



4K HDMI® Clock  
Re-Synthesizer/  
Conditioner

Vanco Part Number:  
HD4KCLK

**Technical Support**

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## 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.

## FEATURES

The Vanco 4K HDMI Clock Re-synthesizer (part # HD4KCLK) amplifies HDMI extension transmission over long cable distances and makes multiple layer cascading of HDMI product possible, while passing 4K resolution with HDR. For use in applications where there are issues with compatibility due to clock stretching issues, the HD4KCLK receives the HDMI signals and resynchronizes, conditions, and equalizes the signals with state of the art jitter cleaning technology. This results in the improvement of the transmission distance and signal integrity. The HD4KCLK provides high bandwidth HDMI systems a cost effective way to overcome HDMI issues as well as save time from troubleshooting and having to replace equipment. The HD4KCLK is the latest and greatest HDMI Clock Re-synthesizer to connect to 4K components!

### **4K HDMI® Clock Re-Synthesizer** **Part # HD4KCLK**

- Addresses issues with clock stretching/timing and multiple layer cascading
- Amplifies HDMI signals and extension over long cable distances
- Resynchronizes, conditions, and equalizes HDMI signals
- Built-in super jitter cleaning mechanism
- Supports Resolutions up to 4K@60Hz, 4:4:4 chroma with HDR10/Dolby Vision
- HDCP 2.2 compliant
- Perfectly integrated with other HDMI over UTP products
- Power Supply: 5V DC
- Dimensions: 2.2" W x 2.6" H x 1.8" D

## SPECIFICATIONS

Role of usage .....	HDMI to HDMI Repeater with Clock Cleaning
HDMI Standards .....	2.0a
Input Video bandwidth .....	6 Gbps per data channel
Video Support .....	480i/480p/576i/576p/720p/1080i/1080p/2160p deep color
Audio Support .....	Bypass
ESD protection .....	[1] Human body model — ±19kV [air-gap discharge] & ±12kV [contact discharge][2] Core chipset — ±2kV
PCB stack-up .....	4-layer board [impedance control — differential 100W; single 50W]
CEC Channel .....	Bypass
Input .....	1 x HDMI
Output .....	1 x HDMI
HDMI connector .....	Type A [19-pin female]
Housing .....	Metal enclosure
Fixedness .....	Wall-mounting case with screws
Power supply .....	5V DC
Power consumption .....	5 Watts [max]
Operation temperature .....	32~104 °F
Storage temperature .....	-4 ~140 °F
Relative humidity .....	20~90 % RH (no condensation)

## PACKAGE CONTENTS

Before attempting to use this unit, please check the packaging and make sure the following items are contained in the shipping carton:

- HD4KCLK
- (1) DC 5V Power Supply
- Product Manual

## PANEL DESCRIPTIONS



1. 15V DC port
2. Dip Switch: PIN #1: ON [↓] FW update mode; OFF [↑] Working mode; PIN #2: Reserved
3. HDMI IN: Connect the HDMI source
4. HDMI OUT: Connect an HDMI display
5. Mini USB for FW update
6. Power indicator

## CONNECT AND OPERATE



1. Connect a source such as a Blu-Ray Player, game console, A/V Receiver, Cable or Satellite Receiver, etc. to the HDMI input on the unit.
2. Connect a display such as an HDTV or HD Projector to the HDMI output on the unit.
3. For power, plug in the unit with the included power supply.

\*NOTE: Unit must be connected to source if there are more components involved in the setup.

## TROUBLE-SHOOTING

1. Best results are usually achieved when the source and display resolutions are the same. If resolutions differ, the extenders will try to adjust the signal to match the resolution of the HDTV with the lowest resolution. This will result in a picture with a lower resolution on the other HDTV sets.
2. If you do not get audio and video, access the "setup" menu on the TV to adjust the audio and video settings. If the HDMI control circuit cannot establish a handshake, then there usually will be no audio or video in addition to a blue or black screen with a statement similar to "this protocol not supported" or "weak signal".
3. If the above mentioned messages display, reset the receiver by disconnecting the power supply. You can also disconnect all of the HDMI and power cables, wait 15 minutes for any voltages to decay and then reconnect all of the cables.
4. If you are still encountering issues, attempt the "hot-plug" concept. With all of the HDMI cables disconnected, turn on the source and plug in the HDMI cable into its output, then power up the Vanco unit and plug the HDMI cable into its input, finally turn on the display and plug the HDMI cable from the receiver into it. This activates all of the devices in corresponding order and results in a signal being plugged into a device that is on and will attempt to connect the signal.
5. Most of the major source and display manufacturers employ a proprietary control channel to communicate between devices from the same manufacturer (CEC). Sometimes this can interfere with the HDMI control circuit or the authentication of the signal. Call the manufacturer if you experience this issue. Sometimes a player, an audio/video receiver, or a cable/satellite box may not have the latest software update, usually this can be downloaded from the manufacturer's website.
6. If you have problems with the IR control circuit, make sure that the IR RX pigtail is plugged into extender receiver and pointed at the display, and the IR TX pigtail is attached to the extender sender and pointed at the source.

### SAFETY AND NOTICE

The HD4KCLK has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment, the HD4KCLK should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit.
- Always unplug the power to the device before cleaning.

## 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.

## 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. All rights are reserved. No parts of this manual may be reproduced or transmitted by any form or means electronic or mechanical, including photocopying, recording or by any information storage or retrieval system without the written consent of the publisher.

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.

## 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](mailto: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, glossary of terms, etc. please visit [vanco1.com](http://vanco1.com)

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