



BG-VOP-MT

HDMI2.0 over IP Multicast Transceiver System
with Video Wall support & PoE support

User Manual



Made in Taiwan

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INTRODUCTION

The **BG-VOP-MT HDMI 2.0 over IP Multicast Transceiver System with Video Wall support & PoE support** boosts your audio/video transmission distance up to 120m (396ft) in UHD 4K2K format. With cost-effective ethernet cable users can readily extend UHD sources from DVD players, Blu-ray Disc players, gaming consoles, PCs, and any other HDMI source to any HDMI display. In addition, BG-VOP-MT is HDCP compliant, and supports PoE, IR, and RS-232 pass-through.

By transmitting the A/V signal over the local area network the BG-VOP-MT makes it easy to add a source or display to your system anywhere there is an active ethernet connection. When combined with broadcasting management software and Gigabit Ethernet network switch (supporting IGMP), BG-VOP-MT is a complete UHD video broadcasting solution for digital signage. The transmitting format can be Point to Point, Point to Many, or Multi-Cast. Multi-casting requires a Managed Gigabit Ethernet Switch with 802.1Q VLAN function to allow multiple video sources. To provide more flexibility for installations, BG-VOP-MT can work as either a transmitter or a receiver.

FEATURES

- Supports HDMI input up to 4K2K@60 4:4:4 8bits
- Supports HDMI output up to 4K2K@30 RGB
- Supports High Dynamic Range (HDR)*
- HDMI 2.0a compliant
- HDCP 2.2 compliant
- Supports PoE function
- Can be configured as a transmitter or receiver
- Flexible and scalable UHD Video Broadcasting by Gigabit Ethernet LAN/Switch
- One to one, one to many & multi-casting broadcasting architecture
- Each transmitter can be theoretically multicast up to an unlimited number of displays in video wall applications or unlimited displays in multicast applications
- Supports full frequency IR signal from 20KHz to 60KHz
- Bi-directional IR path
- Full Duplex RS-232 control up to 115,200 bps
- Up to 1,023 Groups Multi-Casting
- Easy Dip Switch matching for multi-casting group configuration
- Latency: 1080p60Hz: 23ms
- Supports Video Wall function
- Supports 180 and 270 clockwise image rotation
- Supports USB2.0
- Wall mounting housing design for easy and robust installation

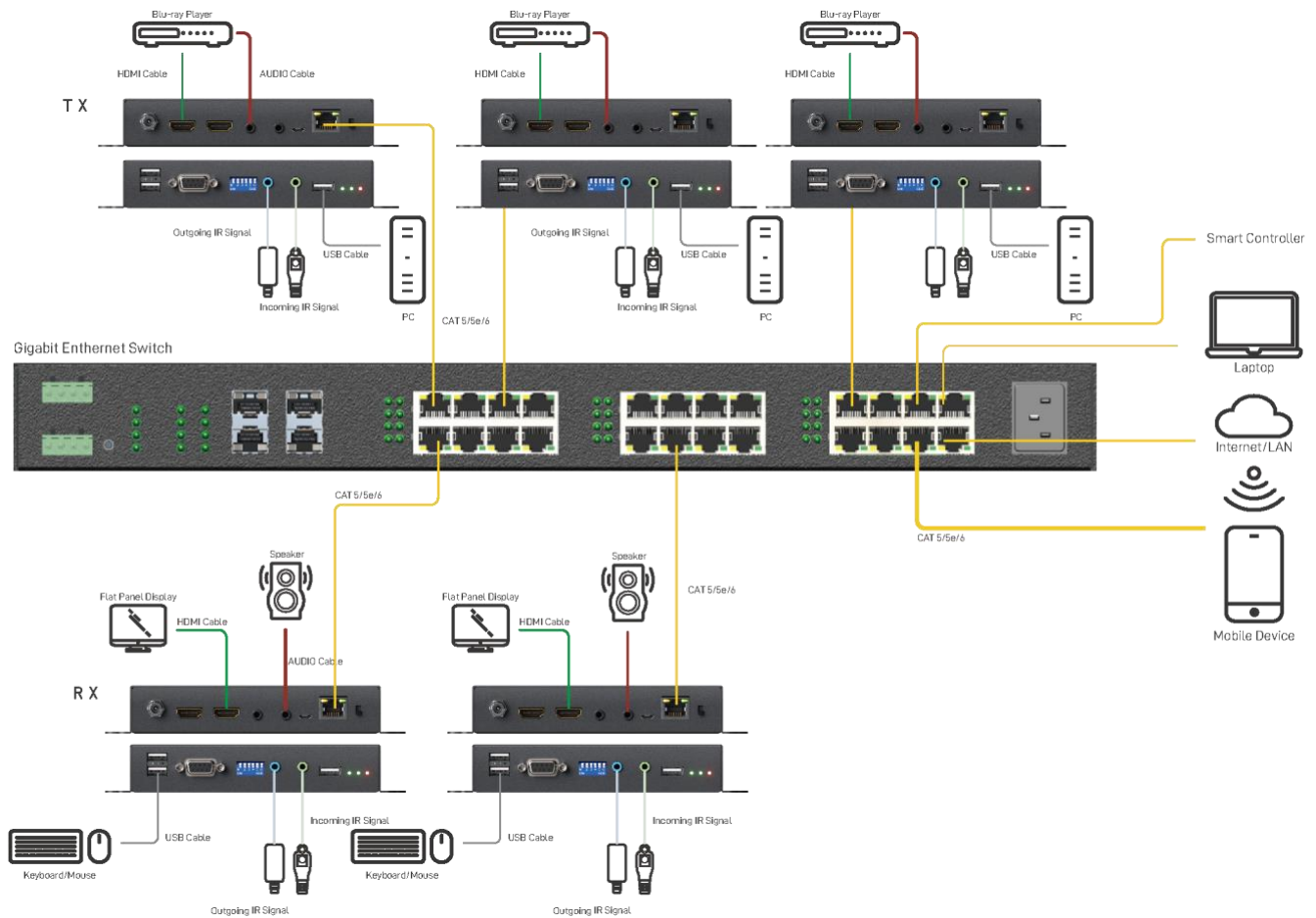


Due to the video compression, some distortion may occur in HDR mode.

PACKAGE CONTENTS

- 1x BG-VOP-MT
- 1x IR blaster cable
- 1x IR receiver cable
- 1x User Manual

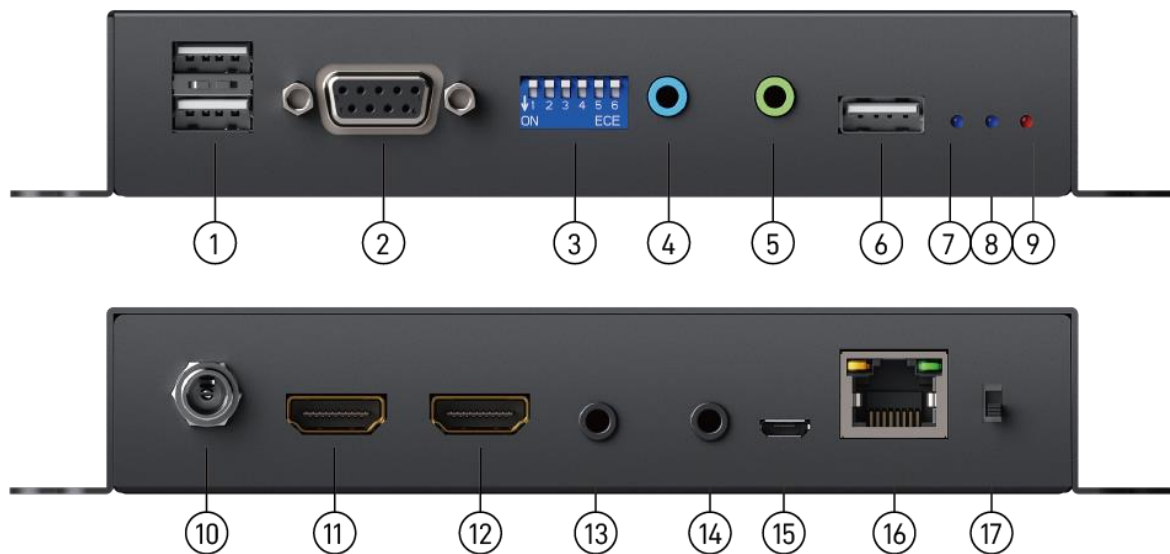
CONNECTION DIAGRAM



SPECIFICATIONS

Model Name		BG-VOP-MT
Technical		BG-VOP-MT
Role of usage		Transmitter
HDMI compliance		HDMI
HDCP compliance		Yes
Input Video support		Up to 4K2K@60 (4:4:4 8bits)
Output Video support		Up to 4K2K@30 (RGB)
Latency		2 frames (33 ms) maximum
HDMI over UTP transmission [24-bit]		Ultra HD (4K2K60)-120m (396ft) [CAT.X]
Audio support		Surround sound (up to 7.1ch) or stereo digital audio
Input TMDS signal		1.2 Volts [peak-to-peak]
Input DDC signal		5 Volts [peak-to-peak, TTL]
ESD protection		Human body model — ±15kV [air-gap discharge] & ±8kV [contact discharge]
IR pass-thru		Full-duplex bi-directional
RS-232 support		Yes
I/O connector		2x HDMI + 4x 3.5mm + 3x USB + 1x RJ45 + 1x DIN9
HDMI source control		Controllable via IR pass-through from RX to TX and from TX to RX with IR extenders
IR remote control		Electro-optical characteristics: $\tau = 25^\circ$ / Carrier frequency: 20-60kHz
HDMI connector		Type A [19-pin female]
Min DIN connector		DIN-9
RJ45 connector		WE/SS 8P8C with 2 LED indicators
3.5mm connector		IR blaster & IR receiver
Mechanical		
Housing		Metal enclosure
Dimensions [L x W x H]	Model	180 x 142 x 28mm[7" x 5.5" x 3.2"]
	Package	264 x 170 x 77mm[10.3" x 6.7" x 3"]
	Carton	430 x 358 x 291mm[1'4" x 1'2" x 11.5"]
Weight	Model	664g [23 oz]
	Package	889g [2 lbs]
Fixedness		Wall-mounting case with screws
Power supply		5V 2A DC / 48V POE
Power consumption		7.5 Watts [max]
Operation temperature		0~40°C [32~104°F]
Storage temperature		-20~60°C [-4~140°F]
Relative humidity		20~90% RH [no condensation]

PANEL DESCRIPTIONS



1. **USB(USB 2.0 downstream port):** Connect to USB flash driver or other USB devices (device configure as RX)
2. **RS-232:** Connect to PC serial port with a DB-9 male-male cable
3. **Dip Switch:** Video channel selection
4. **IR Blaster:** Infrared 3.5mm socket for plugging in the extension cable of IR blaster
5. **IR Receiver:** Infrared 3.5mm socket for plugging in the extension cable of IR receiver
6. **USB:** Connect to upstream USB host (device configure as TX)
7. **Link LED indicator:**
[Blink] When unit connect a Cat-5/5e/6 cable
[Shine] When transmitting unit connect to a HDMI source and linked to the receiving unit
8. **System LED indicator:**
[Blink] When unit is connected with a power supply unit
[Solid] Device is ready
9. **Info LED indicator:** When user clicks the LED button in the software, the LED light will blink 30 seconds.
10. **+5V DC:** Connect to 5V DC power supply
11. **HDMI IN:** Connects to a HDMI source with a HDMI cable
12. **HDMI OUT:** Connects to a HDMI display with a HDMI cable.
13. **Analog audio line in:** Connect to upstream audio output (device configured as TX)
14. **Analog audio line out:** Connect to downstream headphone output (device configured as RX)
15. **Micro-USB:** for F/W update
16. **RJ-45:** Gigabit Ethernet port
17. **Dip Switch:** configures as a transmitter or receiver
[↕] configures as a transmitter

[🔧] configures as a receiver

Notes: TX/RX group ID dip-switch setting

1. For ID=1~63, please refer the table below to set up (Hardware control)
2. For ID=64~1023, please adjust the DIP switch to ID=0, and the real ID can be decided by the external software (Software control)

ID	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
0	↑	↑	↑	↑	↑	↑
1	↓	↑	↑	↑	↑	↑
2	↑	↓	↑	↑	↑	↑
3	↓	↓	↑	↑	↑	↑
4	↑	↑	↓	↑	↑	↑
5	↓	↑	↓	↑	↑	↑
6	↑	↓	↓	↑	↑	↑
7	↓	↓	↓	↑	↑	↑
8	↑	↑	↑	↓	↑	↑
9	↓	↑	↑	↓	↑	↑
10	↑	↓	↑	↓	↑	↑
11	↓	↓	↑	↓	↑	↑
12	↑	↑	↓	↓	↑	↑
13	↓	↑	↓	↓	↑	↑
14	↑	↓	↓	↓	↑	↑
15	↓	↓	↓	↓	↑	↑
16	↑	↑	↑	↑	↓	↑
17	↓	↑	↑	↑	↓	↑
18	↑	↓	↑	↑	↓	↑
19	↓	↓	↑	↑	↓	↑
20	↑	↑	↓	↑	↓	↑
21	↓	↑	↓	↑	↓	↑
22	↑	↓	↓	↑	↓	↑
23	↓	↓	↓	↑	↓	↑
24	↑	↑	↑	↓	↓	↑
25	↓	↑	↑	↓	↓	↑
26	↑	↓	↑	↓	↓	↑
27	↓	↓	↑	↓	↓	↑
28	↑	↑	↓	↓	↓	↑
29	↓	↑	↓	↓	↓	↑
30	↑	↓	↓	↓	↓	↑
31	↓	↓	↓	↓	↓	↑

ID	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
32	↑	↑	↑	↑	↑	↓
33	↓	↑	↑	↑	↑	↓
34	↑	↓	↑	↑	↑	↓
35	↓	↓	↑	↑	↑	↓
36	↑	↑	↓	↑	↑	↓
37	↓	↑	↓	↑	↑	↓
38	↑	↓	↓	↑	↑	↓
39	↓	↓	↓	↑	↑	↓
40	↑	↑	↑	↓	↑	↓
41	↓	↑	↑	↓	↑	↓
42	↑	↓	↑	↓	↑	↓
43	↓	↓	↑	↓	↑	↓
44	↑	↑	↓	↓	↑	↓
45	↓	↑	↓	↓	↑	↓
46	↑	↓	↓	↓	↑	↓
47	↓	↓	↓	↓	↑	↓
48	↑	↑	↑	↑	↓	↓
49	↓	↑	↑	↑	↓	↓
50	↑	↓	↑	↑	↓	↓
51	↓	↓	↑	↑	↓	↓
52	↑	↑	↓	↑	↓	↓
53	↓	↑	↓	↑	↓	↓
54	↑	↓	↓	↑	↓	↓
55	↓	↓	↓	↑	↓	↓
56	↑	↑	↑	↓	↓	↓
57	↓	↑	↑	↓	↓	↓
58	↑	↓	↑	↓	↓	↓
59	↓	↓	↑	↓	↓	↓
60	↑	↑	↓	↓	↓	↓
61	↓	↑	↓	↓	↓	↓
62	↑	↓	↓	↓	↓	↓
63	↓	↓	↓	↓	↓	↓

IR PASS-THROUGH

[IR Extenders]

IR Blaster



IR Receiver



[IR Sockets]

IR BLASTER: plug in the IR blaster to emit all IR command signals received from the IR receiver for device control.

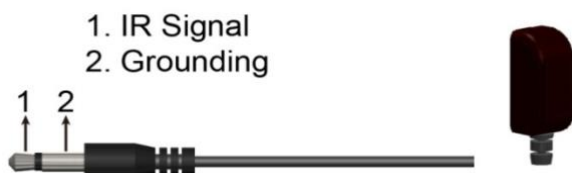
IR RECEIVER: plug in the IR receiver to receive all IR command signals from the remote control of the corresponding devices.

CAUTION!

Incorrect placement of IR Blaster and Receiver may result in the failure of the IR extenders. Please check carefully before plugging in the IR extender to the respective IR sockets. Warranty will not cover the damage.

[Definition of IR Earphone Jack]

IR Blaster



IR Receiver



WARRANTY

BZBGear wants to assure you peace of mind. We're so confident in the quality of our products that along with the manufacturer's one-year limited warranty, we are offering free second-year warranty coverage upon registration*.

Taking advantage of this program is simple, just follow the steps below:

1. Register your product within 90 days of purchase by visiting BZBGear.com/warranty.
2. Complete the registration form. Provide all necessary proof of purchase details, including serial number and a copy of your sales receipt.

For questions, please call 1.888.499.9906 or email support@bzbgear.com.

For complete warranty information, please visit BZBGear.com/warranty or scan the QR code below.



*Terms and conditions apply. Registration is required.

MISSION STATEMENT

BZBGear manifests from the competitive nature of the audiovisual industry to innovate while keeping the customer in mind. AV solutions can cost a pretty penny, and new technology only adds to it. We believe everyone deserves to see, hear, and feel the advancements made in today's AV world without having to break the bank. BZBGear is the solution for small to medium-sized applications requiring the latest professional products in AV.

We live in a DIY era where resources are abundant on the internet. With that in mind, our team offers system design consultation and expert tech support seven days a week for the products in our BZBGear catalog. You'll notice comparably lower prices with BZBGear solutions, but the quality of the products is on par with the top brands in the industry. The unparalleled support from our team is our way of showing we care for every one of our customers. Whether you're an integrator, home theater enthusiast, or a do-it-yourselfer, BZBGear offers the solutions to allow you to focus on your project and not your budget.