ML-200

HDMI to SDI Scaler Converter with Genlock function

User Manual

⚠️ Safety and Notice

The **ML-200** **HDMI to SDI Scaler Converter with Genlock function** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **ML-200** 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.

⚠️ ESD CAUTION

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INTRODUCTION

The **ML-200** HDMI to SDI Scaler Converter with Genlock function provide a professional way to convert HDMI to 3G/HD/SD-SDI in real time. The conversion between HDMI and SDI is pure digital and guarantees no less transformation for both audio and video. Plus, with up to 8 channels audio support, 7.1 channel or 5.1 channel audio becomes available. The ML-200 provides low jitter SDI output and also support genlock.

FEATURES

- Remote control via Mini-USB
- Genlock supported
- Input maximum pixel rate: HDMI-225MHz, VGA-165MHz
- Output bandwidth 2.97Gbps
- Supports multiple VESA resolution
- Deinterlacer supported
- Supports noise reduction and video enhancement features
- Over/under scanning adjustable
- Video H/V mirror supported
- Active video area adjustment supported
- USB firmware upgraded for expanding compatibility
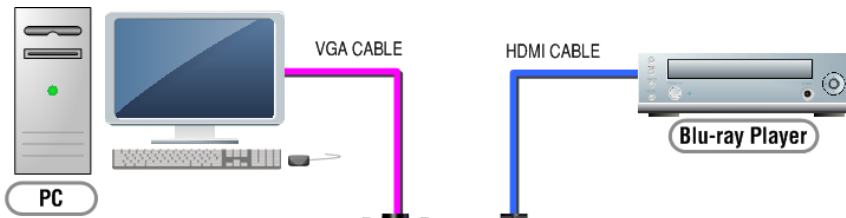- Wall-mount housing design for easy installation

PACKAGE CONTENTS

- 1x ML-200
- 1x User Manual
- 1x 5V 4A power supply
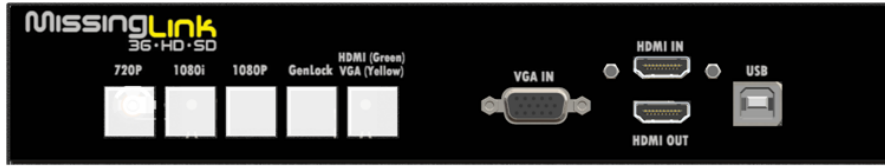- 1x UL power cord
- 1x Installation software CD

SPECIFICATIONS

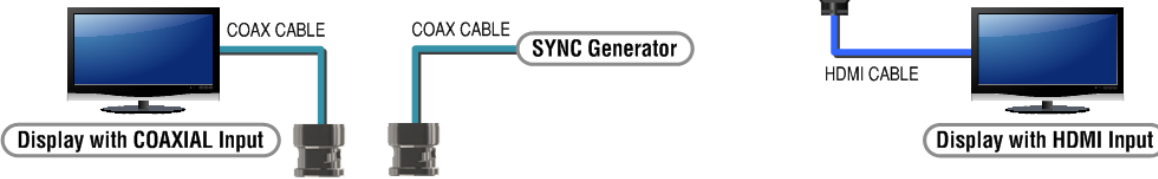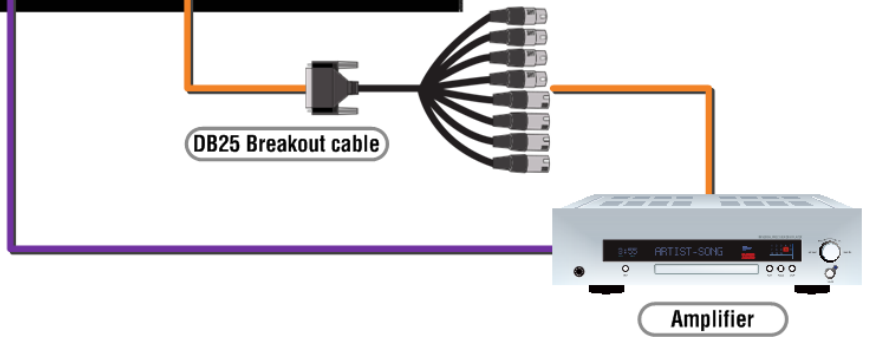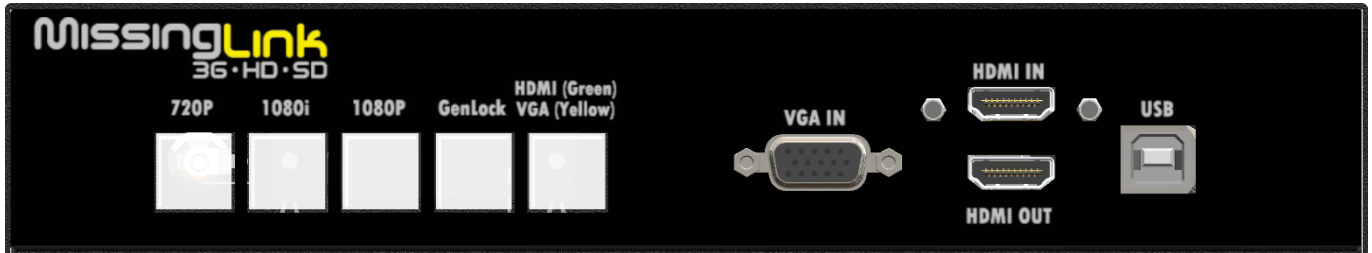| Model Name		ML-200
Technical		
Role of usage		HDMI & VGA to SDI Converter
SDI standards		SD-SDI, HD-SDI & 3G-SDI
Input Video Rate		[VGA] 165MHz [HDMI] 225MHz
Output Video bandwidth		2.970Gpbs, 2.970/1.001Gbps
Output Video support		[3G level A & B] 1080p @50/59.94/60Hz (4:2:2) [HD] 720p @50/59.94/60Hz, 1080i @50/59.94/60Hz, 1080p @24/30Hz [SD] NTSC @59.94Hz, PAL @50Hz
Audio support		PCM 8 (48KHz Fs sample rate)
ESD protection		Human body model — ±15kV [air-gap discharge] & ±8kV [contact discharge]
PCB stack-up		4-layer board [impedance control — differential 100Ω; single 50Ω]
Input		1x HDMI + 1x VGA+ 1x BNC
Output		3x BNC + 2x XLR+ 1x DB25+ 1x HDMI
Control		Front Panel / USB
BNC connector		3G 75Ω inter-locked socket
HDMI connector		Type A [19-pin female]
USB connector		Type B
Mechanical		
Enclosure		Metal case
Dimensions (L x W x H)	Model	240 x 152 x 44mm [9.4" x 6" x 1.7"]
	Package	494 x 225 x 70mm [1'6" x 8.9" x 2.8"]
	Carton	510 x 380 x 252mm [1'7" x 1'2" x 10"]
Weight	Model	
	Package	
Fixedness		1U rack-mount with ears and Wall hanging holes
Power supply		5V 4A DC
Power Consumption		5 W (without audio output)
Operation temperature		0~40°C [32~104°F]
Storage temperature		-20~60°C [-4~140°F]
Relative humidity		20~90% RH [no condensation]

CONNECTION DIAGRAM

HDMI
VGA
COAXIAL
DVI

PC

VGA CABLE

HDMI CABLE

Blu-ray Player

ML-200

MissingLink
3G·HD·SD

720P 1080i 1080P GenLock HDMI (Green) VGA (Yellow)   VGA IN   HDMI IN   USB   HDMI OUT

FRONT

COAX CABLE   COAX CABLE   SYNC Generator

HDMI CABLE

Display with COAXIAL Input

Display with HDMI Input

SDI OUT   Ref. In   CH 1   CH 2   8ch LINE LEVEL OUT

SDI OUT   Ref. Loopout   LINE LEVEL OUT   +5V DC

REAR

ML-200 Ref. In

DB25 Breakout cable

Amplifier

PANEL DESCRIPTIONS

ML-200

Front Panel

1. **Control buttons:** 720p/1080i/1080p/Genlock/Source selection

2. **VGA IN:** Connect to a VGA source

3. **HDMI IN:** Connect to a HDMI source

4. **USB:** Firmware update and control port

Rear Panel

5. **OUTPUT 1-2:** 3G/HD/SD-SDI output

6. **Ref IN:** Connect to a reference source

7. **Ref Loopout:** reference loopout

8. **Line Level Output 1-2:** Audio output from HDMI input

9. **8ch LINE Level Output:** Audio output from HDMI input

10. **Power Switch:** Power ON/OFF switch

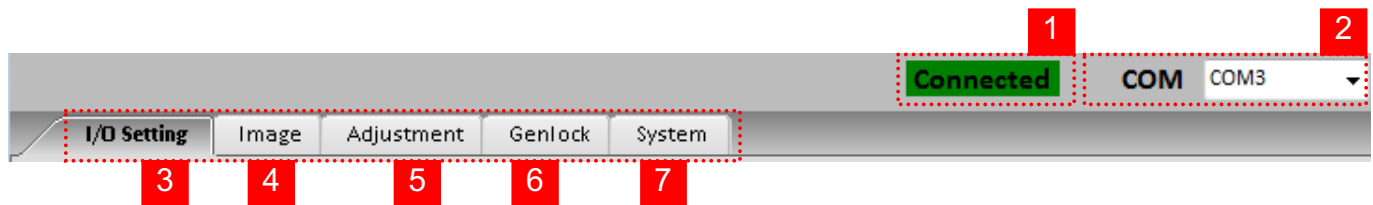11. **+5V DC:** Interlocking power jack for 5V DC power supply unit

Software Control through USB port

System Requirement

1. OS information: MS WinXP/7/8

2. Software size: 6MB

3. Minimum RAM requirement: 256MB

Control Interface

1	Connection Status
2	COM Port Selection
3	I/O Setting Tab
4	Image Setting Tab
5	Image Adjustment Tab
6	Genlock Setting Tab
7	Advanced System Setting Tab

1. Connection Status

   Show the connect information and status.

2. COM Port Selection

   Use Mini-USB to connect the port on device and computer. Select correct COM port to control the device.

3. I/O Setting Tab

(1) Source Select

Set the input source (HDMI/VGA).

(2) Output Resolution
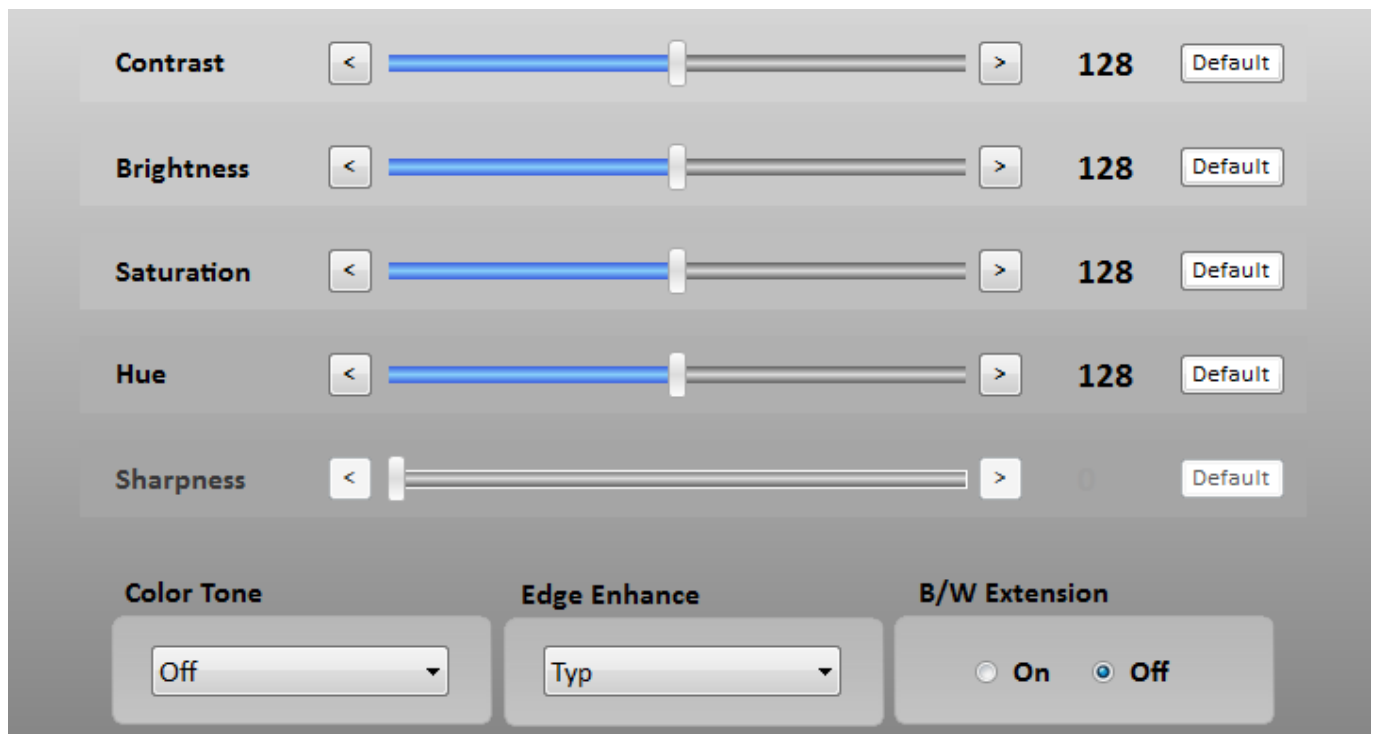
Set the output resolution.

(3) HDMI Output Mode

Set the HDMI Output Mode (RGB/YCC444/YCC422/DVI).

(4) VGA YCBCR Color Swap

Set the VGA color swap function is on or off.

4. Image Setting Tab

(1) Color Setting

   In here, user can adjust the contrast, brightness, saturation, hue and sharpness of HDMI output and SDI output. The [icon] button lets the setting to do default reset process.

(2) Color Tone

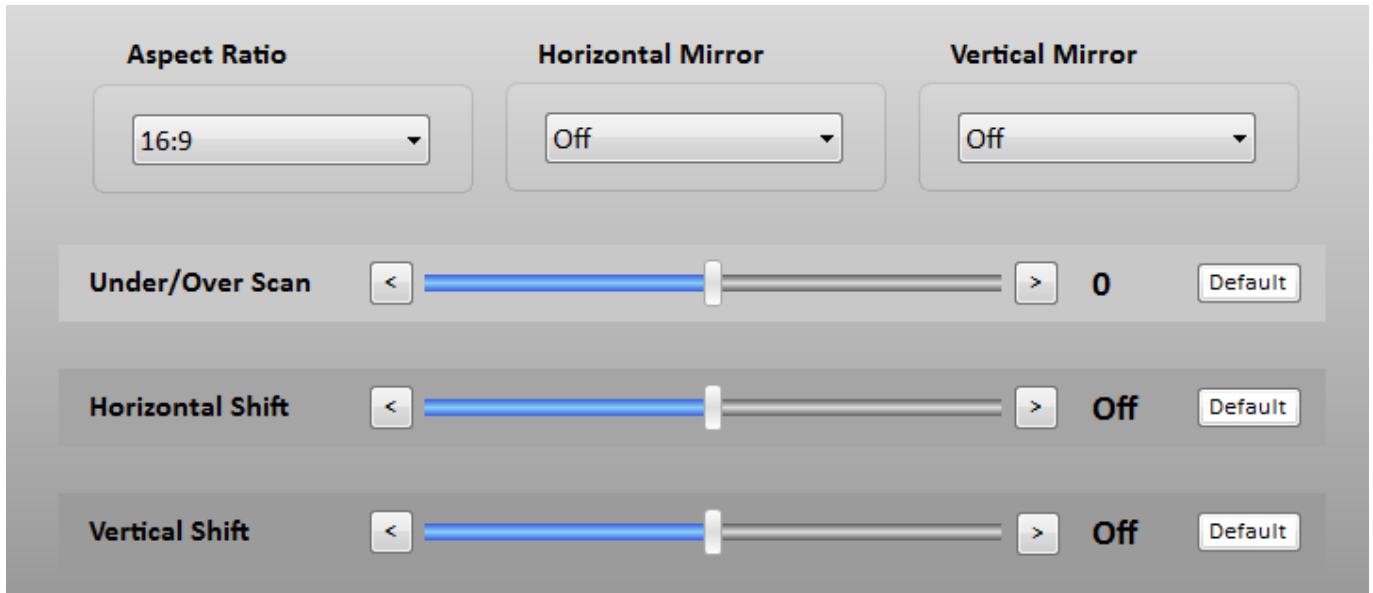   It has three color tone modes (Off/Skin/Green) for you to select.

(3) Edge Enhance

   It has five modes (Typ/Mid/Max/User/Off) for you to set up the edge enhance of image.

(4) B/W Extension

5. Image Adjustment Tab

User can change the video in vertical or horizontal mirror and arbitrarily shift the video on horizontal direction or vertical direction. Move one pixel at a time. The Default button lets the setting to do default reset process.

6. Genlock Setting Tab

(1) Genlock mode status

It can on/off the genlock function (Genlock/Free Run).

(2) Clock Offset

Fine tune the clock offset of genlock function. If you select the free run function (off the genlock),

this part will be blocked.

(3) Clock Phase Offset

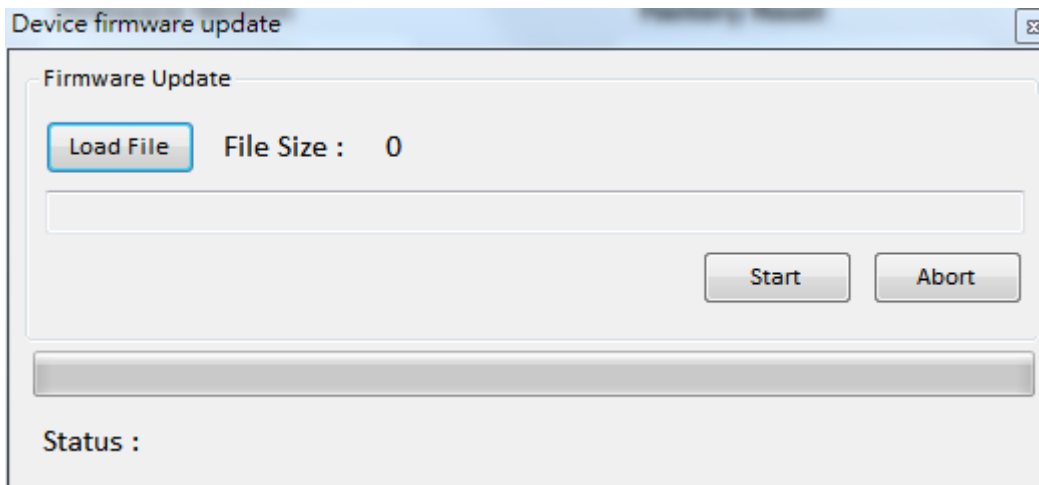User can fine tune the horizontal or vertical offset. If you off the genlock function, this part will be blocked.
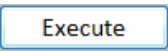
7. Advanced System Setting Tab
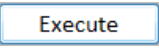

(1) Firmware Version

Read the firmware version.

(2) Firmware Update

➤ Make sure your mini-USB is connecting.

➤ Click [Execute] button to enter the interface.

➤ Click [Load File] button to select the firmware file which you want to update.

➤ Click [Start] button and the firmware will start to update.

(3) Factory Reset

Click [Execute] button to do factory default reset.

WARRANTY

The SELLER warrants the **ML-200 HDMI to SDI Scaler Converter with Genlock function** 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 ML-200 features and specifications is subject to change without further notice.**