

User Manual



SoloCAT™ HD

HDMI over HDBaseT Extender
with bi directional
IR & RS232



Table of Contents

- 1. Included items pg2**
- 2. Safety notices pg 3**
- 3. About the SoloCAT HD™ pg 3**
- 4. Specifications pg 4**
- 5. SoloCAT HD™ panel connections pg 5**
- 6. Installations pg 6**
- 7. LED indicators pg 7**
- 8. IR information pg 8**
- 9. CAT5 termination table pg 8**
- 10. Troubleshooting pg 9**
- 11. Warranty pg 10**

Included items

- SoloCAT™ HD HDMI Transmitter x 1
- SoloCAT™ HD HDMI Receiver x 1
- Zektor Gripper™ HDMI cable securing support brackets x2
- 15V Switching Power Supply x 2
- IR sender x1
- IR receiver x1
- HDMI cable x1
- User's Manual x 1



Safety and Notice

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
- 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

About the SoloCAT HD™

The SoloCAT HD™ HDMI over CAT5e/6 Extender kit is designed to be HDMI 1.4a compatible and 3D capable, enabling the reliable transmission of the HDMI; bi directional IR and bi directional RS232 signals up to 330ft in 1080p HD (even 2k/4k resolutions and 3D format).

Because the SoloCAT HD™ is HDMI 1.4 compatible it allows you to take full advantage of the new technology by supporting much higher resolutions than 1080p or 1440p including 2k (2048x1080p) and 4k (4096x3072) resolutions. Future versions of this device will add the capability for Ethernet data channel, allowing other HDMI 1.4 enabled devices to share a network connection for internet connectivity. Additionally for future versions, the audio return channel which will send the audio signal back from the display to a receiver or other audio device.

Since the SoloCAT HD™ has bi-directional IR, it is the perfect device for multi-room applications and third party control systems. With bi-directional communication from a remote control or control system, commands can be sent from the remote location back to the main equipment center or the other way around.

Note: The maximum usable distance depends on the quality and characteristics of the cables. Higher resolutions and longer transmission distances work better with low skew cables (<25ns/100m) for the best performance. Unshielded Cat5e/6 with metal RJ-45 connectors and 568-B termination will provide best results.

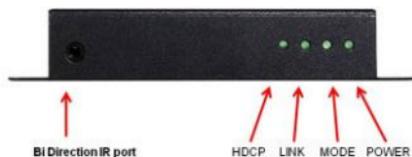
For more information about HDMI over HDBaseT technology you can visit www.valens-semi.com.www.at

1. Specifications

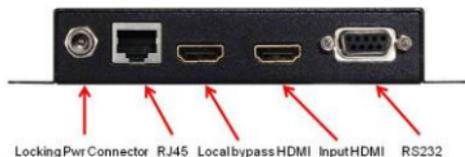
HDMI compliant to v1.4a
3D capable
HDMI Connector 19 pin type female connector
HDMI Source Input Port 1
HDMI Sink Output Port 1
Source Port Connector Standard 19 pin HDMI

Display Device Port Connector Standard 19 pin HDMI
Link Connector RJ-45 Shielded
HDCP Compliant
Power on LED Indicator
Input TMDS signal 1.2 volts (peak-to-peak)
Input DDC signal 5 volts (peak-to-peak)
Uncompressed video resolution 1080p / 1920x1200 / 2k
(2048x1080p) and 4k (4096x3072)
Deep Color 24-48 bits
Video Bandwidth Up to 10.2GHz
Vertical Frequency Range 50 ~60 Hz
Audio Performance PCM (7.1ch), Dolby Digital, True HD, DTS-
HD & Master Audio
Power Consumption (max.) 15 Watts
Operation Temperature 0°C to 70°C.
Power Supply 5V 2A (universal)
Zektor Gripper™ HDMI cable support brackets
Dimension (in) 6 x 5 x 1
Weight (lb) 2.3
Supports Refresh Rates: 24Hz, 30Hz, 60Hz
Supports Bi-directional IR transmission (38Khz only)
LED indicators for operation modes
Supports transmission distances up to 328ft @ 1080p 50/60Hz
Easy to install, simple to operate and the most effective solution
for long signal extension.
HDMI over HDBaseT is the cost effective way to reliably
transmit long distance HDMI for commercial, residential, digital
signage applications over a single CAT5e/6 cable.

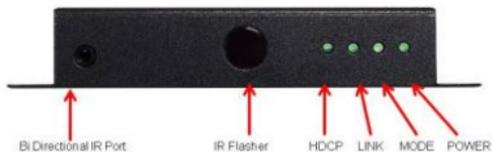
2. SoloCAT HD™v2 transmitter front



SoloCAT HD™v2 transmitter rear



SoloCAT HD™v2 receiver front



SoloCAT HD™v2 receiver rear



3. Installation

1. Turn off power at connected sources
2. Connect the HDMI® extension cable between the source and the “HDMI® IN” port of the SoloCAT HD™
3. Connect the HDMI® cable between the display and the “HDMI® OUT” port of SoloCAT HD™
4. Connect the CAT.5 cables between the HDMI-ELW “LINK” port and the HDMI-SRW or HDMI-ERW “LINK” port of extender.
5. Connect the power cord and turn on the extender.
6. Turn on the source(s) and display(s)

Note: when the SoloCAT HD™ is in BYPASS mode the LINK port should be left unused.

7. Use CAT5e/6 cables to link the transmitter and the receiver. As in all installations, poor quality cable will result in lesser quality results and occasionally intermittent problems. However, in our testing we used off the shelf CAT5e cable from Home Depot® which worked fine and provided an outstanding result. Zektor recommends using EIA/TIA 568B for CAT5e/6 termination. We have included a reference diagram below for your convenience.

8. Make sure that the source, the transmitter, the receiver and the displays are all properly connected. Zektor has designed and manufactured a new HDMI cable support bracket, the Zektor Gripper™, to help ensure that your HDMI cable remains properly connected to our transmit / receive pair.

9. Connect your serial cables if using the bi directional serial function.

10. Properly install your IR blaster and sender. Incorrect installation can damage your SoloCAT HD™ extender pair. *If TX/RX (transmit & receive) are mistakenly connected in the wrong connections, the IR eye can get damaged. 3rd party IR emitters/blasters, must be able to handle up to 60 KHz*

Note: After initial power on, allow for EDID verification and HDCP handshake. A visible image at the display after initial power on can take up to 5 seconds.

4. Bi directional IR

IR Receiver Cable Directions:

Insert the supplied receiver into the SoloCAT HD™ “IR2 IN” port and place the IR Receiver Cable, so that you can point to it easily with your IR remote controller.

IR Blaster Cable Directions:

Plug IR blaster cable plug into the SoloCAT HD™ “IR OUT” port, It sits in front of the source receiver’s IR sensor, which is normally located on the front-panel.

IR Receiver Cable



IR Blaster Cable



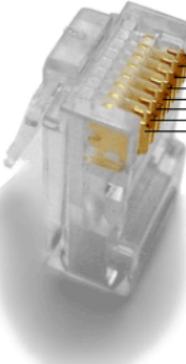
5. LED Indicators

On the front of the SoloCAT HD™ chassis there is a horizontal block of four (4) green LED's that is marked "Status" on the chassis just above the LED's. From Left to Right this is an explanation of their activity:

1. #1 LED indicates normal operations and will flash once a second with HDCP pass through.
2. #2 LED indicates a valid link between the transmitter and receiver.
3. #3 LED HDMI mode
4. #4 LED power indicator

EIA/TIA-568-B termination is highly recommended for best results

T568A and T568B Wiring

Pin	T568A Pair	T568B Pair	Wire	T568A Color	T568B Color	Pins on plug face (socket is reversed)
1	3	2	tip	 white/green stripe	 white/orange stripe	 Pin Position 8 7 6 5 4 3 2 1
2	3	2	ring	 green solid	 orange solid	
3	2	3	tip	 white/orange stripe	 white/green stripe	
4	1	1	ring	 blue solid	 blue solid	
5	1	1	tip	 white/blue stripe	 white/blue stripe	
6	2	3	ring	 orange solid	 green solid	
7	4	4	tip	 white/brown stripe	 white/brown stripe	
8	4	4	ring	 brown solid	 brown solid	

EZ Crimp RJ45 crimp connectors:

We have conducted long term tests on these popular connectors. HDBaseT does not appear to be as susceptible to interference as other technologies. To eliminate any potential corrosion on exposed wire ends as well as EMI / RFI interference, standard crimp RJ45 connectors should be used when possible.

6. Troubleshooting

Problem: No picture

Action: Make sure your source is working properly and outputting video. Check all connections from the source and control ports to the transmitter and from the receiver to the display and control ports. Make sure you have activity lights on the SoloCAT HD™ transmitter and receiver. If no lights, remove all connections including power. Reconnect serial and/or IR if used, and power. Reconnect CAT cable. Within 1-2 seconds you should see activity lights on the transmitter and receiver. Within 2-3 seconds you should have a picture on your display.

Action: Verify your cable is no longer than 328'. Make sure termination is identical on both ends. Verify your cable is not pinched, cut or has a defect. It is always good to have a good, known working cable available to verify.

Problem: IR/RS232 not communicating

Action: Make sure all DIP switches are in the furthest upright position. Double check all connections. IR and RS232 activity is immediate and requires no delay or sync time.

Problem: No power

Action: Check for power at electrical source. Remove and reconnect to one side of the SoloCAT HD. Only use DC wall power supplies provided by Zektor. If problem persists, call Zektor tech support and request a replacement power supply.

Problem: Intermittent picture, pixilation

Action: Check all cabling. This is the most action to resolve issues. If you are using EZ Crimp RJ45 connectors make sure the end of the cable is not corroded and/or shorting out. Re-terminate to T568B on both ends with standard crimp RJ45 connectors. Check all HDMI connections.

Remove all power. Apply power and connections as described in the installation section.

7. Limited Warranty

Zektor Incorporated (“Zektor”) warrants the **SoloCAT™ HD** extender to be free from defects in the material and workmanship for 2 years from the date of purchase from the Zektor or an authorized dealer. Should this product fail to be in good working order within the 2 year warranty period, Zektor, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surge. This warranty is offered by Zektor for its BUYER with direct transaction only. This warranty is void if the warranty seal on the metal housing is broken.

A unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at

the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customer agrees to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Product must not be physically damaged or chassis opened. All original parts must be returned to Zektor unless instructed otherwise. Any product that shows signs of abuse or extreme wear will not be warranted. All products must be returned in reasonable condition.

The content of this manual has been carefully checked and is believed to be accurate. However, Zektor assumes no responsibility for any inaccuracies that may be contained in this manual. Zektor will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. Also, the technical information contained herein regarding the Zektor Incorporated SoloCAT™ features and specifications is subject to change without further notice.

NO LIABILITY FOR DAMAGES

IN NO EVENT SHALL ZEKTOR INCORPORATED OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES INCLUDING, BUT NOT LIMITED TO, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR INDIRECT DAMAGES FOR

PERSONAL INJURY, LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, OR ANY OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OF OR INABILITY TO USE THIS PRODUCT, EVEN IF ZEKTOR INCORPORATED HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

ZEKTOR INCORPORATED AND ITS SUPPLIERS' ENTIRE LIABILITY UNDER ANY PROVISION OF THIS AGREEMENT SHALL BE LIMITED TO THE AMOUNT ACTUALLY PAID BY YOU FOR THE PRODUCT. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES; THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

This area left blank intentionally