

  
*Jagoteq*  
LF-120 USER MANUAL





LF-120 USER MANUAL

Thank you for choosing the **Jagoteq LF-120**. Please review all materials before you begin.


<i>SAFETY PRECAUTIONS</i> .....	3
LASER SAFETY .....	3
OPTICAL SAFETY.....	5
OPERATIONAL SAFETY .....	6
<i>APPEARANCE</i> .....	7
<i>FIBER OPTIC CABLE</i> .....	9
DEFINITIONS AND DETAILS .....	9
<i>SETUP AND OPERATION</i> .....	12
CONNECTIONS .....	13
USER INTERFACE .....	18
CONFIGURATION AND MODE BUTTON FEATURES.....	20
ADDITIONAL REFERENCES .....	25
TECHNICAL SPECS JAGOTEQ LF-120 CONTROLLER .....	27
SE FIBER TECHNICAL SPECS.....	27
<i>NO USER SERVICEABLE PARTS</i> .....	28
<i>TECHNICAL SUPPORT</i> .....	28
<i>JAGOTEQ LIMITED WARRANTY</i> .....	29




## LF-120 USER MANUAL

### SAFETY PRECAUTIONS

The **LF-120** is to be used only by a trained professional.

 <p>Warning</p>	<p>Jagoteq products are an ecosystem with very specific parts and components, which include: lasers, optics, a variety of side emitting and transfer fibers, utility tools, and safety components. <b><u>It is vital to use only the products supplied or specified by Jagoteq to ensure safe use.</u></b></p>
--	--

### LASER SAFETY

 <p>Warning</p>	<p><b><u>Direct eye contact with the output beam from the laser will cause serious damage and possibly blindness.</u></b></p>
--	---



# Jagoteq

## LF-120 USER MANUAL

Warning labels are attached to the LF120 and components for your safety. Please make note of all labels.





## LF-120 USER MANUAL

### OPTICAL SAFETY


All possible safety precautions have been taken to ensure the users protection from injury while in use.


The **Jagoteq LF-120** is a laser device. Special care and considerations must be made to ensure the safety of the user and all personnel in close proximity to the device. Every precaution has been considered to ensure your safety. The *3R Safety Certification* is in addition to the *ETL Safety Certification* as it applies to the laser(s).

Safety training can be done in person or by completing our brief online guide. Once you have completed the training, your name will be registered with Jagoteq. Our field technician will act as the *Laser Safety Officer (LSO)* for any questions regarding use of the **Jagoteq LF-120** and implementing safety measures.

The *3R Classification* was attained by adding multiple proprietary safety equipment built-into the units. The *3R Classification* allows for the public to work in the vicinity of the lasers without restriction.

Because of its unique properties, laser light can pose certain safety hazards. **Safe use is required by the operators at all times.** Always follow laser safety policies as laid out in this user manual and presented by Jagoteq personnel.

 <p>Warning</p>	<p><b><u>Never attempt to bypass any safety devices on the Jagoteq LF-120.</u></b> Such actions can result in eye damage, burns to skin, clothing or paint and can ignite volatile substances.</p>
--	--

 <p>Warning</p>	5
--	---




## LF-120 USER MANUAL

	<p><u>Please follow these Safety Guidelines:</u></p> <ul style="list-style-type: none"><li>• Do not power up the LF-120 until all components are attached and secured.</li><li>• Observe all safety precautions in the user's guide.</li><li>• Limit access to the laser to qualified users who have been trained in laser safety practices.</li><li>• Never look directly into the laser light source. Never stare down the beam into the point of the source.</li><li>• Advise team members of the use of the laser device.</li><li>• Only Finger tighten connections between fibers and devices</li></ul>
--	--

### **OPERATIONAL SAFETY**

The **Jagoteq LF-120** conforms to all governmental regulations but use of the laser in a way other than specified is not recommended, can cause serious bodily or property damage and will void the warranty.

 <p>Warning</p>	<p><u>If it is suspected that the laser system is missing safety regulated parts, has been damaged, or may otherwise be unsafe – turn the laser off and disconnect the input power immediately.</u> Do not operate the laser until all potential safety hazards have been eliminated. Do not attempt to use any tool to remove covers to investigate or repair the equipment unless specifically trained to service this equipment.</p>
--	---

# Jagoteq

LF-120 USER MANUAL

## APPEARANCE







## LF-120 USER MANUAL

No.	Label/Name	Description
1	Laser Port/Output	Transfer Fiber SMA Connector
2	IR Safety Door	Swing door in an upward direction to insert Transfer Fiber.
3	DMX Out	5 Pin Male XLR Connector
4	DMX Indicator Light	Indicates DMX Signal: <ul style="list-style-type: none"> <li>• Red - No Signal</li> <li>• Green - Signal Active</li> </ul>
5	DMX In	5 Pin Female XLR Connector
6	DMX Indicator Light	Indicates DMX Signal: <ul style="list-style-type: none"> <li>• Red - No Signal</li> <li>• Green - Signal Active</li> </ul>
7	Cat5 Ethernet	Ethercon Data Port supports ArtNet and sACN
8	AC IEC Connection	AC Power Connection Out 20A
9	Breaker	5A Breaker Button
10	USB-A	Firmware Updates (Not a Charging Port)
11	Power Button	Press for 1 second to start. Press and hold for 3 seconds to turn off.
12	Back Button	Press to go to previous screen.
13	Rotary Knob	Rotate to scroll to menu item, press to select.
14	LCD Panels	Left panel for Critical Date. Right panel for Functions.





## LF-120 USER MANUAL


### FIBER OPTIC CABLE

#### DEFINITIONS AND DETAILS

**POWER:** The **LF-120** works on 120V A.C., 60Hz power. Power is turned on by pressing the power button for 1 second. To turn off the unit press the same button and hold for 3 seconds. Power consumption when using the unit in full power is 5 amps.

**CIRCUIT BREAKER:** Max amperage load is 5 amps. If tripped the circuit breaker must be manually reset.

**TRANSFER FIBER:** There are two types of fiber optic cable that work with the Jagoteq LF-120. The first is the Transfer Fiber. The Transfer Fiber must be securely connected to the laser port, it emits no light as it is a shielded cable. Transfer cable is steel clad and strong but should be treated with care. **Do not bend more than a 200mm radius as damage to the fiber can occur.** Keep the end of the Transfer Fiber covered when not in use and always wipe with a clean lens cloth before inserting into the LF-120 laser port.

 <p>Warning</p>	<p><b>The Transfer Fiber ends should be kept dry at all times. Submerging or condensation can result in damage to the fiber and the unit.</b></p> <p><b>Only <u>Finger</u> tighten the collar of the SMA-905 connection, do not over tighten.</b></p>
--	---

**SIDE EMITTING FIBER:** The light emitting fiber, or Side Emitting Fiber (SE Fiber), is a specially engineered plastic that is highly reusable and may be recycled (plastic I.D. # 7). *The SE fiber transfers no heat or electricity and therefore can be used in wet conditions without fear of electrical shock.*

The SE Fiber is flexible, with the 12mm fiber able to bend to a 6" radius, the 8mm fiber able to bend to a 3.5" radius and the 6mm fiber bending to a 2.5" radius. The number of bends in the light SE fiber will contribute to the loss of light output over distance as well if the SE Fiber is bent at a radius smaller than the recommended bend radius limits.



## LF-120 USER MANUAL

If the SE Fiber is bent at a radius exceeding the intended use the SE Fiber will lose some light output. Any bright spot in the fiber optic cable represents a point at which the fiber optic cable has been bent beyond its approved bend radius. *A compromised SE Fiber cable should be cut to eliminate the hot spot or be replaced.*

When using 1 LF-120 Emitter always use an End Cap regardless of length of SE Fiber. The SE Fiber is cool to the touch but the light being emitted from the end of the fiber is still a focused beam and can burn skin or objects so the **End Cap is required at all times when using one emitter.**

### SIDE EMITTING FIBER (SE FIBER)



The light emitting fiber optic cable may be cut to any length down to 12" when using a single LF-120 controller. **Always reapply the end mirror cap after cutting the SE Fiber.**

**NOTE:** The 1mm glass fiber requires a special end cap and tool to cut to length. Refer to Cutting and Polishing guide.

**CONNECTORS:** Jagoteq offers various connectors, straight, 45 degree, 90 degree and 'T.' The family of connectors will help you make tight turns and shape the SE Fiber to meet your specific needs

**SECURING FIBER OPTIC CABLE:** When attaching the SE Fiber to any surface we recommend using a cable tie that does not pinch the SE Fiber. We do not recommend staples designed to work with cable as it is very hard to control the amount of pressure the staple may exert on the cable. **Pictured below are examples of an approved cable clamp style.**



## LF-120 USER MANUAL

The cable clamps are readily available in 13mm which is recommended for the 12mm SE Fiber and the 10mm cable clamp is recommended for the 8mm SE Fiber.



The 1.7mm fiber may be attached with a 1/8" diameter cable clamp.

In certain situations, you may want to use museum wax to attach the SE Fiber to sensitive surfaces where using screws or nails are not permitted.

Creating a straight linear pattern with the fiber can be achieved with a clear track that can be secured via screw, 3M removable strips, construction adhesive, silicone adhesive or double stick tape. 4' segments are available.



Blacking out areas of the fiber can be achieved by using commonly found Wire Heat Shrink Tubing. If using a heat gun or any heat emitting device to shrink the wrap be careful not to damage fiber optic jacket.



Jagoteq  
LF-120 USER MANUAL




If you're applying the 1mm fiber to the skin of the talent, you may try spirit gum provided you have made sure that the spirit gum does not irritate the actor's skin. In certain situations, painter's tape may be sufficient to hold the 1mm SE Fiber in place.



## SETUP AND OPERATION

Please follow these steps to ensure safe and reliable use of your Jagoteq LF-120.

 <p>Warning</p>	<p><b><u>Do not power up the LF-120 until all components are attached and secured.</u></b></p>
--	--

The Jagoteq LF-120 requires the following parts to operate:




## LF-120 USER MANUAL

1. **Jagoteq LF-120** light emitting unit
2. SMA-905 (in) Transfer Fiber (can vary in lengths) to Side Emitting Connection (can vary in diameter)
3. Fiberlink Adaptor
4. Side Emitting Fiber (vary in length and diameter)
5. Protective Caps
6. End Caps
7. Side Emitting Fiber that currently work with the **LF-120** are as follows:
  - 6mm PMMA Solid Core
  - 8mm PMMA Solid Core
  - 12mm PMMA Solid Core
  - 8mm Multi-Strand
  - 12mm Multi-Strand
  - Fiber Mesh

### CONNECTIONS

1. The **Jagoteq LF-120** uses several types of fiber optics for operation. It is very important to keep all ports covered when not in use. It is equally important to keep the ends of the Transfer Fiber covered when not in use.

 <p>Warning</p>	<p><b><u>Do not discard any caps or covers.</u></b></p> <p><b><u>Never attempt to alter the Transfer Fiber this will cause hazardous conditions.</u></b></p>
--	--

2. Do not touch the ends of the Transfer fiber with fingers. Wipe the end of the Transfer Fiber with 99.9% IPA Wipe or a lens cleaning cloth before connection to LF-120.



3. Make sure the fiber optic cable port is clean, a dirty port will cause loss of light and may result in a build-up of heat that damages the fiber optic cable.
4. Do Not insert any foreign objects into the laser port on the LF-120.
5. Raise the IR Safety Door in an upward motion to expose the laser port. Unscrew the laser port dust cap.
6. There is a white collar on the end of the Transfer fiber that end should be inserted into the laser port.
7. The Transfer Fiber should be initially tilted when inserted into the fiber port of the LF-120 to minimize the possibility of damage to the end of fiber.



Caution




Caution

8. Care should be taken not to bend the Transfer Fiber less than a bend radius of 200mm to prevent breakage.
9. Securely Finger tighten the collar of the SMA-905 connection to the **LF-120**, do not over tighten.
10. Allow the IR Safety Door to swing downward and cover the Transfer Fiber. This will allow the power to be initiated once all components are attached.



  
*Jagoteq*  
LF-120 USER MANUAL



 <p>Warning</p>	<p><u>Never attempt to override the IR Safety Door, this can be dangerous to skin, eyes and property.</u></p>
--	---

11. Attach the end of the transfer fiber (follow same cleaning and connecting as above) to the Fiberlink .



  
**Jagoteq**  
LF-120 USER MANUAL



Warning


**Fiberlink Clamshell is a safety design intended to maintain a secure connection with the transfer fiber and the Fiberlink. Transfer fiber should only be serviced/detached/attached by a trained laser certified technician. Attach Fiberlink Clamshell to secure Transfer fiber onto the Fiberlink with hex screws provided.**




12. Insert the Side Emitting Fiber (SE) into the Fiberlink making sure that the SE fiber is inserted until it stops at the internal ridge.
13. Tighten the cable gland to ensure the SE fiber does not pull out of the Fiberlink.
14. The receptor at the end of the Transfer Fiber is a safety connection for attaching the Side Emitting Fiber.
15. Side Emitting Fiber can be cut to any length 12" and above using the Jagoteq Cable Cutter.
16. Cuts in any of the fibers should be a strict right angle cut for optimum light transfer and safety.
17. Turn off power and disconnect Side Emitting Fiber before cutting.

18. Fiberlink shutters should be safety checked every 6 months after repeated use. Check can be done by a trained designated laser operator.



 <p>Warning</p>	<p><u>The Side Emitting Fiber should never be cut shorter than 12". Using lengths shorter than 12" is an extreme danger to users and property.</u></p> <p><u>When using a single LF-120 Emitter make sure to connect Mirror End Cap onto the far end of the Side Emitting Fiber. This is a protective feature as well as a use of reflected light back into the fiber. Never use the Side Emitting Fiber without the Mirror End Cap provided.</u></p>
--	---

19. Keep the Jagoteq LF-120 controller away from water and dust. The Jagoteq LF-120 is not rated for use around wet conditions.

 <p>Warning</p>	<p><u>The Side Emitting Fiber is entirely waterproof and does not emit heat or electricity. Please do not however submerge the end of the Transfer Fiber. This will cause damage to the Transfer Fiber and the Side Emitting Fiber.</u></p>
--	---

20. Always test the unit in the environment and the same network and 3<sup>rd</sup> party products that will be used with



## LF-120 USER MANUAL

Jagoteq products during filming, video capture or live event.

21. Always keep the Transfer fiber ends and the SE Fiber ends clean before use and store properly to ensure proper transmission of light and reduce risk of damage to the fibers.

### USER INTERFACE

The **LF-120** has a highly intuitive user (UI) interface making using your **LF-120** simple.

**POWER BUTTON:** Press the power button and release to turn on the **LF-120**. To turn off the unit press and hold the power button for at least 3 seconds.



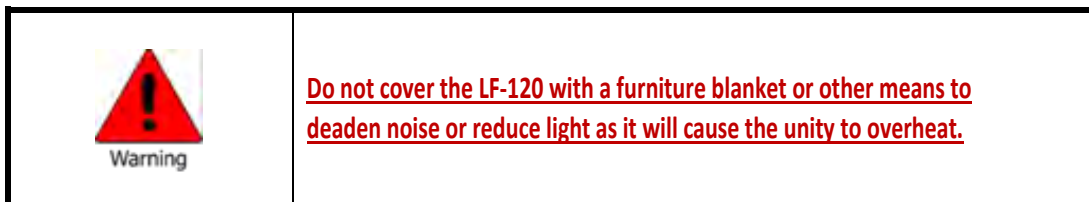


## LF-120 USER MANUAL

**ROTARY KNOB AND BACK BUTTON:** The Rotary Knob or ‘jog wheel’ allows you to scroll through the menus back and forward. To accept the highlighted selection simply press the Rotary Knob. The button directly below the Rotary Knob is the back button which as its name suggests sends you back to the previously selected menu item when pressed. To return to the home screen, press the back button two times consecutively.

**FAN:** While the **LF-120** is engineered to be quiet you can lower the fan speed to reduce the noise level even more. Fan speed options are: 1.) default, fans at full power 2.) 50% speed reducing the fan noise by approximately 50%.

**NOTE:** When the **LF-120** reaches critical internal temperature the fans will automatically go to default setting.



**NOISE LEVEL:** The **LF-120** is designed to work in spaces where noise level is critical, such as during filming. Adjustment of fan speed is located in the configuration menu.

**DISPLAY:** In sensitive light situations you may need to lower the amount of light from the LF-120's display screens and LEDs. The display button allows you to choose between four light levels:

- 1.) Default or 100%,
- 2.) 50%
- 3.) 25%
- 4.) All Lights Off.

**NOTE:** When in lights off mode pressing any button will bring the unit back up to default mode with lights at full brightness.

**DMX AND ETHERNET CONTROL:** Your **LF-120** comes standard with 5 Pin XLR Male and Female Connectors for standard 512 channel DMX control.



## LF-120 USER MANUAL

The ethernet connection is a standard Cat6 connection and allows for the transmission of multiple DMX universes using protocols such as Artnet and sACN.

**FIRMWARE:** Firmware updates may be done using the USB-A connection on the front face of the **LF-120**. There is no pone of personal device charging through the USB-A port.

### CONFIGURATION AND MODE BUTTON FEATURES

All selections are done with the “Rotary Knob” on the front panel. Scroll down to *Selection* and press *Rotary Knob* inwards to confirm selection. Press the *Back* located below *Rotary Knob* anytime to go back in the menu.



The splash screen on the UI displays Jagoteq Model and Firmware Version.



The Fiber Selection screen is displayed automatically after the splash screen. You need to select the type of fiber being connected to the **LF-120**. This adjusts the amount of laser energy being projected into the fiber. **Do not try to override or designate a fiber other than the fiber being used.**

**Selecting the improper fiber could result in melting down the end of the fiber and damage to the optics.**

Scroll to the correct fiber selection and press the *Rotary Knob* to confirm.



## LF-120 USER MANUAL



The Main Data screen displays a quick look at user data for the operation of the unit. Use the *Rotary Knob* to scroll to the selection and press to move to the next menu.



**DMX/NETWORK:** Use *Rotary Knob* to scroll to selection and press to change, confirm, and move to next selection.

Device IP and SubNet Mask can be changed to match application designated data.

**DMX PROTOCOL:** sACN or Artnet

**UNIVERSE:** Select and designated to match application designated data.

**DMX START CHANNEL:** Make note to enter into application designated data. Laser Engine utilizes 4 channels: Red, Blue, Green, and Intensity.



Pressing the Back Button twice will bring you to the Shortcuts Menu. Scroll down to Selection and press *Rotary Knob* to confirm.





Presets Page allows the selection of a saved Preset from past sessions. Scroll down to Selection and press *Rotary Knob* to confirm.

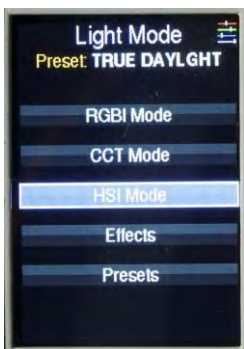


Selecting a Preset takes you to the Options Menu. To use current Preset as-is, press *Rotary Knob* to confirm "Use this Preset."

To edit current values, press *Rotary Knob*, which will take you to RGBI mode to make modifications to the Preset. Make sure to save Preset once modifications are made.

To edit Name, select and press *Rotary Knob* to name and save modifications.

Finally, select Delete Preset by pressing *Rotary Knob* to confirm.



Light Mode allows you to select various styles of color options.

- RGBI allows for individual changes to each color and intensity.
- CCT allows for selection of standard Kelvin designations.
- HSI allows for modifications to Hue, Saturation, and Intensity.
- Effects take you to preloaded local FX that can also be adjusted to user preferences.
- Presets takes you back to Preset Menu.





## LF-120 USER MANUAL



RGBI Mode allows adjustment of individual colors.

Scroll down to color or intensity and press *Rotary Knob*, turn *Rotary Knob* to required value, and press to confirm.

To save values, scroll to bottom and select Save Preset Changes and press *Rotary Knob* to confirm. This will take you to the Presets Menu to name your Preset.



CCT Mode allows for the selection of a Color Temp/Kelvin or a dUV. Select either of these 2 selections and press the *Rotary Knob* to adjust. Press again for confirmation.

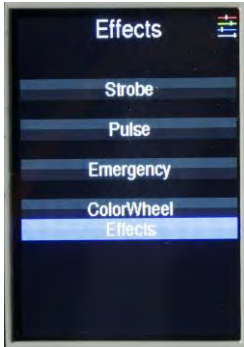
Scroll to Intensity and adjust the overall light output and press *Rotary Knob* to confirm.



Scroll down to Hue, press the *Rotary Knob* to make adjustments to the Hue. The color bar shows approximate color being selected. Press *Rotary Knob* to confirm and move to next selection.

To adjust Saturation, scroll down and press *Rotary Knob* to select and adjust saturation to desired value and press *Rotary Knob* to confirm.

Scroll to Intensity, press *Rotary Knob* to select and adjust the amount of light output. Press *Rotary Knob* to confirm.



The local Effects can be accessed by scrolling to selection and pressing the *Rotary Knob*. This will bring you to an options Menu for the selected Effect.

Press the *Rotary Knob* to confirm or Save Presets to save the adjusted options.



Configuration allows for adjustment of user preferences or operational functions of hardware. Scroll to selection and press *Rotary Knob* to make adjustments. For pop-up menus, scroll to Cancel or Confirm and press *Rotary Knob* to select or confirm.

**VALUES:** Changes from Decimal to Percentage of output range.

**FAN SPEED:** Default fan speed is set to a sound recording safe sound range. Higher fan speeds are suggested for high heat environments. Fans will automatically adjust either speed or output to protect integrity of laser diodes.

**DISPLAY BRIGHTNESS:** Adjustable based upon user requirements.

**UPDATE FIRMWARE:** Select this when FW loaded USB-A is inserted into USB-A port. Please do not use the USB-A for charging.

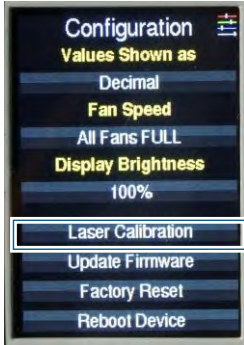
**FACTORY RESET:** Select and confirm to reset all parameters to default.

**REBOOT DEVICE:** Select if there are any Firmware or Menu faults.





## LF-120 USER MANUAL




Please note that the Laser Calibration selection is locked and only accessible to a Certified Technician.



The Diagnostics Menu is for reference only to monitor critical data.

### ADDITIONAL REFERENCES

**RESET:** Factory reset puts the **LF-120** in the same state it was when leaving the factory. To do a factory reset hold down the *Rotary Knob* and back button together for about 10 seconds at which time a message on the screen will display a countdown to factory reset.

 <p>Warning</p>	<p><u>All saved data will be lost by doing a factory reset. We recommend doing a factory reset when you first receive your unit.</u></p>
--	--



## LF-120 USER MANUAL

**DEVICE REBOOT:** Rebooting the device is achieved by simply disconnecting from power for at least 30 seconds. A device reboot will not wipe data or cause you to lose saved settings.

**LASER CALIBRATION:** The **LF-120** uses three lasers, a red, green, and blue laser work together to create any color you require. The lasers are calibrated to deliver the correct amount of power to each laser so that the color temperature you select appears accurately. If you believe the calibration is not set correctly contact our service department.

**DMX NETWORK:** Setting the IP address. The default IP address for the **LF-120** is 192.168.1.201. If you are changing the IP address make sure you are addressing the needs of your entire network correctly.

**DMX START ADDRESS:** You can set the DMX start address locally through the UI or remotely via DMX and Ethernet protocols such as Artnet and sACN. Currently, the **LF-120** does not have onboard wireless DMX.

**PRESETS:** Your **LF-120** comes with several presets for access of most commonly used colors quickly. You can also create and name and record your own presets through the UI by going to presets and following the menu instructions.

**CRI:** Laser vs. LEDs. LED's color rendering index has become very critical in digital filming as the DOP works to represent skin tones as accurately as possible. Typical TV/movie lighting equipment often has CRI levels in the mid-90's. Light emitted from lasers cannot be measured in the same manner as LED lights. Generally, light emitted from the **LF-120s** SE Fiber is more color saturated.

Jagoteq is designed to shine wherever LED ribbon is currently being used as an alternative. You may choose to use your LF-120 to light talent.

We recommend you test the LF-120 with talent before filming.

**FLICKER FREE:** Light emitted from the LF-120 is flicker free at any speed.

**RIGGING POINTS:** There are several ways you may rig your LF-120. On the top of the unit are two 'D' rings.

**NOTE:** Do not use the handle as a rigging safety point, the handle will be damaged over time.



## LF-120 USER MANUAL

### **TECHNICAL SPECS JAGOTEQ LF-120 CONTROLLER**

Data Control: 5 pin DMX control flow through without power

Ethernet: Allows for control via Artnet/sACN

IEC Power Connector

Firmware updates: USB-A port

Fiber Connection:SMA-905

Fiber Optic cable Outputs: 1

Power consumption: 100-240V, 50/60Hz, 5A

UI: 1x3.1" color screens

Left screen updates all critical

Right screen user interface

Managed with *Rotary Knob*

Screens are dimmable

Cooling: Heat sink/Smart Fan Control

Ambient operating temperature: 34F-90F

Noise Level: 45dB at full operating power allow for use on film/TV sets

Quiet and Super Quiet Modes for limited time

Weight: 17.5lbs

Dimensions: 10"W x 9.5"H x 14.75"D

Material: Powder Coated Aluminum

Vinyl Wrap

Feet: Rubber non-slip

"D" rings

### **SE FIBER TECHNICAL SPECS**

#### SIDE EMITTING FIBER CABLE

Core Material: Polymethyl-Methacrylate Resin

Fiber: (Ømm) 6, 8 and 12

Spool Length: 100 meters

Weight: 8mm 65g/m, 12mm 160g/m



## LF-120 USER MANUAL

Connector: SMA-905 and Jagoteq FiberLink


### OPTICAL PERFORMANCE

Storage Temp: -5C to +60C

Operating Temp: -5C to +60C

Minimum Bend Radius: Ø8mm - 90mm, Ø12mm-150mm

### NO USER SERVICEABLE PARTS

 <p>Warning</p>	<p>The <b>LF-120</b> may only be opened by Jagoteq technicians in their shop. <b><u>Opening or tampering with the LF-120 will result in a fine of \$50,000.</u></b> The fine for opening or tampering with the unit is meant to discourage opening or tampering with the unit to protect not only the technician using the <b>LF-120</b> but anyone who is in near proximity of the <b>LF-120</b>. Lasers are safe when used as intended within our system with fiber optic cable and not in an open unit.</p>
---	--

### TECHNICAL SUPPORT

Contact your Jagoteq service by emailing [Service@Jagoteq.com](mailto:Service@Jagoteq.com) or calling 310-740-1255. We will support your needs through our website, phone conversations and in-person help when possible. Our first priority is to make sure your production is not negatively affected by down time and to that end we will supply a replacement unit if needed as quickly as possible depending on availability and logistics.



## LF-120 USER MANUAL

### JAGOTEQ LIMITED WARRANTY

We warranty all workmanship and parts/materials to be free of defect and work as intended for the product's specific designed use for two years from the time of purchase. Accidents, deliberate breakage, or misuse of the product voids the warranty. We will repair or replace at our discretion parts or whole units to remedy issues we discover whether due to workmanship or functionality of the units provided the products were used for their intended purpose and in suitable condition for electronic products. In using a product with DMX and Ethernet controls you are likely to use this product in a system or network with other units that will affect the manner in which you are able to control the **LF-120**; therefore the buyer accepts responsibility for understanding how to use this product in a shared network with DMX and Ethernet control (Artnet, sACN) with 3<sup>rd</sup> party products. Not having control over the environment that the **LF-120** will be used in and being aware of the dynamic nature of the entertainment industry we cannot warranty the finish, paint, or vinyl of the products.

Customer modified units will have their warranty voided and applicable fines will be applied. In the event that the warranty work is due to workmanship or materials on the part of Jagoteq all work related to the specific issue will be done at no cost. If the unit(s) must be shipped due to any fault of Jagoteq's shipping cost both directions will be paid for by Jagoteq provided the shipping is UPS or Fed-X ground 3 day. For faster shipping the customer may pay for expedited shipping. Jagoteq's liability will not exceed the value of the unit regardless of the issue. Jagoteq will not be held financially liable for any delays in media production that can be attributed to faulty Jagoteq equipment. Customer induced damage including but not limited to water, incorrect power voltage, etc., will cause this warranty to be void. When making a warranty claim we require the customer to provide a valid I.D. so we may reference the purchase in our system or proof of purchase. This warranty is non-transferable.