



BS-601

6x1 FULL HD BROADCAST SWITCHER

USER MANUAL



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BS-601 USER MANUAL
VERSION 1.0

SAFETY PRECAUTIONS

Before using this unit, please read below warning and precautions, which provide important information concerning the proper operation of the unit.



Caution

- To avoid falling or damage, please do not place this unit on an unstable cart, stand, or table.
- Operate unit only on the specified supply voltage.
- Disconnect power cord by connector only. Do not pull on cable portion.
- Do not place or drop heavy or sharp-edged objects on power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check power cord for excessive wear or damage to avoid possible fire / electrical hazards.
- Ensure unit is properly grounded at all times to prevent electrical shock hazard.
- Do not operate unit in hazardous or potentially explosive atmospheres. Doing so could result in fire, explosion, or other dangerous results.
- Do not use this unit in or near water.
- Do not allow liquids, metal pieces, or other foreign materials to enter the unit.
- Handle with care to avoid shocks in transit. Shocks may cause malfunction. When you need to transport the unit, use the original packing materials or alternate adequate packing.
- Do not remove covers, panels, casing, or access circuitry with power applied to the unit! Turn power off and disconnect power cord prior to removal. Internal servicing / adjustment of unit should only be performed by qualified personnel.
- Turn off the unit if an abnormality or malfunction occurs. Disconnect everything before moving the unit.

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1. INTRODUCTION

1.1. Overview

VS0601 is a miniature design metal housing 6-channel SDI/HDMI multi-format video switcher that allows video switching, audio mixing, and different transition effects. Inputs signal is auto-detected while for PGM output can be scaled, which can be compatible with more different equipment and more flexible. With cost effective price, it will be your perfect choice for various events production applications etc.

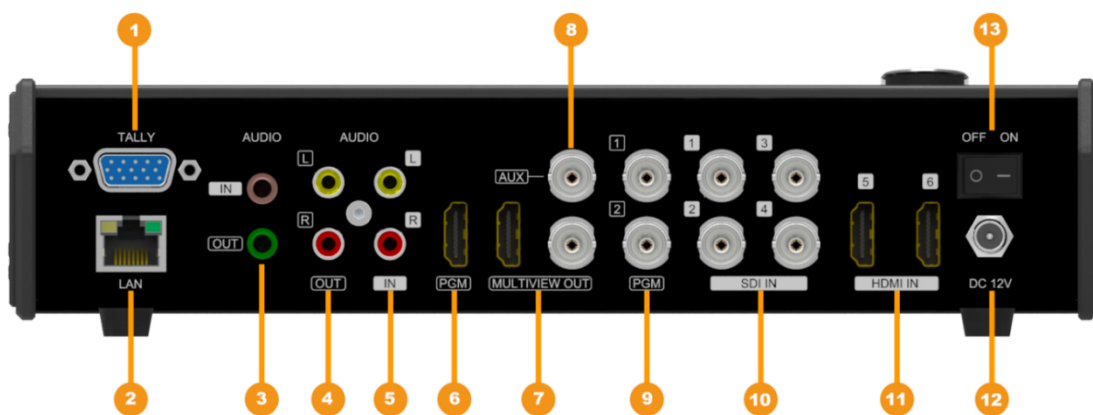


1.2. Main Features

- 6 channel inputs:4×SDI & 2×HDMI inputs
- 2×SDI & 1×HDMI PGM outputs, 1×SDI & 1×HDMI multiview output
- 1×SDI AUX output, can be selected as PGM or PVW
- Multi-format support, input format auto-detected and PGM outputs select-able
- T-Bar/ AUTO/ CUT transitions
- Mix/ Fade/ Wipe transition effects
- PIP mode size and position adjustable
- Audio mixing
- GPIO for Tally, LAN for update
- FTB for emergency situation

2. INTERFACES

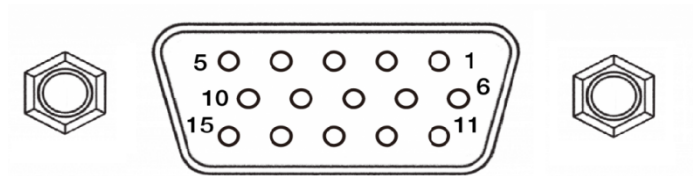
2.1. Rear Interfaces



1	GPIO (for tally)
2	LAN (for update)
3	3.5mm AUDIO IN/OUT
4	AUDIO OUT
5	AUDIO IN
6	HDMI PGM OUT
7	HDMI &SDI MULTIVEW OUT
8	SDI AUX OUT

9	SDI PGM OUT
10	SDI IN
11	HDMI IN
12	DC 12V
13	Power Switch

2.2. Tally PIN Definition



PIN	Definition	PIN	Definition
11	PGM-IN1	6	PVW-IN1
12	PGM-IN2	7	PVW-IN2
13	PGM-IN3	8	PVW-IN3
14	PGM-IN4	9	PVW-IN4
15	PGM-IN5	10	PVW-IN5
3	PGM-IN6	4	PVW-IN6
5	GND		

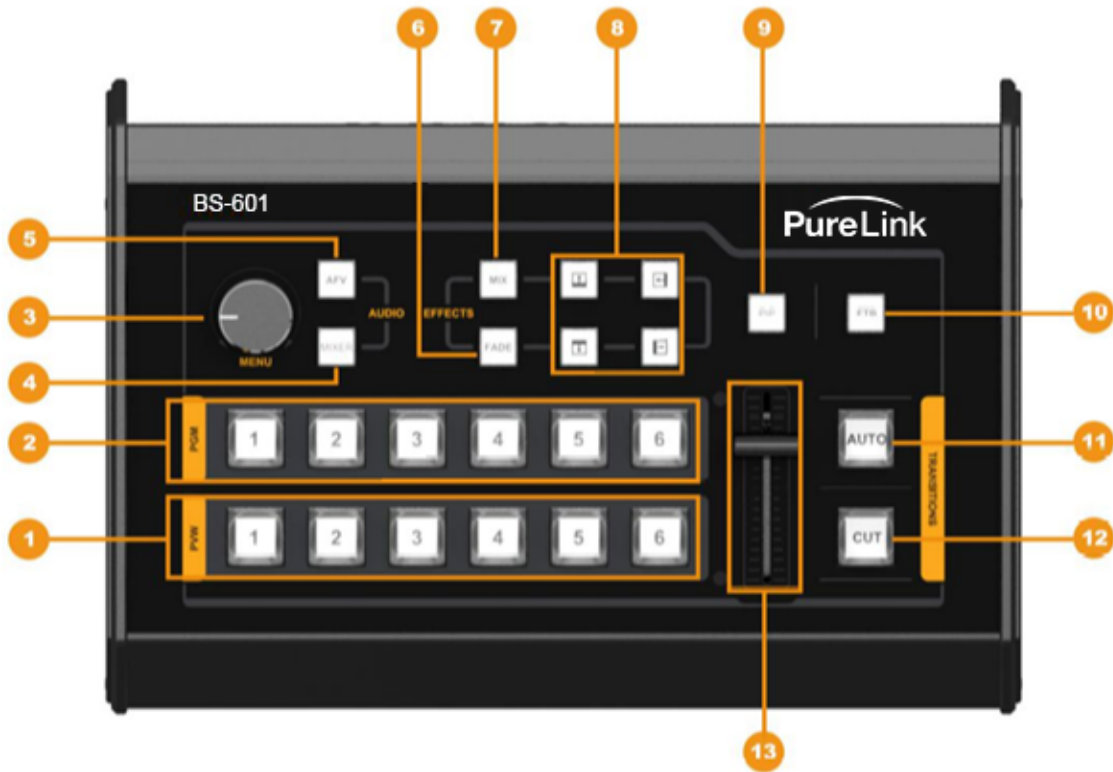
3. SPECIFICATIONS

Inputs	Video Inputs	4×3G/HD/SD-SDI, 2×HDMI
	SDI Input Format	1080p 60/59.94/50/30/29.97/25/24/23.98 1080psF 30/29.97/25/24/23.98 1080i 60/59.94/50 720p 60/59.94/50/30/29.97/25/24/23.98
	HDMI Input Format	1080p 60/59.94/50/30/29.97/25/24/23.98/23.976 1080i 50/59.94/60 720p 60/59.94/50/30/29.97/25/24/23.98 576i 50, 576p 50
	SDI Video Rate	Auto detection, SD/HD/3G-SDI
	SDI Compliance	SMPTE 259M/ SMPTE 292M/ SMPTE 424M
	Color Space and Precision	SDI: YUV 4:2:2, 10-bit; HDMI: RGB 444 8/10/12bit; YUV 444 8/10/12bit; YUV 422 8/10/12bit
	Outputs	PGM Outputs
PGM Output Format		1080p 60/50/30/25/24; 1080i 50/60
Multiview Output		1×3G-SDI; 1×HDMI Type A
Multiview Output Format		1080p 60
Audio	Audio Input	1×3.5mm Stereo audio; 1×RCA(L/R)
	Audio Output	1×3.5mm Stereo audio; 1×RCA(L/R)
Others	GPIO	Tally
	LAN	RJ45
	Power	DC 12V, 1.8A
	Consumption	≤ 22W
	Operation Temperature	-20℃~60℃
	Storage Temperature	-30℃~70℃
	Operation Humidity	20%~70%RH
	Dimension	330×243.5×67mm
	Weight	1kg

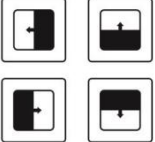
	Warranty	2 Year Limited
Accessories	Accessories	1×Power Supply (DC12V 2A)

NOTE: Specifications are subject to change without notice.

4. FRONT CONTROL PANEL



1	PVW:1-6	Select source for Preview.
2	PGM:1-6	Select source for Program
3	MENU	Menu Setting
4	MIXER	2-ch audio mixing
5	AFV	Audio follow video mode
6	FADE	Fade transition effect
7	MIX	Mix transition effect

8		Wipe transition effect
9	PIP	Picture in Picture
10	FTB	Fade to Black, used for emergency situation
11	AUTO	automated switch between Program and Preview.
12	CUT	immediate switch between Program and Preview.
13	T-bar	T-bar Manual Transition

5. OPERATIONS INSTRUCTIONS

5.1. Multiview Output Layout

The multiview output provides confidence monitoring of all inputs and outputs on one display. The level meter of PGM audio is shown only in multiview. SDI/HDMI PGM out is without any overlays.



The following 6 windows come from the 6 input signals.



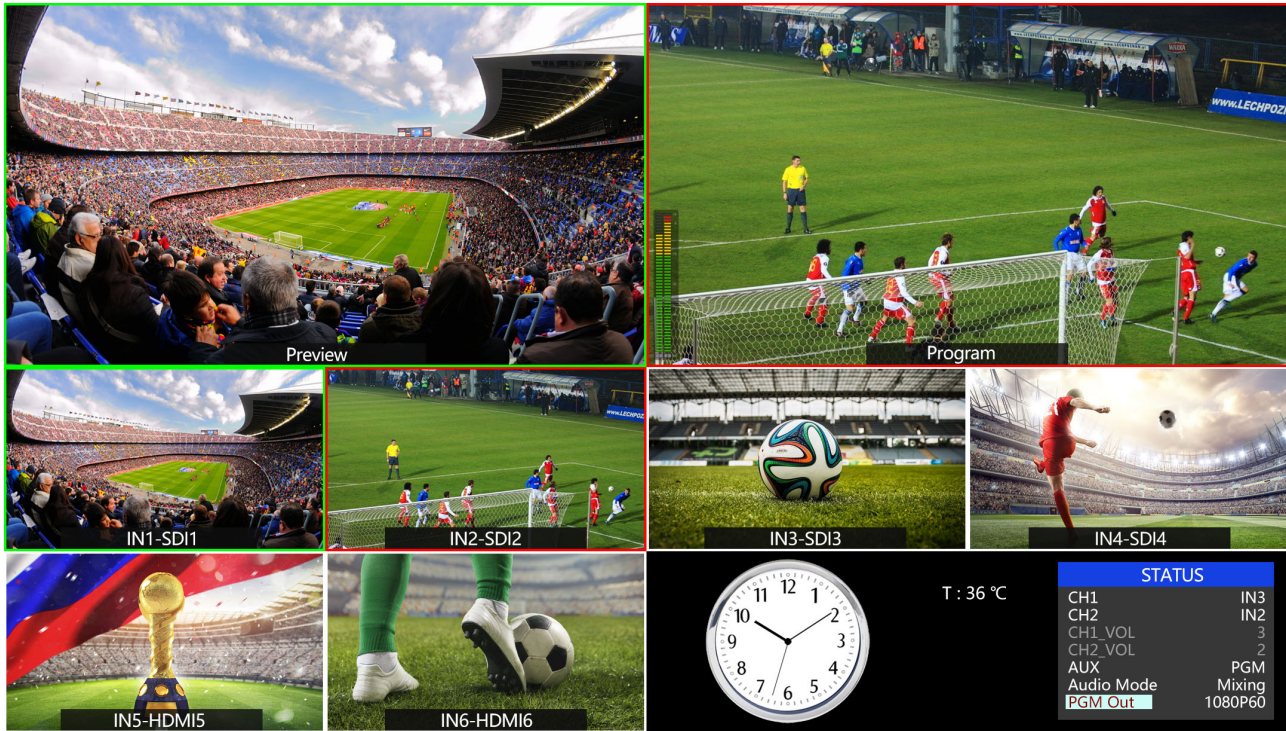
The lower right two sections display time, menu and status information. The CH1,CH2 are the channel selection of the 2 audio sources for audio mixer.

5.2. PGM PVW Switching

5.2.1. PGM, PVW Channel Selection

Buttons 1<>6 from PGM and PVW busses correspond with the 6 windows in the below of the multiview layout. The selected button from PGM turns on to red LED, and the selected button from PVW turns on to green LED.

The selected PGM source will have a red border, while the selected PVW source will have a green border.



For example, switching the PGM source to SDI 1 and PVW source to SDI 2. The button selection as below.



5.3. Transition Control

There are two transition control types for this video switcher: Transition without effects and Transition with effects.

1) Transition without Effects



CUT performs a simple immediate switch between Preview and Program views. This is no delay seamless switching and the selected transition effect WIPE, MIX or FADE is not used.

2) Transition with Effects



AUTO performs an automated switch between Preview and Program views. The timing of the transition is set by the chosen speed button. The selected transition WIPE, MIX or FADE will also be used.

T-Bar manual transition performs similar to AUTO, but it is more flexible as the timing of the transition depends on the speed of the manual switch.

5.3.1. FTB (Fade to Black)



Press FTB button it will fade the current video Program source to black. The button will flash to indicate that it's active. When press the button again it acts in reverse from complete black to the currently selected Program video source, and button stop flashing. FTB is usually used for emergency condition.



Note: When the PGM window display black and keep black even after transition, please check if the FTB button flashing. Press the button again when it is flashing to stop black.

5.4. Audio Mixer Setting

5.4.1. Audio Description

This video switcher provides one (1) channel 3.5mm Stereo audio & one(1) channel RCA(L/R) analog audio input & output and four (4) channel 3G-SDI embedded audio.



5.5. Transition Effects

5.5.1. MIX Transition




Pressing the MIX button selects a basic A/B Dissolve for the next transition. When button LED turns


on it is active. Use the T-Bar or AUTO to operate the transition. The MIX transition effect as below




5.5.2. WIPE Transition

WIPE is a transition from one source to another and is achieved by replacing the current source by another


source. Press the  WIPE button and the LED turns on then it is active. There are total 8 WIPE

selections wiping start from different directions. Such as if choosing , then use T-Bar or AUTO to operate the transition, the WIPE effect as following:



INV  button is an alternative button. Press it first and then press a Direction button, the WIPE will start from an inverse direction.

5.5.3. FADE Transition

Fade is a transition from one source to another with fade gradually transition effect. Press the FADE  button and use T-Bar or AUTO to operate the FADE transition.

6. MENU SETTING

6.1. SDI PGM/ AUX and Multiview Output Format

The output format of multiview is fixed at 1080p60, and for PGM output can be set by the knob. Except PVW and PGM output, there is an AUX choice, you can quickly select the auxiliary output between PVW and PGM

via Menu knob. The default setting is PGM after reset. There are resolution 1080P 50/60/30/25/24Hz, 1080i 50/60Hz selectable for SDI/HDMI PGM and AUX outputs.

STATUS	
CH1	IN1
CH2	IN2
CH1_VOL.	100
CH2_VOL.	100
AUX	PGM
Audio Mode	Mixing
PGM	1080P30

STATUS	
CH1	IN1
CH2	IN2
CH1_VOL.	100
CH2_VOL.	100
AUX	PGM
Audio Mode	Mixing
PGM	1080P30

6.2. Audio Setting

This video switcher provides one(1) channel L/R analog audio input & output and one(1) channel 3.5mm stereo audio input and output, support both audio following video mode and audio mixing mode.

6.2.1. Mixing Mode

Press button **MIXER** to set audio mode as mixing. Press menu and choose audio for two(2) channel audio mixing, each channel, users can select audio source from IN1/ IN2/ IN3/ IN4/ IN5 / IN6/ Phone/ RCA IN.

STATUS	
CH1	IN1
CH2	IN2
CH1_VOL.	100
CH2_VOL.	100
AUX	PGM
Audio Mode	Mixing
PGM	1080P30

STATUS	
CH1	IN1
CH2	IN2
CH1_VOL.	100
CH2_VOL.	100
AUX	PGM
Audio Mode	Mixing
PGM	1080P30

6.2.2 AFV Mode

Press **AFV** button to enable the audio follow video mode. When the audio is in follow mode the audio is coming from the embedded audio of Program video source. User can control the audio volume by adjusting the master fader (the left one

STATUS	
CH1	IN1
CH2	IN2
CH1_VOL.	100
CH2_VOL.	100
AUX	PGM
Audio Mode	AFV
PGM	1080P30

6.3. PIP Mode

The PIP button will provide a small image display on the top left corner of PVW window as following image.

The menu will enter into an interface as below image.

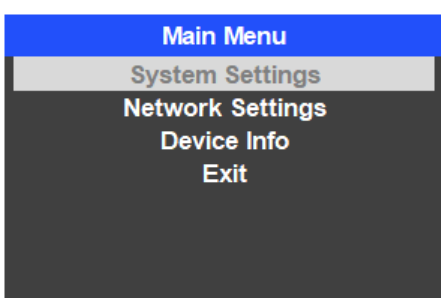
The window size, position and border of PIP can be set from menu.

PIP	
Window	1
H Position	0
V Position	0
Size	Small
Border Enable	On
Border Width	2
Border Color	White
Exit	



6.4. Main Menu Setting

When STATUS menu is not selected, press the MENU button to enter into main menu directly. In case one of the items is selected(see below), rotate the MENU button anticlockwise to exit the choice, then press the MENU button to enter into main menu.



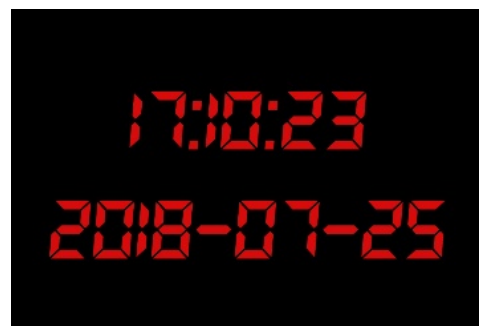
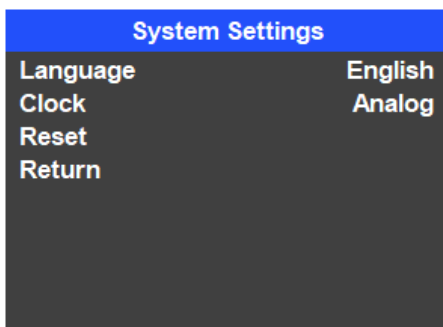
6.4.1. System Settings

Language

Entering system settings from the menu to switch the system language between English and Chinese.

Clock

Entering system settings from the menu to switch the real-time clock shown in Analog or Digital.



7. WARRANTY

PureLink Three (3) Year Limited Warranty for HDTOOLS™ Branded Products Only

Dtrovision, LLC. (hereinafter "PureLink") warrants its HDTools branded products (hereinafter "Product") purchased



directly from PureLink or Dealer shall be free from defects in workmanship and materials, under normal use and service, for a period of three (3) years on parts and three (3) years on labor. Any repaired or replaced equipment related to Product shall be covered only under the remaining portion of the warranty. This warranty has no relationship to and exists independently of any warranty offered by Dealer. This warranty is a limited warranty and gives you specific legal rights. You may also have other rights, which vary from state to state.

TERMS & CONDITIONS

PureLink shall repair or replace the Product if it develops a material fault during the period of warranty, on condition that i) the Product has only been subject to normal use in a domestic or commercial environment in a manner consistent with its specification and functionality, ii) the Product has been cared for reasonably and only subjected to reasonable wear and tear, iii) the defect has not been caused by willful or negligent abuse or neglect, or any accident or improper installation procedure, iv) the serial number of the Product has not been altered or removed.

This warranty only applies to the original purchaser, and shall be the exclusive remedy to the original purchaser. PureLink shall not be liable for any damages whatsoever caused by Product or the failure of Product to perform, including incidental or consequential damages. PureLink shall not be liable for any claim made by a third party or made by the purchaser for a third party.

Except as expressly set forth in this warranty, PureLink makes no other warranties, expressed or implied, including any implied warranties of merchantability and fitness for a particular purpose. PureLink expressly disclaims all warranties not satisfied in this limited warranty. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty. This warranty statement supersedes all previous warranties.

WARRANTY RETURNS/REPAIRS/EXCHANGES

No merchandise may be returned without prior authorization from PureLink, and a Return Materials Authorization (RMA) number. Failure to comply with these conditions will result in rejection of the returned merchandise.

Any warranty service on Products must be arranged through Dealer. Authorized returns must be shipped freight prepaid and fully insured to PureLink, Ramsey, NJ USA, with the RMA number clearly marked on the outside of all shipping boxes and containers. PureLink reserves the right at its sole discretion to refuse any shipments arriving freight collect or without an RMA number. Any authorized returned merchandise must be accompanied by a note describing the reason for return, along with contact information including name, phone number, return mailing and shipping addresses, e-mail address, and RMA number.

On any products returned and accepted with an RMA number, return freight charges following repair of items under warranty shall be paid by PureLink, shipping by the standard ground carrier of its choice.

ADVANCE WARRANTY REPLACEMENTS

PureLink's advance replacement service offers a Replacement Unit upon request - free of charge for eligible products purchased less than one (1) year of the warranty claim. Products purchased more than one (1) year prior to the warranty claim do not qualify for advance replacement services.

Advance replacement requests must be validated by a member of PureLink's Technical Support Team. Replacement units may be new or refurbished and is subject to availability. PureLink is responsible for shipping the Replacement Unit to your designated location by standard ground service. All other shipping methods will be responsibility of the Dealer.

Original Unit Return – the Original Unit must be returned within thirty (30) calendar days of the return authorization date. Failure to return the Original Unit within this period will be subject to a minimum 15% re-stocking fee. Dealer is solely responsible for the shipping of the Original Unit to PureLink.

TO MAKE A WARRANTY CLAIM

To make a warranty claim, promptly notify PureLink within the warranty periods described above by calling PureLink's Technical Support Department at 1-201-488-3232. PureLink, in its sole discretion, will determine what action, if any, is required under this warranty.

Most problems can be corrected over the phone through close cooperation between Customer and a PureLink technician. To better enable PureLink to address a warranty claim, please have the Product's serial and model numbers. If PureLink, in its sole discretion, determines that an on-site visit or other remedial action is necessary, PureLink may send a representative to Customer's site.

CUSTOMER SERVICE

Technical support inquiries can be submitted electronically at purelinkav.com/tickets.

For immediate assistance please contact PureLink's Customer Care Team at **+1 (201) 488-3232**