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› [DNT Optics](#) /

› [DNT Optics HS650 Hydra 640-50 Multi-Function Thermal Scope User Manual](#)

DNT Optics HS650

DNT Optics HS650 Hydra 640-50 Multi-Function Thermal Scope User Manual

Model: HS650 (640-50) | Brand: DNT Optics

1. INTRODUCTION

The DNT Optics HS650 Hydra is a versatile multi-function thermal device designed for various applications. It can operate as a standalone thermal scope, a clip-on thermal attachment for existing optics, or a handheld thermal monocular. This manual provides essential information for the proper setup, operation, and maintenance of your HS650 Hydra device.

2. PRODUCT OVERVIEW

2.1 Key Features

- **3-in-1 Versatility:** Functions as a standalone scope, clip-on attachment, and handheld monocular.
- **Elite Thermal Imaging:** Features a 12 μm , ≤ 18 mK uncooled infrared sensor with a 640 \times 512 resolution and 50mm objective lens.
- **AI-Powered Image Super Resolution (ISR):** Enhances image clarity and detail, especially at higher digital zoom levels.
- **Rugged Construction:** IP67-rated for waterproof and dustproof protection, shock-resistant housing handles recoil up to .50BMG.
- **DNT App Connectivity:** Connects to your smartphone for live feed viewing, management, editing, and sharing of content.

2.2 Package Contents

Ensure all items are present in your package:

- HS650 Thermal Scope $\times 1$
- PMS (Picatinny 0 MOA Short) Mount $\times 1$
- Eye Cup $\times 1$
- Flip Up Cover $\times 1$
- 18650 Flat Top Battery $\times 2$
- Battery Charger $\times 1$

- USB Cable x2
- User Manual x1
- Lens Cleaning Cloth x1

2.3 Visual Overview



Figure 1: DNT Optics HS650 Hydra Thermal Scope, main view with 0 MOA mount.



Figure 2: DNT Optics HS650 Hydra Thermal Scope, front angled view.



Figure 3: DNT Optics HS650 Hydra Thermal Scope, side view showing controls.



Figure 4: DNT Optics HS650 Hydra Thermal Scope, rear view with eyepiece.



Figure 5: Close-up view of the mounting interface with torque specifications.



Figure 6: DNT Optics HS650 Hydra Thermal Scope shown with an optional Quick Detach Mount (QDM150).



Figure 7: DNT Optics HS650 Hydra Thermal Scope shown with an optional Standard Quick Detach Mount (QDS150).

3. SETUP

3.1 Battery Installation

1. Locate the battery compartment on the device.
2. Insert two 18650 Flat Top Batteries, ensuring correct polarity.
3. Securely close the battery compartment.

3.2 Mounting Options

The HS650 Hydra can be used in several configurations:

- **Standalone Scope:** Attach the provided PMS (Picatinny 0 MOA Short) mount to a compatible rail system. Ensure all screws are tightened to the recommended torque.
- **Clip-On:** Utilize an appropriate quick-detach mount (e.g., DNT QDM150 or QDS150, sold separately) to attach the device in front of your primary optic.
- **Handheld Monocular:** Use the device without any mounting for portable observation.

3.3 Initial Power-On and App Connection

1. Press and hold the power button to turn on the device.
2. Download the DNT App on your smartphone.
3. Follow the in-app instructions to connect your HS650 Hydra to your smartphone for live viewing and feature control.

Video 1: Demonstration of the DNT Optics Hydra in handheld monocular mode. This video illustrates the physical handling and portability of the device when used as a monocular.

4. OPERATING INSTRUCTIONS

4.1 Basic Controls

Refer to the device's physical buttons for power, menu navigation, zoom, and recording functions. Detailed button assignments are available in the full user manual.

4.2 Thermal Imaging Modes

The HS650 Hydra offers various thermal imaging modes to optimize viewing for different environments and preferences. These typically include:

- **Natural:** Provides a balanced thermal view.
- **Enhanced:** Increases contrast for better detail recognition.
- **Highlight:** Emphasizes hot spots for quick target identification.

Video 2: This video demonstrates the different thermal imaging modes available on the DNT Optics Hydra, showcasing how each mode alters the visual representation of heat signatures for various viewing conditions.

4.3 Image Super Resolution (ISR)

The AI-Powered Image Super Resolution (ISR) feature enhances image detail, especially when using digital zoom. This feature can be toggled on or off via the device menu or connected app.

Video 3: A short demonstration of the Image Super Resolution (ISR) feature on the Hydra-1, showing the visual improvement when ISR is activated.

Video 4: Another demonstration of the Image Super Resolution (ISR) feature on the Hydra-2, highlighting its effect on image clarity.

Video 5: A detailed overview of the Image Super Resolution (ISR) technology in the Hydra series, illustrating its impact on image quality and detail.

4.4 Digital Zoom

The HS650 Hydra features a 2.5x base magnification with digital zoom capabilities up to 10x. Use the designated zoom buttons to adjust magnification levels.

Video 6: This video provides a performance comparison across different Hydra series models at 100 yards, showcasing the image quality and zoom capabilities of each device, including the HS650.

4.5 Recoil Activated Video

The device supports Recoil Activated Video recording, which automatically captures footage when recoil is detected. This ensures important moments are recorded without manual intervention.

5. MAINTENANCE

5.1 Cleaning

- Use the provided lens cleaning cloth to gently wipe the objective and eyepiece lenses. Avoid abrasive materials.
- For the device body, use a soft, damp cloth to remove dirt and debris.

5.2 Environmental Protection

The HS650 Hydra is IP67-rated, meaning it is protected against dust ingress and can withstand immersion in water up to 1 meter for 30 minutes. While robust, avoid unnecessary exposure to extreme conditions.

5.3 Storage

Store the device in a cool, dry place away from direct sunlight and extreme temperatures. Remove batteries if storing for extended periods.

6. TROUBLESHOOTING

If you encounter issues with your DNT Optics HS650 Hydra, consider the following:

- **Device not powering on:** Check battery charge and ensure batteries are inserted with correct polarity.
- **Poor image quality:** Ensure lenses are clean. Adjust focus and brightness settings. Verify ISR is enabled if desired.
- **App connectivity issues:** Ensure Bluetooth/Wi-Fi is enabled on your smartphone and the device. Restart both the device and the app.
- **Mounting stability:** Re-check all mounting screws for proper tightness.

For further assistance, please contact DNT Optics customer support.

7. SPECIFICATIONS

Brand	DNT Optics
Model Name	HS650
Style	640-50
Color	Black
Product Dimensions	8.4"L x 2.7"W x 2.2"H
Item Weight	1.02 pounds (16.3 Ounces)

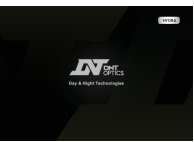
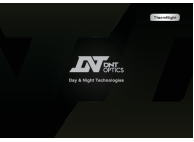
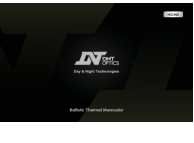

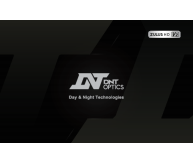
Material	Metal or High-Quality Plastic
Objective Lens Diameter	68.58 Millimeters
Magnification Minimum	2.5 x
Compatible Devices	Rifle, Shotgun, Handgun
Mounting Type	PMS - Picatinny 0 MOA Short
Night Vision	No (Thermal Imaging)
Reticle Type	Digital

8. WARRANTY AND SUPPORT

For information regarding product warranty, returns, or technical support, please refer to the official DNT Optics website or contact their customer service directly. Contact details can typically be found on the manufacturer's packaging or website.

You can visit the DNT Optics Store for more information: [DNT Optics Store](#)

Related Documents - HS650

	<p>DNT Optics HYDRA Thermal Scope User Manual and Features</p> <p>Comprehensive guide to the DNT Optics HYDRA thermal scope, covering specifications, features, operation, setup, and app connectivity for models HS225, HS325, HS335, HS635, and HS650.</p>
	<p>DNT Optics ThermNight Series: Thermal and Night Vision Multispectral Scope User Manual</p> <p>Comprehensive user manual for the DNT Optics ThermNight Series multispectral scope, covering safety instructions, specifications, features, controls, main functions, and app connectivity for models TNC335R, TNC635R, and TNC650R.</p>
	<p>DNT HOUND Ballistic Thermal Monocular User Manual</p> <p>User manual for the DNT HOUND Ballistic Thermal Monocular, detailing its specifications, features, operation, controls, app connection, and troubleshooting.</p>
	<p>DNT Optics TNC225R Thermal Night Vision Scope - User Manual & Features</p> <p>Comprehensive guide to the DNT Optics TNC225R Thermal Night Vision Compact 225 LRF multispectral scope, covering features, specifications, controls, zeroing, and ballistic calculations.</p>
	<p>DNT Optics ZULUS HD V2 Digital Day & Night Scope User Manual</p> <p>Explore the DNT Optics ZULUS HD V2, a digital day and night scope for hunting and shooting. Features include LRF, ballistic calculator, Ultra HD imaging, and multiple models (ZHD312-V2, ZHD312R-V2, ZHD520-V2, ZHD520R-V2). This manual details specifications, features, and operation.</p>



[DNT Optics ZULUS HD Quick Start Guide: Setup and App Connection](#)

A quick start guide for the DNT Optics ZULUS HD digital scope, detailing button functions and providing step-by-step instructions for initial setup and connecting to the DNT mobile application.