

# AURA

**ITA100 MKII**  
**100mW green DMX laser**



**User manual**

# Safety instructions



## WARNING!



Always keep this device away from moisture and rain! Hazardous electrical shocks may occur!



## WARNING!



Only connect this device to a matching power outlet. This device is intended to work on a specified AC currency. Connecting this device to power outlets with other voltages may result in permanent damage and possible hazardous situations, such as fire or electrical shocks!



## WARNING!



Be careful with every operation of this device. Touching live wires inside and outside the unit may cause hazardous electrical shocks!

This unit must be operated by, or under the supervision of an adult. This device is not suitable for children.

Every person involved with the installation, operation and maintenance of this device has to:

- Be qualified
- Follow the instructions of this manual
- Make sure there is no damage caused by transport. If the device seems damaged from the outside, do not use it and contact your dealer for more information and consultation.
- To make sure the device maintains in perfect condition and for safe operation, it is necessary for the user to follow the instructions and warning notes of this user manual.
- Damage caused by improper use or modifications to the device are not covered by warranty.
- This device does not have any user-serviceable parts inside. Servicing of this device needs to be done by qualified technicians.

### Important notes regarding safety and health:

- Never let the power cord come in contact with other cables. Handle the power cord and all connectors with the mains with caution.
- Never remove any warning or informative labels from the unit
- The ground contact always needs to be connected. Do not cover or remove the ground contact.
- Never leave cables lying around
- Do not open the device and do not modify any hard- or software of this unit.
- Do not insert this object into air vents.
- Do not connect this device to a dimmerpack.
- Do not switch the system on and off frequently as this will reduce the lifespan of the device.
- Do not drive the inputs of the fixture with a signal larger than required to work at full performance.
- Only use this device indoor, avoid contact with water, moist or other liquids. Do not place items filled with liquids on top of the unit.
- Avoid nearby flames or heat sources, do not place this device near flammable liquids, gas or flammable items.
- Always disconnect the device when it is not in use for a longer period or time, when servicing is needed or when the device needs cleaning.

- Only handle the power cord by its connectors. Never pull the cable to remove a connector from its socket, as this could lead to damage and electrical shocks.
- Always operate this device with a stable AC current.
- Always operate this device with the AC ground wire connected to the electrical system's ground.
- Never use other types of cables than specified in the manual, do not use defective or bad functioning cables. Contact your dealer when the included or required cables do not work properly with this device.
- When the device has been exposed to large temperature differences (for example, transport from outdoor to indoor), do not connect the device immediately. Do not activate the unit until it has reached room temperature, as moist might build up inside the unit, which may cause shortcuts and/or electrical shocks.

#### **Guidelines and types of use:**

- This device is intended to be used by professionals on stage, in theaters, clubs and other equal venues.
- This device is not suitable for children and always needs to be operated by an adult.
- Only use the device when the environment is suitable and will not cause any damage. Do not use the product in moist or dusty environments, or where long-term damage may occur such as:
  - indoor swimming pools where chlorine is used.
  - Beaches, where sand and salt are present.
  - Outdoor, without roof protection
  - Indoor areas where intense heat sources are present or where the temperature exceeds levels which are comfortable for humans.
- Only use the included power adapter and only connect the device to a suitable power outlet with the correct output voltage. Connecting the device to a power outlet with the wrong type of voltage or using the product with a wrong type of power supply may cause permanent damage to the device.
- Avoid shocks and collision during use and transport. Do not transport the device while in use. Avoid brute force during the installation and operation of this device.
- Familiarize yourself with the functions of the device before use. Do not allow operation of the device by unskilled or unqualified people.
- Use of the device in other ways than described in this user manual may cause damage and injury. Ayra does not take responsibility for any damage or injury caused by improper use.

#### **Storage and transport:**

- This device is intended for mobile use. When transported, use the original packaging of the product, or a fitting flightcase, preferably filled with foam.
- This device is not intended for permanent use. Operation breaks will ensure that the lifespan of the device remains unchanged.
- If the device is not used for a longer period of time, disconnect it from its power source and store it in its original packaging, or in a fitting flightcase.
- Store the device indoor, dry and do not expose the device to extreme temperature differences.

#### **Housing:**



- Inspect the housing of the device frequently. Severe dents, cracks and missing screws should be avoided at all costs. Do not use the device when the housing is not in optimal condition. Contact your dealer or a skilled technician when in doubt about the state of the device
- Check the fixture and screws for corrosion. Corrosion should not be present on the fixture. Contact your dealer or a skilled technician when corrosion is found on the fixture
- Every power or signal chassis/connector should be mounted tightly. Do not use the device when connectors are loose.
- Do not use the power cord when the cores are visible. Contact your dealer for a replacement if needed.
- Avoid the buildup of dust and dirt. Clean the exterior of the fixture every month with a dry or damp cloth. When using the device intensively, the cleaning frequency needs to be increased.

#### **Fuses:**

- The main fuse of this device is to be found on the rear of the device. In most cases, directly next to the power inlet.
- Only replace a fuse for a new one with the same type and rating! Do not use a fuse with a higher or lower rating.
- Do not bridge the fuse with electrical wires, aluminum foil, as the fuse is used for protection against electrical shocks and short circuit.
- Always mount the fuse cover back to the fuse compartment.

# Guidelines for laser devices

## Laser diode guidelines:

	<h1>WARNING!</h1>	
<p><b>This device emits powerful laser beams! Do not look directly in the laser beam to avoid possible permanent injury to eyes and skin! This is a class 3B laser product.</b></p>		

- This device is a professional show and entertainment laser product. The device emits laser beams with a wavelength spectrum between 400 and 700 nm.
- This laser device has a different type of light source than other lighting products. This device is equipped with powerful, concentrated laser beams which could cause serious injuries when used incorrectly. Laser beams are approximately 1000x more powerful than regular light bulbs. This is caused by the very tight projection angle of the laser diode, which is far more concentrated than a regular light source. The combined power of the laser diode is powerful enough to cause permanent visual loss and other injuries when used incorrectly.
- Harmful laser beams which may cause injury do not feel 'hot'. It is possible that laser beams which do not generate noticeable heat cause serious injury. In most cases, this is visual loss, caused by a laser diode because it is focussing on the retina, a sensitive part of the eye which is very sensitive to lighting. Concentrated laser beams might burn the retina, causing permanent visual loss.
- Do not aim this laser device directly into your audience. The minimum distance in height between the floor and the laser device should be more than 3 meters.
- A laser operator is required for the operation of this laser device. Never leave the laser device running unattended.
- The requirements for laser shows may vary from country to country and even from region to region. Contact your local authorities for more information regarding professional laser shows for indoor and outdoor applications.
- Never point the laser directly to reflective surfaces nearby, as this might scatter the laser beams throughout the room.

## Optics guidelines:

- Never cover the beam output of the laser!
- Do not remove or replace the lens.
- Do not touch the lens with your fingers
- Only clean the lens with a non-aggressive solution or a damp cloth

## Exterior guidelines:

- When used in a hanging position, the device always needs to be secured by using a safety cable. Attach the safety cable to the provided safety eye with the carabiner hook. A safety cable is not included in delivery and can be purchased separately.
- The device must be installed on a flat surface or hanging from a solid construction by using the included bracket. Never hold the machine in your hands during use!
- When using the device in a hanging position, always mount a G-clamp or half coupler to the bracket, or use bolts to install the bracket directly to a ceiling or beam.

# Box contents

## **Box contents**

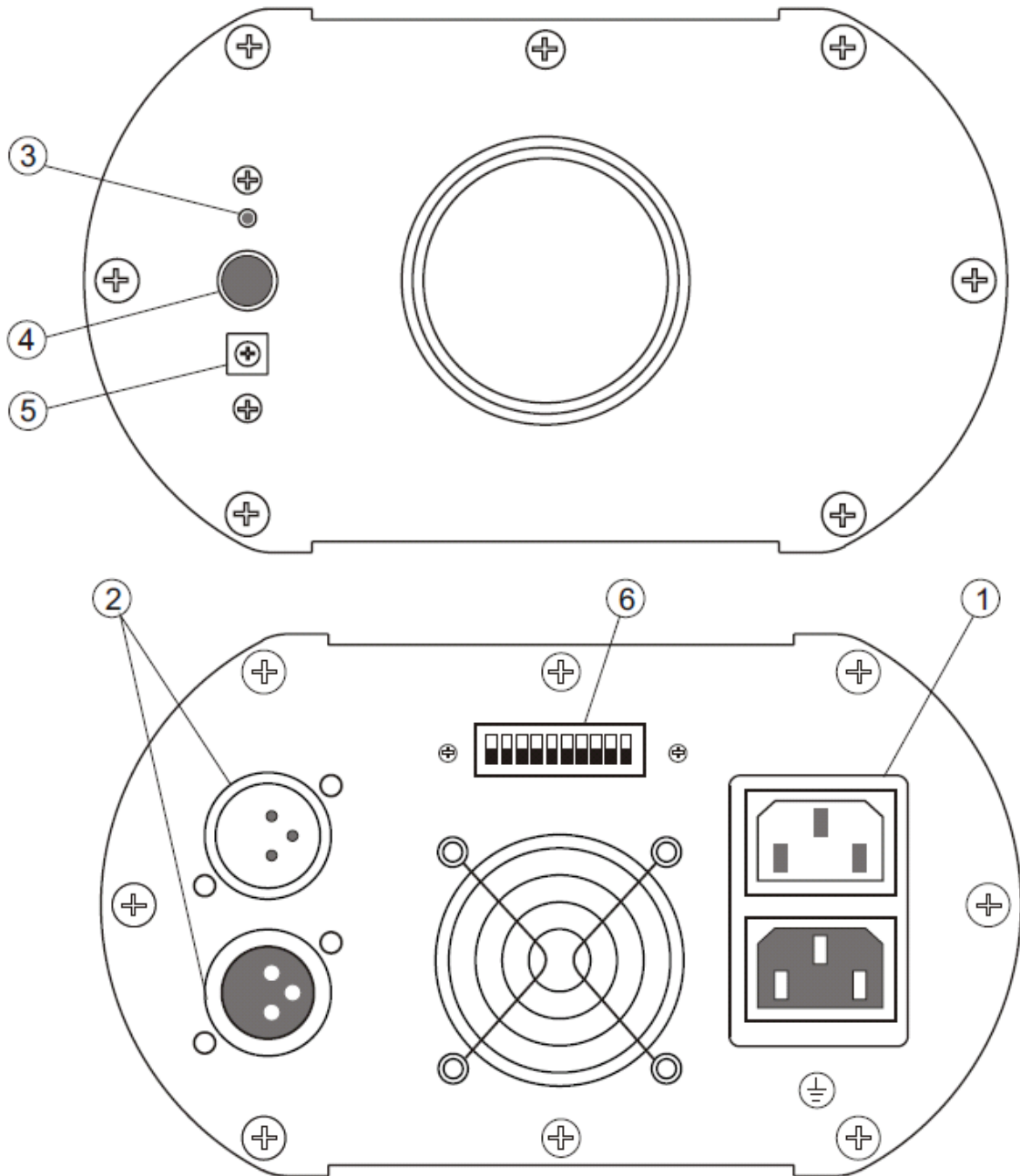
1x laser device  
1x user manual  
1x IEC to Schuko power cable

## **Unit and accessory inspection**

- Always use the supplied power cable to connect the unit to a power supply. If the cable appears broken or has visible damage, do not use it.
- If the unit is not going to be used for a longer period of time, disconnect it from the power supply and store it in a dust-free environment.
- Always check the unit for possible damage before use. If you suspect that something is wrong with the unit, do not connect it to a power source! When you suspect that your unit is broken or damaged, contact your local dealer or a certified technician to inspect the unit.

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# Device overview



1. **Power supply:** Power IN and Power OUT. Connect the device to a power supply with the provided cable.
2. **DMX in/output:** When using a DMX-controller, connect the device with the supplied XLR-cable. The unit has a XLR in- and output for the distribution of DMX signals.
3. **LED indicator:** LED indicator for the music-activated mode
4. **Microphone:** Built-in microphone for the music-activated mode.
5. **Microphone sensitivity:** Variable setting of the microphone sensitivity, use a small screwdriver to change the sensitivity from low to high.
6. **DMX dipswitch:** Use these dipswitches to change the operating mode, or select a starting address for the DMX-mode.

# Setting up the device

- When the power supply is connected, the unit will first calibrate the stepping motors of the unit. It is normal that this may cause any noise. When the calibration is done, the unit is ready to be used (in the selected DMX, automatic or music controlled mode)
- It is possible that the unit may shut off the beam projection when no music or sound is detected. This will avoid the projection of a solid, static beam, which may cause injury to eyesight.
- This unit uses stepping motors to create variable movements to the laser beam. This way, figures and patterns can be made. The unit uses high-speed stepping motors to create the moving beams of the laser. It is normal that the laser beam and projection may appear 'flickering' when projecting large or complex patterns.
- The projected beams of the unit may appear shivering when projecting complex or large patterns on surfaces as a wall, ceiling or decorative cloth.

## Selecting a working mode

This laser device has three working modes, which are **automatic**, **music-controlled** and **DMX**. To select the right operating mode for your situation, use the dipswitch panel on the rear of the unit.

A DMX-dipswitch panel works with a binary character. It sends a 0 or 1 message to the electrical circuit. To select a working mode, pay close attention to the information scheduled below. Every DMX dipswitch stands for a certain value, which is on or off. The values are stated on the right.

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- 1 – 1
- 2 – 2
- 3 – 4
- 4 – 8
- 5 – 16
- 6 – 32
- 7 – 64
- 8 – 128
- 9 – 256
- 10 – mode switch (DMX ON/OFF)

To select the different working modes, pay close attention to the setting of DMX dipswitches below:

- |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
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| 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        | 9                        | 10                       | ON                       |
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 → **Music Active:** With the change of music rhythm, the effect of laser will change according. As present program
- |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        | 9                        | 10                       | ON                       |
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 → **Auto Active:** The laser run preset program
- |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
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 → **DMX 512:** The laser under control by DMX 512 Controller
- |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
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 → **Square pattern test**
- |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
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| 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        | 9                        | 10                       | ON                       |
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 → **Dot drawing test**



## DMX operating mode

While in the DMX mode, it is possible to select the working mode of the laser. That way, you can either choose to use your own programmed presets of your DMX controller, or to activate the music activated/automatic working mode of the laser to have a fully-automatic lasershow. Depending on the starting address you selected earlier, the laser responds to the following commands. In this example, we use DMX starting address 1. When you use a different DMX-starting value, for example 29, the unit will respond from channel 29, 30, 31.. and so on.

For more information about DMX, consult the manual of your DMX controller or software.

Channel		DMX-512 Value	Function
Ch1	Working mode	0~63	Black-out
		64~127	Pattern control
		128~191	Auto mode
		192~255	Music active mode
Ch2	Pattern	0~255	Select 1-25 patterns
Ch3	Rotation	0~127	Rotate angle
		128~191	Rotation speed
		192~255	Reverse rotation speed
Ch4	Patten horizontal rotation	0~127	X rotation position
		128~255	X rotation speed
Ch5	Pattern vertical rotation	0~127	Y rotation position
		128~255	Y rotation speed
Ch6	Patten horizontal move	0~127	Pan position
		128~255	Pan move speed
Ch7	Pattern vertical move	0~127	Tilt position
		128~255	Tilt move speed
Ch8	Pattern size	0~63	Static size
		64~127	Enlarge speed from fast to slow
		128~191	Zoom in speed from slow to fast
		192~255	Zoom speed from slow to fast



# Technical specifications

**TYPE:** ITA100

Laser diode:

- green: class 3B, 532 nm, >100 mW

Scan type:

- stepping motors

Scan motor angle:

- maximum angle: +/- 25 degrees

Working modes:

- automatic (full-automatic laser show with built-in program)

- music activated (full-automatic laser show with built-in program, responding to the beat of music)

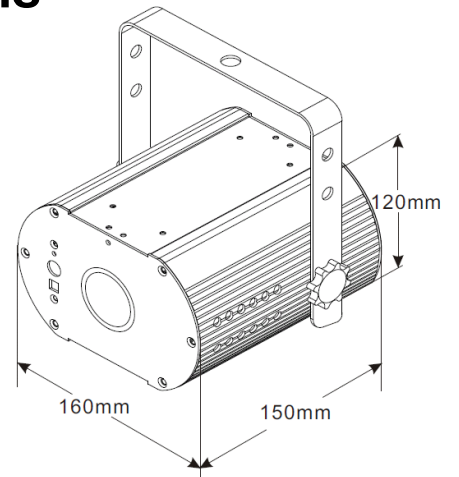
- DMX (8 channels)

- input signal bandwidth: 0~5000 Hz

- environment temperature: -10 – 35 degrees Celsius


























- netto weight: 1.7 kg

- dimensions: 160 x 150 x 120 mm

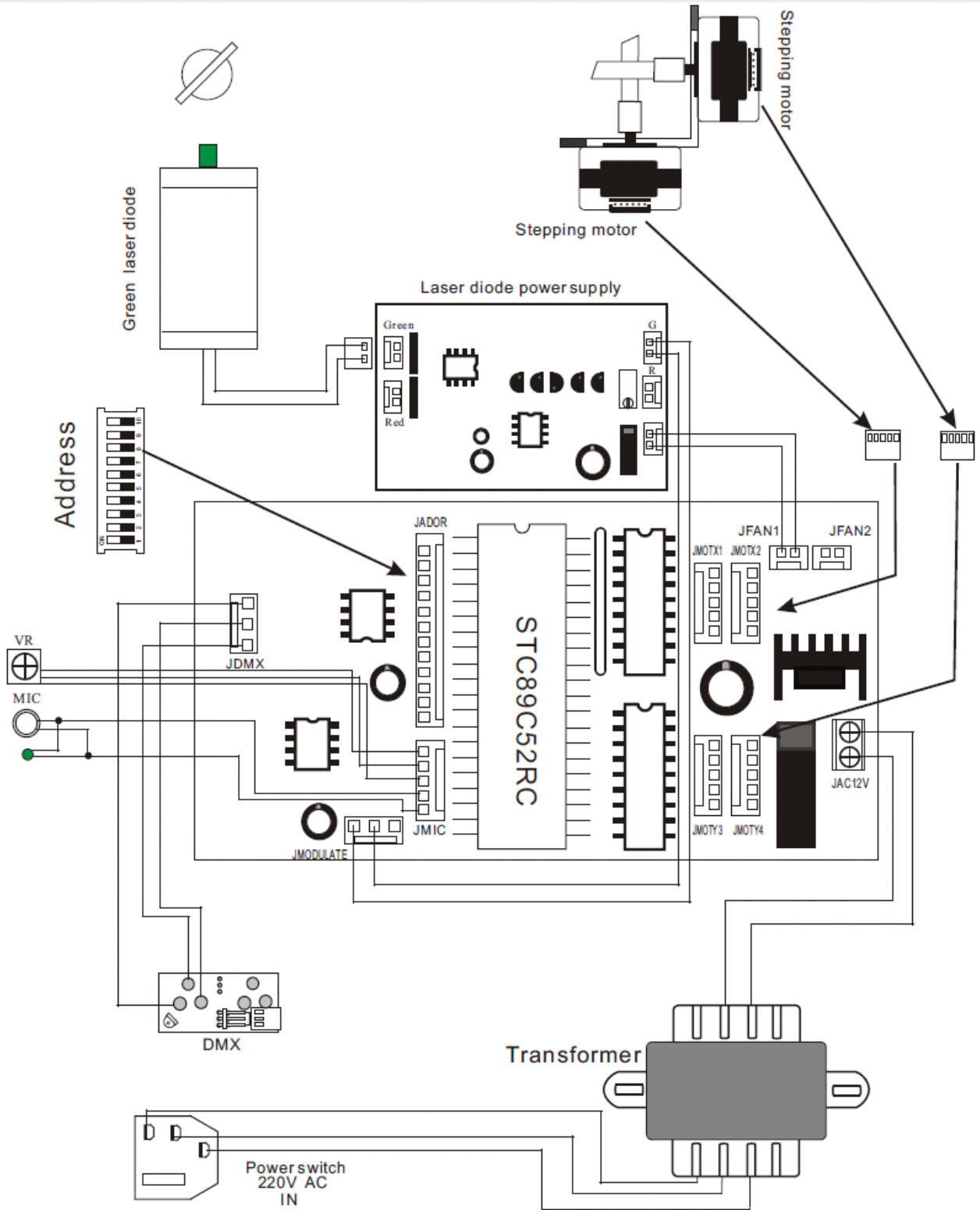


# ALURA

## Built-in patterns:

# Electrical diagram



## Connectors and wiring schematics:

### DMX-connections:

#### DMX-output

XLR mounting-socket:



- 1: Ground
- 2: Signal (-)
- 3: Signal (+)

#### DMX-input

XLR mounting-plug:



- 1: Ground
- 2: Signal (-)
- 3: Signal (+)

### Electrical wiring:

Cable	Pin	International
Brown	Live	L
Blue	Neutral	N
Yellow/Green	Earth	