

# Matrix Light ML-80

## Matrix Light ML-80

Manual For The LED Light

**ENGLISH**

Telephone service representatives (National and Worldwide) •••

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Please help us serve you better by providing us with the model number and exact mode of failure.

If you have any questions or suggestions please visit our website. •••

[www.matrixlight.com](http://www.matrixlight.com)

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- Before using this product carefully read this manual.
- This product is subject to change without notice in advance for improved performance.

## ••• PRODUCT FEATURES

### Product Features •••

#### Optimal grade portable Light for HD broadcasting ENG Cameras

- Using the latest LED devices, provides the exact color temperature to meet broadcasting standards implementation.
- Lightweight, portable and easy mounting structure.
- Wide light projection angle(130°) for the 16:9 HD camera.
- Less luminance degradation of each corner side angle by providing sufficient light source.
- Two operating modes: Normal (640 lm) and Turbo (1250lm).

#### Simple color temperature control with a switch

- Simple switch between Daylight (5600K) and Tungsten (3400K), and Mixed color temperature (4500 K).
- Conversion filters are not required.
- No luminance degradation caused by the color filter.

#### Always maintains constant color temperature and brightness

- Micro computer regulated current and voltage circuit configuration always maintains the same brightness and color temperature.

- Specially equipped with a sensor that monitors temperature changes in the LED Light Module, providing constant light temperature and increasing reliability.
- Constant brightness and color temperature regardless of battery charge level.

#### Specially designed LED module for Hyper luminance and brightness

- Provide more than 1250lm required as a optimum portable video light (equivalent to 120 W-class halogen lights).
- Up to five hours of continuous shooting time by implementing 58.4 lm / W LED module.
- Long LED service life of up to 50000 hours.



#### Convenient user interaction

- Intuitive Interface.
- Simple and robust operation switch.
- Battery level warning light blinks when the Battery level drops below 20%.
- The current color temperature indicator lamp.

## ••• PRODUCT FEATURES

Before you read the manual •••

Before you read the manual, check the details below.

Safety Icons		
Icon	Name	Function
	Warning	This symbol indicates potentially hazardous actions and situations, which, if not avoided, could result in death or serious injury.
	Caution	This symbol indicates potentially hazardous actions and situations, which, if not avoided, could result in personal injury or property damage.

### Check the manual

Please read carefully safety tips before using the product.

► side 7-12

- Product drawings on this manual and the actual product may differ slightly.
- Please refer to 'Check point before asking for service,' before requesting for service. ► side 25-26
- Service charges are applicable for a non-defective product received by us, even within the warranty period.

- To maintain the performance and maximize the lifetime of your battery and light, we recommend using them at least once a month.
- Injury or damage caused by violating instructions of this manual is solely the responsibility of the user.
- Please check the performance of your light before an important filming.

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## ••• PRODUCT FEATURES

### Caution for safety •••

Please keep these instructions to avoid danger and to prevent damage of property.



**Warning** This symbol indicates potentially hazardous actions and situations, which, if not avoided, could result in death or serious injury.



**Caution** This symbol indicates potentially hazardous actions and situations, which, if not avoided, could result in personal injury or property damage.

#### Warnings

### Battery charger

- ⚠ Do not bend or pull on the power cord of the charger unnecessarily, or place heavy objects on the cord. They can cause electric shock and fire.
- ⚠ Plug the charger into the power outlet tightly. Incomplete connection can cause an electrical fire.
- ⚠ Never use a damaged power cord, a damaged plug, or a loose electrical outlet. They can cause electric shock and fire.

- ⚠ Never handle power plug with wet hands. It is the cause of electric shock.
- ⚠ Do not place power cord near heater. Heat damaged insulation on the wire may cause fire and electric shock.
- ⚠ Do not use multiple power plugs in one outlet at the same time. It may lead to overheating and may cause fire.

### Battery

- ⚠ Never dismantle or short out the battery. Do not mix with other batteries. Do not charge battery improperly. It may cause fire and explosion.
- ⚠ When battery warning lamp blinks, charge the battery immediately. Excess charging and discharging can shorten the life of battery and can cause mechanical malfunction.
- ⚠ Avoid shock and impact on the battery. It may cause breakdown leading to fire and/or explosion.
- ⚠ Do not place battery in high-temperature and high-humidity area. It may cause mechanical malfunction, fire and/or explosion.

- ⚠ Please use included charger and power connector only when charging and lighting. Using non-standard parts may cause mechanical malfunction, fire and/or explosion.
- ⚠ If you detect strange sounds, burning smell or smoke during charging, unplug the power immediately and contact service center. It may cause fire and/or explosion.
- ⚠ Never put battery into fire or expose to high temperature. It may cause overheating, fire and/or explosion.
- ⚠ Please use the included charger only. Using other chargers can cause overheating and/or explosion.
- ⚠ Do not store or carry a battery together with metal products such as necklace or hair pin. It may create a short and lead to overheating and/or explosion.
- ⚠ If your eyes come in contact with liquid leaked out of the battery, wash eyes immediately with clean water and consult a doctor. If left unwashed it will cause injury to the eyes.
- ⚠ If your skin or clothing comes in contact with liquid leaked out of the battery, wash immediately with clean

water. If left unwashed it will cause injury to the skin.

- ⚠ Do not dismantle the battery case nor damage any parts. Do not use the battery without case or in broken case. It may cause overheating and/or explosion.
- ⚠ Stop charging the battery immediately if charging continues after a prolonged period of time without completion. It may cause overheating and/or explosion.
- ⚠ Do not wet the battery. It may cause overheating and/or explosion.
- ⚠ Separate battery from device after using. Failure to do so may result in overheating or battery fluid leakage.
- 🗑 Please discard batteries in accordance with the regulations of the local government after covering the electrical contacts with tape, etc.

## Light Installation

- ⚠ Do not install in the place with a lot of oil, smoke, dampness, dust, or rainwater.
- ⚠ If inner side of the device contact with oil or dampness, it may cause electrical shock and/or fire.

- ⚠ Do not switch on the light close to the eyes on people or animals. It can cause damage their vision. Especially be careful when filming infants not to point the light directly at their eyes and keep the light at least 2 meters away.
- ⚠ Do not switch on the light towards vehicle operators. It can distract them and may cause an accident.
- ⚠ Do not block the front panel and vent of the light. It will degrade the life of LED module by raising the internal temperature and may cause fire.
- ⚠ Use only designated batteries as power source. Using other power equipment can cause mechanical malfunction and creates a risk of fire.
- ⚠ In case of water damage or case damage, turn off the power and unplug the light. Do not attempt to power on the light again as it may cause electrical shock or fire. Please contact service center.
- ⚠ Do not dismantle or modify the light. It can be an electric shock and fire hazard. If in need of repair call service center.
- ⚠ Do not store or use explosive spray or flammable

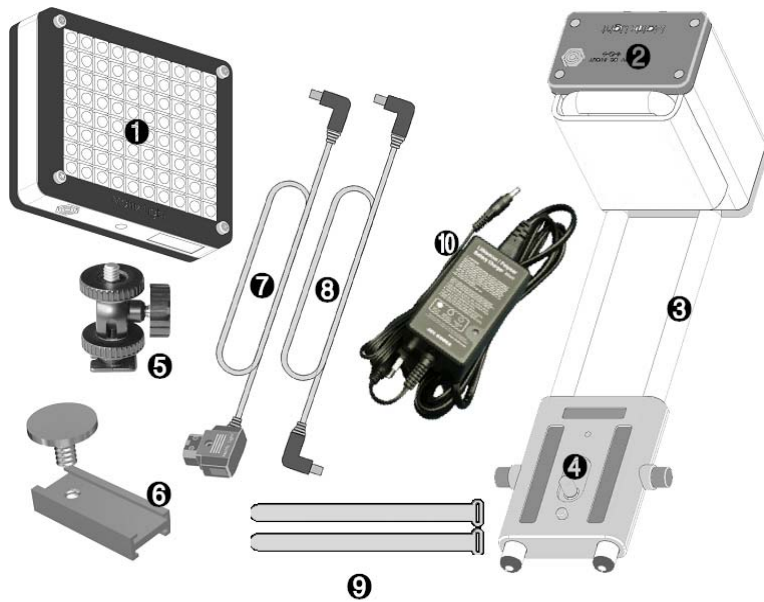
substances near the light. It can create an explosion and fire hazard.

- ⚠ Do not insert metal or flammable substances such as chopstick, wire, gimlet, paper, or match into cooling vents or AV jack. It can cause electric shock and fire. If any foreign matter enters the light casing, first turn off power, unplug then contact service center.
- ⚠ Avoid the place with high humidity and extreme temperature changes. It can cause mechanical malfunction and electric shock. Using the product outdoor in thunder and lightning can cause mechanical malfunction and electric shock.
- ⚠ Do not clean with benzene or paint thinner. It will damage the light casing.
- ⚠ Keep small parts out of reach of children. If they swallowed any part, please consult a doctor immediately.
- ⚠ Do not touch it with wet hands. It can cause an electric shock.
- Store in a well-ventilated area after using.

## ••• Product Features

Check product and accessories •••

Before using the product, make sure that you received all accessories. Depending on the product kit, parts and accessories may be different.



- ❶ ML-80 LED Light
- ❷ ML-BA12 Battery\*
- ❸ ML-SL30 L-Slide\*
- ❹ ML-AT1 Camera and Tripod Attachment\*
- ❺ ML-LB1 Bracket for LED Light Module
- ❻ ML-MS1 Male shoe converter for ENG camera\*\*
- ❼ ML-PT1 2pin power tap cable for ENG camera\*\*
- ❽ ML-PC1 power cable for hand held camera\*
- ❾ Velcro Tie
- ❿ JBL910A1202Ko1 Battery charger\*



\* : Only for Hand Held Package  
\*\* : Only for ENG Package

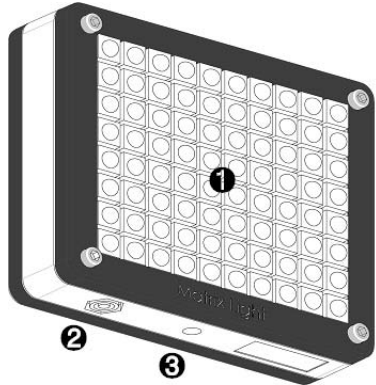
- You can purchase all accessories at dealer shop or Matrix Light website ([www.matrixlight.com](http://www.matrixlight.com)).
- Revision of the manual is available for download from our website ([www.matrixlight.com](http://www.matrixlight.com)).
- Please use only accessories (batteries, power supplies, etc.) designated by Matrix Light.  
Matrix Light is not responsible for malfunction or reduced life of the light by using unauthorized accessories.



# THE NAME AND FUNCTION OF EACH PART

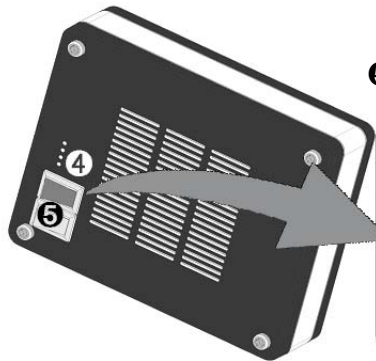
## LED light

Front, Bottom

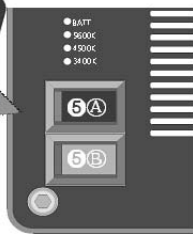


- 1 LED Light
- 2 DC in Jack
- 3 Nut for Light Bracket (ML-LB1)

Back

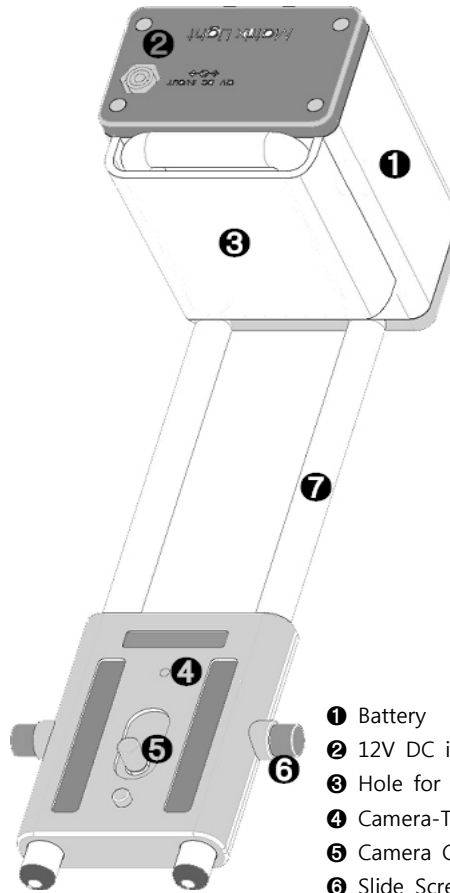


- 4 Indicator LED  
 BATT : Battery Warning (Blink Red)  
 5600K: 5600K Color Temp. LED (White)  
 4500K: 4500K Color Temp. LED (Yellow)  
 3400K: 3400K Color Temp. LED (Orange)
- 5 Power Switch  
 5A : 5600K LED Power Switch (Black)  
 5B : 3400K LED Power Switch (Red)



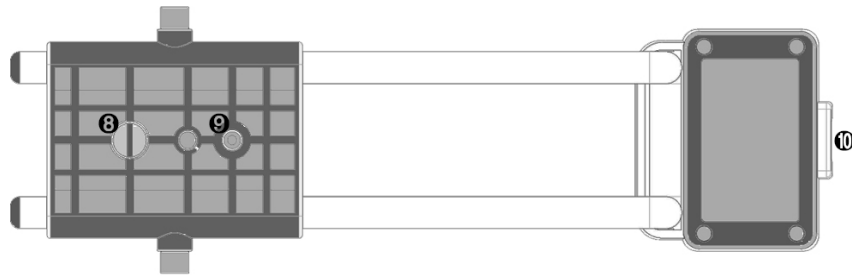
## Battery and Camera-Tripod Attachment

Top & Side



- 1 Battery
- 2 12V DC in / out Jack
- 3 Hole for "L"Type Slide
- 4 Camera-Tripod Attachment
- 5 Camera Connecting Bolt
- 6 Slide Screw
- 7 "L"Type Slide

Bottom



- ⑧ Camera connecting Bolt
- ⑨ Tripod connecting Nut
- ⑩ Shoe for wireless Microphone

## ••• INSTALLATION AND USE OF LIGHT

Installation and use of light •••

To install ML-80 LED light on ENG camera

- 1 Fix the Light on camera's female shoe by using the Bracket (ML-LB1).
- 2 For male type shoe, use converter (ML-MSC1) or Male Shoe Type bracket.



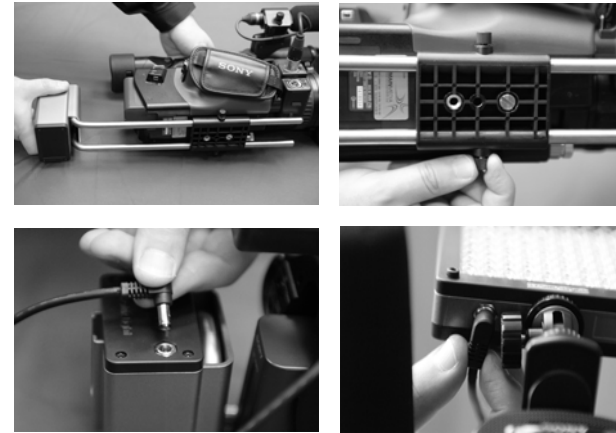
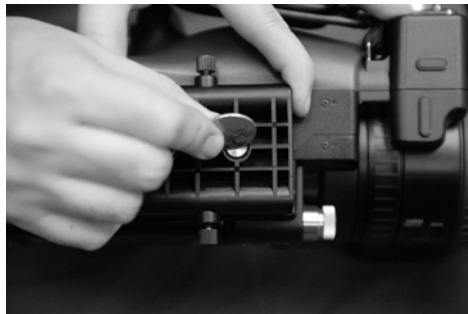
- 3 Connect light to 12V 2Pin DC out on battery or "V" mount plate for battery or camera body by using 2pin power tap cable (ML-PT1). (Some ENG Camera do not provide enough current to light on immediately. So we recommend IDX "V" mount Plate for better performance.)



- 4 Adjust the angle and direction of light using the Bracket (ML-LB1).

To install light on other cameras which need a separate battery:

- 1 For cameras without 12V DC out on the camera body itself, such as SONY PD-150 or HVR-Z1, use Matrix Light battery (ML-BA12) for power.
- 2 To fix Matrix Light battery to the camera, use Camera and Tripod Attachment (ML-AT1) and L-Slide (ML-SL30). Insert the screw of Camera / Tripod Attachment (ML-AT1) into the Bolt head on the bottom of camera and screw up using a coin.



- 4 To attach camera on tripod with the Attachment (ML-AT1), use screw nut on the bottom of the Attachment (ML-AT1).



- 3 Slide L-Slide into the holes on the Camera / Tripod Attachment (ML-AT1) and fix the slide using screw on the Attachment. Fix the battery to the L-Slide, then connect battery's 12v DC out and the light's 12V in with the power cable provided.

To choose color temperature and brightness:

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- 1 Switch on each 3400K (Tungsten) and 5600K (Daylight) by the power switches.
  - 2 When you turn on the lights, currently selected color temperature is displayed on LED lamp in the rear of the light.
  - 3 When you need more light power, turn on 5600K and 3400K power switch at the same time (Turbo Mode). This provides 2 times brightness (from 600lm to 1200 lm). In Turbo Mode the color temperature is 4500K.
- Caution: Switching 3400K and 5600K on at the same time reduces the battery life by half and may increase the fan noise.

## ••• How to use Accessories

How to use Battery and Camera / Tripod Attachment •••

To adjust the length of the "L" type bracket

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- 1 Unscrew the bracket screws counterclockwise to release.
  - 2 Adjust for the proper length.
  - 3 After adjusting, screw the bracket screws clockwise to lock.
- Caution: To avoid parts damage during handling, please make sure to shorten the length of the slide when moving the camera equipped with "L" type slide and attachment (ML-AT1)

How to mount the tripod when the Camera-Tripod Attachment (ML-AT1) is attached

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- 1 Attach the tripod mounting plate to the mounting nut on the bottom of Attachment (ML-AT1).
  - 2 Make sure it is fastened securely.
  - 3 Check the mounting status.
- Caution: Before mounting adjust the length of the "L" type slide as short as possible.

## ••• USING THE BATTERY AND CHARGER

How to replace the battery •••

To connect LED Light(ML-80) to Battery

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- 1 Connect the power cable (ML-PC1) to the battery's DC power jack.
- 2 Connect the other end of the power cable (ML-PC1) to the LED Light's power connector.
- 3 Turn on the LED Light (ML-80).

Charging the battery

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- 1 Unplug the power cable (ML-PC1) from the battery's DC power jack.
- 2 Plug the battery charger (JBL910A1202K01) into an AC outlet. Connect the charger plug to the battery's DC power jack. When charging the battery the charger's indicator LED turns red.
- 3 When the battery is fully charged the charger's indicator LED turns green from red. Unplug the battery charger (JBL910A1202K01) from the battery fully charged.

⚠ Caution: Only use the designated battery charger

(JBL910A1202K01). Using other chargers can damage the battery and create explosion hazard.

- If the battery's DC terminals are shorted out by a metallic object, the battery's short circuit protection system cuts off the battery's power immediately. To reactivate the battery, simply charge the battery for a few seconds.

To replace the battery during filming

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- 1 Unplug the power cable (ML-PC1) from the battery's DC power jack.
- 2 Release the attachment screw and pull out the L-Slide and battery.
- 3 Hold and grip the L-Slide then lift up the battery.



- 4 Hold the L-Slide and install new battery.

5 Reinstall the L-Slide and battery on the camera.

6 Plug in the power cable (ML-PC1) to the battery's DC power jack.

\* When you pull out the battery from "L" type slide, grip each side of the slide firmly to pull the battery out easily.

## ••• TROUBLESHOOTING

### Check Points •••

If the Light or battery is not working properly, check the trouble shooting points first.

When the problem is not solved, contact the nearest dealer or Matrix Light service center.

Symptoms	Check your symptoms
I can not turn on the power.	<ul style="list-style-type: none"><li>■ Is the battery pack connected securely? Check connection to the fully charged battery pack.</li><li>■ Is the battery fully charged? Fully charge the battery or replace with a charged battery</li><li>■ Is the battery connected properly? Make sure that the power cable (ML-PC1) is connected to the battery's DC power jack and the light properly. ▶ 23-24 side</li></ul>
Light doesn't work even when connected to the charged battery.	<ul style="list-style-type: none"><li>■ Make sure the switch is turned on.</li><li>■ Check if light's internal temperature is too high. Turn it off and let it cool down.</li></ul>
Light turns itself off automatically.	<ul style="list-style-type: none"><li>■ Check if the battery lamp is on. If needed charge the battery.</li><li>■ Check if light's internal temperature is too high. Turn it off and let it cool down.</li></ul>

Symptoms	Check your symptoms
Fan noise is loud	<ul style="list-style-type: none"> <li>■ Light's front and rear panels are not blocked?</li> <li>■ Is there too much dust or debris on the surface of the light?</li> <li>■ Blow dust by using compressed air and clean it with soft cloth.</li> <li>■ Ensure the light was not operating in high temperature or small, enclosed environment for a long period of time.</li> <li>■ Avoid operating the light in high temperature, high humidity environment or a sealed case.</li> </ul>
Battery life is very short	<ul style="list-style-type: none"> <li>■ It may occur if the operating temperature is too low. It is not defective.</li> <li>■ Battery may not be fully charged. Recharge the battery. If the problem persists, replace the battery with a new one.</li> <li>■ Battery's useful life is finished? Replace the battery with new one.</li> </ul>

## ••• AFTER SERVICE & STORAGE INSTRUCTIONS

### After Service •••

- Warranty is valid for 1 year after purchase.
- The warranty does not cover theft, loss, damage from and not limited to accidents, natural disasters, abuse, tampering, normal wear, misuse, or modified products.
- Please submit the defective product with a receipt showing purchase date to an approved service center or Matrix Light for warranty repair.

## Storage Instructions ●●

- Keep in a well-ventilated and dry place.
- Do not place near naphthalene or magnetic source.
- Do not place in high temperature (in a car in summer, near a stove, etc.)
- Disconnect and detach the battery from the light after using.
- Rapid change in temperature can cause condensation inside the LED Light Module. To prevent this, carry the equipments in a bag and use them after they are adjusted to temperature.

## Specifications ●●

- Type: Current regulated power LED light (ML-80)
- Light projection range: 0.6 ~ 20M (depends on shutter speed, aperture levels, and gain control)
- Light projection angle: Horizontal : 110 ° vertical: 90 °
- Color Temperature: 3400K, 4500K, 5600K (Switchable)
- Luminance Flux: 1100 lm
- Power supply: 12V DC
- Current consumption: Normal mode (600 lm): 1A / 11.5W  
Turbo mode (1100 lm): 2A / 23W
- Luminance efficiency: 53 lm/W
- Battery: 12V DC / 4700mA (Li-ion)
- Battery running time: 5 hours (Normal Mode) /  
2 & 1/2 hours (Turbo Mode)