BZB2GEAR®

BG-AVTPG-MINI

HDMI 2.0a Installation Gear

User Manual

HDMI 2.0 | 4K 60Hz UltraHD | HDCP 2.2 | RoHS Compliance | FC | CE

Safety and Notice

The **BG-AVTPG-MINI** **HDMI 2.0a Installation Gear** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment, the **BG-AVTPG-MINI** 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 **BG-AVTPG-MINI** **HDMI 2.0a Installation Gear** is a hand-held, pocket size and chargeable battery supported device which can generate popular HDMI signals, detect important HDMI features, and examine cable quality. With the help of BG-AVTPG-MINI, installer can easily and quickly setup up and setup HDMI equipment in seconds.

In "Source" mode, BG-AVTPG-MINI provides reliable video patterns up to HDMI 2.0a 4K@60Hz 444 or 4K HDR, including HDMI 1.4 resolutions such as 1080P and 720P. With adjustable color depth, installer can instantly test the connected display's capability and decide if the display under test is a right choice.

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

In the "Cable" mode, this handy gadget can not only verify the wire condition of HDMI cable, but also provide a cable quality indicator to help installers understand the cable status before doing any installation. Especially for HDMI 2.0, the cable quality matters.

FEATURES

- Supports video resolution* outputs up to 4K2K@60 4:4:4 8bit, HDR 10bits**, 12bits, 16bits
- Built-in 3 video patterns***
- Both HDMI input and output support up to HDMI 2.0
- Fundamental 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 statistics analysis for cable quality or connection stability
- Hand-held pocket size
- Battery powered for portability, it can extend operation time with full load up to 3 hours
- Rechargeable battery design with short charging time about 3 hours

> * Not supporting 4K2K60 DVI mode
>
> **4K2K60 (YUV 4:2:0) 10bits is common resolution
>
> ***Pattern will be different under different resolution
>
> **Before using the BG-AVTPG-MINI, please plug in the power adapter to switch off the shipping mode**
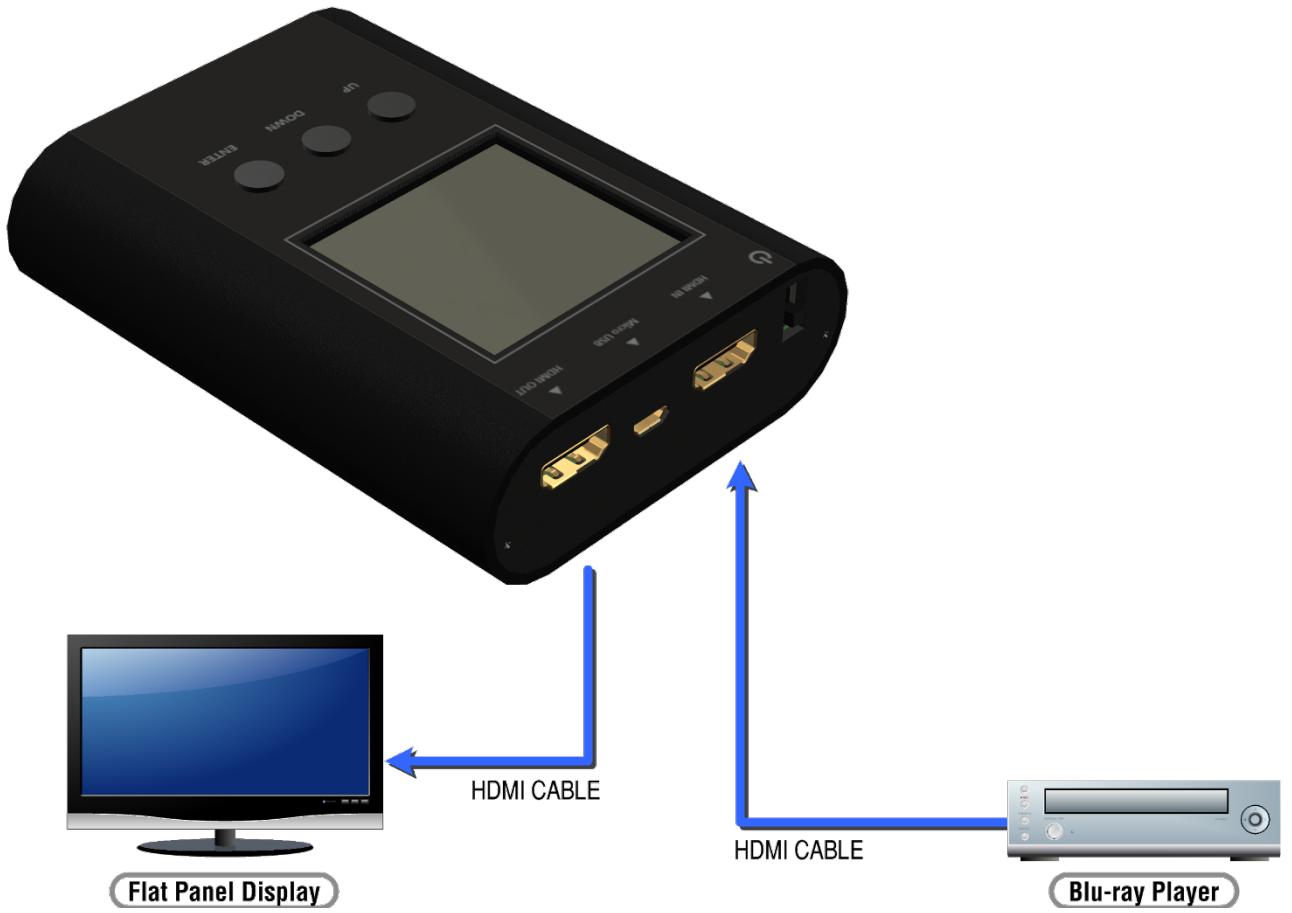
PACKAGE CONTENTS

- 1x BG-AVTPG-MINI
- 1x User Manual
- 1x Micro-USB to USB cable

SPECIFICATIONS

Model Name		BG-AVTPG-MINI
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
Dimensions (L x W x H)	Model	130 x 89 x 14mm [5.1" x 3.5" x 0.6"]
	Package	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]
	Package	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]

CONNECTION DIAGRAM

HDMI

HDMI CABLE

Flat Panel Display

HDMI CABLE

Blu-ray Player

1. **Button (ENTER)**
2. **Button (DOWN)**
3. **Button (UP)**
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 idle. During battery saving mode, if user would like to get BG-AVTPG-MINI back to work, please push any button. Notice that when plugging in an active HDMI input, BG-AVTPG-MINI will NOT enter battery saving mode.*

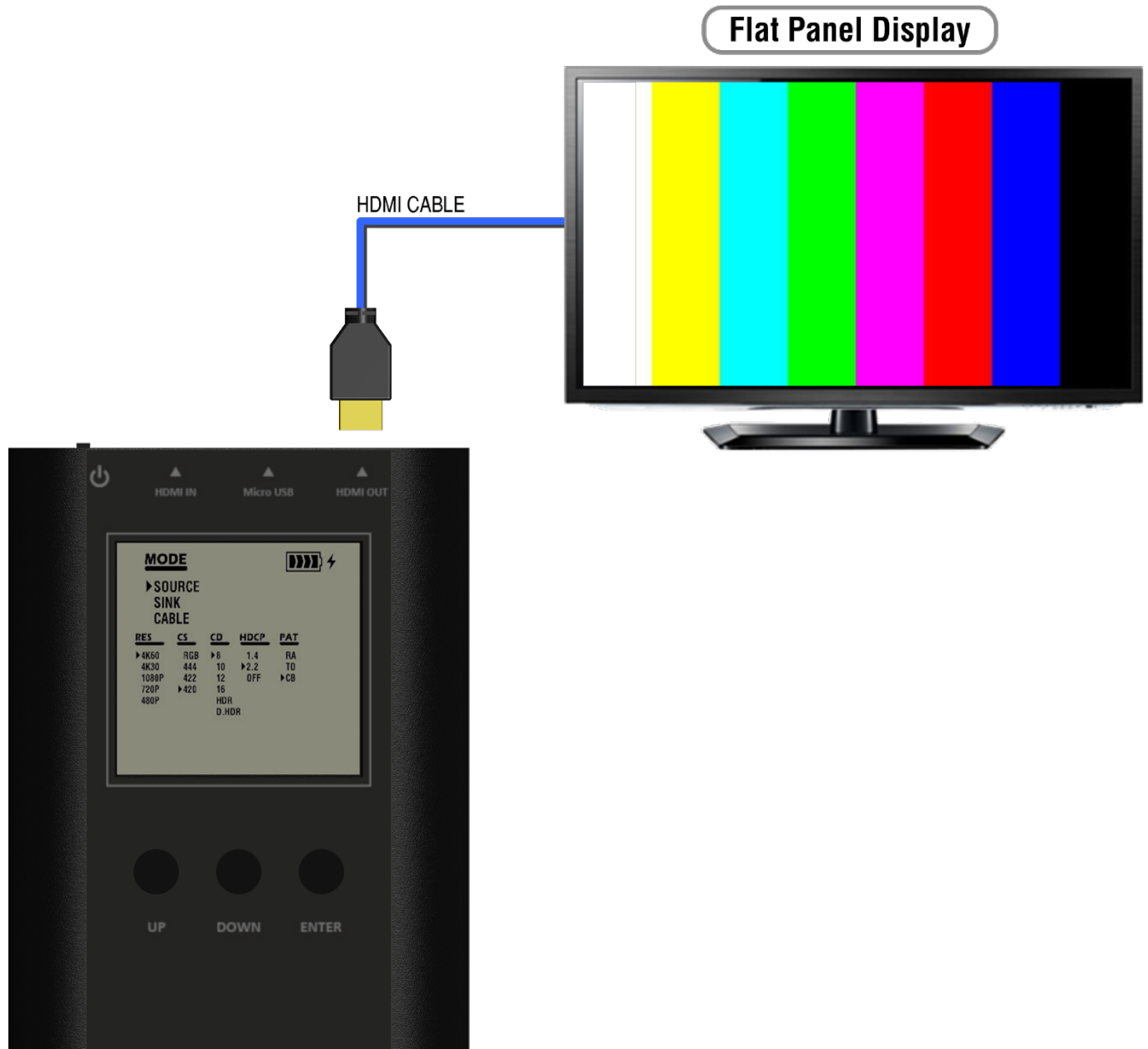| Menu	Items	Remark
SOURCE MODE	Resolution	
	Color space	
	Color depth	
	HDCP	
	Pattern	provide three test patterns for user to use (Ramp, Toggle, Color Bar)
SINK MODE	Resolution	read the HDMI information from input source
	Color space	
	Color depth	
	HDCP	
	AUDIO	
	EDID	
CABLE MODE	CED	link quality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

➔ *Menu items subject to change without notification.*

Source Mode

When BG-AVTPG-MINI is treated as a source, it can generate different test patterns to the display under test.

How to run Source Mode:

➢ Make sure the connection between 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 in addition, the input HDMI can be passed through to HDMI capable display if needed (as shown below).
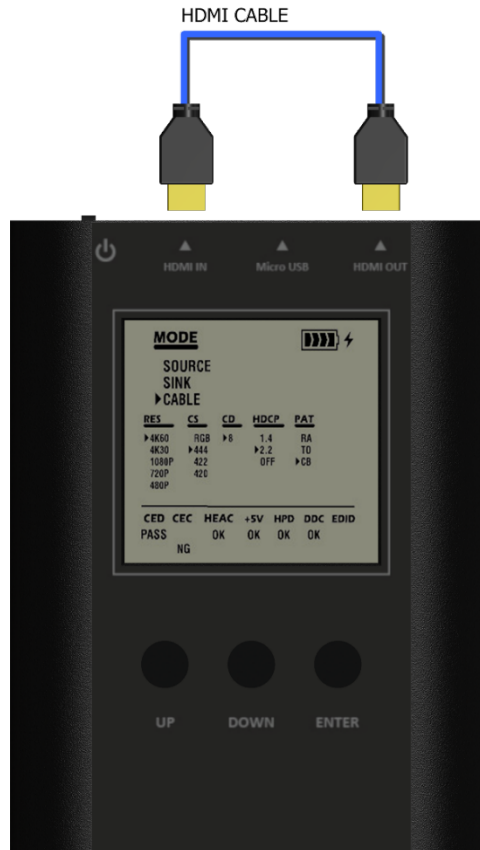

How to run Sink Mode:

➢ Connect the BG-AVTPG-MINI between HDMI source and HDMI display.

➢ Use buttons to select MODE category and enter 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 following the Character Error Detection mechanism from HDMI 2.0 specification. The estimator can provide a basic link quality evaluation regarding the cable or any other HDMI link connected to BG-AVTPG-MINI. Please notice that the evaluation result can provide an insight into the link quality under testing, **but not always reflects the real robustness of HDMI 2.0 full bandwidth connection**. The stability of the full bandwidth HDMI 2.0 connection is affected not only by the cable or link quality but also 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 result is just for a reference.

How to run Cable Mode:

➢ Make sure the tight connection between the BG-AVTPG-MINI and the cable.

➢ Use buttons to select 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 specification and provide a result, PASS or NG. Please notice that during testing, BG-AVTPG-MINI will NOT take any commands from 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 ad 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.

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.