



User Manual

Auto Laser Bird Repeller



BZAL-500

Laser Technical & Safe Information

WARNING

Laser Safety Hazard Warning

This Birdzout Auto Laser emits laser light. Laser light is very bright and can potentially cause injury to the eyes if not used correctly.

Read all operation and safety information prior to use. **NEVER** look into laser or at bright reflections.

NEVER aim the laser of BZAL-500 or the reflection at an aircraft at any distance! Illumination of aircraft, vehicles, etc. it is DANGEROUS! Do not do it.

DO NOT stare into beam or view directly with optical instruments.

WARNING

Light from Birdzout Auto Laser is very bright! **DO NOT** aim laser at people or vehicles.

NEVER look into the output of the Birdzout Auto Laser! Viewing the laser light or a bright reflection can cause potential eye injury.

DO NOT allow unauthorized people to operate the Birdzout Auto Laser.

Laser reflections from flat shiny mirror like surface can be as hazardous as the laser beam itself.

Eye injury is theoretically possible if the laser of Birdzout Auto Laser is aimed at people using telescopes, rifle scopes, spotting scopes, binoculars, cameras or any other optical light gathering instruments.

DO NOT remove or damage any safety labels which are present on Birdzout Auto Laser.

DO NOT attempt to disassemble the Birdzout Auto Laser, this can lead to hazardous exposure.

DO NOT attempt any repair or modification.

DO NOT use if lenses of laser is cracked or broken.

Due to the laser beams low divergence, it makes a small bright spot at very long distance. Aiming a laser at aircraft, vehicles, law enforcement officials or other situations where vision and situational awareness are critical can cause disruptions of safe operation of these craft, cause dangerous situations.

This class of laser will not cause skin burns, nor start fires. The only potential hazard is to the eyes if instructions for use are not followed.

1. Product Description

The Birdzout Auto Laser is developed as a safe, silent and effective tool for bird control. It is designed to deter birds in orchards, vineyards, crops, rooftops, large buildings and warehouses.

The laser pattern of Birdzout Auto Laser is programmable. The laser will run between preset positions, using the controller for the Birdzout Auto Laser, the preset position can easily be programmed and saved in the Pan/Tilt device.

2. Hardware Feature

The Birdzout Auto Laser consists of four parts:

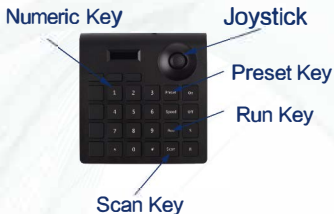
1. Power adapter: provide 12V DC power supply.
2. Laser and Pan/Tilt device: Laser and positioning.
3. Controller: Program the Birdzout Auto Laser.
4. Junction Box: E-stop and remote access to the laser.

Laser Emission Indicator



Connection and Switching

1	Power Supply	Laser power supply and Communication. This cable must connect to T1 of the junction box
2	Communication Port	Communication Port for Controller. Provide power and communication for controller
3	Power Switch	Power Supply Switch. Turn power supply on and off.
4	Laser Switch	Laser Switch. Turn laser on and off.



Function Key of the Controller:

1	Joystick	Steer the laser beam to the desired position.
2	Preset	Preset laser position and save the position to the Pan/Tilt.
3	Scan	Once pushed, laser beam will sweep back and forth.
4	Speed	Used to change the running speed.
5	On	Enable the laser.
6	Off	Disable the laser
7	Run	Once pushed, the laser beam will move among the preset position in sequence or in random.
8	S	Running mode, laser run from one preset position to another preset position in Sequence.
9	R	Running mode, laser run from one preset position to another preset position in Random.

Junction Box:

1	E-stop Switch	Emergency Stop, turn off power supply of Laser.
2	T1 Socket	Connect to Birdzout Auto Laser.
3	T2 Socket.	Connect to controller to remote program the Birdzout Auto Laser
4	P1J Connector	Connect to power adapter, DC12V.



3. Technical Specification:

Power	DC 12V
Operating Temperature	-15°C-40°C
Storage Temperature	-20°C-50°C
Protection	IP65
Casing	Aluminum Alloy
Weight	<3Kg

Laser

MODEL NO	BZAL-500
Power	500 mw
Laser Classification	III b
Wave Length	532nm, Continuous
Diameter @aperture	25mm
Beam divergence	0.5mrad
NOHD	296m
MPE	25.4W/ m ² Exposure duration of 0.25 seconds
Operating Temperature	-15°C to 40°C
Lifetime	up to 10000 Hours

Pan/Tilt device

Pan Range	0° -350°
Tilt Range	-20° -90°
Maximum Preset Position	80
Running Speed	4-10° /S

4. Set Up and Operation

Installation Guide

Read the safety instruction provided in the user manual before activating the device.

- Mount the Pan / Tilt device on the horizontal and flat surface.
- **Do Not** Position the Pan / Tilt device on a surface which is subject to vibration.
- **Do Not** use outside force to stop the running Pan / Tilt.
- **Do Not** let the laser beam cross public roads, pathways, sidewalks or parking spaces.
- The Birdzout Auto Laser should be mounted and programmed so that people have no chance to look into the laser beam.
- The Protection of the Birdzout Auto Laser is IP65, it can be used both indoors or outdoors.

Installation:

1. Mount the Pan/Tilt device.
2. Mount the junction box on the wall.
3. Plug in the connector of Birdzout Auto Laser to T1 of the junction box.
4. Connect P1J connector to DC 12V power supply.
5. Turn on Birdzout Auto Laser.
6. Connect the controller to the communication port on Pan / Tilt or T2 of junction box to program the Birdzout Auto Laser.

Programming the Preset Position

Laser control

The two key **[On]** and **[Off]** on the controller is use to enable or disable the laser, press **[On]** will turn on the laser and press **[Off]** will turn off the laser.



Once the laser is turned off and the controller is unplugged from the Birdzout Auto Laser, the laser cannot be turned on anymore, this will prevent unauthorized people from turning on the laser. The two keys **[On]** and **[Off]** on the controller is used as the security master control of the laser. **Programming the Pan / Tilt device**

1. Connect the plug of the controller to the communication port of the Birdzout Auto Laser or to the T2 connector of the junction box.
2. Use the joystick of the controller to steer the laser to the desired position.
3. Press the numeric key and then **[Preset]** key to save the position. For example:

Press **[1][Preset]** to save the No 1 position.

Press **[2][Preset]** to save the No 2 position.

4. Repeat step 2 and step 3 to save more position. A maximum of 80 positions can be saved, from No 1 to No 80.
5. To remove all the preset positions, Press **[1][2][0][Preset]**.
6. The keys **[S]** and **[R]** are running mode selection.
Press **[S]** then press **[Run]**, the laser will move from one preset point to another preset point in Sequence: No1...No2...No3... ..No16...No1...No2...
Press **[R]** then press **[Run]**, the laser will move from one preset point to another preset point in Random.

7. The [Speed] key is used to change the running speed of Pan / Tilt. The Pan/Tilt has 4 running speed and normally the Pan / Tilt should be set to run at lower speed.

Note:

Pressing any key on the controller will be effective only when the Pan / Tilt is not running, When the Pan / Tilt is running, pressing any key on the controller will first stop the Pan / Tilt, the key must be pressed again to enter the command to the Birdzout Auto Laser.

Operation:

After power is turned on, the Pan / Tilt device will take about 30 seconds to seek the “Origin” point, at this moment the Pan / Tilt device can not be controlled by the controller.

Once the Pan / Tilt device finish seeking the “Origin” position, the Birdzout Auto Laser can be started to run the following three operation modes:

1. Manual mode: Use the joystick to move the laser beam.
2. Scan Mode: The laser beam sweep back and forth without changing in Tilt direction. Scan mode can be started by press the **[Scan]** key on the controller.
3. Run mode: The laser beam will move from one preset position to another. The laser has two running mode, S mode and R mode. In S mode, the laser beam will move according to the sequence of the preset position. In R mode, the laser beam will run between the preset position randomly. Run mode can be started by press the **[Run]** key on the controller.

There is an Emergency Stop switch in the junction box, the switch is to remote shut down the laser. Push the switch will shut off the laser, clockwise rotate the switch will release the switch and will turn the laser on again. The emergency stop switch is the remote interlock of the Birdzout Auto Laser.

5.MAINTENANCE

DO NOT attempt to disassemble or clean the Birdzout Auto Laser internally. This will void the warranty.

The external surfaces should be occasionally be wiped clean with cloths or a soft quality paper. Remove any external dirt or sand with a soft brush so as to avoid scratching the finish.

DO NOT open, modify or service this product.

No maintenance or service is allowed by the customer.

Troubleshooting

If you experience problems during installation please do or check the following:

- Check the power supply.
- Ensure the temperature is not out of specification, otherwise the diode laser will not work properly.
- Check the connection between Pan / Tilt device and controller, disconnect plug of the controller and then reconnect.
- If the Pan/Tilt device is not working properly, Power off and on and then wait for 30 seconds.

6.Warranty

Should you encounter any problem with your model, please carefully read this manual. If you encounter defects, please contact your local dealer. Should any defect arise as result of production faults, free repair or replacement is guaranteed. The Birdzout Auto Laser has a warranty period of 12 months, starting on the date of purchase. In case of replacement, the warranty period of original will remain valid.



birdzout
for smart bird control