



HDMI over IP Multicast System



RX



TX



Safety and Notice

The **AV-GM04R3-S1 HDMI over IP Multicast System** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **AV-GM04R3-S1** 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.



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INTRODUCTION

The **AV-GM04R3-S1 HDMI over IP Multicast System** boosts up your video/audio transmission distance up to 100m(330ft) in HDTV 1080p format. With cost effective Ethernet cable, users can readily extend HDTV sources from DVD players, Blu-ray Disc player, PS3, PC, and any other HDMI sources broadcasting to distant display monitors including HDMI or DVI enabled TV sets or LCD PC monitors. In addition, **AV-GM04R3-S1** is HDCP compliant, and supports IR pass-through path.

With broadcasting management software and Ethernet network switch (supporting IGMP), AV-GM04R3-S1 is a complete HD video broadcasting solution for digital signage. It can transmit Full HD 1080p HDMI video broadcasting over IP network. The broadcasting format can be Point to Point, Point to Many, and Multi-Casting. Multi-casting is based on Managed Ethernet Switch with 802.1Q VLAN function which provides control remotely, so multi video and source allowed and supported.

FEATURES

- Supports resolution up to 1920 x 1080p 60Hz
- HDMI v1.3 compliant
- HDCP 1.4 compliant
- Supports audio extraction via stereo & toslink on transmitter
- Sample rates of 32~192KHz and sample sizes of 16~24 bits
- Transmits video and audio signal over a network
- Easy distribute multi scalable Full HD video to different locations based on IP network
- Supports full frequency IR signal pass-through from 20KHz to 60KHz
- Up to 1,023 Groups Multi-Casting
- Encoder: H.264 Baseline profile & MPEG audio layer 2 & Planar: 4:2:0 (YUV)
- Supports Protocol: IP, TCP, UDP, RTP, IPv4, DHCP, HTTP, IGMP, ICMP, MULTICAST, UNICAST
- Ethernet: 10/100 BASE-T RJ45
- Supports Streaming Bit rate up to 15Mbps (+-10%)
- Enable Protocol compatible with any software player (such as VLC® or others)
- Latency: 720P60: 190~240ms / 1080P60: 380~430ms.
- Wall mounting housing design for easy and robust installation

PACKAGE CONTENTS

AV-GM04R3-S1-TX

- 1x AV-GM04R3-S1-TX
- 1x IR blaster cable
- 1x 5V2A Power adapter
- 1x User Manual

AV-GM04R3-S1-RX

- 1x AV-GM04R3-S1-RX
- 1x IR receiver cable
- 1x 5V2A Power adapter
- 1x User Manual

SPECIFICATIONS

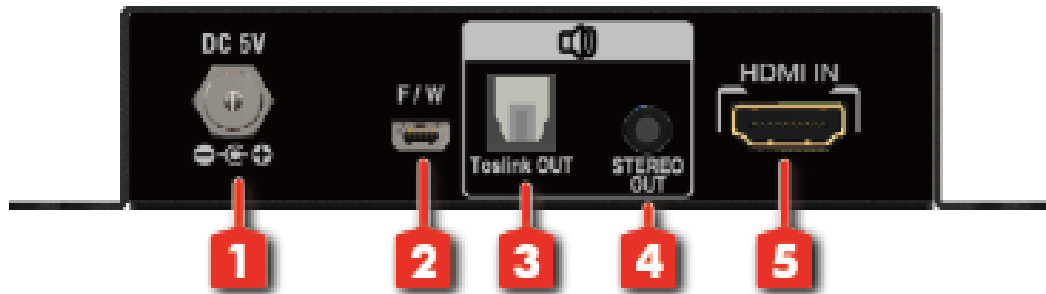
Model Name	AV-GM04R3-S1		
Technical	AV-GM04R3-S1 [Tx]		AV-GM04R3-S1 [Rx]
Role of usage	Transmitter [TX]		Receiver [RX]
HDMI compliance	V1.3		
HDCP compliance	1.4		
Video bandwidth	Single-link 225MHz [6.75Gbps]		
Video support	Up to 1080p60		
HDMI over UTP transmission [24-bit]	Full HD (1080p)-100m(330ft) [CAT.X]		
Audio support	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]		
PCB stack-up	4-layer board [impedance control — differential 100Ω; single 50Ω]		
IR pass-thru	Yes		
Input	1x HDMI	1x RJ45 + 1x 3.5mm	
Output	1x RJ45 + 2x 3.5mm + 1x TosLink		1x HDMI
HDMI source control	Controllable via IR pass-through from RX to TX with IR extenders		
IR remote control	Electro-optical characteristics: $\tau = 25^\circ$ / Carrier frequency: 20-60kHz		
HDMI connector	Type A [19-pin female]		
RJ45 connector	WE/SS 8P8C with 2 LED indicators		
3.5mm connector	IR blaster, IR receiver, & Stereo out		
Mechanical			
Housing		Metal enclosure	
Dimensions [L x W x H]	Model	107 x 96 x 26mm [4.2" x 3.8" x 1"]	107 x 96 x 26mm [4.2" x 3.8" x 1"]
	Package	264 x 170 x 77mm [10.3" x 6.7" x 3"]	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"]	430 x 358 x 291mm [1'4" x 1'2" x 11.5"]
Weight	Model	320g [11.3oz]	310g [11oz]
	Package	462g [1lbs]	452g [1lbs]
Fixedness		Wall-mounting case with screws	
Power supply		5V 2A DC	
Power consumption		5 Watts	3Watts
Operation temperature		0~40°C [32~104°F]	
Storage temperature		-20~60°C [-4~140°F]	

Relative humidity	20~90% RH [no condensation]
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PANEL DESCRIPTIONS

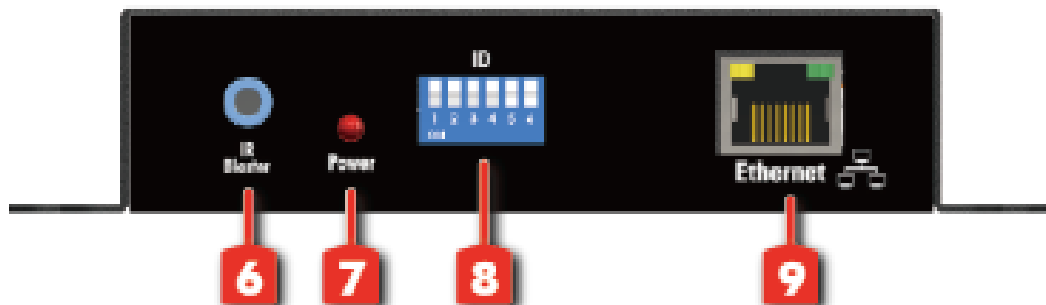
Transmitting unit ► AV-GM04R3-S1-TX

Front Panel



1. **+5V DC:** Connect to 5V DC power supply
2. **Mini USB:** for F/W update
3. **S/PDIF Output (TOSLINK)**
4. **Stereo Output (3.5mm)**
5. **HDMI IN:** Connects to a HDMI source with a HDMI male-male cable

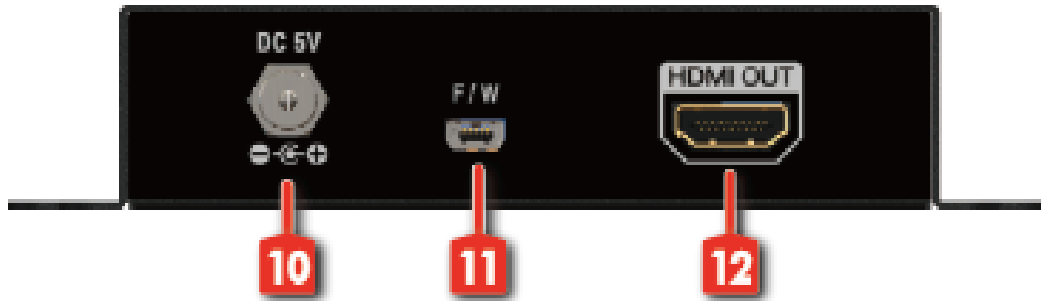
Rear Panel



6. **IR Blaster:** Infrared 3.5mm socket for plugging in the extension cable of IR blaster
7. **LED Indicator:** Power LED indicator
8. **Dip Switch:** Video channel setting (Please refer to "Notes")
9. **HDMI Signal OUT:** RJ-45 Network connector

Receiving unit ► AV-GM04R3-S1-RX

Front Panel

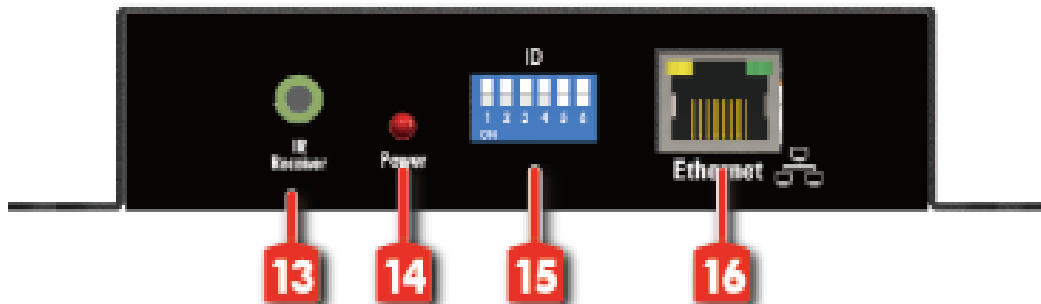


10. +5V DC: Connect to 5V DC power supply

11. Mini USB: for F/W update

12. HDMI OUT: Connect to a HDMI display with a HDMI male-male cable.

Rear Panel



13. IR Receiver: Infrared 3.5mm socket for plugging in the extension cable of IR receiver

14. LED Indicator: Power LED indicator

15. Dip Switch: Video channel setting (Please refer to “Notes”)

16. HDMI Signal IN: RJ-45 Network connector

Notes: TX 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)

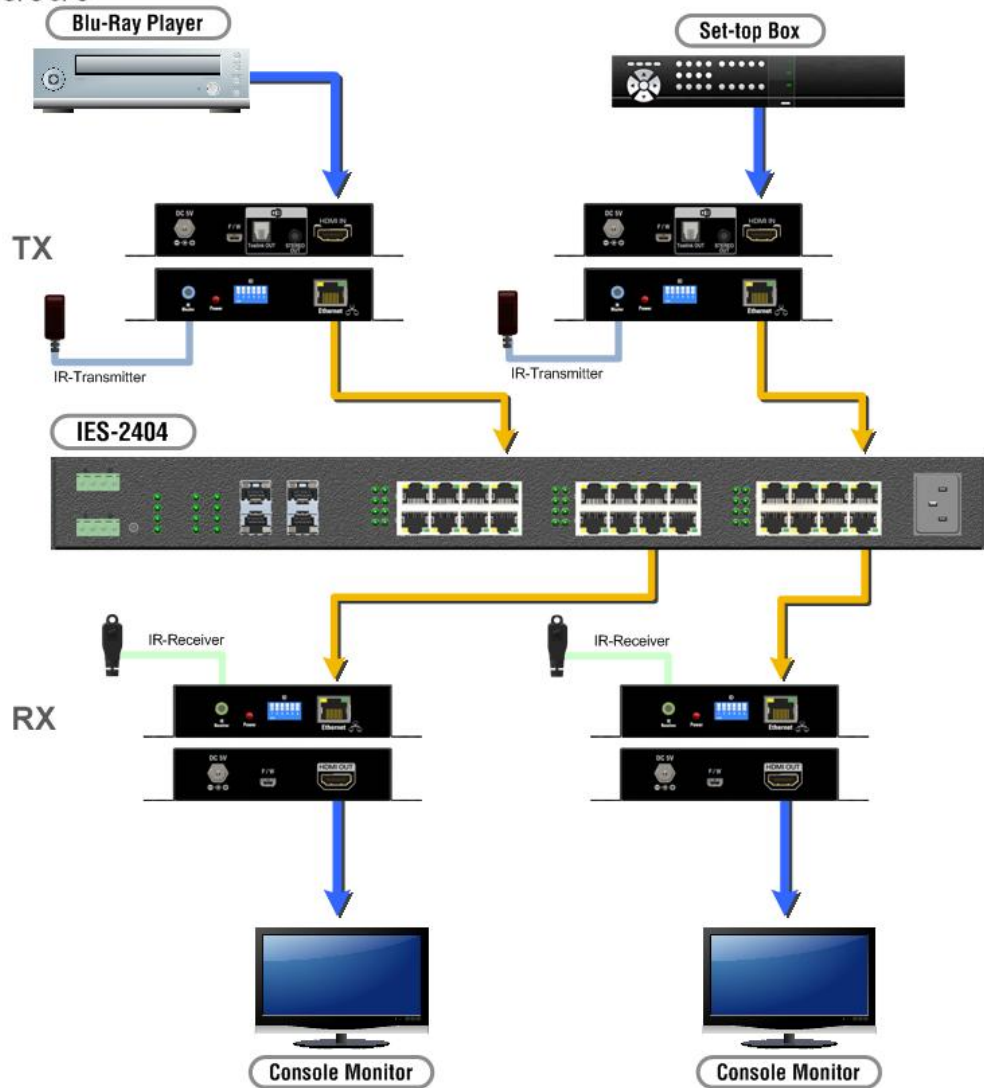
ID	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
0	↓	↓	↓	↓	↓	↓
1	↑	↓	↓	↓	↓	↓
2	↓	↑	↓	↓	↓	↓
3	↑	↑	↓	↓	↓	↓
4	↓	↓	↑	↓	↓	↓
5	↑	↓	↑	↓	↓	↓
6	↓	↑	↑	↓	↓	↓
7	↑	↑	↑	↓	↓	↓
8	↓	↓	↓	↑	↓	↓
9	↑	↓	↓	↑	↓	↓
10	↓	↑	↓	↑	↓	↓
11	↑	↑	↓	↑	↓	↓
12	↓	↓	↑	↑	↓	↓
13	↑	↓	↑	↑	↓	↓
14	↓	↑	↑	↑	↓	↓
15	↑	↑	↑	↑	↓	↓
16	↓	↓	↓	↓	↑	↓
17	↑	↓	↓	↓	↑	↓
18	↓	↑	↓	↓	↑	↓
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	↓	↓	↑	↓	↑	↑
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54	↓	↑	↑	↓	↑	↑
55	↑	↑	↑	↓	↑	↑
56	↓	↓	↓	↑	↑	↑
57	↑	↓	↓	↑	↑	↑
58	↓	↑	↓	↑	↑	↑
59	↑	↑	↓	↑	↑	↑
60	↓	↓	↑	↑	↑	↑
61	↑	↓	↑	↑	↑	↑
62	↓	↑	↑	↑	↑	↑
63	↑	↑	↑	↑	↑	↑

CONNECTION DIAGRAM

→ HDMI

→ CAT5/5e/6



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 from the other end to control the devices corresponding to the IR signals.

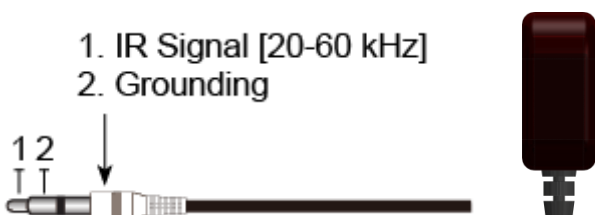
IR RECEIVER: plug in the IR receiver to receive all IR command signals from the IR remote controls of the corresponding devices.

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





You can buy any IR extension cables in the market that are compatible to the definition of the IR sockets for the extender if necessary for replacement use. However, IR cables longer than 2m (6-ft) may not work.

WARRANTY

The SELLER warrants the **AV-GM04R3-S1 HDMI over IP Multicast system** free from defects in the material and workmanship for 3 years from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 3 years warranty period, The SELLER, 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 the SELLER for its BUYER with direct transaction only. This warranty is void if the warranty seal on the metal housing is broken.

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, customers agree 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.

Proof of sale may be required in order to claim warranty. Customers outside Taiwan are responsible for shipping charges to and from the SELLER. Cables and power adapters are limited to a 30 day warranty and must be free from any markings, scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER 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 **AV-GM04R3-S1** features and specifications is subject to change without further notice.

Support

For more info or tech support

<http://www.siig.com/support>