

USER MANUAL

AVG-DSS61 Compact Scaler Switcher 6x1

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The AVG-DSS61 is a compact 6x1 mini scaler switcher with 6 video inputs (4 HDMI, 2 VGA), 2 auxiliary audio inputs (switched following VGA), 1 HDMI output and 3 audio outputs (1 dual-mono analog audio, 1 3.5mm stereo audio, 1 optical audio).

Features

- Control -- via Front panel buttons, RS232 commands and IR Remote
- Switch -- select any of the 6 input sources to the HDMI output
- Scale – scales VGA to HDMI output, Output resolutions selectable supporting various output resolutions, such as 1920x1200, 1920x1080, 1360x768, 1280x800, 1024x768, 1280x720
- Supports HDMI 1.4, 4Kx2K & 1080P 3D, Compliant with HDCP1.4.
- Supports EDID management
- Input switching modes: auto-switching or manual-switching
- Intuitive indicator for power states, source selection & output resolution selection
- Supports online firmware upgrades
- Compact design for easy operation
- Supports power-off memory function
- Supports hot plugging

**PLEASE READ THIS PRODUCT MANUAL CAREFULLY
BEFORE USING THIS PRODUCT.**

This manual is only for operation instruction only, and not to be used in a maintenance capacity. The functions described in this version are current as at March 2015. Any changes of functions and operational parameters will be updated in future manual versions. Please refer to your dealer for the latest product details.

Version 1.0 1/3/15

SAFETY OPERATION GUIDE



In order to guarantee the reliable operation of the equipment and safety of the user, please abide by the following procedures in installation, use and maintenance:

1. The system must be earthed properly. Please do not use two blade plugs and ensure the alternating power supply ranges from 100v to 240v and from 50Hz to 60Hz.
2. Do not install the switcher in an environment where it will be exposed to extreme hot or cold temperatures.
3. This unit will generate heat during operation, please ensure that you allow adequate ventilation to ensure reliable operation.
4. Please disconnect the unit from mains power if it will be left unused for a long time.
5. Please **DO NOT** try to open the casing of the equipment, **DO NOT** attempt to repair the unit. Opening the unit will void the warranty. There are high voltage components in the unit and attempting to repair the unit could result in serious injury.
6. Do not allow the unit to come into contact with any liquid as that could result in personal injury and product failure.

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1. Introduction

1.1. Introduction to the AVG-DSS61

AVG-DSS61 is a compact 6x1 mini scaler switcher with 6 video inputs (4 HDMI, 2 VGA), 2 auxiliary audio inputs (switched following VGA), 1 HDMI output and 3 audio outputs (1 dual-mono analog audio, 1 3.5mm stereo audio, 1 optical audio).

AVG-DSS61 switches VGA or HDMI/DVI input video signal to HDMI output. The AVG-DSS61 up-scales VGA to HDMI output and supports resolution adjustment (6 resolutions in total). It passes HDMI and provides comprehensive resolution capacities up to 4K & 1080p 3D. The unit also supports RS232 & IR control and EDID management.

1.2. Features

- Control -- via Front panel buttons, RS232 commands and IR Remote
- Switch -- selects 6 input sources to the HDMI output
- Scale – scales VGA to HDMI output, Output resolutions selectable supporting 1920x1200, 1920x1080, 1360x768, 1280x800, 1024x768, 1280x720
- Supports HDMI 1.4, 4Kx2K & 1080P 3D, Compliant with HDCP1.4.
- Supports EDID management
- Input switching modes: auto-switching or manual-switching
- Intuitive indicator for power connection states, source selection & output resolution selection
- Supports online firmware upgrades
- Compact design for easy operation
- Supports power-off memory function
- Supports hot plugging

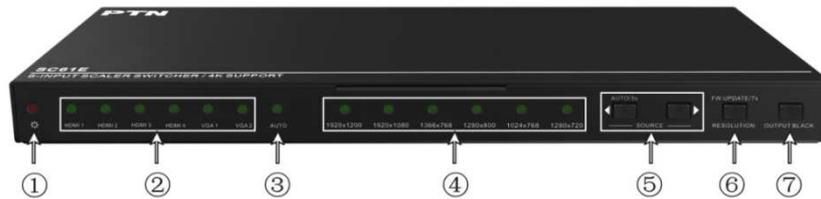
1.3. What's in the Box

- 1 x AVG-DSS61
- 2 x Mounting ears (separate from AVG-DSS61)
- 4 x Screws
- 4 x Plastic cushions
- 1 x Power adapter (DC 5V 3A)
- 2 x 3-pin Pluggable terminal blocks (pitch:3.81mm)
- 1 x IR Receiver
- 1 x IR Remote (Cell battery is not included)
- 1 x User manual

Note: Confirm all the accessories are included, if not, please contact your dealer.

2. Panel Description

2.1. Front Panel



No.	Name	Description
①	Power LED	Indicator for power status <ul style="list-style-type: none"> Off – no power Blinking when the system is loading firmware Constantly lit when the system is ready
②	Inputs LED	Constant green when choosing the corresponding audio source
③	Auto-switching LED	Constant green when in auto-switching mode
④	Output resolution selection LED	Constant green when choosing the corresponding output resolution (Input is VGA)
⑤	SOURCE/AUTO	Audio source selection button: switching circularly between HDMI1, HDMI2, HDMI3, HDMI4, VGA1, VGA2. dial ◀ to select the previous one, dial ▶ to select the next one. Switching mode selection button ◀: press and hold for 3 seconds or more to enter in auto-switching mode, press and hold for 3 seconds or more again to enter in manual-switching mode.
⑥	RESOLUTION/FW UPDATE	Output resolution manual switching button: selects circularly between 1920×1200, 1920×1080, 1360×768, 1280×800, 1024×768, 1280×720.default resolution:1920×1080 Firmware updating button: press and hold for 7 seconds or more to enter in software updating procedure.
⑦	OUTPUT BLACK	Press to switch on/off audio&Video output.

Note: Pictures shown in this manual are for reference only.

2.2. Rear Panel



No.	Name	Description
①	INPUTS	HDMI: 4 HDMI/DVI video source input ports(embedded HDMI audio format : PCM) VGA: 2 VGA video source input ports AUDIO: 2 3.5mm stereo audio source input ports, switched and follows the corresponding VGA
②	OUTPUTS	HDMI: HDMI video output port. 3P AUDIO: <i>Dual-Mono</i> analog audio output port. 3.5mm AUDIO: stereo audio output port. OPTICAL: optical audio output port.
③	Control	FIRMWARE: Type-A USB port for updating firmware. RS232: Serial port, 3-pin pluggable terminal block, connect with control terminal (e.g. a PC) to control AVG-DSS61. IR IN: connect to an IR Receiver, to receive IR signal send by corresponding IR remote.
④	DC 5V	Connect to a DC 5V 3A power adapter.

Note: Pictures shown in this manual are for reference only.

3. System Connection

3.1. Usage Precautions

1. System should be installed in a clean environment with temperature and humidity maintained to within equipment specification.
2. All of the power switches, plugs, sockets and power cords should be insulated and safe.
3. All devices should be connected before power is turned on.

3.2. System Diagram

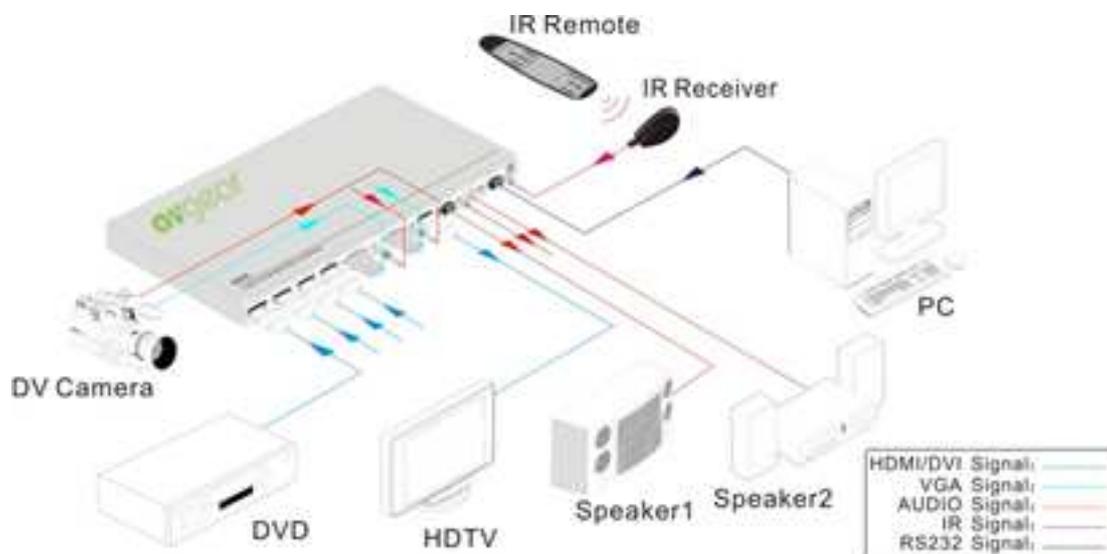


Figure 3- 1 Connection Diagram

3.3. Connection Procedures

- Step 1.** Connect HDMI/DVI sources (e.g. DVD) to HDMI inputs of the AVG-DSS61 with HDMI cables.
- Step 2.** Connect VGA sources (e.g. DV Camera) to VGA inputs of the AVG-DSS61 with VGA cables.
- Step 3.** Connect sources to the AUDIO inputs of the SC61T with audio cables.
- Step 4.** Connect a HDMI display (e.g. HDTV) to HDMI output port of the AVG-DSS61.
- Step 5.** Connect audio amplifiers (e.g. speaker/earphone) to audio outputs of the AVG-DSS61.
- Step 6.** Connect a control device (e.g. PC) to the RS232 port of AVG-DSS61.
- Step 7.** Connect an IR Receiver (working voltage:5V) to the IR IN of AVG-DSS61.

Step 8. Plug DC 5V 3A power adapter to the AVG-DSS61.

3.4. Application

AVG-DSS61 is ideally suited for use in areas such as IT computer realm, security monitoring, conference rooms, large screen displays, broadcasting, education, command & control centers etc.

4. System Operations

4.1. Front Panel Button Control

Front panel buttons can be used for source selections, output resolution adjustment, front panel button management, software updating and output resolution selection. (Please refer to chapter 2.1).

There are 6 sources to choose from in total, including HDMI1, HDMI2, HDMI3, HDMI4, VGA1, VGA2. Video signals support auto-switching and manual-switching (factory default). Press and hold the **SOURCE/AUTO** button for **3 seconds or more** to enter auto-switching/ manual-switching mode.

Manual-switching:

Press ◀ to select the previous source, dial ▶ to select the next source.

Auto-switching:

In this mode, selecting the input source via front panel button (◀ ▶) is not available, however, RS232 command and IR remote are able to switch mode. The auto LED turns green and stays on.

The auto-switching mode uses the following principles:

- **New input principle**

Once detecting a new input signal, AVG-DSS61 will switch to this new signal automatically.

- **Rebooting device principle**

AVG-DSS61 have the ability of power-off memory. If the last switching mode is auto-switching, once rebooted, AVG-DSS61 will automatically enter auto-switching mode, and then detect all inputs and memorize their connection status for future rebooting using. If the last displayed signal is still available, AVG-DSS61 will output the signal. If not, the unit will detect all the inputs signals with priority from HDMI1 to VGA2. When detected the first signal, it will transfer to output.

- **Signal removing principle**

Once removing the current display signal, AVG-DSS61 will detect all input signals with priority from HDMI1 to VGA2. It will transfer the signal firstly detected to be available to output devices

Operation Examples:

- Connect HDMI2, HDMI4, and VGA2 ports with source devices, select HDMI4 to outputs.
- Press and hold for the front button **SOURCE/AUTO** for **3 seconds or more** to enter in auto-switching mode.
- Connect HDMI3 with a source device, and then it will choose HDMI3 to output.
- Remove the signal of HDMI3, AVG-DSS61 will detect from HDMI1 to VGA2. And when it detects that HDMI2 is available, it will choose HDMI2 to output.
- Cut off the power of AVG-DSS61, then reboot. As AVG-DSS61 is in auto-switching mode, it will choose HDMI2 to output.

4.2. RS232 Control

Here we take the software CommWatch.exe as example.

4.2.1. Control Software Operation

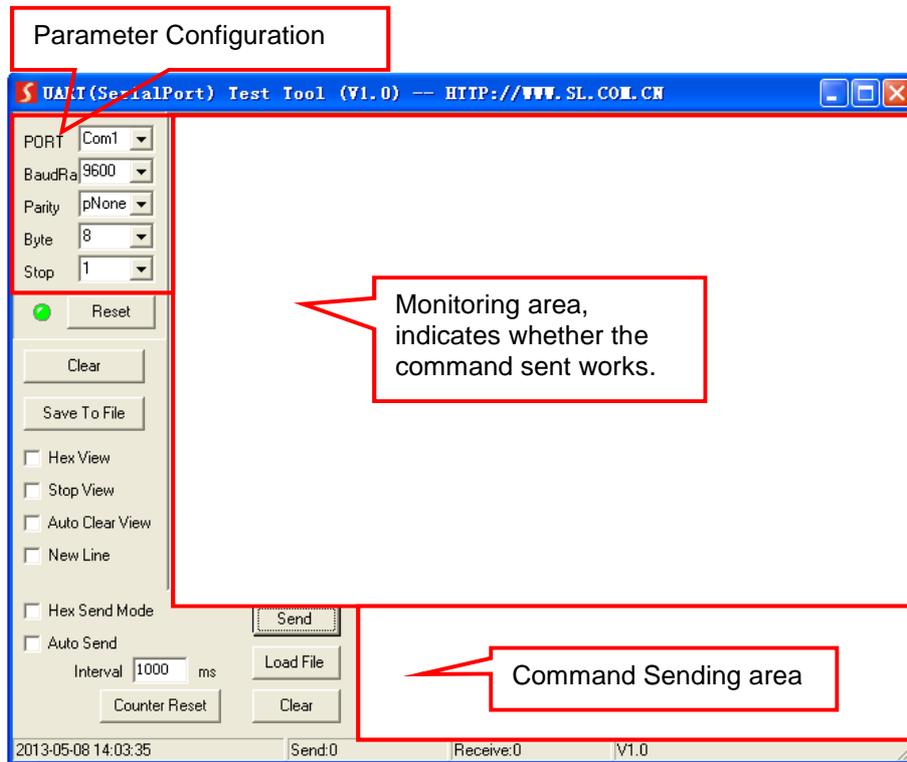
- **Installation** Copy the control software file to the computer connected with AVG-DSS61.
- **Uninstallation** Delete all the control software files in corresponding file path.

4.2.2. Basic Settings

Firstly, connect AVG-DSS61 with an input device and an output device. Then, connect it with a computer which is installed with RS232 control software. Double-click the software icon to run this software. The icon is showed as below:



The interface of the control software is showed as below:



Please set the parameters of COM number, bound rate, data bit, stop bit and the parity bit correctly, only then will you be able to send command in Command Sending Area.

4.2.3. RS232 Communication Commands

Baud rate: 9600 Data bit: 8 Stop bit: 1 Parity bit: none

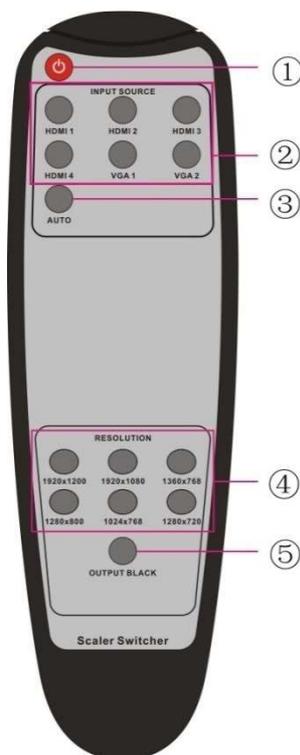
Command	Function	Feedback Example
Switch Commands		
50701%	Switch to HDMI 1 Input	Switch to HDMI 1
50702%	Switch to HDMI 2 Input	Switch to HDMI 2
50703%	Switch to HDMI 3 Input	Switch to HDMI 3
50704%	Switch to HDMI 4 Input	Switch to HDMI 4
50705%	Switch to VGA 1 input	Switch to VGA 1
50706%	Switch to VGA 2 input	Switch to VGA 2
50785%	Enable auto-switching	Auto Switching
50786%	Disable auto-switching	Manual Switching
Resolution Select Commands for VGA Input		
50619%	Change the resolution to 1360X 768	Resolution: 1360x768
50620%	Change the resolution to 1920X1200 WUXGA	Resolution: 1920x1200
50626%	Change the resolution to 1024X768 XGA	Resolution: 1024x768
50627%	Change the resolution to 1280X720 720P	Resolution: 1280x720
50628%	Change the resolution to 1280X800 WXGA	Resolution: 1280x800
50629%	Change the resolution to 1920X1080 1080P	Resolution: 1920x1080
Setup Commands		
50604%	Lock the front panel buttons	Front Panel lock
50605%	Unlock the front panel buttons	Front Panel Unlock
502xx%	Set the brightness to xx (xx ranges from 0 to 99) for VGA input	Brightness: xx
503xx%	Set the contrast to xx (xx ranges from 0 to 99) for VGA input	Contrast: xx
504xx%	Set the saturation to xx (xx ranges from 0 to 99) for VGA input	Saturation: xx
505xx%	Set the sharpness to xx (xx ranges from 0 to 99) for VGA input	Sharpness: xx
50607%	Adjust the color temperature for VGA input	Color Temperature: xx (xx= Cool/ Medium/ Warm/ User.)
50608%	Set the aspect ratio for VGA input	Aspect Ratio: xx (xx= 16:9/ 4:3/ auto/)
50614%	Set the picture mode for VGA input	Picture Mode: xx (xx= dynamic/ standard/ mild/ user)

Command	Function	Feedback Example
50615%	Set SM audio mode for VGA input	Sound Mode: xx Sound Mode: xx (xx= standard/ music/ movie/ sports/ user)
50677%	Stretch downwards from top side(decrease image height)	Output height adjust xx
50648%	Enable HDMI embedded audio output	Embedded Audio Output: enable
50649%	Disable HDMI embedded audio output	Embedded Audio Output: disable
50606%	Auto-adjust the input parameter for (VGA only)	VGA Input Auto
50699%	Check the system version	Version Vx.x.x
50697%	Exit standby mode	Wake up!
50797%	Enter standby mode	Go to standby!
50698%	Software update	
50617%	Reset to factory defaults	Factory Reset
50772%	Set the EDID date of all input ports: bypass mode	EDID:bypass mode
50773%	Set the EDID date of all input ports: 1080P&PCM 2ch	EDID:1080P&PCM 2ch
50774%	Set the EDID date of all input ports:1080P&5.1ch	EDID:1080P&5.1ch
50775%	Set the EDID date of all input ports: 1080P 3D&5.1ch	EDID:1080P3d&5.1ch
50776%	Set the EDID date of all input ports: 1080i&PCM 2ch	EDID:1080i&PCM 2ch
50777%	Set the EDID date of all input ports: 4K&PCM 2ch	EDID:4K&PCM 2ch
50787%	Set the EDID date of all input ports: user	EDID:user
Inquire Commands		
50631%	Check the input source	Input: xx
50632%	Check the output resolution	Resolution: xx
50633%	Check the image mode	Picture Mode: xx
50634%	Check the audio mode	Sound Mode: xx
50635%	Check the image aspect ratio	Aspect Ratio: xx
50636%	Check the brightness	Brightness: xx
50637%	Check the contrast	Contrast: xx
50638%	Check the saturation	Saturation: xx
50639%	Check sharpness	Sharpness: xx
50640%	Check the color temperature	Color Temperature: xx
50652%	Check Digital audio output status	Embedded Audio Output: enable/disable
50754%	Check the panel locked status	Front Panel Lock/UnLock
50778%	Acquire EDID s	EDID:xx
Adjustment Commands for VGA input		
50670%	Move the image to left	Output Position Adjust X xx

Command	Function	Feedback Example
50671%	Move the image to right	Output Position Adjust X xx
50672%	Move the image up	Output Position Adjust Y xx
50673%	Move the image down	Output Position Adjust Y xx
50674%	Stretch left from left side (increase image width)	Output Width Adjust xx
50675%	Pull right from left side (decrease image width)	Output Width Adjust xx
50676%	Stretch upwards from top side (increase image height)	Output Height Adjust xx
50678%	Enable screen output adjusting	Enter Output Position Adjust
50679%	Disable screen output adjusting	Exit Output Position Adjust

4.3. IR control

The unit enables to use the IR remote to control it. Here is brief description of IR remote.



- ① **Standby button**
Enter/ exit standby mode.
- ② **Input channel selection buttons**
Selection video source via pressing corresponding button (audio switched following the corresponding VGA).
- ③ **Auto button**
Enter/ exit auto-switching mode.
- ④ **Resolution selection buttons**
Select resolution via pressing corresponding button.
- ⑤ **Output black button**
Press to switch on/off Audio& Video output

5. Specification

Video Input		Video Output	
Input	4 HDMI, 2 VGA	Output	1 HDMI
Input Connector	4 female HDMI (Type-A) 2 female VGA (15Pin)	Output Connector	1 female HDMI
Video Signal	HDMI/DVI,VGA	Video Signal	HDMI
Video General			
Resolution	HDMI: up to 4Kx2K VGA: output resolution selectable		
Standard	Compliant with VGA&DVI HDMI1.4, HDCP 1.4		
Audio Input		Audio Output	
Input	2 stereo audio for VGA	Output	1 Dual-Mono analog audio 1 stereo audio 1 optical audio
Input Connector	1 3.5mm jack	Output Connector	1 3-pin pluggable terminal block (3.81mm) 1 3.5mm jack 1 SPF fiber connector
Audio General			
Frequency Response	20Hz~20K Hz	Stereo Channel Separation	>80dB @1KHz
Audio Format	HDMI embedded audio: PCM, Dolby,		
Control Parts			
Control Ports	RS232, IR remote	Pin Configuration	2 = TX, 3 = RX, 5 = GND
Panel Control	Front Panel Button		
General			
Power supply	DC 5V 3A	Power Consumption	3.8 (Max)
Dimension (W*H*D)	W347 x H28 x D110 mm	Weight	0.63Kg
Temperature	0~ 45°C	Reference Humidity	10% ~ 90%

Note: AVG-DSS61 supports 4k&1080p 3D HDMI signal, please adopt quality HDMI cables compliant with HDMI1.4 for reliable transmission when connecting

Supported Resolution

Format	Resolution
HDMI	480I, 480P, 576I, 576P, 720P, 1080I, 1080P, 1080P 3D, 4K x2K
DVI	640x480@60Hz, 640x480@72Hz, 640x480@75Hz, 800x600@60Hz, 800x600@72Hz, 800x600@75Hz, 1024x768@60Hz, 1024x768@70Hz, 1024x768@75Hz, 1280x1024@60Hz, 1280x1024@75Hz, 1600x1200@60Hz, 1920x1080@60Hz, 1920x1200@60Hz
VGA	1920x1200, 1920x1080, 1360x768, 1280x800, 1024x768, 1280x720

6. Panel Drawing



7. Troubleshooting & Maintenance

Problems	Causes	Solutions
Power LED doesn't work or no response to any operation	Fail connection of power cord	Make sure the power cord connection is normal
	Power adapter doesn't suitable	Please replace the power adapter with factory default
No output image on display when switching	Fail or loose connection	Make sure the connection is enable
	The display doesn't support the input resolution	Switch for another input source or enable the display to learn the EDID data of the input.
Output image with snowflake or ghost	Bad quality of the connecting cable	Please replace high quality cable.
	Over the transmission distance	please replace the proper distance cable
Cannot control the device via front panel button	Front panel buttons are locked	Send command 50605% to unlock it
Cannot select source via SOURCE/AUTO buttons	In auto-switching mode	Press it and hold for 3 seconds or more to enter in manual-switching mode
Cannot control the device by control device (e.g. a PC) through RS232 port	Wrong RS232 communication parameters	Type in correct RS232 communication parameters.
	Broken RS232 port	Send it to authorized dealer for checking.
Cannot control the device via IR remote	The battery has run off.	Change for new battery.
	The IR remote is broken.	Send it to authorized dealer for repairing.
	Beyond the effective range of the IR signal or not pointing at the IR receiver	Adjust the distance and angle and point right at the IR receiver.
Cannot control the device	The device has already been broken.	Send it to authorized dealer for repairing.

If your problem persists after following the above troubleshooting steps, seek further help from authorized dealer or our technical support.