12G-SDI Repeater

User Manual

500742

Table of Contents

1. Safety Precautions

To ensure the best performance from the product, please read all instructions carefully before using the device. Save this manual for future reference.

- Follow basic safety precautions to reduce the risk of fire, electrical shock, and injury.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burns.
- Do not open or remove the housing of the device as you may be exposed to dangerous voltage or other hazards.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture and do not install this product near water. Keep the product away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on the housing, unplug the module immediately.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Using supplies or parts not meeting the product specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- Install the device in a place with adequate ventilation to avoid damage caused by overheat.
- Unplug the power when left unused for a long period of time.
- Information on disposal of devices: do not burn or mix with general household waste, please treat them as normal electrical waste.

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2. Introduction

The 12G-SDI Repeater (Model 500742) is a 12G-SDI to 12G-SDI Repeater with Amplification and Re-clocking Technology and auto source video format detection. It performs high-quality, low-delay video auto format detection, video signal re-clocking, and video signal amplification for transmission over a long distance. It features one 12G-SDI video input, one 12G-SDI loop video output, a locking Power Supply connector, and a USB port for software control and firmware upgrade. An output LED shows the status of the Phase Locked Loop (PLL) Video Signal Locking.

3. Features

- Wide support of SDI video signal resolutions
- High Quality 12G-SDI Re-clocking & Amplification Technology
- Multi-Standard Support (12G, 6G, 3G, HD, and SD-SDI)
- Auto Source Video Format Detection
- Supports 16-channel, 24-bit Audio formats
- Easy plug and play installation
- Rugged design and integrated brackets for easy mounting
- Optional configuration via USB port and the MuxLab SDI Manager software available for easy control and firmware upgrade

4. Package Contents

- One (1) 12G-SDI Repeater
- One (1) Universal Power Supply including international plug connections for use around the world
- One (1) USB to Mini-USB cable
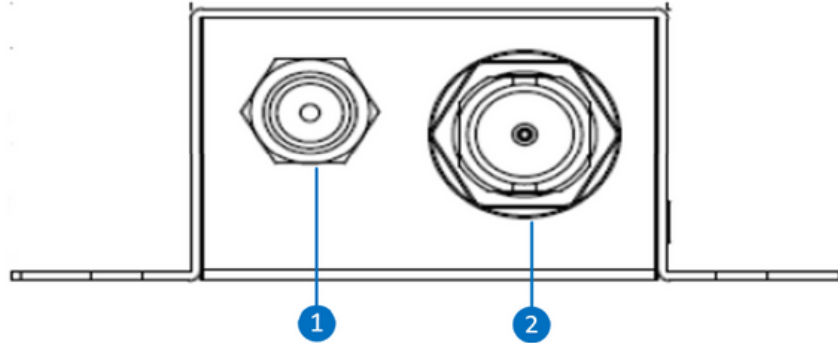- One (1) User manual (available via download)

Notes: Confirm that the product and accessories are all included. If not, please contact the supplier from   which you purchased the unit.

5. Specifications

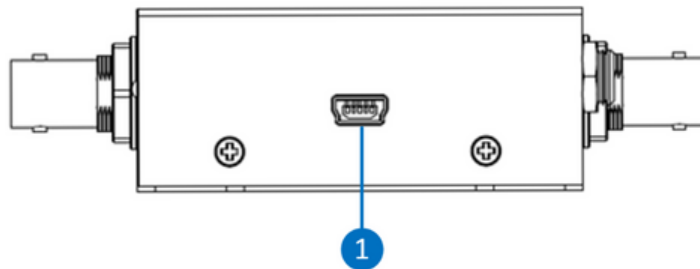| Specifications	
Environment	SD-SDI up to 12G-SDI
Video Resolution	12G-SDI
Distance at 12G-SDI	Input 100M / Output 100M (Cable: Canare L-5.5CUHD) Input 70M / Output 50M (Cable: Belden 1694A)
Distance at 3G-SDI	Input 100M / Output 100M (Cable: Belden 1694A)
USB Link	Mini-USB
Power Supply	12VDC, Locking connector
Working Temperature	0℃ to 40℃, up to 95% humidity non-condensing
Storage Temperature	-20℃ to 60℃. Bring to working temperature range before power-up.
Supported Video Formats	
SDI Input Video Resolutions	12G-SDI 4096x2160p, 60/50fps 3840x2160p, 60/50fps 6G-SDI 4096x2160p, 30/25/24fps 3840x2160p, 30/25/24fps 3G-SDI 1920x1080p, 60/50fps HD-SDI 1920x1080p, 30/25/24fps 1920x1080i, 60/50fps 1280x720p, 60/50fps SD-SDI 720x480i, 60fps 720x576i, 50fps
SDI Output Video Resolutions	SDI Loop Through has same video resolutions and frame rates as SDI Video Input
Supported Audio Formats	
SDI Audio Input	Up to 16-Channel, 24-bit, up to 48 kHz
SDI Audio Output	Up to 16-Channel, 24-bit, up to 48 kHz
Mechanical	
Housing	Black Metal Enclosure
Dimensions	100 x 70 x 26mm
Warranty	2 years
Order Information	500742 12G-SDI Repeater (UPC: 627699007426)

6. Hardware Interface
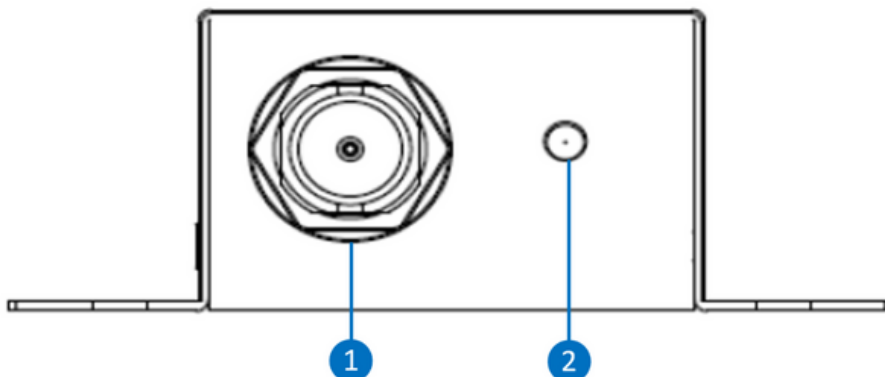
6.1 Front Panel

1. Locking 12VDC Power interface.
2. Video 12G-SDI Input BNC Connector.

6.2 Left Side Panel

1. Mini-USB connector to connect a PC running the MuxLab SDI Manager Software.

6.3 Rear Panel

1. Video 12G-SDI Output BNC Connector.
2. LED for Phase Locked Loop (PLL) locking indication.

7 Software Interface

The 12G-SDI Repeater can be used right out of the box, without the use of any software. However, the MuxLab SDI Manager software is available for basic configuration and firmware upgrade.

The MuxLab SDI Manager software can be used to manage the 12G-SDI Repeater.

The software features also a firmware upgrade option for future firmware releases.

The software runs on Windows operating system and is available for download on the MuxLab website.

7.1 Software Download

When running the MuxLab SDI Manager software, you will see the splash screen below. Make sure to connect the USB cable between the PC and the device.
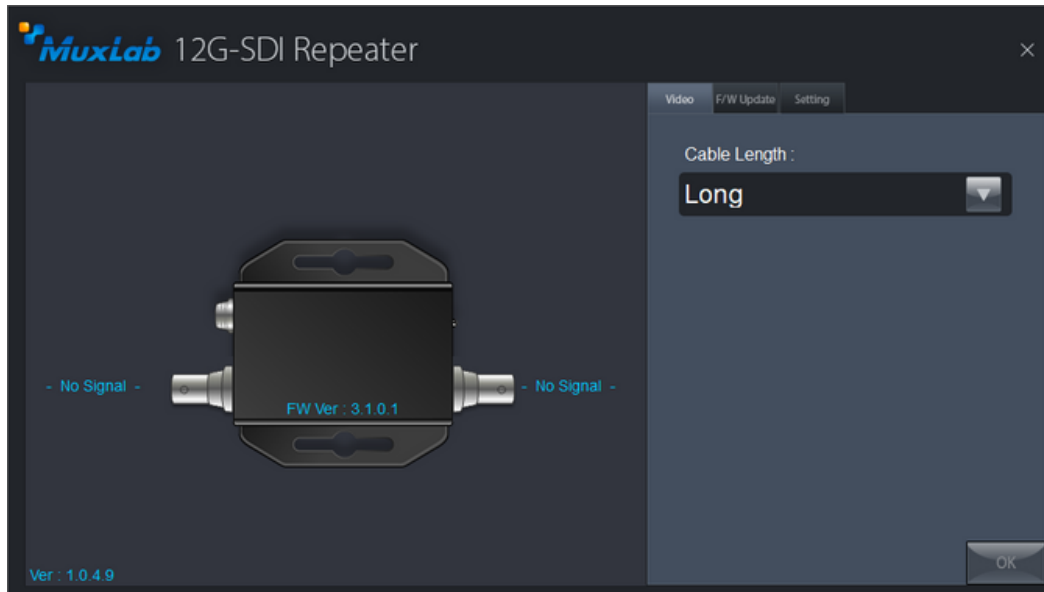

7.2 Software Settings

Once connected, you will see the Main screen. On the left side, the software will display the image of the connected 12G-SDI Repeater, the software version as well as the firmware version. It will also display the status of each video 12G-SDI port .
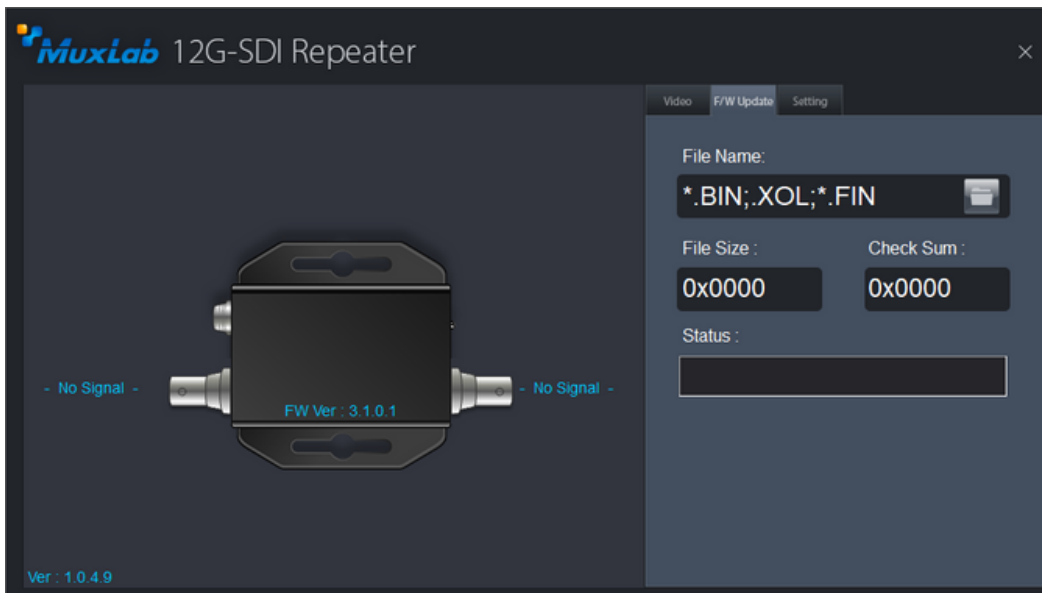
7.3 Video Settings

On the right side, under the Video tab, you can confirm the cable length used as Short or Long.
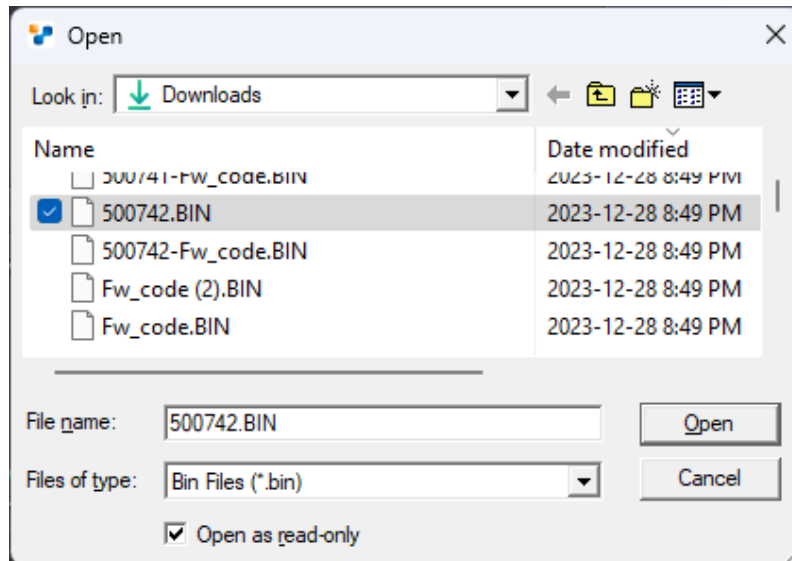

7.4 Firmware Upgrade

The F/W Update tab will display the menu for upgrading the device's firmware.

To upgrade the firmware, three files could be provided depending on what need to be updated.
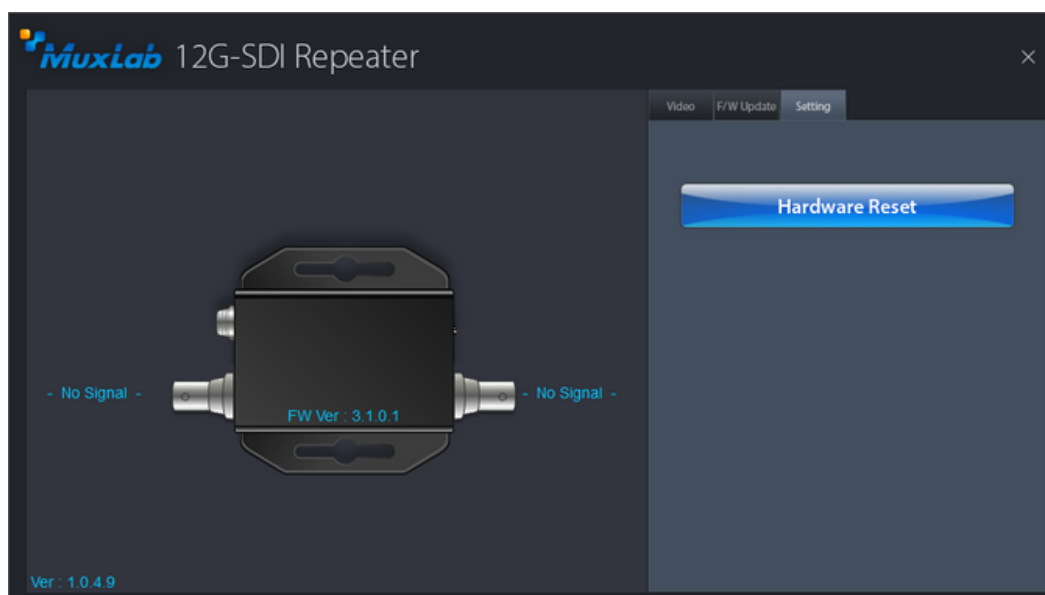
The firmware upgrade procedure is as follows:
- ·Go to the "F/W Update" tab
- ·Click on the folder button to select the file(s)
- ·A File Open Menu will appear

- ·Select a BIN file or a FIN file to update.
- ·Click on "Start" button; a progress bar will be displayed. Make sure the device is powered at all times during the firmware update process.
- ·Once the progress bar is complete, repeat the two steps above for all the three files for upgrade.
- ·After all the three files have been uploaded successfully, power cycle the device.

7.5 General Settings

The Setting Tab can be used to perform a hardware reset. The device will reboot for a few seconds and will reconnect to the software.

8. Application Diagram

SDI Camera

500742

PC

	SDI Cable
	USB Cable

Production Console