DME

The methods of operating DME include:

- Device Application Control
- Accessory Application (For detailed information about the laser ranging accessory, please refer to page 163, 'Instructions for Using the Laser Ranging Accessory')

I.DME Application Operation Instructions

Important Note
When using the laser ranging application, the laser ranging accessory host must be connected to the device host, otherwise the application will not be usable.

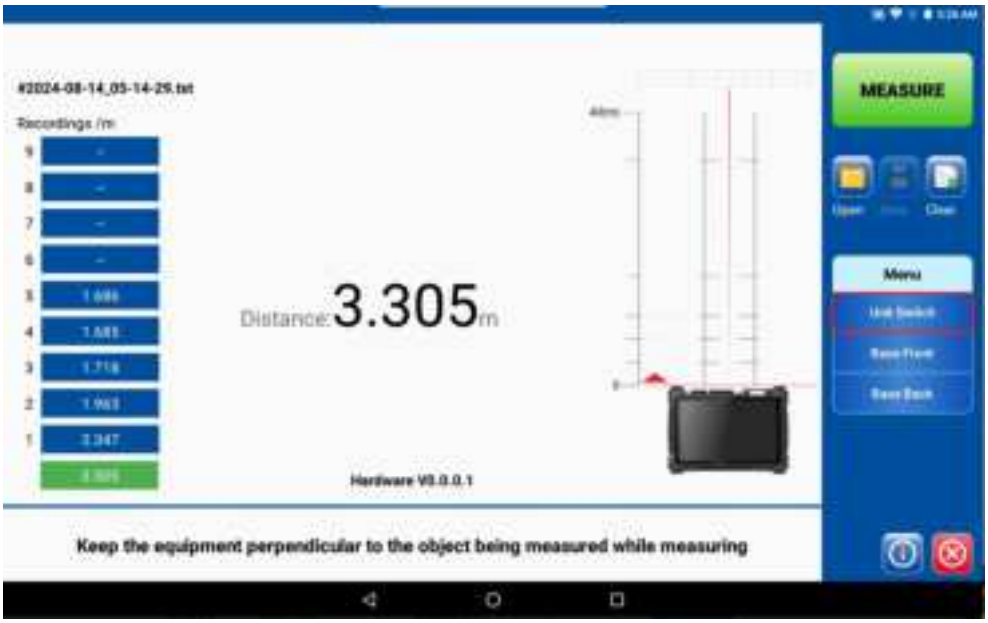
1.1 Unit Conversion

This device has two measurement units.

- “m” (meter)
- “ft” (feet)

Steps to Switch Units:

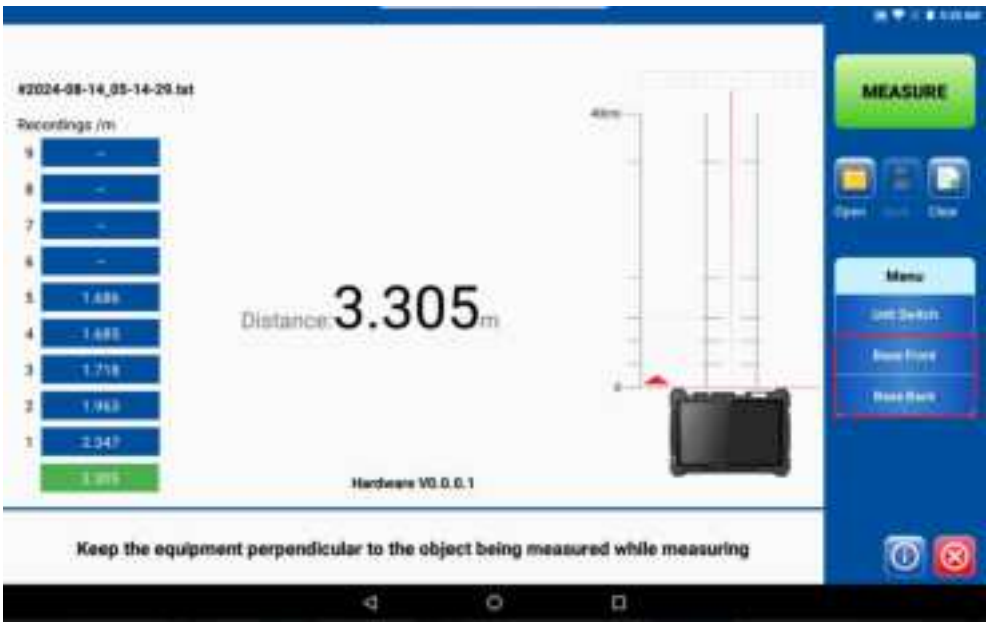
Unit Switch.



1.2Baseline Switching

DME Reference Point Measurement Origin

- Pre-baseline：Using the front-end reference, the range does not include the length of the device.
- Post-baseline：When using the end reference method, the range will include the length of the device, which is 19 cm for this device.



1.3 Measurement

Warning

- Please store the device properly and keep it out of reach of children to prevent use by unauthorized persons.
- It is strictly forbidden to use the device's laser to irradiate one's own or others' eyes and other parts of the body. It is also strictly forbidden to direct the laser at highly reflective surfaces.

- The electromagnetic radiation from the product may interfere with other devices and equipment. Please do not use this device near airplanes or medical equipment, and avoid using it in flammable or explosive environments.

Note

Laser ranging is generally used indoors. Outdoor sunlight greatly interferes with the laser, and the inability to clearly see the laser dot can lead to a significant decrease in measurement accuracy. Therefore, it is not recommended to use it outdoors.

Equipment measurement range: 0.03 to 40 meters.

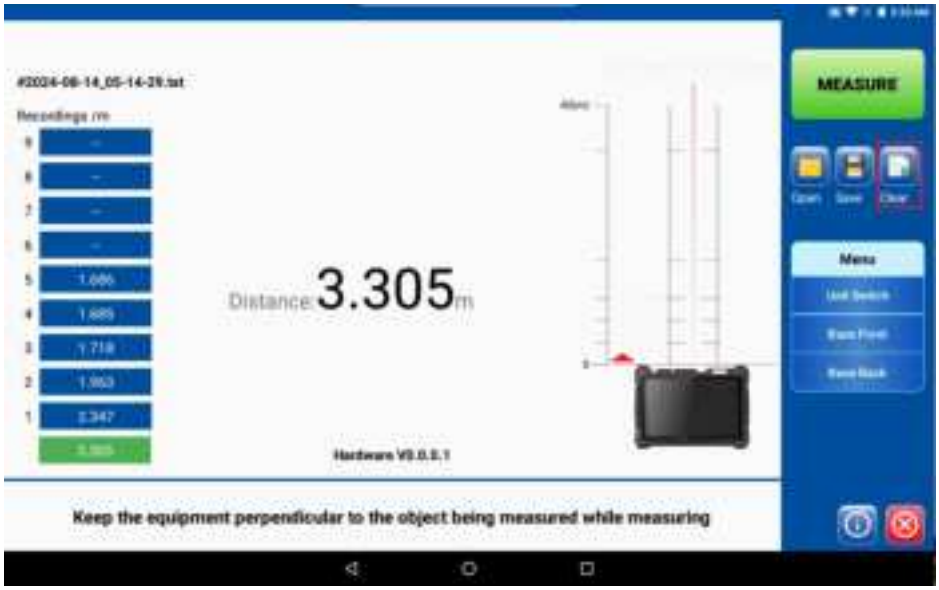
Steps for measuring with a laser rangefinder:

Set the measurement units and reference plane, then tap "Measure."

The current measurement data is displayed in the middle of the screen, and the right side can display 9 historical measurement data. If the measurements exceed this number, they will start from the first one and overwrite each one sequentially.

To clear the measurement data:

Tap "Clear" to erase all current measurement data.



To save the current measurement data:

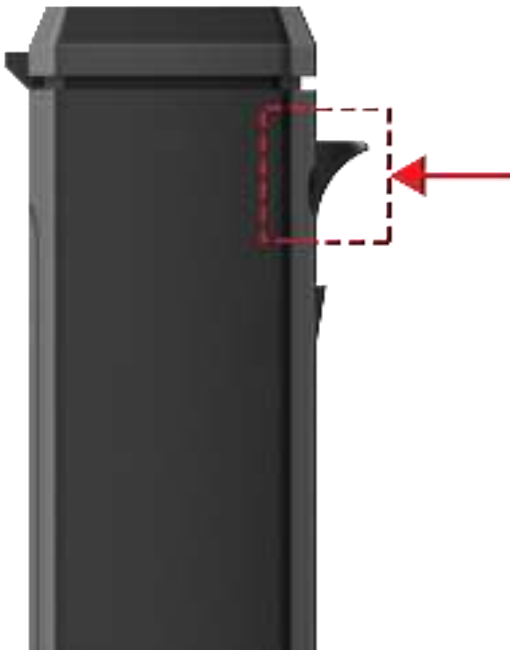
Tap "Save" to save all current measurement data. The saved format is "*.txt".

II.Resolve Common Issues

Troubleshooting methods encountered during use will be displayed on the device, please refer to the table below for details:

Problems and Solutions
The input voltage is too low (< 2.0V). Check if the input power is normal.
Internal error. Return for repair if rebooting does not resolve the issue.
Ambient temperature too low (< -20°C)
Ambient temperature is too high (> +40°C)
The measurement target exceeds the range; ensure that the measurement target is within the range.
Incorrect measurement results, please measure again.
The ambient light is too strong; shading is required.
The reflected signal is too weak; enhance the reflectivity of the target being measured.
The reflection signal is too strong; reduce the reflectivity of the target being measured.
Hardware error 1, return for repair if rebooting does not resolve the issue.
Hardware error 2, return for repair if rebooting does not resolve the issue.
Hardware error 3, return for repair if rebooting does not resolve the issue.
Hardware error 4, return for repair if rebooting does not resolve the issue.
Hardware error 5, return for repair if rebooting does not resolve the issue.
The module jitter is too large; stabilize the ranging module and then remeasure.

Laser Rangefinder Accessory Instructions



Hold down the designated area and remove the laser ranging accessory from the main device.

I.Appearance

1 Display Screen 2 Function Key 3 Laser Transmitter Lens

4 Laser Reception Lens 5 Type-C Connector 6 Charging Indicator Light

II.Display Explanation

1 Measurement Reference Icon
2 Laser Emission Warning Icon
3 Power Icon
4 Battery Indicator Icon
5 Current Measurement Data
6 Historical Measurement Data
7 Measurement Unit

III.Power On/Off

Long press the "  " key to turn the power on or off.

IV. Charging

- When accessories are connected, the device automatically charges the host.

Note： The device host supports accessory charging both when it is on and off.

- It is recommended to use a 5V/1A power adapter and cable to connect to the Type-C interface.

When the accessory is off, the charging status can be determined by the charging indicator light. If the charging indicator light at the bottom is on, it indicates that it is charging. If the charging indicator light is off, it means the accessory is fully charged.

When the accessory is charging while powered on, the "  " icon lights up to indicate that the power is connected. The "  " icon displays a dynamic increase, and when fully charged, the "  " icon remains stationary.

V.Unit Conversion

This device has two measurement units.

- “m”(Meter)
- “ft”(feet)

Steps to Switch Units:

Press the "  " key briefly to switch units.

VI.Baseline Switch

Laser ranging reference point refers to the measurement origin.

- Pre-baseline:The range with the front-end reference does not include the length of the laser ranging accessory.
- Post-baseline:When using the end reference for the range measurement, the length of the laser distance measuring accessory, which is 11.9 cm, will be included in the calculation.

Steps to Switch Reference Plane:

Press the "  " key briefly to switch the reference plane.

The screen icon displayed as "  " indicates that it is currently set to front reference measurement.

The screen icon displayed as "  " indicates that it is currently set to measure from the rear reference.

VII. Measurement

Warning

- Please store the device properly and keep it out of reach of children to prevent access by unauthorized personnel.
- It is strictly forbidden to use the device's laser to irradiate one's own or another's eyes and other parts of the body. It is also strictly forbidden to direct the laser onto highly reflective surfaces.
- The electromagnetic radiation from this product may interfere with other devices and equipment. Please do not use this device near airplanes or medical equipment, and avoid using it in flammable or explosive environments.

Note

Laser ranging is generally used indoors. Outdoor sunlight can significantly interfere with the laser, making the red dot difficult to see and leading to a noticeable decrease in measurement accuracy. Therefore, it is not recommended for outdoor use.

Accessory measurement range: 0.03 to 40 meters

Steps for Measuring with Laser Rangefinding:

1. Long press the "  " key to turn the power on or off.
2. Adjust the measurement units and the measurement reference plane.
3. When you briefly press the "  " key, the accessory emits a laser for measurement. The laser emission indicator icon at the top of the screen lights up with the laser emission and goes out when the laser stops. After the measurement is completed, the final measurement value is displayed on the screen.

VIII. Resolve Common Issues

For common issues encountered during use and their troubleshooting methods, please refer to the table below:

Information	Cause and Solution
Battery icon flashing	Battery is low, please charge.
Er.08	Laser reflection signal is too weak (e.g., black test surface), measure targets with strong reflective capabilities.
Er.09	Laser reflection signal is too strong (for example, a test surface with strong reflected light), measuring targets with weak reflective capabilities.
Er.05	Exceeds measurement range, please use within the scale range.
Er.15	Measurement moved too quickly, please move slowly or keep stable.
Er.03/Er.04	Exceeds operating temperature range. Please use within a temperature range of -20° C to +40° C.

Net Tools

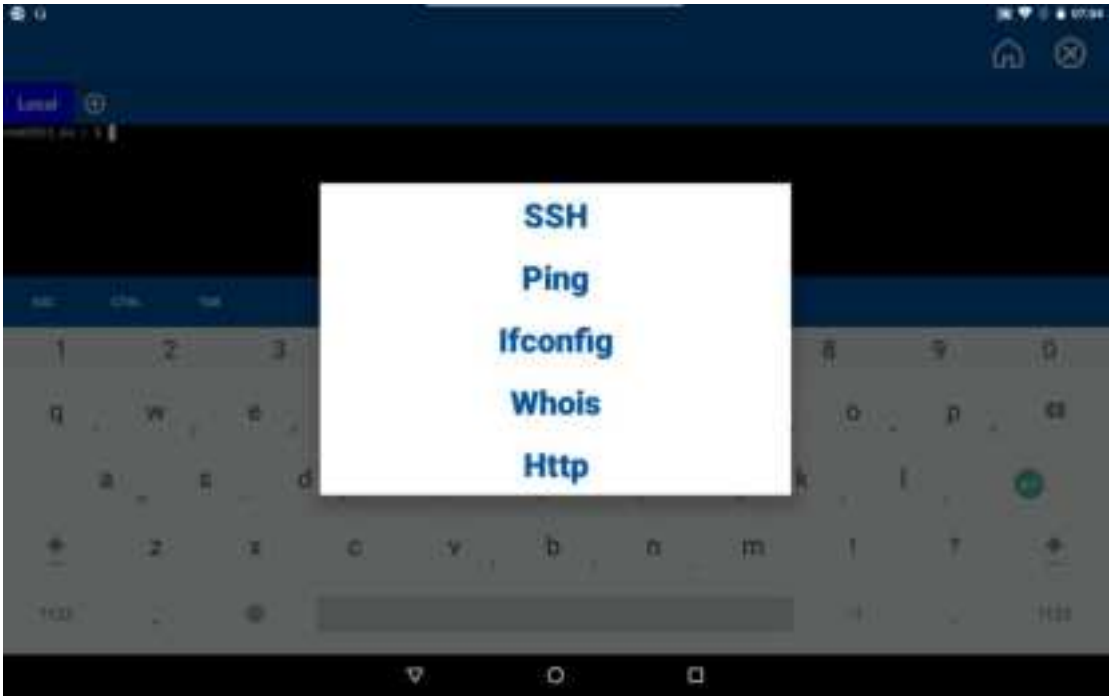
The network tool application provides developers, administrators, and tech enthusiasts with a convenient terminal management experience. This app turns your mobile device into a powerful terminal environment, allowing you to execute commands, manipulate files, manage systems, and configure networks easily anytime, anywhere. The intuitive interface, compatibility with various terminal tools, and script support make operations efficient and personalized.

When the network tool application is opened, it enters the default window "Local": a system terminal command line window.

On the Local page, you can use the soft keyboard to enter Linux commands.

To enter shortcut commands, tapping the "⊕" button allows you to select from the following options:

- SSH：SSH is a security protocol and command-line tool in the system, used for remotely connecting to and managing other computers. It encrypts communications, allowing secure execution of commands, file transfers, and remote system management between different hosts, ensuring data confidentiality and integrity.
- Ping：Ping is a command-line tool in the system used to detect network connectivity with the target host. It sends network probe packets to the target host and waits for a response. By checking the response time and packet loss, the stability of the network can be assessed, and it can also be used for troubleshooting.
- Ifconfig： Ifconfig (abbreviation for Interface Configuration) is a command-line tool used for configuring and displaying network interface information. It can be used to view, configure, and manage network interfaces on the system, including setting IP addresses, subnet masks, broadcast addresses, MAC addresses, etc.
- Whois：Whois is a command-line tool in the system used to query the registration information of domain names. It can display information such as the domain owner, registrar, registration date, etc., helping to understand the background and ownership of a specific domain.
- Http:Http is a command-line tool in the system used to query whether a URL can be accessed and to return the status code.



VIP

The VIP must be used in conjunction with a microscope probe. The microscope probe is connected to the USB port of the device host, and the application will automatically detect the probe device.

Note： The host device can detect an unlimited number of probe devices.

I. Main Window

The main window is divided into three parts: the device connection list column, the view pane, and the button bar.

II. Manage Connected Devices

In the main window of the device, the device list column displays information about detected devices. Tap the "  " button to connect the probe device.

Note： The main unit of the device can connect to up to two probe devices.

The application view pane can display the camera views from two connected devices simultaneously.

In the case where two probe devices are connected, if you want to switch the connected probe device, tap the "  " button to disconnect one of the probe devices, and then connect the probe device that needs to be connected.

In a scenario where two probe devices are connected, if you want to switch and view the preview content from the connected cameras, you can achieve this by tapping on the thumbnail window in the view pane.

III. Capture

To take a capture of the content on the screen, tap the "Capture" button or tap "  " to capture the screen.

The "Capture" button captures the content of the view pane preview,The "  " cuts all content from the main window.

If two probe devices are currently connected, the application will capture the camera images of both probe devices separately when using the "Capture" button.

IV.View File

To view the Capture file:

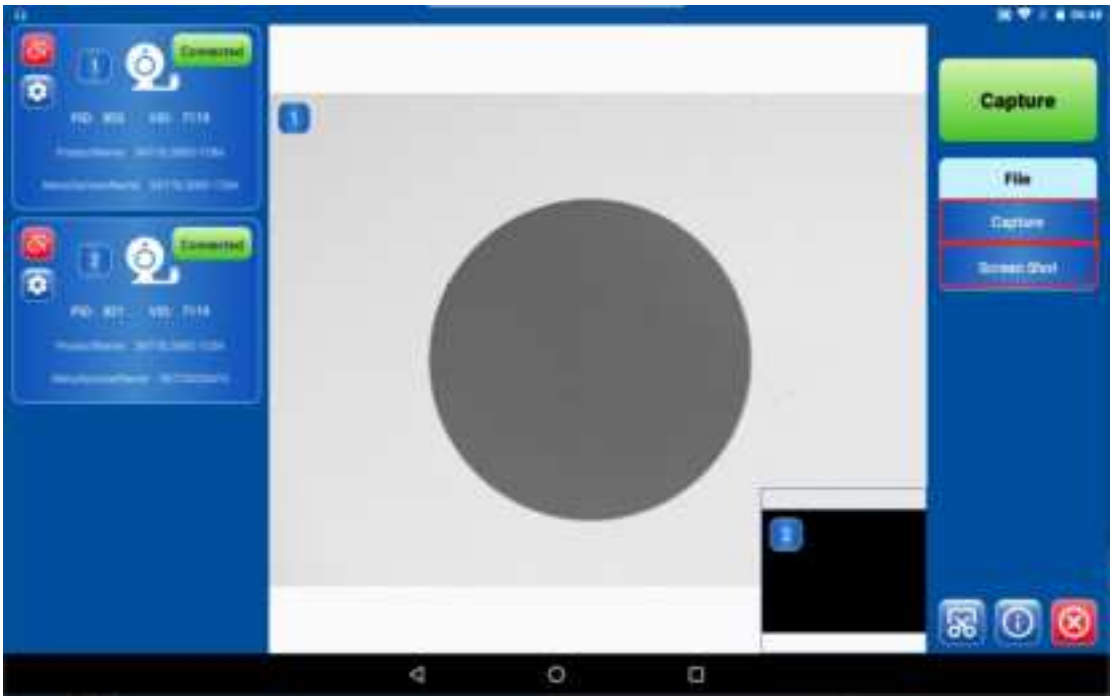
In the "File" menu, tap on "Capture" to open the file popup window.

Note： The pop-up window only displays the "Capture" files from the fiber end-face microscope.

To view the screenshot file:

In the "File" menu, tap "Screenshot" to open the file pop-up window.

Note： This popup window only displays screenshot files and contains all the screenshot files from the device.



Upgrade Update Notes

The upgrade package includes the following two updates:

- Program Upgrade: Upgrade the application and hardware firmware version.
- System Upgrade: Upgrade System Version

Upgrade and update procedure:

1.Insert the USB drive containing the updater.

2.In the "Upgrade Update" section, select "Program Upgrade" or "System Upgrade". The system will automatically recognize the update package and proceed with the update.

Appendix

Default Parameter Thresholds Table:

	Wavelength（nm）	Default Threshold
IOR（dB）	850	1.490000 （Adjustable Range1.000000~2.000000）
	1300	1.467700 （Adjustable Range1.000000~2.000000）
	1310	1.467700 （Adjustable Range1.000000~2.000000）
	1550	1.468325 （Adjustable Range1.000000~2.000000）
	1625	1.468734 （Adjustable Range1.000000~2.000000）
Backscatter（dB）	850	-66.30 （Adjustable Range-76.30~-56.30）
	1300	-73.70 （Adjustable Range-83.70~-63.70）
	1310	-79.60 （Adjustable Range-99.90~-70.00）
	1550	-82.10 （Adjustable Range-99.90~-70.00）
	1625	-84.50 （Adjustable Range-99.90~-70.00）
Splice loss（dB）		0.050 （Adjustable Range0.010~5.000）
End-of-fiber（dB）		5.000 （Adjustable Range1.000~25.000）
Reflectance（dB）		-72.0 （Adjustable Range-78.0~-14.0）
Loss（dB）		0.500 （Adjustable Range0.000~20.000）

FCC Warnning:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection againstharmful interference in a residential installation. This equipment generates, uses and can radiateradio frequency energy and, if not installed and used in accordance with the instructions, maycause harmful interference to radio communications. However, there is no guarantee thatinterference will not occur in a particular installation. If this equipment does cause harmfulinterference to radio or television reception, which can be determined by turning the equipmentoff and on, the user is encouraged to try to correct the interference by one or more of thefollowing measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1)This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.