

BG-AVTPG-MINI

**4K/1080P HDMI 2.0 18Gbps Portable Signal Test
Generator and Analyzer**

User Manual







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Statement

Please read these instructions carefully before connecting, operating, or configuring this product. Please save this manual for future reference.

Safety Precaution

- To prevent damaging this product, avoid heavy pressure, strong vibration, or immersion during transportation, storage, and installation.
- The housing of this product is made of organic materials. Do not expose to any liquid, gas, or solids which may corrode the shell.
- Do not expose the product to rain or moisture.
- To prevent the risk of electric shock, do not open the case. Installation and maintenance should only be carried out by qualified technicians.
- Do not use the product beyond the specified temperature, humidity, or power supply specifications.
- This product does not contain parts that can be maintained or repaired by users. Damage caused by dismantling the product without authorization from BZBGear is not covered under the warranty policy.
- Installation and use of this product must strictly comply with local electrical safety standards.



Introduction

The BG-AVTPG-MINI HDMI 2.0a is a hand-held, pocket size, and rechargeable device which can generate HDMI signals, detect important HDMI features, and examine cable quality. With the BG-AVTPG-MINI installers can easily setup and analyze HDMI equipment in seconds.

In “Source” mode the BG-AVTPG-MINI provides reliable video patterns up to HDMI 2.0a 4K@60Hz 4:4:4 or 4K HDR, including HDMI 1.4 resolutions such as 1080P and 720P. With adjustable color depth, installers can instantly test the connected display’s capabilities.

In “Sink” mode the BG-AVTPG-MINI can be used as a reliable HDMI signal detector to have important information such as resolution, frame rate, HDCP version. These important pieces of information can help installers deal with tedious HDMI compatibility issues with ease.

In the “Cable” mode this handy gadget can verify the wire condition of an HDMI cable and also provide a cable quality indicator to help installers understand the cable status before doing any installation.

Features

- Video resolution up to 4K2K@60 4:4:4 8bit, HDR 10 bits, 12 bits, 16 bits
- Built-in 3 video patterns
- Both HDMI input and output support up to HDMI 2.0
- HDMI feature analysis up to 4K2K@60 4:4:4 8bit HDMI 2.0 input
- HDCP 1.4 & 2.2 compliant
- Tests cable quality
- Provides statistical analysis for cable quality or connection stability
- Hand-held pocket size
- Rechargeable battery for portability for up to 3 hours

Packing List

- 1x BG-AVTPG-MINI
- 1x User Manual
- 1x Micro-USB cable
- 1x Quick Start Guide

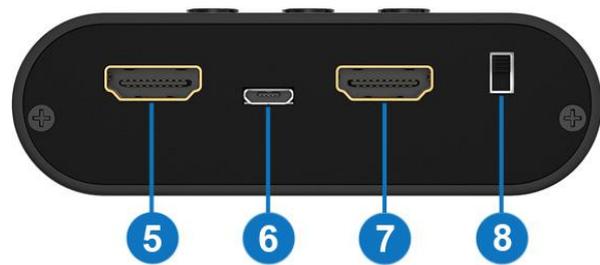


Technical Specifications

Technical		
Role of usage	HDMI 2.0a Installation Gear	
Video bandwidth	Single link 600MHz [18Gbps]	
HDMI compliance	HDMI 2.0 and below	
HDCP compliance	HDCP 2.2 and below	
Video Support	up to 4K60 4:4:4 8bit, 4K2K60 4:2:0 16bit (HDR)	
ESD protection	Human body model — ±15kV [air-gap discharge] & ±8kV [contact discharge]	
Video Format Support	HDMI	
Input	1x HDMI	
Output	1x HDMI	
Control	Push Button	
HDMI connector	Type A [19-pin female]	
USB Support	Firmware update / Recharge	
USB connector	Micro-USB (Type B)	
Mechanical		
Enclosure	Metal case	
Dimension s (LxWxH)	Model	130 x 89 x 14mm [5.1" x 3.5" x 0.6"]
	Packag e	198 x 137 x 74mm [7.8" x 5.4" x 2.9"]
	Carton	420 x 400 x 300mm [1'4"x 1'3" x 11.8"]
Weight	Model	220g [7.8oz]
	Packag e	320g [11.3oz]
Power supply	Micro-USB / Battery	
Power Consumption	5W [MAX]	
Operation temperature	0~40°C [32~104°F]	
Storage temperature	-20~60°C [-4~140°F]	
Relative humidity	20-90% RH [no condensation]	



Operation Controls and Functions



1. Button (UP)
2. Button (ENTER)
3. Button (DOWN)
4. LCD Display: the measured data is shown here
5. OUTPUT: HDMI output
6. Micro-USB: Firmware update / Recharge
7. INPUT: HDMI input
8. Power Switch: Power ON/OFF Switch

BG-AVTPG-MINI will automatically enter battery saving mode after 1 minute of idle. During battery saving mode, if the user would like to wake the BG-AVTPG-MINI, press any button. When plugging in an active HDMI input the BG-AVTPG-MINI will NOT enter battery saving mode.



Menu Operation

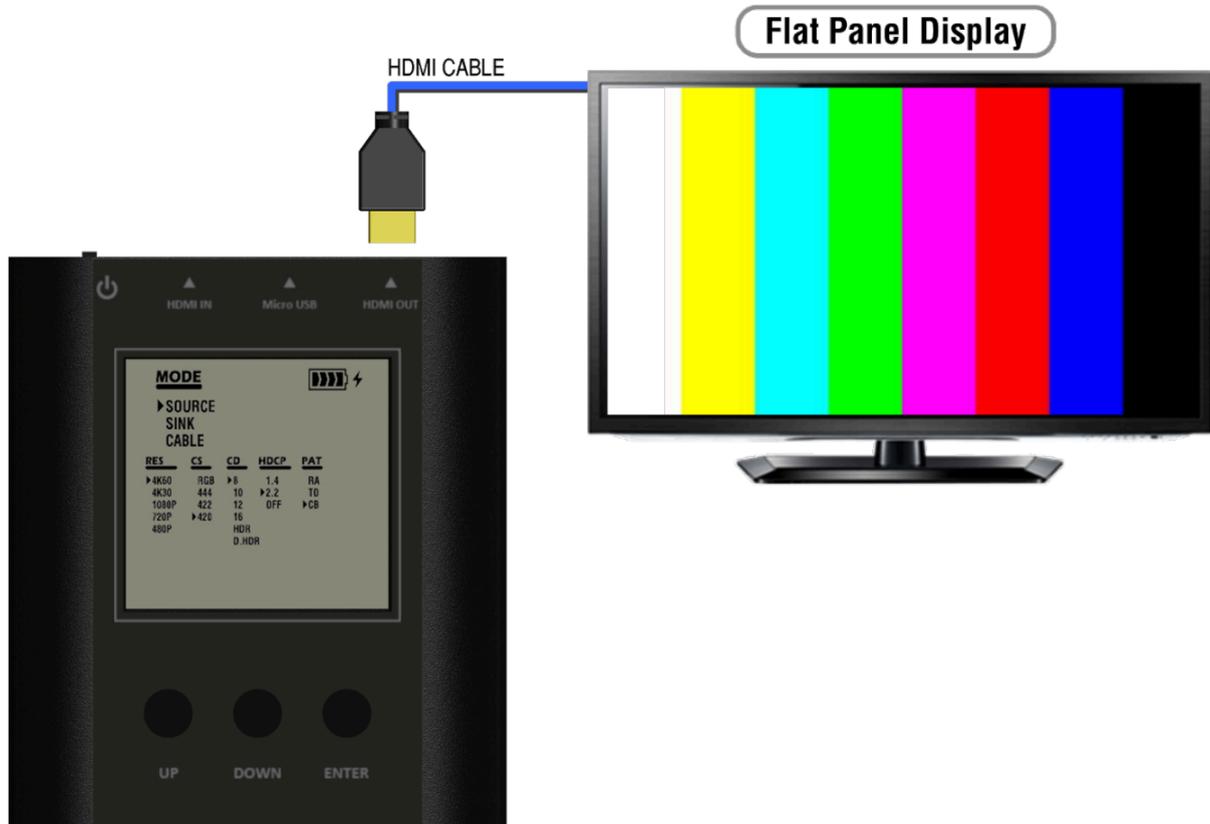
Menu	Display Items	Remarks
SOURCE MODE	Resolution	
	Color space	
	Color depth	
	HDCP	
	Pattern	provide three test patterns for user to use (Ramp, Toggle, Color Bar)
SINK MODE	Resolution	read the HDMI information from input source
	Color space	
	Color depth	
	HDCP	
	AUDIO	
	EDID	
CABLE MODE	CED	link quality estimator 'please refer to cable mode section
	CEC	
	HE AC	
	+5V	
	HPD	
	DDC	

*Menu items subject to change without notification.



Operation

Source Mode



How to run Source Mode:

- Make sure to connect the BG-AVTPG-MINI HDMI output port and the display.
- Use buttons to select MODE category and enter SOURCE mode.
- Use buttons to set up the output signal format and video testing pattern.



Sink Mode

When BG-AVTPG-MINI is in sink mode, it can read the HDMI source's information and the input HDMI can be passed through to an HDMI capable display if needed (as shown below).



How to run Sink Mode:

- Connect the BG-AVTPG-MINI between HDMI source and HDMI display.
- Use buttons to select MODE category and select SINK mode.
- The source information will be present on the LCD. The process of acquiring HDMI information will take about 3~5 seconds.



Cable Mode



In this mode, BG-AVTPG-MINI offers a link quality estimator using a Character Error Detection mechanism to HDMI 2.0 specifications. The estimator can provide a basic link quality evaluation regarding the cable or any other HDMI link connected to BG-AVTPG-MINI.

Please note that the evaluation result can provide an insight into the link quality under testing but it does not always reflect the real robustness of an HDMI 2.0 full bandwidth connection.

The stability of the full bandwidth of an HDMI 2.0 connection is affected not only by the cable or link quality but many other factors such as the signal integrity of the source, the ambient temperature, the reception of the display, and so on. Therefore the testing results are just for reference.

How to run Cable Mode:

- Ensure a tight connection between the BG-AVTPG-MINI and the cable.
- Use the buttons to select the MODE category and enter CABLE mode.
- Keep pressing ENTER button for about 5 seconds to start the link test. The BG-AVTPG-MINI will evaluate the HDMI signal quality based on HDMI 2.0 specifications and provide a result, PASS or NG. Please note that during testing the BG-AVTPG-MINI will NOT take any commands from the buttons except ENTER. Pressing ENTER continuously for 5 seconds will terminate the evaluation process.



- Performance Criteria:

According to HDMI 2.0 specification, the performance criteria is shown in the following table.

Test Result	Requirement
PASS	The error counts of signal are less than signal clock x 10 ⁻⁶
NG	The error counts of signal are more than signal clock x 10 ⁻⁶

Please be advised that the test result is based on the cable connection and the signal integrity of both input and output from BG-AVTPG-MINI. The indicator is usually a good reference for cable quality, but any other source or display in consideration plays an important role in the final stability of the HDMI 2.0 connection.

Application Example





Tech Support

Have technical questions? We may have answered them already!

Please visit BZBGear's support page (bzbgear.com/support) for helpful information and tips regarding our products. Here you will find our Knowledge Base (bzbgear.com/knowledge-base) with detailed tutorials, quick start guides, and step-by-step troubleshooting instructions. Or explore our YouTube channel, BZB TV (youtube.com/c/BZBTVchannel), for help setting up, configuring, and other helpful how-to videos about our gear.

Need more in-depth support? Connect with one of our technical specialists directly:

<u>Phone</u>	<u>Email</u>	<u>Live Chat</u>
1.888.499.9906	support@bzbgear.com	bzbgear.com

Limited Product Warranty Terms

Pro Line: 5-year warranty from the date of purchase for AV/Broadcasting products bought on or after August 1, 2024.

Essential Line: 3-year warranty from the date of purchase for AV/Broadcasting products bought on or after August 1, 2024.

Cables: Lifetime Limited Product Warranty.

For complete warranty information, please visit bzbgear.com/warranty.

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



Mission Statement

BZBGear is a breakthrough manufacturer of high-quality, innovative audiovisual equipment ranging from AVoIP, professional broadcasting, conferencing, home theater, to live streaming solutions. We pride ourselves on unparalleled customer support and services. Our team offers system design consultation, and highly reviewed technical support for all the products in our catalog. BZBGear delivers quality products designed with users in mind.

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