite inputs.
- Computer (DVI-I) input can be in any size/position.
- RJ-50 GPI terminal block adapter is provided for tally or loading presets.
- Up to 26 presets/configurations can be saved and recalled from the module's Flash EEPROM.
- Compatible with ACC-8000 and MCC-8004 series modules.

# 1.3 Identifying the Front Hardware Component



Ref	Component	Description
1	Power LED	Lights green when the VCC-8000 series is powered on.

# 1.4 Identifying the Rear Hardware Components



Ref	Label/Component	Description
1	VGA / DVI Input 1 / 2 / 3 / 4	DVI-I ports for VGA / DVI (YPbPr) inputs.
2	DIP switches	For updating the firmware.
3	Keypad	RS-232 connector for signal from optional Avitech MKC (Mouse Keyboard Controller) or numerical Simplified Control Panel (SCP) keypad.
4	RS-232	RS-232 connector for signal from PC.
5	100-250V AC	Power jack for connecting the AC power cord.

Ref	Label/Component	Description
⑥	DVI-I Cascade	DVI-I connector for multimedia input (cascade from other VCC-8000 series device).
⑦	DVI-I Output	DVI-I connector for output to monitor display.
⑧	Video Input 1 / 2 / 3 / 4	BNC connectors for HD / SD-SDI / Composite video inputs.
⑨	GPI	RJ-50 connector for GP input/output.
⑩	IP	Ethernet connector for using the computer's Galaxy program to perform setup on the VCC-8000 series.
⑪	ID	Rotary dial to assign unique addresses in systems with two or more units.
⑫	RS-485 (in) (out)	RS-485 connectors for serial cascading input/output.

# 1.5 Getting Your VCC-8000 Series Ready for Use

## Basic Hardware Connections

Perform the following steps to get your VCC-8000 series up and running:

**NOTE:** The steps outlined next would depend on the type of configuration you wish to set up.

1. Connect up to four BNC cables to the four **Video Input 1 / 2 / 3 / 4** ports for HD / SD-SDI / composite video inputs.  
Or, connect up to four VGA/DVI cables to the four **Computer/YPbPr 1 / 2 / 3 / 4** for VGA/DVI video inputs.
2. Connect the RS-232 cable to the **RS-232** port for signal from PC.
3. Connect the Ethernet cable to the **IP** port for using the computer's Galaxy program to perform setup on the VCC-8000 series.
4. Connect the DVI-I cable to the **DVI-I Cascade** port for video input to the VCC-8000 series.
5. Connect the DVI-I cable to the **DVI-I Output** port for video output to the monitor display.



6. Make sure to assign a unique address to your VCC-8000 series **ID** rotary dial when connecting to systems with two or more units.
7. Connect the RJ-50 cable to the **GPI** port for GP input/output.
8. Connect the RS-485 cable to the **RS-485 (in)** port for serial cascading input.
9. Connect the RS-485 cable to the **RS-485 (out)** port for serial cascading output.
10. Connect the AC power cord to the **100-250V AC** power jack.

## Cascading

Cascading is the technique of “daisy-chaining” multiple modules through a DVI display and a digital control backbone. This connection allows the combined modules to operate as a single integrated system. Up to fifteen different modules can be combined in this fashion to create extremely large and complex systems with the ability to simultaneously monitor audio, video, and computer signals on the same display. If a module should fail, the control and video information is passed through to allow the continued operation of the system.

### Cascading Two VCC-8000 Series

To cascade two Avitech VCC-8000 series, perform the following steps:

1. Set the Rotary **ID** on the first Avitech VCC-8000 series to **0** and set the Rotary **ID** on the second Avitech VCC-8000 series to **1** (can be other values as long as both are different from each other’s setting).

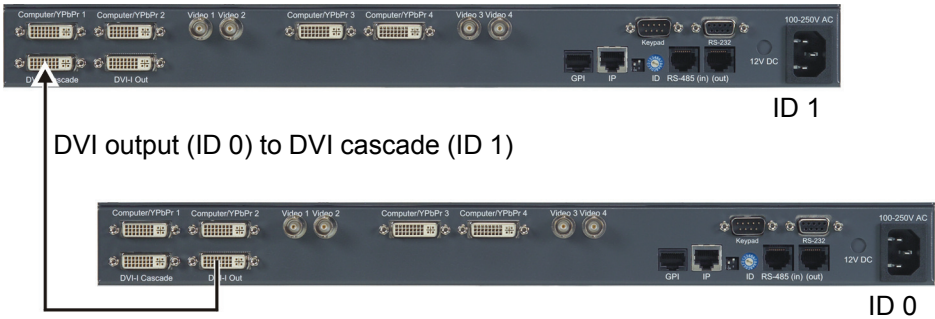


ID 1

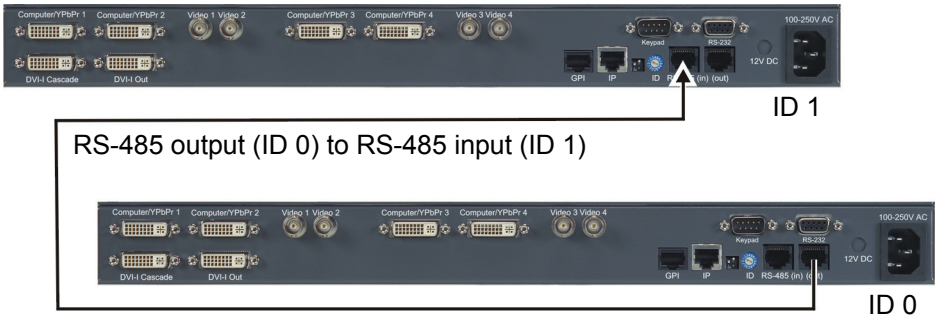


ID 0

2. Connect one end of DVI cable to the **DVI-I Output** port of VCC-8000 series ID 0 and the other end to the **DVI-I Cascade** port of VCC-8000 series ID 1.



3. Connect one end of the RS-485 cable to the **RS-485 (out)** port of VCC-8000 series ID 0 and the other end to the **RS-485 (in)** port of VCC-8000 series ID1.



4. Connect one end of the DVI cable to the **DVI-I Output** port of VCC-8000 series ID 1 and the other end to the monitor display (you may need to use a DVI to VGA adapter for monitor display with VGA input).



- Connect one end of the RS-232 cable to the computer's RS-232 port and the other end to the **RS-232** port of VCC-8000 series ID 0.



ID 1

Connect to computer



ID 0

- If the computer application uses multimedia input, connect one end of the DVI cable to the computer's DVI port and the other end to the **DVI-I Cascade** port of VCC-8000 series ID 0.



ID 1



ID 0

Connect to computer

7. If you need to use the Galaxy program to perform setup, connect the network cable between the VCC-8000 series ID 0 IP port to the computer's RJ-45 port.



ID 1



Connect to computer

ID 0

8. Connect the power cables to the two VCC-8000 series and make sure that power is available.



Connect to power



Connect to power

## Cascading a MCC-8004 Series With a VCC-8000 Series

**IMPORTANT:** Make sure to set the same baud rate for the MCC-8004 and VCC-8000 series (refer to the later sections for setting the baud rate).

To cascade a MCC-8004 with a VCC-8000 series, perform the following steps:

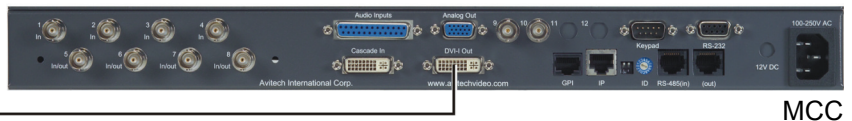
1. Set the rotary **ID** on the MCC-8004 series to **0** and set the rotary **ID** on the VCC-8000 series to **1** (can be other values as long as both are different from each other's setting).



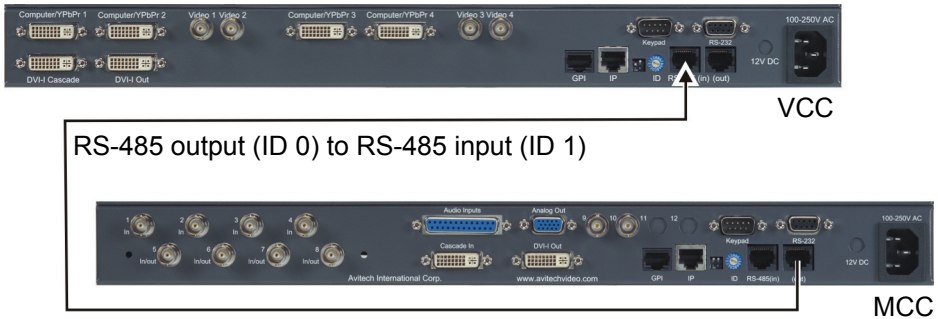
2. Connect one end of DVI cable to the **DVI-I Out** port of MCC-8004 series ID 0 and the other end to the **DVI-I Cascade** port of VCC-8000 series ID 1.



DVI output (ID 0) to DVI cascade (ID 1)



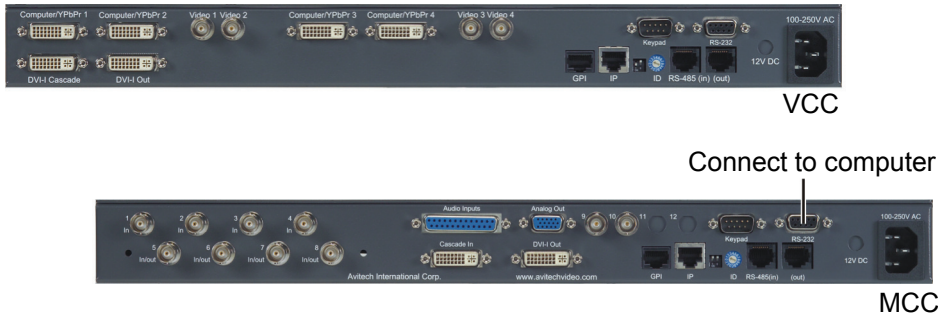
3. Connect one end of the RS-485 cable to the **RS-485 (out)** port of MCC-8004 series ID 0 and the other end to the **RS-485 (in)** port of VCC-8000 series ID1.



4. Connect one end of the DVI cable to the **DVI-I Out** port of VCC-8000 series ID 1 and the other end to the monitor display (you may need to use a DVI to VGA adapter for monitor display with VGA input).



5. Connect one end of the RS-232 cable to the computer's RS-232 port and the other end to the **RS-232** port of MCC-8004 series ID 0.





- If the computer application uses multimedia input, connect one end of the DVI cable to the computer's DVI port and the other end to the **Cascade In** port of MCC-8004 series ID 0.



- If you need to use the Galaxy program to perform setup, connect the network cable between the MCC-8004 series ID 0 **IP** port to the computer's RJ-45 port.



8. Connect the power cables to the MCC-8004 and VCC-8000 series and make sure that power is available.



Connect to power



Connect to power

## 1.6 Using the Galaxy Program

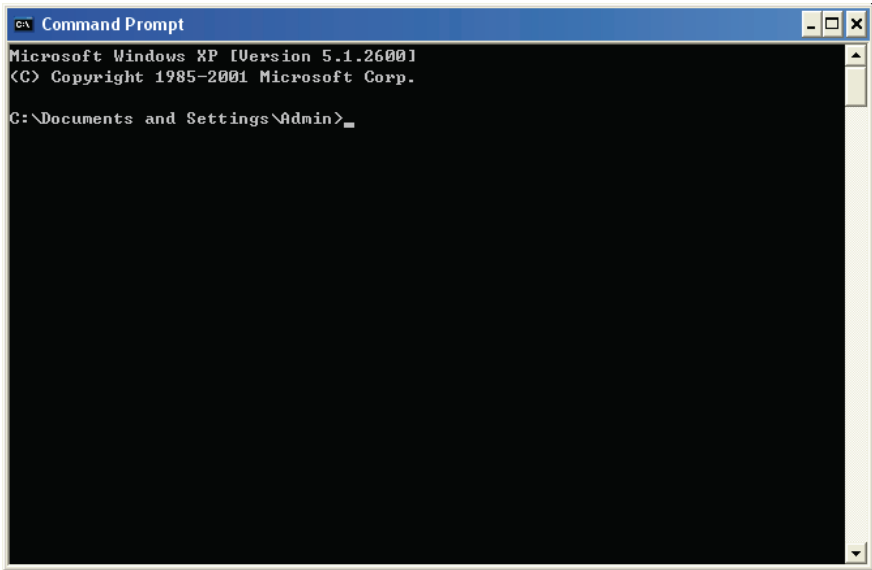
The Galaxy program is designed to be used with Avitech Multiviewer modules. This software can be used on your PC or laptop computer. This section introduces the Galaxy program for setting up your system.

To optimize the usage of your Avitech VCC-8000 series, perform the following steps to configure it using the Galaxy program:

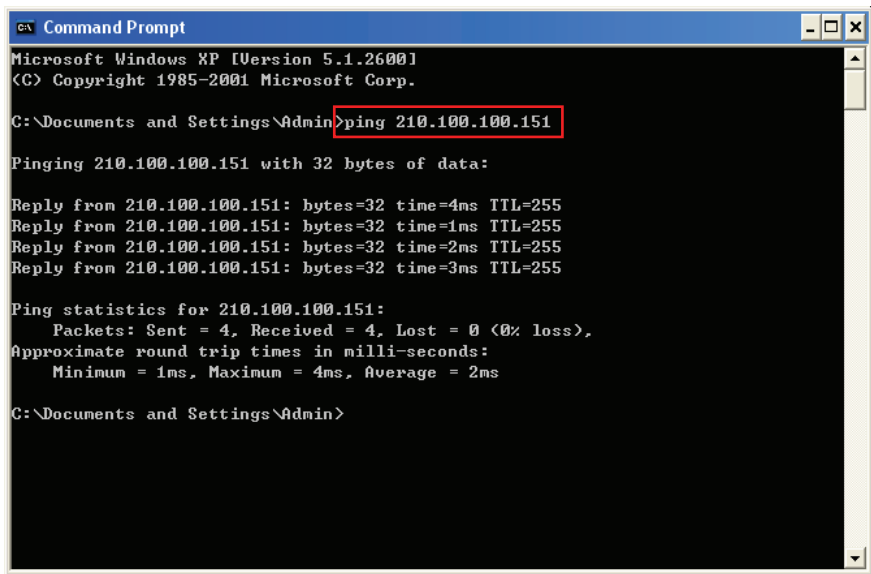
1. If you will use the network cable (IP address) to connect, configure your computer to the following setting: IP address **210.100.100.150** and subnet mask **255.255.255.0**. If you will use the serial cable to connect, configure your computer's COM port to be **1 ~ 10**.



2. If you decide to use the network cable to connect, make sure you can ping the module at **210.100.100.151** (factory default IP address) by clicking on **Start → All Programs → Accessories → Command Prompt**. The following screen appears.



3. Type **ping 210.100.100.151** and the following screen appear to signify a successful communication.



```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Admin>ping 210.100.100.151

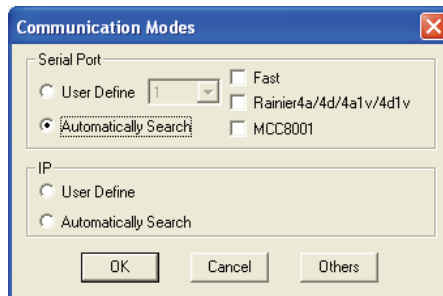
Pinging 210.100.100.151 with 32 bytes of data:

Reply from 210.100.100.151: bytes=32 time=4ms TTL=255
Reply from 210.100.100.151: bytes=32 time=1ms TTL=255
Reply from 210.100.100.151: bytes=32 time=2ms TTL=255
Reply from 210.100.100.151: bytes=32 time=3ms TTL=255

Ping statistics for 210.100.100.151:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 4ms, Average = 2ms

C:\Documents and Settings\Admin>
```

4. Type **exit** to exit the **Command Prompt** screen.
5. Run the Galaxy program by double-clicking the **Galaxy-V311.exe** file. When the following screen appears, under **Serial Port** select **Automatically Search**. Or, under **IP** select **Automatically Search** if you know the IP address assigned to your VCC-8000 series.

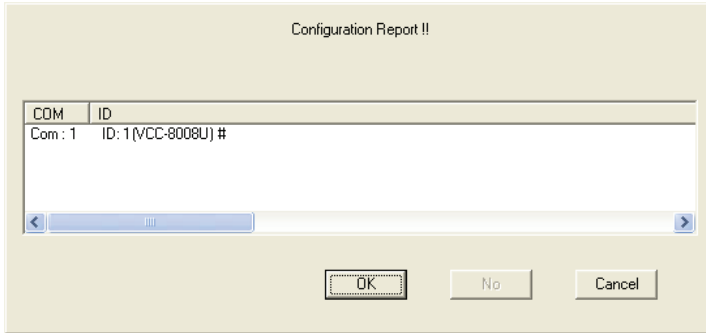


6. Click **OK** and your computer would start to search for your VCC-8000 series.

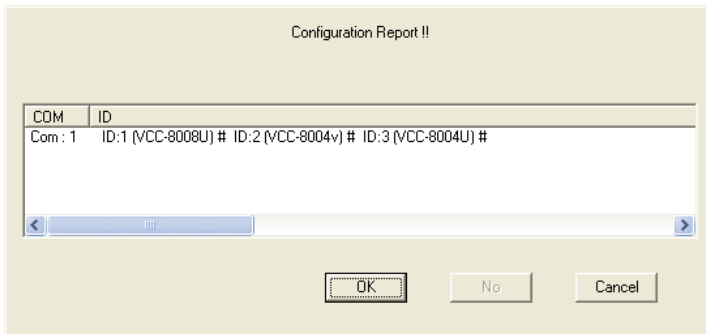
**NOTE:**

- If you have two or more modules cascaded, they should also be detected.
- Make sure that the slave module's baud rate and resolution is the same as the master module's.

7. Upon finding your device, the following screen appears to confirm connection to your VCC-8000 series.



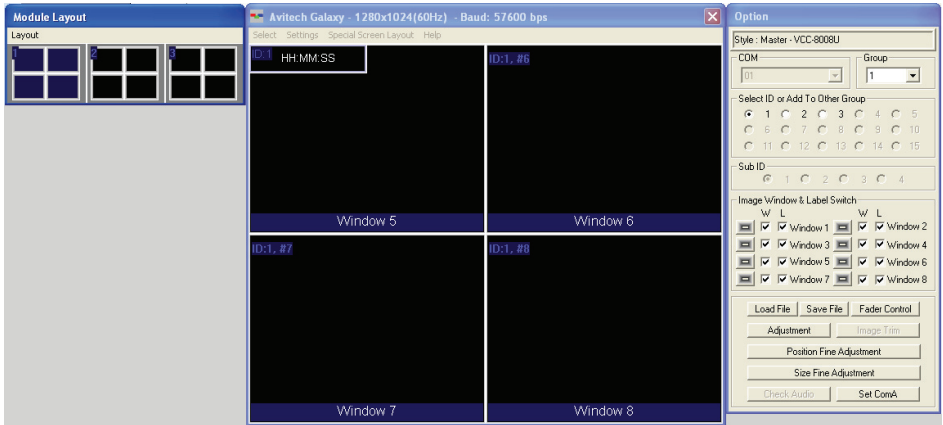
For standalone module



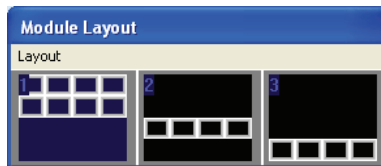
For cascaded modules

**NOTE:** Make sure the cascaded modules have different rotary ID settings (e.g., 1 – 2 – 3) on their rear panels.

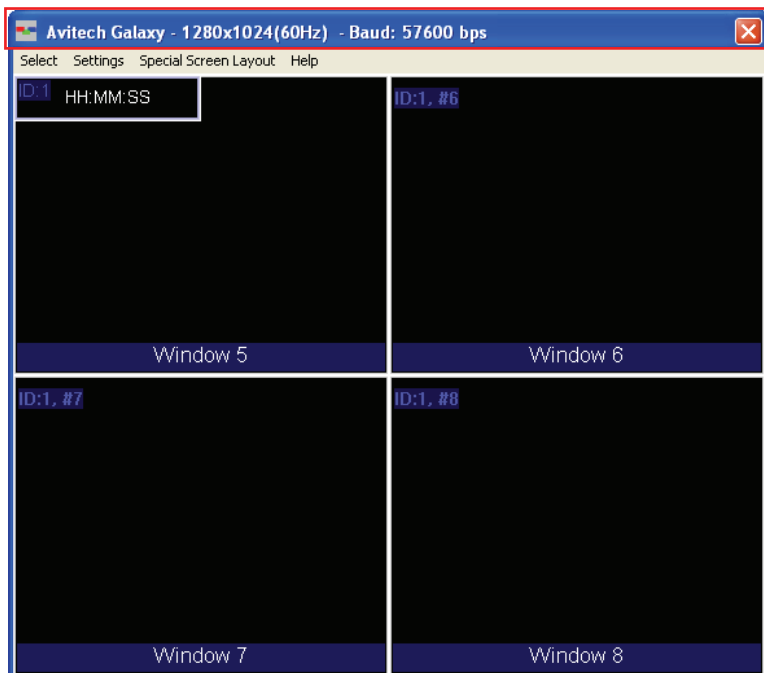
8. Click **OK** and the following screens appear: **Module Layout** window, **Galaxy** control window, and **Option** window.



- **Module Layout** window contains the bird's eye view of the module layout belonging to each ID in the system. In this example, the left window displays the layout belonging to ID:1 on the Galaxy control window, the middle window displays the layout belonging to ID:2, while the right window displays the layout belonging to ID:3.



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



**NOTE:** When entering the Galaxy program for the first time, the layout for **ID: 2** and **ID: 3** may be covered by **ID: 1**.

On the blue information bar portion can be found the following items:

- *Logo icon* **Avitech Galaxy**: proprietary logo and the name of the software.
- **1280×1024 (60Hz)**: shows the current output resolution and frequency.
- **Baud: 57600 bps**: shows the current COM port baud rate.

- **Option** window is for group and window/label setup, save/load file, monitor audio, adjust image, window size/position, and COM port setting. (Refer to a later section for details.)

**Option**

Style : Master - VCC-8008U

COM: 01

Group: 1

Select ID or Add To Other Group

☒ 1
 ☐ 2
 ☐ 3
 ☐ 4
 ☐ 5
 ☐ 6
 ☐ 7
 ☐ 8
 ☐ 9
 ☐ 10
 ☐ 11
 ☐ 12
 ☐ 13
 ☐ 14
 ☐ 15

Sub ID

☒ 1
 ☐ 2
 ☐ 3
 ☐ 4

Image Window & Label Switch

W	L	W	L
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Window 1		Window 2	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Window 3		Window 4	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Window 5		Window 6	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Window 7		Window 8	

Load File Save File Fader Control

Adjustment Image Trim

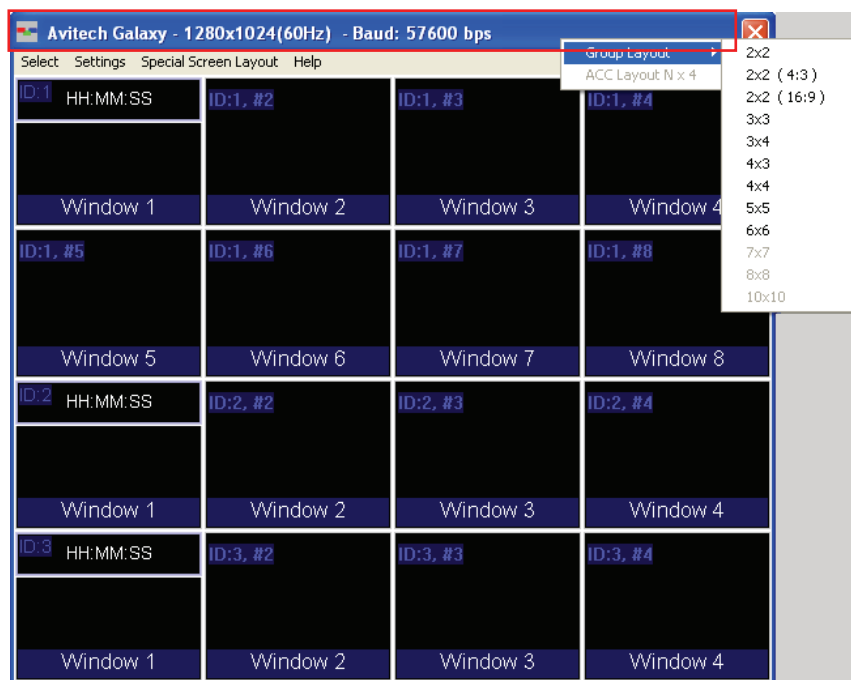
Position Fine Adjustment

Size Fine Adjustment

Check Audio Set ComA

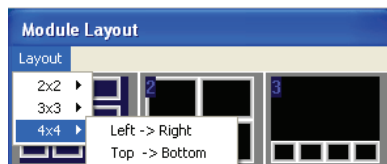
9. Right-click the mouse on the blue information bar to access the **Group Layout** menu. Select from **2×2** up to **10×10** as possible grid positions on the monitor display.

**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 (VCC-8000 series smallest window size is 144×128 pixel).



## Module Layout Window

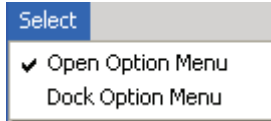
### Layout Menu



Select from **2×2** up to **10×10** (left to right or top to bottom) as possible grid positions on the **Module Layout** window.

## Galaxy Control Window

### Select Menu



### Open Option Menu

Toggles the **Option** window display on (with checkmark) / off.

### Dock Option Menu

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

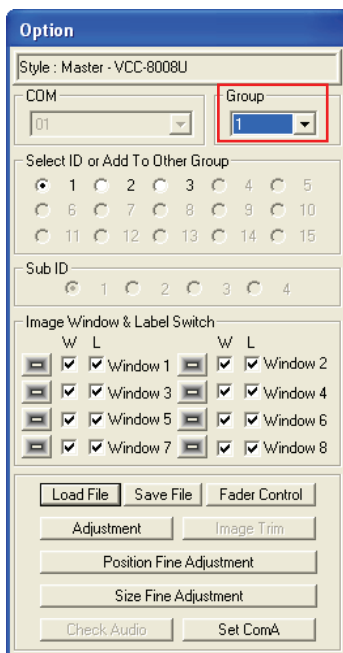


## Settings Menu

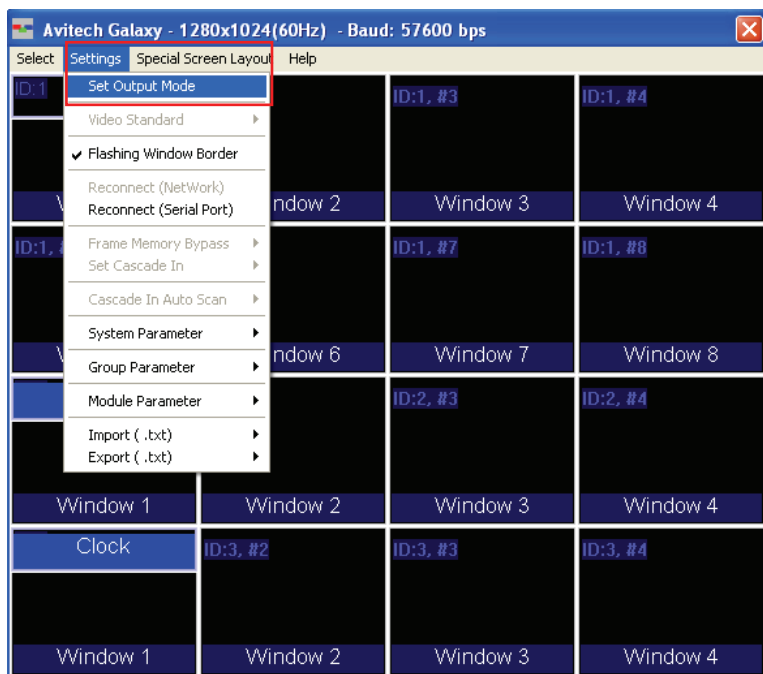
Settings	
Set Output Mode	
Video Standard	▶
✓ Flashing Window Border	
Reconnect (NetWork)	
Reconnect (Serial Port)	
Frame Memory Bypass	▶
Set Cascade In	▶
Cascade In Auto Scan	▶
System Parameter	▶
Group Parameter	▶
Module Parameter	▶
Import ( .txt)	▶
Export ( .txt)	▶

## Set Output Mode

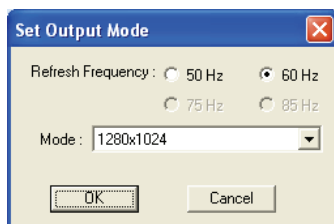
Changing the output resolution affects all the modules in the selected group. If you have more than one group, make sure you select the correct **Group** on the drop-down menu. The VCC-8000 series default output resolution is 1280×1024 / 60 Hz.



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

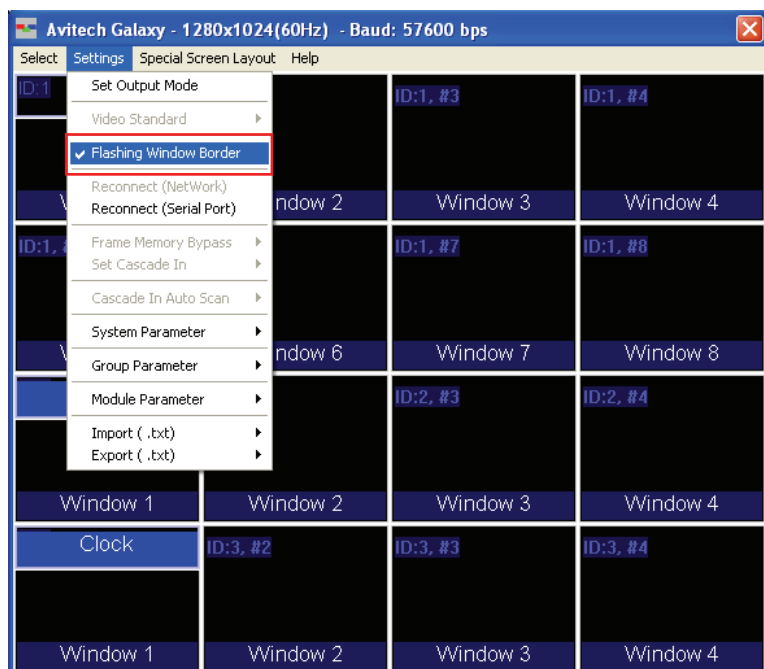


2. When the following screen appears, set the output resolution to match the display monitor's. Select the **Refresh Frequency**, select the **Mode** from the drop-down menu, and then click **OK**. You will notice that the selected resolution is displayed on the top bar of your Galaxy program.



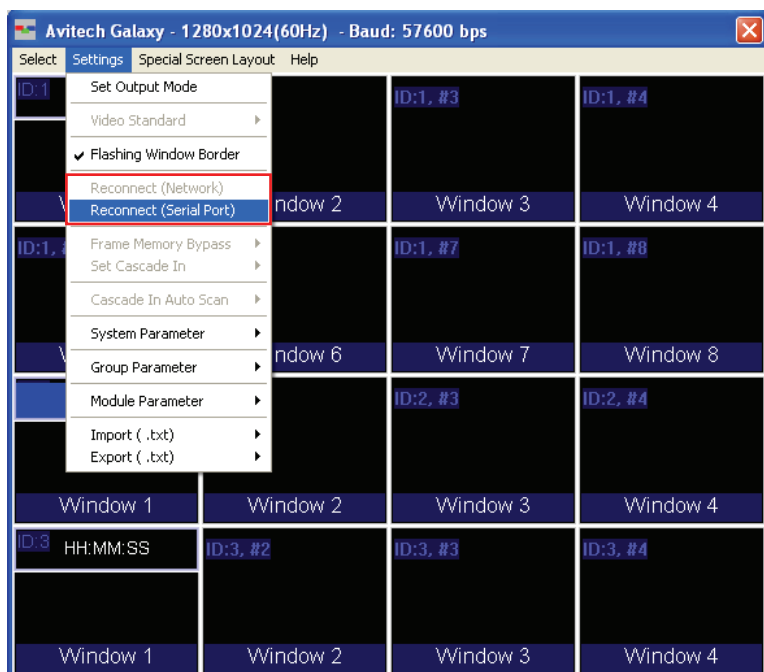
## Flashing Window Border

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) / (Serial Port)

When you have unplugged the IP cable and re-connected it, click **Reconnect (Network)** to continue the configuration process. Or, when using the serial cable, click **Reconnect (Serial Port)** instead.



# System Parameter

The following setup affects all the modules of all the groups. Upon clicking **System Parameter**, the menu appears as shown next (refer to the later section for the description of the items appearing on **System Parameter**).

Return Group Index to Default One Module Per Group
Save System Files To Flash
All Meters ▶
All Labels ▶
All Clocks ▶
All TSL ▶
Module Cascade Series
Advanced
Clear Alarm Message (Locked state)
Clear Tally Status
MKC Properties
Setup Module to Speaker ID
Setup Group

# Group Parameter

The following setup affects all the modules in the selected group only. Upon clicking **Group Parameter**, the menu appears as shown next (refer to the later section for the description of the items appearing on **Group Parameter**).

Group Reset
Meter
Label
Border
Tally
Alarm
Clock
UnderScan
COM A
Safe Area
TSL
Aspect Auto Detect ▶
Output Timing ▶
VGA to Background ▶
Analog Clock / Screen Logo ▶
Close Caption ▶
Frame Lock (Fullscreen mode) ▶
Window Size ▶
Frame Memory Status ▶
Set Default Layout

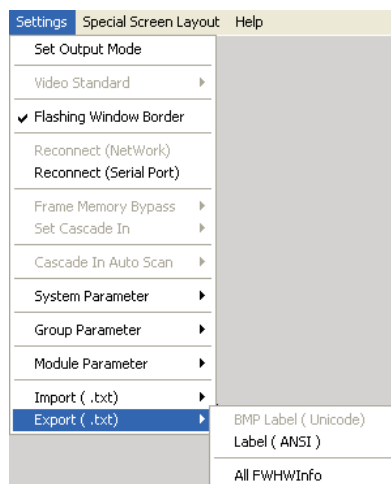
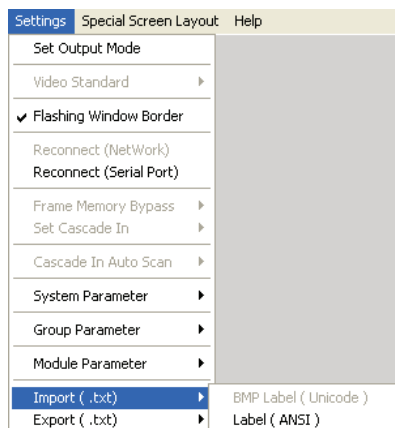
## Module Parameter

The following setup affects the selected module only. 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**).

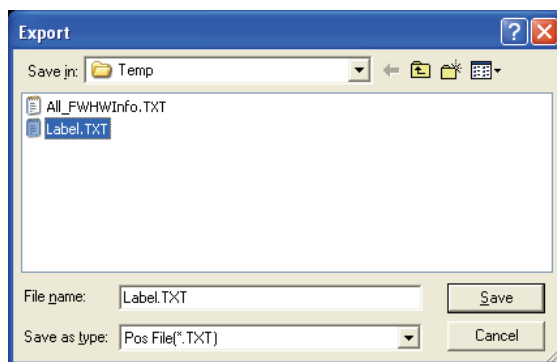
Module Reset
IP Address
Y Delay
Auto Parameter ▶
Output Timing ▶
✓ Clock Window
Cascade In VGA Only
Tally
VGA to Background
Analog Clock / Screen Logo ▶
GPI Definitions
Preset Time
ACC Setup
ACC Alarm
✓ VCC OSD
TSL
Rainier Cascade In mode
VGA Auto Setting ▶
VGA Auto Detect ( Position ) ▶
VGA Auto Detect ( Gain ) ▶
Frame Lock (Fullscreen mode)
Line Lock
VCC8000 BMP Label Resources
NTSC Black Level ▶
Frame Memory Status ▶

## Importing / Exporting Label

Allows you to import label from / export label to Microsoft® Excel or Notepad to be edited externally.

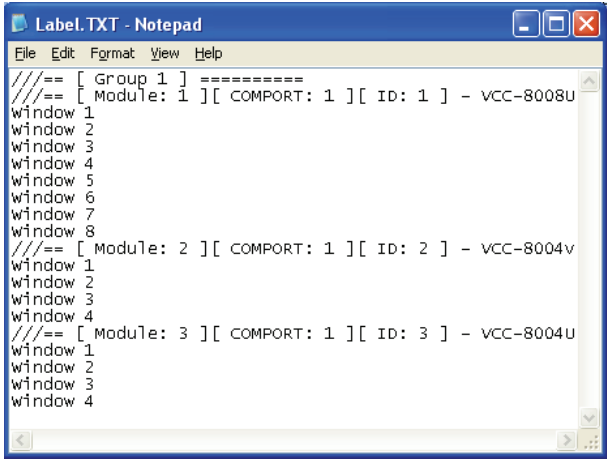


The convenient way is to export the file (label) as a **BMP Label (Unicode)** or **Label (ANSI) .txt** file by assigning a filename when the next screen appears.





By using Microsoft® Notepad, edit the text in the file starting with **Group 1** and **Module 1**. When you are done editing the label save the **txt** file and import it. The on screen labels will then be updated.



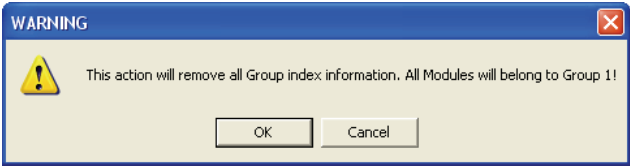
```
File Edit Format View Help
//== [ Group 1 ] =====
//== [ Module: 1 ][ COMPORT: 1 ][ ID: 1 ] - VCC-8008U
window 1
window 2
window 3
window 4
window 5
window 6
window 7
window 8
//== [ Module: 2 ][ COMPORT: 1 ][ ID: 2 ] - VCC-8004v
window 1
window 2
window 3
window 4
//== [ Module: 3 ][ COMPORT: 1 ][ ID: 3 ] - VCC-8004U
window 1
window 2
window 3
window 4
```

**System Parameter**

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

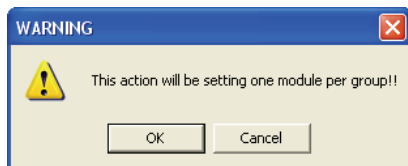
**Return Group Index to Default**

Allows you to return all groups to their default setting as well as combine all modules into one group. Click **OK** when the next screen appears to complete the configuration change.

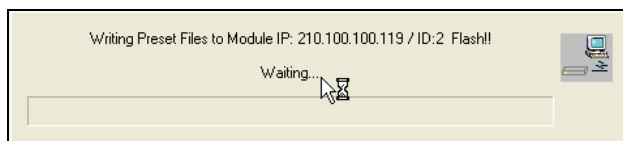


## One Module Per Group

By default, the Galaxy program will combine all available modules into one large group. To quickly divide modules into different groups, each module can be treated as a group. For example if cascading four modules then it will be divided into four groups. When the next screen appears, click **OK** to finalize the changes.

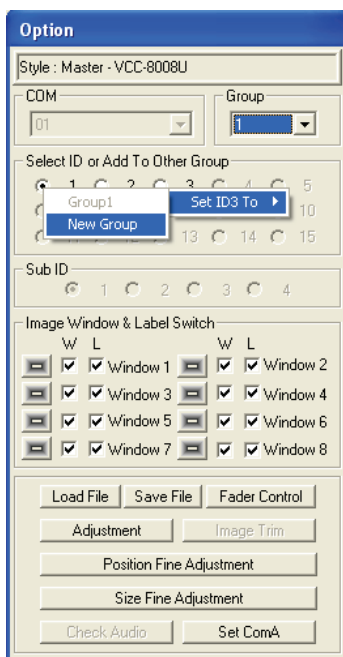


The configuration progress will be shown on screen.



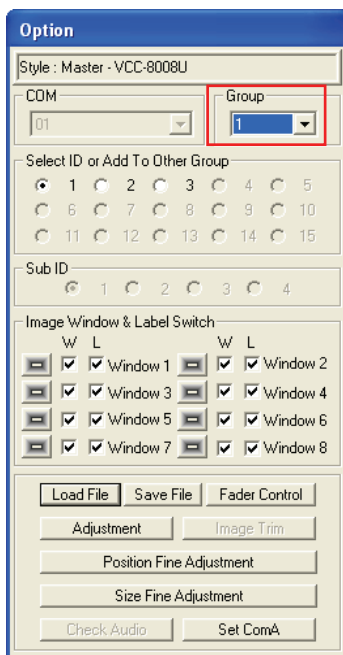
Or, another method for creating new groups is:

1. Right-click the mouse on the module you wish to add to the new group. Then click **Set ID# To → New Group**.



2. Repeat for all additional modules (you can either add additional modules to the new group or create additional groups).

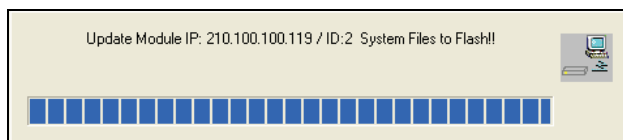
3. To switch between the different groups, use the **Group** drop-down menu.



4. Exit the Galaxy program and select **Yes** when prompted to save to flash memory

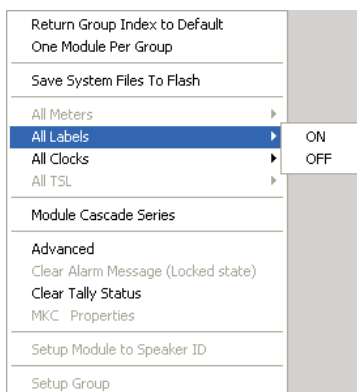
## Save System Files to Flash

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.



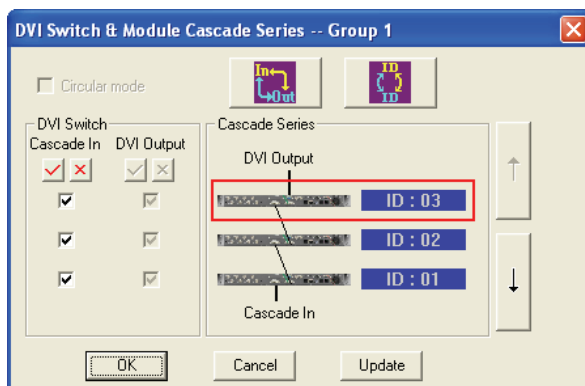
## Turning On/Off All Labels/Clocks

To turn on/off all labels/clocks for all the modules regardless of the group it belongs to, click **ON/OFF**.



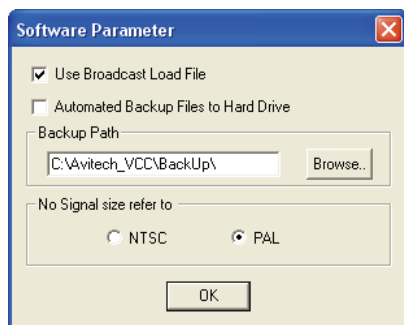
## Module Cascade Series

Use the **DVI Switch** function to enable or disable **Cascade In** for each ID number. Use the **Cascade Series** function to change the ID number designation only; this will not affect the actual physical connection of the VCC-8000 series.



## Advanced

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



- **Use Broadcast Load File**

For loading preset / switching resolution / group reset. When this option is enabled (with checkmark), the Galaxy program will broadcast the command to every module, allowing for simultaneous execution of the command.

**| NOTE:** This feature should always be enabled.

- **Automated Backup Files to Hard Drive**

By default, the Galaxy program will save all backup files to the **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 will serve as the basis for the Galaxy program to adjust the window size. **NTSC**: maximum window size is 816×465. **PAL**: maximum window size is 816×560.

## Clear Tally Status

When running tally via RS-232, use this function in the Galaxy program to close it. If not, then use the ASCII Z command to close tally via RS-232.

## Group Parameter

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

### Group Reset

Allows you to refresh all modules belonging to the same group.

### Label

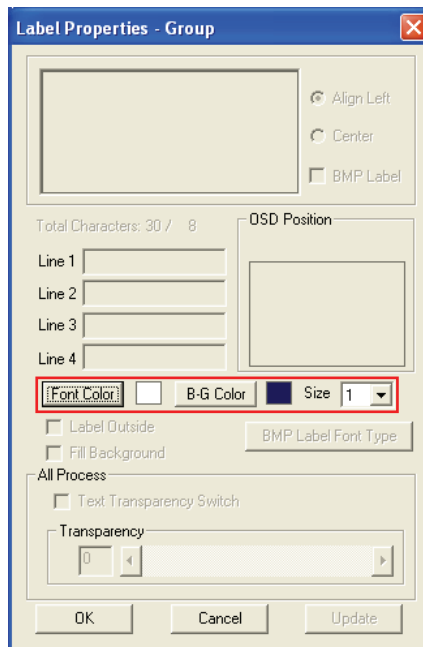
There are two hierarchies for setting the **Label** properties. One can affect the entire group, while the other affects a single window.

For an Entire Group

To set the label properties, perform the following steps:

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

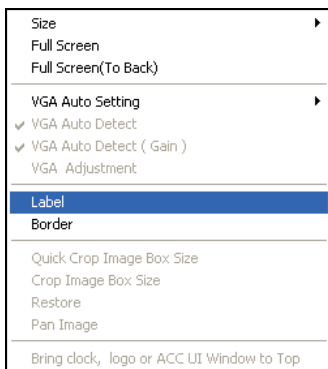
Select **Settings** → **Group Parameter** → **Label** to adjust the **Font Color**, **B-G** (background) **Color**, and font **Size** for all labels in the group.



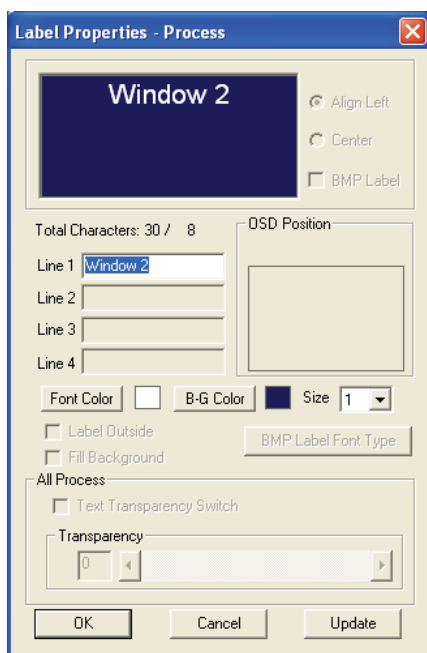
## For an Individual Window

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



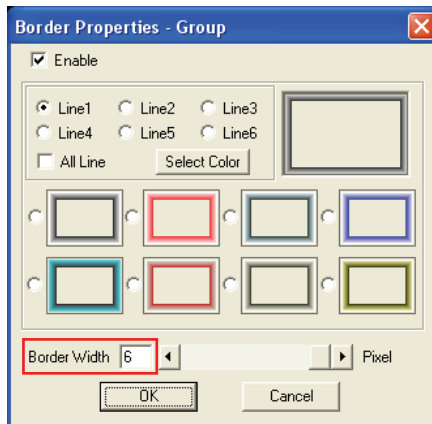
5. Repeat the above steps for all the other windows.

## Setting Border Properties

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

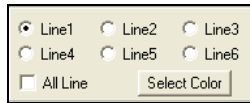
For an Entire Group

1. Select **Settings → Group Parameter → Border**, and then change the **Border Width** to 0.

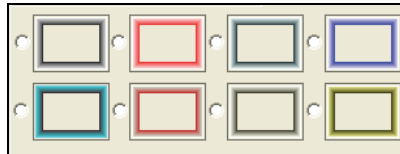


2. You can also change the border color.

- Each pixel/line can have a different color



- 3D border



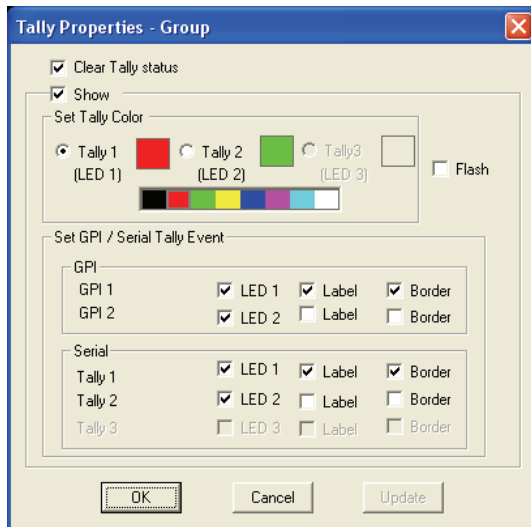
For an Individual Window

To change the border properties for an individual window, right-click the mouse on the window and select **Set Border**, then select the desired color and size.

## Activating Tally

The RJ-50-to-GPI terminal block allows for a total of eight inputs to activate tally, two per window. You can also use the serial port with ASCII, TSI, or TSL to activate the tally. To change the appearance of the tally, perform the following steps:

1. Select **Settings → Group Parameter → Tally**. The following window appears:



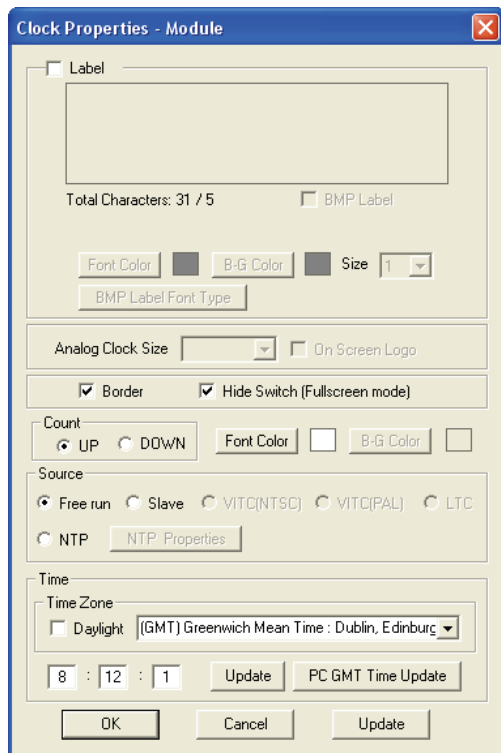
**Tally 1** and **2** are triggered by GPIO while **Tally 3** is triggered via serial communication.

2. The settings that can be adjusted include **Tally Color**, **Label**, **Border**, and **Flash**.

## Setting Clock Properties

**NOTE:** Make sure to turn on all clocks (see previous section) before setting the clock properties.

To set the clock properties, select **Settings** → **Group Parameter** → **Clock** to adjust the **Font Color**, **B-G** (background) **Color**, and font **Size** for all clocks in the group. You can also set the **Border**, **Hide Switch** (full screen mode), **Count** (up/down), **Source**, and **Time Zone**.



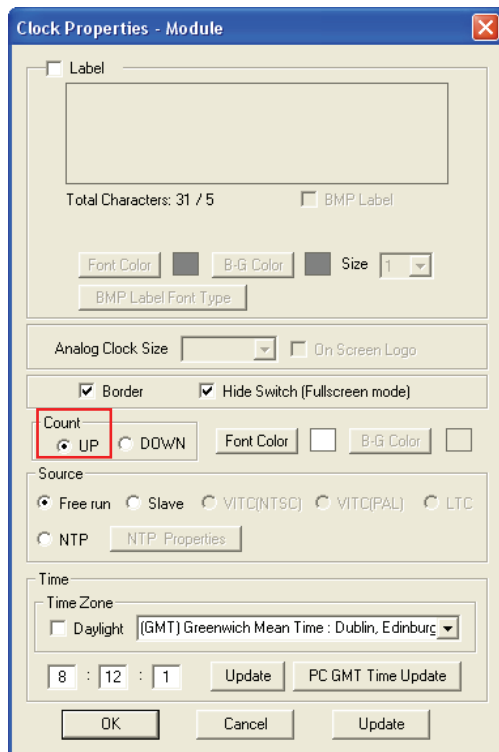
The image shows a Windows-style dialog box titled "Clock Properties - Module". It contains several sections for configuring clock settings:

- Label:** A text input field with a "Total Characters: 31 / 5" indicator and a "BMP Label" checkbox.
- Font Color:** A color selection button.
- B-G Color:** A color selection button.
- Size:** A dropdown menu currently set to "1".
- BMP Label Font Type:** A text input field.
- Analog Clock Size:** A dropdown menu.
- On Screen Logo:** A checkbox.
- Border:** A checked checkbox.
- Hide Switch (Fullscreen mode):** A checked checkbox.
- Count:** Radio buttons for "UP" (selected) and "DOWN".
- Font Color:** A color selection button.
- B-G Color:** A color selection button.
- Source:** Radio buttons for "Free run" (selected), "Slave", "VITC(NTSC)", "VITC(PAL)", "LTC", and "NTP". There is also an "NTP: Properties" button.
- Time:**
  - Time Zone:** A dropdown menu showing "(GMT) Greenwich Mean Time : Dublin, Edinburgh".
  - Daylight:** A checkbox.
  - Time Display:** Three input fields showing "8", "12", and "1" separated by colons.
  - Update:** A button.
  - PC GMT Time Update:** A button.
- Buttons:** "OK", "Cancel", and "Update" buttons at the bottom.

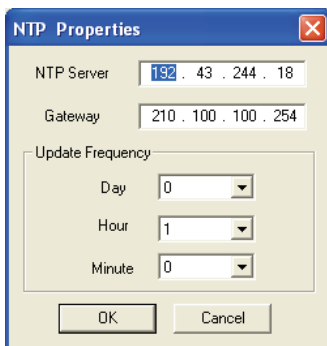
To activate the time code feature, on the **Source** portion click the mouse to select **Free Run**, **LTC**, or **VITC (NTSC/PAL)**. You can also synchronize the clock from the slave module by clicking the mouse on **Slave** to select it. Then click the **Update** button (on the lower right portion) and then click **OK**.

The **NTP** time code feature allows the VCC-8000 series to synchronize the clock with an external NTP time server. The **IP** port on the rear of the VCC-8000 series can control as well as receive time code information at the same time. To set up the NTP time code, perform the following steps:

1. Make sure that **Count → Up** is selected.



2. On the **Source** portion click the mouse on **NTP** to select it. Then click the **NTP Properties** button and the following screen appears.

The image shows a Windows-style dialog box titled "NTP Properties". It has a blue title bar with a close button (X) in the top right corner. The dialog contains three input fields: "NTP Server" with the value "192 . 43 . 244 . 18", "Gateway" with the value "210 . 100 . 100 . 254", and an "Update Frequency" section. The "Update Frequency" section is enclosed in a light gray border and contains three dropdown menus: "Day" set to "0", "Hour" set to "1", and "Minute" set to "0". At the bottom of the dialog are two buttons: "OK" and "Cancel".

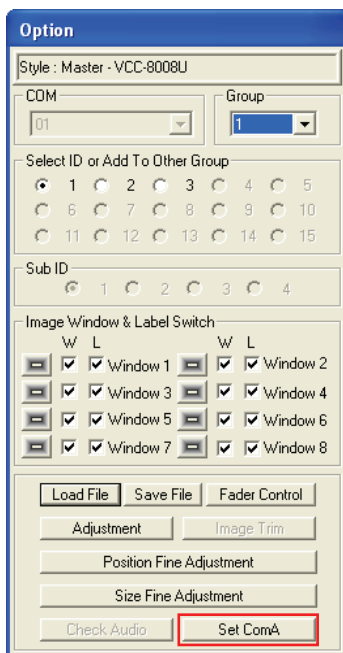
3. Enter the IP address of the **NTP Server**, the default **Gateway** (use **ipconfig** in Windows DOS mode to find out), then set the time interval that the clock will be updated.
4. Select the **Time Zone** in the drop-down menu and click the mouse on the **Daylight** check box to select DST (daylight saving time) when applicable.
5. Click **Update** (on the lower middle portion) and then the **OK** button.

**NOTE:** You may be required to exit the Galaxy program by first saving the new settings to flash memory, then restarting the Galaxy program before the clock can be updated.

## Setting COM Port

By default the COM port is set to normal and baud rate set to 57600 bps to configure the serial port of the module with PC for configuration and control. To set the COM port, perform the following steps:

1. On the **Option** window click **Set COM A**.



2. The following screen appears.



3. Select the **Setting COM A** option.
4. Set the **Baud Rate**.
5. Select the **Mode**.
  - **Normal** – for use with ASCII or TSL.
  - **Load File** – for use with the SCP (Simplified Control Panel) keypad.
6. After setting COM A, you will be prompted to close the Galaxy program and power cycle (shutdown and restart) the module.

## Output Timing

There are two output timings namely **Normal** and **VESA**. **Normal** output timing is designed for some brands of display monitors which do not support the **VESA** standard. The default setting for output timing is **Normal**.

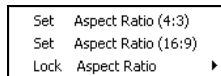


## VGA to Background

Allows you to alter the sequence of a particular cascading window that appears on the monitor display. By default Window 1 should appear on top of Window 2 but you can move it to be behind Window 2 into the background.

## Window Size

There are three window sizes which could display all the windows in a group namely, **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 at **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 result is 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.

## Set Default Layout

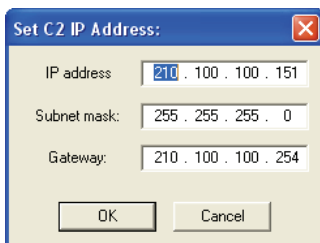
When you have multiple units cascaded together, you can quickly show all the windows by selecting **Settings → Group Parameter → Set Default Layout**.

## Module Parameter

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

### IP Address

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



### Auto Parameter

By default, the VCC-8000 series will automatically detect the optimum display resolution. To disable this feature, perform the following steps:

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

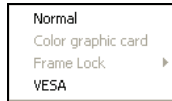


**NOTE:**

- 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** option, all the presets will be displayed in the desired resolution that you have set.

## Output Timing

There are two output timings namely **Normal** and **VESA**. **Normal** output timing is designed for some brands of display monitors which do not support the **VESA** standard. The default setting for output timing is **Normal**.



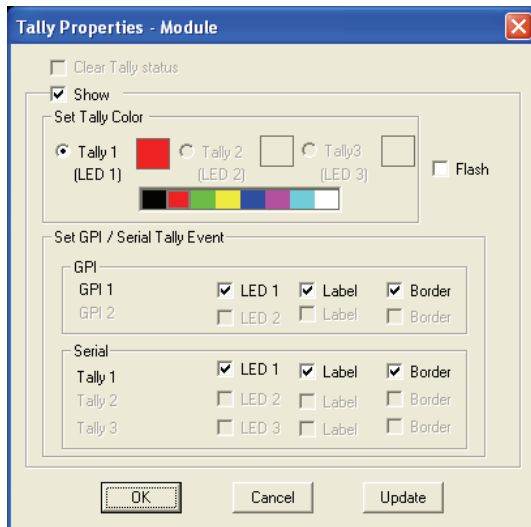
## Clock Window

When the item **All Clocks** under **System Parameter** is set to **On**, a checkmark appears on this item. You can turn on (with checkmark) or off the clock window display. Click on the item to toggle between on/off.

## Activating Tally

The RJ-50-to-GPI terminal block allows for a total of eight inputs to activate tally, two per window. You can also use the serial port with ASCII, TSI, or TSL to activate the tally. To change the appearance of the tally, perform the following steps:

1. Select **Settings → Module Parameter → Tally**. The following window appears:



**Tally 1** and **2** are triggered by GPIO while **Tally 3** is triggered via serial communication.

2. The settings that can be adjusted include **Tally Color**, **Label**, **Border**, and **Flash**.

## VGA to Background

When the item **VGA to Background** under **Group Parameter** is set to **On**, a checkmark appears on this item. This allows you to alter the sequence of a particular cascading window that appears on the monitor display. By default Window 1 should appear on top of Window 2 but you can move it to be behind Window 2 into the background. Click on the item to toggle between on/off.

## GPI Definitions

Eight positions can be found on the RJ-50-to-GPI terminal block that are assignable to either activate tally (two per video input) or to load presets, but each pin can only be assigned to one task. To assign the definition of each GPI, perform the following steps:

1. Upon clicking **GPI Definitions**, the following screen appears:

**GPI Definitions**

Pins

☒ Inputs ☐ Outputs

☐ Sync to Master ( load preset ) ☐ Independent ( load preset )

	Tallys	Presets	Clock Triggers	
1	<input checked="" type="radio"/> Tally1	<input type="radio"/> Preset1		Alarm Trigger
2	<input checked="" type="radio"/> Tally2	<input type="radio"/> Preset2	<input type="radio"/> Count Up	Trigger2
3	<input checked="" type="radio"/> Tally3	<input type="radio"/> Preset3		Trigger4
4	<input checked="" type="radio"/> Tally4	<input type="radio"/> Preset4	<input type="radio"/> Count Down	Trigger6
5	<input checked="" type="radio"/> Tally5	<input type="radio"/> Preset5		Trigger8
6	<input checked="" type="radio"/> Tally6	<input type="radio"/> Preset6	<input type="radio"/> Pause	
7	<input checked="" type="radio"/> Tally7	<input type="radio"/> Preset7		
8	<input checked="" type="radio"/> Tally8	<input type="radio"/> Preset8	<input type="radio"/> Next Preset Time	

ACC-8000

Group

OK Cancel

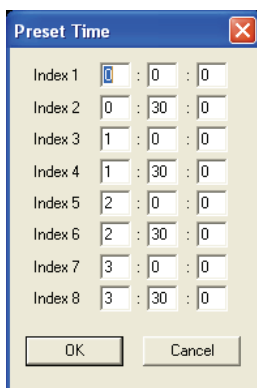
2. After you have finished assigning tasks to each GPI, click **OK** to finalize the changes.

**NOTE:**

- The RJ-50-to-GPI terminal block adapter has eight positions that can each be used for setting tally and loading presets.
- By default, the terminal block is used to turn on/off the tally for each window:
  - Position 1 + GND = turns on main tally for window 1.
  - Position 2 + GND = turns on secondary tally for window 1.
  - Position 3 + GND = turns on main tally for window 2.
  - Position 4 + GND = turns on secondary tally for window 2.
  - Position 5 + GND = turns on main tally for window 3.
  - Position 6 + GND = turns on secondary tally for window 3.
  - Position 7 + GND = turns on main tally for window 4.
  - Position 8 + GND = turns on secondary tally for window 4.

## Preset Time

By using the RJ-50-to-GPI terminal block, allows you to set the count up or count down preset time (**Index 1 ~ 8**) that can be recalled using GPIO.



The image shows a software dialog box titled "Preset Time" with a standard Windows-style title bar (blue with a red close button). The dialog contains a table with 8 rows, each representing an index. Each row has three input fields separated by colons. The values in the fields are: Index 1 (0, 0, 0), Index 2 (0, 30, 0), Index 3 (1, 0, 0), Index 4 (1, 30, 0), Index 5 (2, 0, 0), Index 6 (2, 30, 0), Index 7 (3, 0, 0), and Index 8 (3, 30, 0). At the bottom of the dialog are two buttons: "OK" and "Cancel".

Index	Field 1	Field 2	Field 3
Index 1	0	0	0
Index 2	0	30	0
Index 3	1	0	0
Index 4	1	30	0
Index 5	2	0	0
Index 6	2	30	0
Index 7	3	0	0
Index 8	3	30	0

## VCC OSD

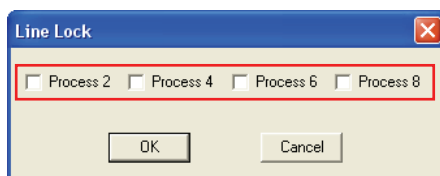
Allows you to turn on (with checkmark) or off your VCC-8000 series OSD (on screen display) feature. Click on the item to toggle between on/off.

## VGA Auto Detect (Position/Gain)

Allows you to turn on (with checkmark) or off your VCC-8000 series automatic detection of VGA input signal. It fixes the problem of image appearing too bright or presence of abnormal color. This may occur when restarting the VCC-8000 series or when unplugging and plugging the VGA cable. 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. **Process 1 ~ 4** is equivalent to windows 1 ~ 4. **Process 2** corresponds to the **Video 1** connector, **Process 4** corresponds to the **Video 2** connector, **Process 6** corresponds to the **Video 3** connector, and **Process 8** corresponds to the **Video 4** connector on the rear of the VCC-8000 series.



## VCC8000 BMP Label Resource

Allows you to allocate the **BMP Label Resources** for the eight windows.

**Window 1** and **Window 2** are both processed by the first 1601 IC (integrated circuit) chip. **Window 3** and **Window 4** are both processed by the second 1601 IC chip. **Window 5** and **Window 6** are both processed by the third 1601 IC chip. **Window 7** and **Window 8** are both processed by the fourth 1601 IC chip.

When a window (e.g., **Window 1**) is enabled (with checkmark) and the other window (e.g., **Window 2**) 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., **Window 3** and **Window 4**) are enabled (with checkmark), the resource will be evenly allocated (50 %).

When both windows (e.g., **Window 5** and **Window 6**) are disabled (no checkmark), the resource will still be evenly allocated (50 %). No simultaneously zero resource allocation (0 %) for both windows can occur.

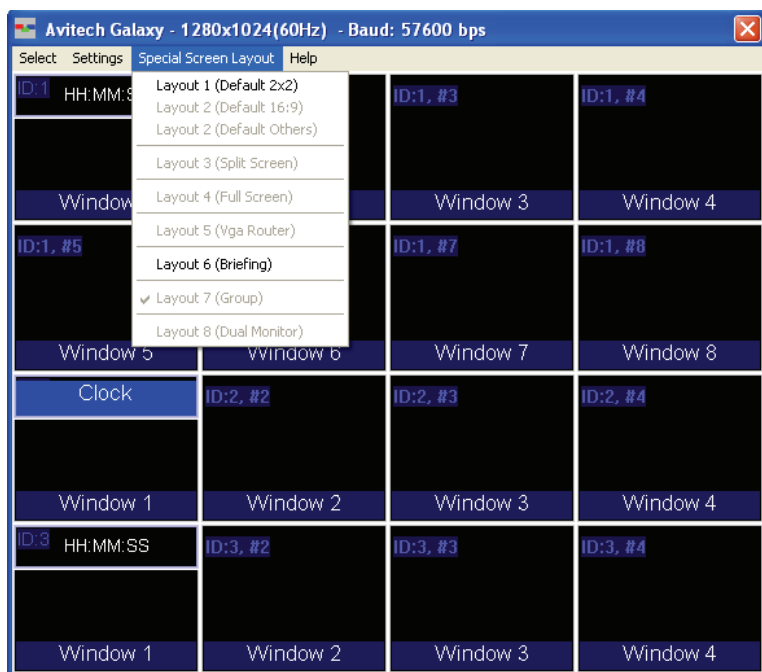


**NOTE:**

- When a particular Window's BMP Label Resource is zero (0 %), the checkbox will be disabled (grayed out).
- For VCC-8002V and VCC-8004V no BMP Label Resource allocation is required. The resource allocation for both models is 100 %.
- The hardware supported version is R6 (CF).

## Special Screen Layout Menu

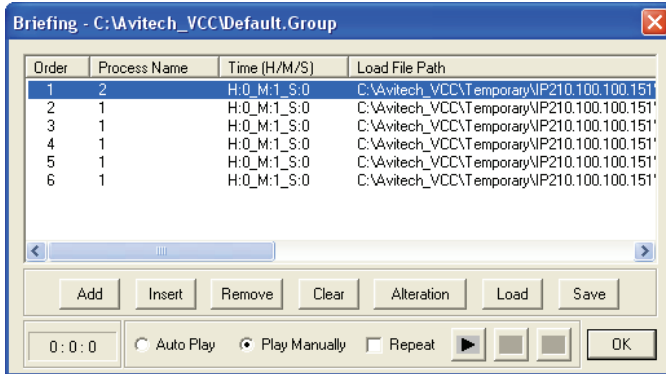
Some special screen layouts are available for the VCC-8000 series namely (layouts that are grayed-out signify none availability for your particular configuration):



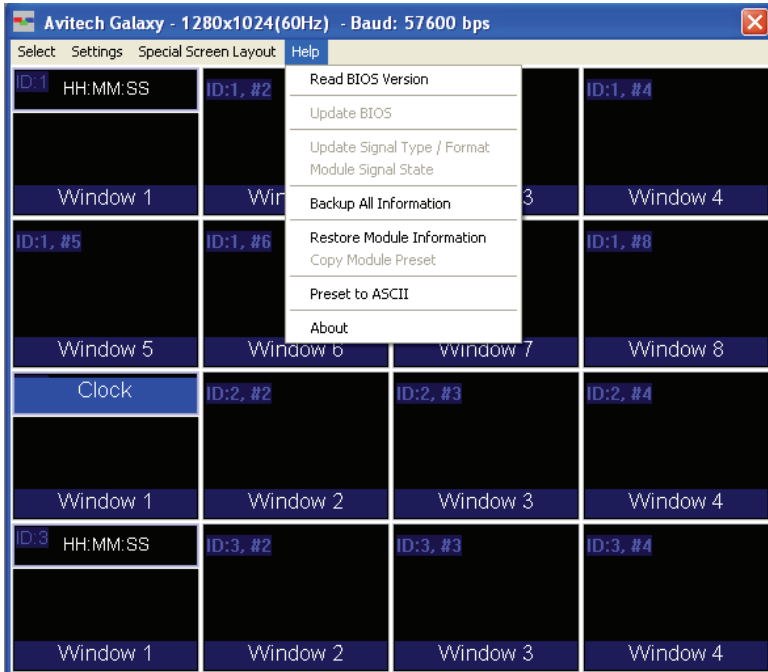
- **Layout 1 (Default 2×2)** – quad split mode



- **Layout 6 (Briefing)** – cycle between presets for a slideshow effect



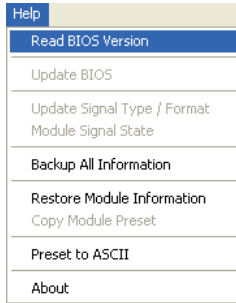
## Help Menu



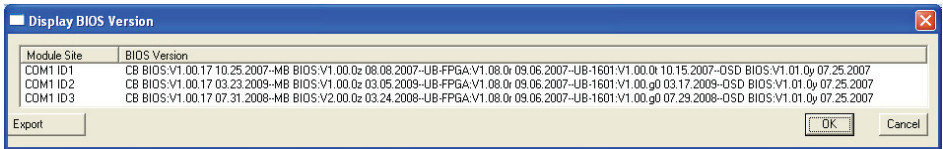
## Read BIOS Version

To find out the Avitech VCC-8000 series module firmware version, perform the following steps:

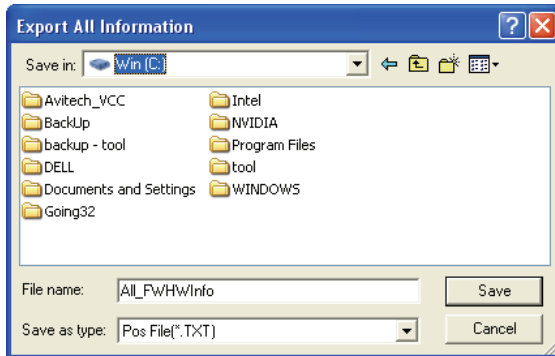
1. Click **Help**, and then click **Read BIOS Version**.



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



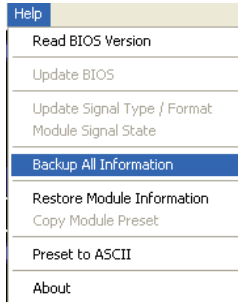
3. Assign a filename and click **Save** to save the data.



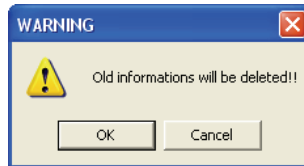
## Backing Up Presets

To backup a preset, perform the following steps:

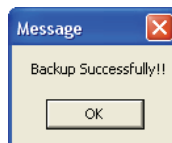
1. Click **Help**, and then click **Backup All Information**.



2. The following warning message appears, click **OK** to continue.



3. The following warning message appears when back-up is successful, click **OK** to continue.



This will backup all saved presets and system configuration files to  
**c:\Avitech\_VCC\Backup\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**).

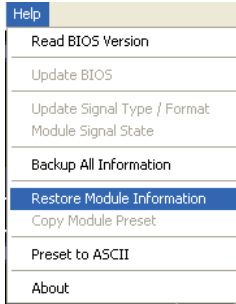
This will create the following directories:

- **c:\Avitech\_VCC\Backup\**
- **c:\Avitech\_VCC\Temporary**

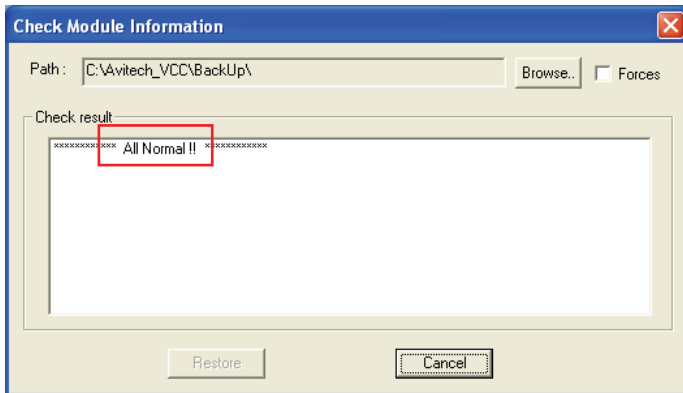
## Restoring Presets

To manually restore a preset, perform the following steps:

1. Click **Help**, and then click **Restore Module Information**. You should see a progress bar showing the preset being loaded into the VCC-8000 series.

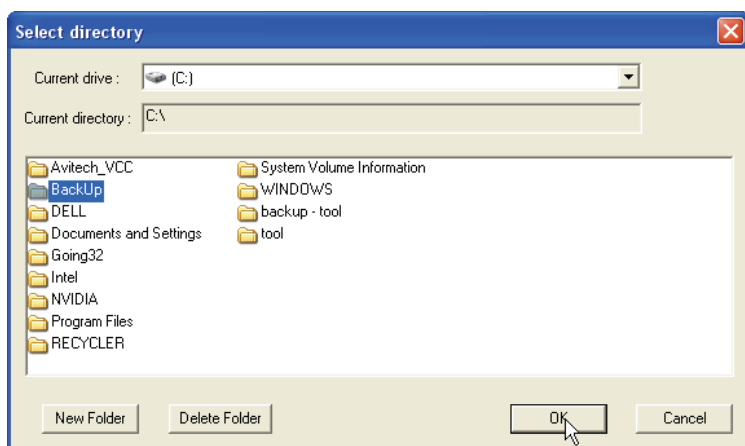


2. When the following screen appears, the checking result confirms that everything is normal. If that is the case then click **Cancel** to exit restoring of preset(s). You may skip steps 3 and 4.

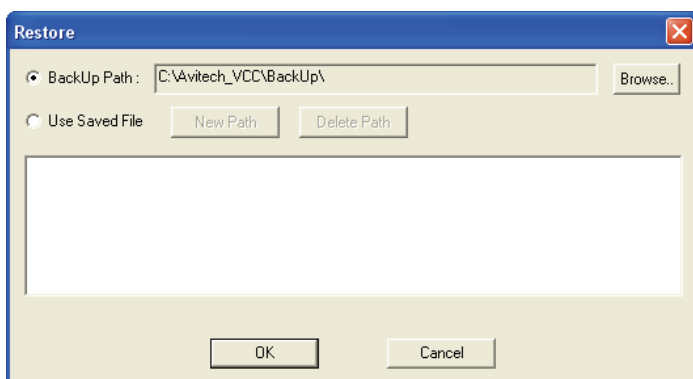


If the checking results shows an **Abnormal** report, confirm if the backup **Path** is correct. Then click **Restore**.

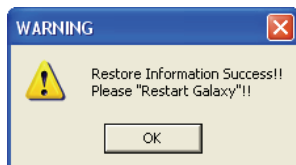
If incorrect, click **Browse** to select the correct location. Then click **OK** to continue.



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

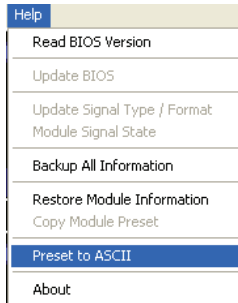


4. Click **OK** when the next screen appears to restart the Galaxy program.

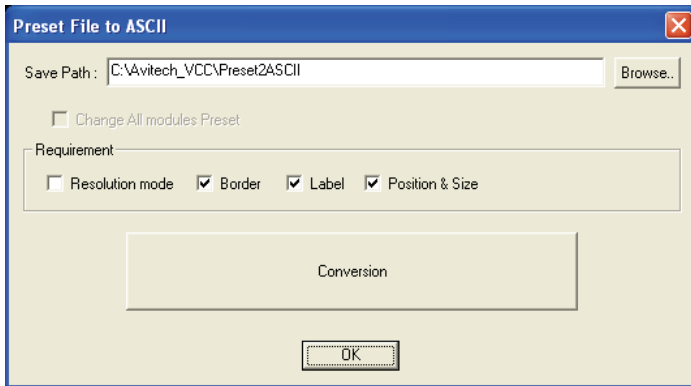


## Saving Preset File to ASCII

1. Click **Help**, and then click **Preset to ASCII**.



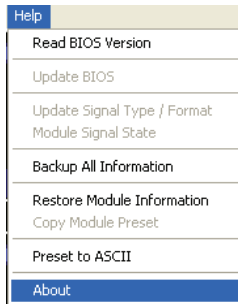
2. When the following screen appears, confirm if the **Save Path** is correct. If incorrect, click **Browse** to select the correct location.



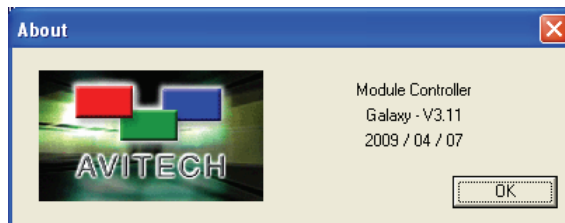
3. Select the **Requirements**, and then click **Conversion**.
4. Click **OK** to exit.

## Read Galaxy Information

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



2. You should see a pop-up box showing the Galaxy program information.



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

Two quick keys are available that allows 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

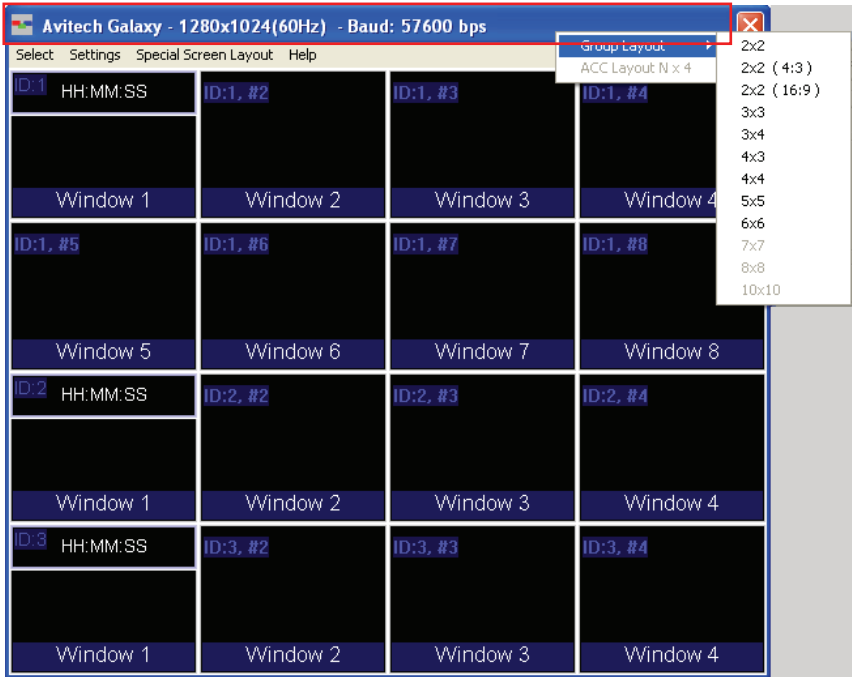
### Setting the Default Layout (by Group)

When you have multiple units cascaded together, you can quickly show all the windows by selecting **Settings → Group Parameter → Set Default Layout**.



## Arranging Windows (by Group)

To quickly setup the layout for your video windows, right-click the mouse on the blue information bar to access the **Group Layout** menu. Select from **2×2** up to **6×6** as possible grid positions on the monitor display.



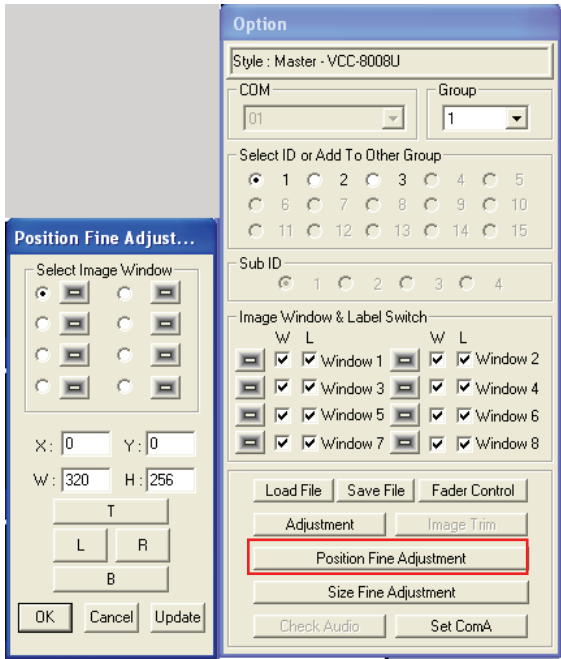
## Repositioning an Individual Window

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,

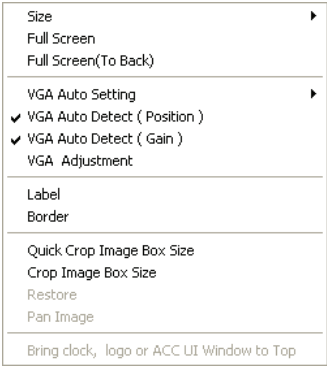
# Option Window

- 2. Use the **Position Fine Adjustment** menu to adjust the position of any window in 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

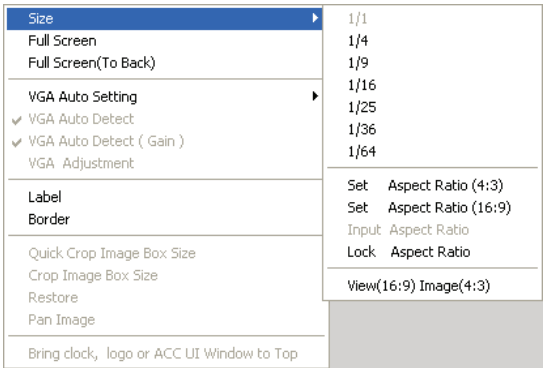
To change the properties of an individual window, right-click the mouse on the particular window to access the window’s menu.



## Resizing Window

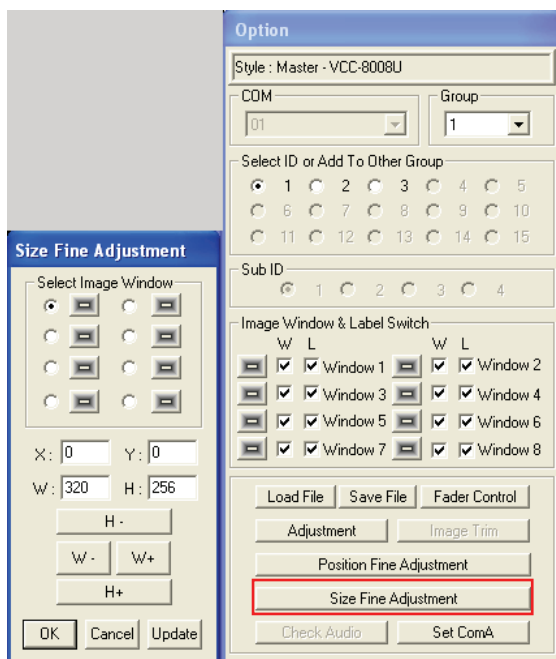
To resize a single window to one of the preset sizes, perform the following steps:

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. Or, manually 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. Alternatively, you can 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.

## Automatic VGA Signal Adjustment

When using a VGA signal with the **DVI-I Cascade** on the VCC-8000 series, 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.



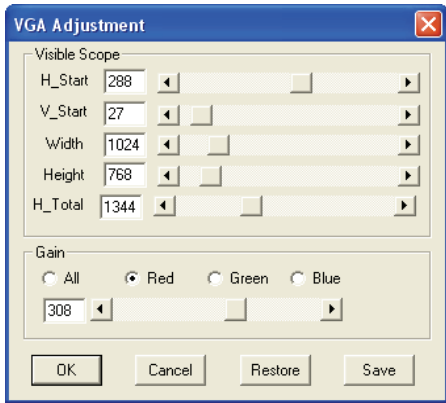
**NOTE:** Some VGA-to-DVI cables may not work with the **DVI-I Cascade / DVI-I Out** ports of the VCC-8000 series, use the proprietary VGA-to-DVI adapter instead.

### VGA Auto Detect (Position/Gain)

Allows you to turn on (with checkmark) or off your VCC-8000 series automatic detection of VGA input signal. It fixes the problem of image appearing too bright or presence of abnormal color. This may occur when restarting the VCC-8000 series or when unplugging and plugging the VGA cable. Click on the item to toggle between on/off.

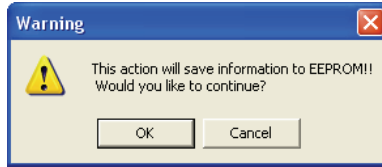
### VGA Adjustment

Upon clicking **VGA Adjustment**, the following screen appears.



If you are not satisfied with the results of **Auto Image Adjustment** or **Auto Gain** (wrong adjustment), change the **Visible Scope** or **Gain**'s value in the **VGA Adjustment** dialog box. Then click **Save** to save the new adjustments in EEPROM.

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

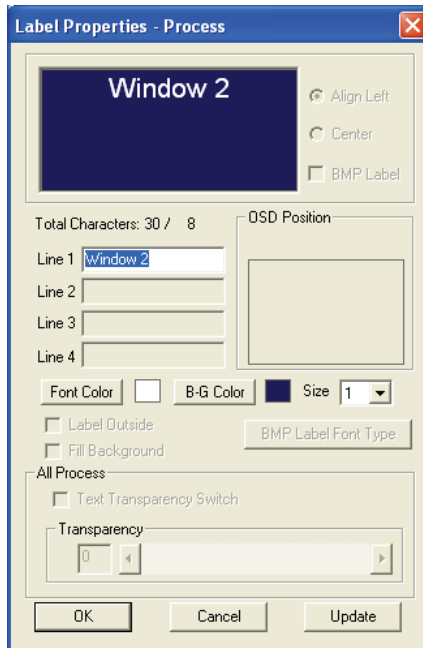


## Setting Label Properties

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

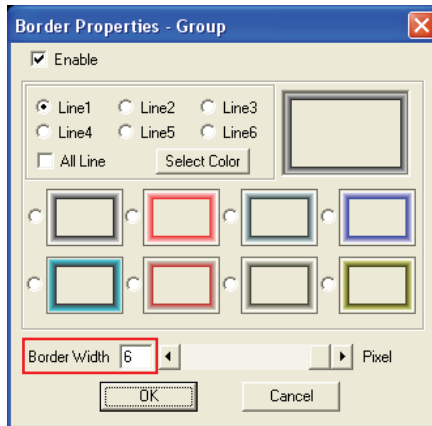


5. Repeat the above steps for all the other windows.

## Setting Border Properties

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

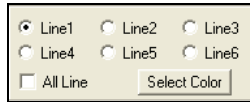
1. Upon clicking **Border**, the following screen appears.



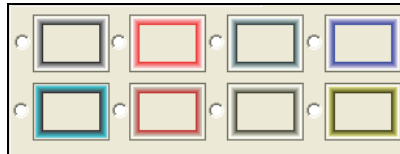
2. Change the **Border Width** to **0**.

3. You can also change the border color.

- Each pixel/line can have a different color



- 3D border



## Quick Cropping an Image on a Window

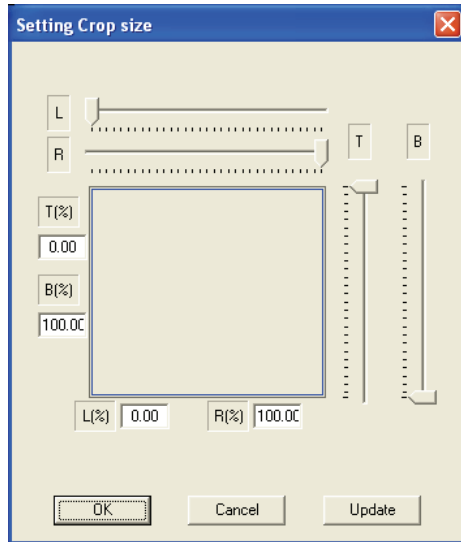
Allows you to crop (cut-out) an image on a particular window. Upon clicking **Quick Crop Image Box Size**, press the left mouse button to create a starting point and then drag to the desired location. Let go of the left mouse button to set the end point. A cropped out image of the former window would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

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



## Specifying the Size of a Cropped Image

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. Then click the **Update** button, a cropped out image of the former window would be created.



## Restore

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.

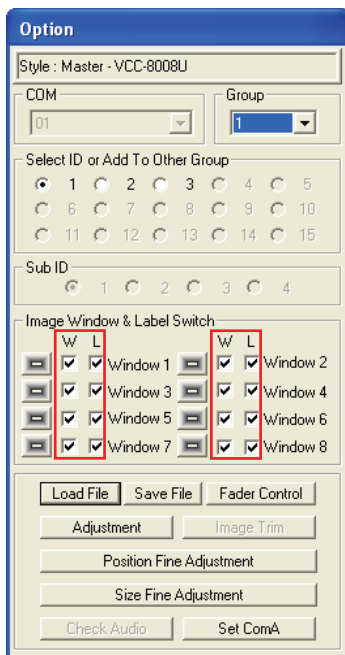
## Pan Image

Allows you to use the mouse to pan (see the next **NOTE**) the cropped image window (zoom in area) by clicking the **Pan Image** item. Click the **Pan Image** item again to disable this function.

**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 was previously hidden.

## 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 check to enable or un-check to disable the **Window** or **Label**.

## Saving to a Flash File

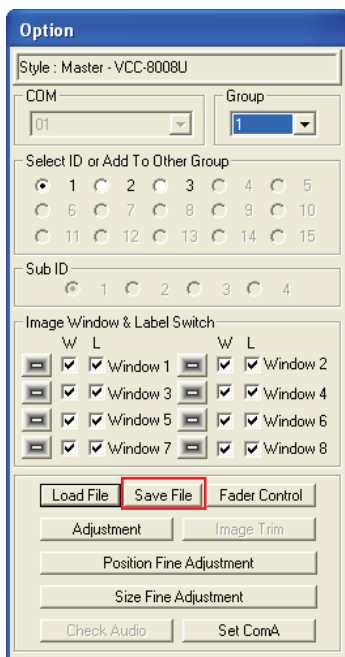
There are two instances that you will need to use the save to flash feature:

- After creating the master layout and you want the VCC-8000 series to load it again when the unit is power cycled (shutdown and restart).

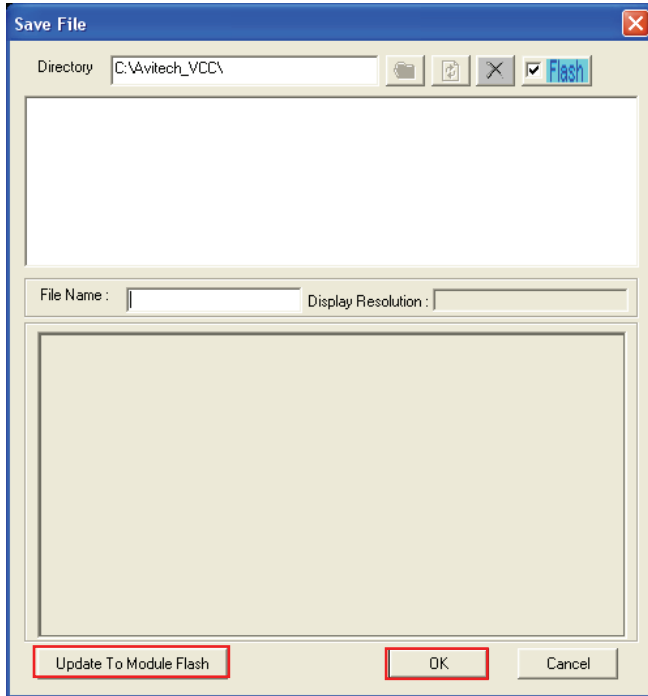
- After you are done saving presets and you want to save all the presets that were created into the internal flash memory of the module. If this action is skipped, the module will lose all the presets that were created.

To save to flash, perform the following steps:

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



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



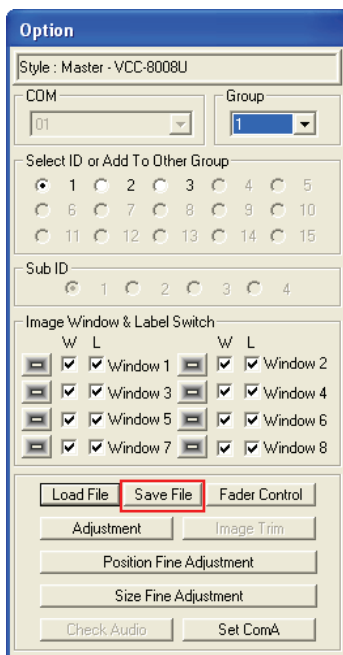
Or, close the Galaxy program and select **Yes** when prompted to save.

## Saving a Preset

All the presets you create are stored in the VCC-8000 series and not in the computer that is running the Galaxy program. In order to write all the presets into the internal flash memory of the VCC-8000 series after creating it, you will need to save to flash. To save a preset, perform the following steps:

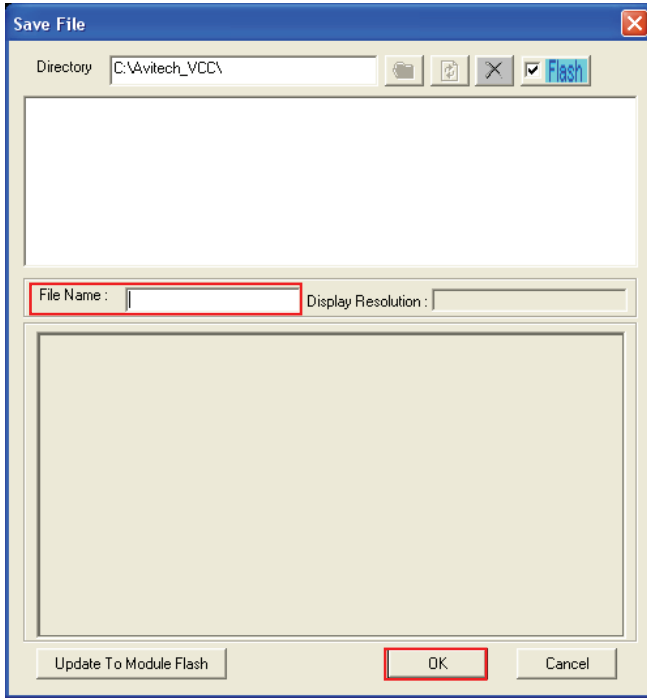
1. Configure the layout to how you want it to display.

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



The image shows a software window titled "Option". At the top, it displays "Style : Master - VCC-8008U". Below this are two dropdown menus: "COM" set to "01" and "Group" set to "1". A section labeled "Select ID or Add To Other Group" contains a grid of 15 radio buttons numbered 1 through 15, with button 1 selected. Below this is a "Sub ID" section with four radio buttons numbered 1 through 4. The "Image Window & Label Switch" section contains two columns of checkboxes, each preceded by a minus icon. The first column has checkboxes for "Window 1" through "Window 7", all of which are checked. The second column has checkboxes for "Window 2" through "Window 8", all of which are also checked. At the bottom, there are several buttons: "Load File", "Save File" (which is highlighted with a red rectangle), "Fader Control", "Adjustment", "Image Trim", "Position Fine Adjustment", "Size Fine Adjustment", "Check Audio", and "Set ComA".

3. Enter a unique filename for the preset and select **OK** to save.



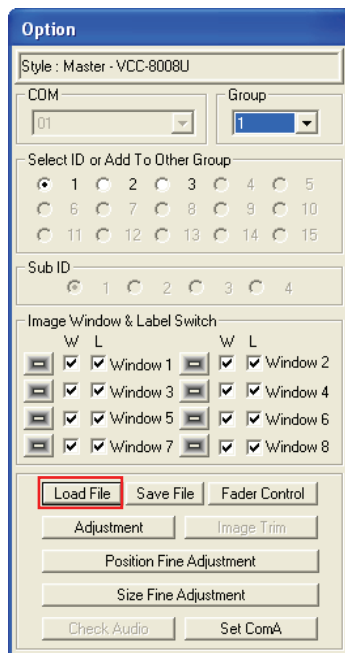
- When using a keypad, use the numbers **0 ~ 9** for your preset names.
- When using the GPI, use the numbers **1 ~ 8** for your preset names.

The file extension **GP#** will be automatically added to the filename.

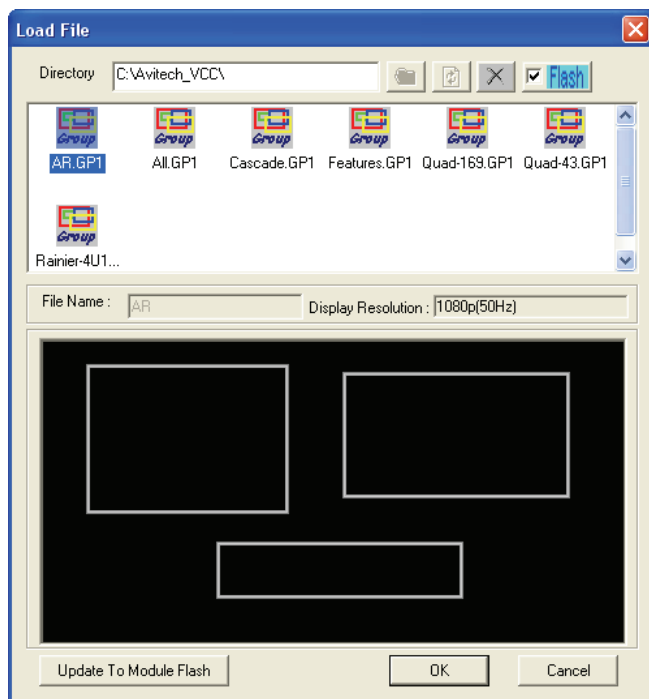
4. Repeat the above steps for each additional preset.
5. After you are done creating presets, load the file that you want to be the master layout, which gets loaded when the VCC-8000 series is powered on.
6. Close the Galaxy program and select **Yes** when prompted to save to flash.

## Loading File

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



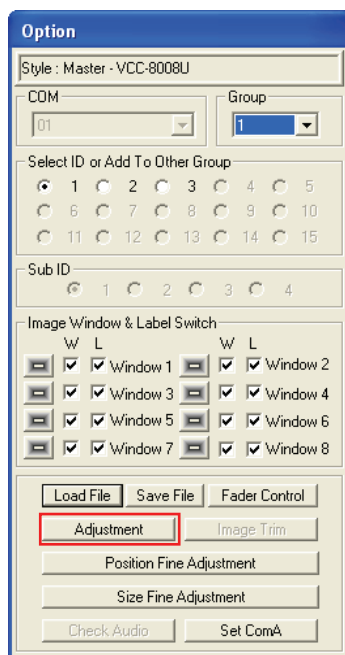
2. Select a saved file then click **OK** to load the preset.



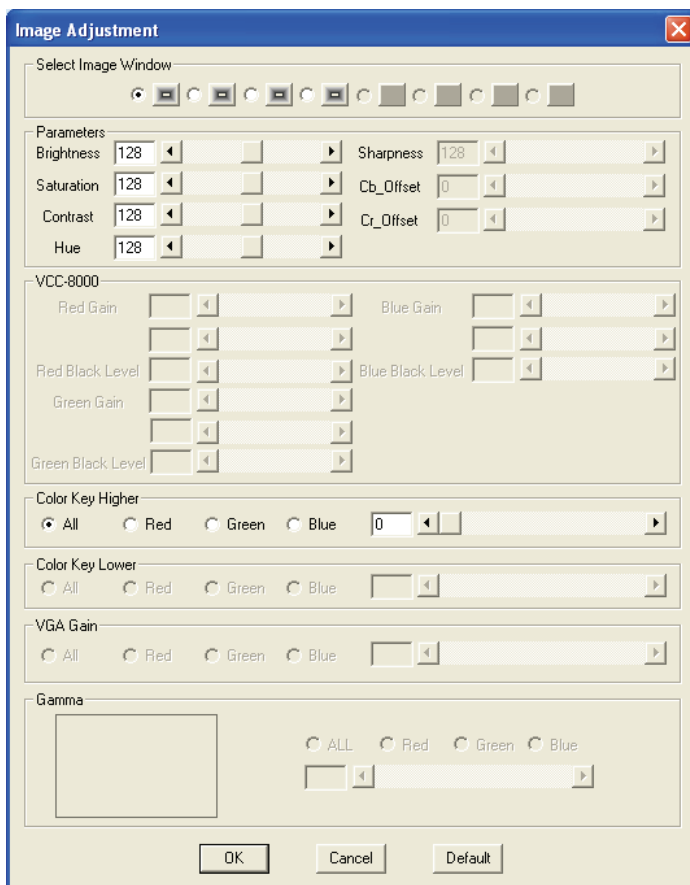


## Making Adjustments

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



2. The following screen appears.



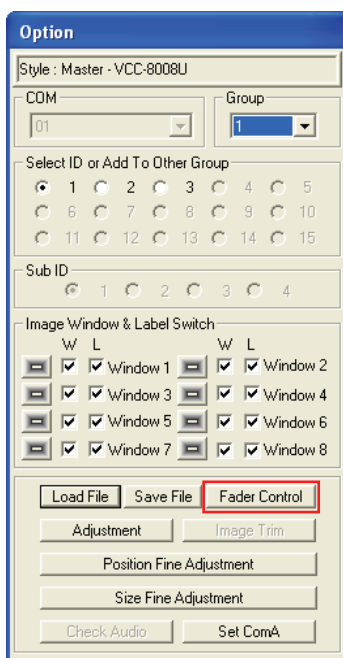
3. **Select the Image Window**, then you can adjust the input signal such as **Brightness** (0 ~ 255), **Saturation** (0 ~ 255), **Contrast** (0 ~ 255), **Hue** (0 ~ 255), and **Color Key Higher** (All/Red/Green/Blue, 0 ~ 255) parameters directly by using the sliders or clicking the radio button. Click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

## Control Video Fade

Allows you to set the speed that an overlapping pair of windows will fade into the background when another pair of windows becomes the active window (**Window 1** and **Window 2**, **Window 3** and **Window 4**, **Window 5** and **Window 6**, **Window 7** and **Window 8** is considered a pair).

**NOTE:** For VCC-8000 series **Window 1** and **Window 2** or **Window 3** and **Window 4** or **Window 5** and **Window 6** or **Window 7** and **Window 8** will fade simultaneously. This is because **Window 1** and **Window 2** are both processed by the first 1601 IC (integrated circuit) chip, **Window 3** and **Window 4** are both processed by the second 1601 IC chip, **Window 5** and **Window 6** are both processed by the third 1601 IC chip, while **Window 7** and **Window 8** are both processed by the fourth 1601 IC chip.

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



2. The following screen appears.



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

# 2

## Simplified Control Panel

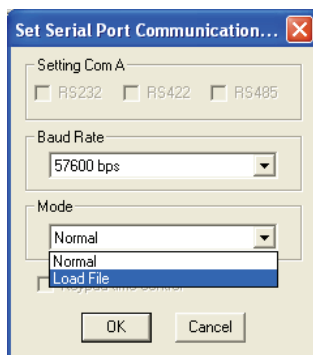
Aside from using the Galaxy program, you can use the optional numerical Simplified Control Panel (SCP) keypad that allows you to quickly recall presets without having to use a computer. This chapter familiarizes you with using the Simplified Control Panel to load up to ten presets saved in the flash memory of the VCC-8000 series.

### 2.1 Using the Simplified Control Panel (Optional)

#### Preparing the VCC-8000 Series for Use with the SCP Keypad

To prepare the VCC-8000 series for use with the Simplified Control Panel, perform the following steps:

1. Create up to ten presets with filenames **0 ~ 9** (up to ten groups). Refer to the previous chapter on saving presets.
2. Click **Settings** → **Group Parameter** → **COM A**. When the next screen appears, select **Load File** on the **Mode** drop-down menu. Then click **OK**.



3. You will be prompted to shutdown the Galaxy program and save to flash.
4. Power off the VCC-8000 series by unplugging the power cord. Then plug in the SCP keypad to the rear panel's **Keypad** port.

**NOTE:** If you need to connect again using the Galaxy program, you must first disconnect the SCP keypad.

5. Connect the power cord back to the VCC-8000 series to power on.

## Recalling Presets

The VCC-8000 series COM port is automatically set to the following parameters:

- RS-232
- 8-bit data
- 1-stop
- No parity
- 9600 bps baud rate

To recall the presets, perform the following steps:

1. To login to the Simple Control Panel mode press **Enter**.
2. Use the Galaxy program's preset files saved in the VCC-8000 series flash memory.

The preset filename format is: **X.GPY**

where **X** = **0** ~ **26**, this refers to preset **0** ~ preset **26**

where **Y** = **0** ~ **9**, this refers to group **0** ~ group **9**

3. Recall preset mode 1:  
To recall the next preset file, press the **+** (plus) key.  
To recall the previous preset file, press the **-** (minus) key.

4. Recall preset mode 2:  
To recall a specific preset file, press the two number keys. The first number signifies the Group Number, the second number signifies the Preset Number. For example: pressing the **19** number keys would allow the VCC-8000 series to recall the “**9.GP1**” preset file.
5. Recall preset mode 3 (supports recall of preset files **0 ~ 26**):  
Example 1: pressing **1** (one) → . (point or period) → **1** (one) → **Enter** (total of four keys) would allow VCC-8000 series to recall the “**1.GP1**” file.  
Example 2: pressing **2** (two) → . (point or period) → **1** (one) → **7** (seven) → **Enter** (total of five keys) would allow VCC-8000 series to recall the “**17.GP2**” file.  
Example 3: pressing **3** (three) → . (point or period) → **2** (two) → **6** (six) → **Enter** (total of five keys) would allow the VCC-8000 series to recall the “**26.GP3**” file.
6. To save the VCC-8000 series present configuration: press **\*** (star or asterisk) → **/** (slash) → **Enter** (total of three keys). During this process (approximately five seconds), make sure that your VCC-8000 series has a stable and uninterrupted power supply.
7. When the DVI-I port has an analog VGA input, the VCC-8000 series can do automatic image adjustment by pressing the following three keys:  
. (point or period) → **\*** (star or asterisk) → **Enter**.
8. When the DVI-I port has an analog VGA input, the VCC-8000 series can do automatic gain adjustment by pressing the following three keys:  
. (point or period) → **/** (slash) → **Enter**.
9. To logout from the Simple Control Panel mode just unplug the SCP keypad from the rear panel’s **Keypad** port.

# 3

## Avitech ASCII Protocol

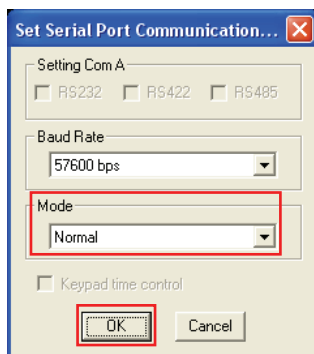
The VCC-8000 series supports the ASCII command prompt interface, you can use HyperTerminal to control your VCC-8000 series. The serial port (**Keypad**) on the VCC-8000 series can also be used to interface with a third-party controller for control over RS-232. This chapter familiarizes you with using the Avitech ASCII Protocol (AAP) of the VCC-8000 series via Microsoft® Windows HyperTerminal function as an example.

### 3.1 Setting the RS-232 Port

Before using the ASCII Z command interface, make sure that the COM A (RS-232) port on the VCC-8000 series is set at Normal (8-bit data, 1 stop bit, no parity, and no flow control). The default baud rate is 57600 bps. To correctly use the ASCII Z commands, use the Galaxy program's default Group and Module Number for the VCC-8000 series. Refer to the previous sections for details.

**NOTE:**

- To set **COM A** to **Normal**. Click **Settings** → **Group Parameter** → **COM A**. When the next screen appears, select **Normal** on the **Mode** drop-down menu. Then click **OK**.
- Disconnect the SCP keypad if that is connected.





## 3.2 Setting the HyperTerminal's COM Port

To set the HyperTerminal's COM Port, perform the following steps:

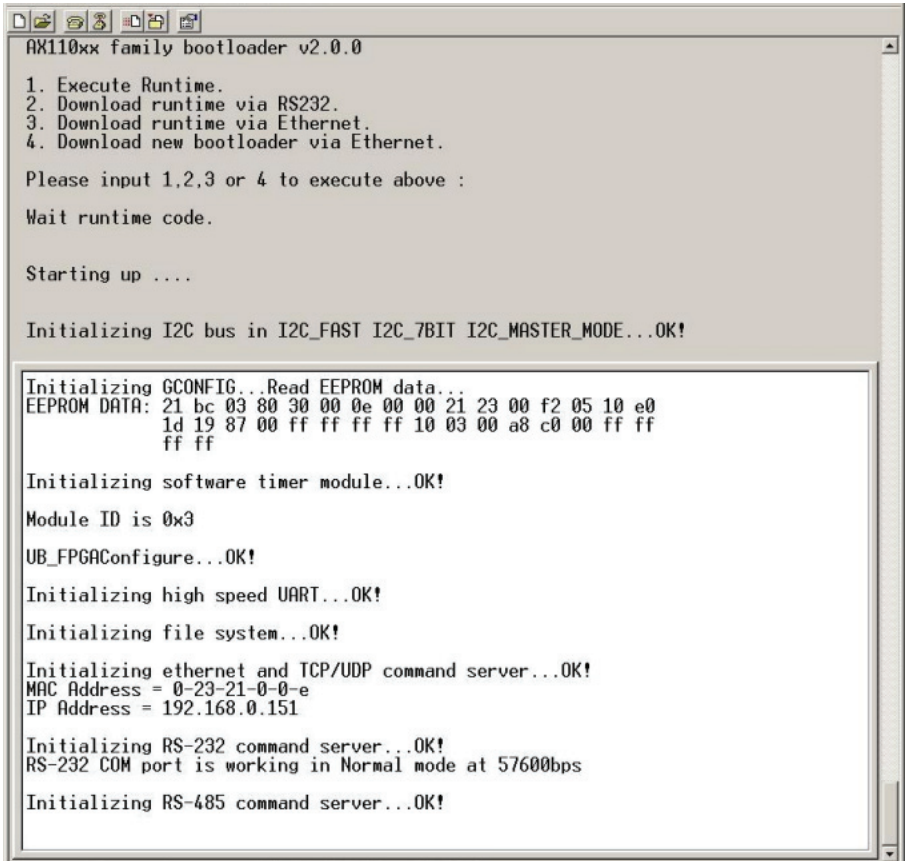
1. Click **Start → All Programs → Accessories → Communications → HyperTerminal** to startup the Windows® HyperTerminal function.
2. Set the HyperTerminal's COM port to the following settings (same as RS-232 port setting):
  - Baud Rate: 57600
  - Data Bits: 8
  - Parity: None
  - Stop Bits: 1
  - Flow Control: None

## 3.3 Entering the ASCII Z Command Interface

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

1. Connect the HyperTerminal's COM port (PC) to the VCC-8000 series RS-232 port and make sure that power supply is available.

2. Connect the power cord to the VCC-8000 series so that it will use the default baud rate (57600 bps) to transmit the startup signal.



```
AX110xx family bootloader v2.0.0

1. Execute Runtime.
2. Download runtime via RS232.
3. Download runtime via Ethernet.
4. Download new bootloader via Ethernet.

Please input 1,2,3 or 4 to execute above :

Wait runtime code.

Starting up ....

Initializing I2C bus in I2C_FAST I2C_7BIT I2C_MASTER_MODE...OK!

Initializing GCONFIG...Read EEPROM data...
EEPROM DATA: 21 bc 03 80 30 00 0e 00 00 21 23 00 f2 05 10 e0
               1d 19 87 00 ff ff ff ff 10 03 00 a8 c0 00 ff ff
               ff ff

Initializing software timer module...OK!
Module ID is 0x3
UB_FPGAConfigure...OK!
Initializing high speed UART...OK!
Initializing file system...OK!
Initializing ethernet and TCP/UDP command server...OK!
MAC Address = 0-23-21-0-0-e
IP Address = 192.168.0.151

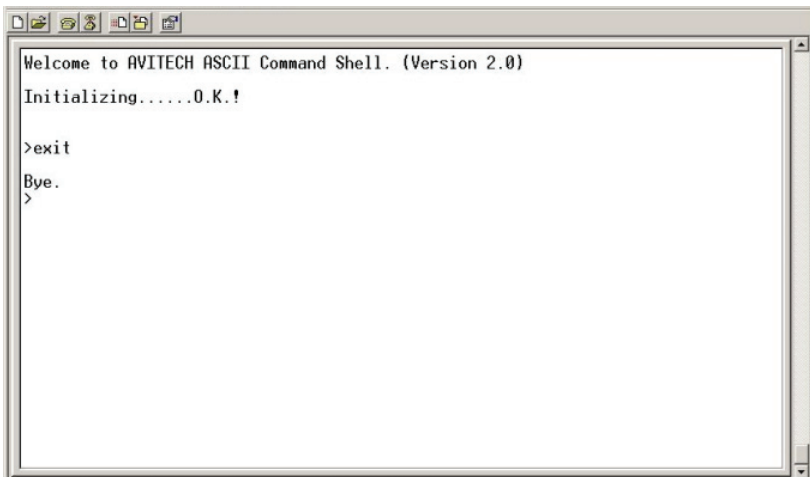
Initializing RS-232 command server...OK!
RS-232 COM port is working in Normal mode at 57600bps

Initializing RS-485 command server...OK!
```

3. Press **Enter** to login to the ASCII Z command interface. When the HyperTerminal's command prompt ">" symbol appears, you can start entering ASCII Z commands.



4. To logout of the ASCII Z command interface, type **exit** and press **Enter**.



## 3.4 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 the 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 (GMMPP)** = 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 (**01 ~ 99**), **00** is used to pertain to all groups.

**Module** = is comprised of the middle two numbers (**01 ~ 15**), **00** is used to pertain to all modules.

**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 in designating 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 GGMPP** [NByN(**2,3**,.....)] [Nth(**1,2**,.....)]

**Function:**   to set the automatic arrangement of windows.

**Examples:**   **ZA 010900 2 1**

Set group 1 module 9 to a 2×2 map position 1,2,3,4 (quad).

**ZA 010000 2 1**

Set group 1's all modules to quad.

**ZA 010202 3 2**

Place window 010202 to a 3×3 map position 2.

**ZA 010200 6 13**

Place group 1 module 2 to a 6×6 map position 13,14,15,16.

**ZA 000000**

Automatically arrange all groups' windows to the optimum size and position.

## **ZC**

**Format:**     **ZC GGMPP B**[order]/**L**[abel] **RRRGGGBBB** (red ratio **000** ~ **255**, green ratio **000** ~ **255**, blue ratio **000** ~ **255**) (**NoDimColor**)

**Function:**   to set the border of the window (with/without 3D effect) and the label's background color.

**Description:** **B**[order] to signify the border of the window.

**L**[abel] to signify the label's background color.

**[NoDimColor]** to signify the border's 3D effect. You can add

**[NoDimColor]** to remove the border's 3D effect. Just enter **NDC** to signify **NoDimColor**.

**Examples:**    **ZC 010101 B 000255000**

sets the border color of group 1 module 1 window 1 as green with 3D effect.

**ZC 020202 B 255000000 ndc**

sets the border color of group 2 module 2 window 2 as red but without 3D effect.

**ZC 030303 L 000000255**

sets the label color of group 3 module 3 window 3 as blue with 3D effect.

## **ZE**

**Format:**    **ZE GGMM 1 (on) / 0 (off)**

**Function:**    to turn on/off echo, command response time would be much faster when echo is turned off.

**Examples:**    **ZE GGMM 0**

Turn echo off for GGMM's RS-232.

## **ZF**

**Format:**    **ZF GGMMPP 1 (on) / 0 (off)**

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

**Examples:**    **ZF 010104 1**

sets group 1 module 1 window 4 to full screen mode display.

**ZF 010104 0**

disables full screen mode for group 1 module 1 window 4 and reverts it back to its former display size.

## **ZI**

**Format:**    **ZI GGMMPP (when PP is 99 = clock) clock channel**

**Function:**    to set the input channel.

**Description:** For clock the channel values are **1** = internal, **2** = DVI, **6** = NTP (Network Time Protocol).

**Examples:** **ZI GGMM99 2**  
sets GGMM clock time to synchronize to DVI.

## **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 module(s) for all the group(s).  
**ZJ 020000 G**  
automatically adjust the image gain on all the module(s) in group 2.

## **ZK**

**Format:** **ZK GGMM P**[reset] **S**[et]/**L**[oad]/**1~5** [ID of analog clock] Preset ID (1~8) **HH MM SS**

**Function:** to set the time and method of counting / NTP calibration time.

**Examples: ZK GGMM P S 1 11 22 33**

sets GGMM's preset time ID1 = 11:22:33.

**ZK GGMM P L 1**

sets GGMM's time to be the same as preset time of ID1.

**ZK GGMM P 2**

use analog clock shape #2.

Format for NTP calibration time: **ZK GGMM C[alibrate] HH MM**

**ZK GGMM C 2 30**

execute NTP calibration every 2.5 hours.

This setting will trigger NTP calibration instantly.

Format for control: **ZK GGMM [HH MM SS] 0** (count down) / **1**

(count up) / **2** (pause) / **3** (do not pause) / **4** (invert pause status)

[counting method]

**ZK GGMM 11 22 33**

sets GGMM time to 11:22:33.

**ZK GGMM 11 22 33 0**

sets GGMM time to 11:22:33 and counting down.

**ZK GGMM 1**

sets GGMM clock to start counting upwards.

## **ZL**

**Format: ZL GGMMPP 000000000** (text color RRRGGGBBB) **000000000**  
(label color RRRGGGBBB) **"TEXT"** (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,  
VCC-8000 will just show "012345678").

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

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

## **ZM**

**Format: ZM GGMMPP ##** (resolution number)



**Function:** to change the output resolution, the resolution number refers to the list of resolutions the VCC-8000 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 010000 10**

sets all the modules in group 1 to display at 1600×1200 resolution at 60 Hz vertical frequency.

**ZM 000000 9 NA**

sets all the modules in all the groups to have a 1280×1024 resolution at 60 Hz vertical frequency with no automatic arrangement.

## ZN

**Format:** **ZN GGMMPP** (when **PP** is **99** = clock) option (**O**[SD]/**B**[order]/**I**[mage]/**G**[ain]/**L**[abel]/**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 modules of all groups.

**ZN 010100 O 1**

turns on the OSD of module 1 of group 1.

**ZN 020202 B 0**

turns off the border of window 2 of module 2 of group 2.

**ZN 030303 L 1**

turns on the label of window 3 of module 3 of group 3.

**ZN 050505 I 1**

turns on automatic image adjustment function of group 5 module 5  
VGA window 5.

**ZN 050505 G 0**

turns off automatic gain function of group 5 module 5 VGA  
window 5.

**ZN 020299 B 0**

turns off the clock border of module 2 of group 2.

**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.

## **ZP**

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

**NOTE:**

- When listing presets GG = 00 or MM = 00 represents the master module.
- This command only works in HyperTerminal, ACP does not support this command.

**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 000000 L 1.GP1**

sets all the modules in all the groups to load the previously saved 1 . GP1 preset file.

**ZP 020000 S 2.GP2**

saves the current layout of all modules in group 2 to a preset file 2 . GP2.

**ZP 000000 S**

saves the file of all modules in all the groups into flash memory.

**ZP 0000**

lists the master presets (this command only works in HyperTerminal, ACP does not support this command).

**ZP 0203**

lists group 2 of module 3's presets (this command only works in HyperTerminal, ACP does not support this command).

## **ZT**

**Format:** **ZT GGMMPP 1** [VCC-8000 only have tally 1 available] **1** (on) / **0** (off) **#** (color index number)

**Function:** turn on or off the tally for a window or all the windows in a group. The color index number is a list of colors that the tally can be.

**Description:** Designate the action of the tally. The following table shows the color index.

Index	Color
1	Black
2	Red
3	Green
4	Yellow
5	Blue
6	Pink
7	Light Blue
8	White

**Examples:**    **ZT 000000 1 1 6**

activate tally 1 for all the window(s) in all the module(s) for all the group(s) with pink color.

**ZT 010203 1 0**

close tally 1 for group 1 module 2 window 3.

**NOTE:** Upon changing a tally color, the same color is applied to the other tally of the same module.

## **ZW**

**Format:**    **ZW GGMMPP** (when **PP** is **99** = clock) **X** position **Y** position **W**(idth)  
**H**(eight)

**ZW GGMMPP C**[rop] **1** (on) / **0** (off) **X** (width) **Y** (height)

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

When cropping, the width and height are calculated using the module output display size. For example, if the module 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 module's output display size.

**Examples:**    **ZW GGMM01**

sets GGMM's window 1 as the top window.

**ZW GGMMPP 100 200 300 400**

sets GGMMPP at (100,200) (400,600).

**ZW 010101 0 0 0 0**

turns group 1 module 1 window 1 off by setting the width or height to be 0.

**ZW 010102 C 1 100 100 320 240**

crop group 1 module 1 window 2.

**ZW 010104 C 0**

disables crop on group 1 module 1 window 4.

**ZW 010199 0 0 320 240**

sets the clock window position at (0,0) with size 320×240.

## **ZX**

**Format:** **ZX GGMPP** (when **PP** is **99** = clock) “label text” (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.

**Examples:** **ZX 000000 "Input 1"**

**Input 1** will appear as the label for all the window(s) in all the module(s) of all the group(s).

**ZX 000000 3**

sets all window's label font size to 3.

**ZX 010199 "CLOCK" 4**

sets the clock's label text as “CLOCK” and having font size of 4.

# 4

## Firmware Upgrade

This chapter familiarizes you with updating the firmware of your Avitech VCC-8000 series.

### 4.1 Updating the Firmware

The firmware for VCC-8000 series is divided into:

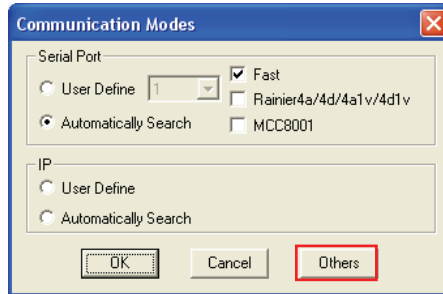
- DS80C400 firmware
- FPGA MB firmware
- FPGA UB firmware
- 1601 firmware
- OSD firmware

#### DS80C400 Firmware

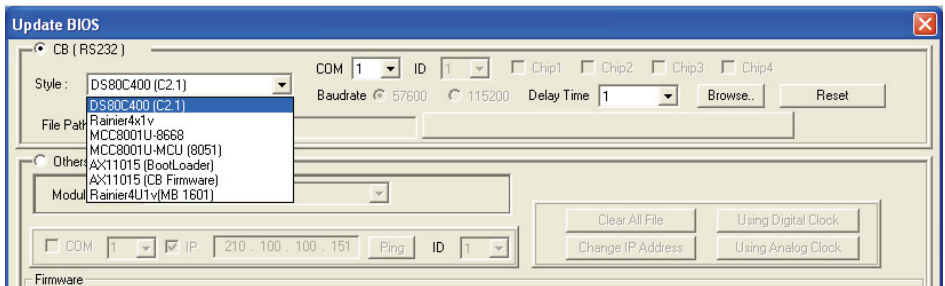
To update the DS80C400 firmware, perform the following steps:

1. Connect the power cable to the **100-240V AC** power jack on the rear panel of the VCC-8000 series and the other end to an electrical outlet.
2. Use a serial (RS-232) cable and connect one end to the VCC-8000 series rear panel's **RS-232** port and the other end to the computer's serial port side.

- Run the Galaxy program by double-clicking the **Galaxy-V311.exe** file. Click **Others** when the following screen appears.



- When the following screen appears, select **CB (RS232)** and on the **Style** drop-down menu select **DS80C400 (C2.1)**.



- Click the **Browse** button to specify the location of the firmware file and select **VCC-8000-DS80C400.hex**.
- Push the number **1** dip switch located on the VCC-8000 series rear panel downward to the **ON** position.



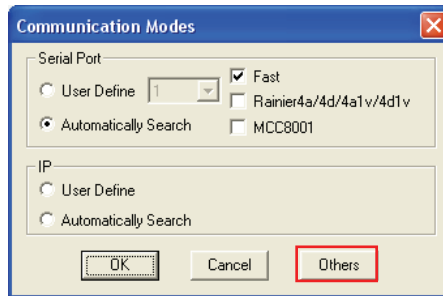
- Click the **Update** button located on the left lower portion of the screen.
- Push back the number **1** dip switch upward to the default position.

- When the next screen appears, pull off the power cord from the power jack to shutdown the VCC-8000 series, and then re-attach the power cord to restart the VCC-8000 series.

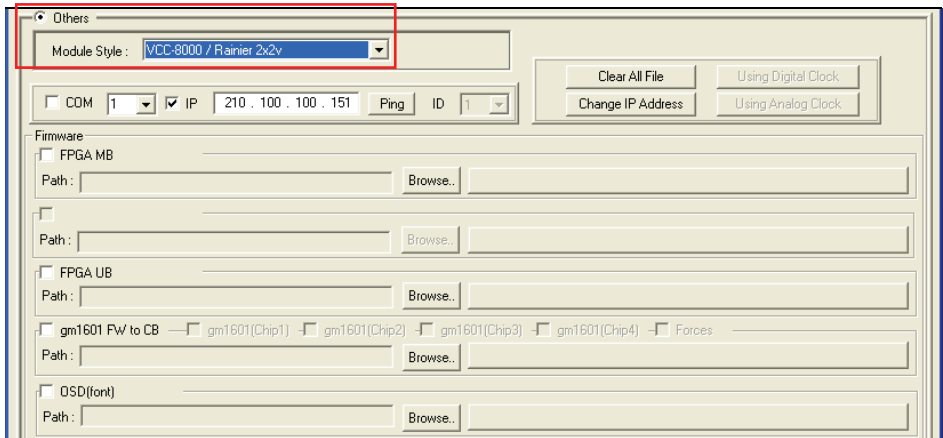
## FPGA MB Firmware

To update the FPGA MB firmware, perform the following steps:

- Run the Galaxy program by double-clicking the **Galaxy-V311.exe** file. Click **Others** when the following screen appears.



- Select **Others** and on the **Module Style** drop-down menu select **VCC-8000**.



- 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 VCC-8000 series then make sure to enter the correct IP address.



4. Click to select the **FPGA MB** checkbox, and then click the **Browse** button to specify the location of the firmware file and select **AT-VCC-8000MB-C12-yyyymmdd.rbf** (where **yyyymmdd** stands for the release year, month, and day of your firmware file).

The screenshot shows a software configuration window titled "Others". At the top, there is a "Module Style" dropdown menu set to "VCC-8000 / Rainier 2x2v". Below this, there are checkboxes for "COM" (set to 1) and "IP" (checked), with a corresponding IP address field "210 . 100 . 100 . 151". There are also "Ping" and "ID" buttons. To the right, there are buttons for "Clear All File", "Using Digital Clock", "Change IP Address", and "Using Analog Clock". The "Firmware" section is expanded, showing several options: "FPGA MB" (checked and highlighted with a red box), "FPGA UB", "gm1601 FW to CB" (with sub-options for different chips), and "OSD(font)". Each option has a "Path:" label and a "Browse.." button. The "Browse.." button for the "FPGA MB" option is highlighted with a red box.

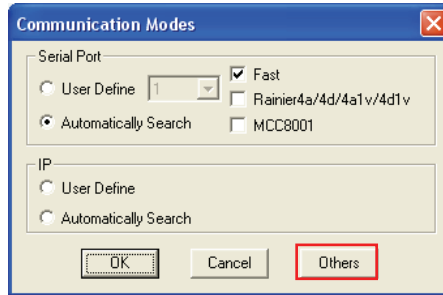
5. Click the **Update** button located on the left lower portion of the screen.
6. Reboot (unplug and re-plug the power cord) the VCC-8000 series when FPGA MB firmware update is successful.

**NOTE:** Shutdown and startup of VCC-8000 series needs to be done to completely update the FPGA MB firmware.

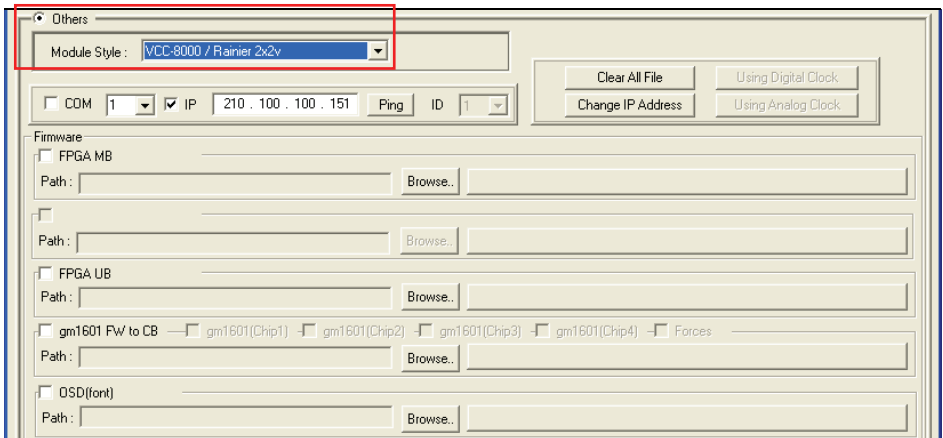
# FPGA UB Firmware

To update the FPGA UB firmware, perform the following steps:

1. Run the Galaxy program by double-clicking the **Galaxy-V311.exe** file. Click **Others** when the following screen appears.



2. Select **Others** and on the **Module Style** drop-down menu select **VCC-8000**.



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 VCC-8000 series then make sure to enter the correct IP address.

- Click to select the **FPGA UB** checkbox, and then click the **Browse** button to specify the location of the firmware file and select **AT-VCC-8000UB-B.rbf**.

The screenshot shows a software configuration window titled "Others". At the top, there is a "Module Style" dropdown menu set to "VCC-8000 / Rainier 2x2v". Below this, there are several checkboxes and input fields: "COM" (set to 1), "IP" (checked, with address "210 . 100 . 100 . 151"), "Ping", and "ID" (set to 1). To the right of these are buttons for "Clear All File", "Using Digital Clock", "Change IP Address", and "Using Analog Clock". The "Firmware" section is expanded, showing several options with "Path:" labels and "Browse.." buttons. The "FPGA UB" option is checked and highlighted with a red box, and its corresponding "Browse.." button is also highlighted with a red box. Other options include "FPGA MB", "gm1601 Fw to CB" (with sub-options for different chips and a "Forces" checkbox), and "OSD(font)".

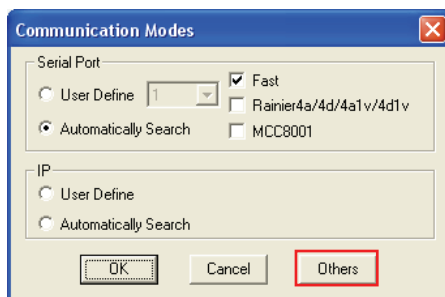
- Click the **Update** button located on the left lower portion of the screen.
- Reboot (unplug and re-plug the power cord) the VCC-8000 series when FPGA UB firmware update is successful.

**NOTE:** Shutdown and startup of VCC-8000 series needs to be done to completely update the FPGA UB firmware.

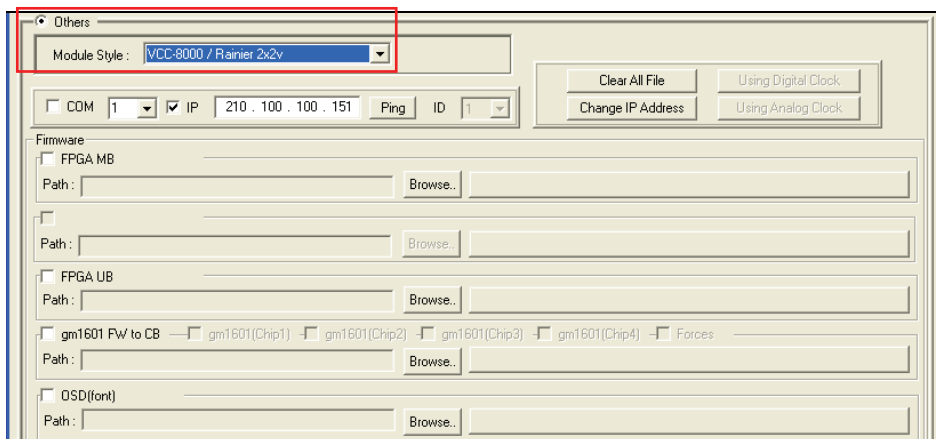
## 1601 Firmware

To update the 1601 firmware, perform the following steps:

1. Run the Galaxy program by double-clicking the **Galaxy-V311.exe** file. Click **Others** when the following screen appears.



2. Select **Others** and on the **Module Style** drop-down menu select **VCC-8000**.



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 VCC-8000 series then make sure to enter the correct IP address.

- Click to select the **gm1601 FW to CB** checkbox.

Others

Module Style : VCC-8000 / Rainier 2x2v

☐ COM 1 ☒ IP 210 . 100 . 100 . 151 Ping ID 1

Clear All File Using Digital Clock  
Change IP Address Using Analog Clock

Firmware

☐ FPGA MB  
Path : Browse..

☐ FPGA UB  
Path : Browse..

☒ gm1601 FW to CB ☐ gm1601(Chip1) ☐ gm1601(Chip2) ☐ gm1601(Chip3) ☐ gm1601(Chip4) ☐ Forces  
Path : Browse..

☐ OSD(font)  
Path : Browse..

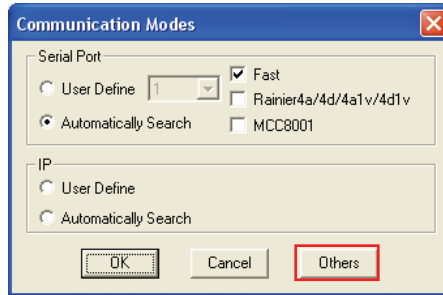
- Click to select **gm1601 (Chip 1)** and **gm1601 (Chip 2)** when using the VCC-8002 and VCC-8004 or, click to select **gm1601 (Chip 1)**, **gm1601 (Chip 2)**, **gm1601 (Chip 3)**, and **gm1601 (Chip 4)** when using the VCC-8008.
- Click the **Browse** button to specify the location of the firmware file and select **AT-VCC8000-CF1601 . hex**.
- Click the **Update** button located on the left lower portion of the screen.
- Reboot (unplug and re-plug the power cord) the VCC-8000 series when the 1601 firmware update is successful.

**NOTE:** Shutdown and startup of VCC-8000 series needs to be done to completely update the 1601 firmware.

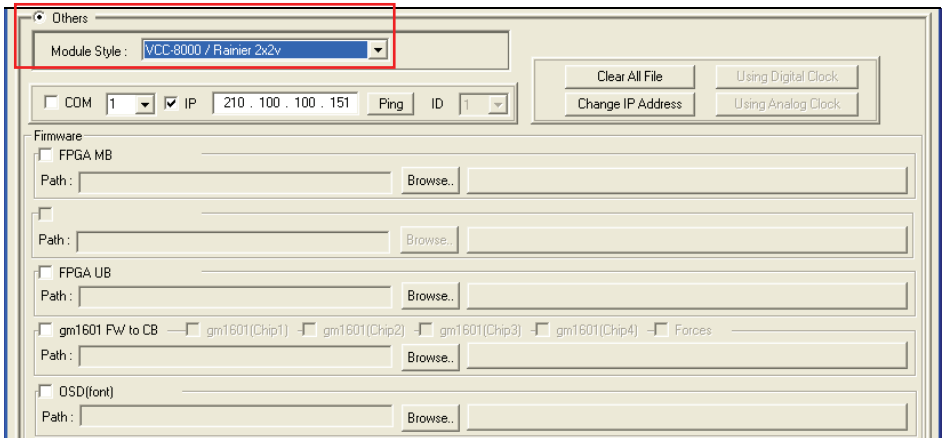
# OSD Firmware

To update the OSD firmware, perform the following steps:

1. Run the Galaxy program by double-clicking the **Galaxy-V311.exe** file. Click **Others** when the following screen appears.



2. Select **Others** and on the **Module Style** drop-down menu select **VCC-8000**.



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 VCC-8000 series then make sure to enter the correct IP address.

4. Click to select the **OSD** checkbox, and then click the **Browse** button to specify the location of the firmware file and select **AT-VCC8000-DATA-V101.OSD**.

The screenshot shows a software configuration window titled 'Others'. At the top, there's a 'Module Style' dropdown set to 'VCC-8000 / Rainier 2x2v'. Below this are several checkboxes: 'COM' (unchecked), 'IP' (checked), '210 . 100 . 100 . 151' (a text field), 'Ping' (button), 'ID' (dropdown), 'Clear All File' (button), 'Using Digital Clock' (button), 'Change IP Address' (button), and 'Using Analog Clock' (button). The 'Firmware' section contains four entries: 'FPGA MB' (unchecked), 'FPGA UB' (unchecked), 'gm1601 Fw to CB' (unchecked), and 'OSD(font)' (checked). Each entry has a 'Path:' label and a 'Browse..' button. The 'OSD(font)' checkbox and its corresponding 'Browse..' button are highlighted with red rectangles. Below 'gm1601 Fw to CB', there are several unchecked checkboxes labeled 'gm1601(Chip1)', 'gm1601(Chip2)', 'gm1601(Chip3)', 'gm1601(Chip4)', and 'Forces'.

5. Click the **Update** button located on the left lower portion of the screen.
6. Reboot (unplug and re-plug the power cord) the VCC-8000 series when OSD firmware update is successful.

**NOTE:** Shutdown and startup of VCC-8000 series needs to be done to completely update the OSD firmware.