MX-3004F

3G/HD/SD-SDI Quad-view Video Processor

User Manual

Safety and Notice

The **MX-3004F** **3G/HD/SD-SDI Quad-view Video Processor** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **MX-3004F** should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.

- Do not attempt to service this unit yourself, except where explained in this manual.

- Provide proper ventilation and air circulation and do not use near water.

- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.

- Use only the power adapter and power cords and connection cables designed for this unit.

- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

TABLE OF CONTENTS

INTRODUCTION

The **MX-3004F** **3G/HD/SD-SDI Quad-view Video Processor** is an advanced video processor for multimedia presentations. It is an ideal solution for some application such as broadcasting, where up to four SDI video signals must be displayed on a single display. It supports up to 4 SDI video inputs, of which four can be outputted simultaneously with the desired display layout through software control, IR remote or front panel. The advanced video processor allows you to manipulate output images, wherever positions and whatever sizes you want for viewing four computers or four video signals or a combination.

The embedded processor converts signals from input sources to match the native resolution of monitors, flat panel displays, projectors as well as user-selectable output settings up to WUXGA (1920x1200). Dual outputs are provided in both digital (SDI) and digital (DVI) format, one is connected to remote display and other is connected to on-site display for real time monitoring.

FEATURES

- Supports 3G/HD/SD-SDI video formats
- Input resolutions support interlaced or progressive video under SMPTE
- Dual outputs DVI (640x480 to 1920x1200) / SDI (720P, 1080P)
- Each SDI input channel has 1 re-clocked SDI loop-outs
- Adjustable size & position through software, IR remote and front panel
- Image parameters and layouts are automatically saved in flash memory and can be recalled for later use
- User-selectable output settings, up to 1920x1200 (Only for DVI)
- Perfect as a video screen splitter, a video converter and a video switcher
- Firmware upgradable for support of new features and technology enhancements
- Software control through RS-232 or IP port.
- Control protocol available for customer proprietary design
- 1U size

PACKAGE CONTENTS

- 1x MX-3004F
- 1x USB to RS-232 cable
- 2x 1U rack mounting-ear
- 1x Installation software CD
- 1x UL 12V 5A power adapter
- 1x UL AC power cord
- 1x User Manual
- 1x IR remote control (28 keys)

SPECIFICATIONS

| Model Name		MX-3004F
Technical		
Role of usage		Multiplexer / video processor
Dual output support		Yes [DVI &SDI]
Background video input		No
Video bandwidth		DVI/HDMI [165MHz] SDI 3G/HD/SD
Video input support		480i / 576i / 720p / 1080i / 1080p
Input TMDS signal		1.2 Volts [peak-to-peak]
ESD protection		Human body model — ±12kV [air-gap discharge] & ±8kV [contact discharge]
PCB stack-up		4-layer board [impedance control — differential 100Ω; single 50Ω]
Input		4x SDI
Output		2x SDI + 1x DVI/HDMI
RS-232 connector		DE-9 [9-pin D-sub female]
DVI connector		DVI-I [29-pin female]
RJ-45 connector		WE/SS 8P8C
Rotary switch		Yes
DIP switch		Yes (for factory reset and firmware update)
Mechanical		
Housing		Metal enclosure
Dimensions [L x W x H]	Model	440 x 235 x 44mm [1'4" x 9.3" x 1.7"]
	Package	526 x 318 x 156mm [1'7" x 12.5" x 6.1"]
	Carton	543 x 335 x 344mm [1'8" x 13.2" x 1'1"]
Weight	Model	2.6kg [5.8 lbs]
	Package	3.7kg [8.2lbs]
Fixedness		1U rack-mounting case with ears
Power supply		12V 5A DC
Power consumption		35 Watts (max)
Operation temperature		0~40°C [32~104°F]
Storage temperature		-20~60°C [-4~140°F]
Relative humidity		20~90% RH [no condensation]

Front Panel

1. **Output Resolution Button:** Select output resolution

2. **Label Button:** Window's label ON/OFF

3. **Custom Layout 1-8:** Save custom layout button

4. **IR Sensor:** IR sensor for receiving the IR commands from IR remote

5. **Default Layout mode A:** Select default layout (▦) or custom layout

6. **Default Layout mode B:** Select default layout (▦ , ▦ , ▦ , ▦)

7. **Input 1-4 Select Button:** Select input source

Rear Panel
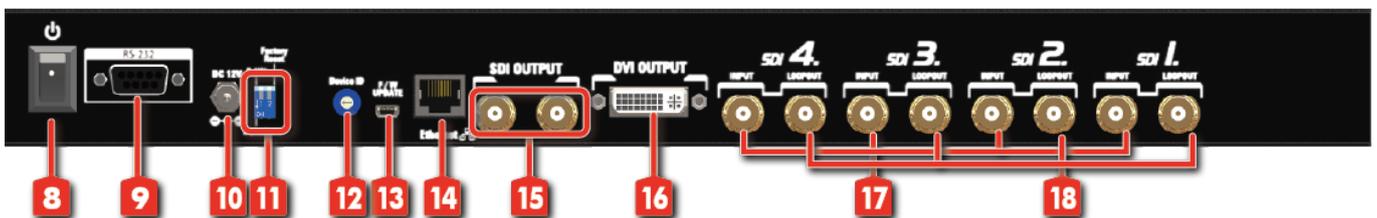
8. **Power Switch:** Power On/Off

9. **RS-232:** RS-232 control port

10. **+12V DC:** Connect to the +12VDC power supply unit.

11. **Dip Switch:** Switch the firmware update mode or factory reset mode (Switch ON)

12. **Device ID:** To identify between units

13. **Mini-USB:** For firmware update

14. **Ethernet:** Ethernet control port.

15. **Outputs:** 2 SDI outputs

16. **Outputs:** DVI output

17. **Input 1-4:** SDI inputs 1-4

18. **SDI local loop out**

Safety Precautions

1. To prevent fire or shock hazards, do not expose this device to rain or moisture.

2. The product should be placed more than one foot away from heat sources such as radiators, heat registers, stoves, and other products (including amplifiers) that produce heat. In addition, do not cover any material or devices on the top of the device.

3. Do not use immediately after moving from a low temperature to high temperature, as this causes condensation.

4. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious injury to a child or adult and serious damage to the product.

5. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

6. Do not allow the same still picture to be projected for a long time or an abnormally bright video picture to be projected. The video image could be burned in to the display device.

Installation Procedures

Unpacking

Remove the MX-3004F from the shipping container and examine it for any signs of shipping damage or missing items (check with package contents above). All shipping items should be saved if the product is to be moved or returned for service. Shipping unit back to dealers for service not in the original box may result in voiding warranty or additional cost.

Placement

The unit uses convection to cool. A fan is not needed, so do not block the sides of this device or stack another device on the top or bottom of the MX-3004F.
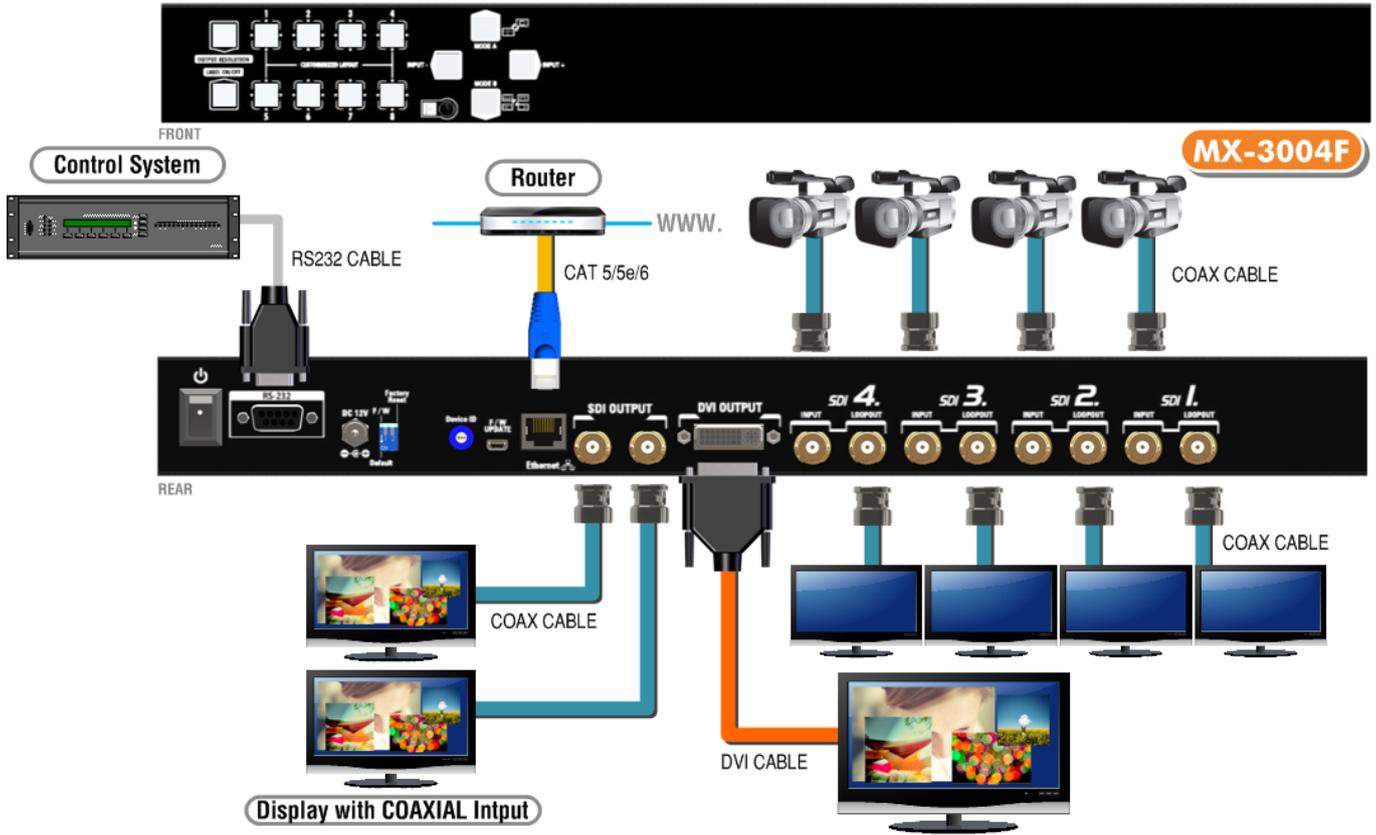
Connections

We recommend the highest quality cables for both input and output connections.

1. Switch off the MX-3004F and all devices that you want to connect.
2. Connect a monitor, a projector or other displays that comes with DVI / SDI inputs
3. Connect a device equipped with SDI output including SD/HD/3G to the BNC input connector of MX-3004F.
4. Connect your computer with the MX-3004F by a 9-pin RS-232 cable or Cat.5e cable, and then install the software.
5. Plug in AD power cord into AC power socket.
6. Execute the control software and establish the connection between PC/Laptop and MX-3004F.
7. For detailed software control operation, please refer to the software instruction section.
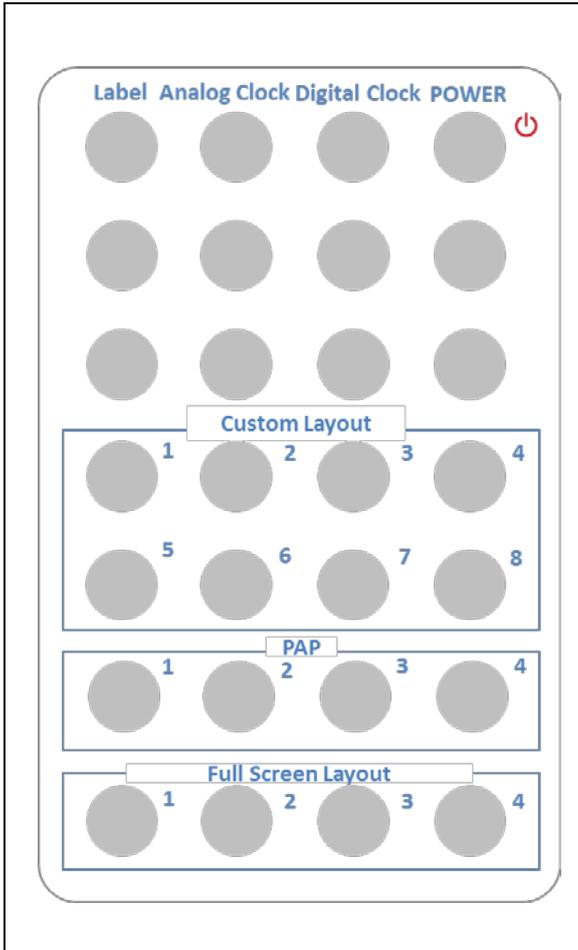
CONNECTION DIAGRAM

Legend:
- → DVI
- → COAXIAL
- → RS-232
- → CAT5/5e/6

MX-3004F

FRONT
REAR

Control System — RS232 CABLE

Router — CAT 5/5e/6 — WWW.

COAX CABLE

SDI OUTPUT, DVI OUTPUT, SDI 4., SDI 3., SDI 2., SDI 1.

COAX CABLE
COAX CABLE
DVI CABLE

Display with COAXIAL Intput

Method A: IR Remote Control

Button	Function
Label	Border & Label on/off
Analog Clock	Analog Clock on/off
Digital Clock	Digital Clock on/off
⏻	Power on/off the device
Custom layout 1	Custom layout 1
Custom layout 2	Custom layout 2
Custom layout 3	Custom layout 3
Custom layout 4	Custom layout 4
Custom layout 5	Custom layout 5
Custom layout 6	Custom layout 6
Custom layout 7	Custom layout 7
Custom layout 8	Custom layout 8
PAP 1	Default layout PAP
PAP 2	Default layout PAP
PAP 3	Default layout PAP
PAP 4	Default layout PAP
Full Screen layout 1	Full Screen – Window 1
Full screen layout 2	Full Screen - Window 2
Full screen layout 3	Full Screen - Window 3
Full screen layout 4	Full Screen - Window 4

Method B: Software Control through RS-232 port / Ethernet port

System Requirement and Precautions

1. The device provides a software control program, Quartet, which runs under Microsoft Windows 98, 2000, XP, Vista or 7 through the interface of RS-232 serial control.

2. Before you click the icon of the software, make sure you have secured the connection between your computer COM port and the device and switched on the device with green LED light.

Start the Operation Software

When you double-click the .exe file, the below dialog will pop-up. Connect the software via RS-232 or TCP/IP.

*under Microsoft Windows 7, please right click the program icon to start up as an administrator
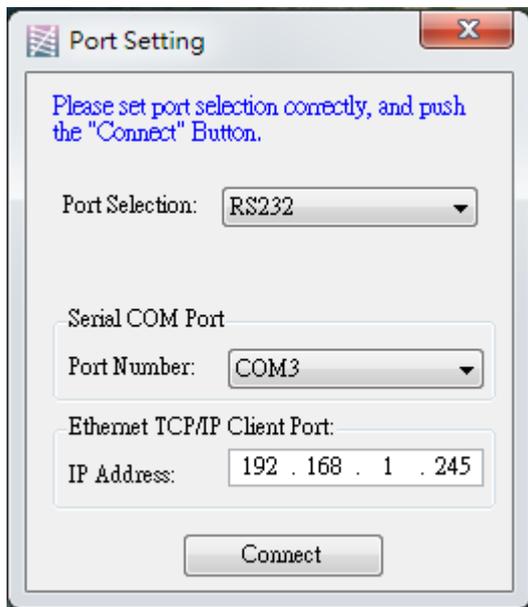
RS-232 mode: Use RS-232 to connect the port on device and computer. Select correct serial COM port (Port Number) and click the Connect button.

Ethernet (TCP/IP) mode: Enter the device IP address and click the Connect button.

After the software control setting is completed, it will enter directly to control interface.

# Control Interface
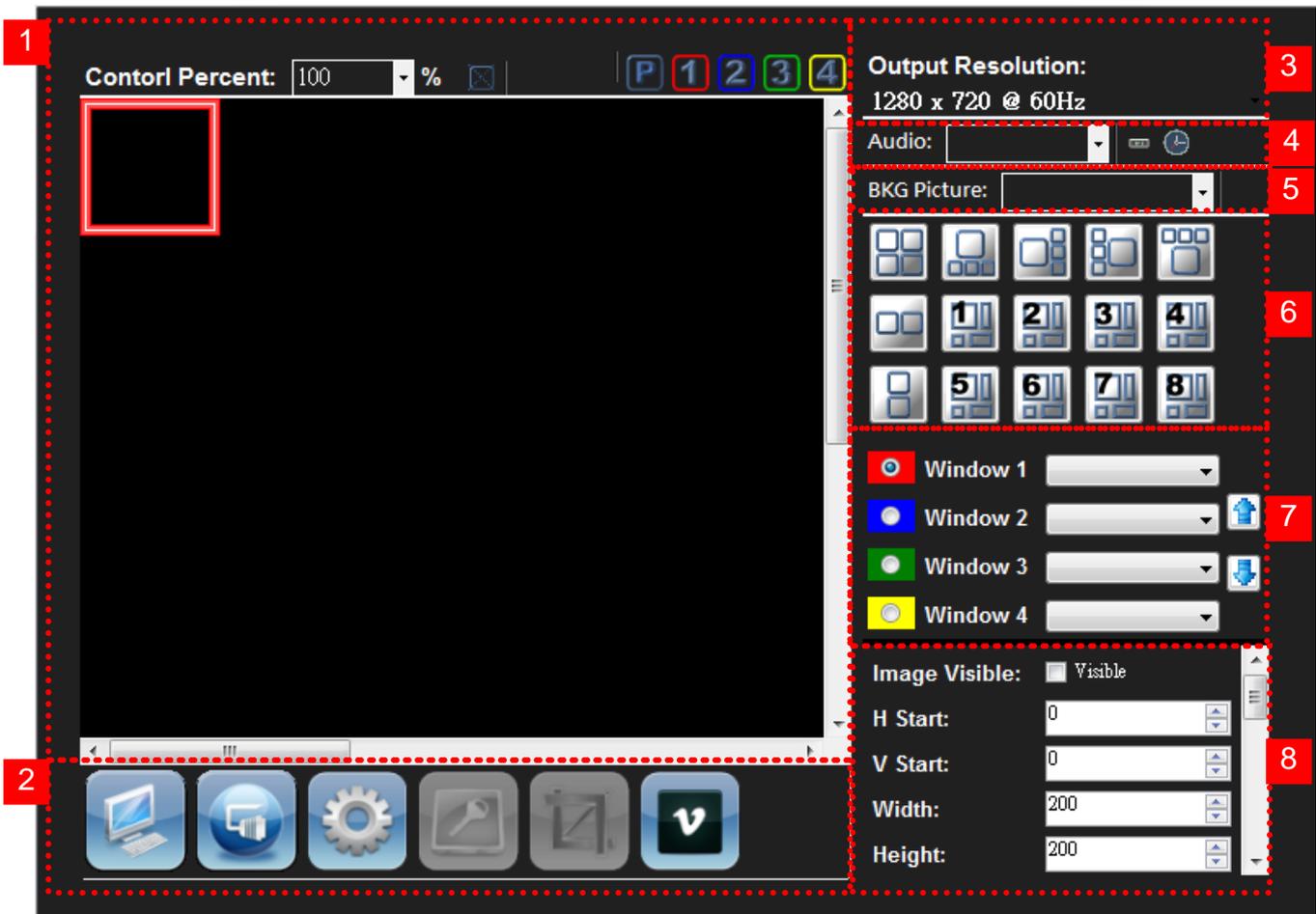
1. PAP Panel

   Display and adjust the window size and position.

   ➢ **Output 1:** [100] **%** Control percent: 10~100% to set the PAP panel display/control size.

   ➢ [⊠] Stretch: Fix the size ratio when the window is resizing.

   ➢ [P] PAP mode

   ➢ [1] Window 1 in full screen

   ➢ [2] Window 2 in full screen

   ➢ [3] Window 3 in full screen

   ➢ [4] Window 4 in full screen

2. Tool Bar list:

(1) Status: Get all information of the device and update this software state.

(2) Port Setting: Pop-up the "Port Setting" dialog, user can change the connecting way.

(3) Advance Setting: Set the no signal color, fade in/out effect, background picture, window text, input text, OSD border, Clock, audio and factory reset.
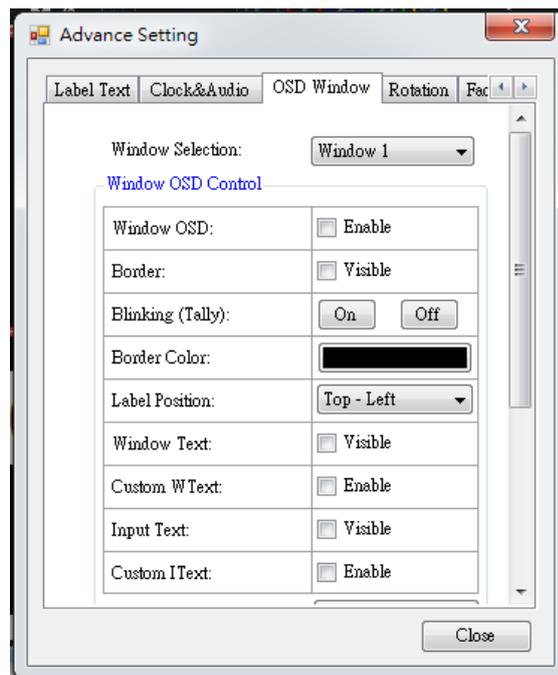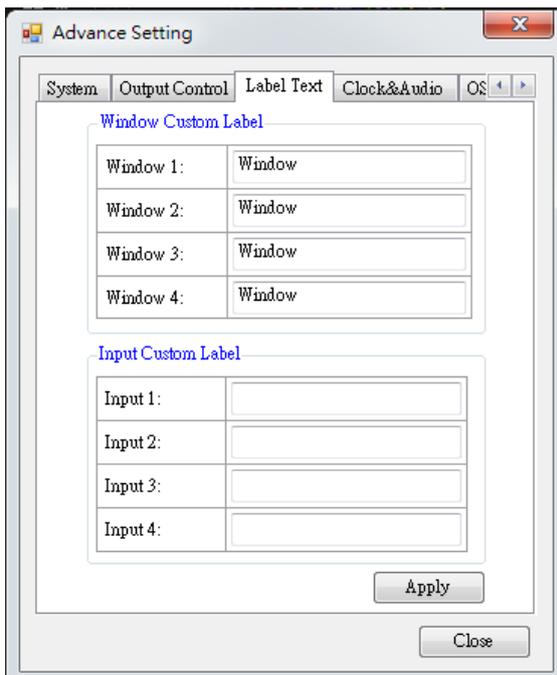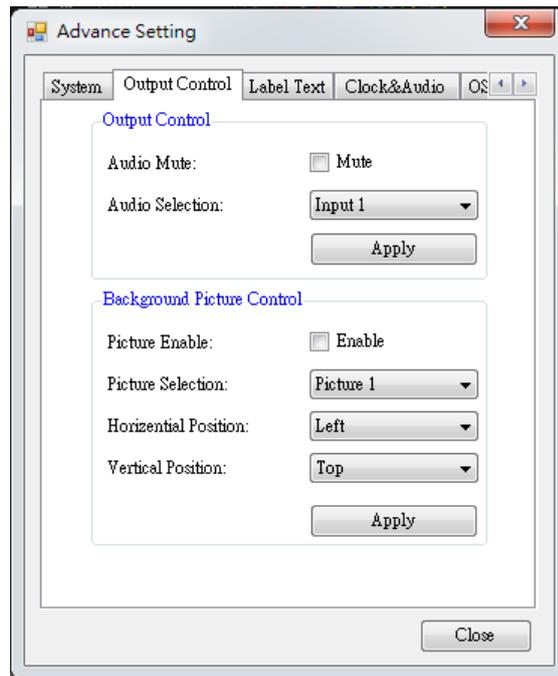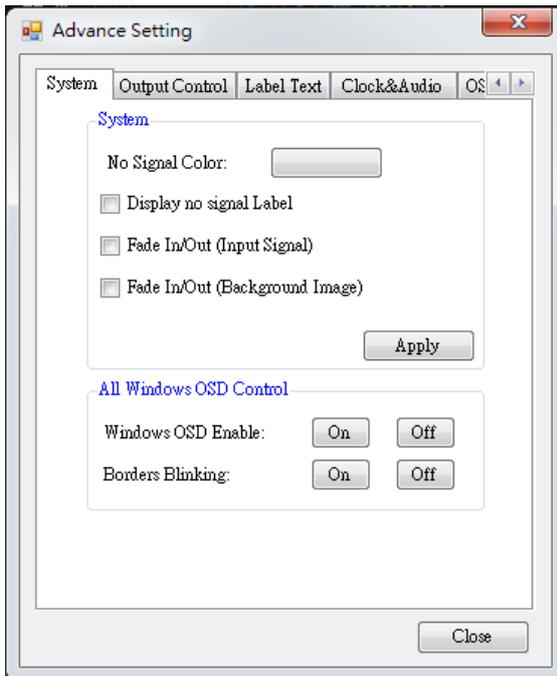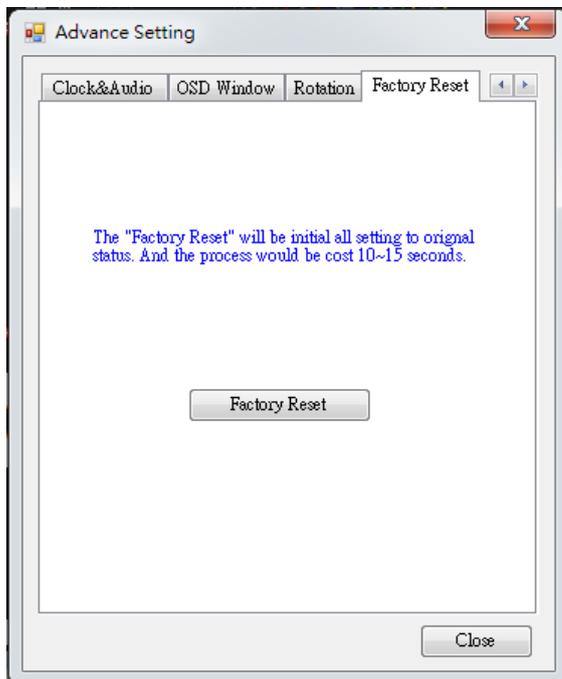
➢ Clock and Audio:

User can set up the position of clock and other audio control.
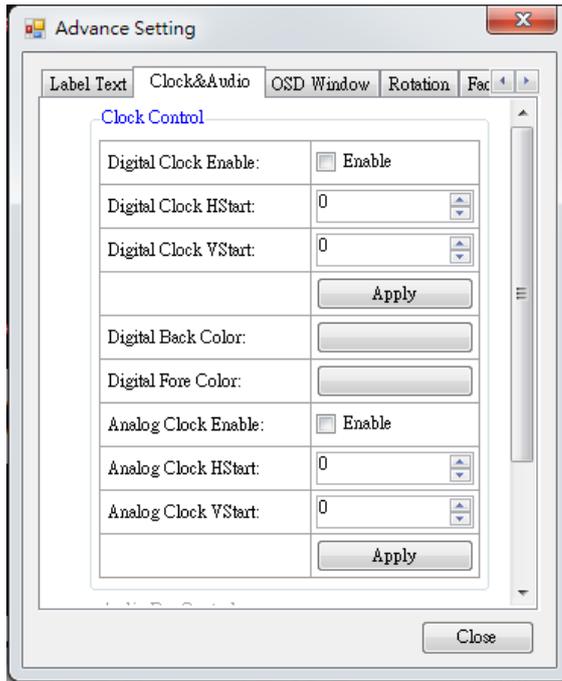
➢ Factory Reset:

Click the [Factory Reset] button to do factory default reset. This default reset process will take about 10~15 seconds and it will be initialized all setting to original system state.
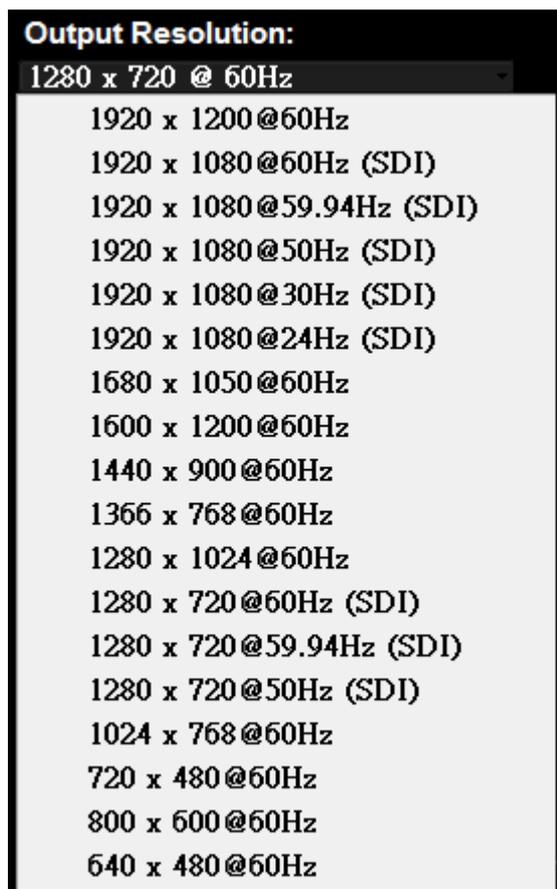
(4) **[v]** Version: Read the software and firmware version.

Version

When the current version is not same with correct version. Please update the firmware for the software fine operation.

Version

Software Version:	Ver 2.4
Firmware Correct Version:	Ver 2.4

Status

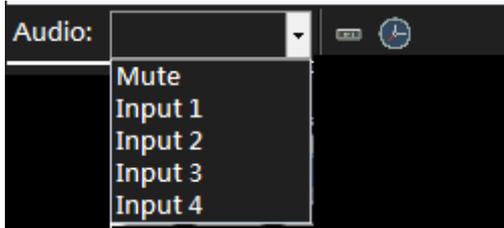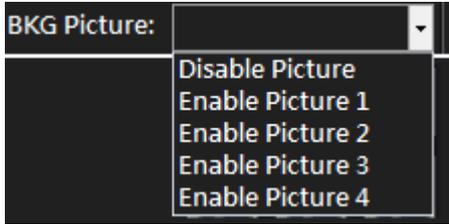|	
Firmware Device Version:	Ver 2.5B

3. Output Resolution:

Set the output resolution. When setting the different resolution, the parameters of PAP and custom layout (position and size) will change accordingly.

Output Resolution:

1280 x 720 @ 60Hz
1920 x 1200@60Hz
1920 x 1080@60Hz (SDI)
1920 x 1080@59.94Hz (SDI)
1920 x 1080@50Hz (SDI)
1920 x 1080@30Hz (SDI)
1920 x 1080@24Hz (SDI)
1680 x 1050@60Hz
1600 x 1200@60Hz
1440 x 900@60Hz
1366 x 768@60Hz
1280 x 1024@60Hz
1280 x 720@60Hz (SDI)
1280 x 720@59.94Hz (SDI)
1280 x 720@50Hz (SDI)
1024 x 768@60Hz
720 x 480@60Hz
800 x 600@60Hz
640 x 480@60Hz

4. Audio, analog clock and digital clock

5. Background picture:

6. Default layout and Custom layout:

➢ Default layout: Use factory preloaded video layouts.

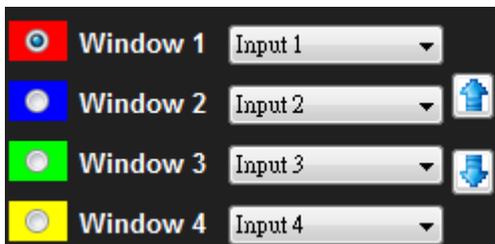➢ Custom layout: Use custom pre-saved video layouts.

In this part, you can adjust the size and position of output screen. If you want to save the layout, please right click to save this layout into device.

7. Window selection and input mapping

Assign arbitrary video input and adjust the order of windows

8. Window setting

Adjust the size, position or other settings of the specified window.

WARRANTY

The SELLER warrants the **MX-3004F** **3G/HD/SD-SDI Quad-view Video Processor** free from defects in the material and workmanship for 1 year from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 1 year warranty period, The SELLER, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surge. This warranty is offered by the SELLER for its BUYER with direct transaction only. This warranty is void if the warranty seal on the metal housing is broken.

Unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customers agree to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Proof of sale may be required in order to claim warranty. Customers outside Taiwan are responsible for shipping charges to and from the SELLER. Cables and power adapters are limited to a 30 day warranty and must be free from any markings, scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. **Also, the technical information contained herein regarding the MX-3004F features and specifications is subject to change without further notice.**