

ANALOG MEDIA PRODUCT

Cat5 AV Extender

AVE-301T
AVE-301R
AVE-304T
AVE-308T
AVE-316T
AVE-304TR
AVE-308TR
HDTV EXTENDER
TV EXTENDER

User Manual



One-Port Transmitter : AVE-301T,
One-Port Receiver : AVE-301R

4/8/16-Port Transmitter :
AVE-304T, AVE-308T, AVE-316T

4/8-Port Transceiver :
AVE-304TR, AVE-308TR

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INTRODUCTION

AVE-300 is a broadcast system to transmit Audio and Video signals over Cat5/5e/6 cable, it can reach the distance up to 300m and by stacking more system Transceivers, the whole system can extend AV signals up to 900m. You can use different cable kit to broadcast VGA, Component, Composite, or S-video from multimedia output devices. The video quality can be adjusted very easily from the FOCUS and GAIN Control in the Receiver. It can simplify the installation by using single Cat5/5e/6 cable and reach a longer distance; the AV extender is a perfect extension solution for projector, plasma TV, LCD TV, LCD monitor, HDTV, and CRT, as well as in the area of Digital Signage broadcasting.

KEY FEATURES

1. AVE-300 can send Audio and Video signals from Transmitter over Cat5/5e/6 cable, and broadcast in Receiver. The broadcasting distance is 300 meters and by stacking more system transceivers, it can extend AV signals up to 900 meters.
2. Transmitting different video type of VGA, Component, Composite, and S-Video by different cable kit
 - (1) PC Cable Kit: used to carry VGA Video + Audio, support all VGA format and with a maximum capacity of 2048x1536@300m
 - (2) HDTV Cable Kit: used to carry Component Video + Audio, support 480i, 480p, 720i, 720p, 1080i, and 1080p video format and with a maximum distance of 300m
 - (3) TV Cable Kit: used to carry Composite / S-Video + Audio, Support 480i, 480p and 720i video format and with a maximum distance of 300m
3. Remote and local monitors and speakers can broadcast simultaneously
4. Use Cat5 Enhance UTP cable (350MHz bandwidth) for better video quality
5. Receiver and Transceiver build in video gain and focus control to adjust the video quality

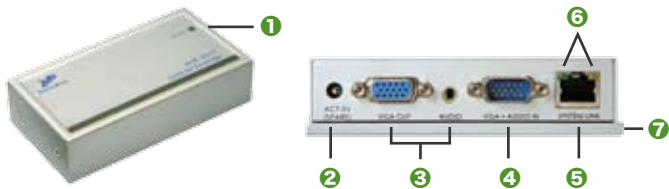
6. Software free, pure hardware design, support Plug & Play
7. Transmitter and Receiver build with LEDs to indicate system status
8. Stackable capacity to expand the AV broadcasting
9. Provides magnetic pad and attachable metal plate for single-port unit to ease the installation

SYSTEM DEVICES & FUNCTION

1. One-Port Transmitter AVE-301T:
 - (1) Built in one set of AV inputs
 - (2) Built in one set of AV outputs to monitor the AV signal broadcasted
 - (3) Built in one RJ-45 port for system output which can be connected by Cat5/5e/6 cable and send signal to System Receiver
 - (4) Take the power from USB or power adaptor
2. 4 / 8 / 16-Port Transmitter AVE-304T, AVE-308T, AVE-316T:
 - (1) Built in one set of AV inputs
 - (2) Built in one set of AV output to monitor the AV signal broadcasted
 - (3) Built in 4/8/16 R-J45 ports for system output which can be connected by Cat5/5e/6 cable and send signal to 4/8/16 sets of System Receiver or Transceiver
3. 4/8-Port Transceiver AVE-304TR, AVE-308TR:
 - (4) Built in one Remote system input (RJ45) which can receive the AV signal and with video and focus control to adjust the video quality
 - (5) Built in one set of AV output to monitor the AV signal broadcasted
 - (6) Built in 4/8 RJ-45 ports for system output which can be connected by Cat5/5e/6 cable and send signal to 4/8 sets of System Receiver or Transceiver
4. Receiver AVE-301R:
 - (1) Receive AV signal through RJ45 port, and with video and focus control, you can adjust the video quality, the maximum supported extended VGA resolution and distance up to 2048x1536@300m
 - (2) Built in one set of AV outputs (VGA + Audio) to display the AV signal broadcasted

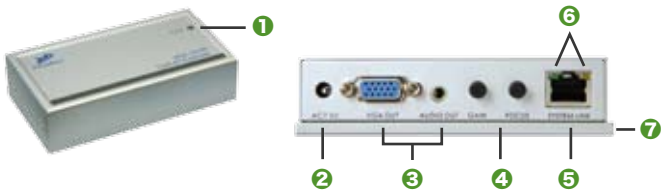
PANEL DESCRIPTION

1. AVE-301T Single-Port AV Transmitter



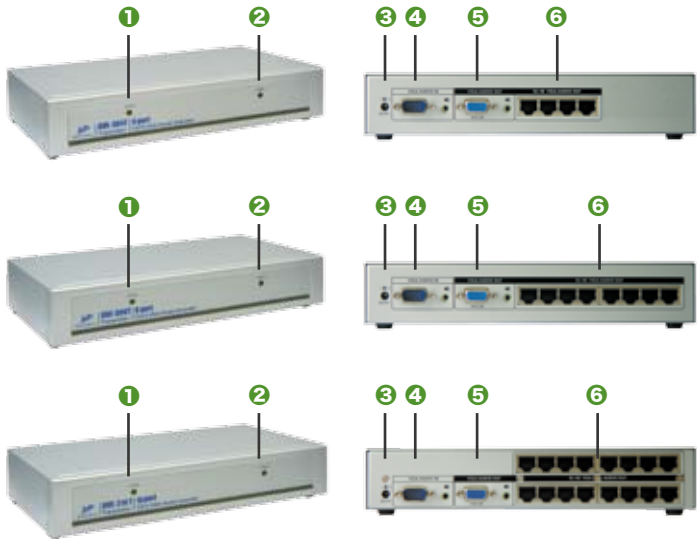
- 1 Power Indicator
- 2 Power Jack
- 3 VGA+Audio Output
- 4 VGA+Audio+USB Power Input
- 5 RJ-45 AV Output
- 6 H & V Sync Activity
- 7 Magnetic Pad

2. AVE-301R Single-Port AV Receiver



- 1 Power Indicator
- 2 Power Jack
- 3 VGA+Audio Output
- 4 Video Control
- 5 RJ-45 AV Output
- 6 H & V Sync Activity
- 7 Magnetic Pad

3. AVE-304T / AVE-308T / AVE-316T Multi-Port AV Transmitter



- 1 VGA Activity
- 2 Power Indicator
- 3 Power Jack
- 4 VGA+Audio Input
- 5 VGA+Audio Output
- 6 RJ-45 AV Output

4. AVE-304TR / AVE-308TR Multi-Port AV Transceiver



- 1 VGA Activity
- 2 Power Indicator
- 3 Video Gain Control
- 4 Video Focus Control
- 5 RJ-45 AV Input
- 6 Power Jack
- 7 VGA+Audio Output
- 8 RJ-45 AV Output

5. Cable and Accessories

3-in-1 AVU cable for AVE-301T



VGA cable 1M & Audio cable 1.2M for AVE-304T, AVE-308T, AVE-316T



PC cable kit for VGA Video + Audio



HD15F-YBCR70
(for player)



HD15M-YBCR180
(for monitor)

HDTV Cable Kit for Component Video + Audio



HD15F-S3RCA70
(for player)



HD15M-S3RCA180
(for monitor)

TV Cable Kit for Composite / S-Video + Audio

● INSTALLATION AND OPERATION

AVE-300 supports different video format by using different cable kit. Section 1 will describe how to extend VGA and Audio signals by PC cable kit and in Section 2&3, you should find the description of how to use HDTV and TV cable kit to extend Component, Composite, and S-Video

Section 1: Extend VGA Video and Audio by PC Cable Kit

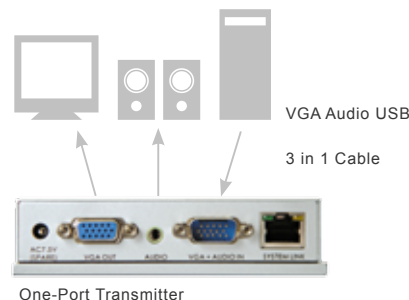
1. AVE-301T Single-Port Transmitter Installation:

- (1) Site Selection: In your first time installation, place Transmitter near the PC or AV devices (Audio and Video outputs); you can use magnetic pad to attach the unit on metal plane (Ex. PC / Server Enclosure) or use attachable rack mounting kit to fix the unit on selected area by screw or nail.



Unit attached with Rack Mounting Kit and the Rack Mounting Kit

- (2) Connecting Monitor and Speaker: Take a 3-in-1 cable (VGA + Audio + USB Power) to connect the signal from your AV device to the "VGA+AUDIO IN" port of Transmitter box and then connect monitor and speaker to the "VGA OUT" and "AUDIO" ports. The Transmitter can take the power through the USB port or if you are using DVD Player or other device without USB port, you can plug optional power adaptor (AC7.5V, 1A).

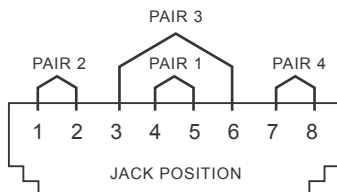


Installation Diagram of System Transmitter AVE-301T

- (3) Function Test: Turn on your AV device, the POWER LED should turn on green to indicate the POWER ON status and the LEDs above RJ-45 will blink before VGA signal is turned ON and remain ON after VGA signal is turned ON.

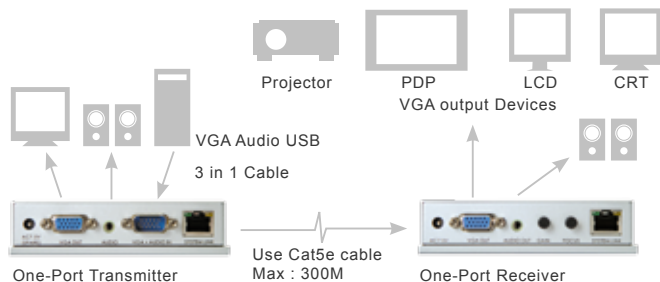
2. Receiver AVE-301R installation and UTP Connection

- (1) Site Selection: Please place Receiver in an appropriate place and have the UTP cable settled for later connection ; you can use magnetic pad to attach the unit on metal plane or use attachable rack mounting kit to fix the unit on selected area by screw or nail.
- (2) Power Up: Plug power adapter to the Receiver and connect monitor and speaker to the "VGA OUT" and "AUDIO" port. The POWER LED will turn on green to indicate the POWER ON status and the LED above RJ-45 port should blink to indicate the AV signal unconnected status.
- (3) Selection of UTP Cable: For best VGA resolution, please use Cat5 Enhanced cable (350MHz bandwidth) for connection, please noted that the maximum extended length of one section (one pair of Transmitter or Receiver) should not exceed 300 meters. The connector must be made by 568B/568B type.



The EIA/TIA definition of 568B in the pin assignment is
 (1) orange white, (2) orange, (3) green white, (4) blue,
 (5) blue white, (6) green, (7) brown white, and (8) brown

- (4) Connect UTP Cable : Plug two ends of UTP cable to Transmitter and Receiver's RJ45 SYSTEM LINK ports, the Receiver's connected monitor and speaker should work now and the LEDs above RJ-45 port should remain ON. You can adjust the "FOCUS" and "GAIN" control of Receiver to have the best VGA display.



Installation Diagram of Receiver AVE-301R

- (5) Function Test: After above installation, you will be able to broadcast the AV signal to Receiver's connected monitor and speaker.

- (6) Problem and Solving: If you find unstable image or audio problems after installation, please confirm following list or contact your direct vendor for further assistance:

- Check if PC's VGA resolution and frequency over the limit of monitor display, if so, please change the VGA configuration from Windows Control panel.
- Try to connect Monitor and speaker directly to a PC, and ensure the basic function of these devices.
- When using LCD or same type monitor, there might have some image offset or blinking, please adjust the position, clock or phase of the LCD monitor, or simply press Auto Adjust / Tune to have a better image solution.

3. AVE-300 Multi-Port Model: Installation and Operation

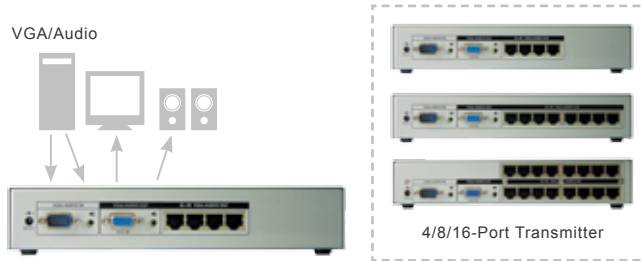
- (1) Site Selection: In your first time installation, place Transmitter near the PC or AV devices; you can use rack mounting kit to fix the system box.



Rack Mounting kit for Multi-port Unit

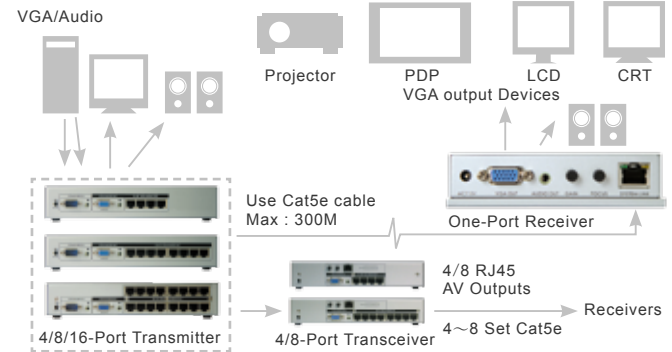
- (2) Connecting Monitor and Speaker: Plug power adapter to the Transmitter and connect monitor and speaker to "VGA/AUDIO OUT" port. The POWER LED will turn on green to indicate the POWER ON status and "ACTIVE" LEDs should turn off to indicate the unconnected status. Then, prepare VGA and audio cables to connect the signal from your AV device to the "VGA/AUDIO IN" port of Transmitter box.

- (3) Local Function Test: Power on your AV device, the “ACTIVE” LEDs of Transmitter will turn on orange to indicate the video activation, and you should be ready to do AV broadcasting.



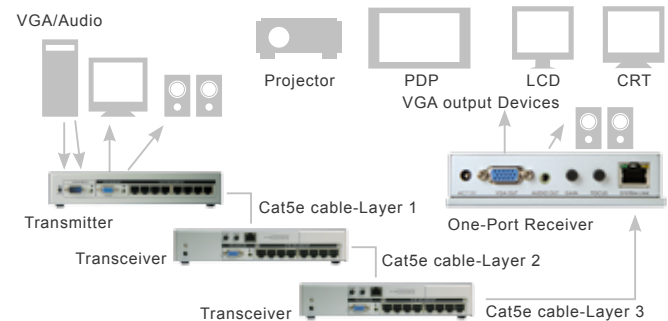
Installation Diagram of System Transmitter

- (4) Receiver Installation: Please follow previous section 2 for AVE-301R to install the system Receiver, and the maximum extended length of this section should not exceed 300 meters.
- (5) Transceiver Installation: If you wish to have more AV displays, you can use system Transceiver, you may use 4/8-Port Transceiver model to expand one AV signal to 4/8 AV signals. In the other way, you may stack more system Transmitter through their local AV port to generate more AV RJ-45 outputs locally and the maximum local stacking capacity is limited to 4 layers to ensure good broadcasting quality. Please follow next two section for instruction.



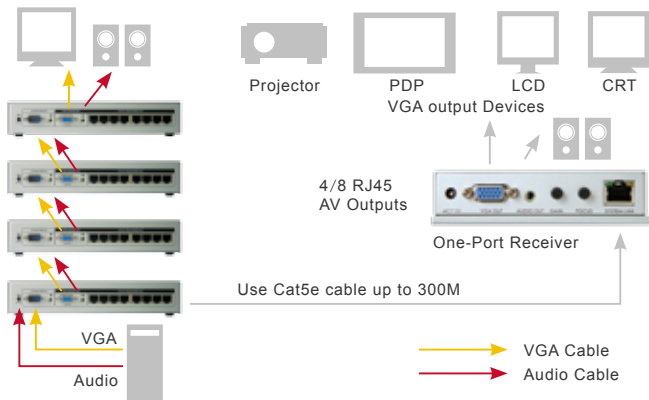
Installation Diagram of System Receiver and Trans

- (6) System Expansion through UTP: This series can stack into maximum three layers of UTP section to reach more AV outputs and depends on the display devices, you may reach a lower VGA solution than single layer. The suggested range of VGA broadcasting is 800x600@900m, 1280x1024@600m, and 2048x1536@300m. Please be noted that you must use Transceiver for intermediate expansion.



Stack Three Layers of AV Extender through Cat5e to Reach more Displays

(7) Local System Expansion: You can also stack up to 4 layers of system Transceiver to generate more RJ-45 outputs of AV signal locally, please refer to following diagram.



Stack Four 8-Port System Transceiver Locally to Generate More RJ-45 AV Output Signals

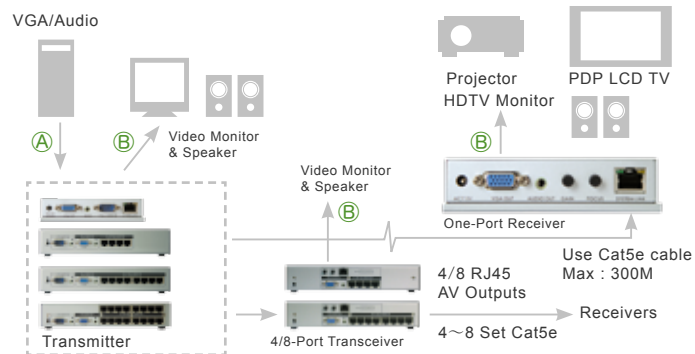
4. Other Integration and Application

Please contact your local dealer or vender for further information.



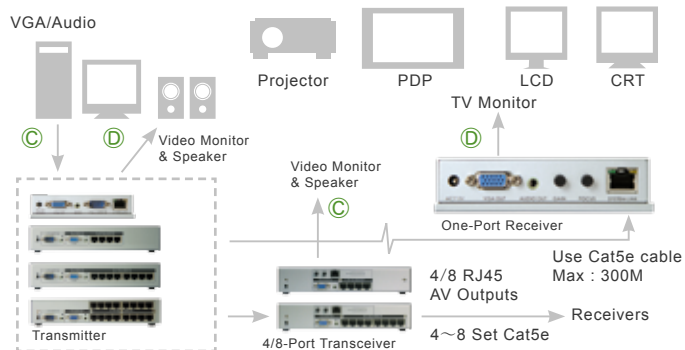
Section 2 : Extend Component Video and Audio by HDTV Cable Kit

For connecting player in the Transmitter, please use HD15F-YCBCR70 cable (A); and for connecting monitor in the Transmitter, Transceiver, and Receiver, please use HD15M-YCBCR180 cable (B). Other detailed information, please refer to Section 1.



Section 3 : Extend Composite, S-Video and Audio by TV Cable Kit

For connecting player in the Transmitter, please use HD15F-S3RCA70 cable (C); and for connecting monitor in the Transmitter, Transceiver, and Receiver, please use HD15M-S3RCA180 cable (D). Other detailed information, please refer to Section 1.



● SPECIFICATION

Spec	AV Transmitter				AV Transceiver		AV Receiver
Model	AVE-301T	AVE-304T	AVE-308T	AVE-316T	AVE-304TR	AVE-308TR	AVE-301R
Description	1-Port AV Transmitter	4-Port AV Transmitter	8-Port AV Transmitter	16-Port AV Transmitter	4-Port AV Transceiver	8-Port AV Transceiver	1 Port AV Receiver
AV INPUT	AV x 1				RJ45 x 1		RJ45 x 1
AV OUTPUT	AV x 1 RJ45 x 1	AV x 1 RJ45 x 4	AV x 1 RJ45 x 8	AV x 1 RJ45 x 16	RJ45 x 4	RJ45 x 8	AV x 1
Audio	Stereo				Mono		
PC Cable Kit used to Deliver VGA Video + Audio	AVU cable for AVE-301T, VGA and Audio cable for AVE-304T, AVE-308T, and AVE-316T				-		
HDTV Cable Kit used to Deliver Component Video + Audio	HD15F-YCBCR70 x 1 (for player), HD15M-YCBCR180 x 1 (for monitor)				HD15M-YCBCR180 x 1 (for monitor)		
TV Cable Kit used to Deliver S-Video / C-Video + Audio	HD15F-S3RCA70 x 1 (for player), HD15M-S3RCA180 x 1 (for monitor)				HD15M-S3RCA180 x 1 (for monitor)		
Video CTRL	-				Video Gain and Focus		
LED	Power and Activity						
Video Quality	PC: Support all VGA format and with a maximum capacity of 2048x1536@300m HDTV: Support 480i, 480p, 720i, 720p, 1080i, and 1080p video format and Maximum distance of 300m TV: Support 480i, 480p, 720i video format and Maximum distance of 300m						
Power Consumption	USB DC 5V Power or AC 7.5V 250mA	DC 9V, 300mA	DC 9V, 480mA	DC 9V, 800mA	AC 9V, 550mA	AC 9V, 950mA	AC 7.5V, 250mA
Dimension (LxWxH)	62 x113 x 29				240 x180 x 44		62 x113 x 29
Environmental Condition	• Operation Temp.: 0~50°C • Storage Temp.: -20~60°C • Humidity: 10~90%						

● ORDER INFORMATION

Order Details	Part Number	Remark
One-Port AVE-300 AV Transmitter	AVE-301T	AC7.5V Power Adaptor x 1, AVU Cable Kit x 1 Rack-mount Kit x 1
4-Port AVE-300 AV Transmitter	AVE-304T	DC9V Power Adaptor x 1, Audio Cable Kit x 1 VGA Cable x 1 Rack-mount Kit x 1
8-Port AVE-300 AV Transmitter	AVE-308T	DC9V Power Adaptor x 1, Audio Cable Kit x 1 VGA Cable x 1 Rack-mount Kit x 1
16-Port AVE-300 AV Transmitter	AVE-316T	DC9V Power Adaptor x 1, Audio Cable Kit x 1 VGA Cable x 1 Rack-mount Kit x 1

4-Port AVE-300 Transceiver	AVE-304TR	AC9V Power Adaptor x 1, Rack-mount Kit x 1
8-Port AVE-300 Transceiver	AVE-308TR	
One-Port AVE-300 AV Receiver	AVE-301R	AC7.5V Power Adaptor x 1, Rack-mount Kit x 1
AV Cable Kit		
HDTV Cable Kit for Component Video + Audio		
For AVE-301T, AVE-304T, AVE-308T, AVE-316T	HD15F-YCBCR70 x 1 HD15M-YCBCR180 x 1	
For AVE-304TR, AVE-308TR	HD15M-YCBCR180 x 1	
For AVE-301R	HD15M-YCBCR180 x 1	
TV Cable Kit for Composite / S-Video + Audio		
For AVE-301T, AVE-304T, AVE-308T, AVE-316T	HD15F-S3RCA70 x 1 HD15M-S3RCA180 x 1	
For AVE-304TR, AVE-308TR	HD15M-S3RCA180 x 1	
For AVE-301R	HD15M-S3RCA180 x 1	
PC Cable Kit for VGA and Audio		
For AVE-301T	AVU cable x 1	
AVE-304T, AVE-308T, AVE-316T	VGA cable x 1 Audio cable x 1	
For AVE-304TR, AVE-308TR	n/a	
For AVE-301R	n/a	

● REMARKS

- Before operating this system, please read operation manual carefully.
- Please use correct power adapter and use high quality cable for optimum broadcasting.
- To prevent potential power damage, please don't use 2 -wire extension cord and ensure AC outlets at relative devices on the same electronic phase and have correct grounding.
- Limited Warranty :
 - In no events shall the direct vendor's liability for direct or indirect, special, incidental or consequential damages, loss of profit, loss of business, or financial loss which may be caused by the use of the product exceeds the price paid for the product.
 - The direct vendor makes no warranty or representation, expressed or implied with respect to the contents or use of this documentation, and especially disclaims its quality, performance, merchantability, or fitness for any particular purpose.
 - The direct vendor also reserves the right to revise or update the product or documentation without obligation to notify any user of such revisions or updates. For further information, please contact your direct vendor.



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