



Mini Converter User Manual

MSP 202 HD/SD SDI Embedded User Manual



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The pictures and data in the user manual are consult only, if there is fluctuation, according to the real object please!

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1.0	2009/11/10	0001	Release	LISA
1.2	2010/09/28	0003	Change the shell of the product	LISA

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1.0 Safety

	The proper use of power The operating voltage for this product is 12V. This product is only workable under correct power condition, which is already mark on the back panel of the power.
	High Voltage There are many high voltage components inside.
	Do not Remove Covers and Panels Do not remove Covers in any conditions. There are not any spare components inside for maintenance, so do not maintain this product by userselves, any requirement, please feel free to contact our service engineer. Keep heavy device from power cord.
	Grounding the Product and Use the Proper Fuse This product is grounded through the grounding conductor of the power cord. To Avoid electrical shock, plug the power cord into a properly wired receptacle before connecting to the product input or output terminals.
	Keep away from Magnet, Motor, TV and Transformer.
	Guard Against Damp Keep using inside clean and dryness environment, once the device get wet, must remove power cord right now.
	Keep away Exploder Do not operate the device inside dangerous and easy explosive gas, which it may make fire, blast or something without expectation.
	Keep away Pour Liquid and Fragment It is forbid to pour liquid, metal fragment or anything else inside this device to avoid fire and other accident. Once that happens, must remove power cord and try to make it clean before power on again.

2.0 Function description

2.1 Functional Description Block Diagram

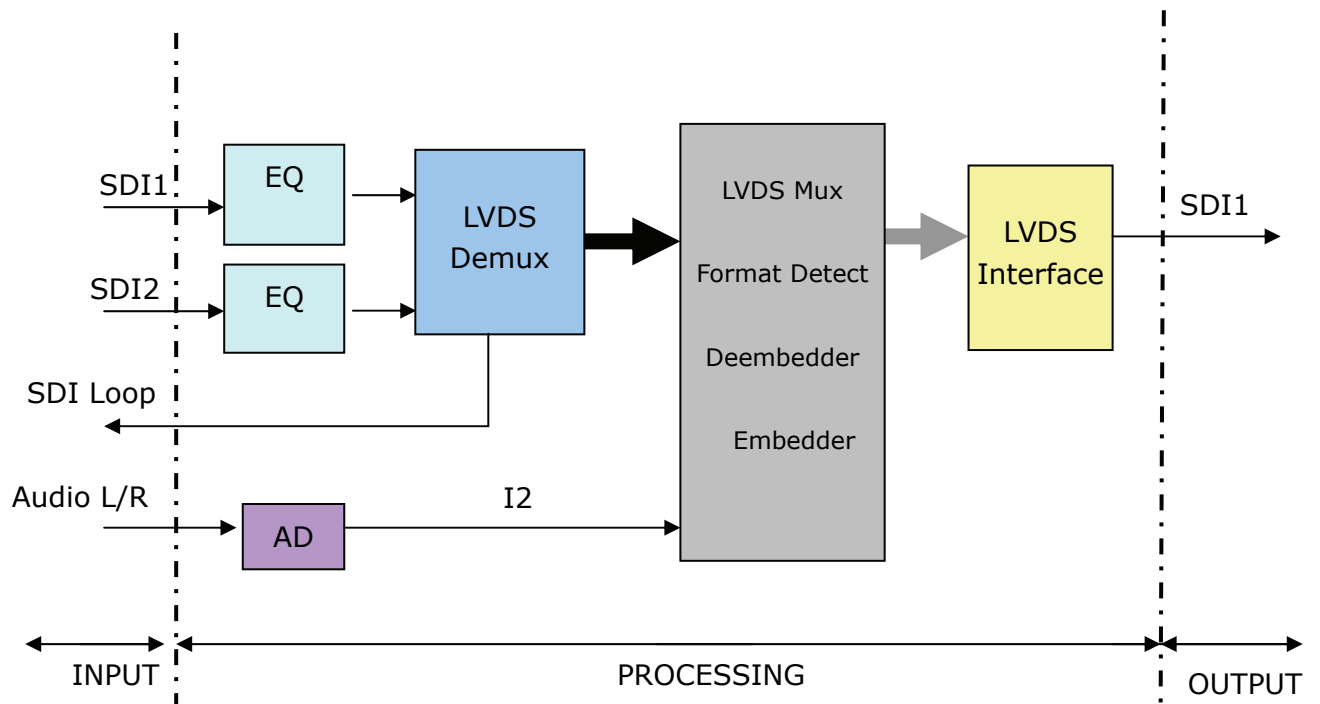


Fig. 2.1 MSP 202 "Functional Description Block Diagram"

2.2 Specification/Parameters

SDI BNC Input	
Number of Inputs	2
Output resolution (Supported Standards)	625/25 PAL, 525/29.97 NTSC, 1080i50, 1080i59.94/60, 720p50 and 720p59.94/60
Embedded Audio Channels	1
Supported Standards	ITU-R BT.656, ITU-R BT.601, SMPTE 259M, SMPTE 292, SMPTE 297
Audio Input	
Number of Inputs	1
Connector	Standard 1/4" socket
Supported Standards	48Kbps 24bit balance analog audio
SDI BNC Output	
Number of Outputs	1
Output resolution (Supported Standards)	625/25 PAL, 525/29.97 NTSC, 1080i50, 1080i59.94/60, 720p50 and 720p59.94/60
Equalization	Belden 1694A 200m HD 1.485G, 350m SD 270Mbps
YPbPr Output	
Number of Outputs	1
Connector	VGA
Output resolution (Supported Standards)	625/25 PAL, 525/29.97 NTSC, 1080i50, 1080i59.94/60, 720p50 and 720p59.94/60
Audio output	
Number of outputs	1
Connector	Standard 1/4" socket
Audio standard	48Kbps 24bit balance analogue audio
Function	
PPM	Standard PPM, max 4 channels
Format Conversion	No support
Frame Rate Conversion	No support
TSL	support
Extras	
Communication	RS422
Stored Environment	10% to 90%
Working Environment	0°C~45°C
Product Warranty	1 years
Power Supply	+12V 3.5" interface power module

3.0 Description of button and interface

3.1 Interface description



Fig. 3.1 MSP 202 "Interface"

1. RS422 connector used for PC software control
2. LED indicator light;
Red LED indicator light when the device is power on;
Green lights when SDI outputs;
3. SDI output used to input connect with HD player, HD camera etc.
4. VGA output connector for input analog signal YPbPr.
5. AUDIO output interface, used to access speaker or the audio amplifier system.

3.2 Control panel description

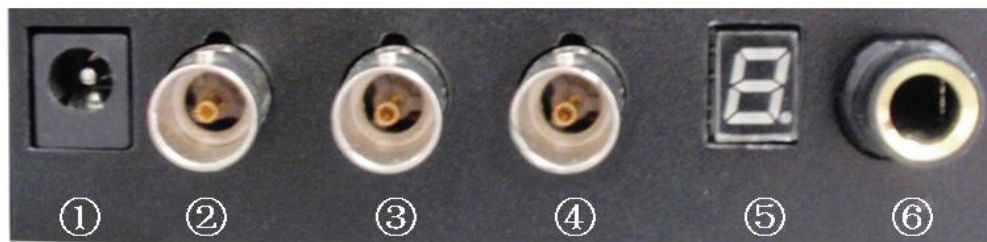


Fig. 3.2 MSP 202 "Control panel"

1. Power, This device uses the standard 12V/1.5A power supply.
- 2.SDI input to interface ②, used to support SD/HD SDI input. Input video signal from the HD player, HD projector.
- 3.SDI input to interface ③, used to support SD/HD SDI input. Input video signal from the HD player, HD projector.
4. SDI loop output interface. Can go to next SDI device.
5. LED FORMAT LED digitron, Indicates of CVBS output;

LED digitron	Output format
1	576i_50
2	486i_60
3	720P_50
4	720P_59.94
5	720P_60
6	1080i_50
7	1080i_59.94
8	1080i_60
0	Not specified

6. Audio output connector for connect with DVD, HDD Player Set-Top Box etc,

4.0 Communication Software Control Guide

AVMSP series of small converter is equipped with user-friendly communication control software. User can set the source name by TSL protocol (embedder inside Convert kit), PPM or Audio Meter, audio display source and so on. User can also upgrade firmware for MSP 203 with this kit in need.

4.1 Running software

Double-click AVDSP software  , Software interface is as follows:

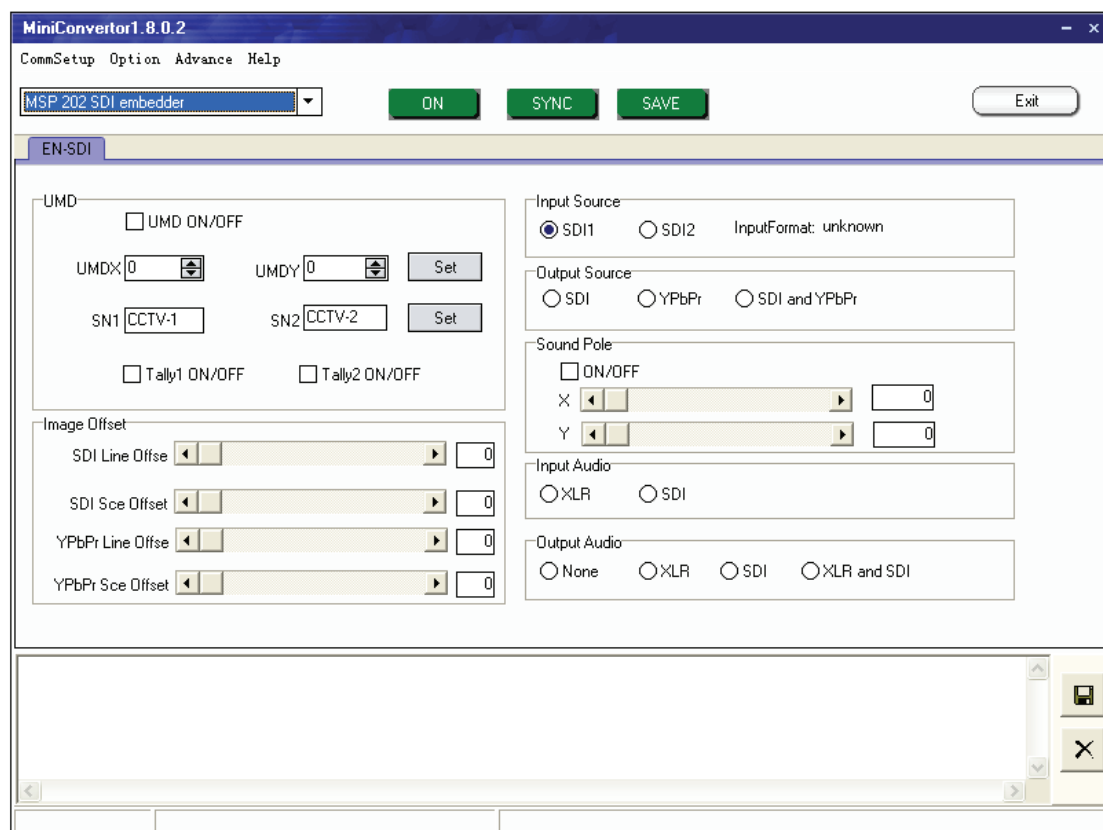


Fig. 4.1 MSP 202 Control Software

- **Serial settings**

User can set Comm Port and Comm Speed (Baudrate) through "Comm setup". User can select current using serial port by the pull-down arrow. Comm Speed should be 115200.

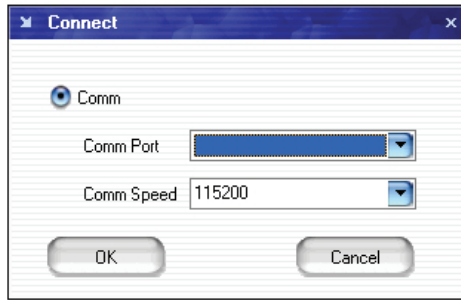


Fig. 4.2 MSP 202 Serial setting

- **Language settings**

This software supports both Chinese and English; User can switch the language by "language" menu.



Fig. 4.3 MSP 202 Language settings

- **Advance**

In the advance menu, send CMD and device SN are only for engineers, Ordinary user do not need to set.



Fig. 4.4 MSP 202 Advance

MSP202 can upgrade MCU and FPGA firmware inside MSP 203, before upgrade user need to key in the password in the "Admin password" dialog.

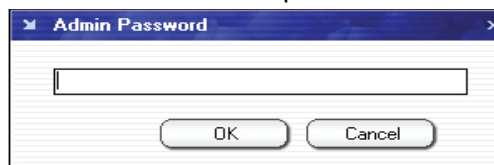


Fig. 4.5 MSP 202 "Admin password"

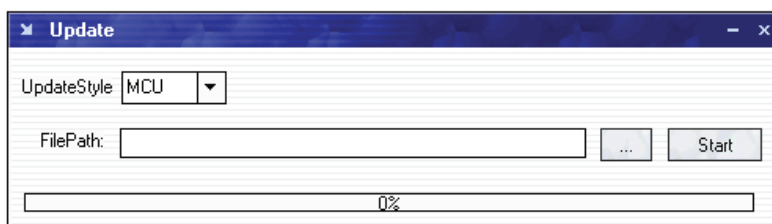
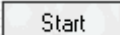


Fig. 4.6 MSP 202 "Update"

 Click path button, Find out the updated bin file.

 Click "Start" button to update

Click "Log" in the Advance menu, you can find out the log toolbar at the bottom of the software interface. Click "Log" again, the log toolbar will disappear from the software interface. Shown as below picture:

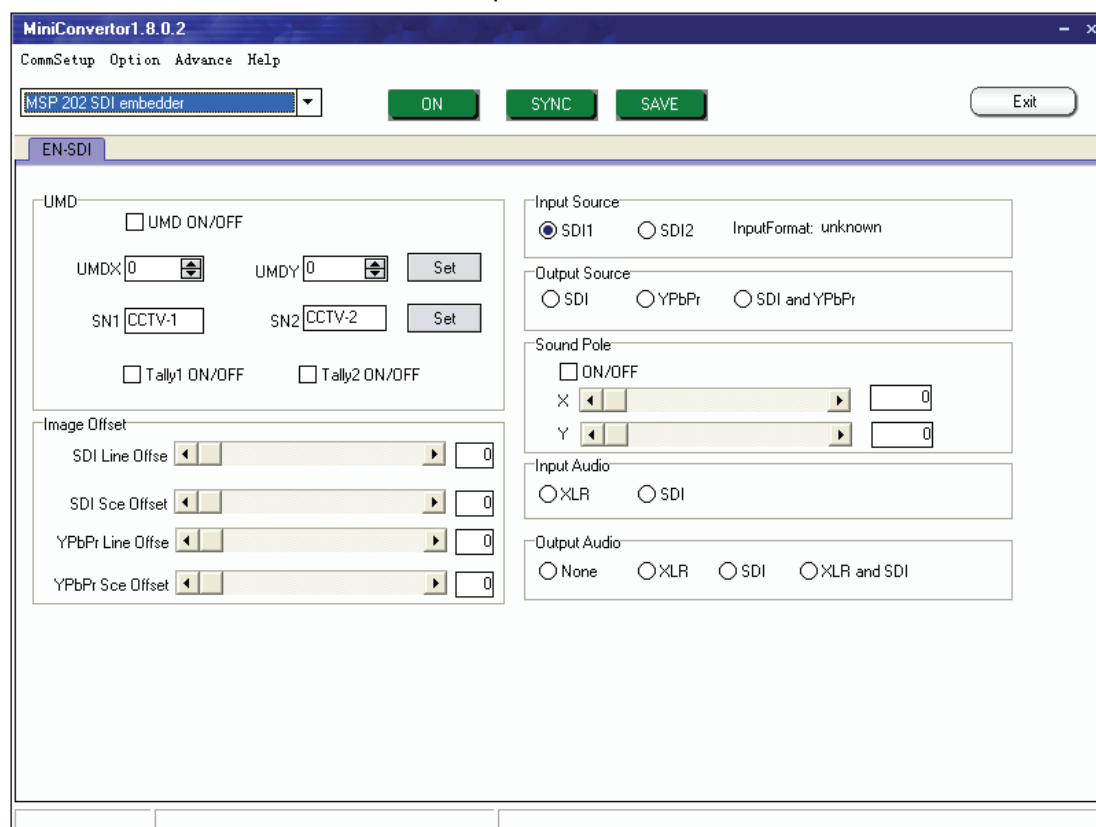


Fig. 4.7 MSP 202 Control Software

 save. User can save current log to specified path to review.

 Remove. User can remove the log.

Factory Reset: User can set the status to the factory status.



- **About**

User can find out the software version and related information in "About" menu.



Fig. 4.8 MSP 202 "About"

- **How to use**

User need to choose current small converter Model in the pull-down firstly.

Shown as below:

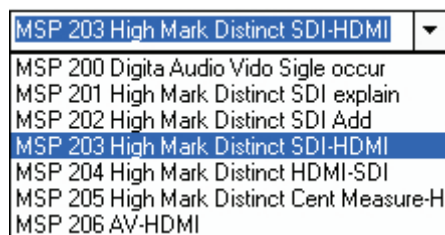
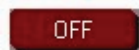
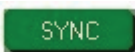


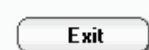
Fig. 4.9 MSP 202 "Choose Model"



Click "on" button to open the serial, The button will become  when serialis opened. User can click the "Close" button if user want to close the serial.



Click this button can download user config (settings) on software into MSP 2023, but could not sync user config inside MSP 202 which by buttons.



Click this button can exit software.

- **UMD setting**

UMD is stand for Under Monitor Display, it is used to show TV signal source, such as CCTV1 or VTR1 and so on.

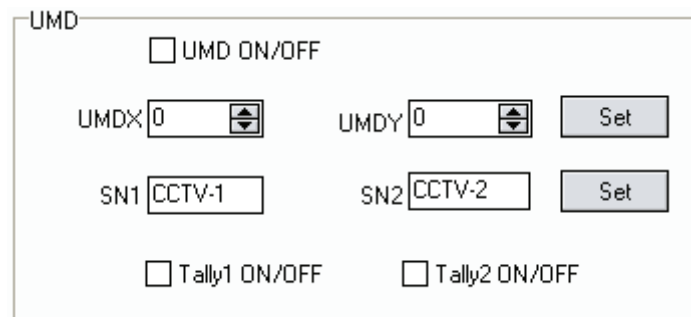


Fig. 4.10 MSP 202 "UMD"

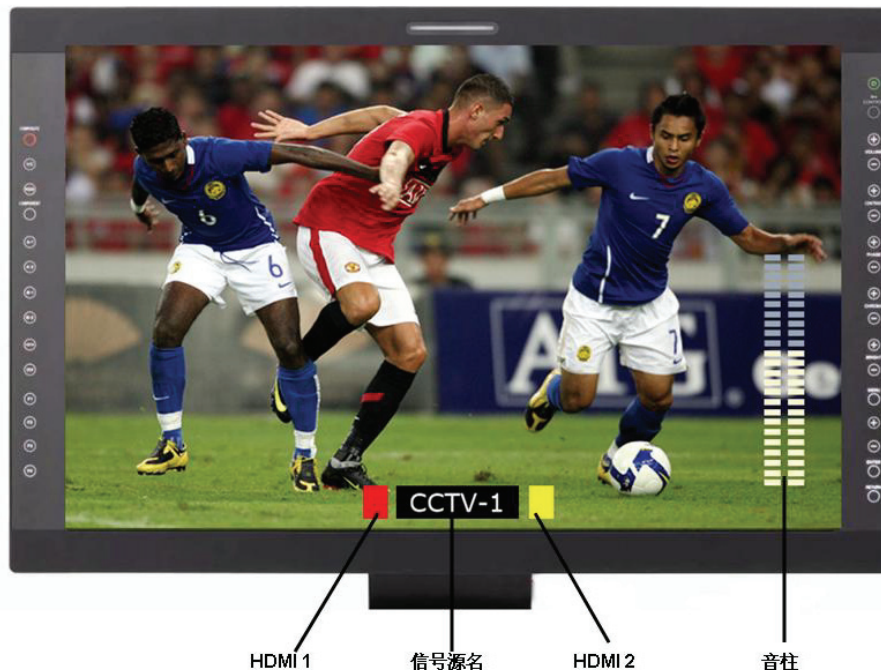


Fig. 4.11 MSP 202 "UMD", "Tally" and "Sound Pole"

Tally description:

1. Red means a signal input and is playing. For example, SDI1 is input and display to HDMI output.
2. Yellow means no signal input. For example, SDI2 is not interface to any SDI source.

Image deflection:

Image position could be moved left or right through this function

Image position could be moved up and down through this function

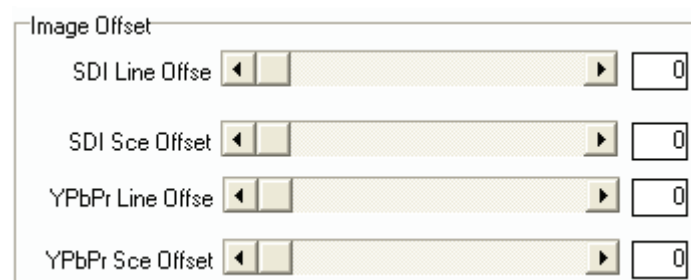


Fig. 4.12 MSP 202 "Image deflection" Mumu

- **Source signals**

MSP 203 provides two SDI input, click option box to choose which to display.

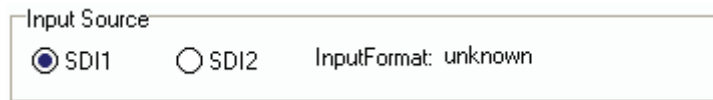


Fig. 4.13 MSP 202 "SDI channel"

(Note: It is unable to support resolution that is not included in as followed, which would display unknown:

Supported resolution: 625/25 PAL, 525/29.97 NTSC, 1080p23.98/24, 1080i50, 1080i59.94/60, 720p50 and 720p59.94/60)

- **Column**

MSP 202 provides column. User can click option box to choose display column or not, Column position could be changed by dragging mouse.

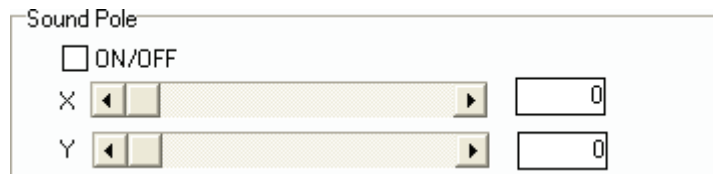


Fig. 4.14 MSP 202 "Column" Menu

- **Audio Input**

Click on option box to choose audio signal input.



Fig. 5.5 MSP 202 "Audio input" Menu

- **Audio Output**

Click on option box to choose audio signal output.



Fig. 5.6 MSP 202 "Audio Output" Menu

5.0 User Quick Start

- 1. Connect one end of the power adapter with the device, the other end into a socket. Plug in, red power indicator light means the device works normally.
- 2. How does PC software control the device?

First of all, get the male access of RS 422 interface converter (hereinafter simplified as an interface converter) linking with RS-232 into MSP 200, the other end into serial transfer USB cable. Then, connect PC with serial transfer USB cable. (If PC or control device owns serial ports, the other end of the interface converter can be directly accessed to the control device.) This can be shown as follows:



Fig. 5.1 MSP 202 Connection diagram

Cables connecting RS-232 and RS-422 interface converter:

Interface of the converter	Male access of RS422	Cable
A	F	①
B	E	②
C	H	③
D	G	④

- 3. Connect MSP 202 with output device;

4. Double click the software of AVMSMP  , seen as follows:

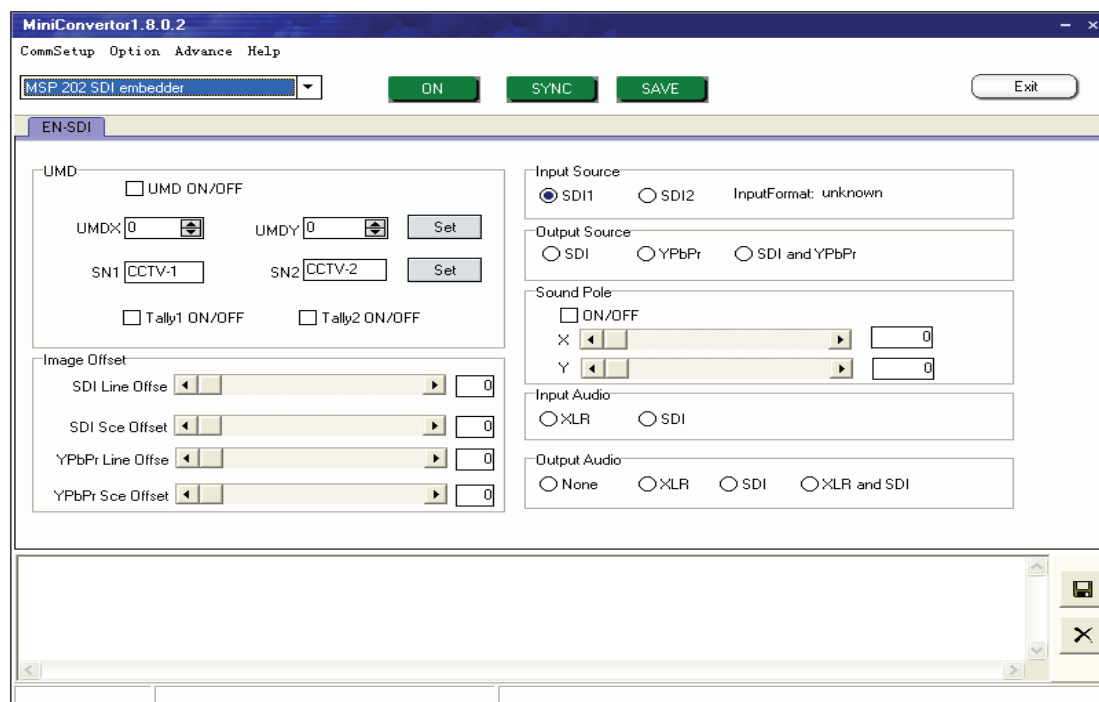


Fig. 5.2 MSP 202 Control Software

- ① Select current small converter Model in the pull-down.
- ② User can set Comm Port and Comm Speed (Baudrate) through "Comm setup". User can select current using serial port by the pull-down arrow. Comm Speed should be 115200.

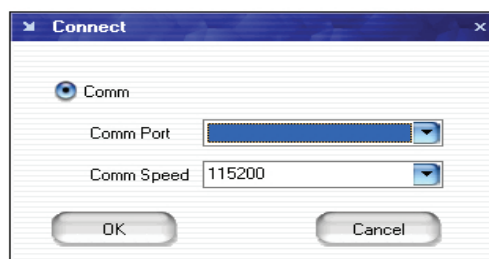


Fig. 5.3 MSP 202 Serial setting



Click "on" button to open the serial, The button will become



Click this button can realize host computer software data sync with MSP 202 HD SD SDI Embedded

Note: When user change input or output format, SYNC should be started to make device operate correctly.

- ③ For other operations, please refer to the fourth part Communication Software Control Guide.