4K HDR HDBaseT™
RECEIVER
with PoC, Downsacling, ARC, IR and RS-232

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Part Number:

EVRXDSC

EVOLUTION BY VANCO
ADVANCING DIGITAL CONNECTIVITY

www.vanco1.com • 800.626.6445

DEAR CUSTOMER

Thank you for purchasing this product.
For optimum performance and safety, please
read these instructions carefully before connecting, operating or
adjusting this product. Please keep this manual for future reference.

This product is 100% inspected and tested in the United States to verify HDMI performance parameters.

WARNING

1. Do not expose this unit to water, moisture, or excessive humidity.
2. Do not install or place this unit in a built-in cabinet, or other confined space without adequate ventilation.
3. To prevent risk of electrical shock or fire hazard, due to overheating do not obstruct unit's ventilation openings.
4. Do not install near any source of heat, including other units that may produce heat.
5. Do not place unit near flames.
6. Only clean unit with a dry cloth.
7. Unplug unit during lightening storms or when not used for an extended period of time. A surge protector is strongly recommended.
8. Protect the power cord from being walked on or pinched, particularly at the plugs.
9. Use unit only with accessories specified by the manufacturer.
10. Refer all servicing to qualified personnel.

CAUTION

HDMI is a very complex technology requiring continuous authentication of the signal and the same video resolution and audio settings on all electronic equipment in the system. When there are multiple sources and displays, the video resolution and audio setting on all connected units must be adjusted to correspond with that of the display having the lowest video and audio capability.

INTRODUCTION

Th Evolution by Vanco EVRXDSC 4K HDR HDBaseT™ Receiver with POC, Downscaling, ARC, IR and RS-232, allows extension of 4K@60Hz, 4:4:4 Chroma Subsampling, and HDR up to 131ft/40m and 1080p up to 230ft/70m over a single Cat6 cable. PoC (Power over Cable) allows the EVRXDSC to be powered over Cat6 from the matrix unit. For control, features IR pass-through to be able to control either sources and/or displays, as well as RS-232 pass-through for 3rd party integration. Audio Return Channel (ARC) capable when utilizing with the PRO matrix units, passing audio from the connected displays via HDMI or via the optical input, and broken out at the matrix unit, with an additional optical audio port for audio extraction on the EVRXDSC itself. Able to downscale from 4K to 1080p, a perfect solution for multiple resolution displays, without downgrading the resolution on all outputs. The EVRXDSC is compatible with the Evolution EVMX4X3, EVMX8X6, EVMX44PRO, and EVMX88PRO matrix units.

The EVRXDSC is a step up from the EVRXHD2, with all the same features plus more, including RS-232 pass-through, ARC, audio extraction, and downscaling. Both receivers can be mixed and matched with compatible Evolution matrix units, resulting in a flexible and modular matrix switching system for any application!

4K HDR HDBaseT™ Receiver with POC, Downscaling, ARC, IR and RS-232

Part # EVRXDSC

- Supports HDMI resolutions up to 4K@60Hz, 4:4:4 chroma sampling and HDR
- Extends 4K@60Hz 4:4:4, and HDR10 up to 131ft/40m and 1080p up to 230ft/70m over a single Cat6 cable
- Ability to downscale 4K to 1080p
- Audio extraction with digital optical audio breakout
- Supports ARC with Evolution EVMX44PRO and EVMX88PRO matrix units via HDMI or digital optical audio input
- 18Gbps high bandwidth
- Features Power over cable (POC) Technology, which provides power for the receivers resulting in easy installation
- Bi-directional IR and RS-232 pass-through for control
- Compatible with the Evolution EVMX4X3, EVMX8X6, EVMX44PRO and EVMX88PRO matrix units
- Dimensions: 5.5" W x 0.8" H x 3.3" D

SPECIFICATIONS

Video

Input	(1) HDBT
Input Connector	(1) RJ45
Input Resolution	Up to 4K@60Hz, 4:4:4 chroma and HDR10
Output	(1) HDMI
Output Connector	(1) Type-A female HDMI
Output Resolution	Up to 4K@60Hz, 4:4:4 chroma and HDR10

Audio

Input	(1) ARC Audio In
Input Connection	(1) Digital Optical Audio
Output	(1) Digital Optical Audio breakout (from source)
Output Connector	(1) Digital Optical Audio
Audio Format	Supports PCM, Dolby Digital, Dolby True-HD, DTS and DTS-HD
Frequency Response	20Hz – 20KHz, ±3dB
Max Output Level	2.0Vrms ± 0.5dB. 2V = 16dB headroom above -10dBV (316mV) nominal consumer line level signal
THD+N	< 0.05% (-80dB), 20Hz – 20KHz bandwidth, 1KHz sine at 0dBFS level (or max level)
SNR	> 85dB, 20Hz-20 kHz bandwidth
Crosstalk Isolation	> 70dB, 10KHz sine at 0dBFS level (or max level before clipping)
L+R Level Deviation	< 0.3dB, 1KHz sine at 0dBFS level (or max level before clipping)
Frequency Response Deviation	< ± 0.5dB 20Hz - 20KHz
Output Load Capability	1KΩ and higher (Supports 10x paralleled 10KΩ loads)
Stereo Channel Separation	>70dB@1KHz
Control Part	(1) ARC Mode button, (1) FW, (1) IR In, (1) IR Out, (1) RS232
Control Connector	(1) Micro-USB port, (2) 3.5mm jacks, (1) 3-pin terminal block
Bandwidth	18Gbps
HDMI Standard	2.0
HDCP Version	2.2, 1.4 compliant
CEC	Pass-through
Bi-directional PoC	Supported
HDMI 2.0 Cable Length	4K@60Hz 4:4:4 ≤ 5m, 4K@60Hz 4:2:0 ≤ 15m, 1080p ≤ 20m
Transmission Standard	HDBaseT
Transmission Distance	1080p@60Hz ≤ 230 ft/70m; 4K@60Hz ≤ 131 ft/40m)

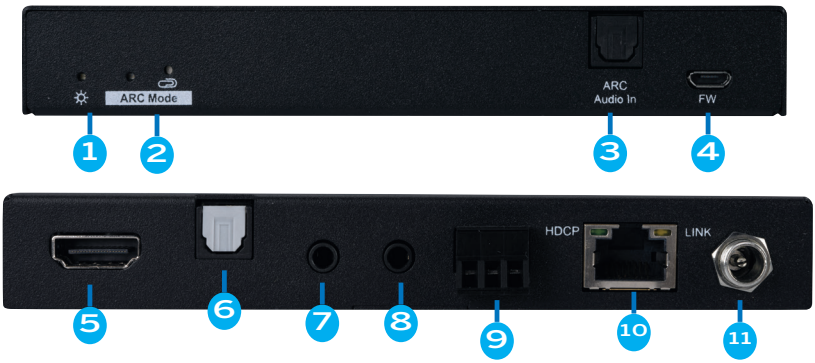
SPECIFICATIONS

Operation Temperature	23-131 degrees F
Storage temperature	-13 – 158 degrees F
Relative humidity	10-90% RH (no condensation)
Power Supply	Input:100V~240V AC; Output:24V DC 1.25A
Power Consumption	12W (max)
Dimensions	5.5" W x 0.8" H x 3.3" D
Weight	0.6 lb

PACKAGE CONTENTS

- EVRXDSC Receiver
- (2) Mounting ears with hardware
- (4) Plastic feet
- (1) 3-pin terminal block for RS-232 connection
- Product Manual

PANEL DESCRIPTIONS



1. POWER LED: Illuminates red when powered on either by PoC or connected power supply
2. ARC Mode: To enable or disable ARC, press the ARC button with a paperclip (paperclip marking on front panel), the ARC LED will illuminate blue when activated
3. ARC Audio In: Connect digital optical audio from the display (if the display has a digital optical audio output and does not feature an HDMI ARC port)

- If the display features ARC, ensure the ARC functionality is active within the display settings; audio will then be broken out at the matrix unit via the corresponding digital optical outputs (on the Evolution PRO matrix units only)

4. FW: Micro-USB port for firmware upgrade; any available firmware updates will be located on the product page for this part # on www.vanco1.com, under the "downloads" tab
5. HDMI OUT: Connect an HDMI display
6. Digital Optical Audio Breakout: Connect to a soundbar, amplifier, distributed audio system, etc. to extract audio via digital optical audio (ARC must be disabled for output to be active)
7. IR IN: Connect the compatible IR receiver to send IR commands to the matrix unit location for source control
8. IR OUT: Connect the compatible IR transmitter to send IR commands to the EVRXDSC for display control from the matrix unit location
9. RS232: Connect the included 3-pin terminal block for RS-232 control device for 3rd party integration
10. HDBT IN: Connect a single Cat6 (home-run cable strongly recommended) to the matrix unit

- The LINK LED illuminates when there is a link between the matrix unit and the receiver. The HDCP LED illuminates when the video contains HDCP content

11. DC 24V: Optional, connect a power supply for redundant power, the EVRXDSC features PoC and will receive power from the Evolution EVMX4X3, EVMX8X6, EVMX44PRO, or EVMX88PRO matrix units

ARC (Audio Return Channel) Mode

To enable/disable ARC, press the button with the “paperclip” marking. The ARC led will illuminate blue when ARC is enabled; no illumination means ARC is disabled. ARC mode on the EVRXDSC receiver is only compatible with the Evolution PRO EVMX44PRO and EVMX88PRO matrix units.

The EVRXDSC receiver can send audio back downstream with ARC capability at the matrix unit and broken out via digital optical audio outputs, with two options:

1. Connection with an ARC capable display using the display’s HDMI ARC port; ensure the ARC functionality is active within the display’s settings
2. Connection with a display that does not have ARC functionality, however has a digital optical audio breakout. (If the display does not feature a digital optical audio breakout, an HDMI audio extractor can be added, visit www.vanco1.com for audio extraction solutions)

ARC Mode	*Display (i.e TV)*	*Audio Transmission Path*
ON	ARC is supported and enabled	The display audio is transmitted from the display to the EVRXDSC via HDMI connection; will be sent to the matrix unit to be broken out by the corresponding digital optical audio breakout; see figure 1
	ARC is not supported	Connect the display to the ARC Audio In port of receiver with a digital optical audio cable. The display audio is transmitted from the display to the EVRXDSC; will be sent to the matrix unit to be broken out by the corresponding digital optical audio breakout; see figure 2 Note that if ARC mode is ON, the Audio Breakout port will not be active
OFF		The Audio Breakout port is active, and will extract or de-embed audio from the source; connect to a soundbar, amplifier, distributed audio system, etc.; see figure 3 Note that if ARC mode is OFF, the ARC Audio IN port will not be active

Figure 1

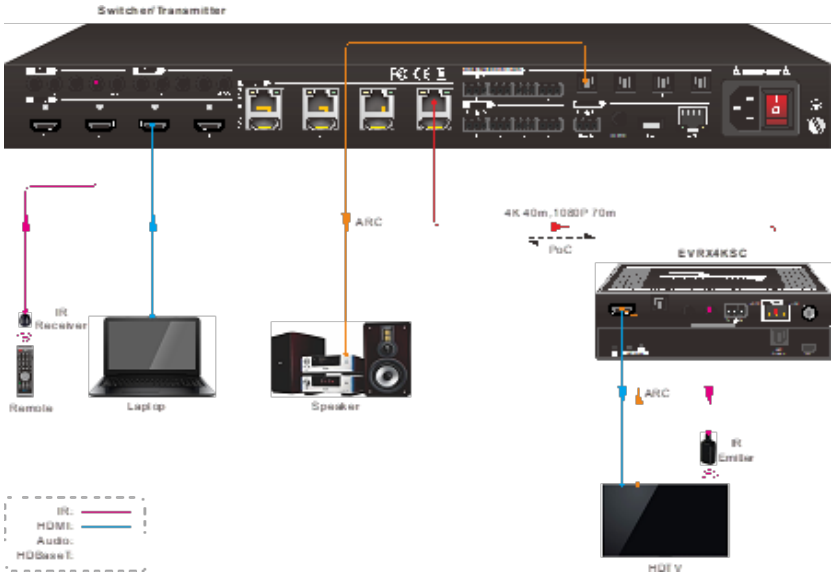
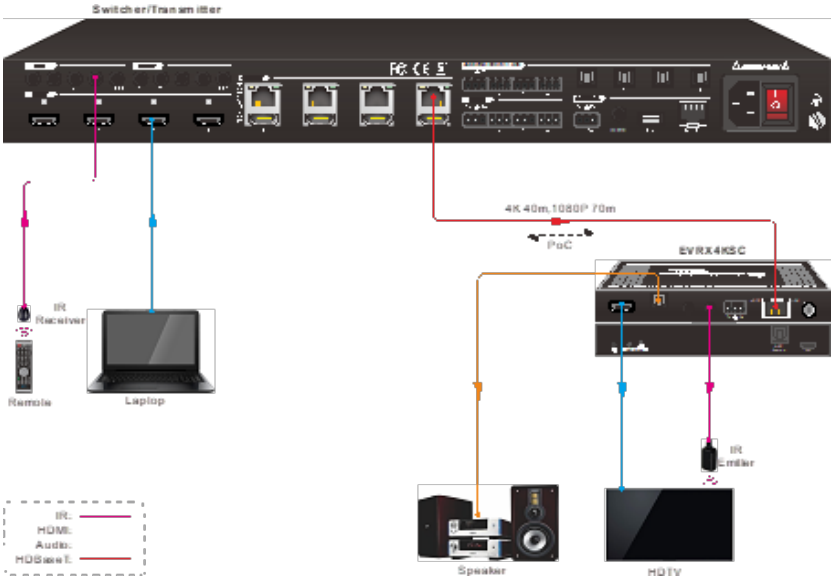
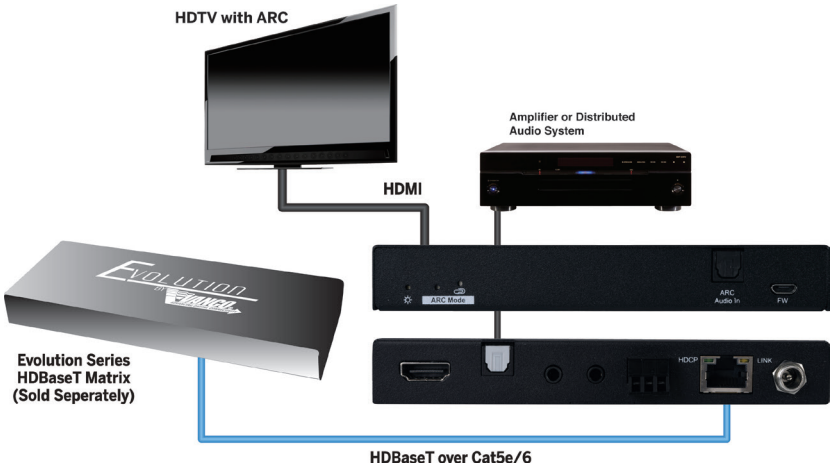


Figure 2

Figure 3


Switcher/Transmitter
4K 40m,1080P 70m
PoC
EVRX4KSC
IR Receiver
Remote
Laptop
IR Emitter
IR:
HDMI:
Audio:
HDBaseT:
Speaker
HDTV

CONNECTION DIAGRAM



CONNECT AND OPERATE

1. Connect a single Cat6 cable (home-run cable strongly recommended) from a compatible Evolution matrix unit to the EVRXDSC (HDBT in)
2. Connect an HDMI display to the HDMI output (NOTE: HDMI certified cables are strongly recommended for 4K HDR resolution)
3. OPTIONAL: Connect the compatible IR accessories for IR source and/or display control; IR receiver to the IR IN port; IR transmitter to the IR OUT port
4. OPTIONAL: Connect a power supply; the EVRXDSC features PoC and will be powered up by the compatible Evolution matrix unit

LIMITED WARRANTY

With the exceptions noted in the next paragraph, Vanco warrants to the original purchaser that the equipment it manufactures or sells will be free from defects in materials and workmanship for a period of two years from the date of purchase. Should this product, in Vanco's opinion, prove defective within this warranty period, Vanco, at its option, will repair or replace this product without charge. Any defective parts replaced become the property of Vanco. This warranty does not apply to those products which have been damaged due to accident, unauthorized alterations, improper repair, modifications, inadequate maintenance and care, or use in any manner for which the product was not originally intended.

Items integrated into Vanco products that are made by other manufacturers, notably computer hard drives and liquid crystal display panels, are limited to the term of the warranty offered by the respective manufacturers. Such specific warranties are available upon request to Vanco. A surge protector, power conditioner unit, or an uninterruptible power supply must be installed in the electrical circuit to protect against power surges.

If repairs are needed during the warranty period the purchaser will be required to provide a sales receipt/sales invoice or other acceptable proof of purchase to the seller of this equipment. The seller will then contact Vanco regarding warranty repair or replacement.

TECHNICAL SUPPORT

In case of problems, please contact Vanco Technical Support by dialing 1-800-626-6445. You can also email technical support issues to techsupport@vanco1.com.

When calling, please have the Model Number, Serial Number (affixed to the bottom of the unit) and Invoice available for reference during the call.

Please read this Instruction Manual prior to calling or installing this unit, since it will familiarize you with the capabilities of this product and its proper installation.

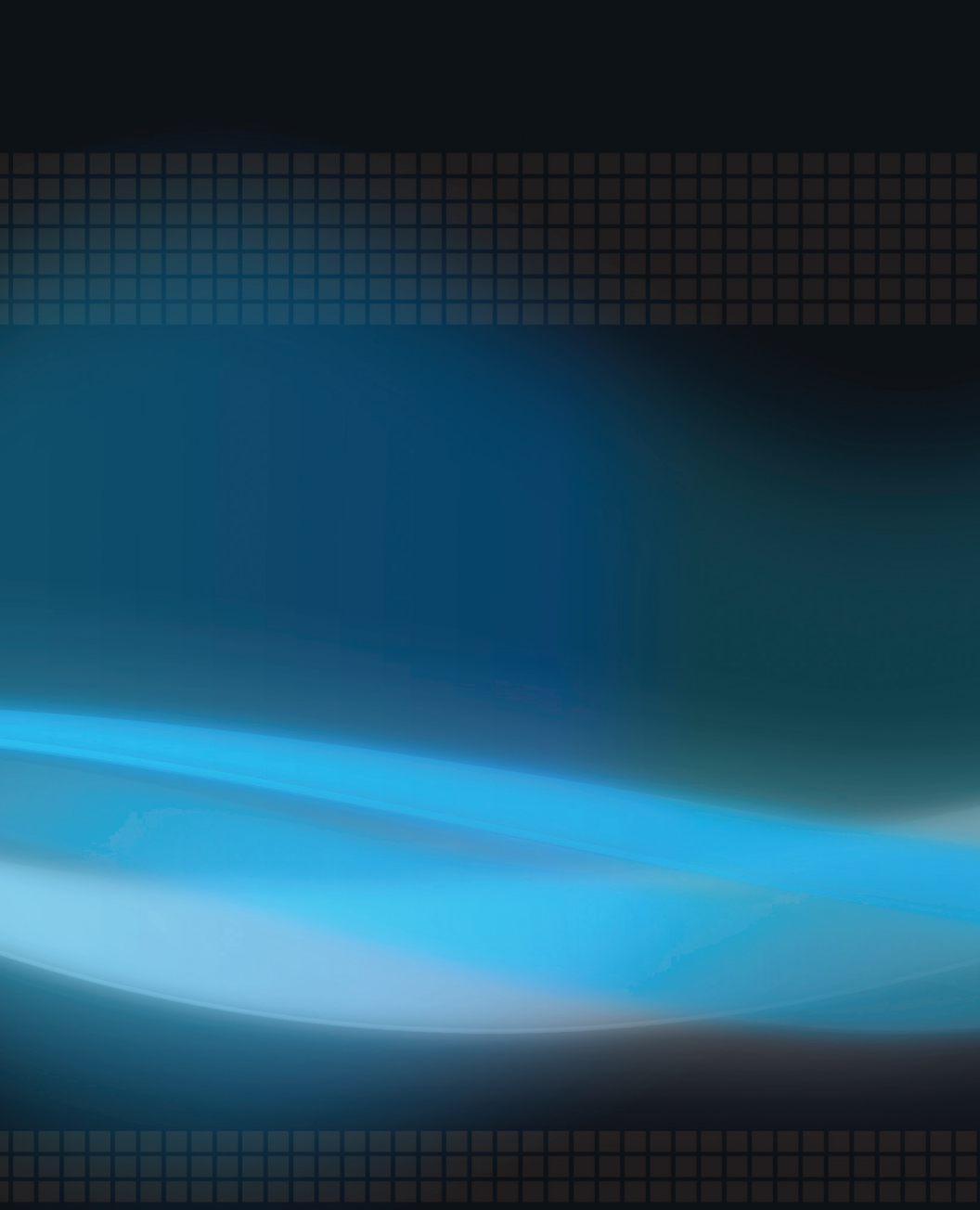
All active electronic products are 100% inspected and tested to insure highest product quality and trouble-free installation and operation. The testing process utilizes the types of high-definition sources and displays typically installed for entertainment and home theater applications.

For additional information, such as helpful installation videos, etc. please visit www.vanco1.com

LIABILITY STATEMENT

Every effort has been made to ensure that this product is free of defects. The manufacturer of this product cannot be held liable for the use of this hardware or any direct or indirect consequential damages arising from its use. It is the responsibility of the user and installer of the hardware to check that it is suitable for their requirements and that it is installed correctly.

Manufacturer reserves the right to revise any of its hardware and software following its policy to modify and/or improve its products where necessary or desirable. This statement does not affect the legal rights of the user in any way.



Vanco® International
506 Kingsland Drive
Batavia, Illinois 60510
call: 800.626.6445
fax: 630.879.9189
visit: www.vanco1.com