**Shenzhen Daking Optoelectronics Co., Ltd.**

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# User Manual

## D-W1093

### A. Model Explanation：

The 1st letter “D”: the abbreviation of our brand Daking
The 2nd letter : “W”: weapon sight (device type)
The 1st number 1: generation 1 (IIT grade)
The 2nd and 3rd number 09: the 9th item we have released
The 4th number 3: magnification for objective lens

### B. Product description

D-W1093 is the best night vision weapon sight at its class that comes with affordable price and high performance. The accuracy is unparalleled thanks to the “Red on Green”reticle system. It can be adjusted vertically and horizontally to help find back zero reticle position for different distances or move the reticle exactly to the required areas. It’s widely used for police shooting training, hunting in the wild and shooting rehearsal of security personnel.

### C. Kit includes

Night Vision Weapon Sight, Mounting rail, Protective carrying bag, Instruction manual, Lens cleaning cloth, Warranty card, Desiccant

### D. Features

- High resolution Gen1+ image intensifier tube
- Multi-coated all-glass optics
- Reticle brightness adjustment
- Powerful detachable long range IR illuminator
- Water and fog resistant
- Adjustable fixation rail mounting system
- Two-Year warranty for normal use

### E. Specifications

| | |
|---|---|
| Model | D-W1093 |
| Image tube grade | Super Gen1 |
| Resolution, lp/mm | 40 |
| Magnification, x | 3X |
| Diameter of the objective lens, mm | 50 |
| Detective range, m | 150 |
| Recognition range, m | 100 |
| Field of view, deg | 13.5 |
| Lens system | F1: 1.2, F65mm |
| Reticle | Red On Green |
| Windage & elevation adjustments | 1/4MOA |
| IR illuminator | Detachable IR1000 |
| Diopter adjustment, deg | +/-5 |
| Power supply, v | One CR123 battery |
| Battery life, hrs | 40-50 |
| Range of focus, m | From 5.0m to infinity |
| Operating temperature, ℃ | -40 /+40 |
| Relative humility | 98% |
| Environmental rating | IP67 |
| Dimensions, mm | 275x104.3x78.4(with mounting rail) |
| Weight, g | 916(with mounting rail) |

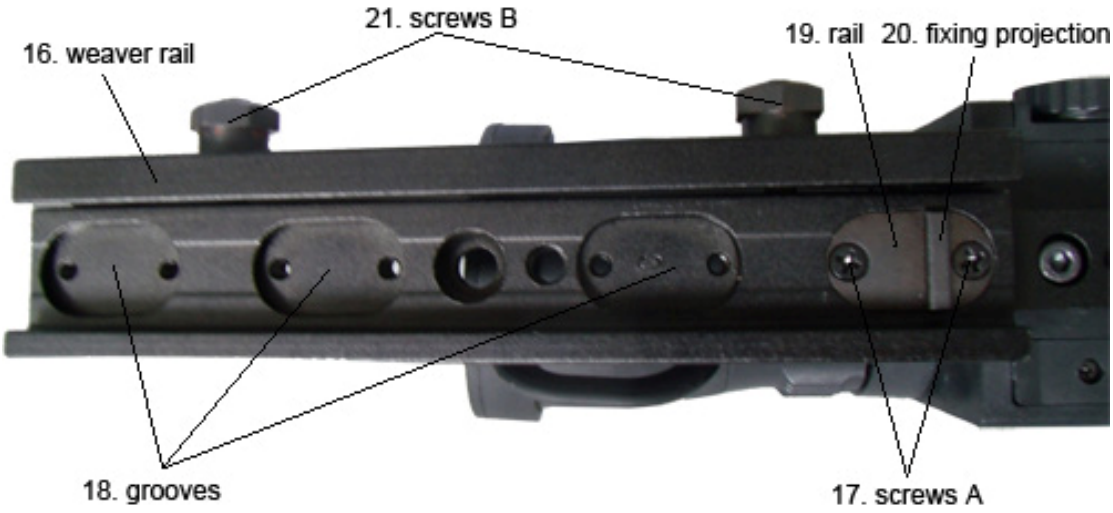
**F. <u>Mechnical parts code and name</u>**


1. power button
2. reticle brightness adjustment
3. battery compartment
4. windage
5. elevation
6. eyepiece
7. diopter adjustment ring
8. eye cup
9. "red on green" reticle system
10. objective lens
11. rubber lens cap
12. mounting system
13. focusing ring
14. picatinny rail
15. detachable IR illuminator

**G. Device operating instructions**

1. Install one CR123A battery into its battery compartment (3) with the polarity indication shown on the main body of the device.
2. Switch on the device by pushing the power button (1). You can see the green luminance of the light intensifier tube is present through the eyepiece (5). **NOTE**: To protect the image intensifier tube, keep the rubber lens cap (11) on the objective lens (10) in bright light conditions. You may remove the lens cap (11) after you enter a dark environment or in low light conditions.
3. Observe the scene, and adjust the diopter through diopter adjustment ring (7) and / or focusing ring(13) for optimal image clarity.
4. Finally, you may turn the IR illuminator (15) on in total darkness.

**H. Mounting system**




16. weaver rail
17. screws A
18. grooves
19. rail
20. fixing projection
21. screws B

The night vision weapon sight mounting system allows to change the position of the weapon sight flexibly on the weapon through changing the position of the rail (19). For this purpose, there're 4 grooves (18) in the base of the mounting bracket for mounting this rail (19).

To change the position of the weapon sight on the weapon additionally follow the steps mentioned below:

1. Unscrew the two screws A (17), which attached the rail (19) to the mounting bracket.
2. Take the rail (19) out of the groove (18).
3. About-face the mounting system in case of necessity.
4. Place the rail (19) into another groove.
5. Fix the rail (19) with the two screws A (17).

Now you may mount the weapon sight onto the weapon, unscrew the two screws B (21). When the fixing projection (20) is fixed at the right place on the weapon, then screw up tight the two screws B (21).

**I. Focusing**

To focus your weapon sight, first thing you will need to adjust the diopter. Simply turn the diopter adjustment ring clockwise until it stops. Then, while looking through the diopter at a subject, slowly turn the diopter back counter clockwise until the grain in the image is sharp.

Next, focus the objective lens until the image and the grain are both sharp. When you're in the low light conditions, you may focus the objective lens to receive a sharp image, the diopter should not be adjusted.

**Note:** The objective lens should be re-adjusted as you view objects at different distances.

**J. Windage and elevation adjustment**

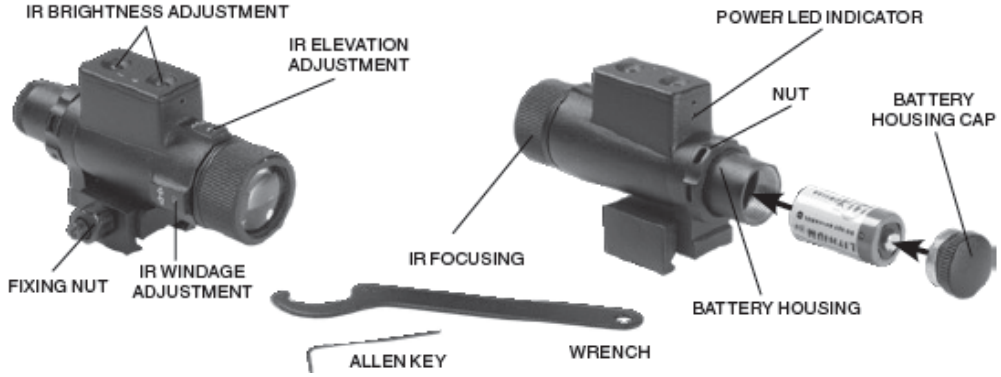
The vertical and horizontal adjustments for the weapon sight can be achieved by turning the elevation and windage adjustment mechanisms (4,5). Each click equals to 1/4 inches at 100 yards. When reaching the maximum of rotation, do not use force.

**K. Brightness adjustment**

By rotation the “R” handle, you may adjust the reticle’s brightness. Adjustment could be easily seen if you look through the weapon sight while adjustment.

**L. IR illuminator**

This infra-red(IR) illuminator greatly enhances the performance of your device when remaining almost totally visible to the naked eye. Staying in the dark, switch on your night vision device. If the visibility is low, you may use IR1000 to improve the situation.




IR1000 installation:

It can be mounted onto the Picatinny Rail. Follow below instructions:

1. Loosen the fixing nut of IR1000.
2. Install the IR1000 onto the Picatinny rail.
3. Tighten the fixing nut of IR1000 tightly.

The IR1000 is powered with one CR123A lithium battery. To install the battery, unscrew the cap of the battery housing and insert the battery following the polarity indication marked on the housing. Put the cap in place.

The IR1000 has a control panel with two buttons. To switch the IR illuminator on/off, press “+”and “-” buttons simultaneously. You can see the green LED lit on the back side of IR1000 When the IR1000 is switched on. By pushing the buttions “+”and “-”, you may adjust the IR brightness.

The IR beam is focusable to change the field of coverage. To change the beam width slightly, turn the IR lens.

You may need adjust the focusing of the IR beam to change the field of coverage. Do it by slightly rotating the IR lens. The windage and elevation screws help adjust the direction of the IR beam from the IR1000 in order to focus on the scene observed of the viewfinder of your NVD. Use the included Allen wrench to rotate the adjusting screws until the IR beam is centered. Please remember the adjustment should be performed under night light conditions only.

You can change the position of the IR control panel to meet your needs. The wrench that is included in the set is used to loosen the nut located on the body of the IR. Rotate the IR to the desired position. Tighten the nut with the wrench to secure the new position.

**M. Precautions**

1. Do not disassemble the unit.
2. It's better to use device under +5℃ to +40℃. After the unit usage in temperatures below zero, wait at least 3 hours at room temperature,to avoid condensation accumulating on the internal lens surfaces and the consequent fogging caused by extreme temperature differences.
3. Keep the device in soft carrying bag, ventilated and dry place with temperature which does not exceed +15℃. Keep away from heating device and avoid direct sunlight and high humidity which does not exceed 70%.
4. NVD should be used in nighttime and can't be aim at strong light. If you have to test it during daytime, the front lens cap should never be removed. You can observe the target through the hole in the protection cap.
5. Use good quality lithium battery or alkaline cell, as bad quality batteries will effect the performance of the NVD and easily damage the device.
6. Try to avoid the rain and mist, and avoid dropping, shaking and collision.
7. Use clean soft cloth and dampened in alcohol,if necessary.
8. A useful tip is to remove the battery when the night vision will be not in use for over 3 days to prevent battery leakage and damaging the device.

**NOTE:** It is normal that the device can not be turned on when the ambient light exceeds 40 Lux. This device has protection system, which cuts off the image intensifier when ambient light level exceeds the limit of 40 Lux during a 10 seconds period.

**Failture to follow the above precautions may cause the unit damage and will void the manufacturer's warranty.**

**I. Troubleshooting**

**If the device does not turn on**

1. Reinstall the battery with the correct polarity.
2. Replace battery.
3. Clean the battery compartment, focusing on the contact points.

**The observed image flickers or flashes**

This means there is too much light(e.g.obervation during twilight conditions).Turn off the unit or place the objective lens cover.The unit will function normally in light conditions not in excess of 0.1Lx(full moon).

**The image is missing or not focused**

1. Re-focus the unit by adjusting objective lens.Adjust diopter setting by rotating eyepiece,if necessary.
2. Check the cleanliness of the objective surface and eyepiece and clean if necessary.
3. Replace batteries.

4. In extreme low light conditions,activate the built-in IR illuminator.

**Image disappeared or its quality worsened**

1. Automatic shut off might occurred to protect the unit from excessive light. Attach the objective lens cover and ensure that unit started to function normally. Turn the unit off and wait until the conditions darken to continue observation.
2. Bright light sources(e.g.street lights)may cause visibility to decrease or disappear.Turn the monocular away from the light source,visibility will restore itself in several minutes.

**You see black dots on the screen**

These dots are minor cosmetic blemishes resulting from the image intensifier production processes and are not a sign of a defective or low quality unit.These dots do not interfere with the reliability and performance of the monocular.

## J. Warranty

Our warranty is 2 years from the date of purchase. For detailed warranty info, please refer to Daking's Warranty Service.