OMX-HDCAT1X4-LR

Ocean Matrix 1x4 HDBaseT Splitter Extender Set- 4K60 up to 393ft/120m

OPERATION MANUAL

Description:

The Ocean Matrix OMX-HDCAT1X4-LR is a 1x4 HDMI HDBaseT splitter extender set that extends 4K60 signals up to 393ft. The splitter can distribute 1 source signal to any 4 display devices with its 4 HDBaseT outputs, and also features an HDMI loop out on the transmitter for local monitoring. The OMX-HDCAT1X4 also supports HDMI, Coaxial, and Analog audio extraction as well as RS-232 and EDID management.

Features:

- Supports Video Resolutions up to 4K2K@60Hz 4:4:4
- HDMI 2.0b, HDCP 2.2 and HDCP 1.x Compliant
- Supports EDID Management
- 18 Gbps Video Bandwidth
- Supports HDR, HDR10+, HLG and Dolby Vision
- 7.1CH HD Audio Pass-through
- Digital and Analog Audio De-embedded Output
- Extends Signal Transmission Distance up to 120 Meters at Resolutions of 4K2K@60Hz, and 150 Meters at 1080p@60Hz via a Single CAT6/6a/7 Cable
- 1 HDMI Input, 1 HDMI Loop Output, and 4 HDBaseT Outputs
- IR & RS-232 Routed to HDBaseT Output
- One-way POC Functionality (Transmitter powers the receivers)
- Compact Design for Easy and Flexible Installation

Specifications:

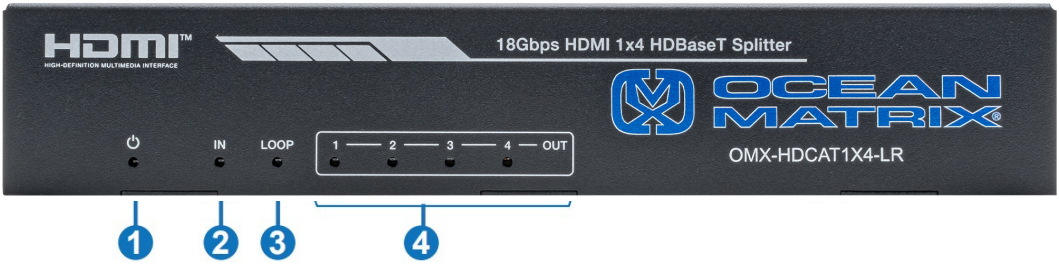
- Input: 1 x HDMI Type A (19-pin Female)
- Outputs: 1 x HDMI Type A (19-pin female) 4 x CAT OUT [RJ45, 8-pin female] 1 x Coaxial Audio OUT [RCA] 1 x L/R Audio OUT [3.5mm Stereo Mini-jack] 1 x Phoenix Connector Output Jack
- Control Inputs and Outputs: 1 x RS-232 (3-pin Phoenix Connector) 1 x EDID DIP switch [5-pin] 1 x IR IN [3.5mm Stereo Mini-jack] 1 x IR OUT [3.5mm Stereo Mini-jack]
- HDMI Compliance: HDMI 2.0
- HDCP Compliance: HDCP 2.2 / HDCP 1.4
- Video Bandwidth: 18Gbps
- Video Resolution: Up to 4K2K@60Hz 4:4:4
- Color Space: RGB / YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
- HDR: Supports HDR10, HDR10+, HLG & Dolby Vision
- HDMI Audio Formats: LPCM 2.0/2.1/5.1/6.1/7.1, Dolby Digital, Dolby TrueHD, Dolby Digital Plus(DD+), DTS-ES, DTS HD Master, DTS HD-HRA, & DTS-X
- Coaxial Audio Formats: PCM2.0, Dolby Digital / Plus, DTS 2.0/5.1
- Analog Audio Formats: PCM 2.0CH
- Transmission Distance: 4K2K@60Hz, 120m / 1080P@60Hz, 150m
- Dimensions (LxWxH): Transmitter: 8.69 x 5.13 x 1.59" Receiver: 5.52 x 2.57 x 0.07"
- Weight: Transmitter: 1.91lbs Receiver: 0.55lbs
- Power Consumption: 35W
- Operating Temperature: 32-104 °F (0-40 °C)
- Storage Temperature: -4-140 °°F (-20-60 °C)

Item Includes:

- 1 x Transmitter
- 4 x Receiver
- 5 x IR Blaster Cable (1.5 meters)
- 5 x 20K-60KHz IR Receiver Cable (1.5 meters)
- 5 x 3-pin Phoenix Connector
- 1 x 5-pin Phoenix Connector
- 10 x Mounting Ear
- 1 x 24V/2.7A DC Locking Power Adapter

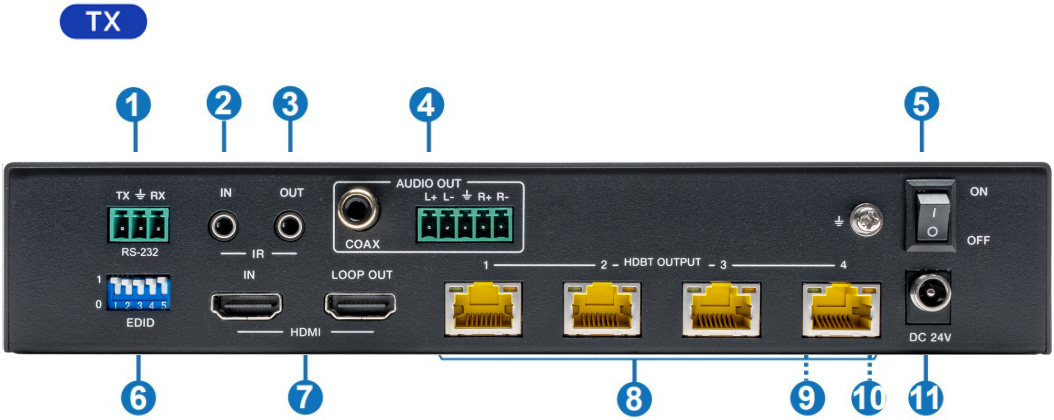
Operation Controls and Functions:

TX



#	Name	Function description
1	Power Indicator	When the device is powered on, the red LED will illuminate
2	In LED	When the HDMI IN port connects to an active device source, the green LED will be on
3	Loop LED	When the HDMI LOOP OUT port connects to an active display device, the green LED will be on
4	Out LED (1-4)	When the CAT OUTPUT port connects an active display device, the corresponding green OUT LED will be on

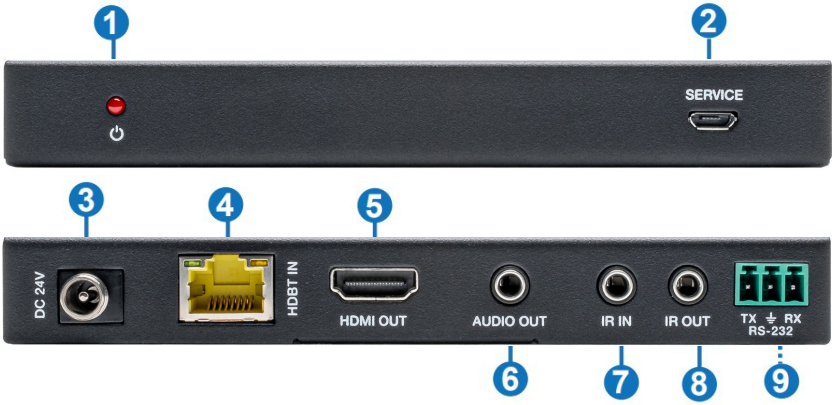
Operation Controls and Functions:



No	Name	Function description
1	RS232	Connect to a PC or control system via a 3-pin phoenix connector cable for the following functions: 1, Control the Splitter via RS-232 commands; 2, RS-232 signal pass-through (from transmitter to receiver or from receiver to transmitter)
2	IR IN	Connect to IR receiver cable, the IR receive signal will emit to “IR OUT” port of the HDBaseT Receiver
3	IR out	Connect to IR blaster cable, the IR emit signal is from “IR IN” port of the HDBaseT Receiver
4	AUDIO OUT (COAX, L/R & Phoenix Connector)	Coaxial/balanced audio output port, connect to amplifer or speaker
5	POWER switch	Press this switch to power on/off the device
6	EDID DIP switch	Used to set EDID mode
7	HDMI port	IN: HDMI input port, connect to HDMI source device such as DVD or set-top box with an HDMI cable
		LOOP OUT: HDMI loop output port, connect to the HDMI display device such as TV or Monitor with an HDMI cable
8	HDBT OUTPUTport (1~4)	Connect to the HDBT IN port of the HDBaseT receiver with a CAT cable
9	Indicator lamp (Green)	lluminated: Transmitter and receiver are connected / Dark: Transmitter and receiver are not connected
10	Data Signal Indicator lamp (Orange)	Illuminate: There is signal transmission between the transmitter and the receiver, dark: No signal transmission
11	Power Supply Input	DC 24V Power supply input

Operation Controls and Functions:

RX



No	Name	Function description
1	Power LED Indicator	Indicates when the unit is powered
2	Service	Factory use only
3	Power Supply Input	DC 24V Power supply input
4	HDBT Input	Connect to the HDBT OUT port of the HDBaseT receiver with a CAT cable
5	HDMI OUT	HDMI output port, connect to HDMI source device
6	Audio Out	3.5mm TRS audio output port, connect to amplifer or speaker
7	IR IN	Connect to IR receiver cable, the IR receive signal will emit to “IR OUT” port of the HDBaseT Receiver
8	IR out	Connect to IR blaster cable, the IR emit signal is from “IR IN” port of the HDBaseT Receiver
9	RS232	Connect to a PC or control system via a 3-pin phoenix connector cable for the following functions: 1, Control the Splitter via RS-232 commands; 2, RS-232 signal pass-through (from transmitter to receiver or from receiver to transmitter)

Operation Controls and Functions:

EDID:

EDID Mode	EDID Description
11111	1080P, Stereo Audio 2.0
11110	1080P, Dolby/DTS 5.1
11101	1080P, HD Audio 7.1
11100	1080I, Stereo Audio 2.0
11011	1080I, Dolby/DTS 5.1
11010	1080I, HD Audio 7.1
11001	1080P 3D, Stereo Audio 2.0
11000	1080P 3D, Dolby/DTS 5.1
10111	1080P 3D, HD Audio 7.1
10110	4K2K30Hz_444, Stereo Audio 2.0
10101	4K2K30Hz_444, Dolby/DTS 5.1
10100	4K2K30Hz_444, HD Audio 7.1
10011	4K2K60Hz_420, Stereo Audio 2.0
10010	4K2K60Hz_420, Dolby/DTS 5.1
10001	4K2K60Hz_420, HD Audio 7.1
10000	4K2K60Hz_444, Stereo Audio 2.0
01111	4K2K60Hz_444, Dolby/DTS 5.1
01110	4K2K60Hz_444, HD Audio 7.1
01101	4K2K60Hz_444, Stereo Audio 2.0 HDR
01100	4K2K60Hz_444, Dolby/DTS 5.1 HDR
01011	4K2K60Hz_444, HD Audio 7.1 HDR
01010	COPY_FROM_LOOP OUT
01001	COPY_FROM_HDBT OUT1
01000	COPY_FROM_HDBT OUT2
00111	COPY_FROM_HDBT OUT3
00110	COPY_FROM_HDBT OUT4
00101	1080P, Stereo Audio 2.0
00100	1080P, Stereo Audio 2.0
00011	1080P, Stereo Audio 2.0
00010	1080P, Stereo Audio 2.0
00001	1080P, Stereo Audio 2.0
00000	PC Control Mode

- Input Device Must Be Set to AUTO to Use EDID Controls -

Operation Controls and Functions:

ASCII Commands:

ASCII Commands
Serial port protocol. Baud rate: 115200 | Data bits: 8bit | Stop bits:1 | Check bit: 0
x - Parameter y - Parameter 2 ! - Delimiter

Command Code	Function Description	Example	Feedback	Default Setting
Power				
s power z!	Power on/off the device, z=0~1 (z=0 power off, z=1 power on)	s power 1!	Power on System Initializing... Initialization Finished! FW version x.xx.xx	power on
r power!	Get current power state	r power!	power on/power off	
s reboot!	Reboot the device	s reboot!	Reboot... System Initializing... Initilization Finished! FW version x.xx.xx	
System Setup				
help!	list all commands	help!		
r status!	Get device current status	r status!	Get the unit all status: power, in/out connection, EDID mode	
r fw version!	Get firmware version	r fw version!	MCU Boot: Vx.xx.xx MCU APP: Vx.xx.xx	
r link in!	Get the connection status of the input port	r link in!	HDMI in: connect	
r link out y!	Get the connection status of the y output port, y=0~5 (0=all, 1~4=HDBT 1~4,5=loop out)	r link out 1!	HDMI loop out: connect HDBT output 1: connect	
s reset!	Reset to factory defaults	s reset!	Reset to factory defaults System Initializing... Initialization Finished! FW version x.xx.xx	
Output Setting				
s HDMI stream z!	Set HDMI loop output stream on/off z=0~1 (0:disable, 1:enable)	s HDMI stream 1 !	Enable HDMI loop out stream Disable HDMI loop out stream	enable
s HDMI hdcp z!	Set HDMI loop output HDCP on/off z=0~1 (0:disable, 1:enable)	s HDMI HDCP 1!	Enable HDMI loop out HDCP Disable HDMI loop out HDCP	enable
s HDBT y HDCP z!	Set HDBT output y HDCP on/off, y=0~4 (0=all) z=0~1 (0:disable, 1:enable)	s HDBT 1 HDCP 1 ! s HDBT 0 HDCP 1 !	Enable HDBT output 1 HDCP Disable HDBT output 1 HDCP Enable HDBT all outputs HDCP Disable HDBT all outputs HDCP	enable

Operation Controls and Functions:

ASCII Commands:

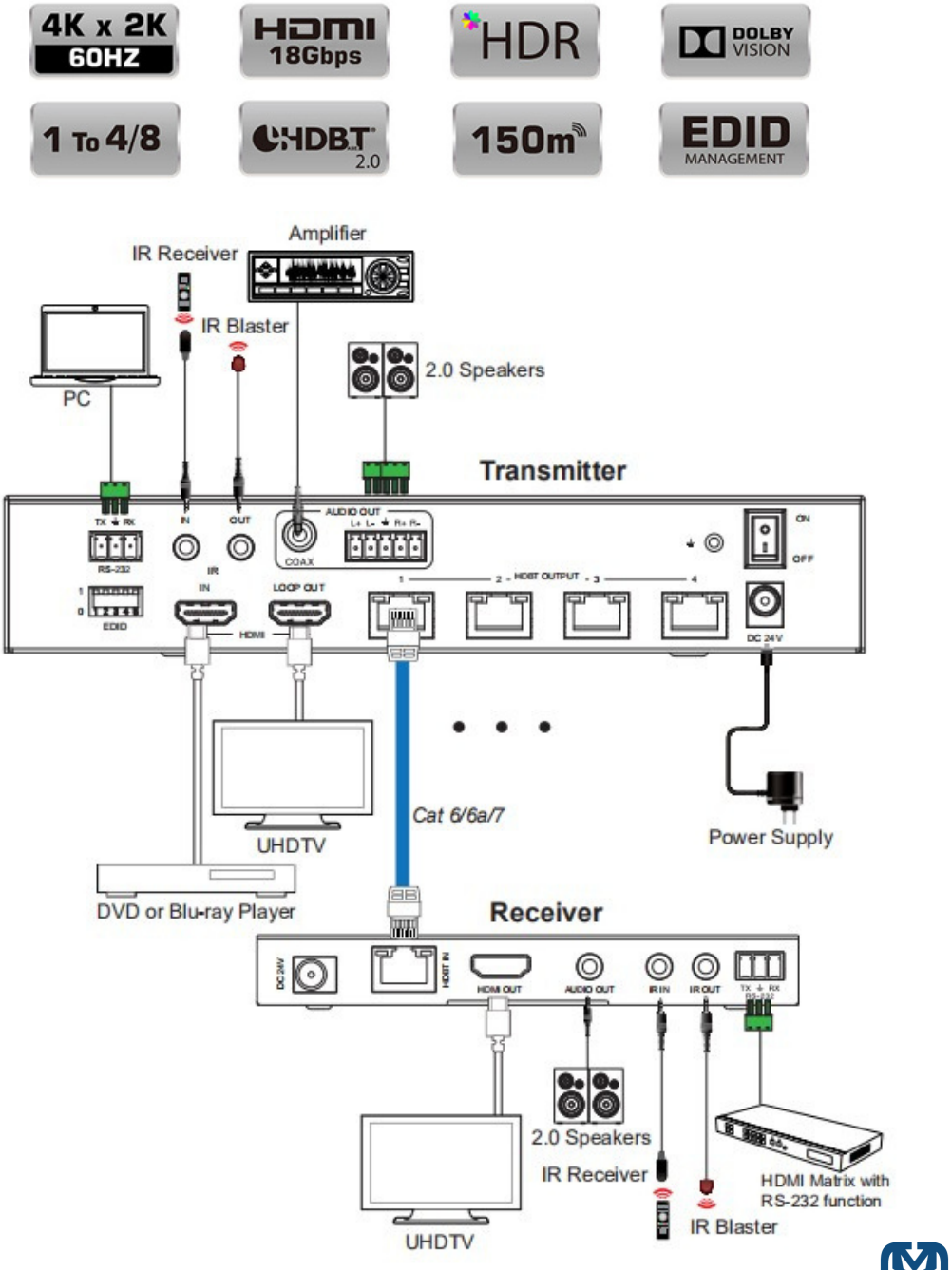
Command Code	Function Description	Example	Feedback	Default Setting
Output Setting (continued)				
s HDBT y stream z!	Set HDBT output y stream on/off, y=0~4 (0=all) z=0~1 (0:disable, 1:enable)	s HDBT 1 stream 1 ! s HDBT 0 stream 1 !	Enable HDBT output 1 stream Disable HDBT output 1 stream Enable HDBT all output stream Disable HDBT all outputs stream	enable
r HDMI stream!	Get HDMI loop out stream status	r HDMI stream!	Enable HDMI ouput stream	
r HDMI HDCP!	Get HDMI loop out HDCP status	r HDMI HDCP!	Enable HDMI output HDCP	
r HDBT y HDCP!	Get HDBT output y HDCP status, y=0~4 (0=all)	r HDBT 1 stream!	Enable HDBT output 1 stream	
EDID Setting				
s EDID in from z!	Set input EDID from default EDID z, z=1-27 1. 1080p, Stereo Audio 2.0 2. 1080p,Dolby/DTS 5.1 3. 1080p,HD Audio 7.1 4. 1080i,Stereo Audio 2.0 5. 1080i,Dolby/DTS 5.1 6. 1080i, HD Audio 7.1 7. 3D,Stereo Audio 2.0 8. 3D,Dolby/DTS 5.1 9. 3D,HD Audio 7.1 10. 4K2K30_444, Stereo Audio 2.0 11. 4K2K30_444, Dolby/DTS 5.1 12. 4K2K30_444, HD Audio 7.1 13. 4K2K60_420, Stereo Audio 2.0 14. 4K2K60_420, Dolby/DTS 5.1 15. 4K2K60_420, HD Audio 7.1 16. 4K2K60_444, Stereo Audio 2.0 17. 4K2K60_444, Dolby/DTS 5.1 18. 4K2K60_444, HD Audio 7.1 19. 4K2K60_444, Stereo Audio 2.0 HDR 20. 4K2K60_444, Dolby/DTS 5.1 HDR 21. 4K2K60_444, HD Audio 7.1 HDR 22. copy from hdmi loop out 23. copy from hdbt output 1 24. copy from hdbt output 2 25. copy from hdbt output 3 26. copy from hdbt output 4 27. use user1 EDID	s EDID in from 1!	input EDID: 1080p, Stereo Audio 2.0 Please toggle EDID dip switch to 00000!	1080p, Stereo Audio 2.0
s EDID user1 00 FF FF FF FF ...!	Set user1 EDID data	s EDID user1 00 ff ff ff ff ....!	user1 EDID data: 00 FF FF	
r EDID user1!	Get user1 EDID data	r EDID user1!	user1 EDID data: 00 FF FF FF FF FF FF 00	
r EDID in!	Get EDID status of the input	r EDID in!	input EDID: 4K2K60_444, Stereo Audio 2.0	
r EDID in data!	Get the EDID data of the HDMI input	r EDID in data!	EDID data: 00 FF FF FF FF FF FF 00	

Operation Controls and Functions:

ASCII Commands:

Command Code	Function Description	Example	Feedback	Default Setting
RS-232 BYPASS Setting				
s rs232 bypass hdbt y!	Set RS-232 port connect to HDBT out1 Receiver RS-232 port, y=0~5 (0=all, 1~4=HDBT out 1~4 5=NC)	s rs232 bypass HDBT 1!	RS-232 connect to HDBT OUT1 RS-232 not connected to HDBT OUT	y=0
r rs232 bypass!	Get RS-232 port connects to HDBT out receiver RS-232 port	r rs232 bypass!	RS-232 connects to HDBT out1 RS-232 connects to all HDBT OUT RS-232 not connected to HDBT OUT	
s device baud w size x stop y parity z!	Set receiver control device COM port setting, w=2400, 4800, 9600, 19200, 38400, 57600, 115200, x=7,8 y=1,2 z=none, even, odd	s device baud 57600 size 8 stop 1 parity none!	Receiver device COM port setting baudrate: 57600 data size: 8, stop: 1 parity: none	
s rs232 time x!	Set send RS-232 command wait time x=200~5000ms	s rs232 time 200!	Send RS-232 command wait time 200ms	200ms

Operation Controls and Functions:



PRODUCT SERVICE

Damage requiring service:

- The unit should be serviced by qualified service personnel if:
- (a) The DC power supply cord or AC adaptor has been damaged
- (b) Objects or liquids have gotten into the unit
- (c) The unit has been exposed to rain
- (d) The unit does not operate normally or exhibits a marked change in performance; The unit has been dropped or the cabinet is damaged.
- (2) Servicing Personnel: Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.
- (3) Replacement parts: When parts need replacing ensure the servicer uses parts specified by the manufacturer. Unauthorized substitutes may result in fire, electric shock, or other hazards.
- (4) Safety check: After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install the unit:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit

WARRANTY

1 Year