



# VIDEO CONVERTER AV-5S / AV-3 SERIES

SDI → HDMI

HDMI → SDI

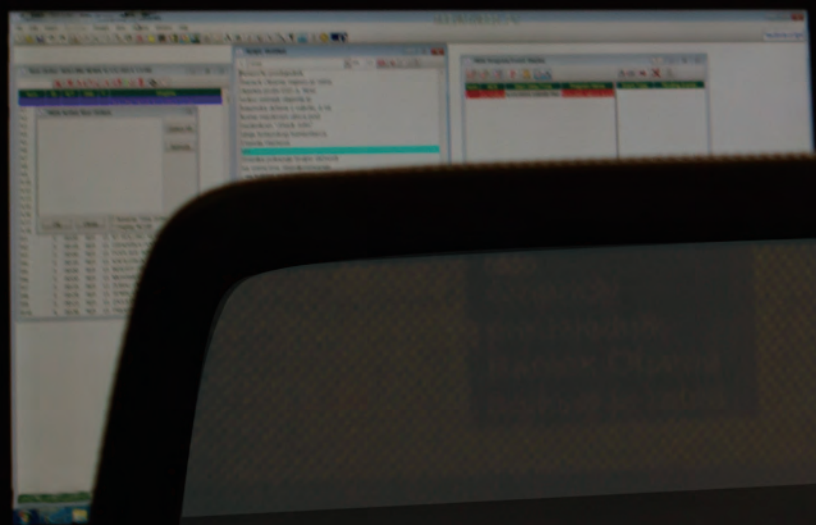
SDI ↔ HDMI

The professional's choice in connecting audio and video





# The Infinite Tools



AV-5S SERIES



AV-3 SERIES



Bi-Directional

Bi-directional (interactive)  
conversion on BD versions

lossless

no pixelshift, no conversion  
/signal error and low jitter  
levels

2K

automatic signal processor  
responding to wide variety  
of video sources

3G SDI

LEVEL A / LEVEL B SUPPORT

Both level A and B supported  
allowing wide range of input  
source

AUDIO

EMBEDDED / DE-EMBEDDED

selectable audio embedding  
and de-embedding on video  
channel (AV-5S series only)

FRAME BUFFER

DIRECT

Frame Sync and Direct  
Conversion Mode, Frame Rate  
conversion



# *to Convert*

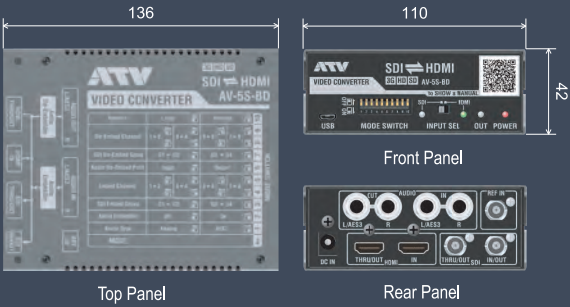
## **Professional multi purpose single and bi-directional SDI and HDMI converters**

AV-5S and AV-3 video converters are engineered to meet the most demanding live events, digital signage, video conference and divers broadcast video conversion requirements.

Multi-purpose AV-3 and AV-5S series converters SDI to HDMI and backwards provide the ultimate uncompromising conversion without signal distortion from SDI-SD, -HD, 3G beyond 2K and 1080p video sources to HDMI in SD, HD and 2K formats. A wide range of 3G-SDI equipment is supported due to acceptance of both type A (security/ digital signage) and B input (broadcast related) sources. Unambiguously, analog or AES/EBU audio can be embedded from separate local sources as well as de-embedded from the original SDI source for enhancement and re-embedded in the SDI signal simultaneously (AV-5S series Audio Only extraction). AV-3 series include the audio in its video conversion. The built in frame buffer assures error-free picture switching in combination with various brand mixer/switchers.

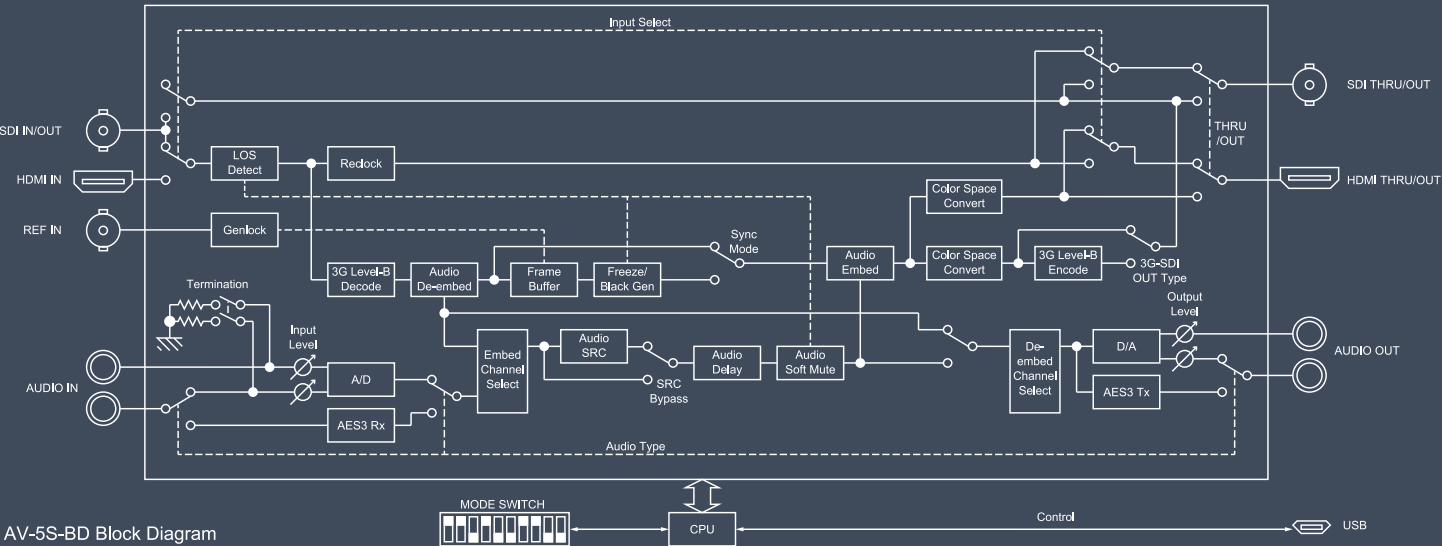
# VIDEO CONVERTER AV-5S-BD

SDI➡HDMI



Converting either way between SDI and HDMI. You can embed audio or de-embed audio from video. Featuring a Frame Buffer function, configured for frame rate conversion and synchronization external audio with video, The best resolution for format conversion.

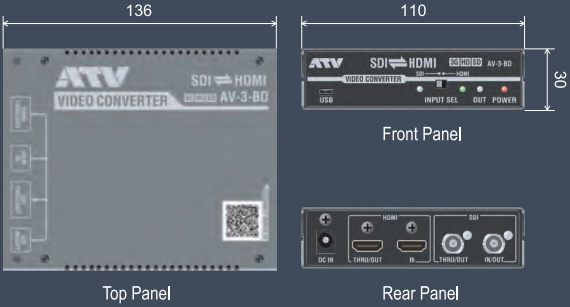
Weight:450g



AV-5S-BD Block Diagram

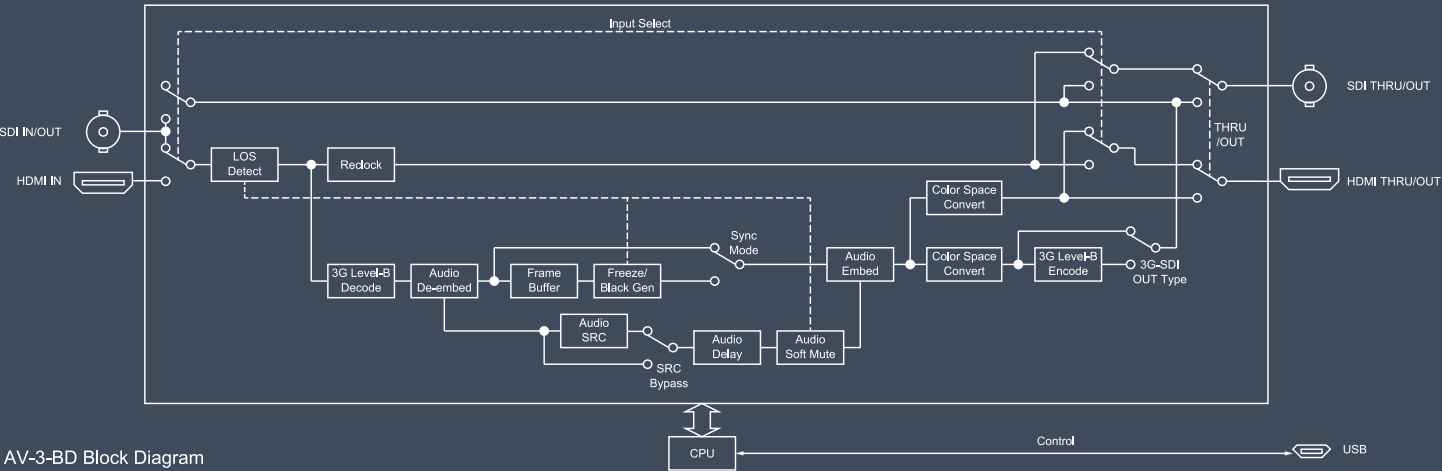
# VIDEO CONVERTER AV-3-BD

SDI➡HDMI



Converting either way between SDI and HDMI. Featuring a Frame Buffer function and configured frame rate conversion. This is a cost-effective solution for the conversion for SDI and HDMI.

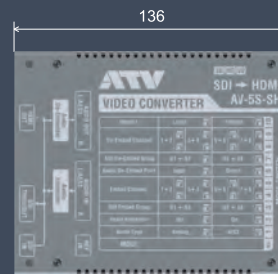
Weight:310g



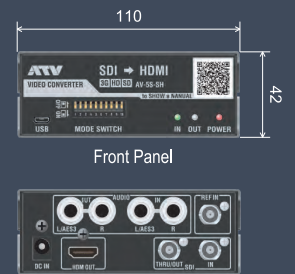
AV-3-BD Block Diagram

# VIDEO CONVERTER AV-5S-SH

SDI → HDMI

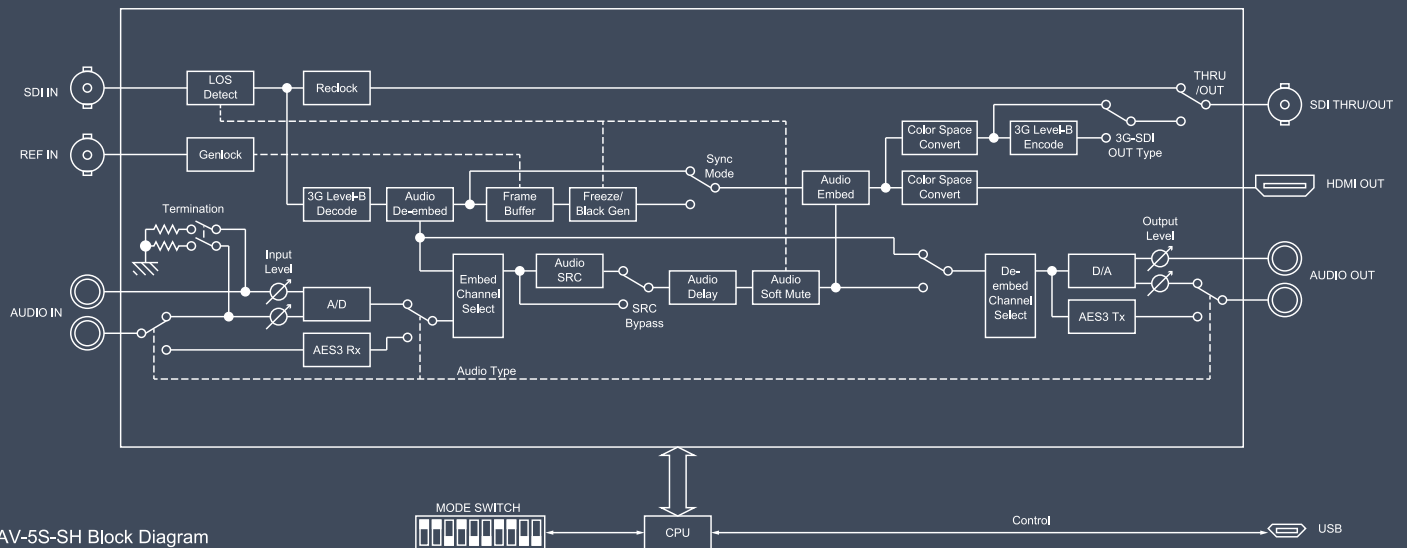


Top Panel



Rear Panel

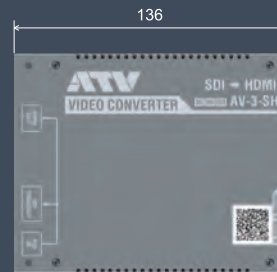
Weight:450g



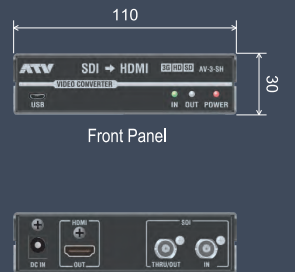
AV-5S-SH Block Diagram

# VIDEO CONVERTER AV-3-SH

SDI → HDMI

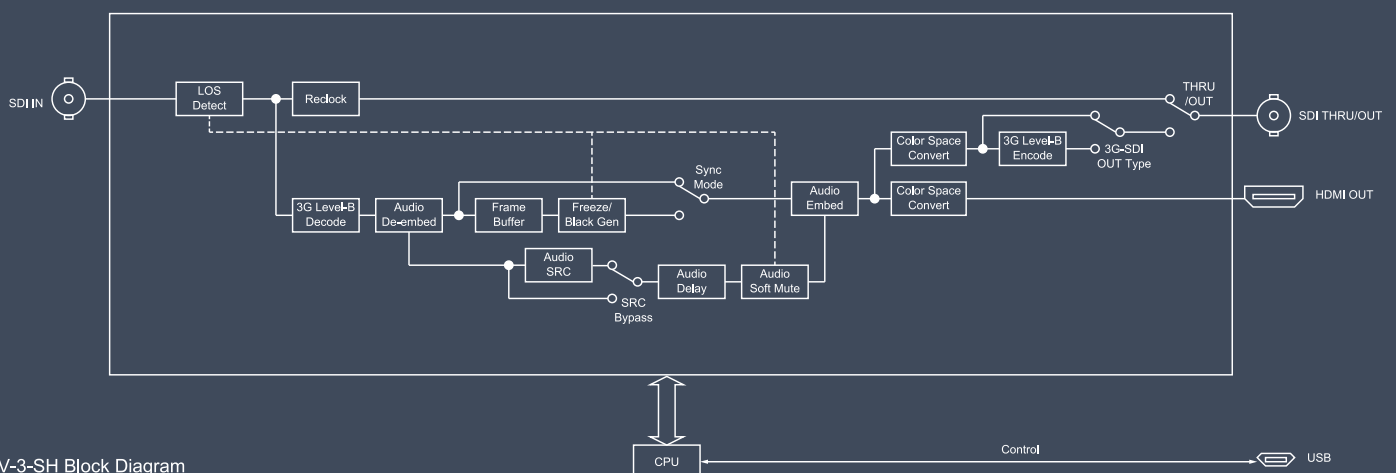


Top Panel



Rear Panel

Weight:310g

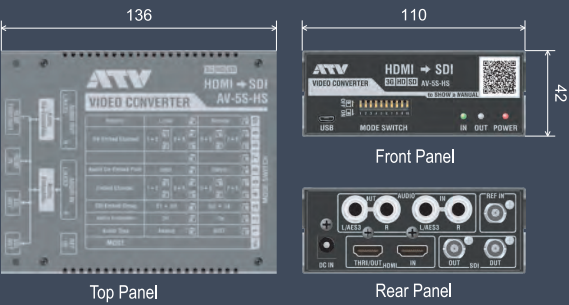


AV-3-SH Block Diagram



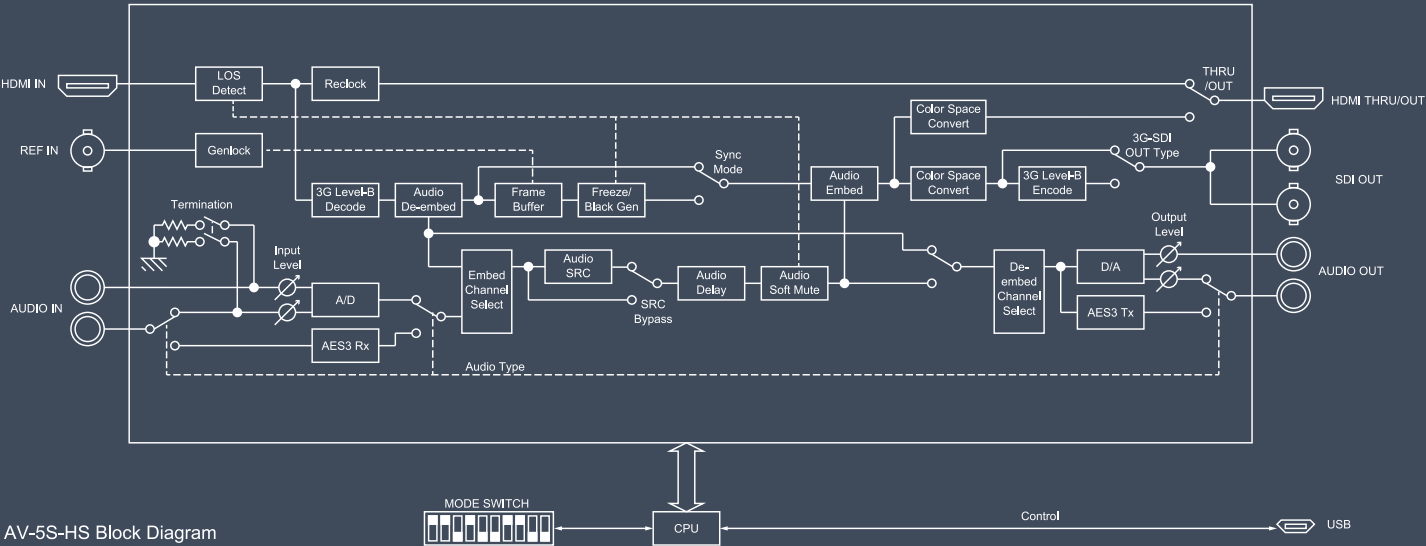
# VIDEO CONVERTER AV-5S-HS

HDMI→SDI



Weight:450g

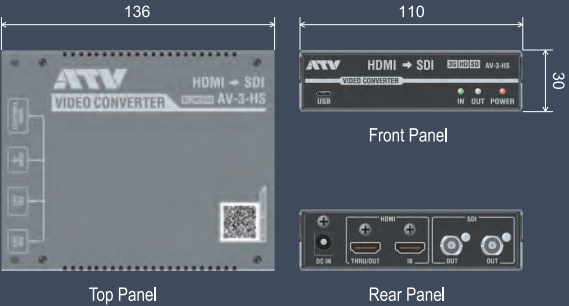
Converting HDMI to SDI. You can embed audio on SDI and also de-embed audio from HDMI.  
Featuring a Frame Buffer function, configured for frame rate conversion and synchronization with external audio and video. It is just like SDI that allows a long distance transmission.



AV-5S-HS Block Diagram

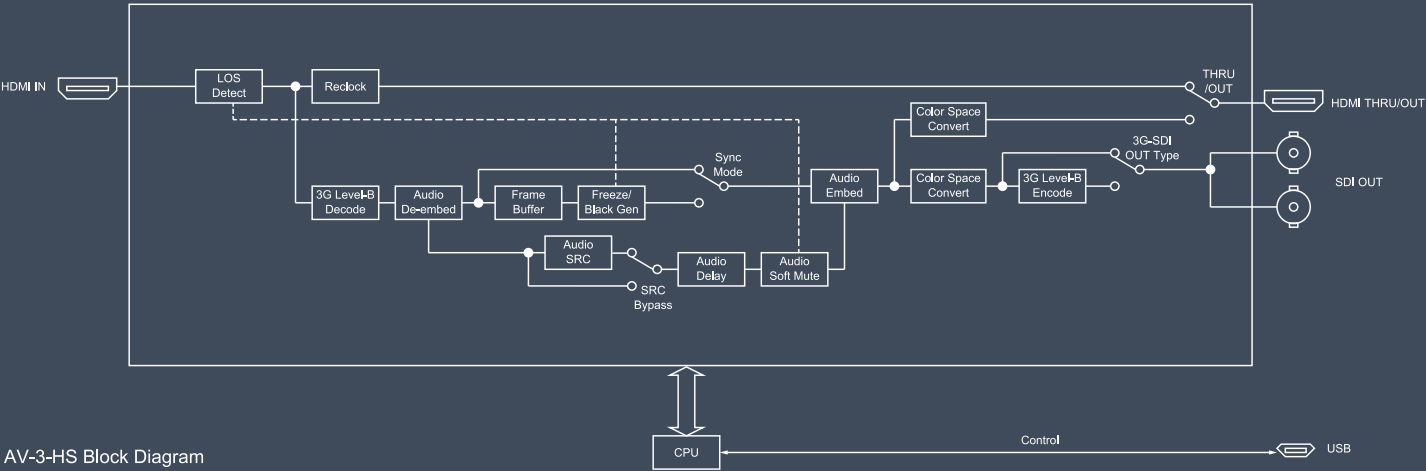
# VIDEO CONVERTER AV-3-HS

HDMI→SDI



Weight:310g

Converting HDMI to SDI. Featuring a Frame Buffer and configured for frame rate conversion.  
It is just like SDI that allows a long distance transmission.



AV-3-HS Block Diagram

# FEATURES

Count on AV series conversion performance to meet your demand



## Both 2 way converter or 2-signal distributor

The compact high end AV-3-BD and AV-5S-BD convert SDI to HDMI and vice versa, or simultaneously distributing HDMI and SDI

LOSSLESS

## Error free conversion

Output = Input, in new format. That's its mission!  
Minimum loss from super-black to super white (0IRE-100IRE). Perfect conversion without clipping, retaining the original color space with linearity



## Automatic detection of variety of inputs

Input and output ranging from 480i to 1080p and 2K, frame rate recognition from 23,98p, 24p, 29,97p, 30p, 59,94p to 60p as well as progressive (P) and Progressive segmented Frame (PsF) (\* no up-/ down conversion).

3G SDI  
LEVEL A / LEVEL B SUPPORT

## 3G-SDI format Level A and B

Both signal inputs from level A (security and digital signage) to level B used in broadcasting, AV series supports a selectable output method for both.

AUDIO  
EMBEDDED / DE-EMBEDDED

## Embed external audio to video

AV-5S series can EMBED an external 2 channel analogue data or digital AES-3 sound audio into the video channel. In reverse way, you can extract audio from your video channel.

FRAME BUFFER  
DIRECT

## Providing unprecedented conversion

Stable conversion via frame buffering functionality, including frame rate conversion as well as direct conversion mode to compensate delay



## External Synchronization

AV-5S series is equipped with reference input for GENLOCK. Settings with non-sync devices can use the AV-5S as a format converter as well as frame synchronizer.



## 1U rackmount

For installation purposes both width and height of AV series allow for easy rackmount of 4 units in 1U rack height. It can also be used standalone using the rear screw hole for mounting and connectors are fully protected due to shape of the exterior housing.



## Software control

AV series can be connected to PC or MAC to set your specific parameter settings. Your parameters are saved in a data file, so you can quickly retrieve various different settings in a second. You can manage multiple converters and data files at the same time. Basic functionality can also be configured using the DIP switches at the front of the AV-5S series.

VIDEO CONVERTER AV-5S / AV-3 SERIES

Primary Specification

Input Connectors

■ SDI [ AV-5S-SH, AV-5S-BD, AV-3-SH, AV-3-BD ]		
Connector	BNC type x 1	
Signal Standards	SMPTE ST424 (SMPTE ST425-AB), SMPTE ST292, SMPTE ST259-C	
Video Format	2048x1080/60p/59.94p/50p/48p/47.95p/30p/29.97p/25p/24p/23.98p/30PsF/29.97PsF/25PsF/24PsF/23.98PsF (Conforms to SMPTE ST2048), 1920x1080/60p/59.94p/50p/30p/29.97p/25p/24p/23.98p/60i/59.94i/50i/30PsF/29.97PsF/25PsF/24PsF/23.98PsF (Conforms to SMPTE ST274), 1280x720/60p/59.94p/50p (Conforms to SMPTE ST296), 720x487/59.94i, 720x576/50i (Conforms to ITU-R BT.601-5)	
Color Format	10bit YCC4:2:2, 12bit RGB4:4:4, 12bit YCC4:4:4 (Valid bits are 10 bits)	
Audio Format	Linear PCM, 24/20bit, 48kHz, 16ch (Conforms to SMPTE ST299,ST272-C)	
■ HDMI [ AV-5S-HS, AV-5S-BD, AV-3-HS, AV-3-BD ]		
Connector	Type A (19Pins) x 1	
Signal Standards	HDMI1.4b	
Video Format	2048x1080/60p/59.94p/50p/48p/47.95p/30p/29.97p/25p/24p/23.98p (SMPTE ST2048 Timings) , 1920x1080/60p/59.94p/50p/60i/59.94i/50i/30p/29.97p/25p/24p/23.98p, 1280x720/60p/59.94p/50p, 720x480/59.94p, 720x576/50p, 720(1440)x480/59.94i, 720(1440)x576/50i (Conforms to CEA-861-F)	
Color Format	10/12bit YCC4:2:2, 8bit RGB4:4:4, 8bit YCC4:4:4 (Valid bits are 10 bits)	
Audio Format	Linear PCM, 16~24bit, 32~48kHz, 2~8ch	
■ Analog Audio [ Only available with AV-5S series ]		
Connector	1/4" TRS phone type (balanced) x 1 Pair (L/R)	
Input Level	+4dBu	
Maximum Input Level	+24dBu	
Impedance	22k/600Ω selectable	
■ Digital Audio [ AV-5S series only ]		
Connector	1/4" TRS phone type (balanced) x 1 (Combined use with Analog Audio L ch Connector)	
Signal Format	AES3, 16~24bit, 32~48kHz, 2ch	
Impedance	110Ω	
■ REF IN [ Only available with AV-5S series ]		
Connector	BNC type x 1	
Signal Standards	B.B. (SMPTE ST318), Bi-Level (ITU-R BT.1358-1), HD Tri-Level (SMPTE ST274, ST296)	
Signal Format	1920x1080/60p/59.94p/50p/30p/29.97p/25p/24p/23.98p/60i/59.94i/50i/24PsF/23.98PsF (Conforms to SMPTE ST274), 1280x720/60p/59.94p/50p (Conforms to SMPTE ST296), 720x480/59.94p, 720x576/50p (Conforms to ITU-R BT.1358-1) 720x480/59.94i, 720x576/50i (Conforms to SMTPE ST318)	

Processing

Only available with AV-5S series	Audio Embed	2ch
	Audio De-embed	2ch
	Frame Synchronizer	Off / On ( Available via Remote Control Software )
	Phase Adjust	H=-0.5H~+0.5H, V=-0.5frame~+0.5frame
Only available with AV-5S-SH,AV-5S-BD, AV-3-SH,AV-3-BD	3G-SDI Level Type Convert	Bi-directional (Available via Remote Control Software)
Common to all series specification	Minimum Delay	See the instruction manual
	Frame Buffer	Off / On (Available via Remote Control Software)
	Frame Rate Convert	Frame Skip / Repeat Type
	Glitch Absorb	with Audio Soft Mute
	Audio Delay	0~100msec (Available via Remote Control Software)
	Color Format Convert	Available via Remote Control Software

Output Connectors

■ SDI			
Connector	BNC type BNC type BNC type	x 1 x 2 x 2	[ AV-5S-SH, AV-3-SH ] [ AV-5S-HS, AV-3-HS ] (Combined use with SDI Input Connector) [ AV-5S-BD, AV-3-BD ]
Signal Standards	SMPTE ST424 (SMPTE ST425-AB), SMPTE ST292, SMPTE ST259-C		
Video Format	2048x1080/60p/59.94p/50p/48p/47.95p/30PsF/29.97PsF/25PsF/24PsF/23.98PsF (Conforms to SMPTE ST2048), 1920x1080/60p/59.94p/50p/60i/59.94i/50i/30PsF/29.97PsF/25PsF/24PsF/23.98PsF (Conforms to SMPTE ST274), 1280x720/60p/59.94p/50p (Conforms to SMPTE ST296), 720x487/59.94i, 720x576/50i (Conforms to ITU-R BT.601-5)		
Color Format	10bit YCC4:2:2, 12bit RGB4:4:4, 12bit YCC4:4:4 (Valid bits are 10 bits)		
Audio Format	Linear PCM, 24/20bit, 48kHz, 16ch (Conforms to SMPTE ST299,ST272-C)		
■ HDMI			
Connector	Type A (19 pins) x 1		
Signal Standards	HDMI1.4b		
Video Format	2048x1080/60p/59.94p/50p/48p/47.95p/30p/29.97p/25p/24p/23.98p (SMPTE ST2048 Timings) , 1920x1080/60p/59.94p/50p/60i/59.94i/50i/30p/29.97p/25p/24p/23.98p, 1280x720/60p/59.94p/50p, 720x480/59.94p, 720x576/50p, 720(1440)x480/59.94i, 720(1440)x576/50i (Conforms to CEA-861-F)		
Color Format	10bit YCC4:2:2, 8bit RGB4:4:4, 8bit YCC4:4:4		
Audio Format	Linear PCM, 24bit, 48kHz, 2~8ch		
■ Analog Audio [ Only available with AV-5S series ]			
Connector	1/4" TRS phone type (balanced) x 1 Pair (L/R)		
Input Level	+4dBu		
Maximum Input Level	+24dBu		
Impedance	600Ω		
Minimum Load Impedance	20kΩ		
■ Digital Audio [ AV-5S series only ]			
Connector	1/4" TRS phone type (balanced) x 1 (Combined use with Analog Audio L ch Connector)		
Signal Format	AES3, 24 bits, 48 KHz, 2 ch		
Impedance	110Ω		

Others

USB	Micro USB Type B (Hi-Speed USB) x 1
Power Supply	DC 12 V (AC Adaptor)
Power Consumption	12 W
Dimensions	110 (W)×136 ( D )×42 ( H )mm [ AV-5S Series ] 110 (W)×136 ( D )×30 ( H )mm [ AV-3 Series ]
Weight (without AC Adaptor)	450g [ AV-5S Series ] / 310g [ AV-3 Series ]
Operation Temperature	+0~+40 degrees Celsius / +41~+104 degrees Fahrenheit
Accessories	AC adaptor , Startup Guide



About ATV Corporation

Since 2014, ATV has been dedicated to develop and oversee manufacturing of state of the art video interface and conversion solutions, bringing high-quality, cost-effective digital video products to the professional, broadcast and post-production markets. With more than 40 years of experience we started our new company to make a difference. Our products are distributed through a dedicated partner network. For more information please visit our website [www.atvcorporation.com](http://www.atvcorporation.com)

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