

SDI SWITCHER

User Manual



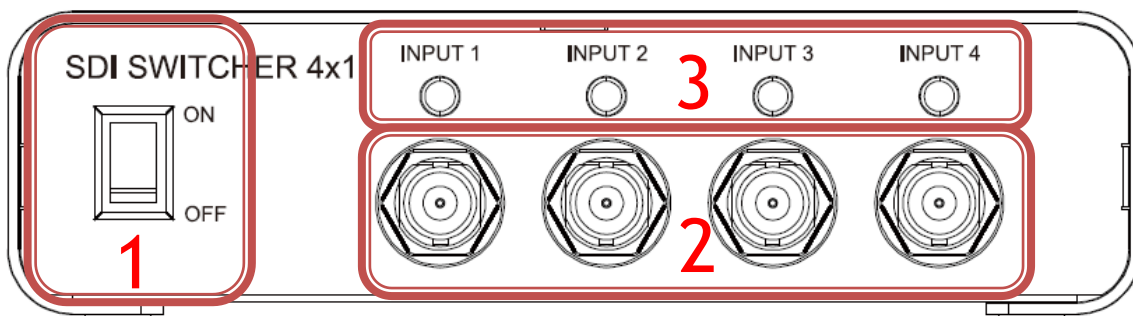
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Feature

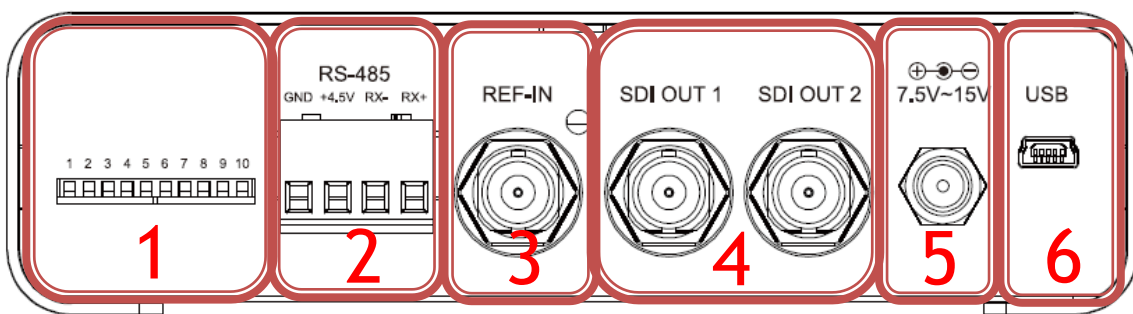
- SDI Supports HD formats :
 - 720p50 & 60
 - 1080i50 & 60
 - 1080p24, 25, 30, 50 & 60
- SDI Support 525i & 625i SD D1 format
- Auto 3G/HD/SD-SDI detection
- Can be split one 3G-SDI displays simultaneously.
- Frame rate conversion(1.000/1.001)
- External Dipswitch, USB and RS485 Configuration
- Firmware is upgradable in the field using the integrated USB port
- The converter is Plug-and-Play
- Switching is controlled via front panel push button, USB or RS485 commands.
- Locking Power Supply

Front Panel



NO	Component	Function
1	Power Switcher	Switches the power On/Off
2	Input Source	Connect up to four SDI source to these port
3	Input Port Source LED/Button	Press this button to select the input ports

Rear Panel



NO	Component	Function
1	Dipswitch	Setting configuration for Box
2	RS485 Port	Control Box by RS485 interface
3	Sync Input Port	From you external Sync Device plug into this port
4	SDI Output Port	From your SDI Display Device plug into these ports
5	Power Jack	The Power adapter plug into here
6	USB Port	Upgrade firmware/Control Box From PC

DipSwitch/LED Control





NO	Component	Function
1	Control Mode	Select Control Interface from USB or Dipswitch
2	Gen-lock Source	Select Gen-lock Source from extern Reference in
3	Auto Switch	If Signal loss, will auto change to next channel
4	Audio Source	Select audio source
5	Output Format	Select Output Format

◆ **Control Mode:**

Control Box from Dipswitch or USB





Control Mode	Dipswitch Indicates
DipSwitch	
USB	

◆ **Genlock Mode:**

Select Genlock source from external sync or Free Run, it is support Brust and Tri-level sync.





Gen-lock source	Dipswitch Indicates
Free Run	
External Sync	

◆ **Auto Switch:**

If signal is loss, will be auto change to next channel:









Auto mode	Dipswitch Indicates
OFF	
ON	

◆ **Audio Source:**

Select Audio source,



Audio Source	Dipswitch Indicates
Default	
SDI 1	
SDI 2	
SDI 3	
SDI 4	
Audio Mute	

◆ **Output Format:**



Resolution	Dipswitch Indicates	Resolution	Dipswitch Indicates
1920x1080p60		1920x1080i60	
1920x1080p59		1920x1080i59	
1920x1080p50		1920x1080i50	
1920x1080p30		1280x720p60	
1920x1080p29		1280x720p59	
1920x1080p25		1280x720p50	
1920x1080p24		720x480i59	
1920x1080p23		720x576i50	

Gen-lock Mode

	480i 59	576i 50	720 p60	720 p59	720 p50	1080 i60	1080 i59	1080 i50	1080 p60	1080 p59	1080 p50
480i 59	●			●			●			●	
576i 50		●			●			●			●
720p 60			●								
720p 59				●							
720p 50					●						
1080i 60			●			●			●		
1080i 59	●			●			●			●	
1080i 50					●			●			●
1080 p60			●			●			●		
1080 p59	●			●			●			●	
1080 p50					●			●			●

● : Frame Lock

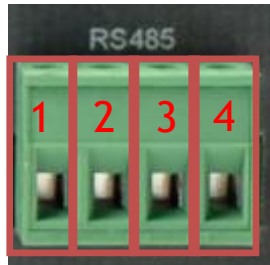
● : Genlock

RS485 Commands

Parameters of RS485:

Command Set	Command
Baud Rate	115200 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	Command Set
Output Format	81 12 04 00 01 0p 0q FF	pq: Format Index 00 : 720x480i59.94 01 : 720x576i50.00 06 : 1280x720p60.00 07 : 1280x720p59.94 08 : 1280x750p50.00 0C : 1920x1080i60.00 0D : 1920x1080i59.94 0E : 1920x1080i50.00 0F : 1920x1080p60.00 10 : 1920x1080p59.94 11 : 1920x1080p50.00 12 : 1920x1080p30.00 13 : 1920x1080p29.97 14 : 1920x1080p25.00 15 : 1920x1080p24.00 16 : 1920x1080p23.98
Auto Switch	81 12 34 00 01 00 0p FF	P : Enable/Disable 0 : Enable 1 : Disable
Input Source	81 12 03 00 01 00 0p FF	P : Input Channel Index 0 : Channel 1 1 : Channel 2 2 : Channel 3 3 : Channel 4
Audio Source	81 12 09 00 01 00 0p FF	P : input audio Source Index 0 : Audio Channel 1 1 : Audio Channel 2 2 : Audio Channel 3 3 : Audio channel 4 4 : Default (Based on Input Source)
Audio	81 12 0A 00 01 00 0p FF	P : Enable/Disable Mute

Mute		0 : Un-Mute 1 : Mute
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Inquiry Packet : 81 12 AB FF

Inquiry Command List:

Command Set	Command	Inquiry Packet
Input Format	81 AB 02 0p 07 FF	<p>p : Channel Index</p> <p>81 aA bB cC dD eE fF gG hH iI jJ kK lL mM nN FF</p> <p>ex: 81 08 00 00 07 03 08 00 04 03 0c 00 00 00 01 FF</p> <p>H-active : CDAB → 780H → 1920</p> <p>V-active : GHEF → 0438H → 1080</p> <p>V-Freq : L J. KL → 3C . 00 → 60.00</p> <p>I/P: N: →1 : progressive , 0 : Interlace</p>
Output Format	81 AB 04 00 01 FF	<p>81 0p 0q FF</p> <p>Pq : Format Index</p> <p>00 : 720x480i59.94</p> <p>01 : 720x576i50.00</p> <p>06 : 1280x720p60.00</p> <p>07 : 1280x720p59.94</p> <p>08 : 1280x750p50.00</p> <p>0C : 1920x1080i60.00</p> <p>0D : 1920x1080i59.94</p> <p>0E : 1920x1080i50.00</p> <p>0F : 1920x1080p60.00</p> <p>10 : 1920x1080p59.94</p> <p>11 : 1920x1080p50.00</p> <p>12 : 1920x1080p30.00</p> <p>13 : 1920x1080p29.97</p> <p>14 : 1920x1080p25.00</p> <p>15 : 1920x1080p24.00</p> <p>16 : 1920x1080p23.98</p>
Input Source	81 AB 03 00 01 FF	<p>81 00 0p FF</p> <p>P : Input Channel Index</p> <p>0 : Channel 1</p>

		1 : Channel 2 2 : Channel 3 3 : Channel 4
Audio Source	81 AB 09 00 01 FF	81 00 0p FF P : Audio Source Index 0 : Audio Channel 1 1 : Audio Channel 2 2 : Audio Channel 3 3 : Audio Channel 4 4 : Default (Based on Input Source)
Audio Mute	81 AB 0A 00 01 FF	81 00 01 FF 00 : Un-Mute 01 : Mute
Firmware Version	81 AB 00 00 02 FF	81 00 03 00 01 FF Firmware Version : 00 01 00 03 → 0.1.0.3

Installation

Switcher installation consists of the following:

1. Disconnect +12DC adaptor to converter.
2. Connect Video Source to the Input Connector.
3. Connect Display Equipment to the output's connector
4. Connect the +12DC adaptor to the converter.

Package Contents

The Switcher package contains the following items:

- User Manual x 1
- +12 DC Adapter x 1
- SDI Switcher Converter x 1

Specifications

DESCRIPTION	SDI2SDI-S
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SDI Format	SD-SDI, HD-SDI, 3G-SDI, 3GB-SDI & Dual Str
SDI Transition Rate	2.970Gb/s, 10485Gb/s and 270Mb/s
Color Format	YUV422
Audio Support	Up to 8 channel.
Coaxial Cable Type	RG6/RG59(75Ω)
Cable Equalization	3G: 100m of RG6/ 86m of RG59 HD: 170m of RG6/ 120m of RG59 SD: 400m of RG6/ 280m of RG59 *1 RG6: CANARE L-5CFB Cable / RG59: Belden 9275 Cable *2 Cable Length Performance: Depending on SDI Signal and Cable Quality
Input Source	SDI X 4 Ref In X1
Output Source	SDI x 2
Control Interface	Button/Dipswitch/USB
Firmware Updates	Via Mini-USB
Output Connector	2 x BNC [SDI]
Input Connector	4 x BNC [SDI] 1 x BNC [Ref In]
BNC Connector	3G 75 Ω inter-locked socket
USB Connector	Mini-USB
Dipswitch	Output Format/Audio Source/Input Source
Housing	SECC
Dimension	
Power Source	Power Adapter: AC 100 ~ 240 V/DC (+9 ~ 15 V)
Operation Temperature	0~50°C [32~114°F]
Storage Temperature	-20~+60°C

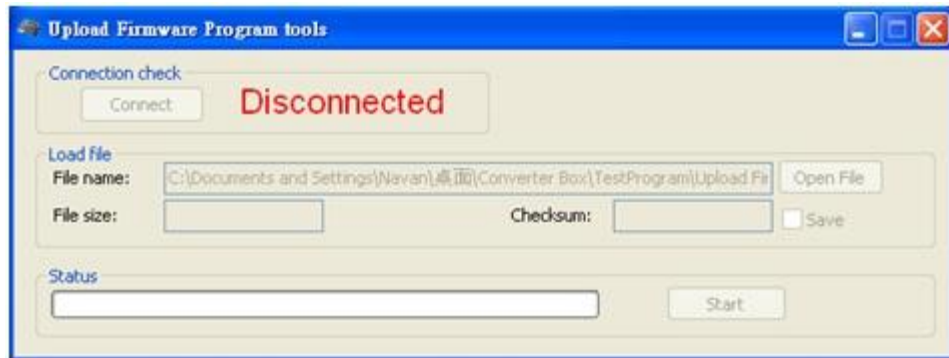
Firmware Upload

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

How to Firmware upgrade:

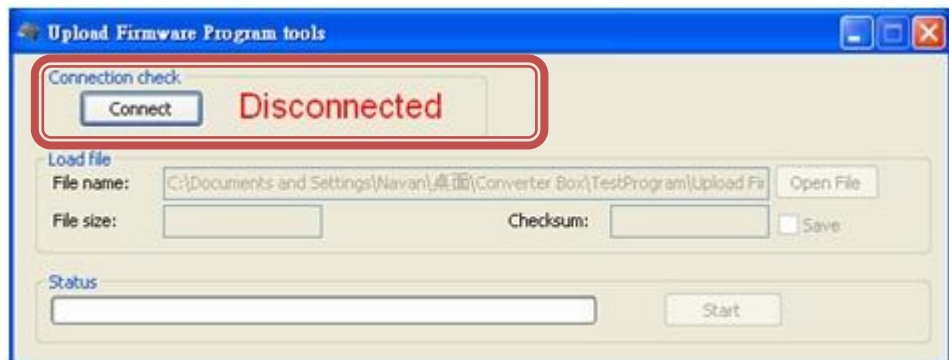
Step 1.

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



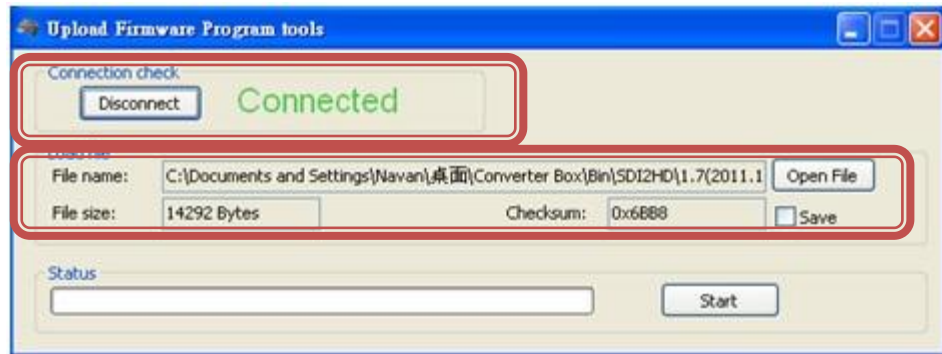
Step 2.

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



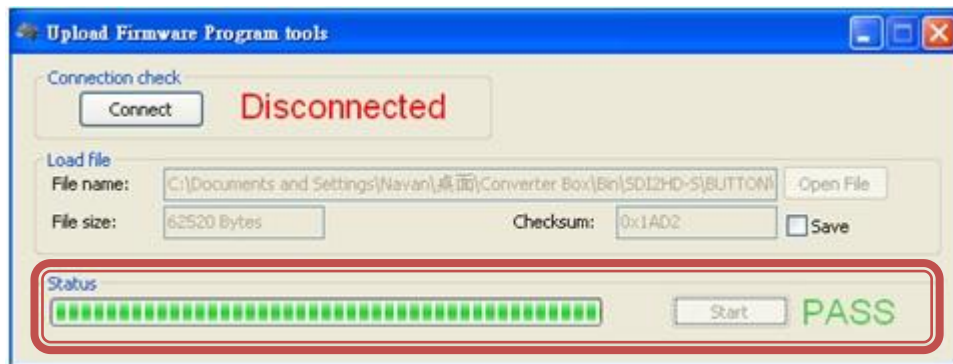
Step 3.

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.



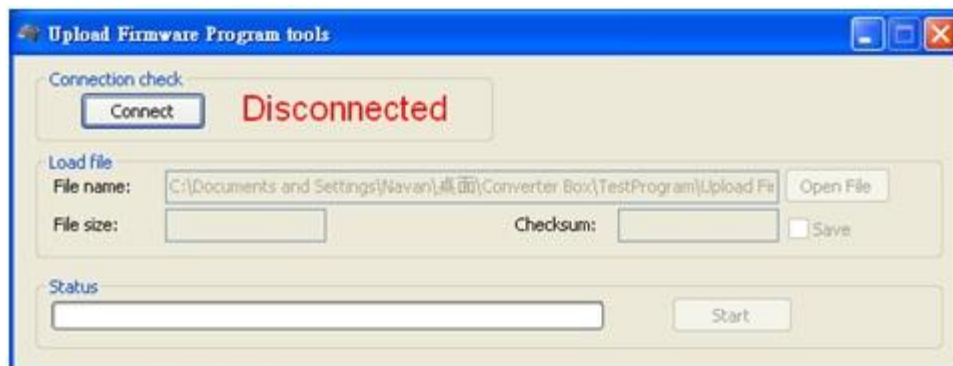
Step 4.

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



Update List

Data	Version	Command
2016.04.07	V1.0	1. Release