

LINDY®

CONNECTION PERFECTION

HDMI Mini Pattern Generator

User Guide

English



LINDY No. 32645

www.lindy.com



Introduction

Thank you for purchasing the LINDY HDMI Mini Pattern Generator. This compact desktop unit allows you to test a range of different display devices such as LCD, Plasma TVs Projectors and Monitors that support HDMI inputs. The high performance HDMI output supports a multitude of test patterns, screen resolutions and diagnostic functions to assist in the testing and calibration of your display devices.

Features

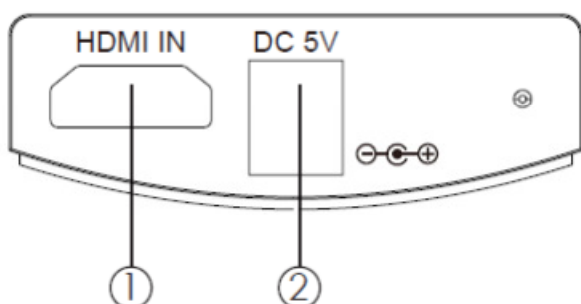
- Supports SD, HD up to 1080p, PC up to WUXGA and 3D timings
- 25 HD timings, 6 patterns and 1 pattern for 3D timing
- Deep Colour video up to 12 bits, 1080p@60Hz
- Supports input signal bypass, digital video formats in Deep Color Mode at up to 36 bits (12 bits/colour)
- Lossless compressed (Dolby TrueHD, Dolby Digital Plus and DTS-HD master Audio) digital audio
- Internal Pattern audio LPCM 2Ch 48/96/192KHz, LPCM 5.1Ch 48/96KHz, LPCM 7.1Ch 48/96KHz
- Input source info-frame and output sink EDID analysing
- Touch Button control
- OLED display shows input/output timing information
- Support for ARC (Audio Return Channel) to HDMI v1.4 specification
- Dimensions: 120 x 70 x 25mm (WxDxH)
- Total Weight: 0.43kg

Package Contents

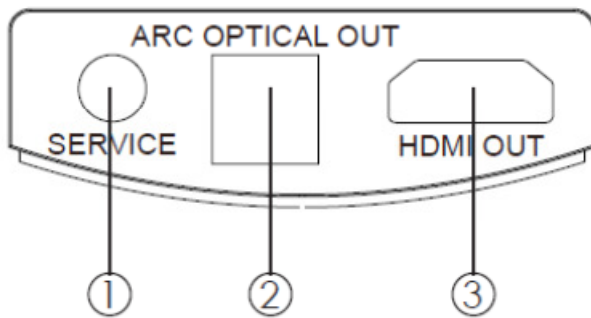
- 3D Mini HDMI Analyser
- Operation Manual
- 5V DC 1.2A Multi country power adapter

Installation & Operation

Ensure all equipment is turned off before connecting the pattern analyser. Once all cables are connected, apply power to the display device, then apply power to the pattern analyser and select the required resolution and test pattern.

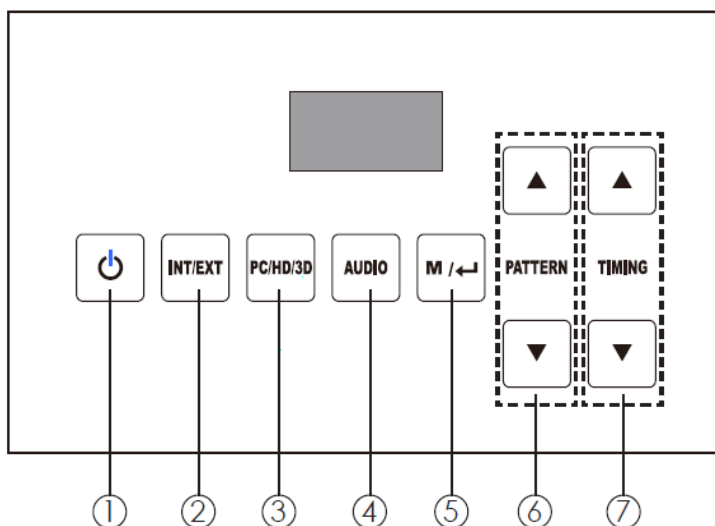


1. HDMI Input: Connect your source device to this port
2. Power Input: Connect the included 5V DC PSU to this port



1. Service: This port is for use by LINDY only
2. ARC/Optical Out: This port can take audio from the display and output it to an external amp or if ARC is disabled on the display it will take the audio from the HDMI input port and send it straight through to the HDMI output port and the optical out port simultaneously
3. HDMI Out: Connect the analyser to a display or any device before the display (eg. Amp) when testing the full system capabilities

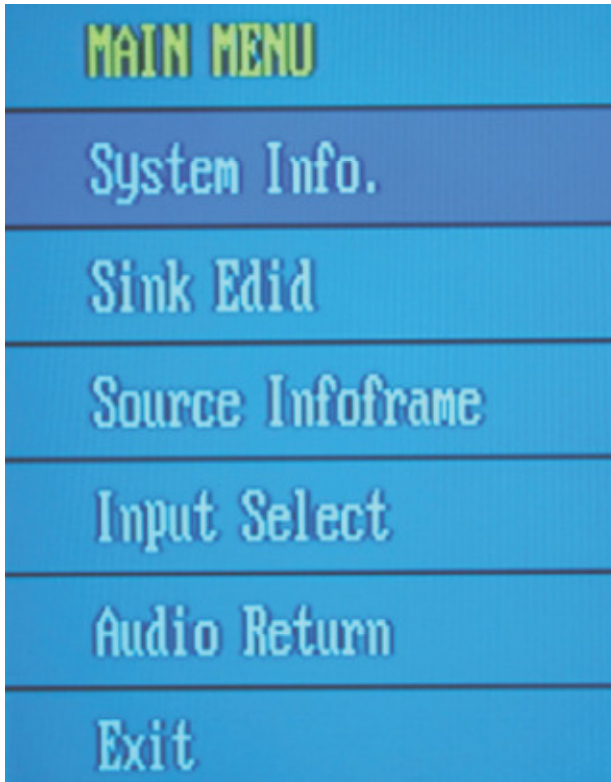
Top Panel



1. Power: Press this button to turn on the device or to put it in standby mode
2. INT/EXT: Select INT when no source device is connected to the analyser and to use the internal patterns. Select EXT when a source device is connected and you would like to use the source signal on your display
3. PC/HD/3D: Press this button to switch patterns quickly between PC, HD or 3D. The OLED will show the patterns available for selection
4. AUDIO: Scroll through to select an audio sample rate. LPCM 2Ch, LPCM 5.1CH and LPCM 7.1CH 48KHz or LPCM 2Ch, LPCM 5.1CH and LPCM 7.1CH 96KHz or LPCM 2Ch and LPCM 5.1CH 192KHz
5. M / < : To enter onto OSD menu and or return to the menu
6. PATTERN ▲ / ▼: Scroll up or down through the patterns or when in manual mode scroll through the available settings
7. TIMING ▲ / ▼: Scroll up or down through the timings

OSD Menu

Press the M/↵ button on the device to bring up the OSD on your display.
Then press PATTERN ▲ / ▼ to highlight an option.
Press M/↵ to confirm / exit the selection.



System Info: Press this option to show both the input and output information, only when you have a source and display connected to both ports. If you only have a display connected, then press this button repeatedly to bring up the patterns for the display.



Press M/↵ to check the input/output device information and software version.

Sink EDID: You will have two choices when you select this option,
 Block data: checks the sink block0 & block1's table of EDID
 Description: Checks the sink description of the EDID

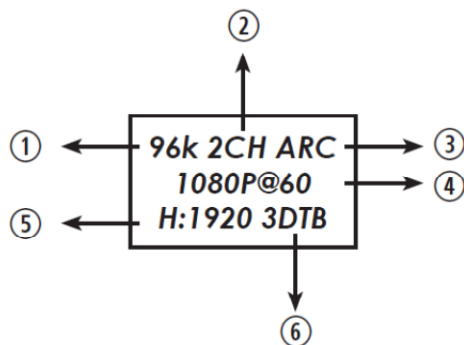
Option: You will have two choices when you select option,
 AVI (AVI infoframe data) checks the source video infoframe packet
 AUD (Audio infoframe data) checks the source audio infoframe packet

CEC Command: You will have three choices when you select option,
 Stand by
 Active source
 Monitor (read)

Audio return: You will have one choice when you select option,
 Audio return: this will show either on or off

Exit: select this to exit the OSD

OLED



1. Sampling rate: 48/96/192KHz sampling rates are supported and will be displayed on the OLED accordingly. When external audio is selected the display will show bypass
2. Audio channels: LPCM2, 5.1 & 7.1CH are supported, when external audio is selected the display will show bypass
3. ARC: When the function is selected the display will show ARC, when the function is not available the display will be blank
4. Timing frequency & V. sync: The chart below shows the timing an V. sync details

No.	Resolution	V Hz	No.	Resolution	V Hz
T01	480p	60	T14	1024x768	60
T02	480i	60	T15	1280x1024	60
T03	720P	60	T16	1920x1200	60
T04	1080i	60	T17	720p (3D Frame Packing)	60
T05	1080p	60	T18	720p (3D Side-by-Side)	60
T06	576i	50	T19	720p (3D Top-to-Bottom)	60
T07	576p	50	T20	720p (3D Frame Packing)	50
T08	720p	50	T21	720p (3D Side-by-Side)	50
T09	1080i	50	T22	720p (3D Top-to-Bottom)	50
T10	1080p	50	T23	1080p (3D Frame Packing)	24
T11	1080p	24	T24	1080p (3D Side-by-Side)	24
T12	640x480	60	T25	1080p (3D Top-to-Bottom)	24
T13	800x600	60			

5. H. Sync:
6. 3D Pattern: When the 3D pattern option is selected the display will show the details

Pattern Table

GROUP	NO.	PATTERN	Description
Standard Type	1		Primary colors: Red, Green, Blue P1: Red P2: Green P3: Blue
	2		
	3		
	4		P4: Horizontal RGB Bar
	5		P5: H Grey Scale
	6		P6: HDCP handshaking and link-integrity test

3D Type	*7 (FP)		P*7 (FP): Frame Packing
	*7 (SH)		P*7 (SH): Side-by-Side (Half)
	*7 (TB)		P*7 (TB): Top-and-Bottom

Note: *7 denote a 2D display & P*7 denotes a 3D display
3D FP – 3D Frame Packing
3D SH – 3D Half screen, side by side
3D TB – 3D Half screen, top and bottom

CE, FCC & WEEE Statements

CE Statement

This device complies with the European Regulations for Electromagnetic Compatibility (EMC) of the European Union and it is equipped with the CE mark. This unit has to be used with high quality shielded connection cables. Only if such high quality shielded cables are used can you be sure that the EMC compatibility is not adversely influenced.

FCC Statement

Shielded cables must be used with this equipment to maintain compliance with radio frequency energy emission regulations and ensure a suitably high level of immunity to electromagnetic disturbances.

FCC Warning

This equipment has been tested and found to comply with the limits for a Class B Digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced technician for help

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.



**WEEE (Waste of Electrical and Electronic Equipment),
Recycling of Electronic Products**

United Kingdom

In 2006 the European Union introduced regulations (WEEE) for the collection and recycling of all waste electrical and electronic equipment. It is no longer permitted to simply throw away electrical and electronic equipment. Instead, these products must enter the recycling process.

Each individual EU member state has implemented the WEEE regulations into national law in slightly different ways. Please follow your national law when you want to dispose of any electrical or electronic products.

More details can be obtained from your national WEEE recycling agency.

Germany / Deutschland

Die Europäische Union hat mit der WEEE Richtlinie umfassende Regelungen für die Verschrottung und das Recycling von Elektro- und Elektronikprodukten geschaffen. Diese wurden von der Bundesregierung im Elektro- und Elektronikgerätegesetz – ElektroG in deutsches Recht umgesetzt.

Dieses Gesetz verbietet vom 24. März 2006 an das Entsorgen von entsprechenden, auch alten, Elektro- und Elektronikgeräten über die Hausmülltonne! Diese Geräte müssen den lokalen Sammelsystemen bzw. örtlichen Sammelstellen zugeführt werden! Dort werden sie kostenlos entgegen genommen. Die Kosten für den weiteren Recyclingprozess übernimmt die Gesamtheit der Gerätehersteller.

France

En 2006, l'union Européenne a introduit la nouvelle réglementation (DEEE) pour le recyclage de tout équipement électrique et électronique.

Chaque Etat membre de l' Union Européenne a mis en application la nouvelle réglementation DEEE de manières légèrement différentes. Veuillez suivre le décret d'application correspondant à l'élimination des déchets électriques ou électroniques de votre pays.

Italy

Nel 2006 l'unione europea ha introdotto regolamentazioni (WEEE) per la raccolta e il riciclo di apparecchi elettrici ed elettronici. Non è più consentito semplicemente gettare queste apparecchiature, devono essere riciclate.

Ogni stato membro dell' EU ha tramutato le direttive WEEE in leggi statali in varie misure. Fare riferimento alle leggi del proprio Stato quando si dispone di un apparecchio elettrico o elettronico.

Per ulteriori dettagli fare riferimento alla direttiva WEEE sul riciclaggio del proprio Stato.



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