

## Product Data Sheet

## Video/Audio Scalers



AVSC-HDMI-VGA



AVSC-VGA-HDMI-R2



AVSC-VIDEO-HDMI



AVSC-HDMI-VIDEO



AVSC-VGA-VIDEO

### Available Scalers

- The HDMI to VGA Scaler (AVSC-HDMI-VGA) converts digital HDMI to analog PC video (VGA) with either digital audio (S/PDIF) or analog stereo audio. With this module, VGA based receivers such as LCD monitors or plasma TVs can connect to HDMI sources such as DVD players or PS3. It enables you to keep using your non-HDMI/DVI display to access HDMI or DVI sources for high-definition digital video and audio.
- The VGA to HDMI Scaler (AVSC-VGA-HDMI-R2) converts analog PC video (VGA) with either digital audio (S/PDIF) or analog stereo audio to digital HDMI. With this module, VGA based devices such as PC with S/PDIF or analog stereo audio can readily connect to your HDMI TV. Presentations, demonstrations, or digital signage becomes easier and more cost effective.
- The Component/Composite to HDMI Scaler (AVSC-VIDEO-HDMI) converts a component or CVBS signal to HDMI compliant format. It also supports S/PDIF audio through RCA into HDMI output. With this extra feature, users can combine asynchronous video and audio sources into an HDMI compliant A/V signal.
- The HDMI to Video Scaler and Converter (AVSC-HDMI-VIDEO) converts HDMI to analog Component video (YPbPr)/CVBS with either digital audio (S/PDIF) or analog stereo audio.
- The VGA to Video Scaler (AVSC-VGA-VIDEO) converts PC video (VGA) to analog Component video (YPbPr)/CVBS. With this module, VGA devices can display video on legacy Component or composite monitors.

# Video/Audio Scalers Data Sheet

## Comparison Chart: Scalers

Feature	AVSC-HDMI-VGA	AVSC-VGA-HDMI-R2	AVSC-VIDEO-HDMI
Input video supported	HDMI	VGA	Component/Composite
Output video supported	VGA Component with adapter (adapter not included)	HDMI	HDMI
Input audio supported	Embedded HDMI	Digital (S/PDIF) Analog stereo	Digital (S/PDIF) Analog stereo
Output audio supported	Digital (S/PDIF) Analog stereo	Embedded HDMI	Embedded HDMI
Auto-detect resolution	Yes	Yes	Yes
Locking HDMI connector	Yes	Yes	Yes
Locking power or optional USB power	Yes	Yes	Yes
IR remote control	Yes	Yes	Yes
Remote control via Mini-USB	Yes	Yes	Yes
OSD control interface	Yes	Yes	Yes
Maximum pixel rate: 165 MHz	Yes	Yes	Yes
Deinterlacer supported	Yes	Yes	Yes
Supports noise reduction and video enhancement features	Yes	Yes	Yes
Over/under scanning adjustable	Yes	Yes	Yes
Video H/V mirror supported	Yes	Yes	Yes
Active video area adjustment supported	Yes	Yes	Yes
USB firmware upgradable for expanding compatibility	Yes	Yes	Yes
Wallmount housing design for easy installation	Yes	Yes	Yes

### Comparison Chart: Scalers

Feature	AVSC-HDMI-VIDEO	AVSC-VGA-VIDEO
Input video supported	HDMI	VGA
Output video supported	Component/composite	Component/composite (PAL and NTSC)
Input audio supported	Embedded HDMI	None
Output audio supported	Digital (S/PDIF) Analog stereo	None
Auto-detect resolution	Yes	Yes
Locking HDMI connector	Yes	Yes
Locking power or optional USB power	Yes	Yes
IR remote control	Yes	Yes
Remote control via Mini-USB	Yes	Yes
OSD control interface	Yes	Yes
Maximum pixel rate: 165 MHz	Yes	Yes
Deinterlacer supported	Yes	Yes
Supports noise reduction and video enhancement features	Yes	Yes
Over/under scanning adjustable	Yes	Yes
Video H/V mirror supported	Yes	Yes
Active video area adjustment supported	Yes	Yes
USB firmware upgradable for expanding compatibility	Yes	Yes
Wallmount housing design for easy installation	Yes	Yes

# Video/Audio Scalers Data Sheet

## HDMI to VGA Scaler (AVSC-HDMI-VGA) Specifications

<b>Approvals</b>	CE, FCC
<b>Audio Support</b>	Stereo PCM (48 kHz only), Digital SPDIF
<b>Enclosure</b>	Metal wall mounting case with screws
<b>ESD Protection</b>	Human body model: ±19 kV (air-gap discharge) and ±12 kV (contact discharge); Core chipset: ±2 kV
<b>Firmware Update</b>	via USB Port
<b>Frequency Bandwidth</b>	Output video: 165 MHz; Input video: 165 MHz
<b>Connectors</b>	Input: (1) HDMI; Output: (1) VGA, or Component with adapter (adapter not included) (1) S/PDIF, (1) Stereo; Control and Power: (1) USB Mini B;
<b>Indicators</b>	(1) Red LED for Power; (1) Green LED for Video Signal
<b>Environment</b>	Temperature Tolerance: Operating: 32 to 104° F (0 to 40° C); Storage: -4 to +140° F (-20 to +60° C) Relative Humidity: 20–90%, noncondensing
<b>Power</b>	Power supply: 5 VDC, 2 A; Consumption 5 Watts (max.)
<b>Dimensions</b>	1.1"H x 4.3"W x 3.3"D (2.8 x 11 x 8.3 cm)
<b>Weight</b>	10.2 oz. (290 g)

### Supported Resolutions

Input	Output
640 x 480	1280 x 720p @ 60 Hz
800 x 600	1920 x 1080p @ 60 Hz
1024 x 768	640 x 480p @ 60 Hz
1280 x 720	640 x 480p @ 75 Hz
1280 x 800	800 x 600p @ 60 Hz
1280 x 1024	800 x 600p @ 75 Hz
1600 x 1200	1024 x 768p @ 60 Hz
1680 x 1050	1024 x 768p @ 75 Hz
1920 x 1080	1280 x 1024 @ 60 Hz
1920 x 1200	1280 x 1024 @ 75 Hz
480i/480p	1360 x 768p @ 60 Hz
576i/576p	1366 x 768p @ 60 Hz
720p @ 60/50 Hz	1400 x 1050p @ 60 Hz
1080i @ 60/50 Hz	1600 x 1200p @ 60 Hz
1080p @ 60/50 Hz	1440 x 900p @ 60 Hz
	1440 x 900p @ 75 Hz
	1680 x 1050p @ 60 Hz
	1680 x 1050p RB
	1920 x 1080p RB
	1920 x 1200p RB
	Autodetect

### HDMI to VGA Scaler (AVSC-HDMI-VGA) Dimensional Diagram



VGA to HDMI Scaler (AVSC-VGA-HDMI-R2) Specifications

<b>Approvals</b>	CE, FCC
<b>Audio Support</b>	Stereo PCM (48 kHz only), Digital SPDIF
<b>Enclosure</b>	Metal wall mounting case with screws
<b>ESD Protection</b>	Human body model: ±19 kV (air-gap discharge) and ±12 kV (contact discharge); Core chipset: ±2 kV
<b>Firmware Update</b>	via USB Port
<b>Frequency Bandwidth</b>	Input: 165 MHz; Output: 165 MHz
<b>Connectors</b>	Input: (1) VGA, (1) S/PDIF, (1) Stereo; Output: (1) HDMI; Control and Power: (1) USB Mini B
<b>Indicators</b>	(1) Red LED for Power; (1) Green LED for Video Signal
<b>Environment</b>	Temperature Tolerance: Operating: 32 to 104° F (0 to 40° C); Storage: -4 to +140° F (-20 to +60° C) Relative Humidity: 20–90%, noncondensing
<b>Power</b>	Power supply: 5 VDC, 2 A; Consumption 5 Watts (max.)
<b>Dimensions</b>	1.1"H x 3.6"W x 3.3"D (2.8 x 9.2 x 8.3 cm)
<b>Weight</b>	9.1 oz. (260 g)

Input	Output
640 x 480	720 x 480i @ 60 Hz
800 x 600	720 x 576i @ 50 Hz
1024 x 768	720 x 480p @ 60 Hz
1280 x 720	720 x 576p @ 50 Hz
1280 x 800	1280 x 720p @ 60 Hz
1280 x 1024	1280 x 720p @ 59 Hz
1600 x 1200	1280 x 720p @ 50 Hz
1680 x 1050	1280 x 720p @ 30 Hz
1920 x 1080	1280 x 720p @ 25 Hz
1920 x 1200	1920 x 1080i @ 60 Hz
720p @ 60/50 Hz	1920 x 1080i @ 59 Hz
1080p @ 60/50 Hz	1920 x 1080i @ 50 Hz
	1920 x 1080p @ 60 Hz
	1920 x 1080p @ 59 Hz
	1920 x 1080p @ 50 Hz
	1920 x 1080p @ 30 Hz
	1920 x 1080p @ 25 Hz
	1920 x 1080p @ 24 Hz
	640 x 480p @ 60 Hz
	640 x 480p @ 75 Hz
	800 x 600p @ 60 Hz
	800 x 600p @ 75 Hz
	1024 x 768p @ 60 Hz
	1024 x 768p @ 75 Hz
	1280 x 1024p @ 60 Hz
	1280 x 1024p @ 75 Hz
	1360 x 768p @ 60 Hz
	1366 x 768p @ 60 Hz
	1400 x 1050p @ 60 Hz
	1600 x 1200p @ 60 Hz
	1440 x 900p @ 60 Hz
	1440 x 900p @ 75 Hz
	1680 x 1050p @ 60 Hz
	1680 x 1050p RB
	1920 x 1080p RB
	1920 x 1200p RB

VGA to HDMI Scaler (AVSC-VGA-HDMI-R2) Dimensional Diagram



# Video/Audio Scalers Data Sheet

## Component/Composite to HDMI Scaler (AVSC-VIDEO-HDMI) Specifications

<b>Approvals</b>	CE, FCC
<b>Audio Support</b>	Stereo analog (48 KHz Fs sample rate)
<b>Enclosure</b>	Metal wall mounting case with screws
<b>ESD Protection</b>	Human body model: ±19 kV (air-gap discharge) and ±12 kV (contact discharge); Core chipset: ±2 kV
<b>Firmware Update</b>	via USB Port
<b>Frequency Bandwidth</b>	Input: 74.25 MHz; Output: 165 MHz
<b>Indicators</b>	(1) Red LED for Power; (1) Green LED for Video Signal
<b>Connectors</b>	Input: Component/Composite: (3) RCA female, (2) audio (L/R); Output: (1) HDMI; Control and Power: (1) USB Mini B
<b>Environment</b>	Temperature Tolerance: Operating: 32 to 104° F (0 to 40° C); Storage: -4 to +140° F (-20 to +60° C) Relative Humidity: 20–90%, noncondensing
<b>Power</b>	Power supply: 5 VDC, 2 A; Consumption 5 Watts (max.)
<b>Dimensions</b>	1.1"H x 3.6"W x 3.3"D (2.8 x 9.2 x 8.3 cm)
<b>Weight</b>	9.5 oz. (270 g)

### Supported Resolutions

Input	Output
480i/576i	720 x 480i @ 60 Hz
480p/576p	720 x 576i @ 50 Hz
720p	720 x 480p @ 60 Hz
1080i	720 x 576p @ 50 Hz
1080p	1280 x 720p @ 60 Hz
	1280 x 720p @ 59 Hz
	1280 x 720p @ 50 Hz
	1280 x 720p @ 30 Hz
	1280 x 720p @ 25 Hz
	1920 x 1080i @ 60 Hz
	1920 x 1080i @ 59 Hz
	1920 x 1080i @ 50 Hz
	1920 x 1080p @ 50 Hz
	1920 x 1080p @ 30 Hz
	1920 x 1080p @ 25 Hz
	1920 x 1080p @ 24 Hz
	640 x 480p @ 60 Hz
	640 x 480p @ 75 Hz
	800 x 600p @ 60 Hz
	800 x 600p @ 75 Hz
	1024 x 768p @ 60 Hz
	1024 x 768p @ 75 Hz
	1280 x 1024p @ 60 Hz
	1280 x 1024p @ 75 Hz
	1360 x 768p @ 60 Hz
	1366 x 768p @ 60 Hz
	1400 x 1050p @ 60 Hz
	1600 x 1200p @ 60 Hz
	1440 x 900p @ 60 Hz
	1440 x 900p @ 75 Hz
	1680 x 1050p @ 60 Hz
	1680 x 1050p RB
	1920 x 1080p RB
	1920 x 1200p RB

### Component/Composite to HDMI Scaler (AVSC-VIDEO-HDMI) Dimensional Diagram



## HDMI to Video Scaler and Converter (AVSC-HDMI-VIDEO) Specifications

### 1. Specifications

<b>Approvals</b>	CE, FCC
<b>Audio Support</b>	Stereo PCM (48 kHz only)
<b>Maximum Resolution</b>	1080p, 1920 x 1200
<b>Maximum Color</b>	4:2:2
<b>Enclosure</b>	Metal wall mounting case with screws
<b>ESD Protection</b>	Human body model: ±19 kV (air-gap discharge) and ±12 kV (contact discharge); Core chipset: ±2 kV
<b>Firmware Update</b>	via USB Port
<b>Frequency Bandwidth</b>	Output video: 165 MHz; Input video: 74.25 MHz
<b>IR Sensor</b>	Receives IR commands from the IR remote
<b>User Controls</b>	(1) DIP switch for firmware update; (3) Push buttons (Down, Up, Menu/Enter)
<b>Connectors</b>	Input: (1) HDMI Type A (19-pin female), Output: (2) 3.5-mm stereo (L, R), (3) RCA (YPbPr), (1) RCA (CVBS), (1) RCA (S/PDIF); Firmware update and control: (1) Mini USB; Power: (1) interlocking power jack
<b>Indicators</b>	(1) Red LED for Power; (1) Green LED for Video Signal
<b>Environment</b>	Temperature Tolerance: Operating: 32 to 104° F (0 to 40° C); Storage: -4 to +140° F (-20 to +60° C) Relative Humidity: 20–90%, noncondensing
<b>Power</b>	Power supply: 5 VDC, 2 A; Consumption: 5 Watts (max.)
<b>Dimensions</b>	1.1"H x 6.9"W x 5"D (2.8 x 17.5 x 12.7 cm)
<b>Weight</b>	9.5 oz. (270 g)

### Supported Resolutions

Description	Settings
Output Resolution	HD(720p)60
	HD(720p)59
	HD(720p)50
	HD(720p)30
	HD(720p)25
	HD(1080i)60
	HD(1080i)59
	HD(1080i)50
	HD(1080p)60
	HD(1080p)59
	HD(1080p)50
	HD(1080p)30
	HD(1080p)25
	HD(1080p)24
Bypass	
	SD(480i)60
	SD(576i)50
	SD(480p)60
	SD(576p)50



# Video/Audio Scalers Data Sheet

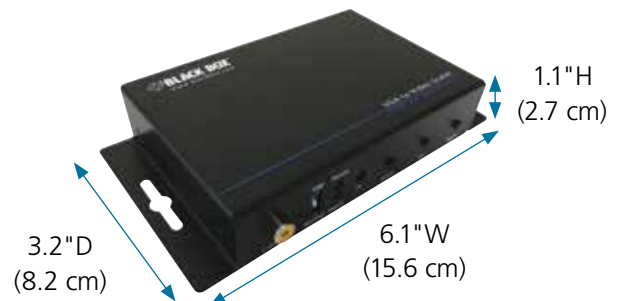
## VGA to Video Scaler (AVSC-VGA-VIDEO) Specifications

### 1. Specifications

<b>Approvals</b>	CE, FCC
<b>Audio Support</b>	Stereo PCM (48 kHz only)
<b>Maximum Resolution</b>	1080p, 1920 x 1200
<b>Maximum Color</b>	4:2:2
<b>Enclosure</b>	Metal wall mounting case with screws
<b>ESD Protection</b>	Human body model: ±19 kV (air-gap discharge) and ±8 kV (contact discharge); Core chipset: ±2 kV
<b>Firmware Update</b>	via USB Port
<b>Frequency Bandwidth</b>	Input video: 165 MHz; Output video: 74.25 MHz
<b>IR Sensor</b>	Receives IR commands from the IR remote
<b>User Controls</b>	(1) DIP switch for firmware update; (3) Push buttons (Down, Up, Menu/Enter)
<b>Connectors</b>	Input: (1) HD15 VGA (15-pin female), Output: (3) RCA (YPbPr), (1) RCA (CVBS); Firmware update and control: (1) Mini USB; Power: (1) interlocking power jack
<b>Indicators</b>	(1) Red LED for Power; (1) Green LED for Video Signal
<b>Environment</b>	Temperature Tolerance: Operating: 32 to 104° F (0 to 40° C); Storage: -4 to +140° F (-20 to +60° C) Relative Humidity: 20–90%, noncondensing
<b>Power</b>	Power supply: 5 VDC, 2 A; Consumption: 5 Watts (max.)
<b>Dimensions</b>	1.1"H x 6.1"W x 3.2"D (2.7 x 15.6 x 8.2 cm)
<b>Weight</b>	1.4 lb. (0.64 kg)

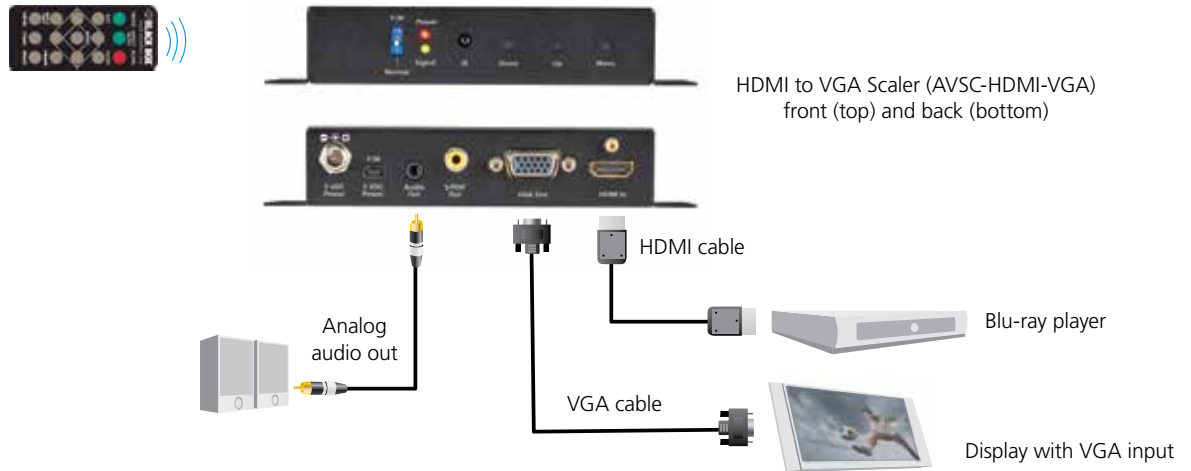
### Supported Resolutions

Description	Settings
Output Resolution	HD(720p)60
	HD(720p)59
	HD(720p)50
	HD(720p)30
	HD(720p)25
	HD(1080i)60
	HD(1080i)59
	HD(1080i)50
	HD(1080p)60
	HD(1080p)59
	HD(1080p)50
	HD(1080p)30
	HD(1080p)25
	HD(1080p)24
Bypass	
	SD(480i)60
	SD(576i)50
	SD(480p)60
	SD(576p)50

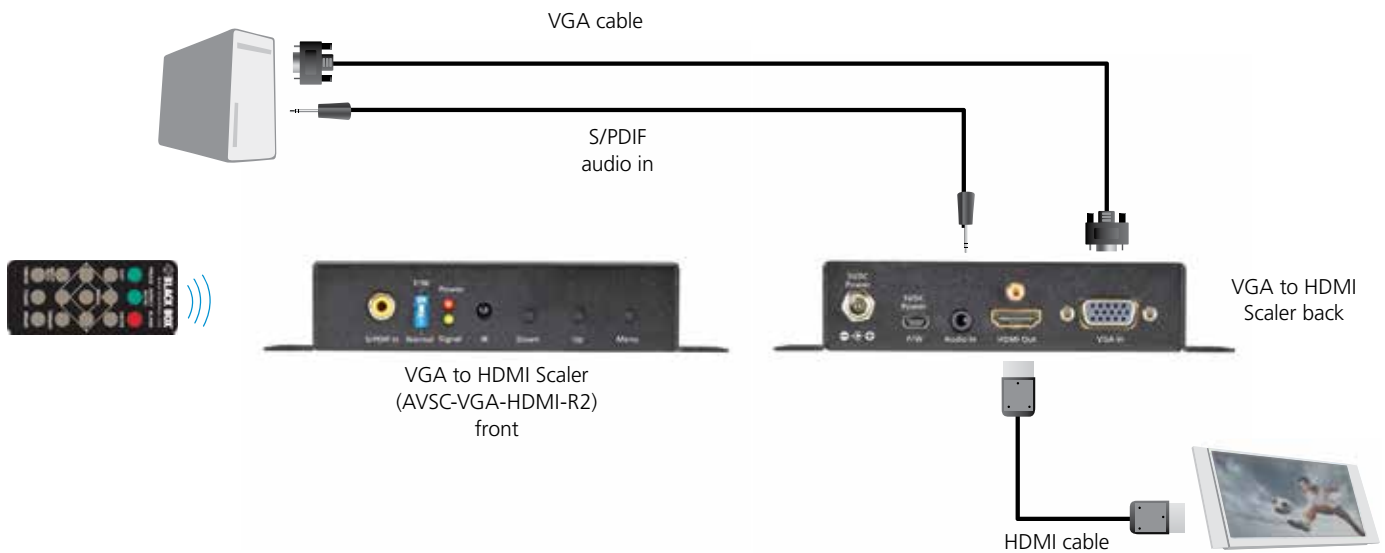




A typical application of the HDMI to VGA Scaler (AVSC-HDMI-VGA) is shown below.

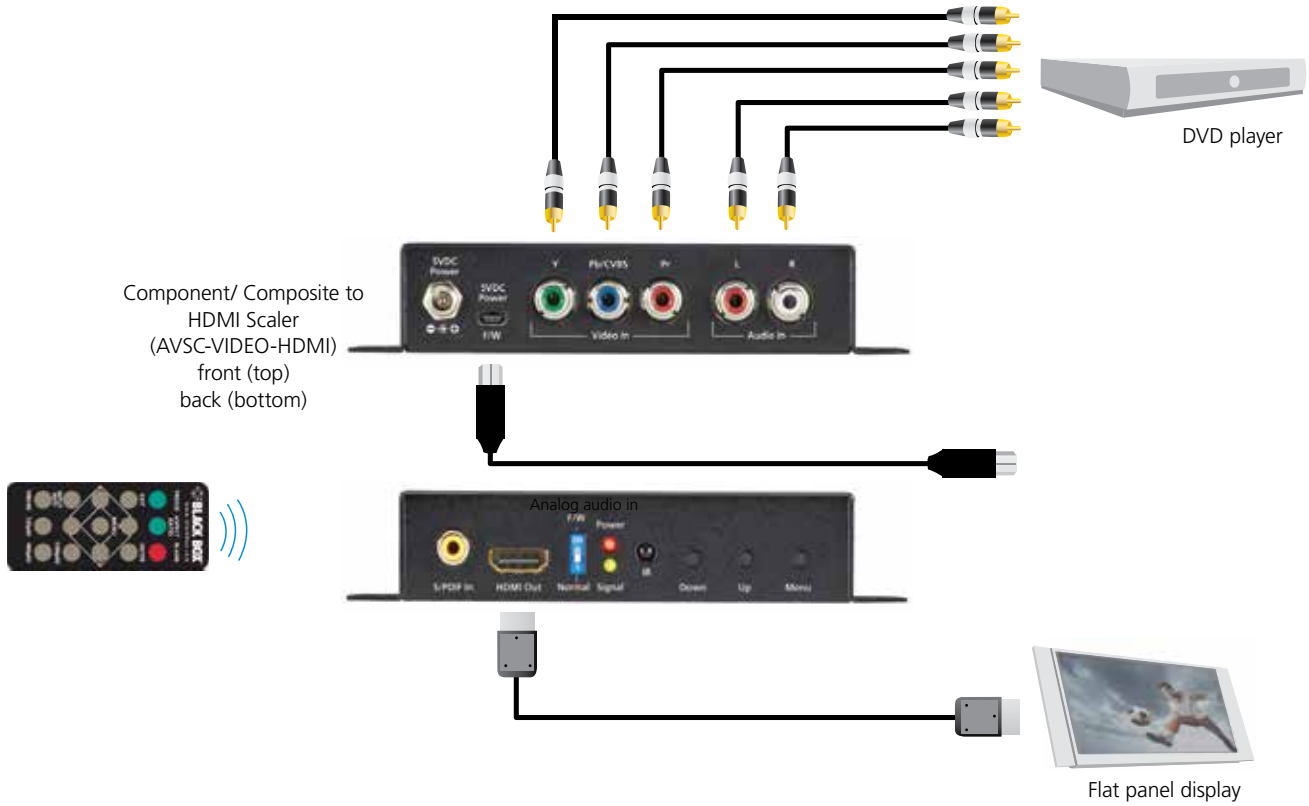


A typical application of the VGA to HDMI Scaler (AVSC-VGA-HDMI-R2) is shown below.

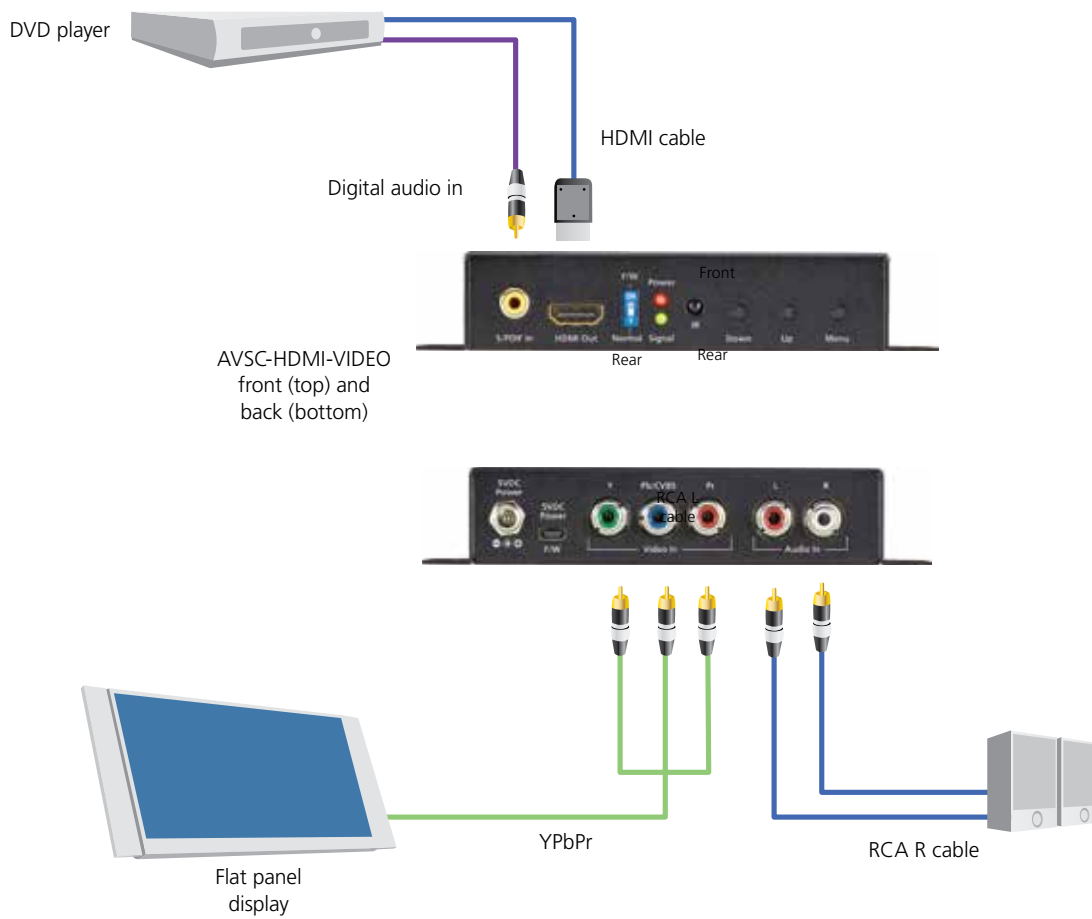


# Video/Audio Scalers Data Sheet

A typical application of the Component/Composite to HDMI Scaler (AVSC-VIDEO-HDMI) is shown below.

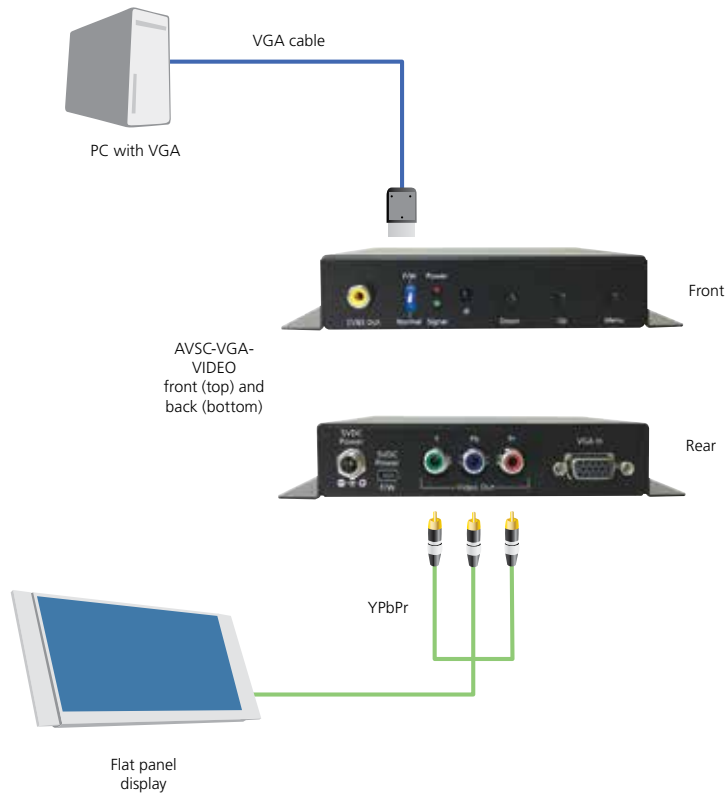


A typical application of the HDMI to Video Scaler and Converter (AVSC-HDMI-VIDEO) is shown below.

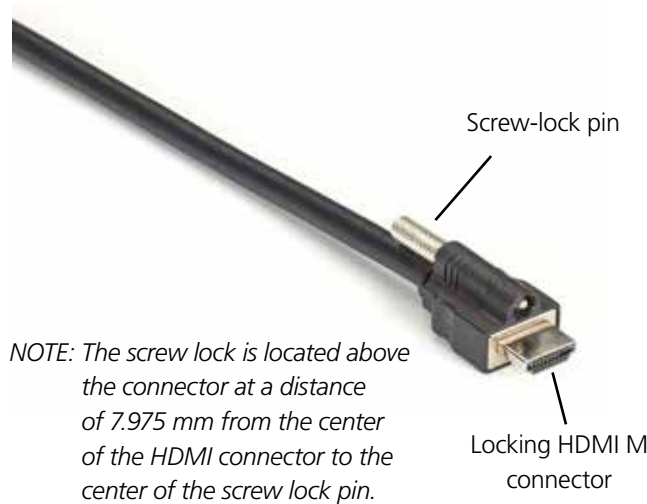


# Video/Audio Scalers Data Sheet

A typical application of the VGA to Video Scaler (AVSC-VGA-VIDEO) is shown below.



You might also need Locking HDMI Cables (described below).



Locking Cables Specifications

Approvals	RoHS2; High-Speed HDMI
Cable	Construction: Magnalium braid; O.D. = 5.2 mm
Color	Black
Data Transfer Rate	VCL-HDMIDVI-00xM: 165 MHz, 4.95 Gbps; VCL-HDMIS-00xM: 340 MHz; 10.2 Gbps; VCL-HDMIL-00xM: 340 MHz, 10.2 Gbps; VAL-HDMIDVI: 165 MHz, 4.95 Gbps
HDMI Standard	High-Speed
Resolution	Maximum supported: 1080p @ 60 Hz, digital displays (may vary by monitor); Supports 3D and Deep Color, and 1080p
Connectors	VCL-HDMIDVI-00xM: Input: HDMI M (Nickel-plated, screw lock), Output: DVI-D single-link M (gold contact); VCL-HDMIS-00xM: Input: HDMI M (Nickel-plated), screw lock, Output: HDMI M (Nickel-plated); VCL-HDMIL-00xM: Input: HDMI M (Nickel-plated, screw lock), Output: HDMI M (Nickel-plated, screw lock); VAL-HDMIDVI: Input: HDMI M (Nickel-plated, screw lock), Output: DVI-D single-link M (gold contact)
Distance from Center	7.975-mm distance from the center of the HDMI connector to the center of the screw lock pin
Length	VCL-HDMIDVI-001M, VCL-HDMIS-001M, VCL-HDMIL-001M: 1 m (3.2 ft.); VCL-HDMIDVI-002M, VCL-HDMIS-002M, VCL-HDMIL-002M: 2 m (6.5 ft.); VCL-HDMIDVI-003M, VCL-HDMIS-003M, VCL-HDMIL-003M: 3 m (9.8 ft.); VCL-HDMIDVI-005M, VCL-HDMIS-005M, VCL-HDMIL-005M: 5 m (16.4 ft.); VAL-HDMIDVI: 15 cm (6")
Wire Gauge	28 AWG

# Video/Audio Scalers Data Sheet

## Ordering Information for Locking Cables

Comparison Chart: Locking HDMI Cables

Product Code	Cable Length	Connectors
VCL-HDMIDVI-001M	1 m (3.2 ft.)	(1) Locking HDMI M, (1) DVI M
VCL-HDMIDVI-002M	2 m (6.5 ft.)	(1) Locking HDMI M, (1) DVI M
VCL-HDMIDVI-003M	3 m (9.8 ft.)	(1) Locking HDMI M, (1) DVI M
VCL-HDMIDVI-005M	5 m (16.4 ft.)	(1) Locking HDMI M, (1) DVI M
VCL-HDMIS-001M	1 m (3.2 ft.)	(1) Locking HDMI M, (1) Standard HDMI M
VCL-HDMIS-002M	2 m (6.5 ft.)	(1) Locking HDMI M, (1) Standard HDMI M
VCL-HDMIS-003M	3 m (9.8 ft.)	(1) Locking HDMI M, (1) Standard HDMI M
VCL-HDMIS-004M	5 m (16.4 ft.)	(1) Locking HDMI M, (1) Standard HDMI M
VCL-HDMIL-001M	1 m (3.2 ft.)	(2) Locking HDMI M
VCL-HDMIL-002M	2 m (6.5 ft.)	(2) Locking HDMI M
VCL-HDMIL-003M	3 m (9.8 ft.)	(2) Locking HDMI M
VCL-HDMIL-005M	5 m (16.4 ft.)	(2) Locking HDMI M
<b>Adapter Cable</b>		
Product Code	Cable Length	Connectors
VAL-HDMIDVI	15 cm (6")	(1) HDMI M, (1) DVI female

## Ordering Information for the Video/Audio Scalers

Item	Code
HDMI to VGA Scaler	<b>AVSC-HDMI-VGA</b>
VGA to HDMI Scaler	<b>AVSC-VGA-HDMI-R2</b>
Component/Composite to HDMI Scaler	<b>AVSC-VIDEO-HDMI</b>
HDMI to Video Scaler and Converter	<b>AVSC-HDMI-VIDEO</b>
VGA to Video Scaler	<b>AVSC-VGA-VIDEO</b>

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