

SW-3116

16x4 3G/HD/SD-SDI Switch

User Manual



Full HD
1080

3G-HD-SD

**7.1 CH
AUDIO**



rev: 111201
Made in Taiwan



Safety and Notice

The **SW-3116 16x4 3G/HD/SD-SDI Switch** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **SW-3116** 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.



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INTRODUCTION

The **SW-3116 16x4 3G/HD/SD-SDI Switch** receives, equalizes, and reclocks* up to 16 SDI inputs, perfectly switches the desired input to SDI equipped monitors or receivers. The switch supports both HD/SD-SDI bit rates, and the re-transmitted quality is guaranteed. Through RS-232, IR remote, or front panel push button, the control of the SDI switch becomes versatile and easier. SW-3116 offers the most convenient and cost effective means for swift switch and duplication of high quality SDI in the market.

FEATURES

- 3G / HD / SD-SDI switch
- Up to 16 input & 4 re-timing SDI outputs
- Dual color indication LED of 3G / HD / SD of the output SDI
- Automatic detection of the SDI Input
- Synchronizes input/output (switch after vertical sync)
- Provides the equalized and reclocked* transmission path up to 300m (1000ft) at SD-SDI , 150m (500ft) at HD-SDI or 100m (500ft) at 3G HD-SDI
- Multiple control by RS-232, IR remote, and push button



* A Reclocking feature first equalizes, then extracts a clock from the signal and cleans up the eye pattern. It is useful to avoid signal loss due to cable length

PACKAGE CONTENTS

- 1 x SW-3116
- 1 x Rack-mounting ear set
- 1 x DC 5V 4A in-line with C7 power cord
- 1 x User Manual

SPECIFICATIONS

Model Name	SW-3116	
Technical		
Role of usage	16x4 switch	
SDI standards	SD-SDI, HD-SDI & 3G-SDI	
Auto 3G/HD/SD detection	Yes	
Supported protocols	SMPTE 259M (270Mbps / 360Mbps) SMPTE 292M / HDTV (1.485 & 1.485/1.001Gbps) SMPTE 424/425M (2.97 & 2.97/1.001Gbps)	
Video bandwidth	2.97Gpbs	
Data rates	143 / 270 / 1483 / 1485 / 2967 / 2970 Mbps	
Video support	[3G] 1080p@50/59.94/60 (4:2:2) [HD] 720p50/59.94/60, 1080p24/30, 1035i50/59.94/60, 1080i50/59.94/60 [SD] NTSC@59.94Hz, PAL@50Hz	
Output impedance	75Ω	
Reclocking function	Optional upon request	
Cable equalization	[HD-SDI] up to 150m (500ft) [SD-SDI] up to 300m (1000ft)	
Loop-out	Synchronized BNC loop-out at input and output	
Audio support	Yes	
RP-198 pathological patterns	Immune	
PCB stack-up	4-layer board [impedance control X differential 100Ω; single 50Ω]	
Input	16x BNC [SDI]	
Output	4x BNC [SDI]	
BNC connector	75Ω inter-locked socket	
Eye pattern characteristics (HD-SDI)	Amplitude: Within 800mV 3% (<10%) Rise overshoot: Less than 2% (<10%) Fall overshoot: Less than 2% (<10%)	Long time jitter: 0.195 UI (<1.0 UI) Timing jitter: 0.195 UI (<1.0 UI) Alignment jitter: 0.127 UI (<0.2 UI)

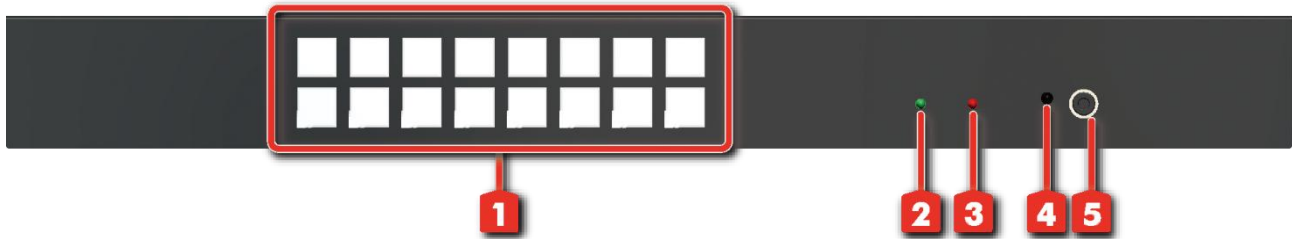
Mechanical		
Housing		Metal enclosure
Dimensions [L x W x H]	Model	
	Package	
	Carton	
Weight	Model	
	Package	
Fixedness		Latch-locking power supply
Power supply		5V 4A DC
Power consumption		10 Watt [max]
Operation temperature		0~40°C [32~104°F]
Storage temperature		-20~60°C [-4~140°F]
Relative humidity		20~90% RH [no condensation]



The measurement results are from Tektronix VFM-700 with SDI through 1m (3.3ft) long Belden 1694A.

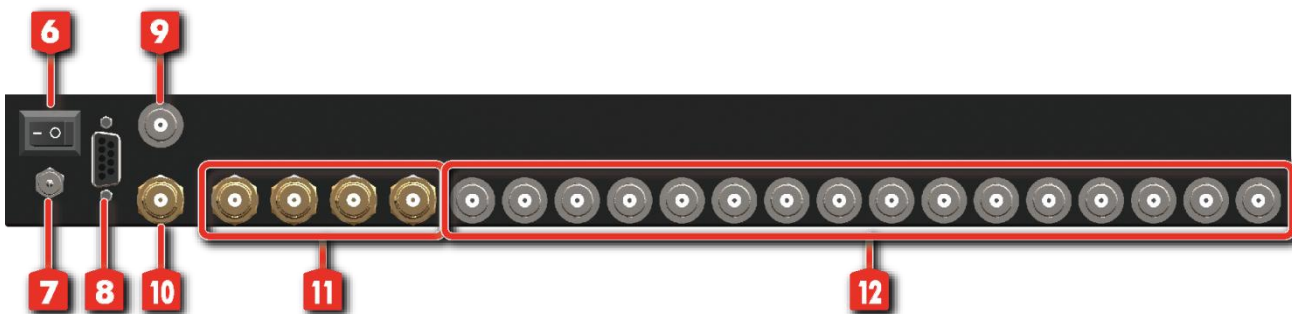
PANEL DESCRIPTIONS

Front Panel



- 1. Button:** Input source selection
- 2. Green LED:** SD signal indicator
- 3. Red LED:** 3G / HD signal indicator
- 4. IR:** IR sensor
- 5. 3.5mm:** IR receiver

Rear Panel

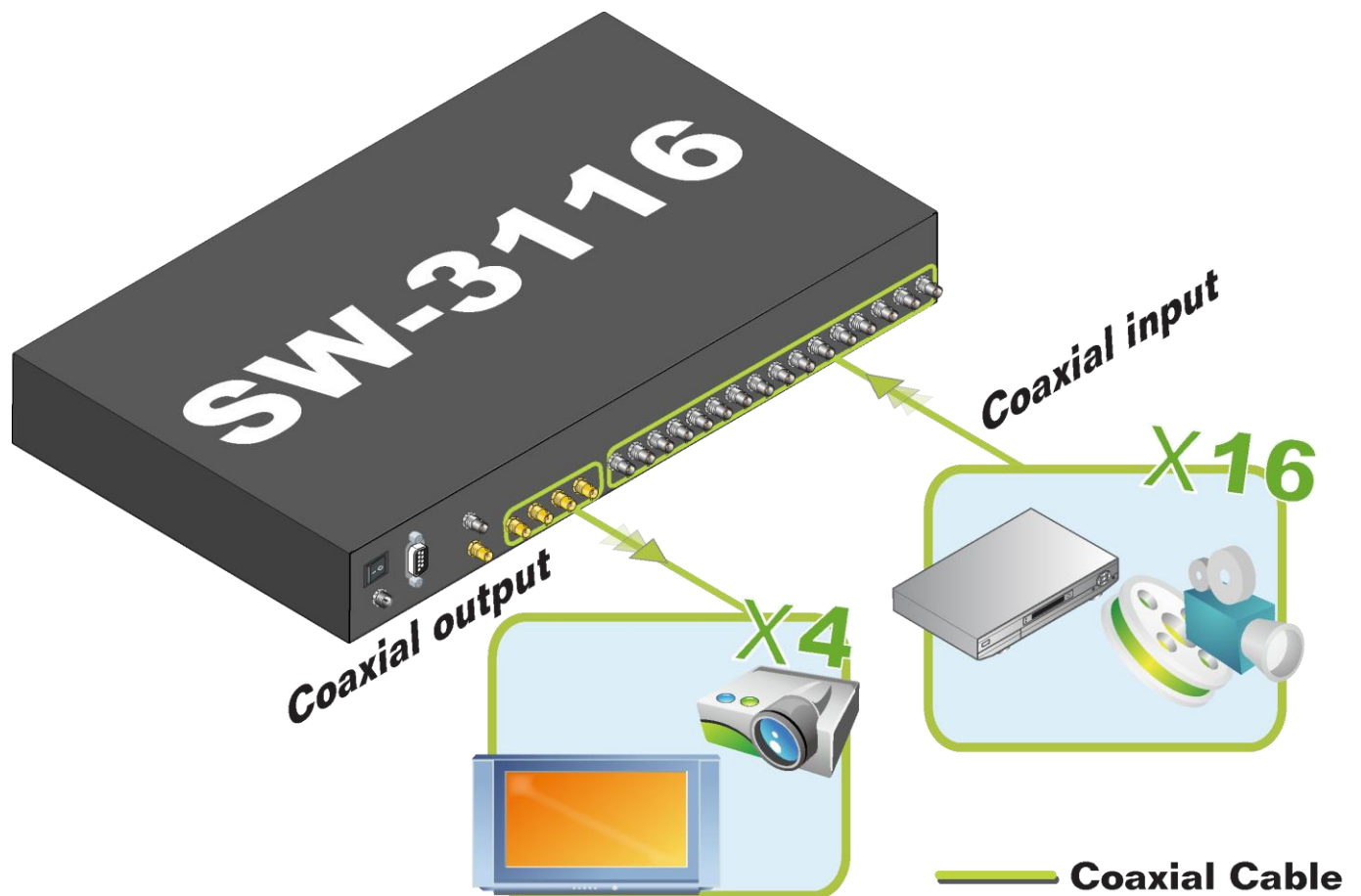


- 6. Power:** On/off switch
- 7. Power:** +5V DC latch-locking
- 8. RS-232:** Serial channel control
- 9. BNC:** Synchronized signal input
- 10. BNC:** Synchronized serial output (add 75Ω terminator if not connect)
- 11. BNC:** SDI output
- 12. BNC:** SDI input

HARDWARE INSTALLATION

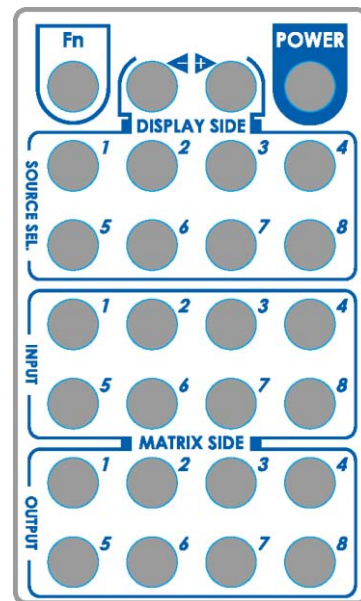
1. Connect one SDI device to the output of SW-3116.
2. Connect the SDI input sources to the inputs of SW-3116.
3. Screw on the 5V power supply unit to the locking power jack.
4. Use IR remote, RS-232, or front panel push button to switch between input channels.

CONNECTION DIAGRAM



IR REMOTE CONTROL

Reserved	Reserved	Reserved	POWER
Reserved	Reserved	Reserved	Reserved
Reserved	Reserved	Reserved	Reserved
INPUT 1	INPUT 2	INPUT 3	INPUT 4
INPUT 5	INPUT 6	INPUT 7	INPUT 8
INPUT 9	INPUT 10	INPUT 11	INPUT 12
INPUT 13	INPUT 14	INPUT 15	INPUT 16



WARRANTY

The SELLER warrants the **SW-3116 16x4 3G/HD/SD-SDI Switch** 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 **SW-3116** features and specifications is subject to change without further notice.