HDMI MultiView

User Guide

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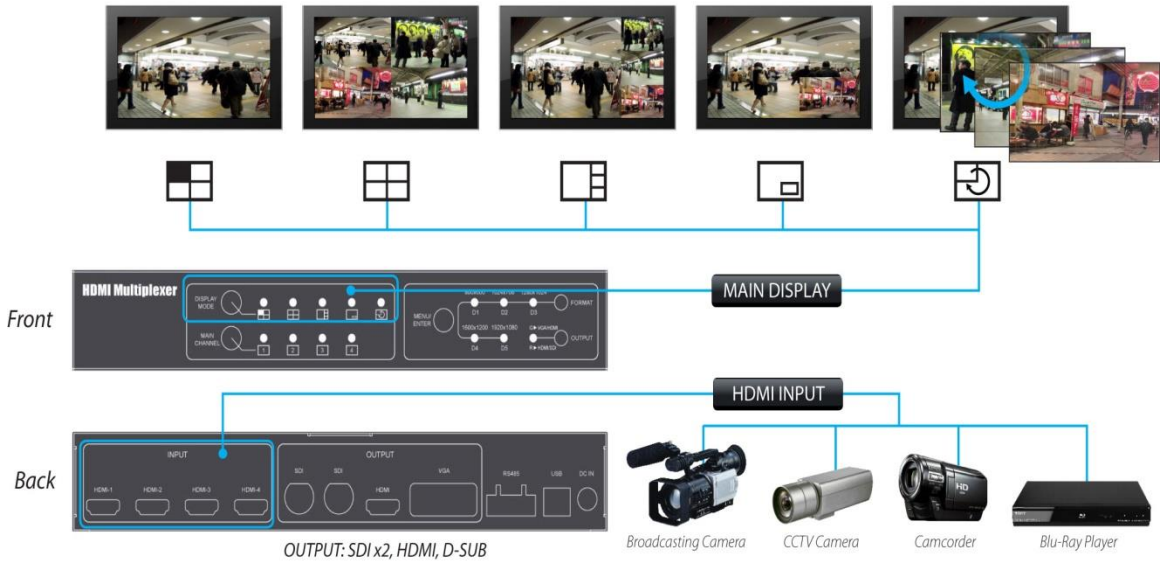
Feature

- Allow up to four different HDMI sources to be display in multiplex style in one monitor
- Independent scaling with anti-aliasing
- Supports HD formats:
  - 480p50 & 60
  - 720p50 & 60
  - 1080i50 & 60
  - 1080p24, 25, 30, 50 & 60
- Support 525i & 625i SD D1 format
- Support up to 7.1ch of audio output
- HDMI 1.3 supported
- SDI compliant outputs
- D-Sub output
- Firmware is upgradable in the field using the integrated USB port
- The converter is Plug-and-Play

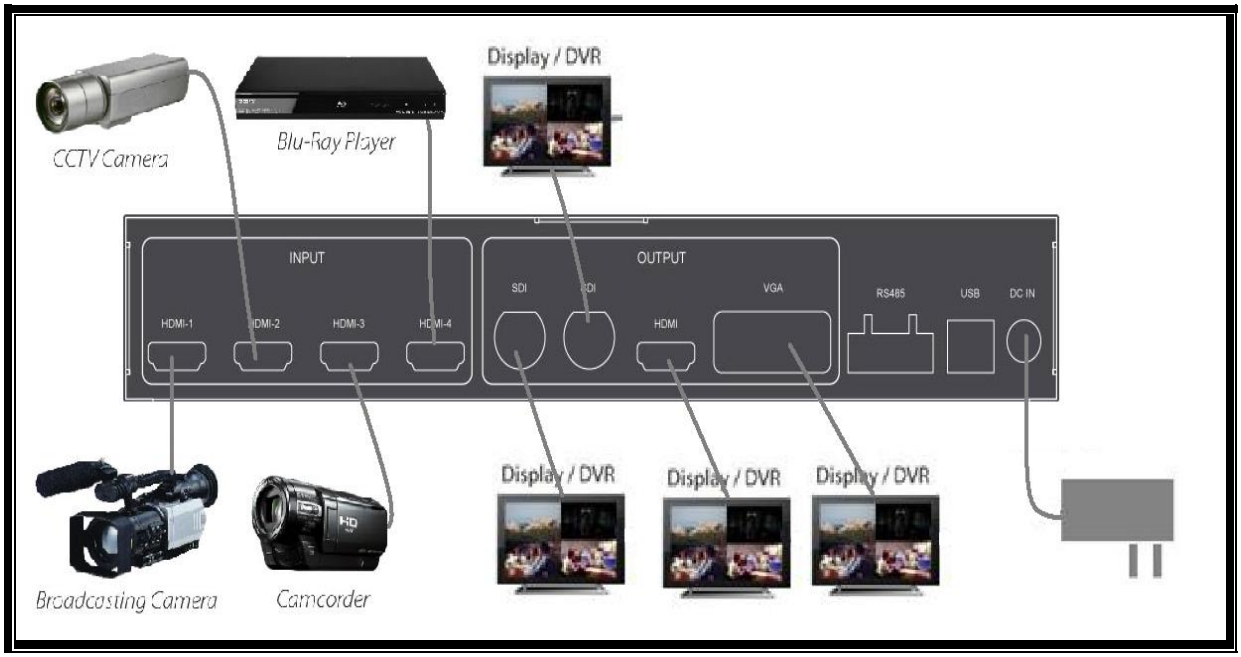


Package Contents

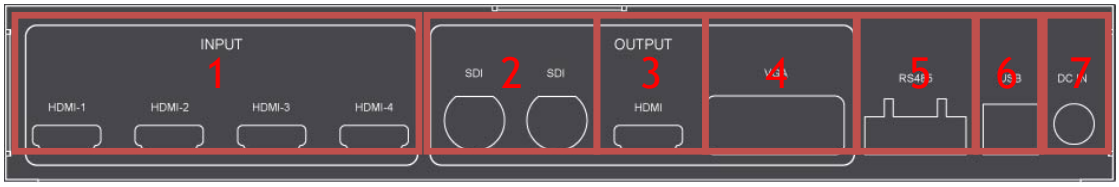
The HDMI MUX BOX package contains the following items:

- User Manual x 1
- DC Adapter x 1

Install Diagram

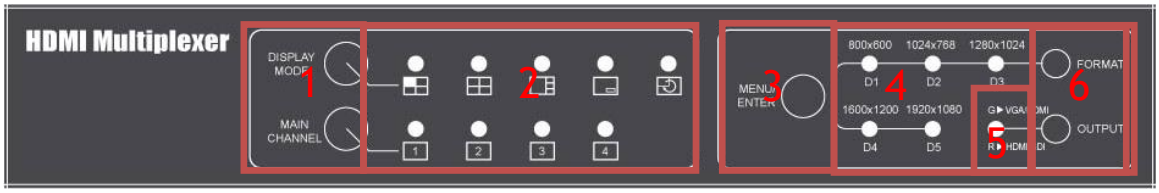


Rear Panel



NO	Component	Function
1	HDMI Input Port x4	From your HDMI Source plug into these ports
2	SDI Output Port x 2	From your SDI Display Device plug into these ports
3	HDMI Output Port	Form your HDMI Display device plug into these ports
4	VGA Output Port	From your VGA Display device plug into these ports
5	RS485 Connector	Control HDMI MUX Box
6	USB Port	Upgrade firmware/Control SDI MUX Box
7	Power Jack	The Power adapter plug into here.

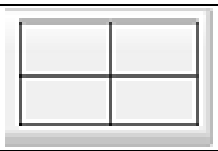
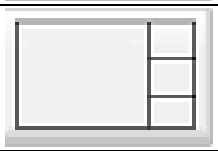
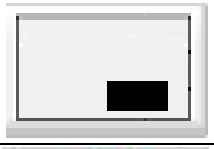
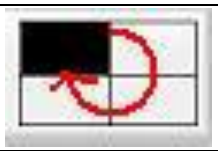
Front Panel

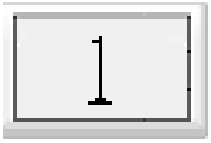


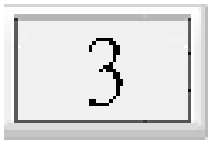
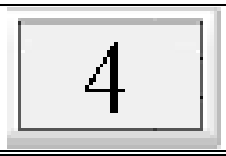
NO	Component	Function
1	Display Mode/ Main Channel	Select Display mode (Main-5 mode) and Main channel
2	Main Channel LEDs	The LEDs is indicate Main Channel
3	Menu/Enter	Menu

4	Format LEDs	The LEDs is indicate output format (VGA, HDMI and SDI)
5	Output Port LED	The LEDs is indicate output port R: SDI/HDMI G:VGA/HDMI
6	Function Buttons	Select output port/Output Format

Display Mode

MAIN DISPLAY MODE	DESCRIPTION
	One of each is Displayed on the full screen.
	Four Channels is Displayed on the full screen. Sound is muted.
	Main Channel is displayed on Left side windows at the same time as other channels are displayed on right side window. Sound is usually from the main channel only.
	Main Channel is displayed on the full screen at the same time as other channels are displayed in inset windows. Sound is usually from the main channel only.
	One of each is sequence displayed on the full screen.

SUB DISPLAY MODE	DESCRIPTION
	Display Channel 1 video and audio on the full screen

	Display Channel 2 video/audio and full screen window
	Display Channel 3 video/audio and full screen window
	Display Channel 4 video/audio and full screen window

Specifications

DESCRIPTION	
Support Video Resolution	720 x 480 i (NTSC) / 720 x 576 i (PAL) 720 x 480 50p/60p 1280 x 720 50p/60p/59.94p 1920 x 1080 50i/60i 1920 x 1080 24p/25p/30p/29.97p/23.97p 1920 x 1080 50p/60p/59.94p
Output Format	HDMI : 720x480 60i/720x480 60p/1280x720 60p/ 1920x1080 60i/1920 x 1080 60p (Default : 1920 x 1080 60p) VGA : 800x600 60Hz/1024x768 60Hz/ 1280x1024 60Hz/1600x1200 60Hz/ 1920x1080 60Hz (Default : 1920x1080 60Hz) SDI : SD-SDI, HD-SDI & 3G-SDI
SDI Format	SD-SDI, HD-SDI & 3G-SDI
Audio Support	7.1ch/5.1ch/Stereo,
Coaxial Cable Type	RG6/RG59(75Ω)
Cable Length Performance	3G: 140m of RG6 100m of RG59

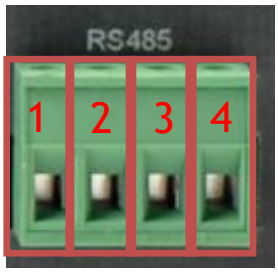
	HD: 200m of RG6 140m of RG59 SD: 400m of RG6 280m of RG59
Input	4 x BNC [SDI]
Output	2 x BNC [SDI] 1 x HDMI 1 x D-Sub
BNC Connector	3G 75 Ω inter-locked socket
HDMI Connector	TYPE A [19-pin female]
USB Connector	USB B-Type
Display Mode	5
Housing	SECC
Dimension	L:235.9mm x W145.8mm xH:40.2mm
Power Source	Power Adapter: AC 100 ~ 240 V/DC (+6 ~ 15 V)
Operation Temperature	0~50°C [32~114°F]
Storage Temperature	-20~+60°C

RS485 Commands

Parameters of RS485:

Command Set	Command
Baud Rate	19200 kbps
Data bits	8
Start bit	1
Stop bit	1
Parity	Non Parity

RS485 Pin Define



1	GND
2	Power +4.5V
3	RX-
4	RX+

Command List:

Command Set	Packet	Inquiry Packet	Command Set
Main Display	81 10 01 0p FF	81 01 0p FF	p = Mode Number (1 to 4)
Sub-Display	81 20 0p 0q FF	81 0p 0q FF	p = Main Channel q = Sub Channel Main Mode = 4, p can't equal to q
Audio Source	81 30 01 0p FF	81 01 0p FF	p = 1 ~ 4 Audio Channel Source p = 5 (Default)
Audio Mute	81 40 01 0p FF	81 01 0p FF	p = 0 Un-Mute p = 1 Mute
Output Port	81 50 01 0p FF	81 01 0p FF	p = 1 SDI / HDMI p = 1 VGA / HDMI
Output	81 60 01 0p FF	81 01 0p FF	SDI/HDMI | VGA/HDMI

<table>
<tr><td>Format</td><td></td><td></td><td><table>
<tr><td>p = 0</td><td>720x480 i60</td><td>800x600 p60</td></tr>
<tr><td>p = 1</td><td>720x480 p60</td><td>1024x768 p60</td></tr>
<tr><td>p = 2</td><td>1280x720 p60</td><td>1280x1024 p60</td></tr>
<tr><td>p = 3</td><td>1920x1080 i60</td><td>1600x1200 p60</td></tr>
<tr><td>p = 4</td><td>1920x1080 p60</td><td>1920x1080 p60</td></tr>
</table></td></tr>
<tr><td>Picture Adjust</td><td>81 70 0p qq FF</td><td>81 0p qq FF</td><td>p = 1 Brightness
p = 2 Contrast
p = 3 Hue
p = 4 Saturation
p = 5 Default, qq : don’t care
qq: Value (0x00 to 0xFF)</td></tr>
</table>

Inquiry Command List:

Command Set	Command	Inquiry Packet	Command Set
Main Display	81 01 01 XX FF	81 01 0p FF	p = Mode Number (1 to 4)
Sub-Display	81 02 01 XX FF	81 01 0p FF	p = Sub Display Mode
Audio Source	81 03 01 XX FF	81 01 0p FF	p = 1 ~ 4 Audio Channel Source p = 5 (Default)

<table>
<tr><td>Audio Mute</td><td>81 04 01 XX FF</td><td>81 01 0p FF</td><td>p = 0 Un-Mute
p = 1 Mute</td></tr>
<tr><td>Output Port</td><td>81 05 01 XX FF</td><td>81 01 0p FF</td><td>p = 1 SDI / HDMI
p = 1 VGA / HDMI</td></tr>
<tr><td>Output Format</td><td>81 06 01 XX FF</td><td>81 01 0p FF</td><td>
<table>
<tr><th></th><th>SDI/HDMI</th><th>VGA/HDMI</th></tr>
<tr><td>p = 0</td><td>720x480 i60</td><td>800x600 p60</td></tr>
<tr><td>p = 1</td><td>720x480 p60</td><td>1024x768 p60</td></tr>
<tr><td>p = 2</td><td>1280x720 p60</td><td>1280x1024 p60</td></tr>
<tr><td>p = 3</td><td>1920x1080 i60</td><td>1600x1200 p60</td></tr>
<tr><td>p = 4</td><td>1920x1080 p60</td><td>1920x1080 p60</td></tr>
</table>
</td></tr>
<tr><td>Picture Adjust</td><td>81 07 0p XX FF</td><td>81 0p qq FF</td><td>p = 1 Brightness
p = 2 Contrast
p = 3 Hue
p = 4 Saturation
qq = Adjust Value (0x00 to 0xFF)</td></tr>
<tr><td>Input Format</td><td>81 08 0p XX FF</td><td>81 0p qq FF</td><td>p = Source Index (1 to 4)
qq = Input Format Index</td></tr>
<tr><td>Firmware Rev.</td><td>81 09 01 XX FF</td><td>81 pq rs FF</td><td>pqrs = FW Version (0101 = 0.1.0.1)</td></tr>
</table>

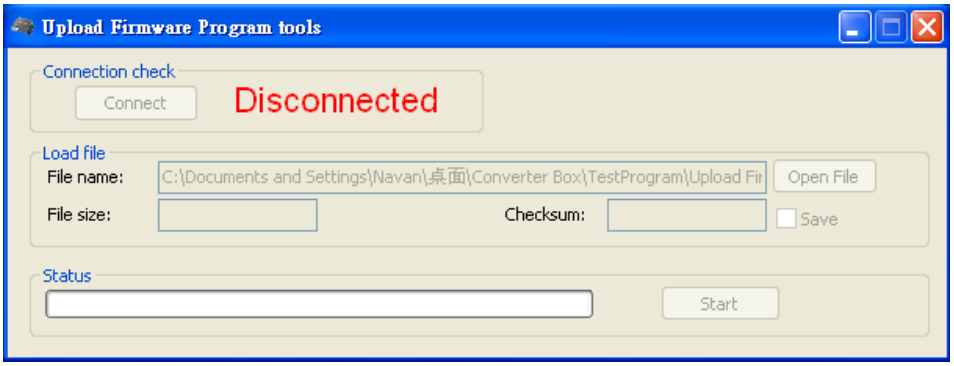
XX: don’t care.

- Firmware is upgradable in the field using the integrated USB port

How to Firmware upgrade:

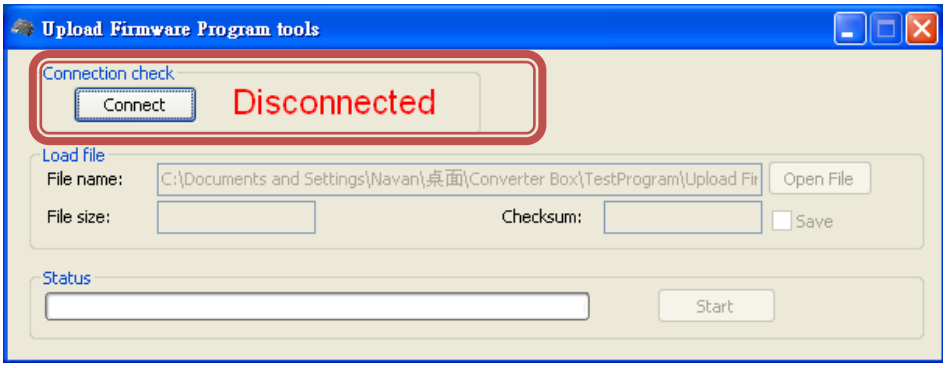
Step 1.

Open Upload Firmware Program tools.exe and connect box to PC by USB Cable.



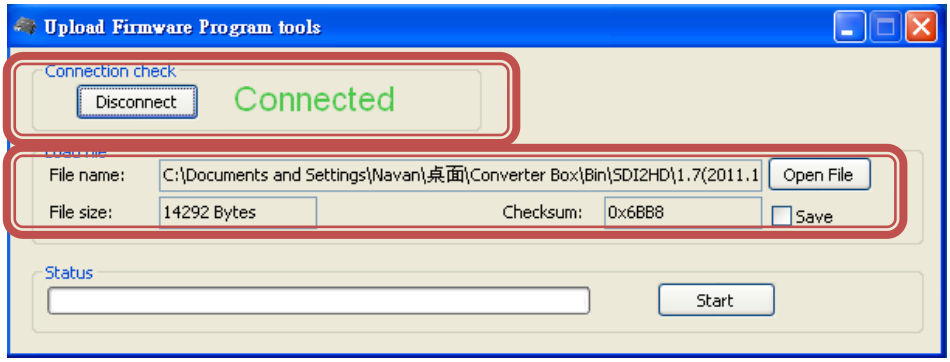
Step 2.

Plug and un-plug “DC adapter” to power on/off the converter box (the connection check status will be changed to “Connect”)



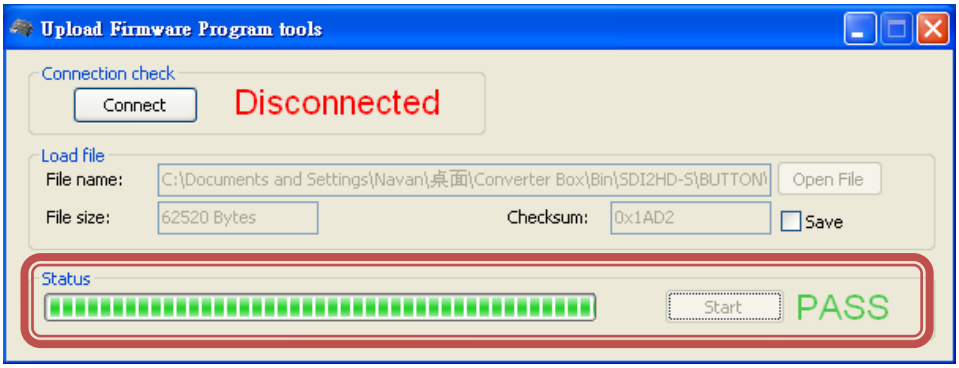
Step 3.

Plug and un-plug “DC adapter” again (the connection check status will be changed to “Connected”) and Please click the Open File button to select the firmware bin file.



Step 4.

Please click “Start’ Button to proceed with new firmware programming. The PASS message will appear when the procedures finished.



Step 5.

Close Upload Firmware Program tools