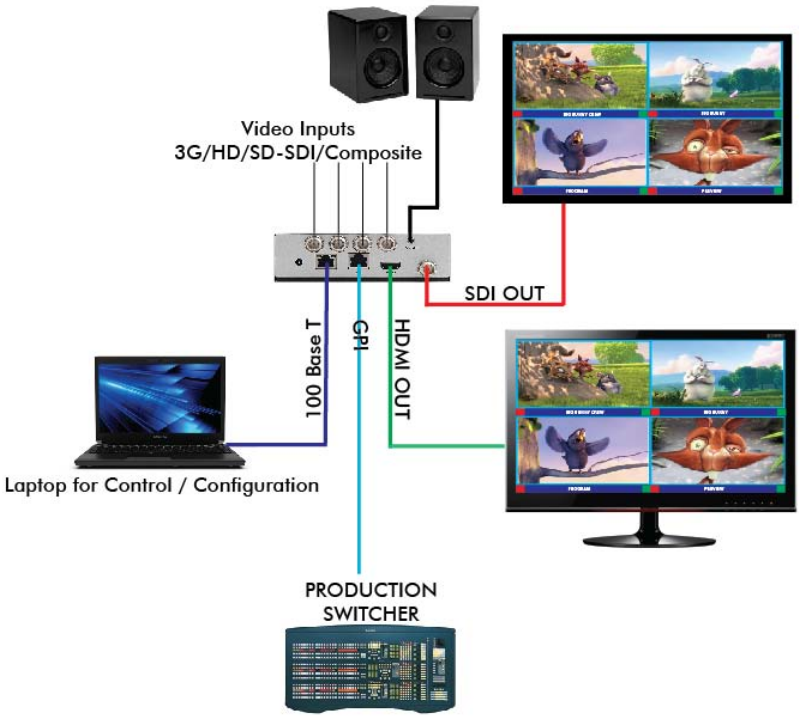
MicroQ
User Manual



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WARRANTY STATEMENT

Apantac LLC (herein after referred to as "Apantac") warrants to the original purchaser of the products manufactured by Apantac (the "Product,") will be free from defects in material and workmanship for a period of three (3) year from the date of shipment of the Product to the purchaser.
If the Product proves to be defective during the three (3) year warranty period, the purchaser's exclusive remedy and Apantac's sole obligation under this warranty is expressly limited, at Apantac's sole option, to:

(a) repair the defective Product without charge for parts and labor or,
(b) provide a replacement in exchange for the defective Product or,
(c) if after a reasonable time, is unable to correct the defect or provide a replacement Product in good working order, then the purchaser shall be entitled to recover damages subject to the limitation of liability set forth below.

Limitation of Liability

Apantac's liability under this warranty shall not exceed the purchase price paid for the defective product. In no event shall Apantac be liable for any incidental, special or consequential damages, including without limitation, loss of profits for any breach of this warranty.

If Apantac 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 Apantac carries the respective manufacturer's warranty. Apantac assumes no warranty responsibility either expressed or implied for equipment manufactured by others and supplied by Apantac.

This hardware warranty shall not apply to any defect, failure or damage:

a) Caused by improper use of the Product or inadequate maintenance and care of the Product;

b) Resulting from attempts by those other than Apantac representatives to install, repair, or service the Product;

c) Caused by installation of the Product in a hostile operating environment or connection of the Product to incompatible equipment;

Table of Contents

1.0 WHAT'S IN THE BOX

1 x MicroQ
1 x Mounting Plate
1 x RJ50 to DB9 cable for GPI/Tally
1 x DC 5V 3.2A Power Adapter
1 x Manual

Important Note:

Default IP address: 192.168.1.151
The configuration PC must be on the same subnet as the MicroQ, for example, "192.168.1.1"
The default output resolution is set to 1024x768@59.95 Hz for 60Hz countries and 1024x768@60Hz for 50Hz countries to accommodate the most common display resolution

2.0 Key Features

- Low power consumption - 12 W and Silent – No fan!
- Fixed Quad Split, each window can go full screen
- Accepts 4 x auto-detect 3G SDI, HD SDI, SD SDI and Composite video signals
- Simultaneous HDMI and SDI outputs
- Decode/display up to 8 embedded audio per SDI input
- Ethernet port for Configuration, Dynamic Labels & Tallies interface (TSL)
- One 32 characters labels per Window
- Up to 32 characters
- Text and Background Colors, Transparency are adjustable
- Borders, can be turned ON or OFF
- Visual Alarms (Tags)
- 0 to 8 Embedded Audio Meters can be displayed for each Window
- Audio monitoring output – analog, HDMI
- Four Front Panel Buttons capabilities configurable for:
- Safe Area Markers
- Up to 4 tally levels control with TSL, 2 with GPI
- Support of the TSL protocol v. 3.1 over IP is standard
- 8 x GPI contacts: Configurable for tally or ASCII protocol
- Automatic aspect ratio

3.0 Specifications

Decription	Compact video quad split	Output	1 x HDMI, 1 x SDI
Total Windows	4	HDMI	800x480 to 1920x1200 (1080p) 50/59.94/60Hz
Inputs	3G/HD/SD-SDI/Composite	SDI	Matching the HDMI output resolution up to 3G
Serial Digital Video	SMPTE 424M, 292M, 259M	On Screen Display	Border, Tally, Audio meters, Alarm tags, Safe area marker
Equalization	120m at 2.97 Gbps, 140 m at 1.48 Gbps, 400m at 270 Mbps with Belden 1694A	GPI	8 for tally or AXP (ASCII commands)
Return Loss	>15db up to 1.485 Gbps >10db up to 3G	IP	100 Base-Tx, TSL, AXP_Lite
Embedded Audio	SMPTE-272M-A	Electrical	12 W, 90-250V 50/60Hz
Composite	NTSC (SMPTE-170M), PAL (ITU624-2)	EMI/RFI	Complies with FCC Part 15, Class A, CE, EU, EMC, C-tick
Signal Level	1V nominal	Power	DC 5V 3.2A
DC Offset	0V, ± 0.1V	Size	171 mm W x 120 mm D x 44.45 mm H
Impedence	75 Ω	Mount	Magnetic
Return Loss	40 db up to 5MHz	Option	Rack Mount

4.0 Hardware and Installation

4.1 Front Panel

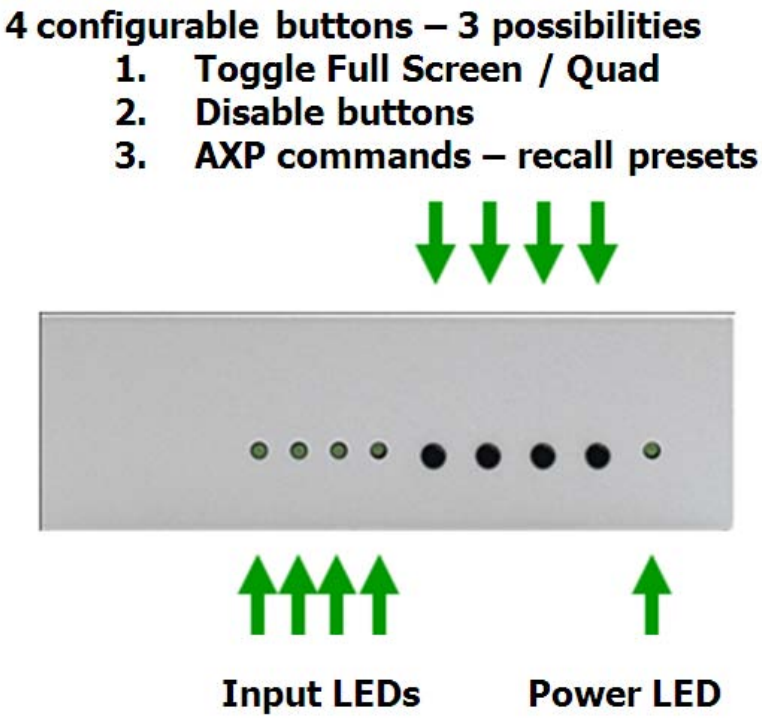

Figure 4-1 MicroQ Front Panel

4.2 Rear Panel

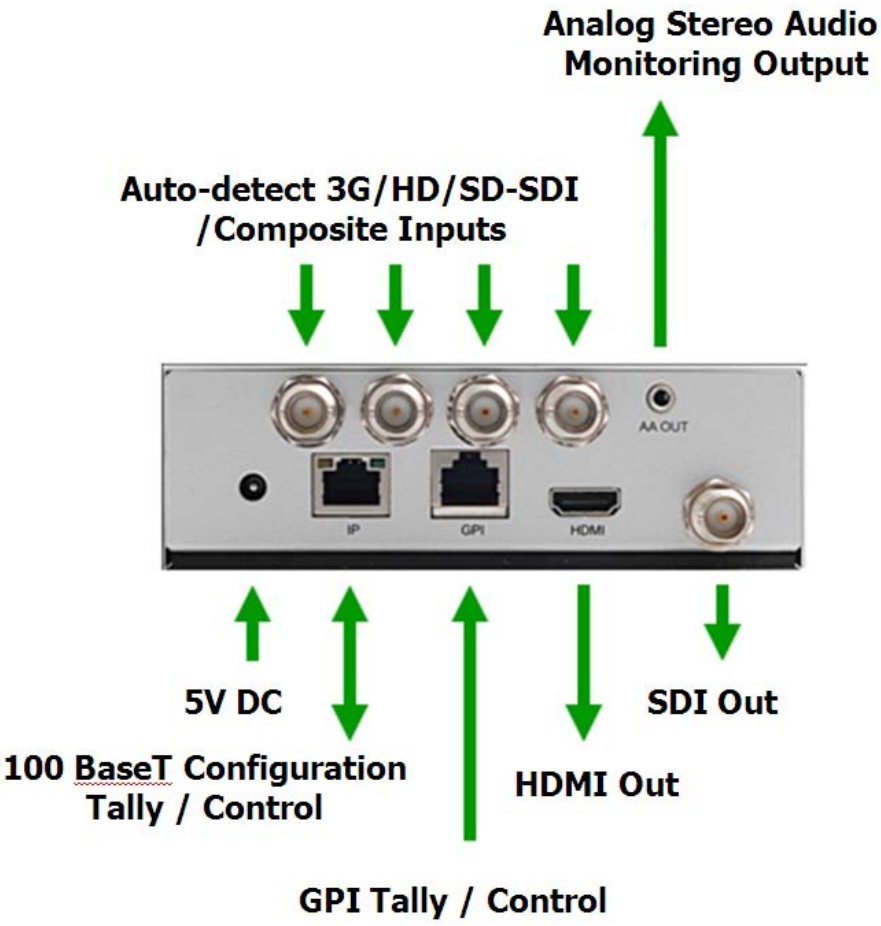

Figure 4-2: MicroQ Rear Panel

4.3 Installation

4.3.1 The MicroQ is a fan-less device; therefore, it is very important the heating vents on the sides are not blocked

Figure 4-3: MicroQ Venting

4.3.2 The MicroQ can be mounted 3 different ways

- Using the standard magnetic mounting plate
- Using the optiona VESA plate for mounting on the back of the monitors
- Using the optional rack mount to mount 2 MicroQ's side by side

Figure 4-4: MicroQ Standard Mounting Plate

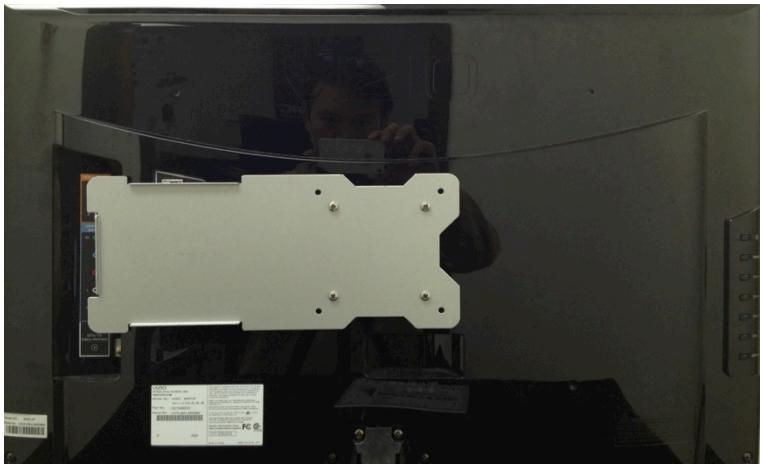

Figure 4-5: MicroQ Optional Vesa Mounting Plate

Figure 4-3: MicroQ Optional Vesa Mounting Plate with MicroQ

Figure 4-6: MicroQ Optional Rack Mount

5.0 MicroQ_Lite_Controller Software

5.1 Getting Started

The MicroQ_Lite_Controller is design to allow you to quickly access all the feature sets of the MicroQ on a single User Interface. This section will help you get the MicroQ up and running with the MicroQ_Lite_Controller as quickly as possible.

5.2 Running the MicroQ_Lite_Controller

Before you can successfully run the MicroQ_Lite_Controller, you must first copy it from the CD prvided and place it in an appropriate location on your computer's HDD.

Now you can run the MicroQ_Lite_Controller by double clicking on the "Apantac MicroQ_Lite_Controller" icon.

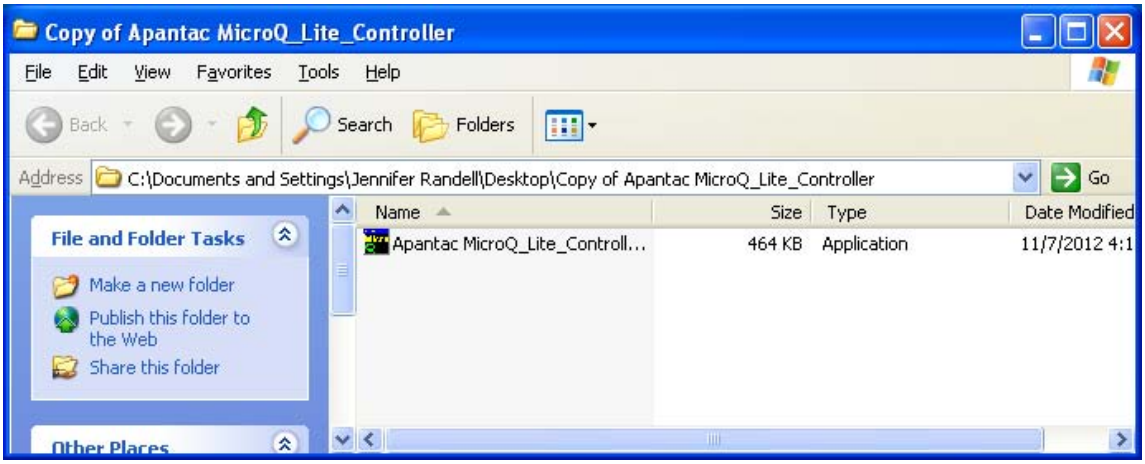

Figure 5.1: Double click on the Apantac MicroQ_Lite_Controller

5.3 Connecting to the MicroQ

To connect to the MicroQ you PC must be connected to the same subnet as the MicroQ. The default IP address for the MicroQ is 192.168.1.151

After the MicroQ_Lite_Controller launches, you will see this screen

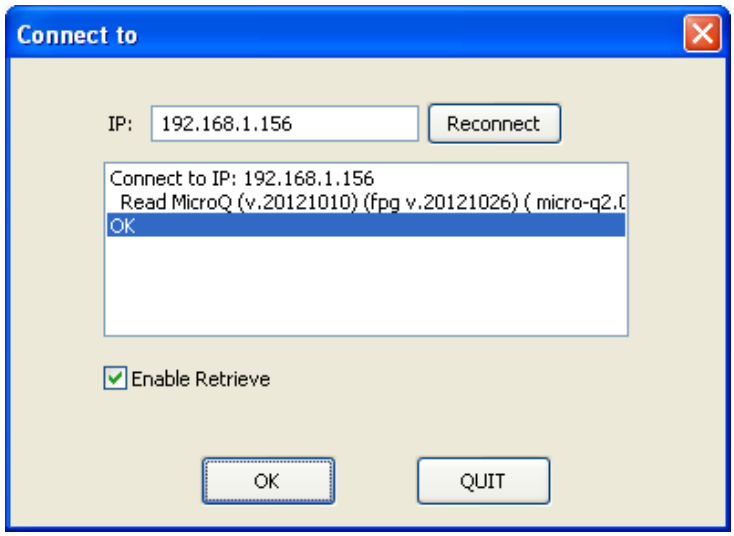

Figure 5.2: Connect dialog

- Click on the IP address box, if the desired IP address is not already entered.

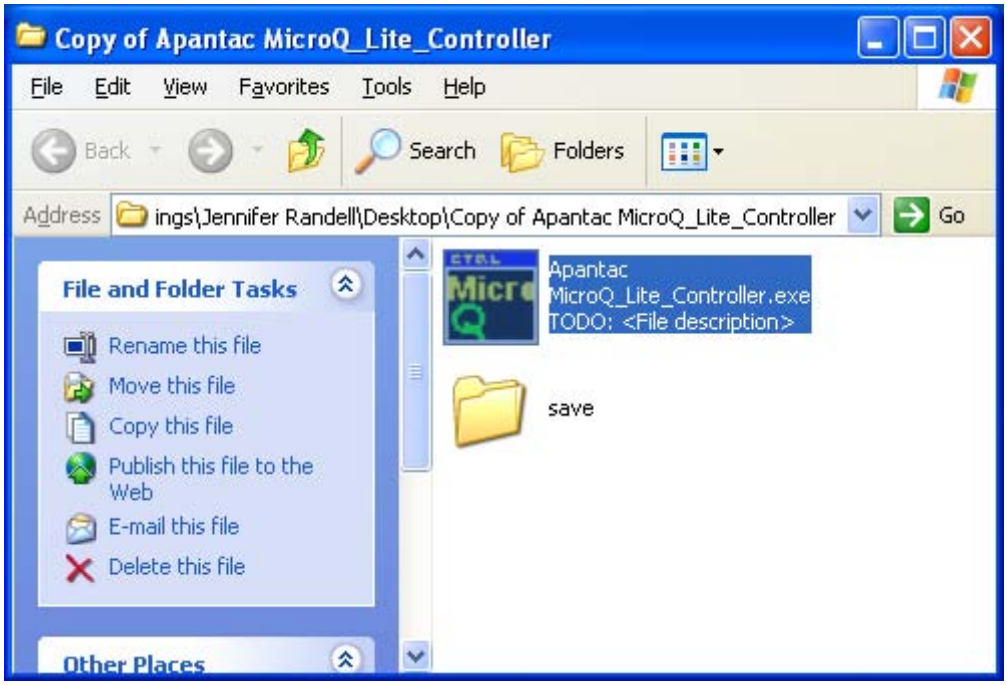

Figure 5.3: Save folder will create automatically

- Once the MicroQ_Lite_Controller connects to the MicroQ a Save folder will be created in the same directory

After the MicroQ_Lite_Controller is connected to the MicroQ, the configuration surface will appear.

Now you are ready to configure your layout

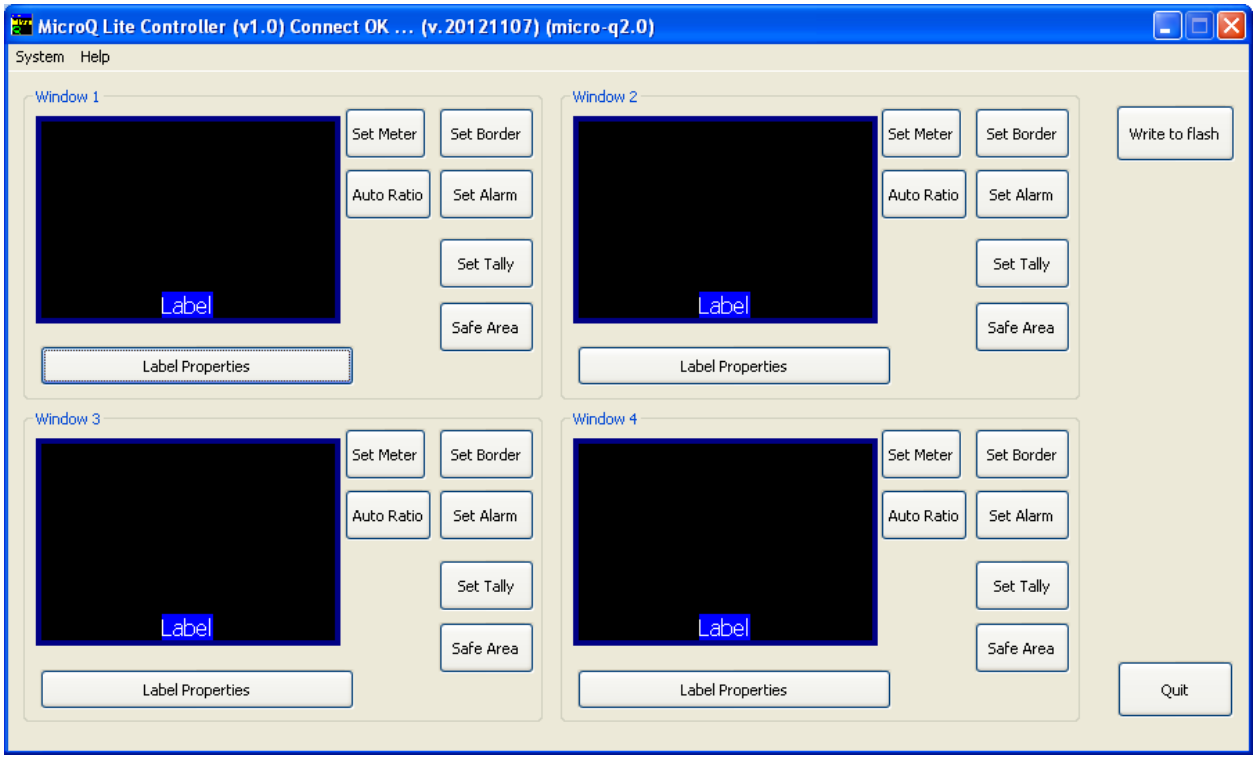

Figure 5.4: MicroQ control GUI

The default settings of the On screen Elements on the MicroQ are as follows,

Labels

- Default settings
  - On
  - On top of the video
  - Text - <Label>
  - Color – Dark blue
  - Fit to Text

Borders

- Default settings
  - On

- Color – Dark Blue

Audio meters

- Default settings
  - Off
  - Width - 16

Alarms

- Default settings
  - Video – Off
  - Audio - Off

Tally

- Default settings
  - Off
  - Left LED – Red
  - Right LED – Green
  -

Safe area

- Default settings
  - Off
  - Line color – Yellow

5.4 Configuring the Output

Set Output resolution

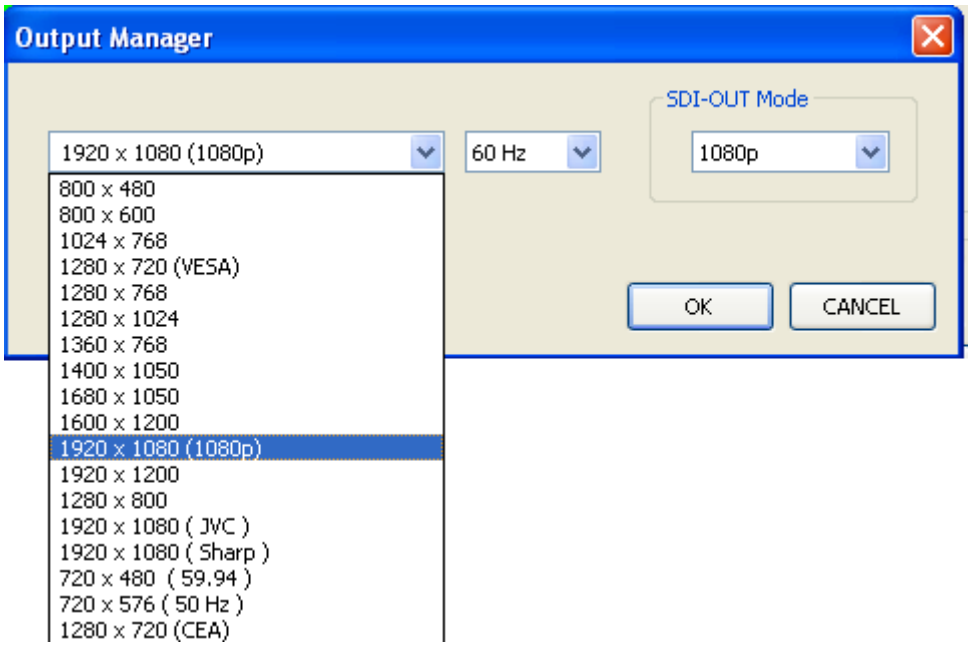

Figure 5.5: Set output resolution

Set Output Frequency

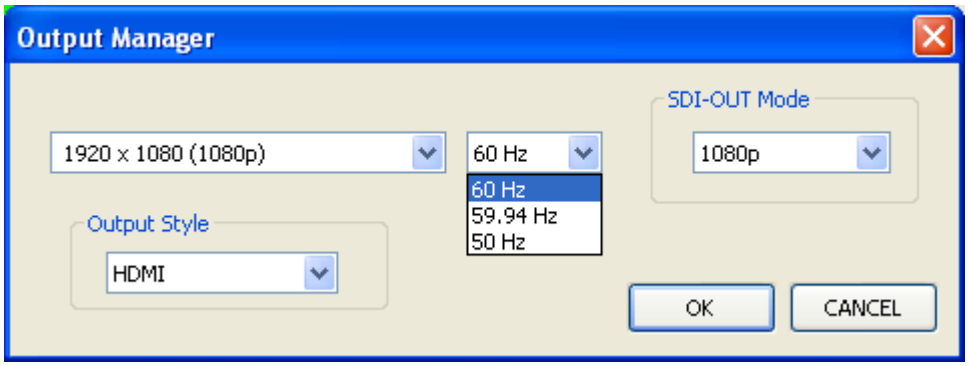

Figure 5.6: Set output timing

Important Note: If your input sources are 59.94, the output resolution and timing must be set to 59.94Hz.

Set HDMI/DVI Output Format

Note:If HDMI is selected, HDMI will also carry the audio monitoring output as part of its embedded audio

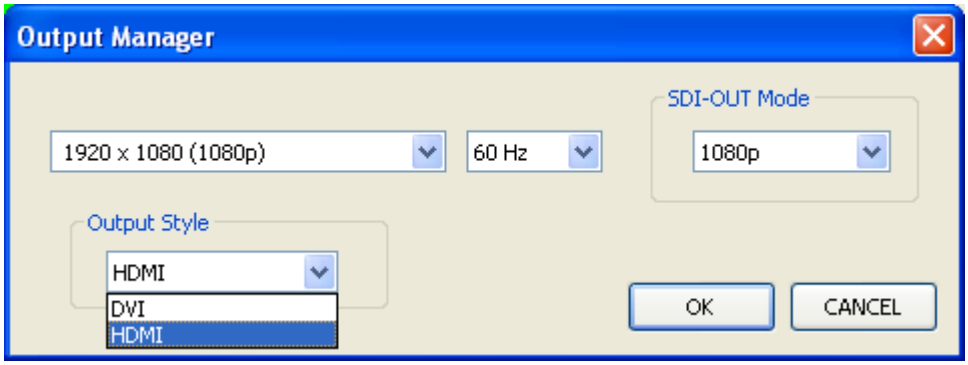

Figure 5.7: Set output display format

Set SDI Output Format

The SDI output format must match the HDMI/DVI output timing. However, as an exception, if the HDMI/DVI output is set to 1080p, the SDI output can also be set to 1080i.

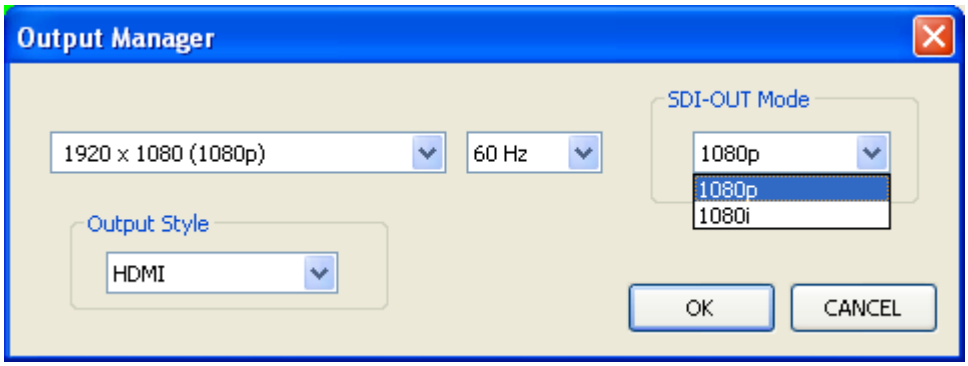

Figure 5.8: Set output SDI format

5.5 Configuring the On Screen Elements

5.5.1 Labels

Default Labels are on top of the video. Got to, <System> -> <Enable Label Outside> To move the labels outside the video

- Set label properties
  - Put labels inside or outside of video
  - Turn on/off label
  - Change label text

- Change label background color
- Change label text color
- Change label width
  - Change Label Width
    - Fit to text: The label background will be the same width as the text
    - The maximum width is 32, which the same as the maximum number of characters
    - If the number selected is less than the number of characters on the label text, it will default to <Fit to Text>
- Change label transparency
  - Change Label Transparency
  - 100% = opaque
  - 0% = 100% transparent

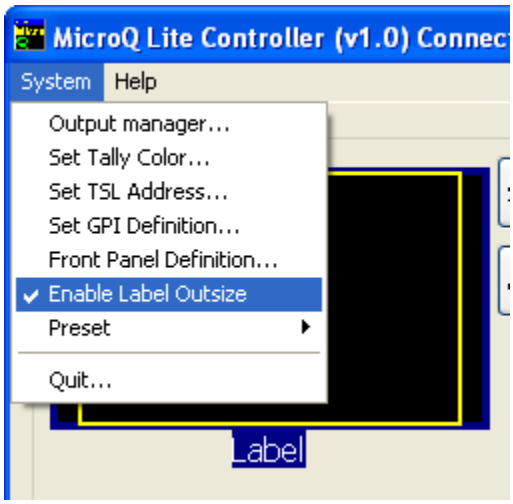

Figure 5.9: Put labels outside

Figure 5.10: Set label properties

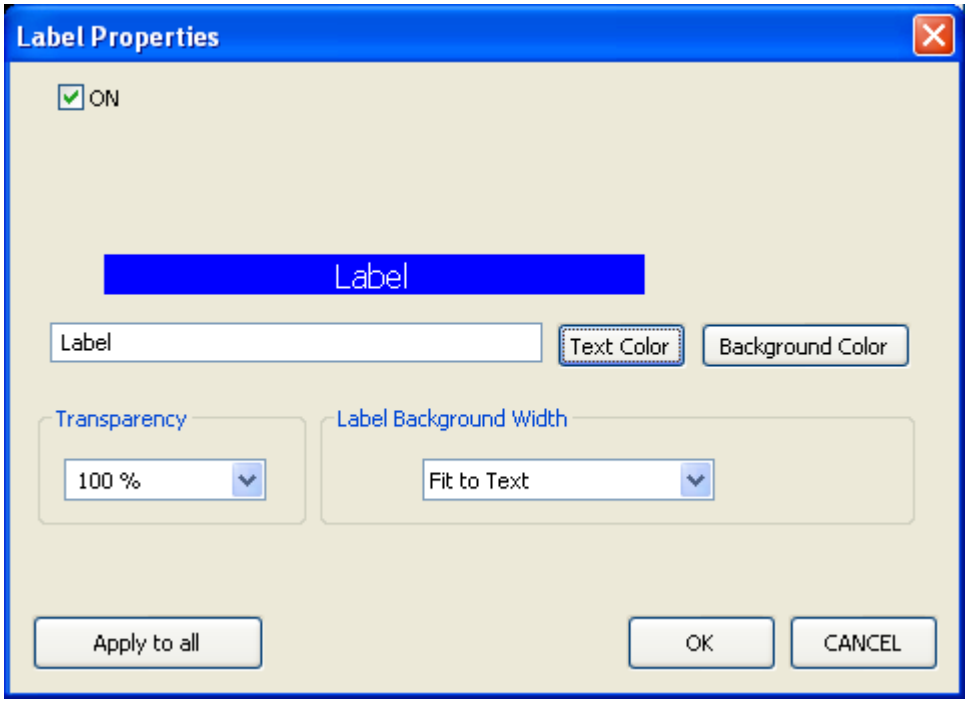

Figure 5.11: Change label text

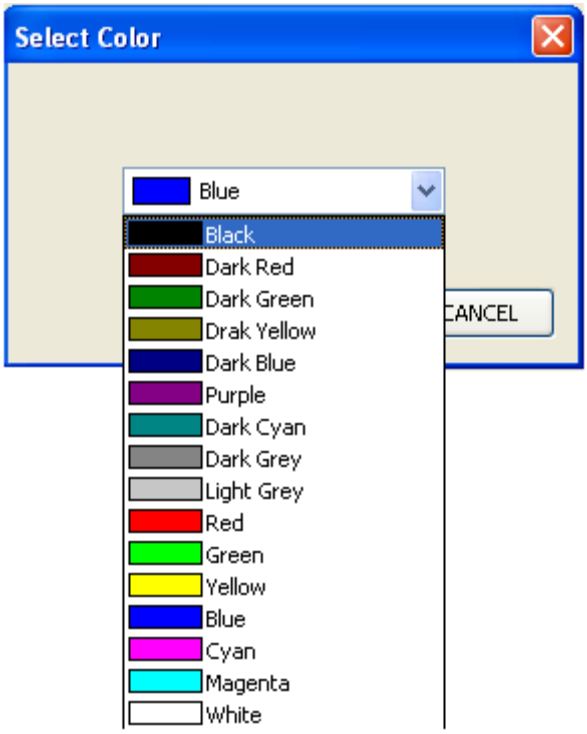

Figure 5.12: Change label background color

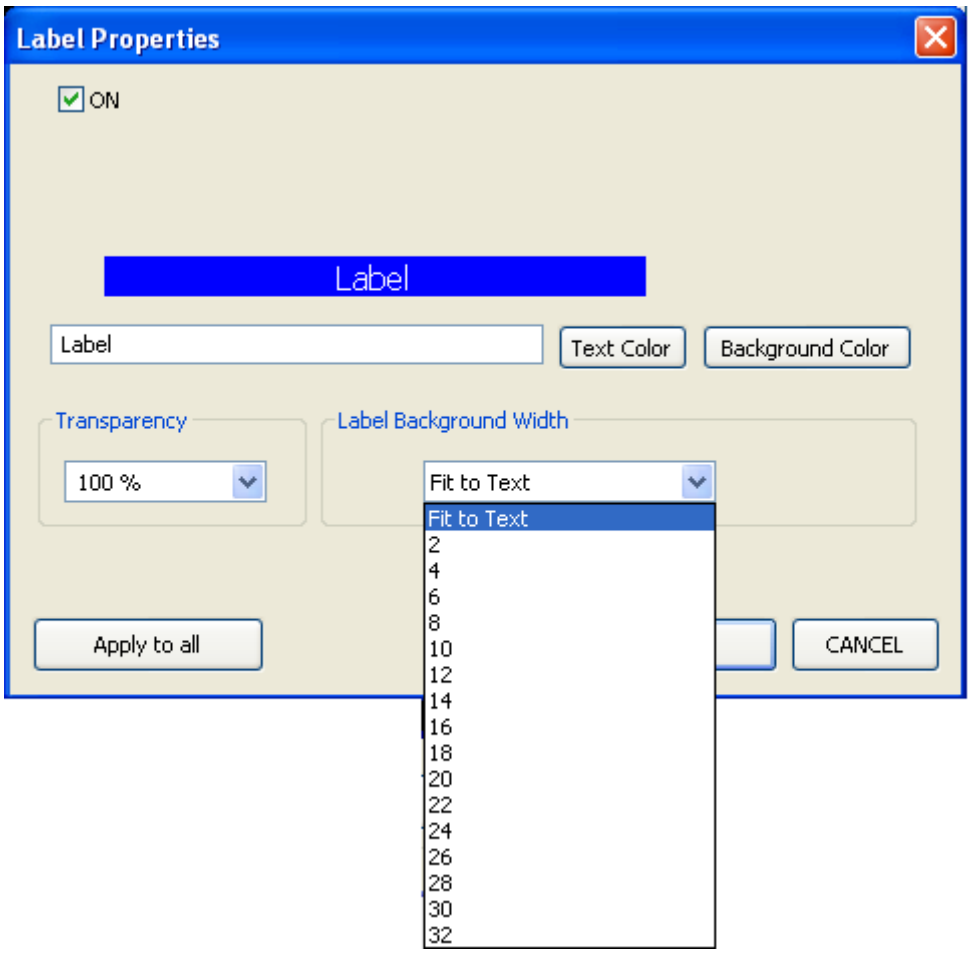

Figure 5.13: Change label width

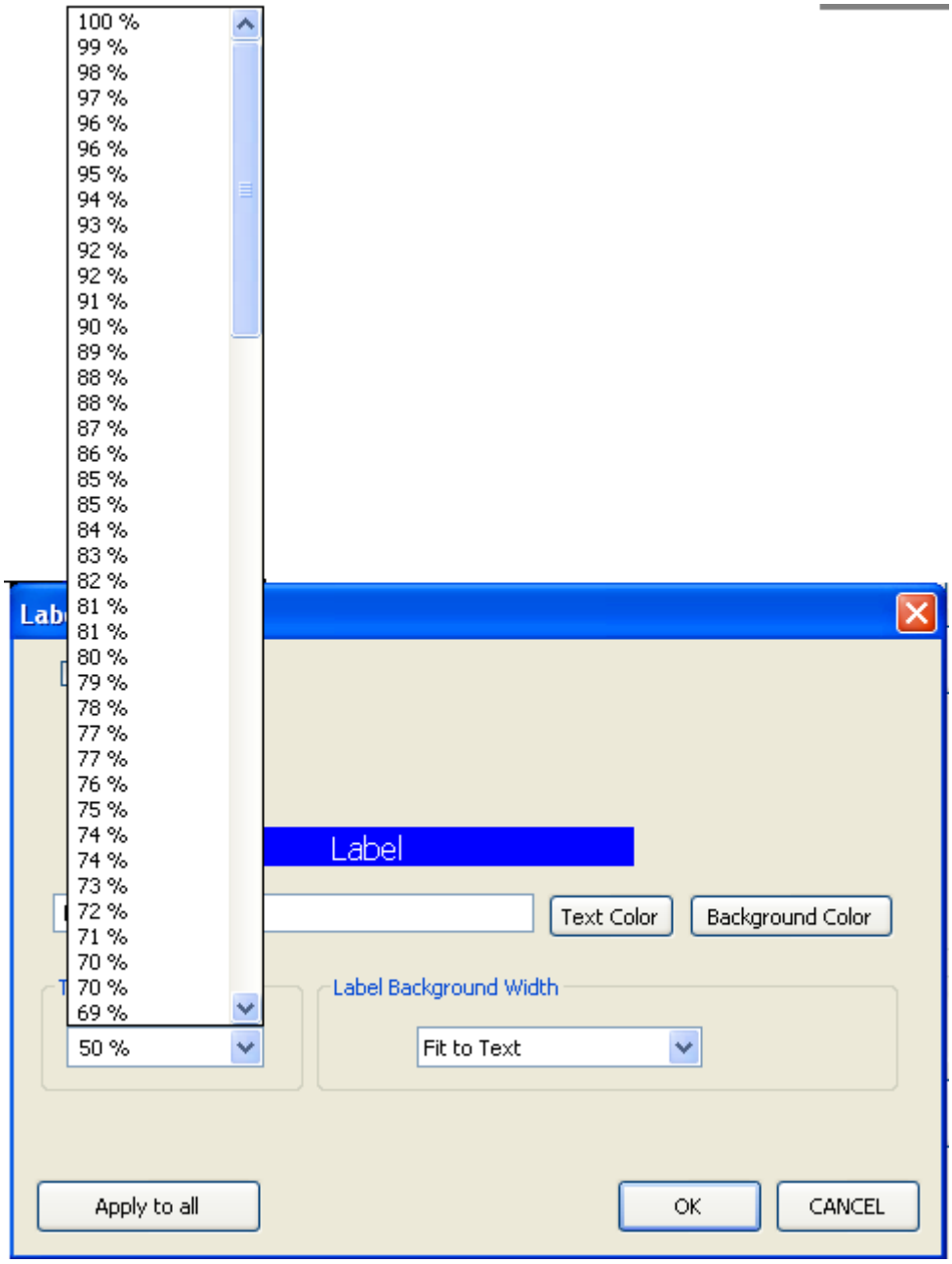

Figure 5.14: Connect label transparency

5.5.2 Audio Meters

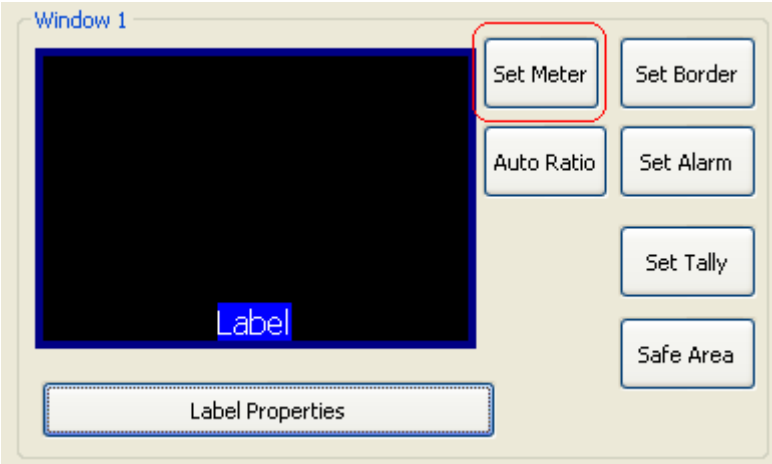

Figure 5.15: Set meters

- Set Meters
  - 0 – 8 meters can be turned on/off
  - Meter width can be set to 4 – 16 pixels
  - SDI embedded audio channels can be assigned to individual meters
  - One pair of audio meters can be selected as monitor output to go to the analog audio output or the HDMI output

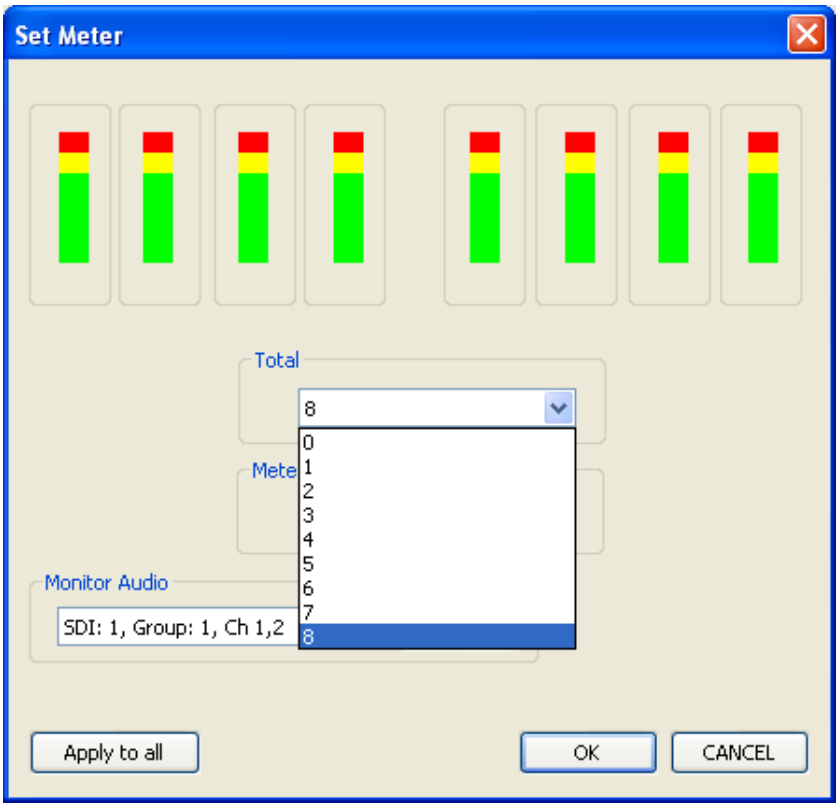

Figure 5.16: Diso;ay 0 – 8 meters

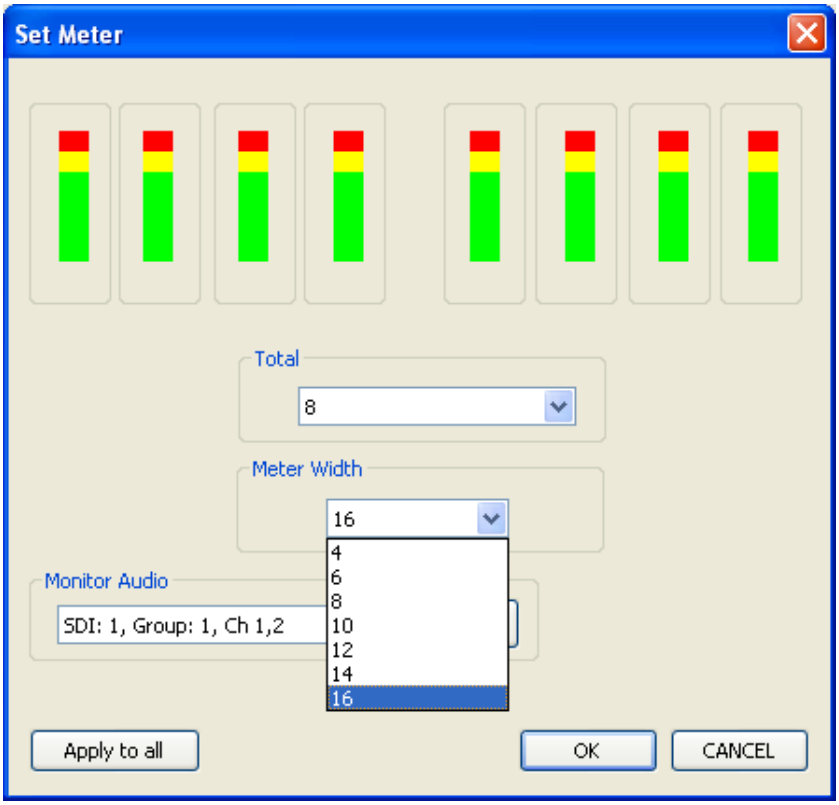

Figure 5.17: Set meter width

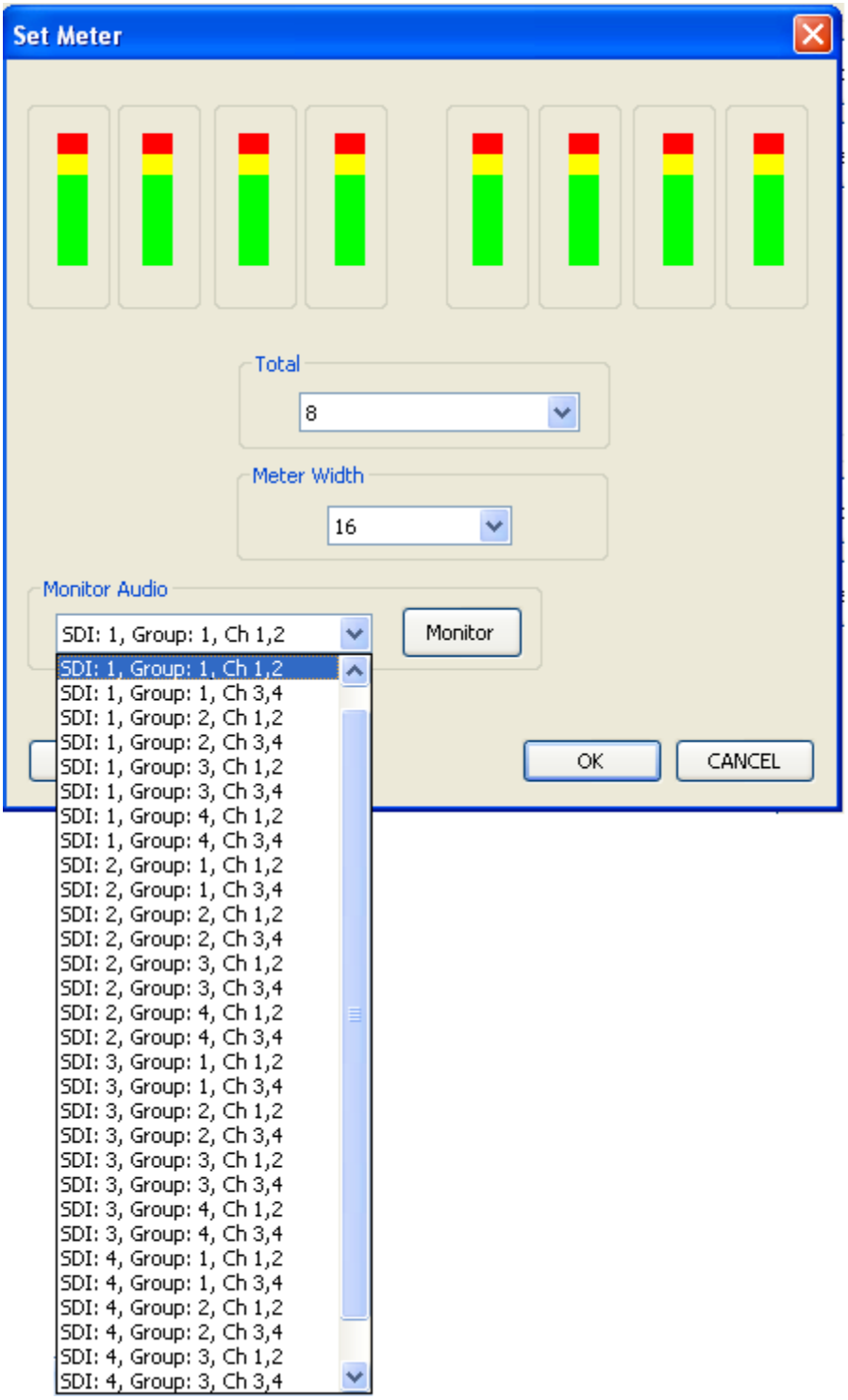

Figure 5.18: Set SDI audio channels

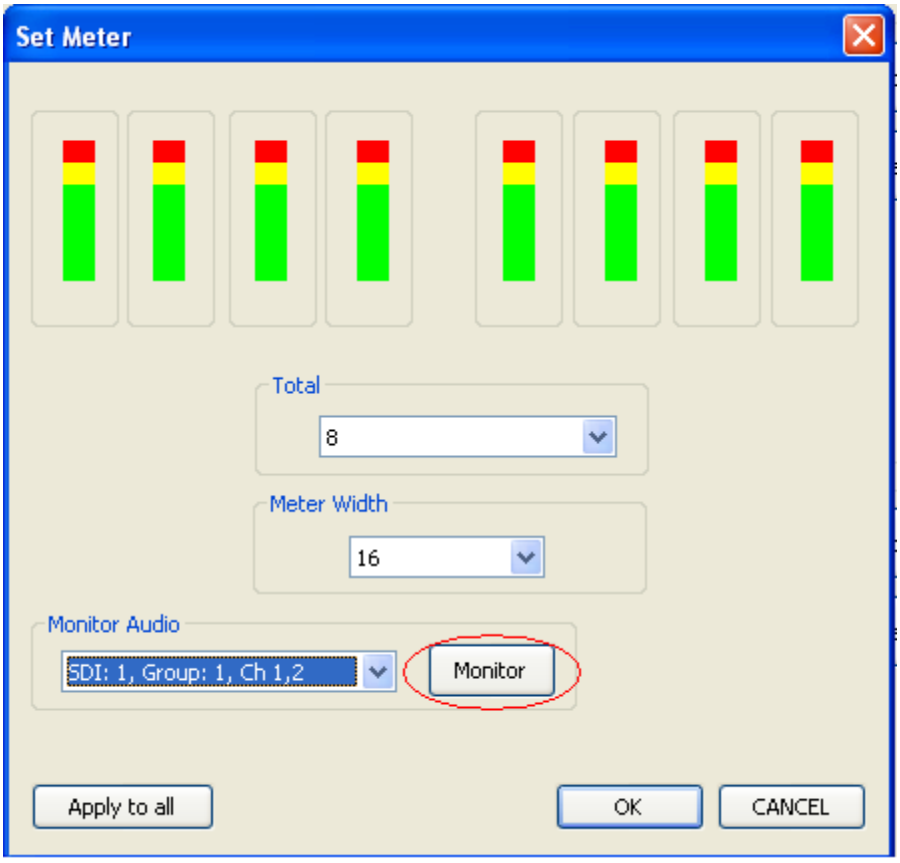

Figure 5.19: Set audio monitor output

5.5.3 Border

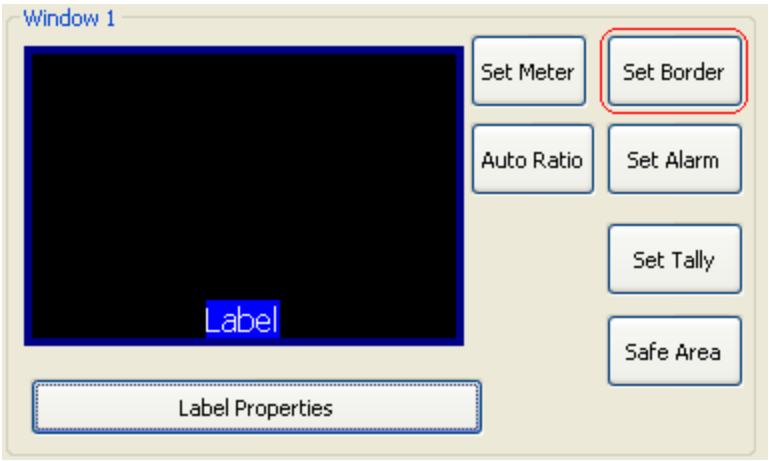

Figure xx: Set borders

- Set Borders
  - Border can be turn on/off
  - Border color can be set

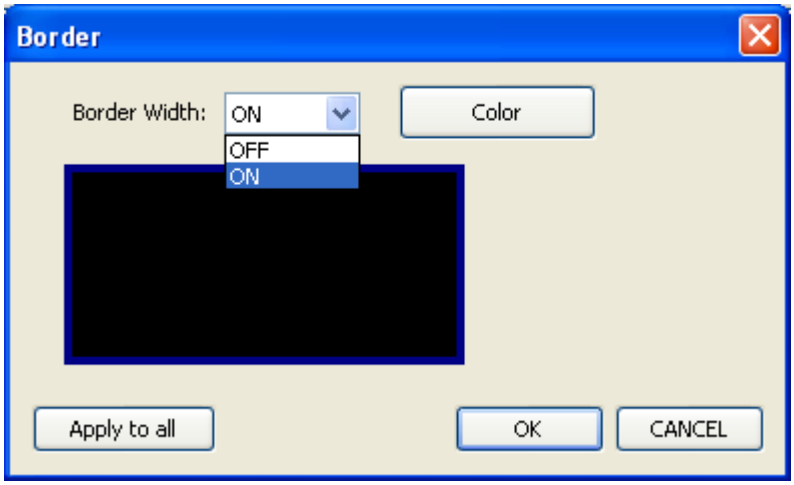

Figure 5.20: Turn border on / off

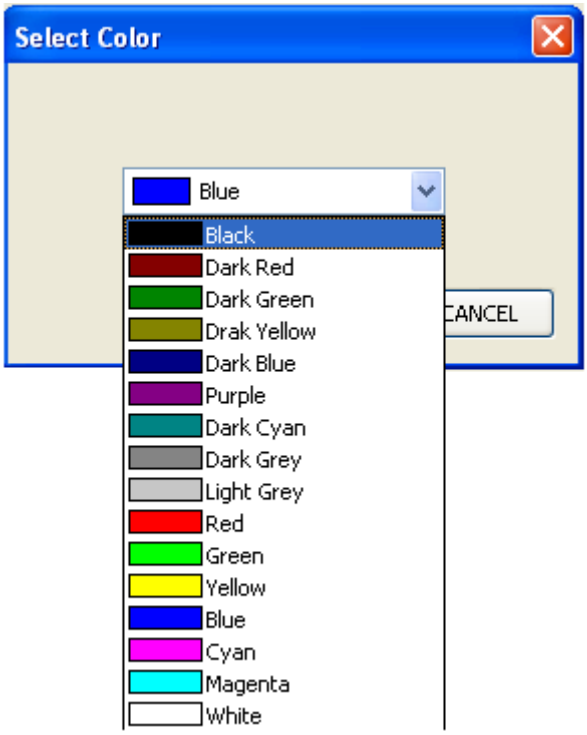

Figure 5.21: Set border color

5.5.4 Alarm Tags

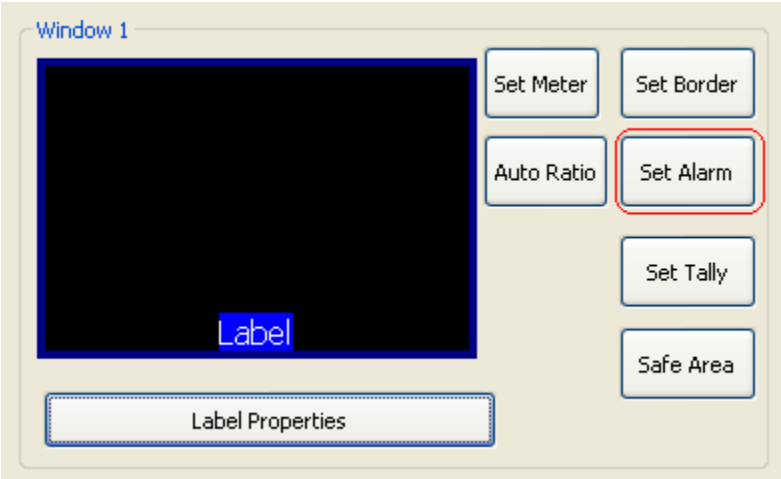

Figure 5.22: Set Alarm Tags

- Set Alarm Tags
  - Video Format and Audio Status alarm tags can be turned on/off
  - Video Alarm Tags shows the following
    - While video signal is present
      - Displays video format, (NTSC/PAL, 525, 626, 720p, 1080i/p 50/60)
    - While video signal is lost
      - <No Video>
  - Audio Alarm Tags shows the following
    - While audio signal is present
      - No tag
    - While audio signal is lost
      - "No Audio"

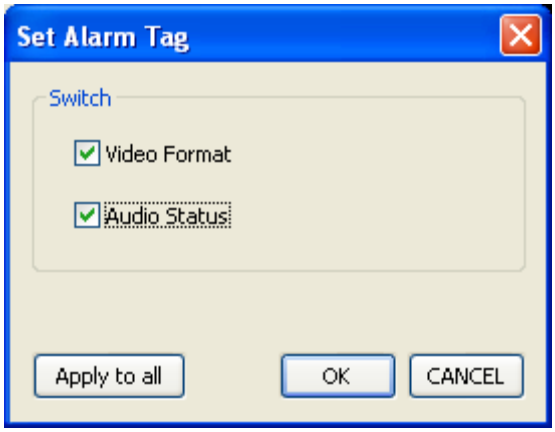

Figure 5.23: Turn Alarm tags on / off

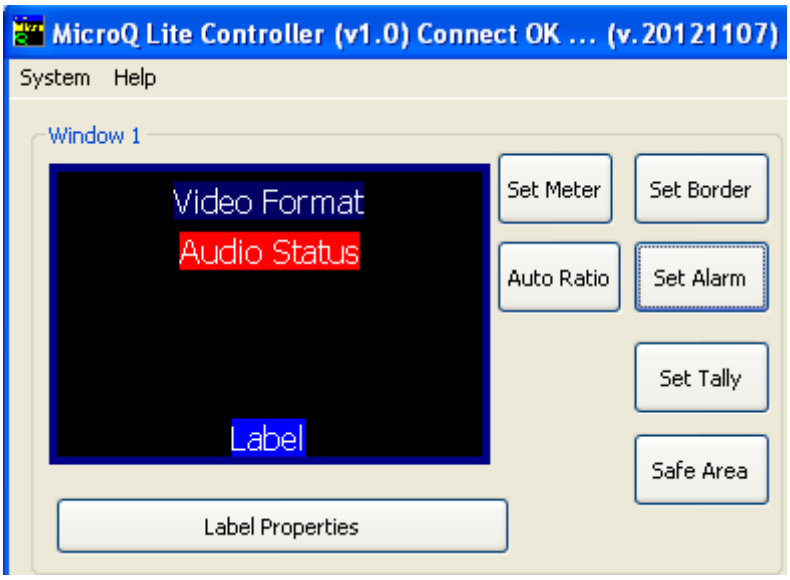

Figure 5.24: Result after the alarm tags turned on

5.5.5 Auto Aspect Ratio

- Set Auto Aspect Ratio
  - Auto Ratio can be turn on/off
  - Aspect Ratio can be set by the user to any ratio
  - Default is 4x3 for SD and 16x9 for HD

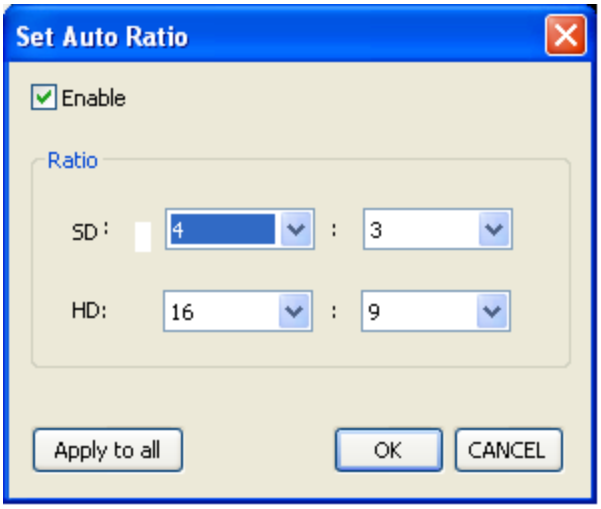

Figure 5.25: Set Aspect Ratio

5.5.6 Tally

Default: Tally LEDs are off

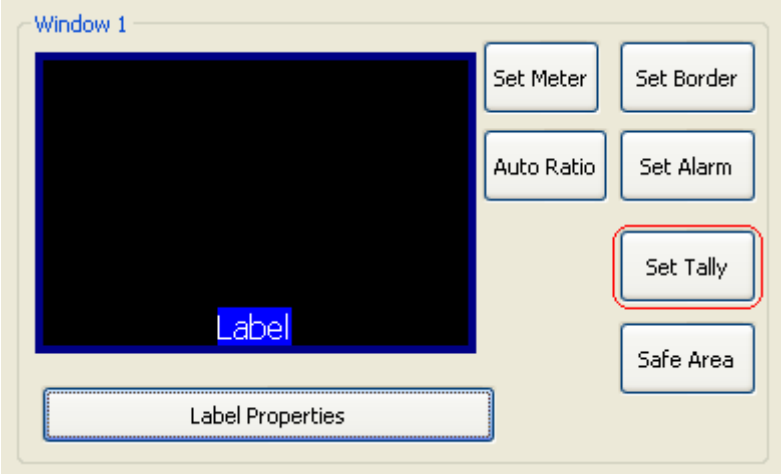

Figure 5.26: Set Tally

- Set Tally
  - Tally 1 (left) and Tally 2 (right) can be turned on/off
  - Border, UMD (Label) Text and UMD (Label) Backgruond can be assigned to be associated with the tally
  - Tally LED colors can be set
  - GPI can be assigned to the tallies or AXP (ASCII protocol)
  - TSL can be assigned to the dynamic tallies

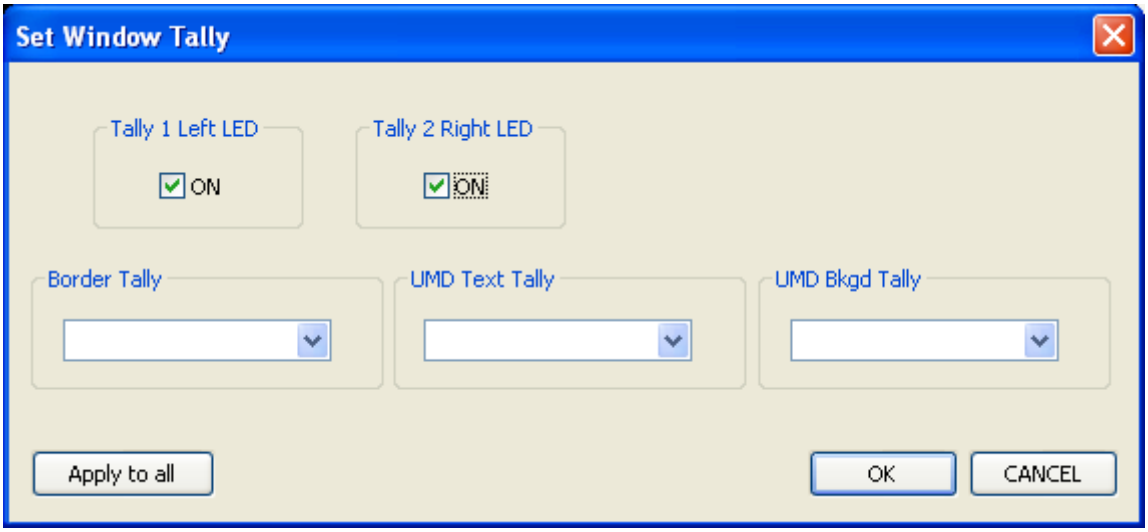

Figure 5.27: Turn on / off LED and tally options

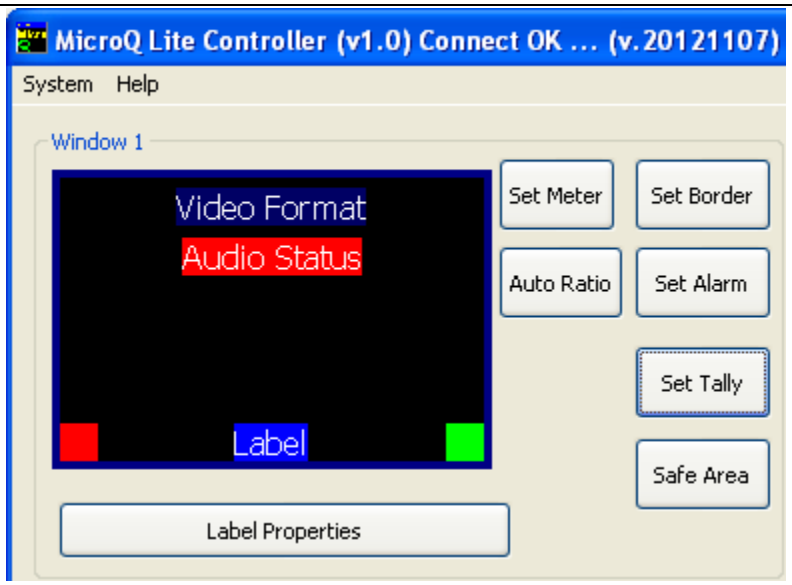

Figure 5.28: The result have the tally LEDs are turned on

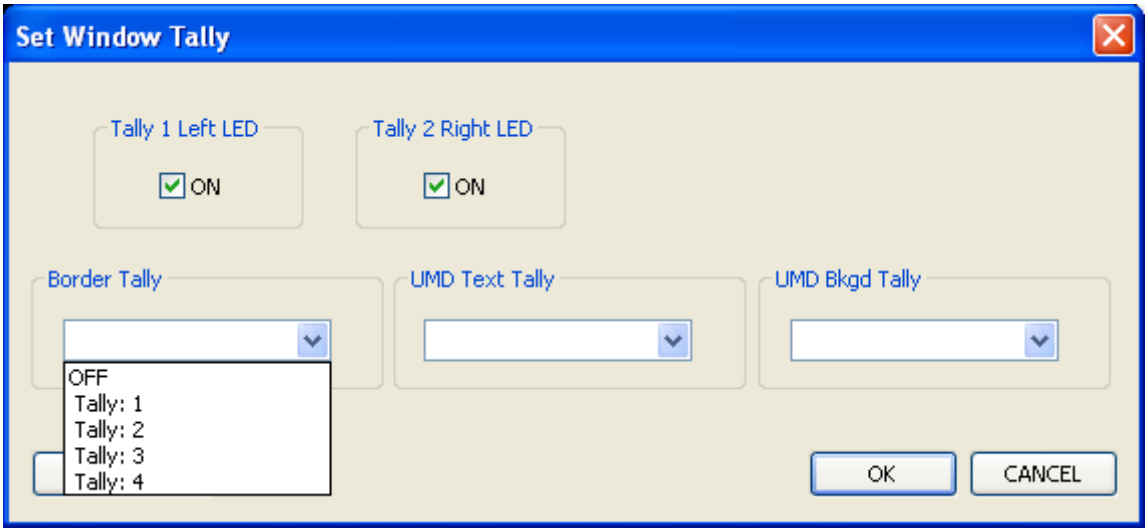

Figure 5.29: Assign border tally

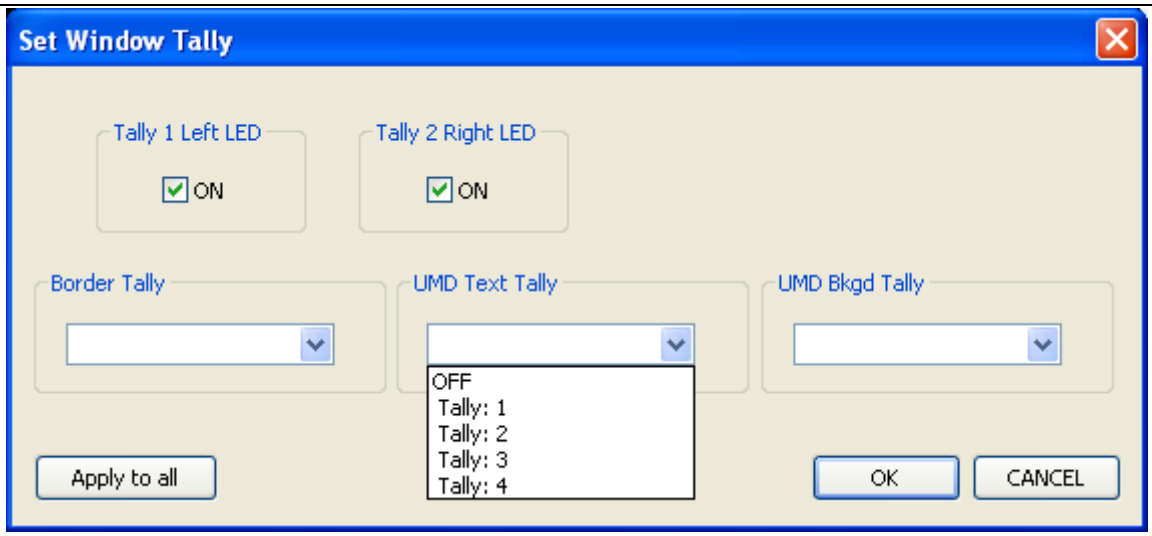

Figure 5.30: Assign UMD text tally (text tally)

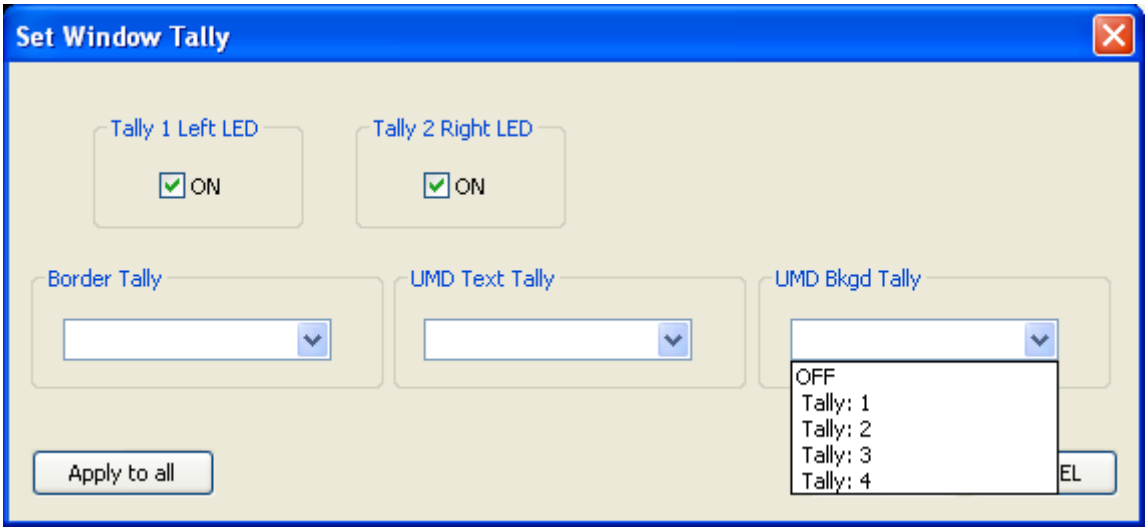

Figure 5.31: Assign UMD Background tally (Label tally)

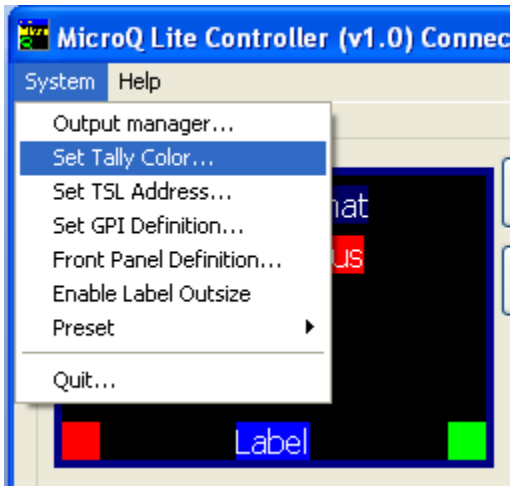

Figure 5.32: Set tally colors

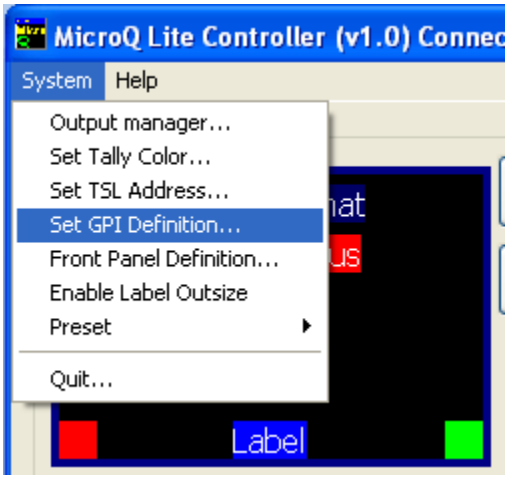

Figure 5.33: Set GPI

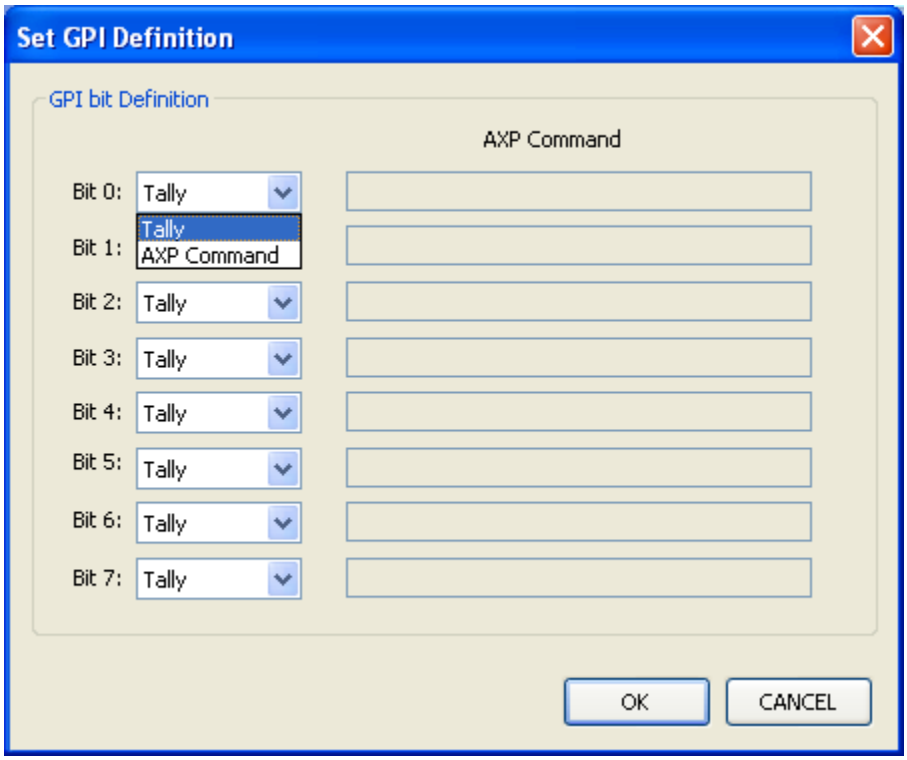

Figure 5.34: Set GPI to trigger Tally

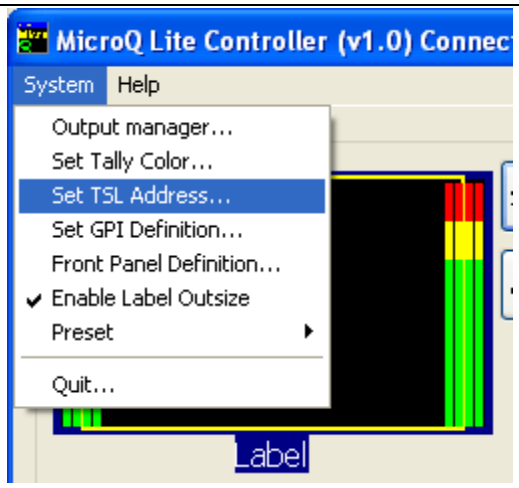

Figure 5.35: Set TSL address

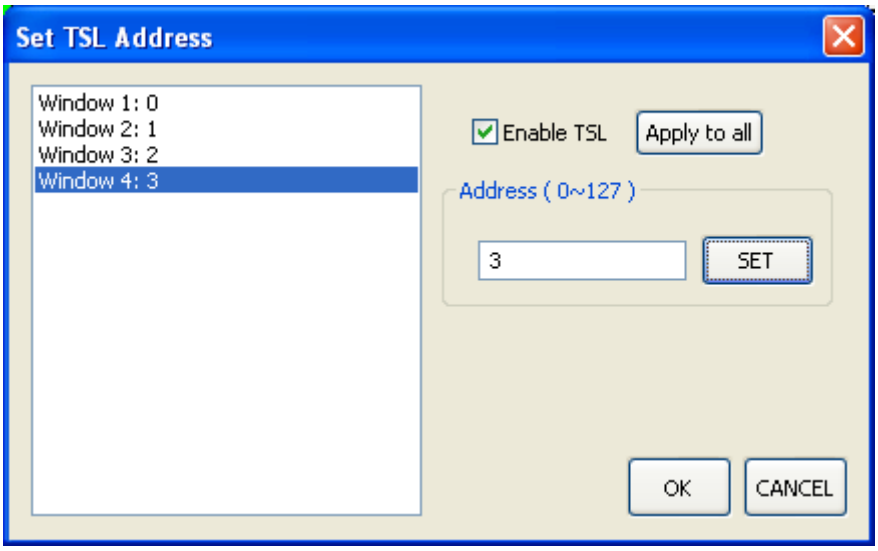

Figure 5.36: Set TSL address

5.5.7 Safe Area

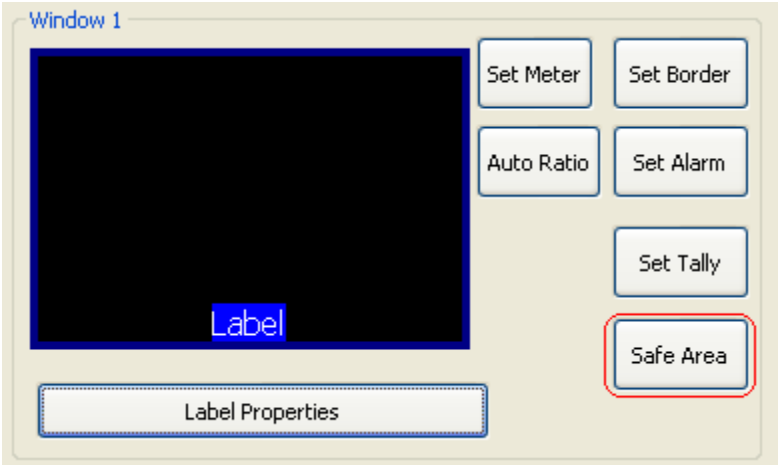

Figure 5.37: Set Safe Area

- Set Safe Area
  - Safe Area can be turn on/off
    - With a mask
    - With a line
    - Or with both mask and line
  - The safe area line color can be changed
  - The safe area can be freely assigned

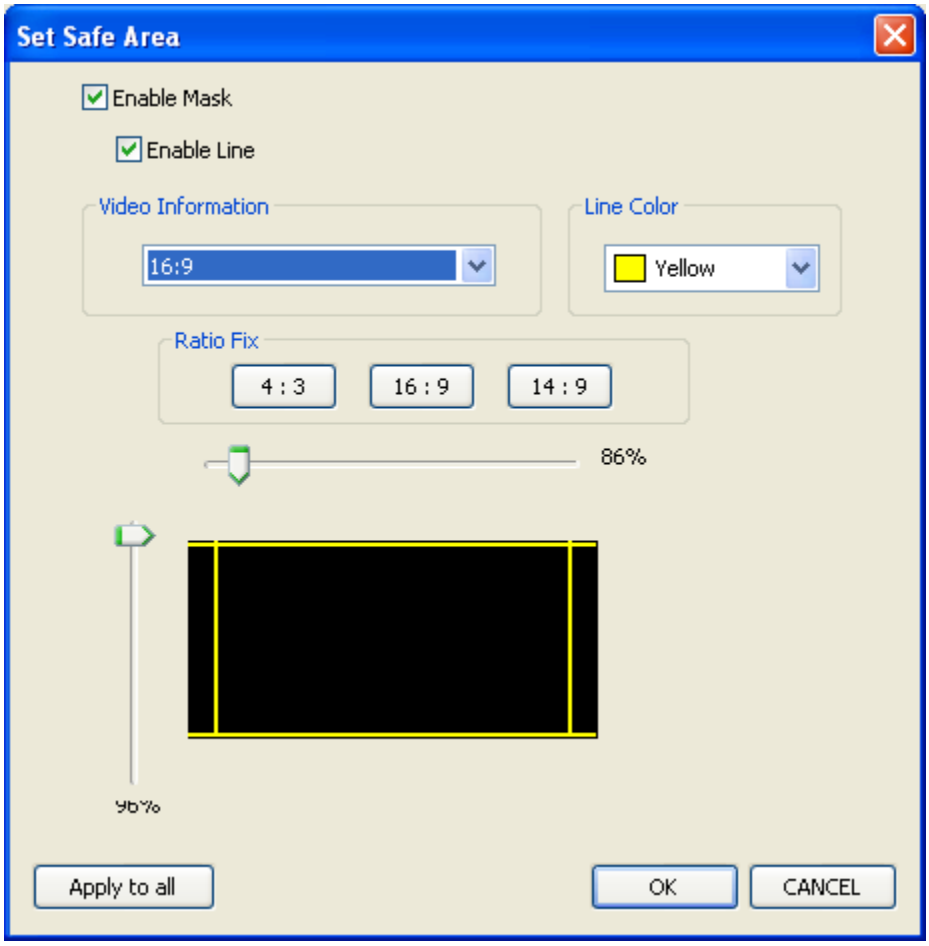

Figure 5.38: Turn on safe area

5.5.8 Presets

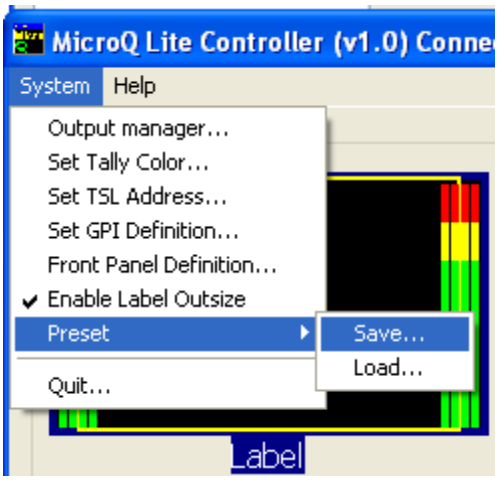

Figure 5.39: Save Preset

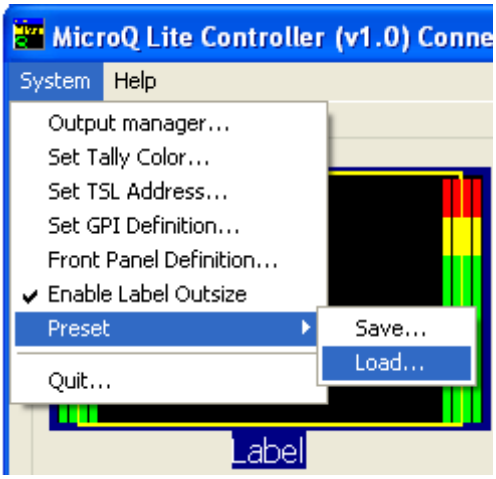

Figure 5.40: Recall Presets

5.5.9 Front Panel Definitions

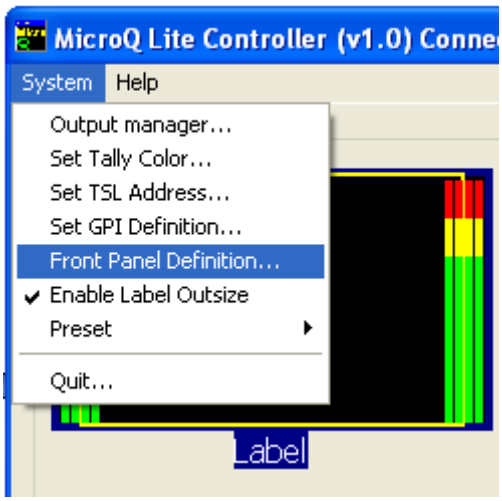

Figure 5.41: Set Front Panel buttons

1. Default: Fullscreen/Quad
2. Off: Disable the buttons, so no one accidentally triggers them
3. Fast Load Preset: As long as the preset names are set to 1.pt, 2.pt, 3.pt and 4.pt, buttons 1 will recall 1.pt, button 2 will recall 2.pt, button 3 will recall 3.pt and button 4 will recall 4.pt

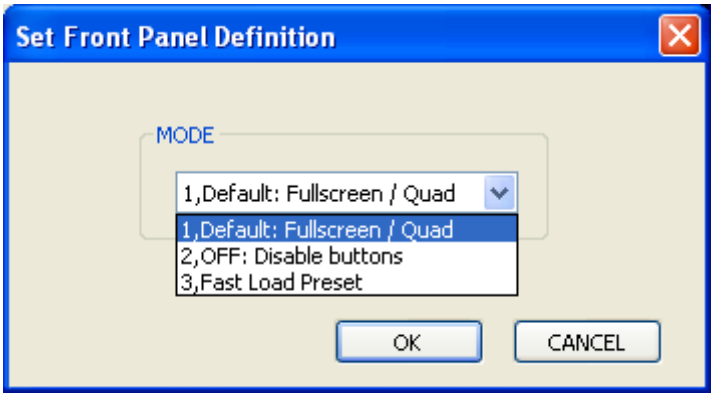

Figure 5.42: Select front panel settings

5.5.10 Write to Flash

It is a good idea to write to flash occasionally, just in case your PC experience problems

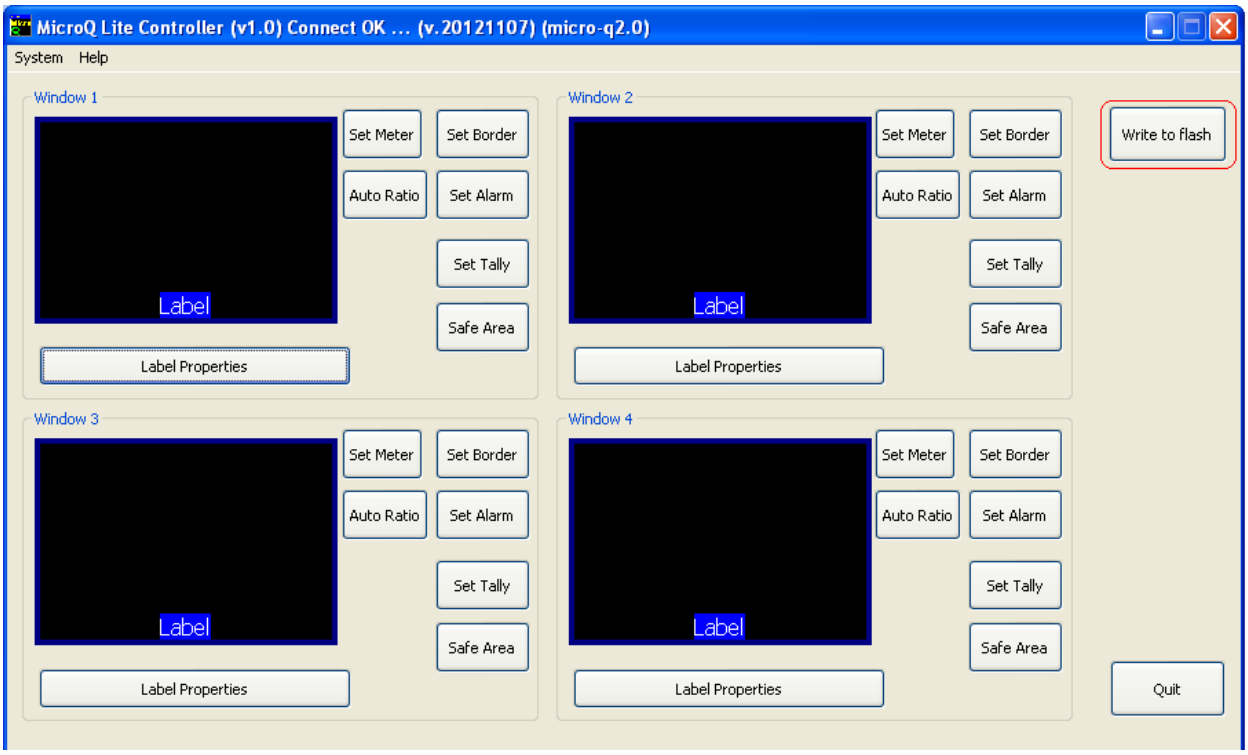

Figure 5.43: Write to flash

5.5.11 Quit and Exit

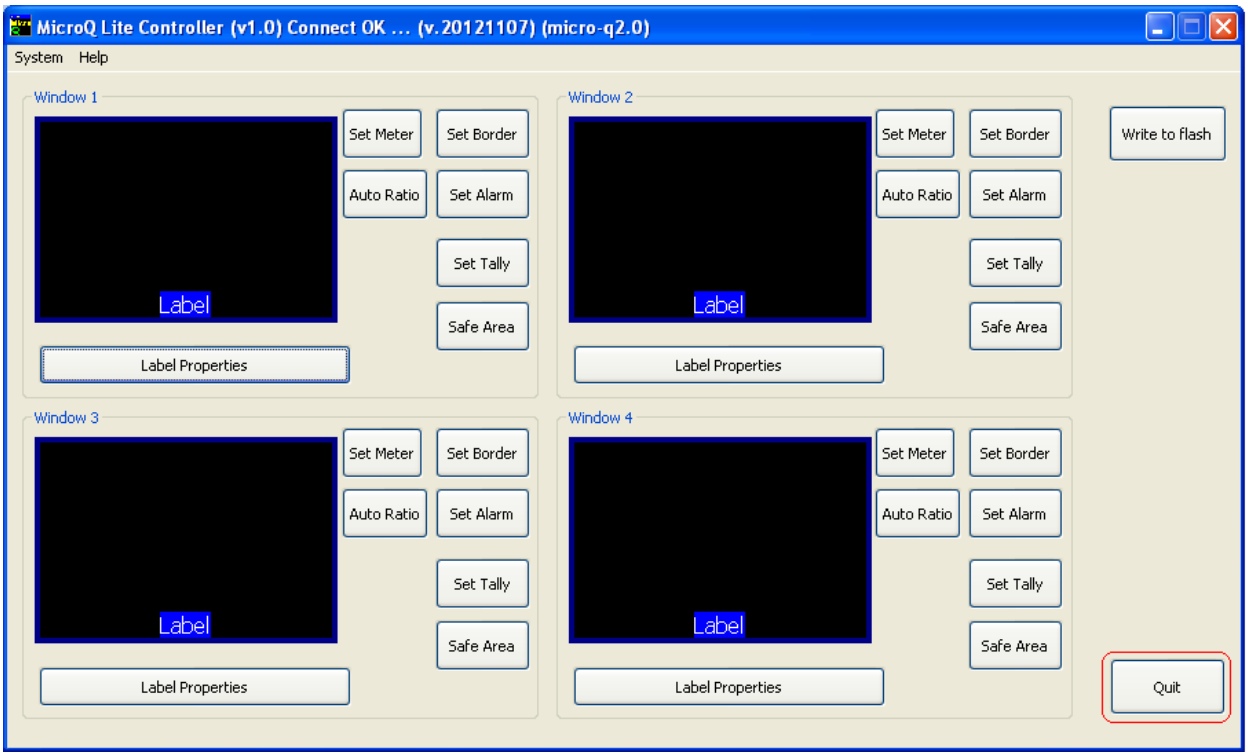

Figure 5.44: Quit

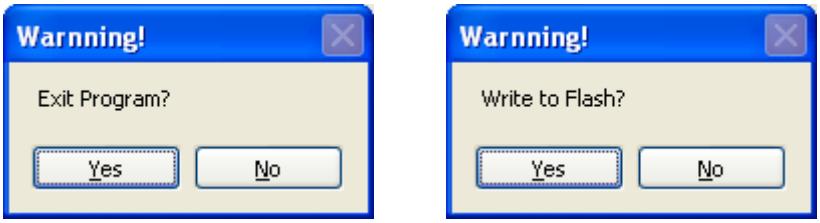

Figure 5.45: Confirm and write to flash again

Apendix I

Apantac eXchange Protocol - MicroQ

Revision Date: November 23, 2012

Introduction

The AXP-Lite is a set of text commands to allow 3rd party interface to control the Crescent MicroQ via TCP/IP.

Port Description

TCP/IP: Default port = 101

AXP-Lite Commands set Overview

Command	FW Release	Overview
audio		Set audio monitoring output
Exit		Exit from text command mode
ledumd		Turn on/off tally and set label text
Load		Load presets

AXP-Lite command sets

Audio: Set audio monitoring output

Note: MicroQ only supports 2 groups of embedded audio (8 channels), audio monitoring must be done in pairs, therefore, when you choose meter 1, you will get a stereo pair of 1 and 2, when you choose 3, you will get a stereo pair of 3 and 4 and so on.

Audio [SDI_Number][GROUP] [Channel/PAIR]

Parameters	Values	Description
[SDI_Number]	1 - 4	SDI input number
[Group]	1 – 2	
[Channel/Pair]	1 – 4 channel	Pairs of audio meters to be monitored

Examples:

Command	Description
Audio 1 2 3	Select SDI input 1, Group 2, Channel 3 and 4 to the monitoring output

Exit: **Exit from text command mode**

Exits the text command mode. Press <CR> to return to text command mode

Ledumd: **Turn on/off tally and set label text**

Ledumd [WIN_ID] [LED1] [LED2] [TEXT]

Parameters	Values	Description
[WIN_ID]	0 ~ 4	
[LED1 on/off]	1, 0	Turn on/off Tally LED 1
[LED 2 on/off]	1, 0	Turn on/off Tally LED 2
[LED 3 on/off]	1, 0	Turn on/off Tally LED 3
[LED 4 on/off]	1, 0	Turn on/off Tally LED 4
[TEXT]	Text	Label text. Must be bracketed with "| |"

Load:

Load [FILE_NAME]

Parameters	Values	Description
[file_name]	The preset file name.	*The file name must be bracketed with "| |".

Example:

Command	Description
Load |1_full.pt1|	Loads preset name "1_full.pt1"

Example:

Command	Description
turn 3 6 0	Turn off VPM[3], standalone label #2. See Appendix A for item_id
Turn 3 6 0 3	Turn off VPM[3] standalone label #2, #3 and # 4