

# PicoPro

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## 1. Safety Precautions

**This product is not waterproof – avoid using it near water or wet places.**  
**There is a risk of malfunction if product is used in places where sudden or extreme temperature changes occur.**  
**Applying excessive force or impact to this product may result in product damage, and will void warranty.**  
**Never attempt to disassemble or service this product yourself. Doing so can result in electrical shock and void warranty.**  
**This is a Class 3R Laser product. For your safety, do not stare directly into the laser source. Doing so could damage your eyes.**

#### FCC Compliance Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:  
 1. This device may not cause harmful interference to another device.  
 2. This device must accept any interference received, including interference that may cause undesired operation.

#### FCC Class Notice

This equipment has been tested and found to comply within 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 when the equipment is operated in a residential environment. This equipment generates, uses, and radiates 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 with special installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician.

#### CE Caution

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device is going to be operated in 5.15-5.25 GHz frequency range. It is restricted in indoor environment only.

#### FCC RF Radiation Exposure Statement:

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

#### Industry Canada Statement

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:  
 1. This device may not cause interference.  
 2. This device must accept any interference, including interference that may cause undesired operation of the device.

#### CE Caution

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

#### IEC 60825-1 Caution

Use of control or adjustments or performances of procedures other than those specified here in may result in hazardous radiation exposure.  
 Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

## 2. Certifications



KC : MSIP-CMM-CLK-PICOPRO



FCC ID : TCLPICOPRO



CE1177



compliant  
RoHS



Industry Canada  
Industrie Canada



IEC-60825-1 : Class 3R Laser

## 3. Environmentally Friendly Disposal and Recycling



To protect the environment, dispose this product separately from household waste once it has reached its end of life, or take it to your local electronic waste disposal center.

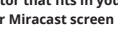
#### Built-in Battery

Battery Type	Rechargeable Lithium-ion Polymer Battery
Battery Operating Time	Approx. 150 minutes (with continuous use)
Battery Capacity	3140 mAh @ 3.7V
Charging the Battery	Use supplied USB power adapter to begin charging the battery. Battery status is indicated by four blue LED indicators while charging.
Battery Charging Time	Approx. 270 minutes

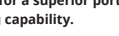
## 4. Package Contents



PicoPro



User Manual



Power Adapter



HDMI/MHL cable



Samsung microUSB Adapter



Tripod



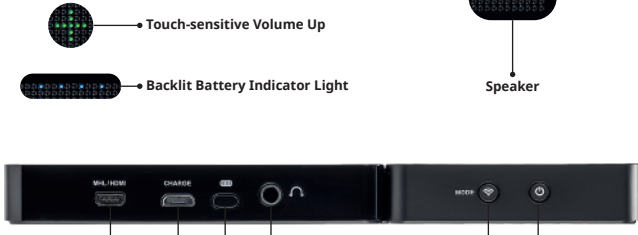
Pouch

## 5. Product Features

**PicoPro is a laser-based pico projector that fits in your pocket for a superior portability. It allows you to project contents in your mobile devices onto any surface via HDMI connection or Miracast screen mirroring capability.**



## 6. Identifying Parts



Touch-sensitive Volume Down

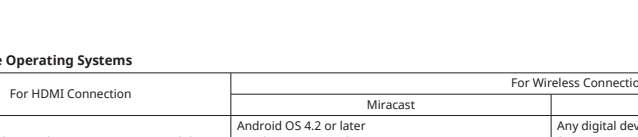
Touch-sensitive Volume Up

Backlit Battery Indicator Light

Speaker



Reset Button



3.5mm Audio Out

Battery Status Indicator

CHARGE - Micro USB port for charging

MHL/HDMI cable input

Power Button

Mode Switch Button

## 7. Connecting PicoPro

### a. Compatible Operating Systems

For HDMI Connection	For Wireless Connection	
	Miracast	DLNA
Any digital devices that support HDMI capability	Android OS 4.2 or later Windows OS 8.1 or later Any OS that supports Screen Mirroring functionality	Any digital devices that support DLNA protocol * Using DLNA connection requires downloading DLNA streaming app from the App Store or Play Store.

### b. Wired Connection

#### Using HDMI Connection :

Use turn-in-play connection for any digital/mobile device via HDMI connection.

1. Turn on PicoPro by pressing the power button for about 2-3 seconds.
2. Celluon logo will display upon power on.
3. After the logo, "Preparing wireless connection..." To go to HDMI mode, press Mode Switch button" screen will display.
4. Press and hold "Mode Switch" button located next to power button for 2-3 seconds to change to HDMI mode.
5. PicoPro is now in HDMI mode.
6. Locate MHL/HDMI port on the PicoPro and use supplied HDMI cable to connect to a device.
7. PicoPro will start mirroring contents from connected device.

- \* For Apple devices, please use additional Apple digital AV adapter to connect via HDMI cable.
- \* For Samsung devices, please use supplied Samsung adapter (5pin to 11pin converter) to connect to MHL/HDMI cable.

### c. Wireless Connection

#### Using Miracast :

The Miracast capability is called different names on different devices. (Samsung/Sony - Screen Mirroring, HTC - Media Output)  
 Please find this capability in the settings app on the device.

1. Turn on PicoPro by pressing power button for 2-3 seconds.
2. Celluon logo will display upon power on.
3. After the logo, "Preparing wireless connection..." To go to HDMI mode, press Mode Switch button" screen will display.
4. After about 20-30 seconds, "Ready to Connect" screen for Miracast will display.
5. On a desired mobile device, find and select Screen Mirroring / Media Output.
6. Mobile device will search for nearby devices to connect.
7. When device discovers "Celluon PicoPro", tap to connect.
8. Mobile device will say "Connected" and PicoPro will start mirroring display.

#### Using DLNA :

\* To connect to devices using DLNA capability, you must install a DLNA streaming app on your mobile device. Apps can be downloaded from AppStore/GooglePlay

1. Turn on PicoPro by pressing power button for 2-3 seconds.
2. Celluon logo will display upon power on.
3. After the logo, "Preparing wireless connection..." To go to HDMI mode, press Mode Switch button" screen will display.
4. After about 20-30 seconds, "Ready to Connect" screen for Miracast will display. (Default wireless connection mode is Miracast)
5. Lightly press "Mode Switch" button again to change to DLNA mode.
6. DLNA "Ready to Connect" screen will display upon completion of mode switch.
7. On a desired mobile device, go to WiFiSetting, and connect to "Celluon PicoPro". Use password "12345670" to connect.
8. When Wifi is successfully connected, open the installed DLNA streaming application on the mobile device.
9. Select desired content to display.
10. Selected display location: Celluon PicoPro.
11. Mobile device will say "Connected" and PicoPro will start mirroring selected media contents.

#### \*\*\* For DLNA connection with iOS devices:

1. Follow above steps 1-7.
2. Find AirPlay option on device's status bar.
3. Tap AirPlay and select "Celluon AirPico" for display location.
4. Select a photo/video/music to share through PicoPro.

### d. Switching Connection Mode

PicoPro allows you to easily switch from wired connection mode to wireless mode, and vice versa

#### From HDMI mode to Miracast mode

1. From HDMI mode, press and hold "Mode Switch" button for about 2 seconds.
2. Celluon logo will display.
3. After the logo, "Preparing wireless connection..." To go to HDMI mode, press Mode Switch button" screen will display.
4. After about 20-30 seconds, "Ready to Connect" screen will display for Miracast connection, indicating that the mode is successfully switched.

#### From Miracast mode to HDMI mode

1. From Miracast mode, press and hold "Mode Switch" button for about 2 seconds.
2. Celluon logo will display shortly, and "Please connect using HDMI cable or press Mode Switch button to change to wireless mode" screen will display.
3. Use HDMI cable to connect device.

#### From Miracast mode to DLNA / DLNA mode to Miracast

1. From Miracast mode, lightly press "Mode Switch" button.
2. "Ready to Connect" screen for DLNA mode will display.

\*\* Booting up time make take up to 3 seconds.

## 8. Making Adjustments

### Volume Adjustment

Volume is controlled directly from PicoPro. Locate touch volume control area on top of device. Adjust the volume by lightly touching on the +/- pattern.

### Speaker / Earphone Usage

Please connect a speaker or an earphone to the 3.5mm audio out jack.

### Laser Alignment

When the images seem blurry and/or the colors appear skewed, please visit Celluon website at [www.celluon.com/support.php](http://www.celluon.com/support.php)

## 9. Charging the PicoPro

Charging Time	Operating Time	
	Wired Connection (HDMI/MHL)	Wireless Connection (Miracast / DLNA)
4-5 hours	3+ hrs	2.5+ hrs

### Battery Status

LED Indicator	Status	Description
	0% charged	Volume control + & - sensors will blink to indicate low battery status
•	25% charged	First LED indicator remains solid. When charging at this stage, the second LED indicator will blink to indicate it is being charged.
• •	50% charged	First two LED indicators remain solid. When charging at this stage, the third LED indicator will blink to indicate it is being charged.
• • •	75% charged	First three LED indicators remain solid. When charging at this stage, the fourth LED indicator will blink to indicate it is being charged.
• • • •	100% charged	All four LED indicators will remain solid.

1. Locate micro USB port next to the battery status button.
  2. Use the supplied AC adapter to charge the PicoAir through the micro USB port.
- Please fully charge PicoPro's internal battery before first use (approximately 3 to 5 hours).
  - A low battery warning icon will show on the screen when the battery is low.
  - Use the included power adapter to charge your PicoPro. If the battery is too low, PicoPro will automatically shut off.

## 10. Troubleshooting

No signal when a device is connected via HDMI cable	Please make sure the cables are inserted into the correct port. Please note that different devices require different gender/adapters to convert to micro HDMI compatible.
Mobile device cannot find Celluon PicoPro during Miracast connection search	Please make sure PicoPro is on Miracast mode. This may also be due to a particularly heavy wireless traffic. If this is the case, please reset the device by pressing the reset button on the back of device.
Cannot stream contents through DLNA application	Please make sure device's WiFi is properly connected to PicoPro's WiFi. For DLNA connection, please make sure to connect using the password "12345670"
It takes a long time to display contents through DLNA mode	It depends on each DLNA streaming app to project contents through PicoPro. For large media files, it may take some time to load and convert the video to correct format.
PicoPro is connected, but only the black screen is projected from the device	Please check if the connected mobile device is on sleep mode. If the screen of the connected device goes black, the projected screen will go black as well. Note that if the volume control LED patterns are on, the PicoPro is powered on.
The video is stopped	Please make sure the volume level of the PicoPro and/or connected device is not in the mute status.
There is no sound playing periodically	Please make sure connected device has enough battery to play the video. If both devices have enough battery, this may be due to unstable WiFi connection. Please disconnect and reconnect the device.
Device automatically shuts down during use	This may be due to the depletion of battery or high temperature of the product. If the product is left in a place where the environmental temperature is high (such as in a blanket or near heater), the power will turn off automatically in protection of fire hazard. Please cool the product and use it within specified operating temperature before turning it on again. If the product has been shut down due to the depletion of battery, please charge the device before turning it back on.
PicoPro is frozen; it stopped playing the video / no response from buttons when pressed / cannot convert modes	Please reset the device by pressing the reset button on the back of device. (Refer to "Identifying Parts" section for the location of reset button.)
Product makes abnormal noises	Please contact Celluon Customer Service for further assistance
The projected image is unclear	This is due to the shift in laser diode. Please refer to Laser Alignment instruction page to adjust shifted lasers.
Connection through Miracast intermittently disconnects during use	This is due to the noise occurred by double wireless connection. Try to connect again after disconnecting all the previously connected wireless networks.

## 11. Specifications

Item	Spec.		Remark
	Laser		
Display Performance	Product Lifetime	10,000 hours	
	Brightness	30 ANSI lumens	The perceived brightness of laser projectors with a given ANSI brightness is 50%+ higher than that of the LED based projectors
	Focus	Infinite Focus (always in focus)	No focus wheel required
	Max. Image (Screen) Size	250 inches	In optimal lighting conditions
	Sequential Contrast Ratio	80,000:1	
	Resolution	1920 x 720p	HD resolution
	Aspect ratio	16:9	
Measurement	Throw Ratio	1:1	Big screen at a short distance
	Color Depth	1.67M colors (RVGB 24bit)	
	Size	150 x 72 x 12.4 mm (6 x 3 x 0.5 inches)	
Electrical Characteristics	Weight	181g (0.4lbs)	
	Battery Operation Time	Wireless Connection: 2+ hrs Wired Connection: up to 3 hrs	The operating time may vary depending on the environment of use
	Speaker	1.1W	
Laser Safety	Audio Interface	3.5mm ear phone jack	
	Classification	Class 2 (2.4G, 5G)	Consumer safe device
Compatibility	Wired Connection	Micro HDMI/MHL cable	
	Android/Windows OS	Miracast	
	IOS	HDMI/MHL cable	Additional Apple Lightning Digital AV Adapter required
	IOS	DLNA	Download of DLNA streaming application required for DLNA connection

## 12. Warranty

- Celluon warrants this product to be free from defects in materials and workmanship under normal use for a period of one (1) year from the date of purchase, as evidenced by the receipt of purchase.
- During the warranty period, Celluon shall repair or replace the product if defective. If replaced, the replacement shall be with a product of equal or greater value.
- This warranty is limited to the purchaser and is not transferable.

Please contact [support@celluon.com](mailto:support@celluon.com) for warranty supports.